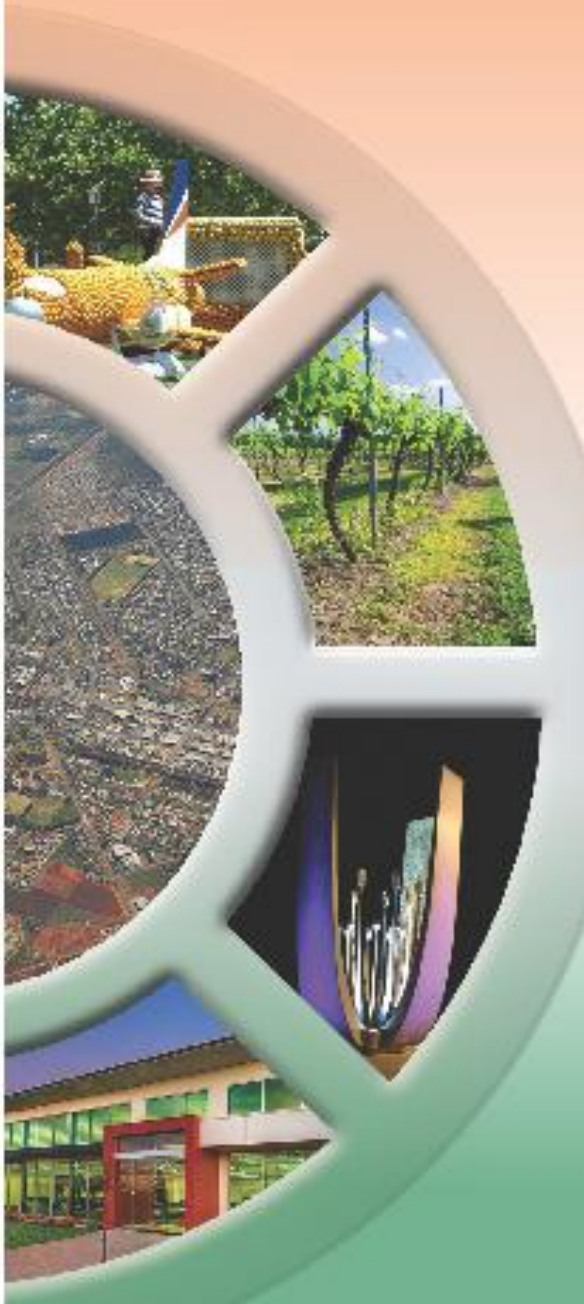
Ordinary Meeting

Tuesday, 8 September 2026

ATTACHMENTS UNDER SEPARATE COVER

CL01 **DA 47/2026 - Designated Development - Increase in throughput capacity for an existing Concrete Batching Plant, up to 140,000 tonnes per annum**

CL02 **DA 91/2026 - One Hundred - One (101) Lot Residential Subdivision With The Creation Of One Public Reserve And Public Roads And Associated Infrastructure**



ATTACHMENTS UNDER SEPARATE COVER

Page

CL01 DA 47/2026 - Designated Development - Increase in throughput capacity for an existing Concrete Batching Plant, up to 140,000 tonnes per annum

(a) Attachment A - DA 47/2026 - Draft Conditions of Consent 3
(b) Attachment B - DA 47/2026 - EPA General Terms of Agreement 18
(c) Attachment C - DA 47/2026 - Environmental Impact Statement 21
(d) Attachment D - DA 47/2026 - Submissions Received 87
(e) Attachment E - DA 47/2026 - Applicant Response to Submissions (and other Additional Information) 91
(f) Attachment F - DA 47/2026 - Development Assessment Report 100
(g) Attachment G - DA 47/2026 - Other Application Documents Submitted with DA 158

CL02 DA 91/2026 - One Hundred - One (101) Lot Residential Subdivision With The Creation Of One Public Reserve And Public Roads And Associated Infrastructure

(a) Attachment A - DA 91/2026 - Draft Conditions of Consent 418
(b) Attachment B - DA 91/2026 - Proposed Subdivision & Statement of Environmental Effects & Submitted Documents by the Applicant 470
(c) Attachment C - DA 91/2026 - Submissions Recieved 644
(d) Attachment D - DA 91/2026 - Submission Response from Applicant 647
(e) Attachment E - DA 91/2026 - Development Assessment Report 651

Attachment A – Draft Conditions of Consent

Administrative Conditions

The development must be carried out in accordance with the following conditions of consent.

(1) Approved Development

Development consent has been granted for increased throughput of an existing concrete batching plant at Lot 1 DP 1181518 - 127 Oakes Road GRIFFITH.

It is advised that the proposed development has been assessed in regards to the provision of the Griffith Local Environmental Plan 2014 and is considered to be a Concrete Batching Plant, which is defined as: general industry

general industry means a building or place (other than a heavy industry or light industry) that is used to carry out an industrial activity.

The development must be implemented in accordance with Development Application No. 47/2026(1) accepted by Council on 13 April 2026 and the below mentioned plans and/or documents, except where amended in red on the attached plans or modified by the conditions of this consent.

Drawing / Plan	Date Accepted by Council	Prepared or Drawn By
Site Plan 26/32398	13 April 2026	E.B. MAWSON & SONS PTY LTD

Document	Date Accepted by Council	Prepared or Drawn By
Environmental Impact Statement 26/46169	22 April 2026	SLR Consulting Australia
Acoustic Assessment 26/82153	07 July 2026	SLR Consulting Australia
Air Quality Assessment 26/32386	13 April 2026	SLR Consulting Australia
Traffic Report 26/32400 &	13 April 2026	SLR Consulting Australia
Additional Traffic Information 26/82154	07 July 2026	SLR Consulting Australia
Environmental Management Plan 26/32390	13 April 2026	Mawsons Concrete & Quarries
Waste Management Plan 26/32401	13 April 2026	Mawsons Concrete & Quarries

If there is any inconsistency between the approved plans and documents referred to above, the conditions shall prevail.

(2) Lapsing of Consent

In accordance with Section 4.53 of the Environmental Planning and Assessment Act, 1979 this consent is valid for a period of five (5) years from the date of consent.

Note 1: Development consent for the purpose of the erection of a building or the subdivision of land or the carrying out of a work does not lapse if building, engineering or construction

work relating to the development is lawfully and physically commenced on the land to which the consent applies before the date on which the consent would otherwise lapse.

Note 2: Development consent for the purpose of the use of the land, building or work the subject of the consent does not lapse if it is actually commenced the date on which the consent would otherwise lapse.

(3) Construction Approval (Civil Works)

Prior to construction of the approved road / driveway works, it is necessary to obtain a Construction Approval (Civil Works). This approval can only be issued by Council. An Application for Construction Approval (Civil Works) form, complete with detailed plans and specifications, shall be submitted to Council for the Construction Approval (Civil Works).

(4) Production Limits

The proposal must not exceed the following production output of pre-mixed concrete:

Scenario	Tonnes	Cubic Meters
Maximum Daily Production	650 tonnes	260m^3
Maximum Yearly Production*	140,000 tonnes	56,000 m^3

**For the purpose of this condition, an average concrete density of 2.5 m^3 has been adopted*

Should the applicant seek to exceed these thresholds, a modification application or new development consent, as applicable, must first be obtained from Council.

The operator must maintain production records demonstrating compliance with this condition and make such records available to Council upon request.

(5) Provision of Services

The applicant is to be responsible for all amplification, extension and adequate provision for connection to services at their own expense. The work is to be in accordance with Council's Engineering Guidelines – Subdivisions and Develo*pment Standards* and relevant authorities' specifications.

(6) Damage to Council property

If any damage is occasioned to Council property during construction and associated works, the cost of repairs will be recoverable. It is therefore requested that any damage which is obvious before works commence be immediately notified to Council to avoid later conflict.

(7) Existing Services

The applicant must check that the proposed works do not affect any Council, electricity, telecommunications, gas or other services. Any required alterations to services will be at the developer's expense.

(8) Tree Preservation

The applicant is advised that the land is subject to Council's Tree Policy and the requirements of that policy are to be strictly adhered to. Should the applicant/owner require advice in this regard they are to contact Council's Parks and Gardens Department.

(9) Aboriginal Heritage

No Aboriginal objects may be harmed without an approval from Heritage NSW under the National Parks and Wildlife Act 1974.

If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:

(a) Not further harm the object(s).
(b) Immediately cease all work at the particular location.
(c) Secure the area so as to avoid further harm to the Aboriginal object(s).
(d) Notify the NSW Environment Line as soon as practical by calling 131 555 or emailing: info@environrment.nsw.gov.au, providing any details of the Aboriginal object and its location.
(e) Not recommence any work at the particular location unless authorised in writing by Heritage NSW.

If harm to Aboriginal objects cannot be avoided, an application for an Aboriginal Heritage Impact Permit must be prepared and submitted to heritage NSW before work may continue.

In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and the Department contacted of Planning, Industry and Environment

(10) Other Cultural Heritage

Should any cultural artefacts, archaeological relics or any object having interest due to its age or association with the past be located during the course of works, all works are to cease immediately and notification shall be provided to the Office of Environment and Heritage in accordance with the *National Parks and Wildlife Act 1974*. Work shall not recommence in the area until this is authorised by the Office of Environment and Heritage.

Note. Depending on the significance of the object uncovered, an archaeological assessment and excavation permit under the Heritage Act 1977 may be required before further the work can continue.

Prior to the issues of a Construction Approval (Civil Works)

Prior to commencing Civil Works you will need a Construction Approval (Civil Works) issued by Council. Before this approval can be issued, compliance with the following conditions is to be demonstrated.

(11) Access/intersection works

Prior to the issue of a Construction Approval for Civil Works, detailed design plans are to be submitted to Council for approval for the upgrade of the intersection of Oakes Road and the existing accessway to the subject development. The intersection is to be designed to incorporate both a sealed Basic Right Turn (BAR) and a sealed Basic Left Turn (BAL) intersection treatment.

The BAR and BAL are to be designed in accordance with the Austroads *Guide to Road Design* as amended by the supplements adopted by Transport for NSW for the posted speed limit and to accommodate simultaneous two-way movement of B-double vehicles.

Articulated heavy vehicles will be limited to right in / left out of the development. Designs are to comply with *Council's Engineering Guidelines - Subdivisions and Development Standards* and *Austroads Guidelines*. All costs are to be borne by the developer.

(12) Pavement Design

Prior to the issue of a Construction Approval for Civil Works, a pavement design and specifications for all roadworks are to be prepared by a suitably qualified Geotechnical Engineer and are to be submitted to Council and approved. The pavement design must provide a minimum 20 year design life and conform to Council's *Engineering Guidelines - Subdivisions and Development Standards*, the *Austroads Guide to Pavement Technology*.

(13) Roadworks Design Drawings

Design drawings for all roadworks shall be submitted to Council and approved **prior to the issue of a Construction Approval for Civil Works**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's *Engineering Guidelines - Subdivisions and Development Standards*, the *Austroads Guide to Road Design* as amended by the supplements adopted by Transport for New South Wales (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

Prior to Commencement of Works

The following conditions need to be met prior to the commencement of works. The necessary documentation and information must be provided to the Principal Certifying Authority (PCA), as applicable.

(14) Protection of adjoining areas

A temporary hoarding or temporary construction site fence must be erected between the work site and adjoining lands before the works begin and must be kept in place until after the completion of the works if the works:

(a) could cause a danger, obstruction or inconvenience to pedestrian or vehicular traffic, or
(b) could cause damage to adjoining lands by falling objects, or
(c) involve the enclosure of a public place or part of a public place.

(15) Notification of Commencement

Prior to commencing work the person having the benefit of the consent has:

(a) given at least 2 days notice to the council, and the principal certifier if not the council, of the person's intention to commence the erection of the building, and
(b) if not carrying out the work as an owner-builder, has:
    i appointed a principal contractor for the building work who must be the holder of a contractor licence if any residential building work is involved, and
    ii notified the principal certifying authority of any such appointment, and
    iii unless that person is the principal contractor, notified the principal contractor of any critical stage inspections and other inspections that are to be carried out in respect of the building work.

(16) Signs on site

A sign must be erected in a prominent position on any site on which building work or demolition work is being carried out:

(a) showing the name, address and telephone number of the principal certifier for the work, and

(b) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

(c) stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, or demolition work is being carried out, but must be removed when the work has been completed.

Note: This does not apply in relation to building work or demolition work that is carried out inside an existing building that does not affect the external walls of the building.

(17) Traffic Management Plan (TMP)

A Traffic Management Plan (TMP) with all supporting documentation, including all relevant Traffic Guidance Schemes (TGS), is to be submitted to Council for approval **prior to the commencement of work within Council's road reserve**. The TMP must comply with the requirements of Transport for New South Wales' Traffic Control at Work Sites Technical Manual (TCAWS Manual), Standards Australia's Manual of uniform traffic control devices, Part 3: Traffic control for works on roads (AS1742.3), and Austroads' Guide to Temporary Traffic Management (AGTTM).

The TMP must be prepared by a person/s with a 'Prepare a Work Zone Traffic Management Plan' qualification. Strict compliance to the TMP is to be maintained throughout the duration of the works. All inspections of the TMP and collection of records must comply with the requirements of the TCAWS Manual.

(18) Construction Management Plan (CMP)

Prior to the commencement of work, a Construction Management Plan is to be prepared by a suitably qualified professional detailing the proposed traffic control and traffic management arrangements during the construction of the development. The Construction Management Plan is to be submitted to Council for approval and is to address, but not be limited to, the following:

a. the management of traffic during construction;

b. the management of loading and unloading of construction materials on site;

c. material stockpiling/storage;

d. identify parking for construction worker vehicles;

e. dust mitigation measures; and

f. complaint management and contingency measures.

The construction management measures specified in the approved Construction Management Plan shall be implemented for duration of construction.

(19) Sedimentation and Erosion Controls

Effective dust, noise, sedimentation and erosion controls are to be implemented prior to the commencement of site works. This is to include (as a minimum):

(a) the installation of a sediment fence with returned ends across the low side of the works; and
(b) a temporary gravel driveway into the site. All vehicles needing to access the site are to use the temporary driveway.

The control measures are to be installed **prior to the commencement of site works** and maintained during works in order to ensure that site materials do not leave the site and/or enter the stormwater system and to maintain public safety/amenity.

(20) S138 Roads Act

Prior to the commencement of work in Council's road reserve, a Section 138 Roads Act application, including payment of fees, shall be lodged with Griffith City Council, as the Roads Authority for works required within the road reserve. These works may include but are not limited to:

a. vehicular crossings (including kerb reinstatement of redundant vehicular crossings)

b. Road opening for utilities and stormwater (including stormwater connection to Council Infrastructure).

c. Road Occupancy or road closures

All works shall be carried out with the Roads Act approval, the development consent including the stamped plans and Griffith City Council specifications.

(21) Traffic Control Plan (TCP)

A traffic control plan is to be submitted to Council satisfying the provisions of Australian Standard 1742.3, for acceptance **prior to the commencement of work within Council's road reserve**. Strict compliance to the traffic control plan is to be maintained throughout the duration of the construction work.

(22) Accessway levels

Driveway construction is subject to Council's *Engineering Guidelines - Subdivisions and Development Standards*. The finished level of the driveway at the property boundary shall be 130mm above the top of kerb. Upon completion of the formwork and string lines for the driveway, the applicant shall arrange for Council's Surveyors to inspect these works **prior to the pouring of concrete for the driveway**. In the event that this level is unachievable, documentary evidence, including a detailed design is to be submitted to Council for approval **prior to the commencement of driveway construction**.

Failure to construct to the given levels or without Council approval will render the owner liable for any necessary reconstruction costs to alter work not in conformity with such levels.

(23) Section 68 Application

Prior to the commencement of works on Council's potable water main, stormwater drainage system and sewer system**,** a Section 68 application in accordance with the Local Government Act 1993 is to be obtained through Council by submitting an application via the NSW Planning Portal and linking it to the Development Application or Construction Certificate application. The application is to include design drawings and details that comply with Council's Engineering Guidelines - Subdivisions and Development Standards and the Water Services Association of Australia - Gravity Sewerage Code of Australia WSA 02—2014/ *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007/ Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011)*. All works associated with the sewer, stormwater and potable water works are to be completed at the expense of the applicant.

During Construction

The following conditions of consent must be complied with at all times during the demolition, excavation and construction of the development.

(24) No obstruction of public way

The public walkway must not be obstructed by any materials, vehicles, refuse, skips or the like, without prior approval of Council.

(25) Shoring and adequacy of adjoining property (if applicable)

If the development involves an excavation that extends below the level of the base of the footings of a building, structure or work on adjoining land (including any structure or work within a road or rail corridor), the person having the benefit of the development consent must, at the person's own expense:

(a) protect and support the building, structure or work from possible damage from the excavation, and,
(b) where necessary, underpin the building, structure or work to prevent any such damage.

The condition does not apply if the person having the benefit of the development consent owns the adjoining land or the owner of the adjoining land has given consent in writing to that condition not applying.

(26) Maintenance of site

All materials and equipment must be stored wholly within the work site unless an approval to store them elsewhere is held.

Waste materials (including excavation, demolition and construction waste materials) must be managed on the site and then disposed of at a waste management facility.

Copies of receipts stating the following must be provided to the consent authority on request:

(a) the place to which waste materials were transported,
(b) the name of the contractor transporting the materials,
(c) the quantity of materials transported off-site and recycled or disposed of.

Any run-off and erosion control measures required must be maintained within their operating capacity until the completion of the works to prevent debris escaping from the site into drainage systems, waterways, adjoining properties and roads.

During construction:

(a) all vehicles entering or leaving the site must have their loads covered, and
(b) all vehicles, before leaving the site, must be cleaned of dirt, sand and other materials, to avoid tracking these materials onto public roads.

At the completion of the works, the work site must be left clear of waste and debris.

(27) Toilet Facilities

Adequate toilet facilities are to be provided on the site throughout the demolition/construction phase of the development. Such toilet facilities are to be provided, at the ratio of one (1) toilet for every twenty (20) persons (or part thereof) employed/working on the site. Each toilet provided must be a standard flushing toilet and must be connected to a public sewer, or an accredited sewage management facility approved by council. If connection to either a public sewer or an accredited sewage management facility is not practicable, it shall be connected to some other sewage management facility approved by council. Toilet facilities must be provided and functioning **prior to the commencement of work**. In this clause:

accredited sewage management facility means a sewage management facility to which Part 2 of the Local Government (General) Regulation 2005 applies, being a sewage management facility that is installed or constructed to a design or plan the subject of a certificate of accreditation referred to in clause 41 of the Regulation.

public sewer has the same meaning as it has in the Local Government (General) Regulation 2005.

sewage management facility has the same meaning as it has in the Local Government (General) Regulation 2005.

(28) SafeWork NSW

The developer is required to comply with any and all requirements of the SafeWork NSW.

(29) Required documentation

For the duration of any work on site, the builder must maintain a copy of the specification, stamped approved plans, copy of Development Consent (Notice of Determination) and Construction Certificate on site.

(30) Access location

The driveway access to the lot is to be located a minimum of one (1) metre away from all services (e.g.: stormwater pits, electricity poles, service pits, etc.), and a minimum of one (1) metre away from neighbouring property boundaries.

(31) Hours of Work

The principal certifier must ensure that building work, demolition or vegetation removal is only carried out between:

7.00am to 6.00pm on Monday to Saturday.

The principal certifier must ensure building work, demolition or vegetation removal is not carried out on Sundays and public holidays, except where there is an emergency.

Unless otherwise approved within a construction site management plan, construction vehicles, machinery, goods or materials must not be delivered to the site outside the approved hours of site works.

Note: Any variation to the hours of work requires Council's approval.

(32) Civil Construction Works

All civil construction works such as; the installation of stormwater infrastructure, potable water infrastructure and roadworks associated with the development are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

All works shall be inspected by Council Officers or Council Nominee during normal office hours as specified in Council's Engineering Guidelines - Subdivisions and Development Standards (Part 1 - Section 4). All requests for inspection are to be made to Council's Customer Service Department.

Apart from these inspections various tests are to be conducted in conjunction with the works. Test guidelines and type of tests required are identified in Council's Engineering Guidelines - Subdivisions and Development Standards.

(33) Sedimentation and Erosion Controls

The approved erosion and sediment control measures shall be implemented and maintained during works.

Prior to the Use of the Development / Increase in Capacity

Prior to the commencement of the use of the development / the increase in capacity, compliance with the following conditions is to be demonstrated.

(34) Works As Executed (WAE) Drawings

Works As Executed plans for approved civil works are to be submitted to Council upon completion of the development **prior to the Increase in Capacity.** Works As Executed plans are to be in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standards.*

(35) Maintenance bond

A Bond Application and a monetary bond is to be submitted to Council to provide a twelve (12) month maintenance period for civil works relating to Council's infrastructure. It is the applicant's responsibility to notify the relevant departments regarding the commencement

and finish of the maintenance period and adequate arrangements are to be made regarding any relevant inspections required.

A five percent (5%) bond of the total cost of works is to be submitted to Council for the works that need maintenance **prior to the Increase in Capacity.**

(36) Engineering Inspections

The applicant is required to pay for all inspections carried out by Council's Engineers. Payment must be paid for all inspections as per Council's current Revenue Policy prior to the issue of a Subdivision Certificate for stage.

(37) Oakes Road and Accessway Intersection Upgrade

Prior to the Increase in Capacity, the intersection of Oakes Road and the existing accessway to the subject development is required to be upgraded to incorporate both sealed Basic Right Turn (BAR) and a sealed Basic Left Turn (BAL) intersection treatment.

The BAR and BAL are to be constructed in accordance with the approved construction plans, Austroads *Guide to Road Design* as amended by the supplements adopted by Transport for NSW for the posted speed limit and *Council's Engineering Guidelines - Subdivisions and Development Standards*.

(38) Roadworks Construction

All road infrastructure construction works specified within this Development Application are to be completed in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards* (and other authorities specifications outlined within this Development Application) and approved by Council **prior to the Increase in Capacity.**

(39) Operational Traffic Management Plan

An Operational Traffic Management Plan (OTMP) is to be prepared by a suitably qualified professional detailing the proposed traffic control and management arrangements. The Traffic Management Plan shall be submitted to Council for approval and is to include, but not be limited to, the following:

- details of anticipated light and heavy vehicle movements associated with the development;
- designated vehicle access and egress arrangements;
- designated heavy vehicle transport routes;
- a requirement that all articulated heavy vehicles, including semi-trailers and B-doubles, approach the site from the east along Oakes Road, enter the site by a right-turn movement, and depart the site by a left-turn movement onto Oakes Road towards Kurrajong Avenue;
- measures to prevent articulated heavy vehicles associated with the development from travelling through the intersection of Old Willbriggie Road and Oakes Road;
- management of loading and unloading activities;
- driver induction and training procedures, including communication of approved heavy vehicle routes;
- procedures for managing contractors and delivery vehicles; and

- procedures for responding to traffic-related complaints or incidents;

All traffic control and management arrangements in the approved Operational Traffic Management Plan is to be installed **prior to the Increase in Capacity**.

(40) Operational Stormwater Management Plan

Prior to the Increase in Capacity shall be prepared by a suitably qualified person and submitted to and approved by Council. The OSMP shall assess the existing stormwater management arrangements and demonstrate how stormwater and potentially contaminated runoff generated by the operation of the development will be collected, contained, treated and/or reused to prevent pollution of Council's stormwater drainage system and the drainage channel adjoining the site. The OSMP shall include, but not be limited to:

- a plan identifying all existing stormwater infrastructure, pits, pipes, collection areas, storage facilities and discharge points;
- identification of clean and potentially contaminated stormwater catchments within the site;
- identification of areas associated with concrete batching, aggregate and material storage, vehicle loading, truck washout, equipment washdown, refuelling and chemical/admixture storage;
- measures to prevent concrete slurry, cementitious material, sediment, aggregate, wash water, hydrocarbons, chemicals and other pollutants from entering the stormwater system;
- details of the collection, containment, treatment and lawful disposal or reuse of concrete wash water and other process water;
- management of runoff from material and aggregate storage areas;
- spill prevention, containment and response procedures;
- inspection, cleaning and maintenance requirements for pits, pipes, sediment controls, treatment devices and stormwater storage infrastructure;
- identification of the circumstances under which stormwater may discharge from the site and measures to ensure any discharge does not cause water pollution;
- procedures for responding to any actual or suspected contaminated discharge; and
- monitoring, record keeping and review procedures.

Where the OSMP identifies that additional treatment, containment or other stormwater management measures are required to prevent contaminated runoff leaving the site, the measures shall be installed and operational **prior to the Increase in Capacity**.

(41) Connection to Council's sewer main

Prior to the Increase in Capacity the proposed development is to connect to Council's existing sewer system via a low-pressure sewer system. The low-pressure sewer system is to connect to an existing sewer manhole on the corner of Oakes Road and Irvine Place (Asset ID: SMH02960). All works shall be in accordance with the specifications outlined in *Council's Engineering Guidelines – Subdivision and Development Standards* and the *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007*.

(42) Grinder pump installation

Prior to the Increase in Capacity, a separate application is to be made to Council's Water and Sewer Department for the installation of a Grinder Pump. All works are to be in accordance with Council's *Pressure Sewerage Policy (WS-CP-303)* and the *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007*.

The applicant is required to pay for all 'On-Property Works' to be carried out by Council for the Pressure Sewerage System, being from the Boundary Kit to (and including) the installation of the pumping unit. The amount to be paid is in accordance with Council's current Revenue Policy.

On-Going Requirements

The following conditions or requirements must be complied with at all times, throughout the use and operation of the development.

(43) Outdoor Advertising & Signage

No advertising matter or signage is to be erected, painted or displayed without the prior consent of Council unless it is "Exempt Development". Council's road reserve and nature strip is to be clear of all advertising material at all times.

(44) Outdoor lighting

Any outdoor display and/or security lighting is to be so located or shielded so that no additional light is cast on adjoining land or that it will distract traffic.

(45) Access maintenance

The property owner remains responsible for the upkeep and maintenance of the accessway and associated facilities for the lifetime of the proposed development.

(46) Traffic Management Plan (TMP)

The traffic control and management measures specified in the approved Traffic Management Plan shall be implemented for the lifetime of the proposed development.

(47) Ongoing access to site

The following conditions will apply for the lifetime of the subject development:

a) The turning path of the largest sized vehicle to access the site is to be clear of obstructions at times
b) All vehicles are required to enter and leave the development in a forward direction to ensure traffic/pedestrian safety.
c) All vehicular loading and unloading is to be carried out within the site to prevent interference with the use of the public road by vehicles and pedestrians.
d) The maximum sized vehicles permitted to access the site is limited to 26 metre B-double configurations as specified in Austroads Design Vehicles and Turning Path Templates Guide 2021.

(48) Heavy vehicle access restriction

All articulated heavy vehicles associated with the development, including semi-trailers and B-doubles, shall access the development from the east via Oakes Road and enter the site by a right-turn movement and shall exit the site by a turn left onto Oakes Road.

(49) Operational Stormwater Management Plan

The stormwater management measures specified in the approved Operational Stormwater Management Plan shall be implemented for the lifetime of the proposed development.

(50) Pollution of Stormwater

The development shall be operated so that no contaminated water, concrete wash water, cement slurry, sediment, aggregate, hydrocarbons, chemicals or other pollutants are discharged from the subject site into Council's stormwater drainage system, the adjoining drainage channel or any waters. All potentially contaminated water generated by the operation shall be appropriately collected, contained, treated, reused or lawfully disposed of.

(51) Concrete and Vehicle Washdown

Concrete agitator washout, plant washdown and washing of equipment associated with concrete production shall only occur within designated areas designed to collect and contain all wash water and concrete residue. Wash water shall not be discharged to the stormwater drainage system, adjoining drainage channel or public road reserve.

(52) Amenity

The premises and operation must be conducted in such a manner so as to not interfere unreasonably with the amenity of the adjoining lots by way of noise, vibration, smell, fumes, vapour, steam, soot, ash, dust, waste water, waste products, grit, oil and any other matter.

(53) Hazardous goods

All hazardous or toxic materials must be stored, used or disposed of in a manner which does not harm the environment in accordance with sections 115 and 116 of the *Protection of the Environment Operations Act 1997* (NSW). The storage and handling of flammable and combustible liquids for use on the site shall be in accordance with Australian Standard AS1940-2017 – *The storage and handling of flammable and combustible liquids*.

(54) Recording of pollution and environmental nuisance complaints

The occupier of the premises must keep a legible record of all complaints made to the operator or any employee or agent of the premises, in relation to pollution or environmental nuisance (i.e., noise, odour issues) arising from any activity to which this consent applies.

The record must include details of the following:

(a) The date and time of the complaint;
(b) The method by which the complaint was made;
(c) Any personal details of the complainant which were provided by the complainant, or if no such details were provided, a note to that effect;
(d) The nature of the complaint;

(e) The action taken by the occupier in relation to the complaint, including any follow-up contact with the complainant; and
(f) If no action was taken by the operator/occupier, the reason why no action was taken.

The record of a complaint must be kept for at least 4 years after the complaint was made.

The record must be produced to an authorised Council officer upon request.

(55) All environmental management measures, mitigation measures and pollution control infrastructure identified in the approved plans, environmental assessments and supporting documentation submitted with the development application and approved by this consent but be implemented, maintained and operated for the life of the development, unless otherwise approved in writing by the consent authority.

Attachment C – Advisory Notes

The following information is provided for your assistance to ensure compliance with the *Environmental Planning & Assessment Act 1979, Environmental Planning & Assessment Regulation 2021*, or other relevant legislation and Council's policies. This information does not form part of the conditions of development consent pursuant to Section 4.16 of the Act.

(1) Before You Dig

If excavating, it is recommended you go to Before You Dig Australia at www.byda.com.au and lodge a free enquiry that helps keep people safe and protect underground infrastructure.

(2) Essential Energy

a) Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with;

b) Essential Energy's records indicate there is electricity infrastructure located within the property. Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure. Approval may be required from Essential Energy should activities within the property encroach on the electricity infrastructure. https://energy.nsw.gov.au/sites/default/files/2018-09/ISSC-20-Electricity-Easements.pdf

c) Prior to carrying out any works, a "Dial Before You Dig" enquiry should be undertaken in accordance with the requirements of *Part 5E* (*Protection of Underground Electricity Power Lines)* of the *Electricity Supply Act 1995* (NSW).

d) Given there is electricity infrastructure in the area, it is the responsibility of the person/s completing any works around powerlines to understand their safety responsibilities. SafeWork NSW (www.safework.nsw.gov.au) has publications that provide guidance when working close to electricity infrastructure. These include the Code of Practice – Work near Overhead Power Lines and Code of Practice – Work near Underground Assets.

Attachment D – Other Council Approvals and Consents

Section 68 Local Government Act 1993 Approvals

This consent includes the following approvals under Section 4.12 of the *Environmental Planning and Assessment Act 1979* and Section 68 of the *Local Government Act 1993.*

nil

Protection of the Environment Operations Act 1997

General Terms of Approval

EPA Reference: DOC26/219069

The General Manager
Griffith City Council
PO Box 485
GRIFFITH NSW 2680

Via NSW Planning Portal

Attention: Kerry Rouke

Re: Modification to Concrete Batching Plant – 127 Oakes Road, Griffith – DA 47/2026

General Terms of Approval - Issued pursuant to Section 4.46 *Environmental Planning and Assessment Act 1979*

I refer to the development application (DA 47/2026) and accompanying information provided for the proposed modification to the concrete batching plant at 127 Oakes Road, Griffith, received by the Environment Protection Authority (EPA) on 20 April 2026.

The EPA has reviewed the following documents and associated appendices:

- the Development Application (DA 47/2026) submitted to Griffith City Council;
- Environmental Impact Statement – Mawsons Griffith Concrete Batching Plant (Revision 2.0) – Prepared by SLR Consulting Australia Pty Ltd – 18 March 2026;
- Air Quality Impact Assessment – Mawsons Griffith Concrete Batching Plant (Revision v1.0) – Prepared by SLR Consulting Australia Pty Ltd – 1 December 2025;
- Noise Impact Assessment – Mawsons Griffith Concrete Batching Plant (Revision v3.0) – Prepared by SLR Consulting Australia Pty Ltd – 26 June 2026; and
- Response to EPA Request for Further Information – Mawsons Griffith Concrete Batching Plant – Prepared by SLR Consulting Australia Pty Ltd – 7 July 2026.

The EPA has responsibility for pollution control and environmental management under the *Protection of the Environment Operations Act 1997* (POEO Act). The EPA has reviewed the information provided, including the applicant's response to the EPA's Request for Further Information, and determined that it is able to issue General Terms of Approval (GTA).

The GTA provided in Attachment 'A', are conditions that relate to the development proposed in the documents and information provided by Griffith City Council and the applicant. Should Council grant development consent for this proposal, the EPA recommends that these conditions are incorporated into the consent.

Protection of the Environment Operations Act 1997

General Terms of Approval

EPA Reference: DOC26/219069

These GTA address the key environmental risks identified during the assessment and are not intended to replicate the administrative requirements that would ordinarily apply under an Environment Protection Licence. Nor do they remove or alter any obligation to comply with the POEO Act or any other applicable legislation.

As concrete batching is not a scheduled activity under Schedule 1 of the POEO Act, the proposed development does not require an Environment Protection Licence. The GTA have therefore been prepared to assist Griffith City Council in regulating the key environmental risks associated with the development through the development consent.

The proposed operational noise outcomes relied upon by the EPA during the assessment are contingent upon the implementation and ongoing maintenance of the operational and physical noise mitigation measures identified in the Noise Impact Assessment – Mawsons Griffith Concrete Batching Plant (Revision v3.0). Accordingly, the GTA include requirements to implement and maintain these mitigation measures and to undertake verification noise monitoring to confirm the operational noise performance of the premises.

These GTA's relate to the development as proposed in the documents and information currently provided to the EPA. If the development is modified either by the applicant prior to the granting of consent or as a result of the conditions proposed to be attached to the consent, it will be necessary to consult with the EPA about the changes before the consent is issued. This will enable the EPA to determine whether its General Terms of Approval need to be modified.

If you have any questions or wish to discuss this matter, further please contact Field Operations Western Team B on 131 555 or by electronic mail at info@epa.nsw.gov.au.

Yours sincerely

[redacted].....

Jessica Creed

Regional Manager – Operations

Environment Protection Authority

(by Delegation)

4 August 2026

Protection of the Environment Operations Act 1997

General Terms of Approval

EPA Reference: DOC26/219069

Attachment A – Specific conditions for DA 47/2026

Operating conditions

O1. Noise

O1.1 Within three months of the date of this consent, the proponent must ensure that all operational and physical noise mitigation measures identified in the Noise Impact Assessment – Mawsons Griffith Concrete Batching Plant (Revision v3.0), prepared by SLR Consulting Australia Pty Ltd and dated 26 June 2026, are implemented (where not already implemented) and maintained, unless otherwise approved in writing by Griffith City Council.

O1.2 Within three months of the date of this consent, the proponent must engage an independent suitably qualified acoustic consultant to undertake attended operational noise monitoring.

The monitoring must:

a) be undertaken under representative operating conditions;

b) assess operational noise emissions from the premises against the applicable criteria of the NSW Noise Policy for Industry (2017); and

c) identify any additional feasible and reasonable mitigation measures where the applicable criteria of the NSW Noise Policy for Industry (2017) are not achieved.

A copy of the monitoring report must be provided to Griffith City Council within one month of completion of the monitoring.

O2. Dust

O2.1 Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.

O2.2 All areas must be maintained in a condition that minimises the generation of dust. These areas include but are not limited to:

a) sealed and unsealed trafficable areas;
b) stockpile areas;
c) material handling areas; and
d) loading and unloading areas

O2.3 Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.

O2.4 Dust suppression measures must be implemented whenever necessary to prevent off-site dust impacts and fugitive dust emissions.

O3. Water Management

O3.1 Stormwater, process water and wash water generated on the premises must be collected, contained and managed so as to prevent the pollution of waters.

SLR

Environmental Impact Statement

Mawsons Griffith Concrete Batching Plant

E.B. Mawsons and Sons Pty Ltd

Prepared by:

SLR Consulting Australia

SLR Project No.: 630.032127.00001

20 April 2026

Revision: 3.0

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	4 February 2026	Erin Douglas	Jim Lawler	Jim Lawler
2.0	18 March 2026	Erin Douglas	Jim Lawler	Jim Lawler
3.0	20 April 2026	Erin Douglas	Jim Lawler	Jim Lawler

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with E.B. Mawsons and Sons Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Executive Summary

Introduction

E.B Mawsons and Sons Pty Ltd is seeking development consent to increase the approved production capacity of the existing concrete batching plant (CBP) located at 127 Oakes Road, Griffith, NSW 2680, legally identified as Lot 1 DP1181518 (**'the Site'**). The development results in an increased throughput from an annual production capacity of 30,000 tonnes per annum (tpa), as approved under DA 17/2025(1), to a maximum of 140,000tpa (**'the Proposal'**). Overall, an increase in 110,000tpa is sought.

This responds directly to sustained growth in regional construction activity and the corresponding demand for concrete products to support local infrastructure delivery, residential development, and broader building projects across the region.

The Proposal does not include any physical expansion of the existing CBP and can be achieved without requiring any alterations to the existing approved site layout or built form within the boundaries of the Site authorised under the current development consent. No additional plant, equipment, or expansion of the Site footprint is proposed. Works are required within the road reserve and Griffiths Road by way of an increased crossover width and BAL / BAR intersection. The works are minor in scale.

To support this expansion, an Environmental Impact Statement (EIS) has been prepared by SLR Consulting Australia Pty Ltd (SLR) in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs) under the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Table of Contents

Basis of Report i
1.0 Introduction 1
1.1 Purpose of this Report 1
1.2 Proposal Overview 1
1.2.1 The Proponent 1
1.2.2 Background 1
1.2.3 Objectives of the Proposal 2
1.2.4 Response to the SEARs 3
2.0 The Site and Surrounds 8
2.1 Site Description 8
2.2 Site Context 9
3.0 Project Description 9
3.1 Site Operations 10
3.1.1 Pre-mixed Concrete Production Output 10
3.1.2 Access and Servicing 10
3.1.3 Operational Hours 11
3.1.4 Staff 11
3.1.5 Car Parking 11
3.2 Site Alternatives 11
4.0 Strategic Context 12
4.1 Riverina Murray Regional Plan 2041 12
4.2 Griffith Local Strategic Planning Statement 2020 12
4.3 Griffith Community Strategic Plan 2022-2032 – Guiding Griffith 13
4.4 Griffith Employment Lands Strategy 13
5.0 Statutory Context 15
5.1 Commonwealth legislation 15
5.1.1 Environment Protection and Biodiversity Conservation Act 1999 15
5.1.2 Native Title Act 1993 16
5.2 State Legislation 16
5.2.1 Environmental Planning and Assessment Act 1979 and Regulation 2021 16
5.2.1.2 Integrated 17
5.2.2 National Parks and Wildlife Act 1974 17
5.2.3 Roads Act 1993 17
5.2.4 Rural Fires Act 1997 18
5.2.5 Biodiversity Conservation Act 2016 18

5.2.6 Protection of the Environment Operations Act 1997 18
5.2.7 Water Management Act 2000 18
5.2.8 SEPP (Planning Systems) 2021 19
5.2.9 SEPP (Resilience and Hazards) 2021 19
5.2.10 SEPP (Transport and Infrastructure) 2021 21
5.3 Local Legislation and Controls 22
5.3.1 Griffith Local Environmental Plan 2014 22
5.3.2 Griffith Development Control Plan (varied) 24
6.0 Consultation and Engagement 24
6.1 Agency Consultation 24
6.2 Community Consultation 27
7.0 Assessment of Impacts 28
7.1 Air quality and odour 28
7.1.1 Existing environment 28
7.1.2 Air quality impacts 29
7.1.3 Management measures 30
7.1.4 Conclusion 31
7.2 Soil and water 31
7.2.1 Existing Environment 31
7.2.2 Conclusion 31
7.3 Waste management 31
7.4 Hazards and risk 32
7.5 Noise and vibration 33
7.5.1 Existing operations 34
7.5.2 Proposed operations 35
7.5.3 Conclusion 37
7.6 Traffic and transport 38
7.6.1 Existing operations 38
7.6.2 Operational Traffic Generation 39
7.6.3 Site Access Assessment 39
7.6.4 Intersection Assessment 40
7.6.5 Conclusion 42
7.7 Heritage 42
7.7.1 Existing Environment 42
7.7.2 Conclusion 42
8.0 Justification and Conclusion 42



8.1 Justification 42
8.2 Ecologically Sustainable Development 43
8.2.1 The Precautionary Principle 43
8.2.2 Inter-Generational Equity 44
8.2.3 Conservation of Biological Diversity and Maintenance of Ecological Values 44
8.2.4 Improved Valuation, Pricing, And Incentive Mechanisms 44
8.3 Conclusion 45

Tables

Table 1 Development Application History 1
Table 2 Response to SEARs 3
Table 3 Riverina Murray Regional Plan Strategic Assessment 12
Table 4 EPBC Act Protected Matters Report Results 15
Table 5 Community and Stakeholder Engagement Summary 27
Table 7 ADG Classification of SEPP-Related Dangerous Goods – Storage 33
Table 8 ADG Classification of SEPP-Related Dangerous Goods – Transport 33
Table 9 Summary of ambient noise monitoring results (Source: NIA, Appendix I) 35
Table 10 Summary of attended monitoring results (Source: NIA, Appendix I) 35
Table 11 Operational Project Noise Trigger Levels 36
Table 12 Surrounding Road Network Detail 38

Figures

Figure 1 Site Aerial (Source: NearMaps) 9
Figure 2 Location of existing employment lands and bypass corridor investigation area (LSPS, p.28) 13
Figure 3 Industrial zoned land within Griffith (GELS, p. 21) 14
Figure 4 NSW Hydroline Map 19
Figure 5 Land Zoning Map Extract (Source: NSW Planning Portal Spatial Viewer) 22
Figure 6 Surrounding Sensitive Receivers (Source AQIA, 2025) 29
Figure 7 Locations of identified sensitive receptors (Source: NIA, Appendix F) 34
Figure 8 Surrounding Road Network Map 38
Figure 9 Site access upgrade concept (SLR Consulting, 2025) 40
Figure 10 Local Intersection Analysis 41

Appendices

Appendix A **SEARS**
Appendix B **AHIMS Search Results**
Appendix C **Stormwater and Hydrocarbon Storage Plan**
Appendix D **DCP Compliance Table**
Appendix E **MNES Report**
Appendix F **Noise Impact Assessment**
Appendix G **Air Quality Impact Assessment**
Appendix H **Traffic Impact Assessment**
Appendix I **Environmental Management System Manual**
Appendix J **Waste Report**
Appendix K **Existing Development Consent DA17-2025**

Acronyms and Abbreviations

AHIMS	Aboriginal Heritage Information Management System
APA	Appropriate Regulatory Authority
AQIA	Air Quality Impact Assessment
AS	Australian Standard
BAL / BAR	Basic Left / Basic Right
BC Act	Biodiversity Conservation Act 2016
CBP	Concrete Batching Plant
CIV	Capital Investment Value
CSP	Community Strategic Plan
DA	Development Application
DCP	Griffith Development Control Plan
DPHI	Department Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPA	NSW Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPIs	Environmental Planning Instruments
EPL	Environmental Protection Licence
ESD	Ecologically Sustainable Development
GELS	Griffith Employment Land Strategy
ha	Hectares
ILUAS	Indigenous Land Use Agreement
LEP	Griffith Local Environment Plan 2014
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
MNES	Matters of National Environmental Significance
NIA	Noise Impact Assessment
NPW Act	National Parks and Wildlife Act
NRAR	Natural Resources Access Regulator
NSW	New South Wales
NT Act	Native Title Act
PHA	Preliminary Hazard Analysis
PNTL	Project Noise Trigger Levels
POEO Act	Protection of Environment Operations Act 1997

RA	Roads Act 1993
RAMJO	Riverina Regional Plan and Riverina Murray Joint Organisation
RNP	Road Noise Policy
RP	Regional Plan
RSD	Regionally Significant Development
SEARs	Planning Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
Site	127 Oakes Road Griffith NSW
SLR	SLR Consulting Australia Pty Ltd
SSD	State Significant Development
TfNSW	Transport for New South Wales
TIA	Traffic Impact Assessment
Tpa	Tonnes per annum
TSP	Total Suspended Solids
WAR	Waste Assessment Report
WM Act	Water Management Act

1.0 Introduction

1.1 Purpose of this Report

The existing concrete batching plant (CBP) facility is located at 127 Oakes Road, Griffith, NSW 2680, legally identified as Lot 1 DP1181518 (**'the Site'**).

The current approved throughput of the CBP is 30,000 tonnes per annum (tpa) under DA17/2025(1), which is proposed to be increased as part of this application. To allow for the proposed expansion, development consent is sought pursuant to the EP&A Act.

This Environmental Impact Statement (EIS) has been prepared by SLR Consulting Australia Pty Ltd (SLR) on behalf of E.B Mawsons Pty Ltd in support of a Development Application (DA) for designated development. The purpose of this EIS is to address the Planning Secretary's Environmental Assessment Requirements (SEARs) 2033 for the Proposal. The SEARs are addressed throughout this EIS and in appended technical reports.

1.2 Proposal Overview

1.2.1 The Proponent

Requirement	Detail
Proponent	E.B Mawson & Sons Pty Ltd
Postal Address	PO Box 669, Griffith, NSW, 2680
Contact	nrobinson@mawsons.com.au

1.2.2 Background

The CBP is operating under Development Consent DA 258/82, granted on 04 January 1983 for a *'cement batching plant'*.

Several Development Applications have been submitted for the Site following the initial approval, as summarised in **Table 1**.

Table 1 Development Application History

Application No.	Description	Determination
493/2005.2	Constructing a shed for the purpose of pre-cast concrete panel manufacturing & an office & a carport & a storage structure	Approved 20/08/2010
193/2012.1	Construction of a fixed wireless broadband telecommunications facility	Approved 12/02/2013
40/2015.1	Truck shelter and storage	Approved 27/04/2015
40/2015.2	Modification of Consent - Truck shelter and storage	Approved 28/10/2016
102/2019.1	Extension of awning at front of existing workshop and carport type awning for cover over a hot works (welding) area	Approved 04/07/2019

Application No.	Description	Determination
26/2025.1	Construction of a carpark on a portion of the road reserve adjoining Lot 1 DP 1181518, Oakes Road	Approved 11/04/2025
18/2025.1	Demolition works & construction of a replacement roof on double storey administration building	Approved 14/03/2025
17/2025.1	Demolition Works, Alterations & Additions to an existing concrete batching plant	Approved 23/05/2025

As detailed in the table above, the most recent consent (DA17/2025(1)) (refer to **Appendix K – Existing Development Consent**) for the Site, approved on 23 May 2025, was for '*Demolition Works, Alterations & Additions to a concrete batching plant*.' Specifically, the works comprised the demolition and removal of plant/equipment and the installation of new plant/equipment associated with the existing concrete batching operation. The approved plans for the Site and the alterations and additions to the CBP are attached to the consent. Included in Condition 2 of the consent stipulates a Production Capacity Limit, being '*Production capacity is not to exceed 30,000 tonnes per annum or 150 tonnes per day. Should an increase in production be anticipated, a new Development Application would need to be submitted as 'Designated Development'.* Therefore, this Proposal aims to increase the production capacity of the existing CBP from a maximum of 30,000 tonnes per annum (tpa) to 140,000 tpa.

1.2.3 Objectives of the Proposal

The key objectives of the Proposal are to:

- Respond to increased demand for concrete and construction materials across the Griffith region and surrounding areas;
- Optimise the use of the existing CBP without any changes to the existing approved Site layout;
- Maintain operational efficiency and continuity of supply to key markets;
- Support local employment and economic activity through enhanced production capacity;
- Ensure compliance with regulatory requirements by seeking approval as a Designated Development under relevant planning legislation;
- Minimise environmental and amenity impacts through appropriate management practices.

The proposed development will accommodate the increase in demand for an essential construction material, to service population growth and support investment in infrastructure and property development within the local government area and the region.

The proposed development will also support Mawsons in providing a source of employment to the local community, offering benefits to local services and suppliers, and contributing to training and local employment opportunities.

The Site's proximity to the general market will ensure the efficient and cost-effective supply of concrete, while maintaining a suitable buffer to surrounding sensitive land uses. The location of concrete batching plants near mixed-use urban areas comprising industrial, commercial, and residential zones is essential to maintaining the integrity of concrete products. This proximity helps prevent premature setting during transport (in line with



Australian Standard AS 1379 – *Specification and Supply of Concrete*, clause 4.2.5, which allows a maximum of 90 minutes from initial mixing to discharge under standard conditions). It also helps keep infrastructure delivery costs at an efficient and affordable level. The location of Concrete Batching Plants in proximity to end users results in competitive pricing, a reduction in travel distance and congestion, and consequently an overall reduction in fuel consumption and greenhouse gas emissions.

1.2.4 Response to the SEARs

Planning Secretary Environmental Assessment Requirements (SEARs) were issued for the Proposal by the Department of Planning, Housing and Infrastructure (DPHI), being SEARs 2033 dated 6 November 2025. Refer to Table 2 for a response to each requirement as per the SEARs.

Table 2 Response to SEARs

Requirement	Response & Location in Documents
General Requirements The Environmental Impact Statement (EIS) for the development must comply with the requirements in Clauses 190 and 192 of the Environmental Planning and Assessment Regulation 2021.	This EIS has been prepared in accordance with these requirements.
The EIS must include an assessment of all potential impacts of the proposed development on the existing environment (including cumulative impacts if necessary) and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. As part of the EIS assessment, the following matters must also be addressed:	
Strategic and statutory context – including: • a detailed description of the history of the site, including the relationship between the proposed development and all development consents and approved plans previously and/or currently applicable to the site. • a demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies. • a list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out. • a description of how the proposed increase in throughput integrates with the operations of the approved	Refer to the following sections within this EIS: • Section 2.0 – The Site and Surrounds • Section 3.0 – Project Description • Section 4.0 – Strategic Context • Section 5.0 – Statutory Context

Requirement	Response & Location in Documents
concrete batching plant on-site and any additional equipment (mobile or fixed) required • a description of any amendments to and/ or additional licence(s) or approval(s) required to carry out the proposed development.	
Suitability of the site – including: • a detailed justification for the proposal and that the site can accommodate the proposed increased throughput, having regard to the scope of the operations of the existing facility and its environmental impacts and relevant mitigation measures. • a description of any likely interactions between the development and any existing/approved developments and land uses in the area. • clear maps/plans identifying all sensitive receivers likely to be affected by the development • site/floor plans depicting the existing approved layout, including the location of all machinery and equipment, stockpile and material handling areas, sealed and unsealed areas, landscaping and open space.	Refer to the following sections within this EIS and supporting documentation: • Section 8.0 – Justification and Conclusion • Appendix C – Stormwater and Hydrocarbon Storage Plan • Appendix F – Noise Impact Assessment • Appendix G – Air Quality Impact Assessment
Hazards and risk – including: • a preliminary risk screening completed in accordance with State Environmental Planning Policy (Resilience and Hazards) 2021, Chapter 3 and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be	Refer to Section 5.9 and Section 7.4 of this EIS.

Requirement	Response & Location in Documents
prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).	
Air quality and odour – including: • a quantitative assessment of the potential air quality, dust and odour impacts of the development, during operation, in accordance with relevant Environment Protection Authority (EPA) guidelines. • a description and appraisal of air quality and odour impact mitigation and monitoring measures, in line with the requirements of the Protection of the Environment Operations (Clean Air) Regulation 2022 and criteria within the EPA guideline 'Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022)'.	Refer to Section 7.1 of this EIS and Appendix G.
Noise and vibration – including: • a description of all potential noise and vibration sources during increased operation, including road traffic noise and any cumulative impacts from existing onsite operations • a noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines • a description and appraisal of noise and vibration mitigation and monitoring measures.	Refer to Section 7.1 of this EIS and Appendix F.
Soil and water – including: • a description of local soils, topography, drainage and landscapes • details of water usage for the proposal including existing and proposed water licencing	Refer to Section 7.2 of this EIS.

Requirement	Response & Location in Documents
requirements in accordance with the Water Act 1912 and/or the Water Management Act 2000 • an assessment of potential impacts on floodplain management and any impact to flooding in the catchment • details of any sediment and erosion controls • a detailed site water balance • a description of the measures proposed to ensure the development can operate in accordance with the requirements of any relevant Water Sharing Plan or water source embargo details of the stormwater and wastewater management systems (including sewage) and their capacity to accommodate the increased operational throughput • an assessment of potential impacts on the quality and quantity of surface and groundwater resources consistent with relevant guidelines, including details on any water monitoring program and measures to mitigate impacts • characterisation of the nature and extent of any contamination on the site and surrounding area • a description and appraisal of impact mitigation and monitoring measures.	
Waste management – including: • details of any resource outputs and additional processes for residual waste • details of additional waste handling including transport, identification, receipt, stockpiling/storage and quality control • the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the NSW Waste	Refer to Section 7.3 of this EIS.



Requirement	Response & Location in Documents
Avoidance and Sustainable Materials Strategy 2041.	
Traffic and transport – including: • a Transport Impact Assessment prepared in accordance with the Guide to Transport Impact Assessment (TfNSW, 2024), Austroads Guide to Traffic Management Part 12 and the complementary TfNSW Supplement details of road transport routes and access to the site, including specification of the maximum size vehicle to access the site • road traffic predictions for the development and any associated increase in trip generation • consideration of any potential cumulative impacts to the surrounding road network, and in particular the intersections of Oakes Road with Jondaryan Avenue (Kidman Way) and Lenehan Road with Banna Avenue (Burley Griffin Way). • swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site • an assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development.	Refer to Section 7.6 of this EIS and Appendix H.
Community and stakeholder engagement – including: • a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach	Refer to Section 6.0 of this EIS.

Requirement	Response & Location in Documents
• a report on the results of the implementation of the strategy including issues raised by the community and surrounding occupiers and landowners that may be impacted by the proposal • details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal • details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.	
Heritage – including Aboriginal and non-Aboriginal cultural heritage.	Refer to Section 7.7 of this EIS.

2.0 The Site and Surrounds

2.1 Site Description

The Site is located at 127 Oakes Road, Griffith NSW 2680 and legally described as Lot 1 of DP1181518 (refer to **Figure 1**). The Site is situated within the Griffith Local Government Area (LGA), governed by Griffith City Council. The Site comprises an approximate area of 2.19 hectares, with a frontage to Oakes Road to the southeast and Lenehan Road to the southwest. The Site is currently occupied by a concrete batching plant, a concrete panel production facility, workshops, storage sheds, offices, amenities buildings, material storage areas and bunkers, heavy vehicle parking areas and sheds, open hardstand areas & landscaping. Vehicular access to the Site is currently provided via a combined ingress and egress access driveway onto Oakes Road.

The existing approved CBP equipment and infrastructure, which will continue to be used for the Proposal, include the following:

- office spaces, including staff amenities and lunchroom
- staff and visitor car parking
- bays for raw material storage
- truck washout facilities
- silos
- material conveyors
- semi-enclosed slump stand
- stormwater detention / recycling facilities
- landscaping
- security (fencing and lighting)
- front end loader(s).

Refer to Figure 1 for a Site aerial.

Figure 1 Site Aerial (Source: NearMaps)



2.2 Site Context

The Site is surrounded by a mixed-use locality comprising a combination of horticultural enterprises, vacant agricultural land, industrial uses, and large lot residential properties. The surrounding land uses include industrial development, scattered large-lot residential dwellings and associated outbuildings and vacant agricultural land to the north, east and west. Land to the south of the Site is currently vacant land used for agricultural purposes but has recently been approved for a residential subdivision.

The immediate surroundings are characterised by a combination of horticultural operations, large-lot rural-residential properties, established and emerging industrial activities, and areas of undeveloped farmland. Sensitive receptors in proximity to the Site are include residential dwellings to the Southeast, South and Southwest.

Approximately 40 metres south of the Site, on land currently used predominantly for farming and grazing purposes, Development Application DA 41/2024.1 was recently approved for a 28-lot Torrens Title residential subdivision and the demolition of existing structures. This reflects the evolving land use character of the locality. However, a noise report was prepared for that subdivision. Subsequently, conditions of the consent require the treatment of the future dwellings in the subdivision according to a schedule of minimum glazing thicknesses and types, roof/ceiling and wall construction etc to ensure the acoustic amenity of the future occupants, in accordance with the noise assessment prepared by Reverb Acoustics.

3.0 Project Description

The Proposal involves an increase in the approved production capacity of the existing CBP located at the Site. The key component of the Proposal is:

- Increased throughput: Raising the maximum annual production capacity from 30,000 tonnes per annum (tpa), as currently approved under DA 17/2025(1), up to a maximum of 140,000 tpa. Overall, an increase in 110,000tpa is sought.

This responds directly to sustained growth in regional construction activity and the corresponding demand for concrete products to support local infrastructure delivery, residential development, and broader building projects across the region.

The Proposal does not include any physical expansion of the existing CBP and can be achieved without requiring any alterations to the existing approved site layout or built form within the boundaries of the Site authorised under the current development consent. No additional plant, equipment, or expansion of the Site footprint is proposed. Works are required within the road reserve and Griffiths Road by way of an increased crossover width and BAL / BAR intersection as further detailed within 3.1.2 below. The works are minor in scale.

3.1 Site Operations

The existing and approved CBP and operational arrangements on the Site will continue to be used under the Proposal. These include the batching plant, aggregate and sand storage areas, silos, conveyors, water supply infrastructure, and internal circulation areas. The approved layout provides sufficient capacity to accommodate the proposed increase in throughput without modification.

The Site is already connected to all required utilities, including electricity, water, and stormwater infrastructure. No additional utility upgrades, connections, or service relocations are necessary to support the Proposal.

3.1.1 Pre-mixed Concrete Production Output

The Proposal includes the following operating scenarios for production of pre-mixed concrete at the Site.

Scenario	Tonnes	Cubic Meters
Maximum Daily Production	650 tonnes	260m^3
Maximum Yearly Production*	140,000 tonnes	56,000m^3

**Assumes an average density of concrete of 2.5m^3.*

3.1.2 Access and Servicing

Access to the Site will continue to be provided via the existing combined ingress and egress driveway onto Oakes Road, approximately 50m east of Old Willbriggie Road.

The Proposal will include upgrading works at the Site access to Oakes Road, comprising of the following:

- Widening of the driveway crossover to accommodate left in / left out only movements by 26m B-Doubles and all movements by vehicles up to Heavy Rigid Vehicle (HRV) types.
- Provision of a Basic Left (BAL) and Basic Right (BAR) turn treatments in accordance with AGRD4A requirements.

The approved internal circulation and traffic management arrangements for the CBP will remain unchanged.



A concept plan showing the recommended upgrades to the Site access has been prepared and is provided as Appendix C of the Traffic Impact Assessment provided at **Appendix H**. Minor earthworks will be required to facilitate the widening of the vehicle crossover and intersection works, and will be subject to an application and associated assessment pursuant to Section 138 of the *Roads Act 1993.* The works are not anticipated to require cut or fill beyond the exempt provisions specified by Subdivision 15 of the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.*

3.1.3 Operational Hours

No changes to existing operational hours are proposed. While the existing development consent does not impose restrictions, the CBP has historically operated for no longer than 12 hours per day, during the following hours:

- Monday to Saturday: 5:00 am – 6:00 pm
- Sunday and Public Holidays: No operations

These established operating hours will continue under the Proposal.

The CBP typically operates 300 days per year (over approximately 50 weeks).

3.1.4 Staff

The CBP will continue to employ a total of approximately 27 staff (including managers, production personnel and drivers). No change to staff numbers is proposed.

3.1.5 Car Parking

A total of approximately forty-three (43) car parking spaces is approved to be provided on site, comprising 29 spaces (including two spaces for persons with a disability) approved under DA 26/2025(1) within the Council road reserve along the Oakes Road per Condition 10, and approximately fourteen (14) car parking spaces existing on site.

The approved parking arrangements are sufficient to accommodate the Proposal.

3.2 Site Alternatives

In considering how best to achieve the objectives of the Proposal, Mawsons has evaluated alternative options for meeting increasing demand.

One alternative involves the establishment of a new CBP at a separate location. However, this option is likely to result in greater environmental, and amenity impacts due to the need for land clearing, new infrastructure development, and associated construction activities. A new development may also require connection to essential services, introduction of additional vehicle movements in a new area, and extra time taken for construction, all of which would delay the ability to meet current market demand.

By contrast, the proposed increase in throughput at the Site represents a more sustainable and efficient solution. The Site already comprises the physical infrastructure, service connections, and regulatory frameworks necessary to accommodate the increased operational capacity. Importantly, it is not proposed to change the Site's approved footprint, built form, or hours of operation. This approach allows for the optimisation of an already approved and operating Site, minimising environmental disturbance while supporting the continued supply of materials essential to regional infrastructure and construction projects. Accordingly, the Proposal represents the most practical and efficient option.

4.0 Strategic Context

4.1 Riverina Murray Regional Plan 2041

The *Riverina Murray Regional Plan 2041* (the Regional Plan) provides the strategy necessary to deliver the vision for the region, relating to the natural environment, future hazards, housing and related infrastructure, industry, employment areas and town centres.

The Proposal aligns with the relevant goals and directions of the Regional Plan which has been discussed in **Table 3**.

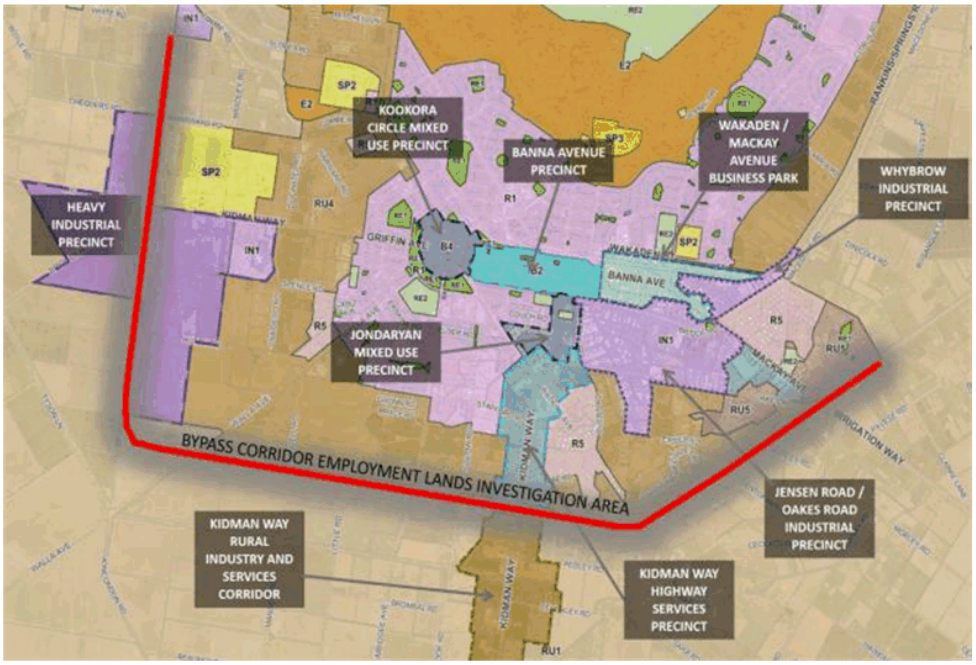
Table 3 Riverina Murray Regional Plan Strategic Assessment

Strategic Direction	Response
Part 3: Economy	
Objective 14: Protecting and promoting industrial and manufacturing land	The Site is located within an existing industrial precinct with direct access from the adjoining local road network to State Main Roads, being Jondaryn Avenue (Kidman Way) and Banna Avenue (Burley Griffin Way) Kidman Way which directly connect to the major freight corridors between Adelaide, Melbourne, Canberra, Sydney and Brisbane. The Proposal represents an opportunity to further support and enhance an existing business which is already leveraging transit connections. Through increasing the throughput on the existing approved CBP site, continued co-location and clustering of industries within the zone will occur, which in turn improves efficiencies and productivity, reduces land use conflict and maximises infrastructure investment in accordance with Objective 14.

4.2 Griffith Local Strategic Planning Statement 2020

The Griffith Local Strategic Planning Statement 2020 (LSPS) identifies the 25-year vision for Griffith and the strategic planning actions needed to facilitate the achievement of the vision and to direct how future growth will occur. The Site is located within an existing industrial precinct (Jensen Road / Oakes Road), which is identified for adequacy review in terms of its location and performance – see **Figure 2** below. It is understood that an Industrial Lands Strategy is in the process of being prepared by the Council in this regard, however, has not been endorsed at this stage to inform areas for rezoning or expansion. In this respect, use of existing zoned and developed land is important to support continued operation. The Proposal will continue to support ongoing employment within an existing industrial estate, supported by measures to mitigate impacts on adjoining properties. The Proposal is consistent with the LSPS.

Figure 2 **Location of existing employment lands and bypass corridor investigation area (LSPS, p.28)**



4.3 Griffith Community Strategic Plan 2022-2032 – Guiding Griffith

The Griffith Community Strategic Plan (CSP) is based on the aspirations, knowledge and values of the Griffith Community. The CSP aligns with the NSW State Plan, Riverina Regional Plan and Riverina Murray Joint Organisation (RAMJO) priorities, which when applied to the Proposal specifically includes to:

- Develop Griffith as a centre of choice for trade, business, health, recreation and employment.
- Facilitate sustainable growth.
- Be a location of for innovative agriculture and manufacturing.

The CSP is in the process of being renewed and will be known as 'Your Vision Our Future 2025-2035'. It was placed on Public Exhibition in February 2025 and subsequently adopted by Council at their Ordinary Meeting dated 25 March 2025. A draft version is available on Council's Website. The date of final implementation is unknown at the time of writing this report.

The Proposal supports the objectives and priorities of both versions of the CSP through facilitating growth of an existing industry, on land zoned for that purpose.

4.4 Griffith Employment Lands Strategy

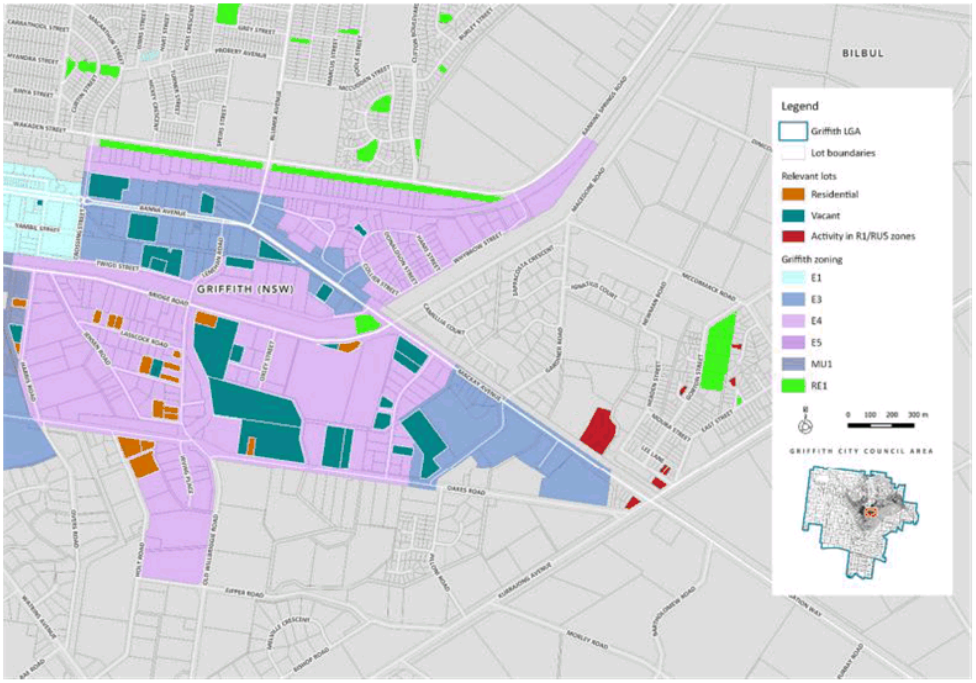
The Griffith Employment Lands Strategy (GELS) was endorsed 27 March 2024 (ver 4), and aims to plan for appropriately located employment lands, integrated with transport

connections with diverse housing options nearby and suitable or the development and operations of industrial activities. The GELS notes that the number of workers in Griffith City increased from 12,134 persons in 2016 to 13,954 persons in 2021, with an estimated gross regional product of $2.13 billion as at the end of June 2022 (18.2% of which was manufacturing).

The GELS identifies 30.6ha of vacant or underutilised E4 – General Industrial land within Griffith for industrial purposes, with most of the sites measuring less than 5,000m^2 in size, with limited opportunities in the form of larger allotments. The size and location of vacant and underutilised lots elsewhere in Griffith are only suitable for low impact and service industry uses and do not align with the future demand for larger lot general industrial development. As such, there is a need to identify the potential for additional E4 zoned land within the city, which is suitably serviced, located and sized.

The Site is well located close to the commercial core and is suitably serviced. Continued discussions with adjoining landowners (identified as vacant or underutilised within the GELS, see **Figure 3** below) has been occurring to promote acquisition and amalgamation, to achieve and align with the priority to create larger industrial lots within the well serviced city / commercial core. The Proposal is consistent with the aims of the GELS to support employment and utilisation of existing, well serviced industrial land.

Figure 3 Industrial zoned land within Griffith (GELS, p. 21)



5.0 Statutory Context

The following legislation, Environmental and Planning Instruments (EPIs) plans and guidelines are relevant to the Project:

- Commonwealth legislation:
  - *Environment Protection and Biodiversity Conservation Act 1999.*
  - *Native Title Act 1993.*
- State legislation:
  - *Environmental Planning and Assessment Act 1979.*
  - *Environmental Planning and Regulation 2021.*
  - *National Parks and Wildlife Act 1974.*
  - *Rural Fires Act 1997.*
  - *Biodiversity Conservation Act 2016.*
  - *Protection of the Environment Operations Act 1997.*
  - *Water Management Act 2000.*
  - *State Environmental Planning Policy (Biodiversity and Conservation) 2021.*
  - *State Environmental Planning Policy (Planning Systems) 2021.*
  - *State Environmental Planning Policy (Resilience and Hazards) 2021.*
  - *State Environmental Planning Policy (Transport* and Infrastructure) 2021.
- Local legislation:
  - *Griffith Local Environmental Plan 2014.*
  - *Griffith Development Control Plan (varied).*

5.1 Commonwealth legislation

5.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) aim to protect matters deemed to be of national environmental significance (MNES). An EBPC Act Protect Matters Report was generated on 19 December 2025, which produced the results shown in **Table 4**. A copy of the search results is provided at **Appendix E**. Noting the Proposal does not incorporate any built works or vegetation removal, there are unlikely to be significant impacts to MNES or Commonwealth land as a result of the Proposal and therefore does not require referral under the EPBC Act.

Table 4 EPBC Act Protected Matters Report Results

Matter	Comment
World heritage properties	There are no World heritage properties listed within 5km of the Site.
National heritage places	There is no National heritage places listed within 5km of the Site.

Matter	Comment
Wetlands of national importance	There are four wetlands of international importance identified in the report, namely the Banrock station wetland complex, Hattah-kulkyne lakes, Riverland, and the Coorong and Lakes Alexandrina and Albert wetland. These wetlands are located approximately 500 to 900km away from the Site and therefore will not be impacted by the Proposal.
Great Barrier Reef marine park	The Site is not located within or adjacent to the Great Barrier Reef marine park.
Commonwealth marine area	The Site is not located within or adjacent to a Commonwealth marine area.
Listed threatened ecological communities	There are five listed threatened ecological communities located within 5km of the Site (listed in Appendix B).
Listed threatened species	There are 34 listed threatened species located within 5km of the Site (listed in Appendix B).
Listed migratory species	There are eight listed migratory species located within 5km of the Site (listed in Appendix B).

5.1.2 Native Title Act 1993

The *Native Title Act 1993* (NT Act) provides a framework for the determination of native title claims within Australia, and for negotiations and decision making regarding the use and management of native title lands and waters. Exclusive rights to land are only available on certain unallocated or vacant Crown lands.

A Native Title Registrar is responsible for maintaining three Registers under the Act: The National Native Title Register, the Register of Native Title Claims and the Register of Indigenous Land Use Agreements (ILUAs).

A review of the National Native Title Register revealed there are currently no active native titles within the Griffith LGA. A search of the Register of Native Title Claims also identified no claims within the Griffith LGA. As the proposed works are not being undertaken on unallocated or vacant Crown land, Native Title considerations do not apply.

5.2 State Legislation

5.2.1 Environmental Planning and Assessment Act 1979 and Regulation 2021

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal legislation overseeing the assessment and determination of development applications in NSW. The objects of the EP&A Act generally seek to promote management and conservation of natural and artificial resources, whilst also permitting appropriate development to occur.

5.2.1.1 Designated development

The Proposal is identified as Designated Development under Schedule 3 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), defined under Item 17 *Concrete works*.

17 Concrete works



(1) Development for the purposes of concrete works is designated development if the works have an intended production capacity of more than –

a. 150 tonnes per day, or

b. 30,000 tonnes per year.

(2) Development for the purposes of concrete works is designated development if the works –

a. have an intended production capacity of more than 500 tonnes per year, and

b. are located within –

i. 100 metres of a natural waterbody or wetland, or

ii. 250 metres of a residential zone, or

iii. 250 metres of a dwelling not associated with the development.

(3) This section does not apply to concrete works located on or adjacent to a construction site exclusively providing material to the development carried out on the site –

a. for a period of less than 12 months, or

b. if the environmental impacts were previously assessed in an environmental impact statement prepared for the development.

(4) In this section –

***concrete works** means works that produce pre-mixed concrete or concrete products.*

The development will increase concrete throughput from 30,000tpa to 140,000tpa which exceeds the threshold of 30,000tpa, thus designated development is triggered.

5.2.1.2 Integrated development

Under the provisions of Section 4.46 of the EP&A Act 1979 the Proposal constitutes "integrated development", as detailed under Section 5.2.3 below.

5.2.2 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) aim to conserve nature, objects, places or features (including biological diversity) of cultural value within the landscape. The NPW Act also aims to foster public appreciation, understanding and enjoyment of nature and cultural heritage, and provides for the preservation and management of national parks, historic sites and other areas. No areas of National Park estate occur within or adjacent to the Site.

Amended in 2010, the NPW Act also provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. A search of the Heritage NSW Aboriginal Heritage Information Management System (AHIMS) Web Services, located at **Appendix B**, has found no Aboriginal sites nor Aboriginal places within a 200m radius of the Site. Therefore, it is not anticipated that the Proposal will affect any sites of Aboriginal cultural significance.

5.2.3 Roads Act 1993

The Proposal requires approval via Section 138 of the *Roads Act 1993* (RA) to carry out work on a public road and thus triggers integrated development and requires general terms of approval from TfNSW. As also noted under Section 5.2.10, the Site is within 90m of a classfied road, and triggers traffic generating development.



5.2.4 Rural Fires Act 1997

The Site is not mapped as bushfire prone.

5.2.5 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) establishes a framework for assessing and offsetting biodiversity impacts for applicable development in NSW.

The Site does not contain any area of biodiversity value.

5.2.6 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) provides an integrated system of licensing for certain polluting activities within the objective of protecting the environment.

Concrete batching is not included in activities described in clauses 6 or 13 of Schedule 1 of the POEO Act and as such will not require an Environment Protection Licence (EPL). As noted in the NSW Environment Protection Authority (EPA) response to SEARs (dated 27 October 2025), the EPA will be the appropriate regulatory authority (APA) for the premises given that the proposed production capacity of the concrete batching plant exceeds 30,000tpa (see clause 13(b) of the POEO General Regulation 2022).

Based on the above, the Proposal does not trigger integrated development under Sections 43(b), 48 or 55 of the POEO Act.

5.2.7 Water Management Act 2000

The *Water Management Act 2000* (WM Act) aims to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. If a 'Controlled Activity' is to occur within 40m of the 'high bank' of 'waterfront land', a Controlled Activity approval is required from the National Resources Access Regulator (NRAR).

A Controlled Activity may include:

- Erecting a building;
- Carrying out works: including the construction of bridges, roads, controls measures, sea walls, and more;
- Removing material from waterfront land: including plants, rocks, gravel and more;
- Depositing material on waterfront land: including gravel or fill; and
- Any activity which affects the quantity or flow of water in a water source.

The Site is not located near a natural watercourse, noting the Main Canal that adjoins the Site is manmade in form (see **Figure 4**). The canal feeds from the Murrumbidgee River diverting 6,600 megalitres per day to the surrounding farms. No water harvesting is proposed as part of this application.

No controlled activities are triggered for the subject site, and thus the proposal does not require general terms of approval from NRAR.

Figure 4 NSW Hydroline Map



5.2.8 SEPP (Planning Systems) 2021

SEPP (Planning Systems) 2021 aims to identify development that is of State significance and confers functions on joint regional planning panels to determine significant development applications.

Part 2.2 State Significant Development

Schedule 1 of the SEPP does not incorporate a threshold for concrete works that trigger state significant development.

Part 2.4 Regionally Significant Development

Based on a review of the items listed under Schedule 6, the Proposal has an estimated Capital Investment Value (CIV) of less than $30 million and is not a land use that satisfies the definition of a particular designated development. Therefore, the Proposal is not considered regionally significant development (RSD).

The Proposal does not trigger the thresholds for SSD, or RSD. Therefore, the Proposal is classified as Designated Development under the EP&A Regulation, requiring development consent from Griffith City Council as the Consent Authority, as identified in Section 5.2.1.1.

5.2.9 SEPP (Resilience and Hazards) 2021

Chapter 3 Hazardous and offensive development

Due to the nature of the Proposal, consideration of whether the development constitutes hazardous or offensive development is provided below for the proposed increased thresholds. Section 3.2 of Chapter 3 defines potentially hazardous industry and potentially offensive industry as:

> ***potentially hazardous industry*** *means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality—*

(a) to human health, life or property, or

(b) to the biophysical environment,

and includes a hazardous industry and a hazardous storage establishment.

***potentially offensive industry** means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.*

The existing established development on-site employs the following storage measures to reduce and minimise its impact in the locality:

- Storage of oil within bunded containers or pallets.
- Storage of fuel within a bunded diesel tank.

The Noise Impact Assessment (NIA) provided at **Appendix F** recommends the following feasible mitigation measures:

- Limit truck acceleration during the morning shoulder period.
- Continued implementation of best practice noise mitigation and management strategies, which are currently implemented on-site, as detailed in Section 7.5.3 below.

Review of other potential mitigation measures were explored including the extension of the existing solid / opaque fence around the south-eastern corner of the Site where it's currently a chain link fence, however, determined this measure to be unreasonable and not required given the reduction to noise levels was minor as a result.

The Air Quality Impact Assessment (AQIA) provided at **Appendix G,** includes modelling based on the plant operating at maximum production continuously, to assess the potential worst-case impacts at surrounding sensitive receptors. This approach is considered conservative as emissions from the Proposal will not be operating at maximum capacity for every hour of every day of operations. The modelling results showed there were no predicted exceedances of NSW air quality impact assessment criteria for the key dust indicators and concludes that air emissions from the operation will not have significant air quality impacts provided dust controls typical for the industry are implemented.

Taking the above into consideration and associated implementation of measures identified, the Proposal is not considered to be potentially hazardous or offensive.

Chapter 4 Remediation of Land

Section 4.6 stipulates that consent must not be granted unless the consent authority:

a) has considered whether the land is contaminated, and

b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.



The Proposal relates to the expansion of the existing concrete batching facility within an industrial zone. Given the extent of developed land, and absence of physical construction works within the Proposal, further consideration of Section 4.6 is not required.

5.2.10 SEPP (Transport and Infrastructure) 2021

The Transport and Infrastructure SEPP aim to facilitate the effective delivery of infrastructure across the State through increased regulatory certainty and improved efficiency and flexibility in the location of infrastructure and service facilities, whilst also providing for adequate stakeholder consultation.

2.48 – Determination of development applications—other development

The relevant electricity authority in the location of the Proposal is Essential Energy. Under Clause 2.48, referral to Essential Energy is required should development be carried out within 5m of an exposed overhead electricity power line. As overhead powerlines exist within the road reserve fronting the Site adjacent to Oakes Road, and vehicle crossover works are proposed near this location, it is acknowledged the application will be referred to Essential Energy for comment.

2.122 – Traffic-generating development

The Site measures 2.19ha in size. Under Schedule 3 of the Transport and Infrastructure SEPP, the Proposal is considered to trigger traffic generating development as follows (noting the Site is located more than 90m from a classified road when measured along alignment of connecting road, thus Column 3 does not apply):

Column 1 Purpose of development	Column 2 size or capacity – site with access to a road (generally)
Industry	20,000m^2 in site area or (if the site area is less than the gross floor area) gross floor area.

Note.

The development specified in Column 1 may involve the erection of new premises or an enlargement or extension of existing premises. If the development involves an enlargement or extension of existing premises, the relevant size or capacity specified in the table is the additional (rather than the total) size or capacity of the premises as a result of the enlargement or extension.

The TIA provides a detailed assessment of the traffic related issues generated by the Proposal on the surrounding road network and treatments required for the Proposal. Refer to further assessment provided under Section 7.6 of this EIS and **Appendix H**.

5.3 Local Legislation and Controls

5.3.1 Griffith Local Environmental Plan 2014

All provisions of the Griffith Local Environmental Plan 2014 (LEP) have been reviewed as part of the Proposal. The following are considered relevant.

Clause 2.3 – Zone objectives and Land Use Table

The Site is zoned E4 General Industrial, as illustrated in **Figure 5**.

Figure 5 Land Zoning Map Extract (Source: NSW Planning Portal Spatial Viewer)



The objectives of the E4 zone are as follows:

- *To provide a range of industrial, warehouse, logistics and related land uses.*
- *To ensure the efficient and viable use of land for industrial uses.*
- *To minimise any adverse effect of industry on other land uses.*
- *To encourage employment opportunities.*
- *To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.*

SLR are of the view that a CBP is classified as *General Industry*, a land use permitted with consent in the E4 General Industrial zone. The continued operation of the existing CBP is consistent with the objectives of the E4 zone, contributing to the diversity of industrial activities and supporting local employment opportunities.

Under the Griffith LEP, ***General Industry*** is defined as:

> *"…a building or place (other than a heavy industry or light industry) that is used to carry out an industrial activity."*

An *industrial activity* is defined as:

> *"…the manufacturing, production, assembling, altering, formulating, repairing, renovating, ornamenting, finishing, cleaning, washing, dismantling, transforming, processing, recycling, adapting or servicing of, or the research and development of, any goods, substances, food, products or articles for commercial purposes, and includes any storage or transportation associated with any such activity."*

On this basis, the CBP is appropriately characterised as *General Industry*, as it involves the manufacturing of concrete for commercial purposes. The batching and production processes, together with associated storage and transportation, constitute the formulation, processing, and production of goods for commercial supply, and therefore fall within the scope of an *industrial activity*.

Further, the use does not meet the definition of *Heavy Industry or Light Industry* as defined below:

> ***light industry*** *means a building or place used to carry out an industrial activity that does not interfere with the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or otherwise, and includes any of the following—*
>
> *(a) high technology industry,*
>
> *(b) home industry,*
>
> *(c) artisan food and drink industry,*
>
> *(d) creative industry*
>
> ***heavy industry*** *means a building or place used to carry out an industrial activity that requires separation from other development because of the nature of the processes involved, or the materials used, stored or produced, and includes—*
>
> *(a) hazardous industry, or*
>
> *(b) offensive industry.*
>
> *It may also involve the use of a hazardous storage establishment or offensive storage establishment.*

The use does not meet the definition of *Heavy Industry* as it does not involve a hazardous, offensive, or noxious industry, nor does it meet the definition of *Light Industry*, which requires the activity to be carried out in a manner that does not interfere with the amenity of the locality.

Accordingly, the use is most appropriately defined as *General Industry*, consistent with both the LEP definitions and the objectives of the E4 General Industrial zone. The continuation of this use through the proposed throughput increase will not change the defined industrial land use, ensures the efficient and viable use of land for industrial purposes and encourages continued employment on land for industrial purposes.

As detailed within the specialist reports and Environmental Management System Manual appended to this EIS, the proposed increase in processing capacity can be supported on-site, with impacts relating to noise and air quality able to be mitigated through application of the established environmental management systems on-site. This ensures potential adverse impacts of the industry on adjoining sensitive receivers are appropriately mitigated



throughout operation. The proposed works within the road reserve and Oakes Road will further improve safety relating to vehicle movements on and off the Site.

The Proposal meets the objectives of the zone.

Clause 5.10 – Heritage conservation

The Site is not identified as a heritage item nor located within a heritage conservation area. The nearest heritage item is identified as Local Item 18 (Former Penfolds Winery) located on Lots 935, 936, 946 & 947 DP751709, approx. 550m north of the Site adjoining Mackay Avenue.

Noting that no construction work is proposed within the boundaries of the Site and works in association with the driveway crossover and BAL / BAR intersection is minor in nature, the Proposal is not considered likely to impact the heritage significance of this archaeological item.

Clause 5.21 – Flood planning

The Site is not mapped within a flood planning area under the LEP. The Proposal is not considered to exacerbate the flood risk profile of the Site or surrounding land.

Clause 7.1 – Earthworks

Minor earthworks will be required to facilitate the widening of the vehicle crossover and intersection works and will be subject to an application and associated assessment pursuant to Section 138 of the *Roads Act 1993*. The works are not anticipated to require cut or fill beyond the exempt provisions specified by Subdivision 15 of the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*. Further consideration of the provisions of this Clause is therefore not required.

5.3.2 Griffith Development Control Plan (varied)

The Griffith Development Control Plan (DCP) applies to the Site. The development is an existing operation with no physical works required to support the expanded operational capacity, therefore, controls relevant to the Proposal are limited.

The following sections of the DCP are relevant to the Proposal:

- No. 3 – Industrial Development (adopted 21/3/95)

An assessment against the relevant controls has been addressed within a DCP Compliance Table located at **Appendix D**.

6.0 Consultation and Engagement

This chapter provides a description of the consultation undertaken with the local community and key stakeholders.

6.1 Agency Consultation

The agency consultation was undertaken as part of the SEARs process, with only the NSW EPA and Transport for NSW providing a response. Agencies will have further opportunity for input as part of the notification process of the EIS.

A pre-DA Meeting was held with Council in August 2025, with meeting notes provided via email 13 August 2025. The matters discussed and associated response are provided in the below table.



Matter	Response
Engineering	
Traffic Impact Assessment as per Austroads Guide to Traffic Management Part 12. This will specifically address issues (not limited to) vehicle types, haulage routes/distribution, the daily and peak-hour volumes of heavy vehicles etc. An assessment of that TIA will form part of a review of the suitability/capacity of the existing road network taking into account additional traffic generation.	A TIA has been prepared and is provided as Appendix H to this EIS.
Swept path diagrams demonstrating the largest vehicle proposed to service the site is able to simultaneously manoeuvre to and from Oakes Road through the site's accessway without conflict and without encroaching into the opposing travel lane of Oakes Road	Swept path diagrams are provided as Appendix C within the TIA.
Sewer is outside Council's Development Services Plan therefore it will have to be managed on-site.	Noted – no change to the existing sewer arrangements is proposed as part of the Proposal.
Planning	
Additional street trees to be planted east of the driveway to provide visual screening from the proposed residential development to the south. Note: The draft landscaping plan submitted with DA 41/2024 (subdivision to south) indicates street trees on the south side of Oakes Road to be installed fronting that development site. The species has not yet been selected but may be more cohesive to match pending suitability.	A condition of consent to this effect is acceptable.
Copy of Notice of determination for DA 41/2024 attached. Stamped plan set can be obtained through a GIPA request (Landowner to sign).	Received – the NOD was reviewed as part of EIS preparation.



Details of existing and proposed water use on site including source of water and expected increase in use (volumes). To be considered in contributions calculations and should reflect the growth in the output from the site.	Dust Suppression Measures Mawsons currently use sprinklers on all material bins minimising dust when loading, with the yard consisting mostly of concrete hardstand which generates minimal dust. No use of water trucks is required, however access to them is available if needed. Overall Water Demand • Working on an average of 180lts per/m3, 50m3 per day. The Site's current water demand is approximately 15-20,000lts per/day inclusive of washing out agitator trucks (recycled water is used for this process), including watering of raw materials for production. • Working on an average of 180lts per/m3, 300m3 per day max production, water demand would increase to 60-70,000lts per/day inclusive of washing out agitator trucks (recycled water is again used for this process), including watering of raw materials for production. • Water storage capacity of 73,500ltr is available on-site. The Site is connected to raw water for all operational water. The Site is also connected to town water however is only used for the supply to offices, drinking water and domestic water points.
Noise and air quality/dust reports to consider existing and proposed noise receptors in the locality.	The listed reports have been prepared and are provided as Appendix F and G to this EIS respectively.
Details of a waste mgt plan. / Environmental Management Plan	Refer to Section 7.3 of this EIS.
Confirmation of proposed hours of operation and justification for hours prior to 7am. This might reference controls – Noise Policy for Industry	No change to the existing hours of operation is proposed. Refer to Section 3.1.3 of this EIS.



6.2 Community Consultation

Community and stakeholder consultation was undertaken and summarised in **Table 5** below.

Table 5 Community and Stakeholder Engagement Summary

Address	Type of Contact	Response
139 Oakes Road, Griffith 2680 (Lot: 1773 DP41114)	Consulted via email on 25/08/2025, and accepted placement of noise logger on the site to assist acoustic assessment for the Proposal.	No concerns raised regarding the DA.
642 Potter Place, Griffith 2680 (Lot: 724 DP751709 and Lot: 2 DP1283655)	Consulted with landowner in person on 18/11/2025.	No concerns raised regarding the DA.
5 Old Willbriggie Road Griffith 2680 (Lot: 1187 DP751709)	Consulted with landowner in person 19/11/2025.	No concerns raised regarding the DA.
23-27 Lenehan Road, Griffith 2680 (Lot: 1 DP1133180 and Lot: 1284 DP751709)	Attended site to discuss Proposal on 9/12/2025 however not available. Followed up with an email the same day.	No response provided.
Fire and Rescue NSW	Email with draft package sent in January 2026 to info@fire.nsw.gov.au.	A response was received via email on 6 February 2026 as follows: *"FRNSW will not comment on this project at this time, however, will provide advice through the Dept. of Planning or other consent authority as the project progresses.* *FRNSW and DPHI have established processes for review and recommendations for State Significant Development (SSD), and with consent authorities for Designated Development. It would be FRNSW expectation that regular applicable*



		processes (FEBQ and FER), codes and standards (NCC) and legislative instruments will be followed for this proposal and FRNSW will engage with the consent authority through those established processes".
Griffith City Council	Pre-DA Meeting held August 2025.	Meeting notes were provided and considered in the preparation of the EIS, as detailed above.

Further investigations and consultation with Griffith Local Aboriginal Land Council is not necessary because there is no new land disturbance on site that has not already been authorised. The AHIMs Search Results also confirmed the absence of Aboriginal Items and Objects on or within 200m buffer of the Site.

7.0 Assessment of Impacts

This Section provides a detailed assessment of the key environmental issues and recommended mitigation measures for the Proposal and addresses the requirements of the SEARs and outlines the mitigation measures proposed to address any potential impacts. The discussion below provides a summary of the specialist studies prepared, which are appended to the EIS.

The following key issues were identified as part of Council consultation and in the SEARs for detailed assessment:

- Air quality and odour.
- Soil and water.
- Waste management.
- Hazards and risk.
- Noise and vibration.
- Traffic and transport.
- Heritage.

7.1 Air quality and odour

An Air Quality Impact Assessment (AQIA) has been prepared by SLR, see **Appendix G**.

7.1.1 Existing environment

Particulate matter

The key potential air emission sources associated with the CBP operation relate to dust emissions due to the following activities:

- Wind erosion of the stockpiles and storage bays.
- Onsite material handling.
- Wheel generated dust from onsite vehicle movements.

Where diesel-powered mobile machinery and vehicles are being used, localised elevations in ambient concentrations of pollutants from diesel combustion will occur, however the potential for their impact assessment criteria to be exceeded is expected to be negligible, therefore not considered further as part of the assessment.

Odour

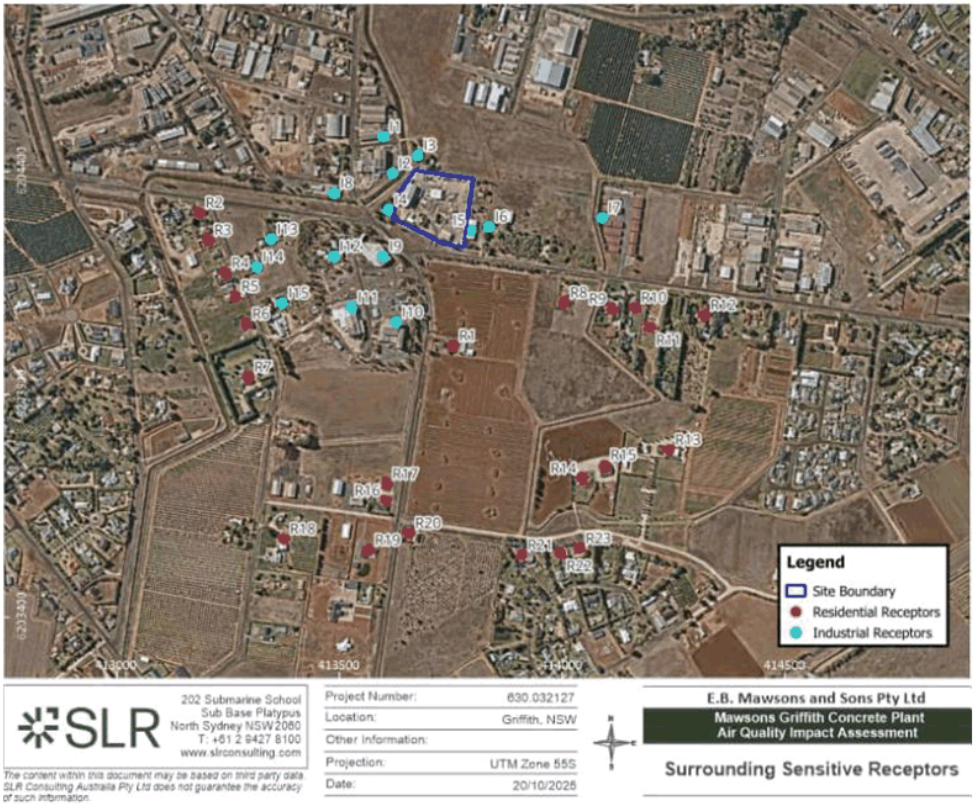
No odour sources from construction and operations were identified for assessment – commonly, odour sources are not associated with concrete batching plants.

7.1.2 Air quality impacts

Surrounding Sensitive Receptors

The nearest sensitive receptors that have the potential to be impacted by air emissions during operation of the Proposal are shown in **Figure 6** below, including both residential and industrial premises. The closest residential receptor ('R1') is located approximately 220m south of the Site, and the nearest industrial receptors are adjoining industries.

Figure 6 Surrounding Sensitive Receivers (Source AQIA, 2025)



Quantitative assessment

CALPUFF dispersion modelling was carried out to estimate potential particulate matter emissions from the Proposal. The modelling results were conservative, based on the

maximum operations occurring each day (650tpd over 13 hours / day), as detailed within Table 6-3 of the AQIA.

The results show that the incremental annual average Total Suspended Particulates (TSP) concentrations and dust deposition rates predicted at all sensitive receptors are below relevant criteria and are predicted to be minimal (approximately 1% of the relevant criteria under average operating conditions and around 3% under maximum conditions). Annual TSP concentrations are well below the applicable guideline values at all sensitive receptors.

While background results for deposited dust were unavailable, for the purpose of assessment a reasonable estimate for background is 2 g/m^2/month. Using this estimate, the results for cumulative deposited dust would not exceed the criterion of 4 g/m^2/month.

Based on these results, it is concluded that dust emissions from the Proposal are not expected to result in exceedances of TSP and dust deposition criteria at any sensitive receptor location.

7.1.3 Management measures

Nuisance and dust control measures

Based on the emission inventories showed in Table 6-4 of the AQIA, ambient dust emissions from wheel-generated dust, and handling and conveying of aggregate, sand, and product should be the primary focus of dust control at the Site. Dust control measures typical for the industry, which are currently implemented on-site, should continue to be implemented and include, but are not limited to:

- Minimise and manage silt and other material build-up on paved areas and around erosion and sediment control structures.
- Ensure that all stockpiles have appropriate additional control measures in place, e.g., stored within the proposed three-sided enclosures and watering as required.
- Minimise drop heights from loading / unloading equipment.
- Manage truck speeds on site to reduce wheel generated dust – the speed limit is 10km/hour, which is sign-posted and stated in site induction material.

Plant and machinery control measures

Control measures typical for the industry, which are currently implemented on site, should continue to be implemented and include, but are not limited to:

- Ensure vehicles and machinery are maintained in accordance with manufacturer's specifications.
- Minimise truck queuing and unnecessary trips through logistical planning of materials delivery and work practices.
- Ensure all vehicles, where appropriate, switch off engines when stationary so that there are no idling vehicles.

Site Management

Air emissions associated with all site activities should also be managed through compliance with a site Environment Management Plan (EMP). The EMP should be implemented so that:

- The works are conducted in a manner that minimises the generation of air emissions.
- The effectiveness of the controls being implemented is monitored.
- Additional measures are implemented where required.



- Operators should also undertake daily environmental inspections of their works and worksite. The daily environmental inspection reports could include the observations listed in the following points:
    - Visual inspection of dust generation. Authorise any stop work procedures if visible dust is observed leaving the Site on high wind speed days.
    - Inspection of the erosion and sediment controls.
    - Any remedial or corrective actions should be reported to the Site manager as soon as is practicable.

Complaints handling

An effective complaint logging system should be maintained. This would allow for effective management of any requests for information, response to any public concerns in relation to the proposed activities, and to ensure identified incidents are dealt with through investigation and implementation of corrective treatments.

7.1.4 Conclusion

The modelling results showed there were no predicted exceedances of NSW air quality impact assessment criteria for the key dust indicators: PM_{10}, $PM_{2.5}$, TSP, and deposited dust.

The AQIA concludes that air (dust) emissions from the operation of the Proposal will not have significant air quality impacts if dust controls typical for the industry as outlined above are implemented.

7.2 Soil and water

7.2.1 Existing Environment

The Site is serviced by existing approved stormwater infrastructure, summarised as follows and shown within the Site map provided at **Appendix C**:

1. Stormwater is collected via various drop structures throughout the Site and directed to a water storage tank, located adjoining the eastern boundary of the Site adjoining the washout area.
2. Water is collected within the storage tank is reused on-site where possible.
3. Stormwater overflow is discharged to the channel adjoining the Site.

7.2.2 Conclusion

The Proposal does not include any new or additional hardstand areas on the Site that otherwise result in an increased volume of stormwater generated and/or discharged from the Site. The Proposal does not propose any amendments to the existing arrangement, nor is it required for the intended purpose of the application, being to increase processing thresholds. Therefore, the Site is considered suitable for continued use without requiring additional surface and stormwater controls to be implemented on-site.

7.3 Waste management

The type of waste generated by concrete batching plant operations is well known and include for example:

- rejected (non-compliant) concrete
- hardened returned concrete



- liquid concrete washout
- solid concrete washout
- alkaline cementitious water
- silt from water settlement basins; and
- domestic refuse.

Similarly, the waste management measures for concrete batching plant operations are also well known and include for example:

- Rejected concrete would be transferred directly into plastic-lined skip bins and periodically removed by an appropriately licensed contractor to a concrete recycling facility, where the dried concrete is crushed, screened and re-sold as recycled concrete aggregate.
- Hardened returned concrete has the same properties as concrete and little risk of contaminated water runoff and periodically removed by an appropriately licensed contractor to a concrete recycling facility, where the dried concrete is crushed, screened and re-sold as recycled concrete aggregate.
- Liquid concrete washout is generated from washing trucks, cleaned out of agitator bowl and hosing of yard surfaces. It is generally stored in on-site pits or tanks and reused onsite.
- Solid concrete washout is the returned concrete which has been washout of the agitator trucks and dried and periodically removed by an appropriately licensed contractor to a concrete recycling facility, where the dried concrete is crushed, screened and re-sold as recycled concrete aggregate.
- Alkaline cementitious water is fully recycled within the batching process.
- Silt from settlement basins which is periodically removed by an appropriately licensed contractor to a recycling facility where it is blended with other materials to create road base and other resalable products.
- Domestic refuse would be incorporated into the site wide general refuse management strategy and periodically removed by an appropriately licensed contractor.

The Proposal will not significantly change the existing waste management measures and systems already implemented by Mawsons (refer **Appendix J**).

7.4 Hazards and risk

Preliminary risk screening of the Proposal is required under the Resilience and Hazards SEPP to determine the need for a Preliminary Hazard Analysis (PHA). The preliminary screening assesses the storage of specific dangerous goods classes that have the potential for significant, off-site effects. Specifically, the assessment involves the identification of classes and quantities of all dangerous goods to be used, stored or produced on site with respect to storage depot locations as well as transported to and from the Site.

The dangerous goods that will require storage at, and transportation to and from, the Site, are identified in **Table 6** and **Table 7**.

Table 6 ADG Classification of SEPP-Related Dangerous Goods – Storage

Class	Category	Item/Usage	SEPP Threshold	Storage
Class 2.2	Non-flammable Non-toxic	Fire Extinguishers Fire Suppression Gas	N/A	No bulk storage in the development location. Extinguishers located as part of vehicle or fire equipment location.
Class 3, C1	Flammable Liquids	Fuel (diesel) [1]	N/A No other flammable liquids stored with diesel.	Fuel located as part of existing operation. 30,000L bunded diesel tank and a 3,000L Adblue tank are stored adjacent to the eastern boundary of the Site.
Class 3	Flammable Liquids	Lubricating and Hydraulic Oils, Grease	N/A	Central to the Site: • 1,000L IBC of oil on a bunded pallet • 1,500L of oil in oil drums.
[1] Diesel, as a CI fuel is considered as a Hazardous Class 3 flammable liquid when stored in proximity to other Class 3 flammable liquids.				

Table 7 ADG Classification of SEPP-Related Dangerous Goods – Transport

Class	Category	SEPP Threshold		Proposal	
		Quantity	Movements	Quantity	Movements
Class 2.2	Fire Suppression Gas	N/A			
Class 3, C1	Fuel (diesel) [1]	N/A, C1 not stored with other Class 3 flammable liquids			
Class 3 PGII, C2	Lubricating and Hydraulic Oils, Grease	N/A			

The storage and transportation quantities of the materials listed in **Table 6** and **Table 7** does not exceed the relevant storage or transportation thresholds. Storage protocols will comply with relevant guidelines and standards, e.g. AS1940-2017.

The storage and handling of dangerous goods to be routinely used or stored at the Site and transported to/from the Site is not considered potentially hazardous with regards to the screening thresholds contained in the Resilience and Hazards SEPP.

It is the conclusion of this preliminary risk screening that the Proposal will continue to be suitable for the area.

7.5 Noise and vibration

A Noise Impact Assessment (NIA) has been prepared by SLR, located at **Appendix F**. The NIA provides a response to the requirements of the SEARs as follows:

Requirement	Section of NIA
Noise and vibration – including: A description of all potential noise and vibration sources during increased operation, including road traffic noise and any cumulative impacts	• Operational noise: Section 5.1.1 • Road traffic noise: Section 6.1.4 • Cumulative impacts: Section 6.1.2
A noise and vibration assessment in accordance with the relevant Environment Protection Authority Guidelines.	• NSW EPA Noise Policy Criteria: Section 4.1 • NSW EPA Road Noise Policy Criteria: Section 4.2
A description and appraisal of noise and vibration mitigation and monitoring measures.	• Background noise level monitoring: Section 2.0 • Noise monitoring for operations: Section 7.2

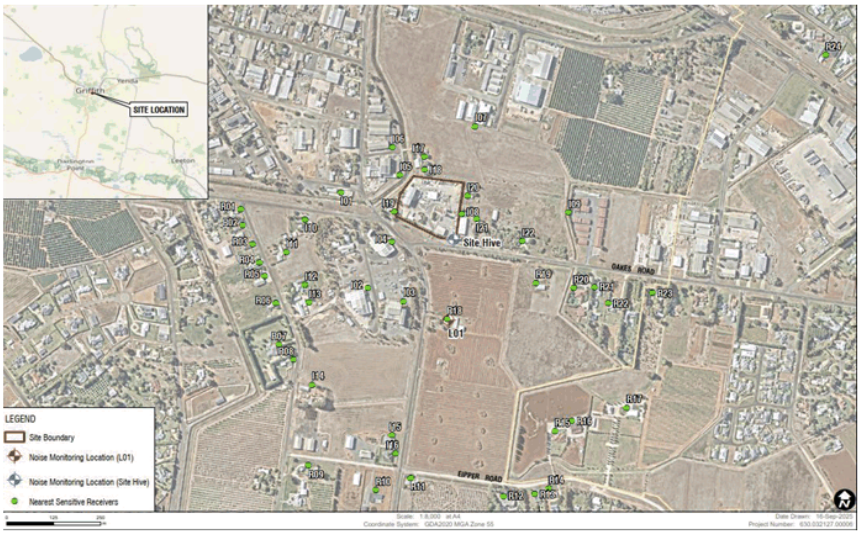
A summary of the assessment is provided in the following sections.

7.5.1 Existing operations

Sensitive receptors

The Site location and surrounding receivers are shown in Figure 7 below. The NIA has identified 23 sensitive receivers within the immediate vicinity of the Site, noting that the Site is bound by industrial receivers, with the nearest residential receivers located off Oakes Road immediately to the south as well as 250m to the south-east and 400m to the south-west. The NIA has also considered the 28 Lots approved to be developed to the south of the Site. It is noted that there are several residential dwellings located closer to the Site on the south-western boundary and to the north of the Site, however in accordance with the NSW EPA Noise Policy for Industry 2017, these receivers have been classed as industrial receivers.

Figure 7 Locations of identified sensitive receptors (Source: NIA, Appendix F)



Existing Noise Environment

Noise monitoring was conducted around the Site in August 2025 to determine the existing noise environment and to set the criteria used to assess the potential impacts from the Proposal, including:

1. Placement of monitoring equipment external to the site at 23 Old Willbriggie Road, Griffith.
2. Review of SiteHive noise and dust monitoring station located in the southeastern corner of the site.

Data was measured in 15-minute periods during the daytime, evening and night-time, using standard methods and reviewed to exclude weather-affected readings. Conditions were generally suitable for accurate measurement. The results, summarised in **Table 8**, form the basis for the Proposal noise limits.

Table 8 Summary of ambient noise monitoring results (Source: NIA, Appendix I)

Site	Day/Date	Measured Noise Level, dBA	
		Rating Background Level (RBL)	Average LAeq(15minute)
L01: 23 Old Willbriggie Rd, Griffith NSW	Day: 7:00am – 6:00pm	46	55
	Evening: 6:00pm – 10:00pm	35	51
	Night-time: 10:00pm – 7:00am	31	49
SiteHive: 127 Oakes Road, Griffith NSW	Day: 7:00am – 6:00pm	45	61
	Evening: 6:00pm – 10:00pm	40	55
	Night-time: 10:00pm – 7:00am	39	53

A short-term attended noise measurement was also completed at L01, which allows the contributions of various noise sources at the monitoring location to be determined and to validate unattended noise monitoring results. The results are summarised in **Table 9**, and were generally found to be consistent with the results of the unattended noise monitoring and show that existing noise levels are typically dominated by road traffic as well as industrial noise from the surrounding industrial premises.

Table 9 Summary of attended monitoring results (Source: NIA, Appendix I)

Site	Day / Date / Start Time / Weather	Primary Noise Description (dBA re 20 µPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		Lama X	LA1	LA10	LA90	LAeq	
L01: 23 Old Willbriggie Rd, Griffith NSW	21/09/2025 Day: 7:00am – 6:00pm 09:51am 16 degrees 4.9 m/s NE	77	67	54	46	55	Birds 77 Traffic 45-59 Passbys 75-82 Wind in trees 44-47 Other industry 40-58

7.5.2 Proposed operations

The Project Noise Trigger Levels (PNTL) are the most stringent of the intrusiveness and amenity trigger level for each period. As detailed in **Table 10** below (see Table 7 of NIA for further explanatory notes).



Table 10 Operational Project Noise Trigger Levels

Monitoring Location (Representative Receivers)	Area Type	Period	Recommended Amenity Noise Level LAeq(period)	Measured Noise Level (dBA)		Predicted Noise Level, dBA LAeq(15minute)	
				RBL[1]	LAeq (period)	Intrusiveness	Amenity [2.3]
Residential Receivers	Suburban	Morning Shoulder	47[7]	35 (36 actual)[6]	49	**40**	45
		Day	55	45	55	**50**	53
		Evening	45	35	51	**40**	43
Isolated residences in an industrial zone[4]		When in use	When in use	70	N/A	N/A	**68**
Commercial receivers		When in use	65	N/A	N/A	N/A	**63**
Industrial receivers		When in use	70	N/A	N/A	N/A	**63**

The potential operational noise levels from the Proposal have been predicted to the surrounding receivers using CONCAWE industrial noise algorithms in the SoundPLAN 8.2 computer model. The model includes ground topography, ground type buildings and representative worst-case noise sources from the Proposal. The potential impacts have been determined by comparing the predicted peak operational activity noise levels to the NPfI PNTLs in a 15-minute assessment period. The noise model incorporates two site layouts, being the existing site layout and the approved site layout under DA17.2025.1. Other assumptions incorporated into the noise model include the following:

- All acoustically significant plant and equipment operating continuously and simultaneously (over a 15-minute assessment period).
- Vehicle movements based on observations made on-site, including:
  - One delivery truck per 15-minute period, entering site, travelling to the storage area and unloading at the bund area.
  - One light vehicle entering site and travelling to on-site parking spaces.
  - One concrete truck entering site and travelling to batch plant machinery.
  - One front-end loader travelling onsite and operating for 10 minutes in every 15-minute period.

The results from the noise modelling are shown within Table 15 of the NIA and confirm that predicted LAeq(15minute) from the Proposal comply with PNTLs at all identified noise sensitive receivers during the day. During the morning shoulder period, the Proposal is predicted to exceed the PTLs at:

- Receiver R18 by 7 dB and 10 dB under standard and noise enhanced weather conditions respectively.
- Receivers R07, R12-R14, R19 and R21 by 1 dB to 3 dB under noise enhancing weather conditions.

However, in consideration of the additional shielding provided by the approved site layout under DA17.2025.1 along the south-eastern corner on both the southern and eastern spans (anticipated to be implemented prior to increased threshold operations commencing), a small net beneficial outcome for the Site and surrounding area in terms of acoustic considerations

by decreasing LAeq(15minute) noise levels to nearby receivers in the order of 0-1 dB relative to existing operations will occur.

The assessment indicates that the main contributors to the predicted exceedance is due to vehicles and mobile plant operating onsite. The operation of these vehicles and mobile plant would not materially change because of the Proposal. Furthermore, the proposed increase in production would not lead to the intensification of noise emissions from the Site over a 15-minute period.

Operations on-site are predicted to exceed the PTNLs at a number of potential future receivers at the approved subdivision to the south of the site across Oakes Road. Noise levels from the Proposal to the potential future receivers are predicted to be consistent with existing operation of the Site and would not change because of the proposed increased thresholds. The NIA for the subdivision to the south of the Site recommended at property treatments to address the potential exceedances predicted at these future residential locations.

Road traffic noise levels on the surrounding road network are expected to result in an increase of less than 2 dB due to the increased haulage movements, and in accordance with the Road Noise Policy (RNP) would not be noticeable to the average listener and would not require consideration of mitigation. Maximum noise levels from the Proposal are unlikely to cause awakening reactions at any existing or future residential receivers in accordance with guidance provided in the RNP.

7.5.3 Conclusion

Notwithstanding the above and because of predicted noise levels exceeding the PNTLs, best practice noise mitigation and management strategies, which are currently implemented on-site, should continue to be implemented and include, but are not limited to:

- The noisiest activities that can potentially be rescheduled (i.e. refilling silos) to be scheduled to the least noise sensitive times of the day (i.e. not during the morning shoulder period) where practicable.
- Beeper motion alarms where practical should be replaced with broadband motion alarms on mobile plant/trucks in accordance with best practice.
- An awareness and understanding of noise issues and the use of quiet work practices will be included in Site inductions for all staff, contractors and visitors to the Site.
- Specific mention of the following items will be included:
    - Site specific noise management measures to be followed.
    - Locations of nearby noise sensitive receivers.
    - Best Management practices such as operating equipment in a quiet and efficient manner and limiting unnecessary acceleration when driving mobile plant on-site.
- All machinery, plant and noise suppression equipment will be maintained and operated in a proper and efficient manner to minimise noise generation.
- Switch off plant and equipment when not in use and avoid excessive idling.
- Noise monitoring may be conducted (as appropriate) in the event of formal complaints received to verify that operational noise levels are consistent with the predicted noise levels.

In addition to the above, the NIA recommends the following feasible mitigation measures to improve PNTLs at some sensitive receivers:



- Limit truck acceleration during the morning shoulder period.
- Upgrades to the noise barrier along the south-east corner on both the southern and eastern spans, from the existing chain link fencing or posts to a solid material.

7.6 Traffic and transport

A Traffic Impact Assessment (TIA) has been prepared by SLR Consulting, located at **Appendix H**.

7.6.1 Existing operations

The Site holds existing vehicular access via a single, sealed driveway crossover to Oakes Road, which is approximately 8m in width at the Site boundary. Parking is provided within informal unmarked areas adjacent to the main site office and main warehouse building nearby the access crossovers.

Oakes Road connects to Old Willbriggie Road to the south of the Site. Banna Avenue is the nearest classified road, approximately 1000m to the north of the Site. Burley Griffin Way is also located approximately 1800m to the south-east of the Site.

An overview of the surrounding road network is provided at **Figure 8** and **Table 11**.

Figure 8 Surrounding Road Network Map



Table 11 Surrounding Road Network Detail

Road Name	Authority	Classification	Existing Form	Posted Speed Limit (km/h)
Oakes Road	Council	Local Road	Single carriageway with rural cross section (swales) and ~7m wide sealed pavement.	60km/hr (at the Site frontage)

Road Name	Authority	Classification	Existing Form	Posted Speed Limit (km/h)
Old Willbriggie Road	Council	Local Road	Single carriageway with rural cross section (swale) and ~6.5m wide sealed pavement.	60km/hr (in the vicinity of Oakes Road).
Kurrajong Avenue	Council	Local Road	Single carriageway with rural cross section (swales) and ~8.5m wide sealed pavement.	60km/hr (in the vicinity of Oakes Road).

7.6.2 Operational Traffic Generation

Traffic surveys were carried out on Thursday 7 August 2025 to understand the existing operational movements to and from the Site. The existing vehicle movements per hour (VPH) combining light and heavy vehicles are summarised below:

- **AM peak hour:** 14vph
- **PM peak hour:** 24vph

The surveys were undertaken on a day that the CBP exported 186.6m^3 of concrete, with an assumption made that the heavy vehicle movements will increase linearly to match the traffic demand of a maximum production day (i.e., 260m^3). Therefore, the surveyed heavy vehicle movements at the Site access have been multiplied by a factor of 1.4 (260/186.6m = 1.39) to estimate future traffic demands. Table 5 of the TIA indicates that the proposed increase in production could result in an additional 2vph during peak hour periods (i.e. on the busiest production day of the year), equivalent to one additional vehicle trip every 30 minutes. This level of increase in traffic demand is immaterial from a traffic engineering perspective; however, the operation of key study intersections has been assessed, as detailed below.

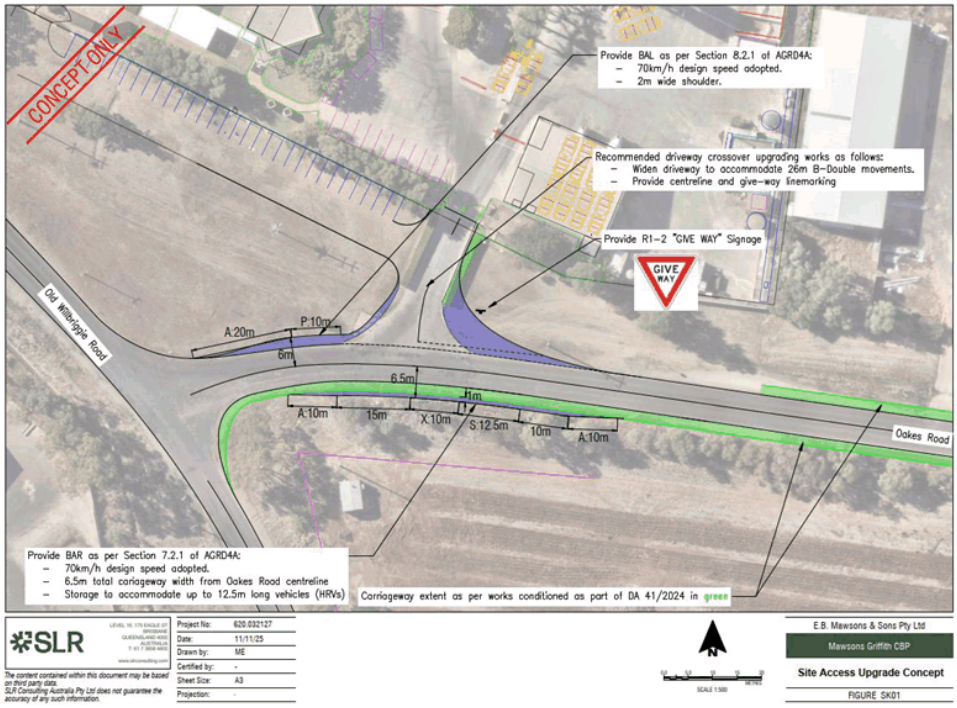
7.6.3 Site Access Assessment

No changes to the site's internal traffic arrangements are proposed as part of the Proposal. The TIA concludes that a modified configuration to the existing driveway crossover on Oakes Road is required to support the Proposal, including:

- Widening of the existing crossover to Oakes Road to accommodate left in / left out only movements by 26m B-doubles, and all-movements by vehicles up to Heavy Rigid Vehicle size. It is proposed that access for articulated heavy vehicle types (i.e., including truck and dogs, semis and B-doubles) will be restricted to left in / left out only to deal with the constrained designs of adjacent intersections.
- Basic left (BAL) and basic right (BAR) turn treatments will be provided at the Site access on Oakes Road.

A concept plan showing the recommended upgrades to the Site access has been prepared and is provided as Appendix C within the TIA and shown in **Figure 9** below. These upgrades are required in addition to the works approved under subdivision DA41/2024 adjacent to the Site. However, the required works will be completed in coordination with the developers from the subdivision site, to ensure reduction in road use conflict and safety and improvements in efficiencies is achieved.

Figure 9 Site access upgrade concept (SLR Consulting, 2025)



7.6.4 Intersection Assessment

Local Intersections

A detailed analysis of the additional traffic demands generated by the Proposal on the operation of the external road network has been undertaken at three locations as shown in **Figure 10.**

Figure 10 Local Intersection Analysis



ID	Intersection	Intersection Form	Authority
1	Old Willbriggie Road/Oakes Road		Council
2	Oakes Road/Site Access		Council
3	Kurrajong Avenue/Oakes Road		Council

The assessment scenarios utilised include the '2026 background' and '2036 background with development'. The findings indicate that all existing intersection layouts perform well within typically adopted performance and safety.

In a meeting held on-site with Council representatives in October 2025, it was acknowledged that upgrades to the Old Willbriggie Road / Oakes Road, and Kurrajong Avenue / Oakes Road intersections would not be required by the operators of the Site as part of this application.

State Intersections

As per SEARs 2033, Transport for NSW (TfNSW) requested the *'consideration of any potential cumulative impacts to the surrounding network'* at the following locations:

- Jondaryn Avenue (Kidman Way) / Oakes Road Intersection.
- Banna Avenue (Burley Griffin Way) / Oakes Road Intersection.

The assessment considered the performance of the intersections, warrant for any change in intersection design, and road safety, and concluded that the proposed increase in production is expected to introduce negligible additional traffic demands at the State Intersections, and will hence be immaterial.

7.6.5 Conclusion

The TIA concludes that a modified configuration to the existing driveway crossover on Oakes Road is required to support the Proposal, however no change to the local or state intersections are required. The carparking provision on-site, subject to historic approvals will support the Proposal, and does not require any modification.

7.7 Heritage

7.7.1 Existing Environment

A search of the Aboriginal Heritage Information Management System (AHIMs) was carried out on 1 December 2025 (200m buffer) which did not identify any Aboriginal sites or places in or above the location of the Proposal (refer to **Appendix B**).

7.7.2 Conclusion

Whilst the Proposal incorporates minor earthworks within the road reserve to facilitate the BAL / BAR intersection and driveway crossover works, they are not anticipated to be greater than the standards prescribed Subdivision 15 of the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008,* and will be further assessed and approved by Council as part of the Section 138 Application following the issue of Development Consent. The Proposal does not propose any earthworks, or development works which would otherwise introduce ground disturbance and potential to uncover Aboriginal items or objects. Through a combination of this, and the absence of AHIMs records on the Site or within a 200m buffer, mitigation of impact on Aboriginal Heritage has occurred.

8.0 Justification and Conclusion

This section provides a justification and evaluation of the Proposal and conclusion to the EIS. It includes discussion of the design of the Proposal, taking into consideration the economic, environmental, and social impacts and opportunities of the development.

8.1 Justification

The existing CBP is defined as a type of industrial activity, under the parent term of 'general industry' which is permitted with consent in the E4 General Industrial Zone. The continuation of this use through the proposed throughput increase will not change the defined industrial land use, ensures the efficient and viable use of land for industrial purposes and encourages continued employment on land for industrial purposes.

The CBP use is actively supported and protected by the range of strategic documentation applying to the Griffith City LGA and Riverina Murray Region more broadly. The Proposal is limited to operational changes only and does not require any physical modifications to the existing built form or infrastructure within the boundaries of the Site. Works within the road reserve and Oakes Road are required to improve vehicle movements to and from the Site, however these are minor in scale and subject to further approval by Council prior to operation via a Section 138 Roads Act application. The increase in processing capacity can be fully accommodated within the parameters of the existing infrastructure, which has been established and maintained in accordance with previously approved development consents permitting expansion of on-site activities.

In addition to increasing the throughput of the facility's core concrete batching operations, the Proposal enables a strategic expansion of the service offering to service a larger supply chain. By leveraging existing infrastructure and operational efficiencies, the facility will be

well-positioned to cater to a wider range of customer needs across the landscaping and construction sectors. This product diversification supports greater resource recovery outcomes, adds value to processed material streams, and enhances the commercial viability and competitiveness of the operation in both existing and emerging markets.

The Proposal is therefore considered to be the best overall outcome for the Site for the following reasons:

- Appropriate zoning of land to facilitate development consent.
- The Proposal maintains the existing approved use of the Site.
- The proposed expansion of operations can be accommodated within the existing facility on site, with no physical built form works required within the boundaries of the Site.
- To avoid any additional noise, or air quality impacts, Mawsons will continue to implement the existing environmental management measures at the existing facility in addition to the management measures identified in this EIS.
- Availability of existing access to the Site via an established road network, with minor works proposed to improve access and road safety.
- The operational improvements will optimise site efficiency and productivity while maintaining compliance with environmental and planning approvals already in place.

8.2 Ecologically Sustainable Development

The National Strategy for Ecologically Sustainable Development (1992) defines Ecologically Sustainable Development (ESD) as *"using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased."*

The EP&A Act utilises the definition of ESD from Part 3, Clause 6(2) of the POEO Act, wherein ESD can be achieved through the implementation of a set of principles and programs. The Proposal has been assessed under these principles in the sections below.

The Proposal is considered overall to be consistent with the principles of ESD as it is located within the existing area and facilities on site. The Proposal involves operational changes relating to the increased throughput. The development has been based soundly on economic and environmental considerations, and the likely environmental impacts of the Proposal have been identified and are predictable and able to be managed effectively. Furthermore, the Proposal does not unreasonably impact biological diversity or ecology, whilst providing an asset for future generations.

8.2.1 The Precautionary Principle

The precautionary principle states that if there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing measures to prevent said damage.

Detailed investigations relating to the environmental, social and economic aspects of the Proposal have been previously undertaken with the aim to produce optimal development outcomes. The Proposal does not require any physical works internal to the Site boundaries to facilitate the increased throughput, however, includes works within Oakes Road and adjoining road reserve to establish a BAL / BAR treatment and widening crossover to support truck movements to and from the Site. The conclusions made within the supporting technical reports, and within this EIS support the Proposal and provide mitigation measures where required.



The existing site location and design will be maintained thereby minimising amenity impacts on the surrounding land holdings. Potential impacts of the Proposal have been identified and appropriate mitigation measures recommended to avoid serious or irreversible harm to the environment. Therefore, the Proposal addresses the precautionary principle, as there will be no serious or irreversible environmental damage.

The technical assessments were prepared by qualified and experienced technical specialists relevant to their field. The potential implications of the Proposal have been understood through the contents of this EIS and its accompanying appendices, and the management strategies, mitigation measures, and proposed monitoring activities required to ensure potential impacts are appropriately minimised has also been documented.

8.2.2 Inter-Generational Equity

Inter-generational equity refers to the principle that the current generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations.

Overall, the Proposal will provide positive economic outcomes through ongoing employment opportunities and support of local and regional supply chains, businesses, and associated service industries. The Proposal aims to provide an ongoing supply of materials to support regional growth into the future.

The environmental, social, cultural, and economic impacts of the Proposal are described in this EIS. The Proposal has integrated mitigation measures to manage impacts and is not predicted to result in significant impacts.

8.2.3 Conservation of Biological Diversity and Maintenance of Ecological Values

The third principle of ESD states that the conservation of biological diversity and ecological integrity should be a fundamental consideration in development applications.

The Site is located within an existing industrial area and does not comprise any areas of biodiversity value or significance. Vegetation removal is not proposed to facilitate the driveway access and intersection works, and stormwater management will continue to be per standard procedures approved and implemented on-site as part of the existing operations. To this extent, biological diversity and ecological values will continue to be maintained and conserved.

8.2.4 Improved Valuation, Pricing, And Incentive Mechanisms

The final principle of ESD relates to improved valuation and the pricing of environmental resources which establishes the need to determine economic values for services provided by the natural environment.

The development of policy to guide pricing and incentive mechanisms in delivering ecologically sustainable development is the responsibility of governments and regulatory stakeholders.



8.3 Conclusion

Through the implementation of best practice management and design, the potential environmental impacts associated with the project can be appropriately managed. Given the net benefit and commitment from Mawsons to appropriately manage the potential environmental impacts associated with the Proposal, it is considered it will result in a net benefit to the Local Region and broader NSW, Victorian, South Australian, Australian Capital Territory and Queensland Regions.

The Proposal is located within an established area with a limited number of sensitive receivers. The Site provides for an advantageous and economically beneficial use of land within the industrial area. The Proposal would provide both short-term and long-term benefits including supporting industrial operations in the region and providing investment in the local economy and surrounding Regions as detailed above.

Most importantly, the Proposal will see the overall improvement to environmental conditions in the Site and improvement in environmental management controls contributing the improvement to outcomes for the Site and broader area.

Appendix A SEARS

Appendix B AHIMS Search Results

Appendix C Stormwater and Hydrocarbon Storage Plan

Appendix D DCP Compliance Table

Appendix E MNES Report

SLR

Appendix F Noise Impact Assessment

Appendix G Air Quality Impact Assessment

SLR

Appendix H Traffic Impact Assessment

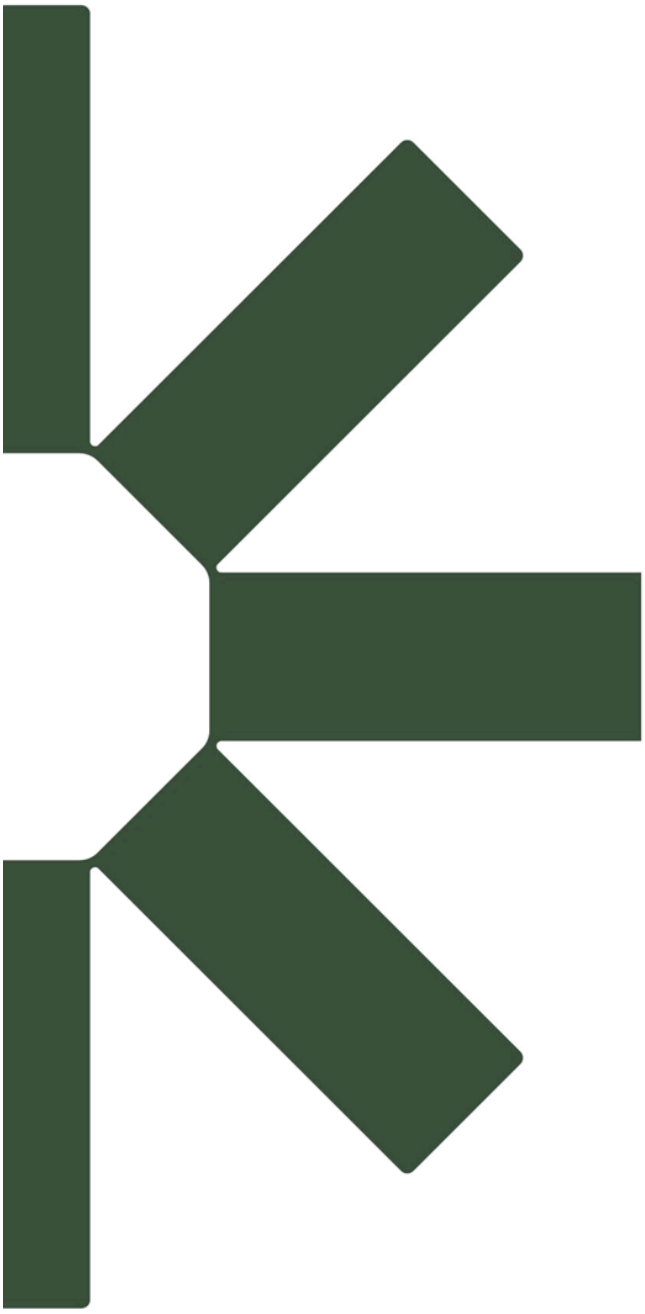
SLR

Appendix I Environmental Management System Manual

SLR

Appendix J Waste Report

Appendix K Existing Development Consent DA17-2025



Making Sustainability Happen

Alana McGibbon

From: [redacted]
Sent: Thursday, 21 May 2026 11:14 PM
To: GCC Admin Mailbox
Subject: Development objections for Application No. 47/2026

Name withheld
[redacted]

[redacted]

I wish to submit an objection regarding the Integrated Development Application Number No. 47/2026 (1) proposed development on Lot 1 DP1181518 x 127 Oaks Road, Griffith - Applicant - SLR Consulting Aust Pty Ltd.

With the proposed increase of concrete batching from 30,000 tonnes to 140,000 tonnes, and with the extra early commencement of business, as we are [redacted] our concerns include the extra noise pollution involved as the noise level now can be quite deafening at times. The noise of the pneumatic chisel, which is used to clean the agitator and the constant running of trucks and loaders directly behind [redacted] rental sheds which resonates off the colourbond sheeting can be quite unbearable at times.

The amount of dust build up in the gutters with all the extra truck movements will only exacerbate the dust problem.

The extra water in the truck washing bays which over sprays into [redacted] property causing rusting on the fence, as the soil is constantly damp, and also causes extra vegetation.

Yours sincerely,
[redacted]

Cite Group
Capital, Property & Development

Cite Investments Pty Ltd
A.C.N 161 006 677

Our Ref: 138774

21 May 2026

General Manager
Griffith City Council
1 Benerembah St
Griffith NSW 2680

By email: admin@griffith.nsw.gov.au

Dear General Manager,

Re: Submission DA 47/2026 – 127 Oakes Road, Griffith (Lot 1 DP 1181518)

We make this submission as the adjoining landowner being 23 & 35 Old Willbriggie Road, to the above development application.

Whilst we do not object in principle to the proposed concrete batching plant, acknowledging that such industrial activity forms part of the broader employment and infrastructure, and housing needs of Griffith, we do have concerns regarding the scale of the proposed increase in production from 30,000 tonnes per annum to 140,000 tonnes per annum, representing an increase of approximately 4.6 times the current capacity. In our view, the practical implications of this increase have not been adequately addressed within the application material submitted.

We purchased our site on the understanding that it formed part of a Council led rezoning process and that the surrounding land use framework had been appropriately considered to ensure the locality remained fit for purpose. Since that time, we have obtained development consent for a 28 lot residential subdivision and are currently in the final stages of engineering approval prior to commencement of works.

We note the applicant undertook consultation with other neighbouring landowners but chose not to consult with us directly regarding this application, despite contacting us to request access for the placement of noise monitoring equipment on our property.

Whilst the application acknowledges our approved subdivision in relation to noise impacts, we do not believe it adequately considers this in other aspects of the reports as some of the future residential dwellings will ultimately be located within approximately 50 to 60 metres of the batching plant operations.

We have made provisions for this in our application but this was against the existing concrete batching plant approvals, not the substantial increase of capacity.

02 8488 5828 | reception@citegroup.com.au | citegroup.com.au
Suite 2, Level 14, 99 Bathurst Street, Sydney NSW 2000

Our primary concern is that a significant increase in production capacity will inevitably result in increased noise, traffic movements, air quality impacts, vibration, operational lighting and general industrial activity. We are concerned that these matters have not been sufficiently addressed or independently verified within the reports accompanying the application.

Our position is that, provided the batching plant operations do not adversely impact the amenity anticipated under our approved residential subdivision and the supporting consultant reports prepared as part of that approval, we have no objection to the proposal proceeding.

Accordingly, we respectfully request that Council independently assess and verify the applicant's consultant reports, modelling and underlying assumptions against our approved residential design intent to ensure the amenity of existing and future residents is not adversely impacted.

In particular, we request further consideration and clarification regarding the following matters:

1. Operating Hours

We seek clarity regarding both the sites current approved and proposed operating hours. This is because the submitted documents continually reference operations commencing at 5am and allude to an approval in the 2025 DA. We are worried this start time could result in staff arrivals, truck movements and general operational activity commencing from approximately 4:30am onwards. Given that some of the residential lots in our estate are located within close proximity to batching plant of the site, we are worried that operations commencing before 7am could result in a detrimental impact in the residential amenity, particularly when considered in conjunction with a proposed production increase.

2. Traffic Impacts and Road Network Capacity

We request Council assess whether the applicant's traffic report has adequately considered the cumulative impact of our approved subdivision, including the traffic generation assumptions adopted within our own traffic assessment.

We also request consideration of whether increased industrial traffic movements associated with the batching plant warrant additional road infrastructure upgrades or operational restrictions, including but not limited to:

- Left in / right out vehicle movements for all non-rigid trucks, to create a separation of heavy vehicle and residential traffic movements where practical.
- Whether turning lanes or a roundabout need to be provide at the intersection Old Willbriggie and Oakes Rd Road.
- Will council require kerb and guttering across the full frontage of the batching plant site as our site has been required to do so.
- Confirming whether new car park proposed to be built in the road reserve in front of batching plant office will be built and when.

- Conformation that council will require as a condition of consent any road widening on the southern side of Oakes Rd to be provided by the batching plant and not rely on these works be solely by our land.

Given the scale of the proposed increase in production, we believe cumulative traffic impacts require more detailed assessment than presently provided.

3. Noise, Light Spill and Residential Amenity

Should operations commence from 5:00am, we are concerned that future residences in our subdivision may be impacted by lighting, vehicle movements, reversing alarms, etc occurring before this time.

We request that Council carefully assess (internally and independently) potential impacts associated with:

- Noise generation from the batching plant and cumulative industrial activity in the locality.
- Early morning truck and staff movements from both batching and cumulative industrial activity in the locality.
- Operational lighting and light spill onto nearby residential lots.
- Dust and air quality impacts.
- Potential cumulative amenity impacts associated with expanded industrial throughput.

We again request that any modelling or assumptions relied upon by the applicant be independently verified to ensure consistency with the approved residential subdivision outcomes and anticipated residential amenity expectations.

Thank you for considering our submission. We would welcome the opportunity to discuss these matters further should Council or the applicant enquire any clarification.

Sincerely,

[redacted]

Luke Scobie
Head of Property & Regional Developments
[redacted]

[redacted]

Hadi Inaty
Director
[redacted]

SLR Consulting Australia Pty Ltd
10 Kings Road, New Lambton NSW 2305, Australia

7 July 2026

SLR Ref No.: 630.032127.00001-RFI Response Letter

Attention: Carel Potgieter
Griffith City Council
PO Box 485
Griffith NSW 2680

SLR Project No.: 630.032127.00001

RE: Request for Further Information – Development Application No. 47/2026 proposed Designated Development application for a Concrete Batching Plant on Lot 1 DP 1181518, No. 127 Oakes Road GRIFFITH

Introduction

This letter is submitted by SLR Consulting Australia Pty Ltd (SLR) to Griffith City Council (Council), in response to the Request for Further Information (RFI) issued by Council on 25 May 2026, in relation to DA 47/2026 for a proposed *designated development application for a concrete batching plant*, at 127 Oakes Road, Griffith, NSW 2680 (Lot 1 DP1181518).

A detailed response to the requests is provided in Table 2 and supported by the documentation in provided under separate cover, listed in Table 1. This RFI response replaces the Statement of Environmental Effects and associated supporting documentation to the extent of any inconsistency.

Table 1 Supporting documentation

App	Document	Prepared by	Reference
A.	RFI Letter	Griffith City Council	5 June 2026
B.	Noise Impact Assessment	SLR Consulting	630.032127.00006, Rev v3.0 and dated 26 June 2026
C.	Council Information Request – Response to Traffic Matters	SLR Consulting	630.032127-L01-v.0 and dated 6 July 2026

Required Information and Response

Table 2 Response to RFI

No.	Required Item	Response
1.	The application has been reviewed by the NSW Environment Protection Agency and they seek the following: • Demonstrate how the proposed development will achieve compliance with the Noise Policy for Industry (2017) project noise trigger levels at existing and	The current noise impact assessment (NIA) report has been updated to: • Clearly demonstrate compliance with the NSW EPA Noise Policy for Industry 2017 (NPfI) when applied to existing industrial premises. The NPfI acknowledges that generally the range of noise mitigation for existing

No.	Required Item	Response
	approved future residential receivers, or otherwise provide a robust and evidence-based justification where compliance cannot be achieved; • Identify and assess feasible and reasonable mitigation measures to eliminate or significantly reduce the predicted exceedances, including but not limited to operational, engineering and/or layout-based controls; • Provide a revised noise assessment, where necessary, incorporating the proposed mitigation measures and demonstrating the resulting noise outcomes at all sensitive receivers; and • Provide a detailed and enforceable noise management framework that includes monitoring, performance criteria, and clearly defined corrective actions in the event that impacts exceed predicted levels.	developments is more limited than that for a new development at the planning stage. As such it is acknowledged that some residual impacts, despite the implementation of feasible and reasonable mitigation options would remain, however is acceptable within the NPfI. • Incorporate an explanation relating to how the recommended steps for applying the policy to existing industrial sites have been applied. • Include additional feasible and reasonable noise mitigation measures to reduced predicted exceedances. This has occurred in response to the discussions held on-site with representative of the Environment Protection Authority (EPA), Council and Mawsons on 29 May 2026. • Provide mitigated noise predictions to receivers. • Provide contingency noise monitoring and management framework with clearly defined corrective actions if impacts exceed predicted levels in the updated assessment. Refer to Appendix B for the updated NIA.
2.	Previous letter requesting additional information has not been fully responded to, noting a response in the portal late April. The change in truck movements to/from the site relates to the change in capacity from 30,000 t/a to 140,000 t/a, and the information provided in that response doesn't adequately address Council's concerns. Thus, the application remains on stop the clock.	Refer to the 'Response to Traffic Matters' in Appendix C.
3.	Notification of this application has now been completed, and two submissions been received to which Council seeks comment from you. One of those submissions is an objection and the other raises concerns. The submission objecting means that this development application will be referred to Council for determination in coming months (date to be determined based on application assessment completion of which you'll be advised). You are requested to provide a separate written response to the submissions and the objections / concerns raised in them so that we can	Refer to the response within Item 1 above regarding the updated NIA and associated impacts. The NIA assesses the potential noise impact associated with the operation of the Project including the approved plant upgrade (under DA 17/2025(1) approved 23 May 2025) against contemporary noise impact assessment methodology. The Project does not involve any physical changes to the approved plant to facilitate the increase in production capacity. Everything that is located on the site at the time of writing, including infrastructure, layout and so on is operationally approved.

No.	Required Item	Response
	report the matter to Council for their determination. The objections raised in the first mentioned submission to the DA are: • With the proposed increase of concrete batching from 30,000 tonnes to 140,000 tonnes, and with the extra early commencement of business, as we are the neighbouring property our concerns include the extra noise pollution involved as the noise level now can be quite deafening at times. The noise of the pneumatic chisel, which is used to clean the agitator and the constant running of trucks and loaders directly behind our rental sheds which resonates off the colourbond sheeting can be quite unbearable at times. • The amount of dust build up in the gutters with all the extra truck movements will only exacerbate the dust problem. • The extra water in the truck washing bays which over sprays into our property causing rusting on the fence, as the soil is constantly damp, and also causes extra vegetation. The concerns raised in the other submission are: Whilst we do not object in principle to the proposed concrete batching plant, acknowledging that such industrial activity forms part of the broader employment and infrastructure, and housing needs of Griffith, we do have concerns regarding the scale of the proposed increase in production from 30,000 tonnes per annum to 140,000 tonnes per annum, representing an increase of approximately 4.6 times the current capacity. In our view, the practical implications of this increase have not been adequately addressed within the application material submitted. We purchased our site on the understanding that it formed part of a Council led rezoning process and that the surrounding land use framework had	The site and associated infrastructure are already in a form to deal with 'peak volume'; thus, the Project seeks an administrative volume increase only. Further, operational elements of the site approved under historic applications are not proposed to change under this Project. Condition 113 of the approved subdivision under DA41/2024 (approved 27 August 2024) requires attenuation treatments to each dwelling constructed to address potential industrial noise, including from the Project site. It is noted that these predictions were based on the previously existing plant, prior to the approved infrastructure and equipment improvements made under DA 17/2025(1) which have now been completed. Importantly the approved plant under DA 17/2025(1), which has now been installed is a modern plant producing lower noise emissions than the previously existing plant. Noise levels from the Project resulting from the increased capacity to potential future receivers are predicted to be consistent with the existing approved operations of the site and would not change because of the Project. The updated NIA and traffic response propose some improvements to the site to mitigate impacts raised by the objectors. It is noted that these mitigation measure improve existing operations of the site and will continue to support the increased capacity as proposed. The proposed mitigation measures include: 1. All articulated heavy vehicles being restricted to left-out/ right-in movements to and from the site (arriving and departing the site from Oakes Road to the east) to deal with the constrained design of the adjacent Oakes Road / Old Willbriggie Road intersection to the west. 2. Restricting deliveries and refill activities to the day period only. 3. Idling concrete trucks awaiting filling to shut off engine when not required. 4. Construction of a shed extension to enclose noise-generating portion of

No.	Required Item	Response
	been appropriately considered to ensure the locality remained fit for purpose. Since that time, we have obtained development consent for a 28 lot residential subdivision and are currently in the final stages of engineering approval prior to commencement of works. We note the applicant undertook consultation with other neighbouring landowners but chose not to consult with us directly regarding this application, despite contacting us to request access for the placement of noise monitoring equipment on our property. Whilst the application acknowledges our approved subdivision in relation to noise impacts, we do not believe it adequately considers this in other aspects of the reports as some of the future residential dwellings will ultimately be located within approximately 50 to 60 metres of the batching plant operations. We have made provisions for this in our application but this was against the existing concrete batching plant approvals, not the substantial increase of capacity. ***1. Operating Hours*** We seek clarity regarding both the sites current approved and proposed operating hours. This is because the submitted documents continually reference operations commencing at 5am and allude to an approval in the 2025 DA. We are worried this start time could result in staff arrivals, truck movements and general operational activity commencing from approximately 4:30am onwards. Given that some of the residential lots in our estate are located within close proximity to batching plant of the site, we are worried that operations commencing before 7am could result in a detrimental impact in the residential amenity, particularly when considered in conjunction with a proposed production increase. ***2. Traffic Impacts and Road Network Capacity***	concrete trucks within concrete loading shed. 5. Addition of absorptive lining on the walls and ceiling of the concrete loading shed (absorption specifications are taken from Soundblock Solutions Stratocell Whisper 25mm acoustic panels). It is noted that a number of the comments raised in the submissions relate to existing operations such as the water drift from wash bays, light spill, vehicle movements, parking, dust build up in gutters and so on. The Project does not propose any changes to the existing approved operational aspects of the site, other than an increase to the throughput per annum. The existing use and continued use with an increased throughput are permitted on the site in an industrial zone, and is the highest and best use of the site, providing employment and construction services, to support the needs of the community. Mawsons will continue to work with adjoining landowners to ensure any operational impacts are dealt with in their Operations Plan and mitigated appropriately where required.

No.	Required Item	Response
	We request Council assess whether the applicant's traffic report has adequately considered the cumulative impact of our approved subdivision, including the traffic generation assumptions adopted within our own traffic assessment. We also request consideration of whether increased industrial traffic movements associated with the batching plant warrant additional road infrastructure upgrades or operational restrictions, including but not limited to: • Left in / right out vehicle movements for all non-rigid trucks, to create a separation of heavy vehicle and residential traffic movements where practical. • Whether turning lanes or a roundabout need to be provide at the intersection Old Willbriggie and Oakes Rd Road. • Will council require kerb and guttering across the full frontage of the batching plant site as our site has been required to do so. • Confirming whether new car park proposed to be built in the road reserve in front of batching plant office will be built and when. • Conformation that council will require as a condition of consent any road widening on the southern side of Oakes Rd to be provided by the batching plant and not rely on these works be solely by our land. Given the scale of the proposed increase in production, we believe cumulative traffic impacts require more detailed assessment than presently provided. ***3. Noise, Light Spill and Residential Amenity*** Should operations commence from 5:00am, we are concerned that future residences in our subdivision may be impacted by lighting, vehicle movements, reversing alarms, etc occurring before this time. We request that Council carefully assess (internally and independently) potential impacts associated with:	

No.	Required Item	Response
	• Noise generation from the batching plant and cumulative industrial activity in the locality. • Early morning truck and staff movements from both batching and cumulative industrial activity in the locality. • Operational lighting and light spill onto nearby residential lots. • Dust and air quality impacts. • Potential cumulative amenity impacts associated with expanded industrial throughput. We again request that any modelling or assumptions relied upon by the applicant be independently verified to ensure consistency with the approved residential subdivision outcomes and anticipated residential amenity expectations.	

Conclusion

We trust the above and supporting documentation appropriately addresses the request for information raised by Council in relation to DA 47/2026. Please don't hesitate to reach out on the below details if Council requires any further clarification.

Regards

SLR Consulting Australia Pty Ltd

[redacted]

Erin Douglas
Principal Consultant – Planning
erin.douglas@slrconsulting.com

SLR Consulting Australia Pty Ltd
10 Kings Road, New Lambton NSW 2305, Australia

Appendix A – Griffith Council RFI dated 25 May 2026

A

SLR Consulting Australia Pty Ltd
10 Kings Road, New Lambton NSW 2305, Australia

Appendix B – Noise Impact Assessment prepared by SLR Consulting (dated 26 June 2026)

B

SLR Consulting Australia Pty Ltd
10 Kings Road, New Lambton NSW 2305, Australia

Appendix C – Response to Traffic Matters (dated 6 July 2026)

C

Development Assessment Report

(For development other than single dwellings or dual occupancy)

PART A: GENERAL ADMINSTRATION

DA No:	47/2026(1)
Property Information:	Lot 1 DP 1181518 127 Oakes Road GRIFFITH
Proposed Development:	Increase throughput of an existing concrete batching plant
Brief Description of Proposal	Change to production limit for the existing concrete batching plant from 30,000 tonnes per annum (designated development limit) to 140,000 tonnes per annum
Type of Development:	Local
Lodgement Date:	13 April 2026
Statutory Timeframe:	60 days – Integrated & Designated Development
Value of Development:	$129,150.00
Applicant's Details:	SLR Consulting Aust Pty Ltd [redacted]
Land Owner's Details:	E B Mawson & Sons Pty Ltd [redacted]
Report Author/s:	Outsourced Contract Planner – Kerry Rourke

PART B: EXECUTIVE SUMMARY

- The application proposes to increase the throughput capacity of the concrete batching plant from a nominal 30kT per annum up to 140kT per annum and is therefore designated development under the provisions of the Environmental Planning & Assessment Act and Regulation. Application the submitted EIS is provided as **Attachment C to the business paper** and other submitted documents are also provided as **Attachment G to the business paper**.

- As the application was submitted as Designated Development, the NSW Environmental Protection Agency provided their General Terms of Agreement, provided as **Attachment B to the business paper**.

- The application was notified to adjoining and adjacent landowners within 150m of the site by letter and also via media notification. Two submissions were received objecting to the application provided as **Attachment D to the business paper**. The Applicant's response is provided as **Attachment E to the business paper**. Thus this application is referred to the Ordinary Meeting of Council on the basis of objections received during notification of the application.

- Council's development assessment report is attached as **Attachment F to the business paper**.

- It is recommended that the application be approved based on the details contained in report and conditions provided in **Attachment A to the business paper**.

PART C: PROPOSAL

This application seeks to increase the capacity of the concrete batching plant to a maximum of 140kT per annum from the nominal 30kT/annum under previous applications. Any capacity over 30kT/annum results in the application being designated development under Schedule 3 of the Environmental Planning & Assessment Regulation 2021 and the proposal also requires consent of the EPA in relation to the designated development element of the application.

The capacity of the plant under this application (i.e. 140kT) is based upon the potential for 187t per day over a year (averaging 300 days), which is based on the maximum one day capacity produced in August 2025.

There is no physical infrastructure change for this development from the applicant's perspective as existing infrastructure is to be used, other than widening the driveway to allow two way movement.

PART D: SITE DESCRIPTION AND LOCALITY

Inspections of the site and the locality were undertaken on 15 and 29 May 2026, where the later inspection was undertaken in conjunction with the EPA, Council's Planning & Environment Manager & consultant planner, Development Engineers and Environmental Health Officers.

The site is located on the northern side of Oakes Road, at the road's intersection with Old Willbriggie Road Griffith. The lot has an area of approximately 2.2ha with a frontage of approximately 177m to the two road frontages, as illustrated following.

The site contains a large shed used for precast concrete panel construction, there is an office and administration building along with other ancillary structures and the batching plant tower and infrastructure for storage of sand, gravel and the like for concrete production.

The site has adjoining boundaries with other industrially zoned properties however the land to the south from the corner of Old Willbriggie Road east along Oakes Road to Kurrajong Avenue is zoned R5 Large Lot Residential. To the west of Old Willbriggie Road land is also zoned E4 General Industrial (see zone overlay following in Part G).

The concrete batching plant use was originally approved on this site in 1982 under DA258/82 with an expansion in facilities under DA 2/91 and DA 17/2025.







PART E: BACKROUND INFORMATION AND HISTORY OF THE SITE

Pre-Lodgement

Prior to the application being lodged with Griffith City Council, the proponent for the development had pre-lodgement discussions with Council Officers in relation to an earlier application, there were discussions in November 2024 with Planningmatters Development Service. As a result of that, detailed file review was undertaken where the historic consents appear to have limited the capacity of the concrete batching plant to 5000t/annum as per an SPPC (now EPA) approval.

However it appears that the premises have been operating over that limit for some years. The capacity under DA 17/2025 was capped to 30kT/annum despite no prior approval in excess of the 5000t/annum due to the provisions for designated development under the Environmental Planning & Assessment Regulations 2021.

Post the approval of DA 17/2025 the applicant was advised to submit a new development application as designated development if they sought an increase in capacity over the 30,000 tonnes per annum approved in that DA.

Development Assessment Panel

The matter was considered at the Development Assessment Panel meeting on 14 April 2026 and the following matters were raised during the preliminary assessment of the application which are potential issues or where further information from the applicant is required:

- Issue
  - Numerous development approvals previously issued over the site
  - Designated development requires longer exhibition with signage to be put on site
  - Consider whether this development constitutes a hazard or heavy industrial development.

- Additional Information was requested on several occasions subsequent to the first letter (22 April 2026) and additional information was not considered to be satisfied until 4 August 2026. The DA clock restarted on that date. Letter sent 22 April 2026:
  - Genuine cost of development to be provided
  - Amended swept path diagrams for two-way movement of B-double configured vehicles
  - Additional traffic data was requested based upon peak hour trips and increased daily vehicle trips due to increased demand.

  25 May 2026 further information was requested as the abovementioned additional information not fully provided and further assessment sought additional information relating to:

  - Review by EPA – compliance with the Noise Policy for Industry 2017; identify & assess reasonable mitigations measures to eliminate or reduce predicted exceedances;
  - Notification of the DA had been completed and submissions were received raising objections and concerns to be addressed by the applicant

Development History of Site

The development history of the subject site has been established following research of Council's electronic data management system and research of Council's physical archives. Based on the information available the following can be established:

Site application History 1977 – 2026 - approved

- DA 17/2025 – Demolition works, alterations & additions to existing structures – new batching tower
- DA 18/2025 – demolition works & construction of replacement roof on existing office building
- DA 26/2025 – construct carpark within road reserve
- DA 102/2019 – replacement awning at workshop
- DA 40/2015 – truck shelter & storage
- DA 193/2012 – Broadband telecommunications tower
- DA 493/2005 – Construct a shed for making of pre-cast concrete panels
- DA 978067 – Office and carpark
- DA 2/92 –Truck parking shed
- DA 16/91- Industrial Shed
- DA 2/91 – Batching plant upgrade
- DA 258/82- Concrete Batching Plant initial use
- DA 81/77 - Storage – Wrecking and resale of tractor parts

The original DA for the concrete batching plant was approved in 1982 (DA 258/82) and it was expanded in 1991 where capacity was capped by the State Pollution Control Commission at 5000 tonnes per annum.

The following statutory referrals were considered as part of the assessment of the application:

AGENCY	LEGISLATION	APPLIES
DPI	Fisheries Management Act 1994 Mines Subsidence Compensation Act 1961 Mining Act 1992 Petroleum (Onshore) Act 1991	No

EE&S/EPA	National Parks, & Wildlife Act1974 Protection of the Environment Operations Act 1997 Water Management Act 2000	Yes – see Part G
NSW Heritage	Heritage Act 1977	No
Transport for NSW	Roads Act 1993 SEPP Infrastructure – Division 17 Roads and Traffic	No – see comment below
RFS	Rural Fires Act 1997	No
Transport NSW	SEPP Infrastructure – Division 15 Railways	No

This application was lodged as integrated development in relation to Transport for NSW (TfNSW) concurrence under the Roads Act. TfNSW provided comment on the application but not General Terms of Approval and did not have any objection to the application.

Submissions received in response to the abovementioned referrals are addressed in Part G: Matters for Consideration, s4.15(1)(d) – any Submissions Made in Accordance with the Act or Regulation.

PART G: SECTION 4.15 EVALUATION

In determining a development application, a consent authority is to take into consideration Section 4.15 of the Environmental Planning and Assessment Act 1979. The following matters as are of relevance to the development the subject of the development application.

SECTION 4.15(1)(a)(i) any environmental planning instrument.

Griffith Local Environmental Plan 2014

(a) Permissibility

The proposed development is for Increase throughput of an existing concrete batching plant and this falls under the definition of an industrial activity in the Dictionary of Griffith Local Environmental Plan 2014, which is defined as:

industrial activity *means the manufacturing, production, assembling, altering, formulating, repairing, renovating, ornamenting, finishing, cleaning, washing, dismantling, transforming, processing, recycling, adapting or servicing of, or the research and development of, any goods, substances, food, products or articles for commercial purposes, and includes any storage or transportation associated with any such activity.*

industry *means any of the following—*

(a) general industry,

(b) heavy industry,

(c) light industry,

but does not include—

(d) rural industry, or

(e) extractive industry, or

(f) mining.

general industry *means a building or place (other than a heavy industry or light industry) that is used to carry out an industrial activity.*

The applicant provides that the application is a general industry and Council concurs.

The subject land is zoned E4 General Industrial and under Part 2 Land Use Table of Griffith Local Environmental Plan 2014 considered to constitute a *general industry* and is development that can only permitted with the consent of Council.

On this basis the proposed development is considered permissible. Review of definitions and other legislation indicate that concrete batching plants are no offense or hazardous industries by definition, and therefore this is not a *heavy industry* development.

(b) *Aims and Objectives*

The proposed development has been considered with regard to the aims of Griffith Local Environmental Plan 2014 as set down in Part 1, clause 1.2(2) which states:

(2) The particular aims of this Plan are as follows—

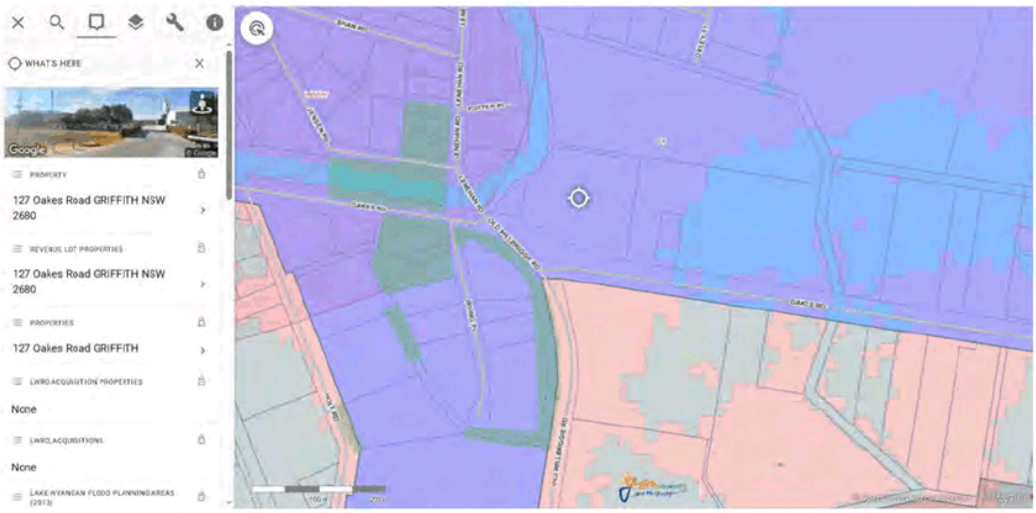
(aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,
(a) to prevent unnecessary urban sprawl by promoting business, industrial, rural and residential uses within and adjacent to existing precincts related to those uses,
(b) to minimise land use conflict in general by creating areas of transition between different and potentially conflicting land uses,
(c) to provide a variety of development options to meet the needs of the community with regard to housing, employment and services,
(d) to manage and protect areas of environmental significance,
(e) to recognise the historical development of the area and to preserve heritage items associated with it

The objectives for Zone E4 General Industrial set down in the Land Use Table are as follows:

Objectives of zone

- *To provide a range of industrial, warehouse, logistics and related land uses.*
- *To ensure the efficient and viable use of land for industrial uses.*
- *To minimise any adverse effect of industry on other land uses.*
- *To encourage employment opportunities.*
- *To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.*

The proposal does not conflict with the objectives of the E4 General Industrial zone.



(c) Principal Development Standards & other LEP Provisions

Clause	Clause Requirement & Assessment Comment
5.10 Heritage Conservation	*Not Applicable* Assessment Comment: The site is not mapped as containing an item of environmental heritage and there are no sites within the immediate vicinity of the property.
5.21 Flood Planning	*Not Applicable* Assessment Comment: There is mapped flood prone land (darker blue on above zone layer) adjacent to the site and flood planning area (light blue).
7.1 Earthworks	*Not Applicable* Assessment Comment: This application relates to the maximum capacity of production and not for the construction of any additional infrastructure.
7.10 Essential Services	*Applicable* Assessment Comment: The site is serviced by electricity and town water; however the site is only serviced by on-site sewage systems. It is understood there are 3 septics that are inefficient and the owners are in discussion with Council regarding connection to the reticulated sewage network.

Environmental Planning & Assessment Act – Section 4.46 Integrated Development

The application was submitted as integrated development under both the Protection of the Environment Operations Act, requiring referral to the NSW Environmental Protection Agency (EPA) and also under the Roads Act, where Transport for NSW indicated they had no objection to the proposal.

It should be noted that this application was lodged prior to changes to the Environmental Planning & Assessment Act which brought into being the Development Coordination Authority and savings provisions enabled the EPA to complete their assessment of the application.

In relation to the Protection of the Environment Operations Act, the NSW EPA provided their general terms of agreement to this application and provided the following:

The EPA has responsibility for pollution control and environmental management under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA has reviewed the information provided, including the applicant's response to the EPA's Request for Further Information, and determined that it is able to issue General Terms of Approval (GTA).

The GTA provided in Attachment 'A', are conditions that relate to the development proposed in the documents and information provided by Griffith City Council and the applicant. Should Council grant development consent for this proposal, the EPA recommends that these conditions are incorporated into the consent.

These GTA address the key environmental risks identified during the assessment and are not intended to replicate the administrative requirements that would ordinarily apply under an Environment Protection Licence. Nor do they remove or alter any obligation to comply with the POEO Act or any other applicable legislation.

As concrete batching is not a scheduled activity under Schedule 1 of the POEO Act, the proposed development does not require an Environment Protection Licence. The GTA have therefore been prepared to assist Griffith City Council in regulating the key environmental risks associated with the development through the development consent.

The proposed operational noise outcomes relied upon by the EPA during the assessment are contingent upon the implementation and ongoing maintenance of the operational and physical noise mitigation measures identified in the Noise Impact Assessment – Mawsons Griffith Concrete Batching Plant (Revision v3.0). Accordingly, the GTA include requirements to implement and maintain these mitigation measures and to undertake verification noise monitoring to confirm the operational noise performance of the premises.

These GTA's relate to the development as proposed in the documents and information currently provided to the EPA. If the development is modified either by the applicant prior to the granting of consent or as a result of the conditions proposed to be attached to the consent, it will be necessary to consult with the EPA about the changes before the consent is issued. This will enable the EPA to determine whether its General Terms of Approval need to be modified.

Environmental Planning & Assessment Regulations – Designated Development

The Environmental Planning & Assessment Regulations provide the following works are Designated Development:

17 Concrete works

(1) Development for the purposes of concrete works is designated development if the works have an intended production capacity of more than—
(a) 150 tonnes per day, or
(b) 30,000 tonnes per year.

(2) Development for the purposes of concrete works is designated development if the works—
(a) have an intended production capacity of more than 500 tonnes per year, and
(b) are located within—
(i) 100 metres of a natural waterbody or wetland, or
(ii) 250 metres of a residential zone, or
(iii) 250 metres of a dwelling not associated with the development.

(3) This section does not apply to concrete works located on or adjacent to a construction site exclusively providing material to the development carried out on the site—
(a) for a period of less than 12 months, or
(b) if the environmental impacts were previously assessed in an environmental impact statement prepared for the development.

(4) In this section—

***concrete works** means works that produce pre-mixed concrete or concrete products.*

In this particular case, the application seeks consent for up to 140,000 tonnes per annum based on an average of 187 tonnes per day throughout their 300 day working year.

State Environmental Planning Policies

The following is a list of State Environmental Planning Policies that apply to the Griffith City Council area. The table also identifies the applicability of the policy with respect to the subject development proposal. Where a policy has been identified as being applicable, further assessment is provided:

SEPP TITLE	APPLIES	Comment / Assessment
Exempt and Complying Codes 2008	No	
Biodiversity and Conservation 2021	No	
Housing 2021	No	
Industry and Employment 2021	No	
Planning Systems 2021	No	
Primary Production	No	
Resilience and Hazards 2021	No	There are no residential uses proposed in this application (pertaining to potential contaminated land arising from this land use)
Resources and Energy 2021	No	
Transport and Infrastructure 2021	No	
Building Sustainability 2022 (i.e. BASIX)	No	

SECTION 4.15(1)(a)(ii) any draft environmental planning instrument.

There are no draft EPI's which apply to the proposal.

SECTION 4.15(1)(a)(iii) any development control plan.

The following is a list of development control plans that apply to the Griffith City Council area. The table also identifies the applicability of the policy with respect to the subject development proposal. Where a policy has been identified as being applicable, further assessment is provided.

DCP No.	DCP TITLE	APPLIES
DCP No. 1	Non-Urban Development	No
DCP No. 3	Industrial Development	Yes
DCP No. 11	Urban Subdivision	No
DCP No. 19	Mixed Development	No
DCP No. 20	Off Street Parking Policy	Yes
DCP 2020	Residential Development Control Plan	No

DCP No 3 – Industrial Development

The concrete batching plant exists on site under earlier approvals. The aims of the DCP are:

- To provide criteria which will result in quality industrial development
- To ensure industrial development is functional and can cater for a variety of land uses
- To ensure the design and provision of carparking areas for the convenience of both employees and visitors to the site.

The DCP provides a range of requirements in relation to:

- building setback from the street boundary,
- the provision of access, car parking, loading and unloading facilities, along with drainage provisions.

As previously mentioned, this development has been on site for over forty years, the only change in this application is the production capacity. The proposal is considered to comply with this development control plan.

DCP No 20 – Off Street Parking

This application does not of itself resulting the need for additional parking. A development application has previously been approved for a dedicated carpark within the road reserve of Oakes Road, but it is yet to be commenced – DA 26/2025.

SECTION 4.15(1)(a)(iiia) any planning agreement.

There are no planning agreements relative to this property

SECTION 4.15(1)(a) (iv) the regulations.

Section 4.15(1)(a)(iv) requires Council to take into consideration the provisions of clauses 61-64 of the Environmental Planning and Assessment Regulation 2021.

Clause 61(1)(b) of the Environmental Planning & Assessment Regulation 2021 requires the consent authority to consider the provisions of Australian Standard AS 2601-1991: The demolition of Structures. Where demolition is proposed, it is recommended that a condition of consent be imposed which sets out the requirements for demolition to be carried out in accordance with a construction/demolition management plan and this will be required to be submitted prior to the issue of a Construction Certificate.

Clauses 62 and 64 of the Environmental Planning and Assessment Regulation 2021 require that Council take into consideration to fire safety provisions. Where applicable, it is recommended that a condition of consent be imposed that requires the installation of a smoke alarm, if one is not already present, in the building as without a smoke alarm the measures in the building are considered inadequate to protect persons using the building or to facilitate their egress from the building in the event of fire.

SECTION 4.15(1)(b) the likely impacts of the development.

In taking into consideration section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979 Council must evaluate the likely impacts of the development on both the natural and built environments, and the social and economic impacts in the locality.

a) Impact on Built Environment

In terms of assessing and evaluating the impact on the built environment, the following matters have been taken into consideration:

There are no changes to the built environment as a result of this application – there is no new infrastructure on site arising from the change in production capacity.

b) Impact on Natural Environment

In terms of assessing and evaluating the impact on the natural environment, the following matters have been taken into consideration:

There are no reasonably anticipated adverse impacts on the environment arising from this proposal to increase capacity. Mechanisms are in place for capture of waste material from truck cleaning which has occurred on site for some years, and while throughput may increase and there will be a resulting increase in truck numbers, if full capacity is achieved, the existing clean up procedures will also be undertaken more regularly.

c) Social Impact in the Locality

In addressing the potential social impacts that the development may have, the locality has been identified as follows:

There were two submissions received in response to the notification of this application. The primary issues related to increased traffic, hours of operation, dust and residential amenity.

These issues are existing and while it is acknowledged that there will be likely be additional vehicle movements each day if full capacity is reached, the operation is predominantly during business hours. The exception here is the start time at the batching plant which is outside the usual 7am – 6pm week day time frame, being 5am to 6pm, so that full concrete trucks are at construction sites for 7am build commencement. Neither DA 258/82 or DA 2/91 provided conditions for specific operational hours for the batching plant component of the land use.

d) Economic Impact in the Locality

In addressing the potential social impacts that the development may have, the locality has been identified as follows:

There are many benefits to this use from an economic perspective, particularly in relation to ongoing construction within the local government area, both residential and commercial / industrial development. This is one of only two batching plants in the LGA.

e) Cumulative Effects

The likely impacts on the built and natural environments, and the social and economic impacts of the development in the locality, cannot be looked at in isolation and in this regard the cumulative effects have also been considered.

SECTION 4.15(1)(c) the suitability of the site.

The subject site is zoned E4 General Industrial and the permissibility of the development under Griffith Local Environmental Plan 2014 provides a broad indication that the site is suitable for the proposed development.

Based on the assessment under this and other sections within this report it is considered that the site is suitable for the proposed development.

SECTION 4.15 (1) (d) any submissions made in accordance with the Act or the Regulation

The provisions of the Environmental Planning and Assessment Act 1979 the Environmental Planning and Assessment Regulation 2021 and Community Participation Plan set down consultation, concurrence and advertising requirements for specific types of development applications and taking into consideration any submissions received in response to the notification process.

As this application is designated development, notification was required for four (4) weeks along with the placement of a sign on site.

In addition to the statutory referral process identified in Part F of this report, the notification of the development included the following:

Notification Description	**Required**	**Submission Period**
Publication in Council Catchup and on Facebook	yes	24 April to 22 May 2026
Letters to Neighbours	yes	24 April to 22 May 2026
External Referrals	**Date Sent**	**Date Received**
Environmental Protection Agency	20/04/2026	04 August 2026 (provided in page 9 of this assessment)
Murrumbidgee LLS	NA	
Murrumbidgee Irrigation	NA	
NSW Police (LAC)	NA	





As a result of the public participation process, Council received two (2) of submissions in response to the notification and referral of the development application. The details of the submissions, which Council has taken into consideration in accordance with section 4.15(1)(d) are as follows:

Issues raised in Submissions; *Applicant Response;* Council Assessment

Issue 1: With the proposed increase of concrete batching from 30,000 tonnes to 140,000 tonnes, and with the extra early commencement of business, as we are the neighbouring property our concerns include the extra noise pollution involved as the noise level now can be quite deafening at times. The noise of the pneumatic chisel, which is used to clean the agitator and the constant running of trucks and loaders directly behind our rental sheds which resonates off the colourbond sheeting can be quite unbearable at times.

Applicant Response:

Noise Impact Assessment provided. The site is predominantly surrounded by industrial development, with some scattered dwellings being retained on industrial lots, and other future potential sensitive residential receivers in the approved subdivision to the south off Old Willbriggee Road and Oakes Road intersection.

The report recommends continuation of existing noise management measures, including:

- *Scheduling noisier activities, such as silo filling, outside the morning shoulder period where practicable;*
- *Replacing tonal reversing alarms with broadband alarms where feasible;*
- *Staff training on noise management and quiet work practices;*
- *Maintaining plant and equipment in good working order;*
- *Minimising vehicle idling;*
- *Undertaking noise monitoring in response to complaints if required.*

Council Assessment:

The application has been assessed by Council's Environmental Health Office3rs and they have reviewed the submitted acoustic assessment. The EHO's concluded:

The assessment concludes that the proposed increase in production capacity is not expected to increase operational noise levels above existing operations. While some exceedances of NPfI trigger levels are predicted during the morning shoulder period at existing and future receivers, these are primarily associated with existing vehicle and mobile plant activities and are not expected to worsen as a result of the proposal. Appropriate operational noise management measures are recommended to minimise impacts. NSW EPA has provided recommended general terms of approval (HPE 26/95114) which recommends that all recommendations outlined in the acoustic report be implemented and further acoustic monitoring be undertaken post consent

Issue 2: The amount of dust build up in the gutters with all the extra truck movements will only exacerbate the dust problem

Applicant's Response:

It is noted that a number of the comments raised in the submissions relate to existing operations such as the water drift from wash bays, light spill, vehicle movements, parking, dust build up in gutters and so on. The Project does not propose any changes to the existing approved operational aspects of the site, other than an increase to the throughput per annum. The existing use and continued use with an increased throughput are permitted on the site in an industrial zone, and is the highest and best use of the site, providing employment and construction services, to support the needs of the community. Mawsons will continue to work with adjoining landowners to ensure any operational impacts are dealt with in their Operations Plan and mitigated appropriately where required.

Issues raised in Submissions; *Applicant Response;* Council Assessment
Council Assessment: The assessment predicts compliance with air quality criteria. NSW EPA have reviewed the air quality impact assessment and provided general terms of approval. Dust suppression system is in place in relation to the raw product storage bays. Truck movements are anticipated on average to be two additional concrete trucks per hour if full production were to be achieved. From 04 January 2026 to 06 August 2026, the site has produced 4833m^3 of concrete. Using a 2.4 conversion, this equates to 12,082.5t. It is acknowledged that there are few construction projects underway this year due to economic constraints across all land uses, however, from a residential viewpoint, there are potentially 1000 – 1500 homes (including MAAS North Collina & Lake Wyangan Village) to be constructed in the coming 5 - 8 years, which will likely change production rates. The residential subdivision to the south has not yet commenced, however the issued development consent contains conditions relating to future dwelling house construction in relation to Section 88B imposition on relevant lots, for acoustic treatment due the existing industrial area.

In relation to statutory referrals of this application, the NSW Environment Protection Authority provided general terms of agreement to this application after a site inspection was held and additional information was received from the applicant (i.e. 4 August 2026).

SECTION 4.15 (1) (e) the public interest

The provisions of section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979 provides an overarching requirement to take into account the public interest. It is considered that the public interest is best served by the consistent application of the requirements of the relevant Commonwealth and State government legislation, environmental planning instruments, development control plan, Council policy, and by Council ensuring that any adverse effects on the surrounding area and the environmental are avoided.

On the basis that the proposed development is considered to be consistent with the aims and objectives of Griffith Land Use Strategy: Beyond 2030; Griffith Local Environmental Plan 2014 and other relevant environmental planning instruments, development control plans or policies; and Land and Environment Court Planning Principles, it is therefore unlikely to raise any issues that are contrary to the public interest.

PART H: MONETARY CONTRIBUTIONS

Section 7.12 Contributions (Environmental Planning & Assessment Act 1979)

Section 7.12 of the Environmental Planning and Assessment Act 1979 states that if a consent authority is satisfied that development is likely to require the provision of or increase the demand for public amenities and public services within the area, it may grant the development consent subject to a condition requiring the payment of a monetary contribution in accordance with an approved contributions plan. The proposed development involves approximately costs of approximately $129,150.00 where Council charges approximately 0.25% on development between $100,000 and $150,000, i.e. $29,150 = $72.87.

Section 64 Contributions (Local Government Act, 1993)

The effect of section 64 of the Local Government Act 1993 is to give the functions of the Water Management Act 2000 to Council in the same way it applies to a water supply authority. Section 306(2) of the Water Management Act 2000 enables a water supply authority to require the applicant to do either or both of the following:

(a) to pay a specified amount to the water supply authority by way of contribution towards the cost of such water management works as are specified in the notice, being existing works or projected works, or both,

(b) to construct water management works to serve the development.

In calculating an amount for the purposes of subsection (2)(a) Council has adopted Development Servicing Plans. On this basis the following DSPs adopted by Griffith City Council apply:

Development Servicing Plan	Applies to Development
Sewerage Development Servicing Plan No. 1: Griffith	Not yet connected
Sewerage Development Servicing Plan No. 2: Yenda	-
Sewerage Development Servicing Plan No. 3: Bilbul	-
Water Development Servicing Plan No. 1: Griffith	Applicable to the land
Water Development Servicing Plan No. 2: Yenda	-
Stormwater Development Servicing Plan: Collina	-

The primary source of water for operation use is raw water and not Council's reticulated supply – that services the office usage (including bathrooms) and drinking water within the buildings. This application seeks an increase in operational capacity which does not use reticulated water, thus there is no additional charge under S64 for this application.

PART I: INTERNAL REFERRALS

As part of the assessment process, the following internal referrals were also undertaken:

DISCIPLINE	ADVICE, COMMENTS & CONDITIONS	DATE
Building	No Comment – no construction works proposed	
Engineering	See attached Engineering assessment	12 August 2026
Environment & Health	See attached EHO assessment	18 August 2026

The comments received in response to the internal referral place have been addressed in the assessment of the application and where applicable incorporated into the recommendation.

PART J: CONCLUSION AND RECOMMENDATION

Conclusion

The development application has been analysed and evaluated with regard to the matters for consideration listed in Section 4.15 of the Environmental Planning and Assessment Act 1979. The assessment has identified that:

- The proposed development is permissible within the zone under GLEP 2014 and is consistent with the aims, objectives and special provisions of that environmental planning instrument.
- The proposed development is consistent with the provision the relevant SEPP that apply.

- The proposed development is considered satisfactory with regard to the objectives and controls set down in the relevant development control plans.
- That where non-compliance with a development control has been identified, the proposed variation can be supported in the circumstances of the case, or has been addressed by way of a condition of consent.
- The proposed development is unlikely to have any unreasonable impact on the environment, and where an adverse impact has been identified appropriate conditions have been imposed to mitigate the effects.
- The subject site is suitable for the proposed development
- Where submissions were received they have been taken into consideration and where appropriate have been addressed by way of amended plans or conditions of consent.
- The proposed development does not raise any matter contrary to the public interest.

On this basis it is considered that the proposal has merit and can be supported.

Recommendation

a) That Griffith City Council as the consent authority pursuant to section 4.16 of the Environmental Planning & Assessment Act 1979 grant consent to Development Application No: 47/2026(1) for increased capacity at an existing concrete batching plant, to permit up to 140 tonnes per annum at 127 Oakes Road GRIFFITH subject to conditions set out in Attachment 'C'.

ASSESSING / DELEGATED OFFICER		Date
Name:	Kerry Rourke	22 August 2026
Position:	Contract Planner	
Signature:		
REVIEWING / DELEGATED OFFICER		
Name:		
Position:		
Signature:		
	……	

Attachment: Referrals – Development Engineers & Environmental Health Officers

ENGINEERING ASSESSMENT

To: Alana McGibbon – Development Administrator

From: Anthony Carusi – Development Engineer

Greg Balind – Development and Traffic Coordinator

File: DA 47/2026

Date: 12 August 2026

Re: INCREASE IN CAPACITY MAWSON'S CONCRETE/QUARRY FROM 30,000 TONNES TO 140,000 TONNES PER ANNUM – LOT 1 DP 1181518 – 127 OAKES ROAD, GRIFFITH

Alana,

This Engineering Assessment relates to the above development and addresses the following issues:

Table of Contents

1. INTRODUCTION 3
2. STATUTORY PLANNING ASSESSMENT (GLEP 2014) 3
2.1. Clause 5.21 – Flood Planning 3
2.2. Clause 7.1 – Earthworks 5
2.3. Clause 7.10 – Essential services 6
3. SEPP (TRANSPORT AND INFRASTRUCTURE) 2021 8
4. ACCESS, TRAFFIC AND TRANSPORT 8
4.1. Existing Conditions 8
4.1.1. Existing Access 8
4.1.2. Existing Road Network 8
4.2. Proposed Development Impacts 9
4.2.1. Traffic Generation 9
4.2.2. Type of Traffic 10
4.3. Road Network & Design 10
4.3.1. Proposed Road Layout 10
4.3.2. Intersection Assessment – Old Willbriggie Road and Oakes Road 11

4.4. Other Considerations 12

4.4.1. Parking 12

4.4.2. Loading & Unloading 12

4.4.3. Pedestrian Infrastructure 13

5. UTILITIES 13

5.1. Non-Essential Services 13

5.1.1. Gas 13

5.1.2. Telecommunications 13

6. CONCLUSION 13

7. ENGINEERING CONDITIONS 15

7.1. Administrative Conditions 15

7.2. Prior to the issue of a Construction Approval (Civil Works) 15

7.3. Prior to the Commencement of Works 16

7.4. During Construction 17

7.5. Prior to the Increase in Capacity 18

7.6. Ongoing Conditions 20

8. APPENDICIES 22

8.1. Engineer Assessment Checklist 22

1. INTRODUCTION

This report provides an engineering assessment of the proposed increase in production capacity at the existing Mawsons Concrete Batching Plant and Quarry located at Lot 1 DP 1181518, 127 Oakes Road, Griffith. The assessment has been prepared in support of Development Application DA 47/2026 and considers the suitability of the proposal from an engineering, traffic, stormwater, flooding, servicing and infrastructure perspective.

The proposal seeks approval to increase the maximum annual production capacity of the existing concrete batching plant and quarry from the currently approved 30,000 tonnes per annum (tpa) to a maximum of 140,000 tpa. The application does not propose any significant expansion of the site's approved footprint or major civil works, with the increased production capacity to be accommodated largely within the existing site layout and infrastructure. Minor works are proposed to the site access arrangements, including widening of the existing crossover and associated road works.

This report assesses the proposal against the relevant provisions of the Griffith Local Environmental Plan 2014, Griffith Development Control Plan 2013, Council's Engineering Guidelines – Subdivision and Development Standards, Austroads Guides, and other applicable engineering standards and specifications.

Particular consideration has been given to:

- Traffic generation and impacts on the surrounding road network;
- Site access and intersection performance;
- Stormwater drainage and flood impacts;
- Infrastructure servicing;
- Adequacy of existing engineering infrastructure to accommodate the increased operational capacity; and
- Compliance with Council's engineering requirements.

The assessment concludes that the proposed development is capable of being supported from an engineering perspective, subject to the recommended conditions of consent contained within this report.

2. STATUTORY PLANNING ASSESSMENT (GLEP 2014)

2.1.Clause 5.21 – Flood Planning

The Griffith Main Drain J & Mirrool Creek - Yenda Flood Mapping Update 2021 (Torrent Consulting) details that the subject allotment is not flood prone for the 1% Annual Exceedance Probability.

1. *The objectives of this clause are as follows:*
    a. *to minimise the flood risk to life and property associated with the use of land,*
    b. *to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,*
    c. *to avoid adverse or cumulative impacts on flood behaviour and the environment,*
    d. *to enable the safe occupation and efficient evacuation of people in the event of a flood.*

2. *Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development:*

    a. *is compatible with the flood function and behaviour on the land,*

The Griffith Main Drain J & Mirrool Creek - Yenda Flood Mapping Update 2021 (Torrent Consulting) details that the subject allotment is not flood prone for the 1% Annual Exceedance Probability. Council is satisfied that the proposed development is compatible with the flood function and behaviour of the land.

    b. *will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and*

The Griffith Main Drain J & Mirrool Creek - Yenda Flood Mapping Update 2021 (Torrent Consulting) details that the subject allotment is not flood prone for the 1% Annual Exceedance Probability.

The proposal does not involve the construction of any additional buildings or hardstand areas and, accordingly, is not expected to increase the volume or peak rate of stormwater runoff generated from the site. The applicant has advised that the existing stormwater drainage system will remain unchanged, with stormwater collected via the existing drainage network, directed to the on-site storage tank for reuse where practicable and overflow discharged to the adjoining drainage channel.

As such, it is not considered that the proposed development will not significantly adversely affect flood behaviour resulting in the detrimental increases in the potential flood affectation of other developments or properties.

    c. *will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and*

The Griffith Main Drain J & Mirrool Creek - Yenda Flood Mapping Update 2021 (Torrent Consulting) details that the subject allotment is not flood prone for the 1% Annual Exceedance Probability.

An assessment on the traffic generation of the site has been completed in Section 4.2.1 below.

In addition, Council has emergency procedures in place to manage floods across the Griffith Local Government Area.

Council is therefore satisfied that the development will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood.

    d. *incorporates appropriate measures to manage risk to life from flood, and*

The Griffith Main Drain J & Mirrool Creek - Yenda Flood Mapping Update 2021 (Torrent Consulting) details that the subject allotment is not flood prone for the 1% Annual Exceedance Probability.

The proposal does not involve the construction of any additional buildings or hardstand areas and, accordingly, is not expected to increase the volume or peak rate of stormwater runoff generated from the site. The applicant has advised that the existing stormwater drainage system will remain unchanged, with stormwater collected via the existing drainage network, directed to the on-site storage tank for reuse where practicable and overflow discharged to the adjoining drainage channel.

    e. *will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.*

Construction works will be required for the upgrade of the accessway. As such conditions shall be imposed on the development to ensure erosion and sediment controls are implemented to Council's satisfaction prior

to the issue of a Construction Approval (Civil Works). This will ensure the proposed development does not cause avoidable erosion or siltation. There is no riparian vegetation on the area of land to be developed.

As such, through the conditions of consent, Council is satisfied that the proposed development will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.

3. *In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters:*
    a. *the impact of the development on projected changes to flood behaviour as a result of climate change,*
    b. *the intended design and scale of buildings resulting from the development,*
    c. *whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,*
    d. *the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.*
4. *A word or expression used in this clause has the same meaning as it has in the Considering Flooding in Land Use Planning Guideline unless it is otherwise defined in this clause.*
5. *In this clause:*

    ***Considering Flooding in Land Use Planning Guideline** means the Considering Flooding in Land Use Planning Guideline published on the Department's website on 14 July 2021.*

    ***Flood planning area** has the same meaning as it has in the Floodplain Development Manual.*

    ***Flood Risk Management Manual** published by the NSW Government in June 2023.*

2.2.Clause 7.1 – Earthworks

1. *The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.*
2. *Development consent is required for earthworks unless:*
    a. *the earthworks are exempt development under this Plan or another applicable environmental planning instrument, or*
    b. *the earthworks are ancillary to development that is permitted without consent under this Plan or to development for which development consent has been given.*
3. *In deciding whether to grant development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters:*
    a. *the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,*
    b. *the effect of the development on the likely future use or redevelopment of the land,*
    c. *the quality of the fill or the soil to be excavated, or both,*
    d. *the effect of the development on the existing and likely amenity of adjoining properties,*

e. *the source of any fill material and the destination of any excavated material,*

f. *the likelihood of disturbing relics,*

g. *the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,*

h. *any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.*

The proposed development will require a Construction Approval (Civil Works) and Section 139 Approval prior to the commencement of any earthworks, therefore the matters for consideration listed above will be addressed based on the information provided **prior to the issue of a Construction Approval (Civil Works)**.

2.3.Clause 7.10 – Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required:

a. *the supply of water,*

The applicant has not proposed any alterations to the existing potable water arrangements onsite. Any proposal to alter the existing water meter connections, disconnections, relocation, or resizing require a Section 68 approval in accordance with the Local Government Act 1993. A Section 68 application is to be made to Council by submitting an application via the NSW Planning Portal and linking it to the Development Application or Construction Certificate application. Connections which are required to be greater than 25mm to serve the needs of the development, shall be supported with hydraulic calculations prepared by an appropriate consultant, including reference to a water pressure and flow rate test of the adjacent mains.

Council is satisfied that through the conditions of consent, adequate arrangements can be made available for the supply of water to each allotment within the proposed subdivision.

b. *the supply of electricity,*

The applicant is to make their own arrangements with the service provider for an adequate connection to electricity for the proposed development. All costs are to be borne by the applicant. Documentary evidence from Essential Energy is to be submitted to Council prior to the issue of a Subdivision Certificate, confirming that satisfactory arrangements have been made for the provision of an adequate domestic electricity supply.

c. *the disposal and management of sewage,*

The existing site is currently serviced by an existing AWTS. As part of the subject development application, an assessment on the existing system completed by Bellato's Plumbing was submitted Council which detailed significant issues with the existing AWTS in its current condition, including installation below ground level (flooding risk), prior evidence of inundation, aeration failure, internal leaks and that the system is not operating as intended.

Council's Water and Sewer Department have advised that connection to Council's reticulated sewer system is possible via a low-pressure sewer system (Grinder Pump) that will connect to an existing sewer manhole on the corner of Oakes Road and Irvine Place (Asset ID: SMH02960). As such, it will be conditioned that detailed sewer design plans are to be submitted to Council and approved for extending Council's low pressure sewerage system to service the proposed subdivision. Such plans shall include designs, calculations and specifications for all proposed works as required for acceptance and approval by Council. The requirements are to be in accordance Council's *Pressure Sewerage Policy (WS-CP-303)* and the *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007* and are to be submitted to Council for approval through the Section 68 process **prior to the commencement of works on Council's**

sewer main. The design of the low-pressure system must be completed by or peer reviewed by an approved Council contractor as per Council's current Revenue Policy. All costs associated with the design and construction of the low-pressure sewerage system are to be borne by the applicant.

The applicant is required to pay for all 'On-Property Works' to be carried out by Council for the Pressure Sewerage System to be installed. "On-property works" include the Boundary Kit to (and including) the installation of the pumping unit. The amount, as per Council's current *Revenue Policy* is to be paid **prior to the increase in capacity.**

All sewerage infrastructure construction works specified within this Development Application are to be completed in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standards* and the *Water Services Association of Australia – Gravity Sewerage Code of Australia (WSA 02—2014)* and approved by Council **prior to the increase in capacity.**

d. stormwater drainage or on-site conservation,

The Griffith Main Drain J & Mirrool Creek - Yenda Flood Mapping Update 2021 (Torrent Consulting) details that the subject allotment is not flood prone for the 1% Annual Exceedance Probability.

The proposal does not involve the construction of any additional buildings or hardstand areas and, accordingly, is not expected to increase the volume or peak rate of stormwater runoff generated from the site. The applicant has advised that the existing stormwater drainage system will remain unchanged, with stormwater collected via the existing drainage network, directed to the on-site storage tank for reuse where practicable and overflow discharged to the adjoining drainage channel.

Whilst the proposal is not expected to alter stormwater quantity, the increase in production has the potential to increase the risk of pollutants associated with concrete batching operations entering the stormwater system if not appropriately managed. Potential contaminants include concrete wash water, cement fines, sediment, hydrocarbons and chemical admixtures.

Given the proposal is limited to an increase in operational capacity, it is not considered necessary to require upgrades to the existing stormwater drainage infrastructure. However, it is appropriate that the ongoing management of stormwater quality be addressed through conditions of consent requiring the preparation and implementation of an Operational Stormwater Management Plan prior to the increase in capacity.

The plan is to detail the operational procedures, maintenance requirements and contingency measures necessary to ensure that stormwater discharged from the site does not result in pollution of Council's drainage infrastructure or adjoining waterways. Subject to this requirement, the proposal is not expected to result in unacceptable stormwater impacts.

e. suitable vehicular access.

The applicant has proposed to upgrade the existing accessway to cater for 2-way movement of the largest size vehicle to access the development which has been identified in the Traffic Impact Assessment (TIA) to be a 26m B-double. The works include widening of the driveway, provision of Basic Left and Basic Right turning treatments, pavement widening, line marking and regulatory signage. Council requested additional information relating to heavy vehicle access dated 22 April 2026 requiring that all articulated heavy vehicles, including semi-trailers and B-double vehicles access the site from the east via Oakes Road, entering the site by a right-turn movement and departing via a left-turn movement onto Oakes Road. Updated turning path diagrams have been submitted to Council demonstrating simultaneous 2-way movement of B-double vehicles entering and exiting the site can be accommodated for.

As such, it will be conditioned that detailed design drawings for the proposed accessway works including the Basic Left Turn (BAL) and Basic Right Turn (BAR) treatments are submitted to Council **prior to the issue of a Construction Approval (Civil Works).** The BAR and BAL are to be designed in accordance with the Austroads Guide to Road Design as amended by the supplements adopted by Roads and Maritime Services for the posted speed limit and to accommodate B-double vehicles. Designs are to comply with Council's

Engineering Guidelines - Subdivisions and Development Standards and Austroads Guidelines. All costs are to be borne by the developer.

3. SEPP (TRANSPORT AND INFRASTRUCTURE) 2021

SEPP (Transport and Infrastructure) 2021 specifies that this Development Application does not require referral to Transport for NSW (TfNSW).

4. ACCESS, TRAFFIC AND TRANSPORT

4.1.Existing Conditions

4.1.1. Existing Access

Access to the subject site is currently gained off Oakes Road.

4.1.2.Existing Road Network

The development site has frontage to Old Willbriggie Road and Oakes Road.

Old Willbriggie Road

Old Willbriggie Road is a two (2) lane, two (2) way bitumen sealed road that has a varying width of approximately seven (7) to eight (8) metres wide with no kerb and gutter along either side of the road. Old Willbriggie Road is currently classified as a "Rural Access" road owned and maintained by Griffith City Council. The speed limit of Old Willbriggie Road is currently 60km/hr in both directions.

Council conducted traffic counts along Old Willbriggie Road in September 2024; the average daily traffic count for that period was 3113 vehicles per day. Old Willbriggie Road had an average AM peak of approximately 374 vehicles per hour and an average PM peak of approximately 457 vehicles per hour. Applying a conservative annual growth rate of 2%, the projected 2026 traffic volumes are approximately 390 vehicles (AM peak), 476 vehicles (PM peak), and 3239 vehicles per day.

Oakes Road

Oakes Road is a two (2) lane, two (2) way bitumen sealed road that has a varying width of approximately seven (7) to eight (8) metres with no kerb and gutter along either side of the road. Oakes Road is currently classified as a "Rural Access" road owned and maintained by Griffith City Council. The speed limit of Oakes Road is currently 80km/hr in both directions.

Council conducted traffic counts along Oakes Road in September 2025; the average daily traffic count for that period was 2712 vehicles per day. Oakes Road had an average AM peak of approximately 303 vehicles per hour and an average PM peak of approximately 337 vehicles per hour. Applying a conservative annual growth rate of 2%, the projected 2026 traffic volumes are approximately 310 vehicles (AM peak), 344 vehicles (PM peak), and 2767 vehicles per day.

Intersection of Old Willbriggie Road and Oakes Road

The intersection of Old Willbriggie Road and Oakes Road is located on the northeast corner of the subject allotment and is currently an unsignalized/untreated t-intersection. See Figure 6 below.



FIGURE 1: INTERSECTION OF OLD WILLBRIGGIE ROAD AND OAKES ROAD

4.2. Proposed Development Impacts

4.2.1. Traffic Generation

The applicant has submitted a Traffic Impact Assessment (TIA) prepared by SLR Consulting in support of the application to assess the traffic impacts associated with the proposed increase in production capacity from 30,000 tonnes per annum to 140,000 tonnes per annum. The TIA identifies that the proposal will not result in an increase in site staffing levels and, accordingly, light vehicle movements are expected to remain unchanged. The increase in traffic generation is therefore limited to heavy vehicle movements associated with the increased concrete production.

As part of the TIA, traffic surveys were completed on 7 August 2025 to understand the sites current average traffic generation. The survey concluded that the site exported 186,6m^3 of concrete. The maximum daily production of 260m^3 has been adopted which is consistent with operational information provided for a one-time maximum production day during the year. The original approval for the subject site was 30,000 tpa which equates to 40m^3 based on 300 operational days for the site (30,000/300 = 100 tonnes per day, 100/2.5 = 40m^3 per day). The original traffic generation (30,000 tpa) and maximum day were estimated using a factor of the surveyed traffic generation on 7 August 2025. The below table represents the estimated traffic generation including increase in traffic to the site.

TABLE 1: PEAK HOUR AND DAILY TRAFFIC DEMANDS

Element	Existing Approval (30,000 tpa)		Proposed (140,000 tpa)			
	Estimated Average Day		Surveyed/Average Day		Maximum Day	
	LVs	HVs	LVs	HVs	LVs	HVs

Concrete Production	40m^3/day		187m^3/day		260m^3/day	
Factor	0.21 (40/187)		1.0		1.39 (260/187)	
AM peak hour trips	10 vph	1 vph	10 vph	4 vph	10 vph	6 pvh
	11 vph		**14 vph**		**16 pvh**	
PM peak hour trips	18 vph	1 vph	18 vph	6 vph	18 vph	8 vph
	19 vph		**24 vph**		**26 vph**	
Daily trips	100 vpd	15 vpd	100 vpd	70 vpd	100 vpd	97 vpd
	115 vpd		**170 vpd**		**197 vpd**	

The applicant has proposed to upgrade the existing accessway to cater for 2-way movement of the largest size vehicle to access the development which has been identified in the Traffic Impact Assessment (TIA) to be a 26m B-double. The works include widening of the driveway, provision of Basic Left and Basic Right turning treatments, pavement widening, line marking and regulatory signage. Council requested additional information relating to heavy vehicle access dated 22 April 2026 requiring that all articulated heavy vehicles, including semi-trailers and B-double vehicles access the site from the east via Oakes Road, entering the site by a right-turn movement and departing via a left-turn movement onto Oakes Road. Updated turning path diagrams have been submitted to Council demonstrating simultaneous 2-way movement of B-double vehicles entering and exiting the site can be accommodated for.

As such, it will be conditioned that detailed design drawings for the proposed accessway works including the Basic Left Turn (BAL) and Basic Right Turn (BAR) treatments are submitted to Council **prior to the issue of a Construction Approval (Civil Works).** The BAR and BAL are to be designed in accordance with the Austroads Guide to Road Design as amended by the supplements adopted by Roads and Maritime Services for the posted speed limit and to accommodate a B-double vehicle. Designs are to comply with Council's Engineering Guidelines - Subdivisions and Development Standards and Austroads Guidelines. All costs are to be borne by the developer.

The proposed access upgrades and the relatively low increase in daily traffic movements, it is considered that the surrounding road network has sufficient capacity to accommodate the additional traffic generated by the development. Subject to the recommended access upgrades being completed, the proposal is not expected to result in unacceptable traffic or road safety impacts.

4.2.2. Type of Traffic

The submitted Traffic Impact Assessment (TIA) completed by SLR Consulting indicates that the largest size vehicle to access the site will be a 26m B-double.

4.3. Road Network & Design

4.3.1. Proposed Road Layout

The applicant has proposed to upgrade the existing accessway to cater for 2-way movement of the largest size vehicle to access the development which has been identified in the Traffic Impact Assessment (TIA) to be a 26m B-double. The works include widening of the driveway, provision of Basic Left and Basic Right

turning treatments, pavement widening, line marking and regulatory signage. Council requested additional information relating to heavy vehicle access dated 22 April 2026 requiring that all articulated heavy vehicles, including semi-trailers and B-double vehicles access the site from the east via Oakes Road, entering the site by a right-turn movement and departing via a left-turn movement onto Oakes Road. Updated turning path diagrams have been submitted to Council demonstrating simultaneous 2-way movement of B-double vehicles entering and exiting the site can be accommodated for.

As such, it will be conditioned that detailed design drawings for the proposed accessway works including the Basic Left Turn (BAL) and Basic Right Turn (BAR) treatments are submitted to Council **prior to the issue of a Construction Approval (Civil Works).** The BAR and BAL are to be designed in accordance with the Austroads Guide to Road Design as amended by the supplements adopted by Roads and Maritime Services for the posted speed limit and to accommodate a B-double vehicle. Designs are to comply with Council's Engineering Guidelines - Subdivisions and Development Standards and Austroads Guidelines. All costs are to be borne by the developer.

4.3.2. Intersection Assessment – Old Willbriggie Road and Oakes Road

The intersection of Old Willbriggie Road and Oakes Road is located adjacent to the northeastern corner of the subject site and currently operates as an unchannelised priority-controlled T-intersection. The existing intersection forms part of the local road network servicing surrounding rural and industrial land uses.

The submitted Traffic Impact Assessment (TIA) has assessed the traffic generation associated with the proposed increase in production capacity. The assessment estimates that the development will generate up to 197 vehicle movements per day during a maximum production day, comprising approximately 100 light vehicle movements and 97 heavy vehicle movements. During the weekday peak periods, the proposal is expected to generate a maximum of 16 vehicle movements in the AM peak hour and 26 vehicle movements in the PM peak hour. When compared to the existing traffic volumes on the surrounding road network, the proposal represents only a relatively minor increase in traffic, as summarised in Table 2.

TABLE 2: DEVELOPMENT TRAFFIC COMPARED TO EXISTING PEAK HOUR TRAFFIC

Peak Period	AM Peak Hour	PM Peak Hour
Existing Traffic – Oakes Road	310 vph	344 vph
Existing Traffic – Old Willbriggie Road	390 vph	476 vph
Development Traffic	16 vph	26 vph
Development Contribution – Oakes Road	5.2%	7.6%
Development Contribution Old Willbriggie Road	4.1%	5.5%

Note: The above comparison represents a conservative assessment as it assumes all development traffic utilises each road independently. In practice, traffic generated by the development will be distributed across the surrounding road network, resulting in a lower actual contribution to traffic volumes on each individual road.

To further minimise traffic impacts, Council proposes to condition that all articulated heavy vehicles, including semi-trailers and B-double vehicles access the site from the east via Oakes Road, entering the site by a right-turn movement and departing via a left-turn movement back onto Oakes Road. This operating arrangement directs articulated vehicles towards Kurrajong Avenue, which forms part of the designated heavy vehicle route, and avoids articulated vehicle movements through the Old Willbriggie Road intersection. In addition, the applicant is proposing to upgrade the existing site access to include appropriate turning treatments,

pavement widening and associated line marking to safely accommodate the forecast heavy vehicle movements.

Whilst the existing geometry of the Old Willbriggie Road and Oakes Road intersection will remain unchanged, the traffic generated by the proposed development is not considered to materially alter the operation or function of the intersection. The proposal contributes only a small proportion of the existing traffic volumes on both roads, and the routing restriction for articulated vehicles further reduces the potential for adverse impacts at the intersection.

Accordingly, it is considered that the existing road network has sufficient capacity to accommodate the additional traffic generated by the proposal and that the development does not generate a level of traffic that would warrant upgrades to the Old Willbriggie Road and Oakes Road intersection as a direct consequence of the proposed increase in production capacity.

4.4.Other Considerations

4.4.1. Parking

No carparking is required to be constructed as part of the proposed development. As part of development application DA 26/2025 a carpark has been approved within Council's road reserve along the frontage of the site. The approval includes a forty-three (43) car parking spaces is approved to be provided on site, comprising 29 spaces (including two spaces for persons with a disability).

4.4.2. Loading & Unloading

The proposed development does not involve any physical changes to the site's internal loading or unloading areas. The submitted Traffic Impact Assessment demonstrates that the existing internal servicing arrangements are capable of accommodating the largest anticipated design vehicle, including B-double vehicles, and that adequate manoeuvring space is available within the site. Loading and unloading activities associated with the increased production capacity will continue to be undertaken entirely within the boundaries of the subject site. Accordingly, no loading or unloading activities are expected to occur within Oakes Road or the surrounding public road network.

Whilst the submitted Traffic Impact Assessment demonstrates that the existing servicing arrangements are adequate, it is considered appropriate that the detailed management of heavy vehicle operations be addressed through an Operational Traffic Management Plan. The Plan will be required, by condition of consent, prior to the increase in capacity and will include, but not be limited to:

- details of anticipated light and heavy vehicle movements associated with the development;
- designated vehicle access and egress arrangements;
- designated heavy vehicle transport routes;
- a requirement that all articulated heavy vehicles, including semi-trailers and B-doubles, approach the site from the east along Oakes Road, enter the site by a right-turn movement, and depart the site by a left-turn movement onto Oakes Road towards Kurrajong Avenue;
- measures to prevent articulated heavy vehicles associated with the development from travelling through the intersection of Old Willbriggie Road and Oakes Road;
- management of loading and unloading activities;
- driver induction and training procedures, including communication of approved heavy vehicle routes;
- procedures for managing contractors and delivery vehicles; and

- procedures for responding to traffic-related complaints or incidents;

All traffic control and management arrangements in the approved Operational Traffic Management Plan is to be installed **prior to the Increase in Capacity**.

Subject to the above, it is considered that adequate loading and unloading arrangements can be achieved on-site and the proposal is not expected to result in adverse impacts on the surrounding road network.

4.4.3. Pedestrian Infrastructure

The subject allotment has been identified in Council's *Griffith Pedestrian and Bicycle Strategy – July 2021* as an allotment that requires a shared path along Oakes Road and Old Willbirggie Road for the full frontage of the site. Upon review of this requirement, it has been determined that the applicant will not be required to install a shared path as part of the subject Development Application. This is due to the nature of the proposed development as it is only proposing to increase production of concrete from 30,000 tpa to 140,000tpa, it is not expected to generate any need for pedestrian and/or bicycle facilities.

5. UTILITIES

5.1. Non-Essential Services

5.1.1. Gas

The applicant is to make their own arrangements with the service provider for an adequate connection to gas for the proposed development. All costs are to be borne by the applicant. Documentary evidence from the service provider is to be submitted to Council prior to the issue of a Subdivision Certificate, confirming that satisfactory arrangements have been made for the provision of an adequate domestic gas supply.

5.1.2. Telecommunications

The applicant is to make their own arrangements with the service provider for an adequate connection to telecommunications for the proposed development. All costs are to be borne by the applicant. Documentary evidence from the service provider is to be submitted to Council prior to the issue of a Subdivision Certificate, confirming that satisfactory arrangements have been made for the provision of an adequate telecommunication service.

6. CONCLUSION

The proposed development seeks consent to increase the existing concrete production capacity from 30,000 tonnes per annum to 140,000 tonnes per annum, with no changes to the existing built form or overall site layout.

The application has been supported by a Traffic Impact Assessment and associated technical information demonstrating that the surrounding road network has sufficient capacity to accommodate the additional traffic generated by the proposal. The applicant has also committed to upgrading the site access to Oakes Road, including the provision of appropriate turning treatments to safely accommodate heavy vehicle movements. Council will further condition the routing of articulated vehicles and the preparation of an Operational Traffic Management Plan to ensure the ongoing safe operation of the site.

The proposal is not expected to result in an increase in stormwater quantity however, conditions of consent are recommended requiring the implementation of an Operational Stormwater Management Plan to ensure

that stormwater quality is appropriately managed and that contaminated runoff does not enter Council's drainage infrastructure or adjoining waterways.

Through the conditions of consent, it is considered that the proposal can be adequately serviced by existing infrastructure and will not result in unacceptable engineering, traffic or stormwater impacts. Accordingly, the application is considered satisfactory from an engineering perspective.

7. ENGINEERING CONDITIONS

The following engineering conditions apply to the development above:

7.1.Administrative Conditions

1. **AC1106 Construction Approval for Civil Works**

   Prior to construction of the approved development, it is necessary to obtain a Construction Approval for Civil Works. This approval can only be issued by Council. An Application for Construction Approval for Civil Works form, complete with detailed plans and specifications, shall be submitted to Council for the Construction Approval for Civil Works.

2. **AC1110 Damage to Council Property**

   If any damage is occasioned to Council property during construction and associated works, the cost of repairs will be recoverable. It is therefore requested that any damage which is obvious before works commence be immediately notified to Council to avoid later conflict.

3. **AC1107 Provision of Services**

   The applicant is to be responsible for all amplification, extension and adequate provision for connection to services at their own expense. The work is to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards* and relevant authorities' specifications.

4. **AC1112 Existing Services**

   The applicant must check that the proposed works do not affect any Council, electricity, telecommunications, gas or other services. Any required alterations to services will be at the developer's expense.

7.2.Prior to the issue of a Construction Approval (Civil Works)

1. **CACW1407 Access/intersection works**

   (AMENDED) Prior to the issue of a Construction Approval for Civil Works, detailed design plans are to be submitted to Council for approval for the upgrade of the intersection of Oakes Road and the existing accessway to the subject development. The intersection is to be designed to incorporate both a sealed Basic Right Turn (BAR) and a sealed Basic Left Turn (BAL) intersection treatment.

   The BAR and BAL are to be designed in accordance with the Austroads *Guide to Road Design* as amended by the supplements adopted by Transport for NSW for the posted speed limit and to accommodate simultaneous two-way movement of B-double vehicles. Articulated heavy vehicles will be limited to right in / left out of the development. Designs are to comply with *Council's Engineering Guidelines - Subdivisions and Development Standards* and *Austroads Guidelines*. All costs are to be borne by the developer.

2. **CACWXXXX Pavement Design**

   (AMENDED) Prior to the issue of a Construction Approval for Civil Works, a pavement design and specifications for all roadworks are to be prepared by a suitably qualified Geotechnical Engineer and are to be submitted to Council and approved. The pavement design must provide a minimum 20 year design life and conform to Council's *Engineering Guidelines - Subdivisions and Development Standards*, the *Austroads Guide to Pavement Technology*.

3. **CACWXXXX Roadworks Design Drawings**

(AMENDED) Design drawings for all roadworks shall be submitted to Council and approved **prior to the issue of a Construction Approval for Civil Works**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's *Engineering Guidelines - Subdivisions and Development Standards*, the *Austroads Guide to Road Design* as amended by the supplements adopted by Transport for New South Wales (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

7.3.Prior to the Commencement of Works

1. **PCW1507 Traffic Management Plan (TMP)**

(AMENDED) A Traffic Management Plan (TMP) with all supporting documentation, including all relevant Traffic Guidance Schemes (TGS), is to be submitted to Council for approval **prior to the commencement of work within Council's road reserve**. The TMP must comply with the requirements of Transport for New South Wales' Traffic Control at Work Sites Technical Manual (TCAWS Manual), Standards Australia's Manual of uniform traffic control devices, Part 3: Traffic control for works on roads (AS1742.3), and Austroads' Guide to Temporary Traffic Management (AGTTM).

The TMP must be prepared by a person/s with a 'Prepare a Work Zone Traffic Management Plan' qualification. Strict compliance to the TMP is to be maintained throughout the duration of the works. All inspections of the TMP and collection of records must comply with the requirements of the TCAWS Manual.

2. **PCW1506 Construction Management Plan (CMP)**

Prior to the commencement of work, a Construction Management Plan is to be prepared by a suitably qualified professional detailing the proposed traffic control and traffic management arrangements during the construction of the development. The Construction Management Plan is to be submitted to Council for approval and is to address, but not be limited to, the following:

a. the management of traffic during construction;

b. the management of loading and unloading of construction materials on site;

c. material stockpiling/storage;

d. identify parking for construction worker vehicles;

e. dust mitigation measures; and

f. complaint management and contingency measures.

The construction management measures specified in the approved Construction Management Plan shall be implemented for duration of construction.

3. **PCW1513 Sedimentation and Erosion Controls**

Effective dust, noise, sedimentation and erosion controls are to be implemented prior to the commencement of site works. This is to include (as a minimum):

a. The installation of a sediment fence with returned ends across the low side of the works; and

b. A temporary gravel driveway into the site. All vehicles needing to access the site are to use the temporary driveway.

The control measures are to be installed **prior to the commencement of site works** and maintained during works in order to ensure that site materials do not leave the site and/or enter the stormwater system and to maintain public safety/amenity.

4. **CCB1249 S138 Roads Act**

(AMENDED) Prior to the commencement of work in Council's road reserve, a Section 138 Roads Act application, including payment of fees, shall be lodged with Griffith City Council, as the Roads Authority for works required within the road reserve. These works may include but are not limited to:

a. vehicular crossings (including kerb reinstatement of redundant vehicular crossings)

b. Road opening for utilities and stormwater (including stormwater connection to Council Infrastructure).

c. Road Occupancy or road closures

All works shall be carried out with the Roads Act approval, the development consent including the stamped plans and Griffith City Council specifications.

5. **PCW1527 Section 68 Application**

Prior to the commencement of works on Council's potable water main, stormwater drainage system and sewer system**,** a Section 68 application in accordance with the Local Government Act 1993 is to be obtained through Council by submitting an application via the NSW Planning Portal and linking it to the Development Application or Construction Certificate application. The application is to include design drawings and details that comply with Council's Engineering Guidelines - Subdivisions and Development Standards and the Water Services Association of Australia - Gravity Sewerage Code of Australia WSA 02—2014/ *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007/ Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011)*. All works associated with the sewer, stormwater and potable water works are to be completed at the expense of the applicant.

7.4. During Construction

1. **DCXXXX Civil Construction Works**

(AMENDED) All civil construction works such as; the installation of stormwater infrastructure, potable water infrastructure and roadworks associated with the development are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

All works shall be inspected by Council Officers or Council Nominee during normal office hours as specified in Council's Engineering Guidelines - Subdivisions and Development Standards (Part 1 - Section 4). All requests for inspection are to be made to Council's Customer Service Department.

Apart from these inspections various tests are to be conducted in conjunction with the works. Test guidelines and type of tests required are identified in Council's Engineering Guidelines - Subdivisions and Development Standards.

2. **DC1710 Sedimentation and Erosion Controls**

The approved erosion and sediment control measures shall be implemented and maintained during works.

7.5. Prior to the Increase in Capacity

1. **PSC1818 Works As Executed (WAE) Drawings**

   Works As Executed plans for approved civil works are to be submitted to Council upon completion of the development **prior to the Increase in Capacity.** Works As Executed plans are to be in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standards.*

2. **PSC1819 Maintenance bond**

   A Bond Application and a monetary bond is to be submitted to Council to provide a twelve (12) month maintenance period for civil works relating to Council's infrastructure. It is the applicant's responsibility to notify the relevant departments regarding the commencement and finish of the maintenance period and adequate arrangements are to be made regarding any relevant inspections required.

   A five percent (5%) bond of the total cost of works is to be submitted to Council for the works that need maintenance **prior to the Increase in Capacity.**

3. **XXXXXX Engineering Inspections**

   The applicant is required to pay for all inspections carried out by Council's Engineers. Payment must be paid for all inspections as per Council's current Revenue Policy prior to the issue of a Subdivision Certificate for stage.

4. **POCXXXX Oakes Road and Accessway Intersection Upgrade**

   (AMENDED) Prior to the Increase in Capacity, the intersection of Oakes Road and the existing accessway to the subject development is required to be upgraded to incorporate both sealed Basic Right Turn (BAR) and a sealed Basic Left Turn (BAL) intersection treatment.

   The BAR and BAL are to be constructed in accordance with the approved construction plans, Austroads *Guide to Road Design* as amended by the supplements adopted by Transport for NSW for the posted speed limit and *Council's Engineering Guidelines - Subdivisions and Development Standards*.

5. **POCXXXX Roadworks Construction**

   (AMENDED) All road infrastructure construction works specified within this Development Application are to be completed in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards* (and other authorities specifications outlined within this Development Application) and approved by Council **prior to the Increase in Capacity.**

6. **POC1924 Operational Traffic Management Plan**

   (AMENDED) An Operational Traffic Management Plan (OTMP) is to be prepared by a suitably qualified professional detailing the proposed traffic control and management arrangements. The Traffic Management Plan shall be submitted to Council for approval and is to include, but not be limited to, the following:

   - details of anticipated light and heavy vehicle movements associated with the development;
   - designated vehicle access and egress arrangements;
   - designated heavy vehicle transport routes;

- a requirement that all articulated heavy vehicles, including semi-trailers and B-doubles, approach the site from the east along Oakes Road, enter the site by a right-turn movement, and depart the site by a left-turn movement onto Oakes Road towards Kurrajong Avenue;
- measures to prevent articulated heavy vehicles associated with the development from travelling through the intersection of Old Willbriggie Road and Oakes Road;
- management of loading and unloading activities;
- driver induction and training procedures, including communication of approved heavy vehicle routes;
- procedures for managing contractors and delivery vehicles; and
- procedures for responding to traffic-related complaints or incidents;

All traffic control and management arrangements in the approved Operational Traffic Management Plan is to be installed **prior to the Increase in Capacity**.

7. POCXXXX Operational Stormwater Management Plan

Prior to the Increase in Capacity shall be prepared by a suitably qualified person and submitted to and approved by Council. The OSMP shall assess the existing stormwater management arrangements and demonstrate how stormwater and potentially contaminated runoff generated by the operation of the development will be collected, contained, treated and/or reused to prevent pollution of Council's stormwater drainage system and the drainage channel adjoining the site. The OSMP shall include, but not be limited to:

- a plan identifying all existing stormwater infrastructure, pits, pipes, collection areas, storage facilities and discharge points;
- identification of clean and potentially contaminated stormwater catchments within the site;
- identification of areas associated with concrete batching, aggregate and material storage, vehicle loading, truck washout, equipment washdown, refuelling and chemical/admixture storage;
- measures to prevent concrete slurry, cementitious material, sediment, aggregate, wash water, hydrocarbons, chemicals and other pollutants from entering the stormwater system;
- details of the collection, containment, treatment and lawful disposal or reuse of concrete wash water and other process water;
- management of runoff from material and aggregate storage areas;
- spill prevention, containment and response procedures;
- inspection, cleaning and maintenance requirements for pits, pipes, sediment controls, treatment devices and stormwater storage infrastructure;
- identification of the circumstances under which stormwater may discharge from the site and measures to ensure any discharge does not cause water pollution;
- procedures for responding to any actual or suspected contaminated discharge; and
- monitoring, record keeping and review procedures.

Where the OSMP identifies that additional treatment, containment or other stormwater management measures are required to prevent contaminated runoff leaving the site, the measures shall be installed and operational **prior to the Increase in Capacity**.

8. **PSC1823 Connection to Council's sewer main**

Prior to the Increase in Capacity the proposed development is to connect to Council's existing sewer system via a low-pressure sewer system. The low-pressure sewer system is to connect to an existing sewer manhole on the corner of Oakes Road and Irvine Place (Asset ID: SMH02960). All works shall be in accordance with the specifications outlined in *Council's Engineering Guidelines – Subdivision and Development Standards* and the *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007*.

9. **POC1963 Grinder pump installation**

Prior to the Increase in Capacity, a separate application is to be made to Council's Water and Sewer Department for the installation of a Grinder Pump. All works are to be in accordance with Council's *Pressure Sewerage Policy (WS-CP-303)* and the *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007*.

The applicant is required to pay for all 'On-Property Works' to be carried out by Council for the Pressure Sewerage System, being from the Boundary Kit to (and including) the installation of the pumping unit. The amount to be paid is in accordance with Council's current Revenue Policy.

9.1. Ongoing Conditions

1. **ON2134 Traffic Management Plan (TMP)**

The traffic control and management measures specified in the approved Traffic Management Plan shall be implemented for the lifetime of the proposed development.

2. **ON2135 Ongoing access to site**

(Amended) The following conditions will apply for the lifetime of the subject development:

a) The turning path of the largest sized vehicle to access the site is to be clear of obstructions at times
b) All vehicles are required to enter and leave the development in a forward direction to ensure traffic/pedestrian safety.
c) All vehicular loading and unloading is to be carried out within the site to prevent interference with the use of the public road by vehicles and pedestrians.
d) The maximum sized vehicles permitted to access the site is limited to 26 metre B-double configurations as specified in Austroads Design Vehicles and Turning Path Templates Guide 2021.

3. **ON2137 Heavy vehicle access restriction**

(AMENDED) All articulated heavy vehicles associated with the development, including semi-trailers and B-doubles, shall access the development from the east via Oakes Road and enter the site by a right-turn movement and shall exit the site by a turn left onto Oakes Road.

4. **ONXXXX Operational Stormwater Management Plan**

The stormwater management measures specified in the approved Operational Stormwater Management Plan shall be implemented for the lifetime of the proposed development.

5. ONXXXX Pollution of Stormwater

The development shall be operated so that no contaminated water, concrete wash water, cement slurry, sediment, aggregate, hydrocarbons, chemicals or other pollutants are discharged from the subject site into Council's stormwater drainage system, the adjoining drainage channel or any waters. All potentially contaminated water generated by the operation shall be appropriately collected, contained, treated, reused or lawfully disposed of.

6. ONXXXX Concrete and Vehicle Washdown

Concrete agitator washout, plant washdown and washing of equipment associated with concrete production shall only occur within designated areas designed to collect and contain all wash water and concrete residue. Wash water shall not be discharged to the stormwater drainage system, adjoining drainage channel or public road reserve.

8. APPENDICIES

8.1. Engineer Assessment Checklist

General Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**
Will the developer be doing any construction works? All conditions in this column have been included in standard template.	Yes		CCS 1396 - Soil Erosion and Silt Control PCW1507 - Traffic Management Plan (Non-Standard Condition) PCW1506 - Construction Management Plan PCW1513 - Sedimentation and Erosion Controls DC1710 - Sedimentation and Erosion Controls AC1110 - Damage to Council Property AC1112 - Existing services AC1107 - Provision of services
Will the developer be constructing future Council owned Infrastructure?	Yes		PSC1818 - Works As Executed Drawings PSC1819 - Maintenance Bond PSC1891 - Engineering Inspections
Will the developer be conducting works with in the road reserve?	Yes		CCB1249 – S138 Condition (modify as required) POC2011 – S138 Condition (modify as required)
Do they require Murrumbidgee Irrigation Approval?	No		PSC1801 - Murrumbidgee Irrigation PSCXXXX - Murrumbidgee Irrigation (Non-standard Condition)

DA 47/2026 – Increase in Capacity Mawsons Concrete/Quarry From 30000tpa To Max 140000tpa

Lot 1 DP 1181518 – 127 Oakes Road, Griffith

Stormwater Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**
Have they advised where will stormwater discharge too?	N/A	Stormwater arrangements are not being altered onsite however they will required a Stormwater Management Plan prior to the increase in capacity.	PSC1820 - Stormwater drainage (Not Flood Prone) Amend PSC1821 - Stormwater Drainage (Flood Prone)
Is onsite detention (OSD) required? (New development creating hardstand greater than 100m2 or new subdivision)	No	No additional hardstand areas are being created.	CCB1232 - Onsite Detention (65l/s/ha) CCB1233 - Onsite Detention (post/pre) POC1958 - Installation of stormwater infrastructure POC2016 - Protection of Onsite Detention System ON2141 - Maintenance of Onsite Detention System
Do they indicate what type of OSD is proposed? (e.g. tanks, basin, parking areas etc)	N/A		CCB1234 - Signage for water ponding in detention areas PSWXXXX - Spillway (Non-Standard Condition)
Has a pump system been proposed? (Have they considered obtaining an easement to allow gravity discharge first)	No		CCB1260 – Pump System POC2018 – Protection of Pump System ON2158 – Maintenance of SCADA/telemetry System
If a detention basin has been proposed, have you checked if Council will take ownership?	N/A		ONXXXX - Maintenance of Onsite Detention System (Non-Standard Condition)
Is interalotment stormwater drainage proposed?	No		PSCXXXX - Interallotment Stormwater Drainage (Non-Standard Condition)
Are easements required for stormwater?	No		PSCXXXX – Stormwater Drainage Easements
Are overland swales proposed?	No		CCSXXXX - Fencing over open swale (Non-Standard Condition) PSCXXXX - Fencing over open swale (Non-Standard Condition) PSCXXXX - Restriction to user (Non-Standard Condition)

DA 47/2026 – Increase in Capacity Mawsons Concrete/Quarry From 30000tpa To Max 140000tpa

Lot 1 DP 1181518 – 127 Oakes Road, Griffith

Potable Water Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**
Have you sent a referral to Council's Water and Sewer Department? What are their requirements?	No	No alterations to the potable water supply is proposed.	
Are they proposing to extend Council's water main?	No		PSCXXXX - Water Meters (Non-Standard Condition if they are extending the main)
Is the water main existing and are they creating lots fronting this water main?	No		PSC1826 - Water Meters (If there is already a main and they have connect)
Are hydraulic calculations required?	No		CCSXXXX - Hydraulic Calculations (Potable Water) (Non-standard)
Do they have battle-axe allotments? If so, do they require private main for firefighting services?	No		CCS1307 - Potable Water Extension for Hydrant Installation PSC1830 - Potable Water Extension for Hydrant Installation PSC1831 - Restriction to User for Potable Water Main
Should a static fire-fighting tank be considered? (Is the subdivision creating less than 4 allotments?)	No		PSC1829 - Restriction to User – Water Supply for Fire-fighting

Sewer Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**
Have you sent a referral to Council's Water and Sewer Department? What are their requirements?	Yes	See Record No. 26/97639.	
Is connection to council's sewer system proposed? If not AWTS Enviro Team	Yes	The enviro team have advised the existing AWTS is not sufficient for the site. The water	CCS1303 - Extension of Council's sewer main (Gravity)

		and sewer department have allowed the site to connect to sewer via low pressure system.	PSC1822 - Extension of Council's sewer main (Gravity) CCS1304 - Extension of Council's sewer main (Pressure) PSC1823 - Extension of Council's sewer main (Pressure)
Are they proposing to extend Council's sewer mains?	Yes		PSCXXXX - Water Meters (Non-Standard Condition if they are extending the main)
Is a pressure sewer system proposed?	Yes		PSX1825 – Extension of Councils sewer main (Grinder Pump Condition)
Are hydraulic calculations required?	No		CCSXXXX - Hydraulic Calculations (Sewer) (Non-standard)
Are they proposing a new sewer pump station? Will this be a private system?	No		
Are they proposing to subdivide units?	No		PSC1824 - Connection to Council's sewer main (Torrent Title) POC1962 - Connection to Council's sewer main (Strata/Community Title)

Roads Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**
Was a referral to TfNSW required? If yes, have their conditions be incorporated?	Yes	TfNSW have advised they have no objections to the development.	
Have they submitted a Traffic Impact Assessment? Is one required?	Yes		
Are they constructing new roads?	No		CCSXXXX - Pavement Design (Non-Standard Condition) CCSXXXX - Roadworks Design Drawings (Non-Standard Condition) PSCXXXX - Gazetted Road Reserve (Non-Standard Condition) PSCXXXX - Naming of Roads (Non-Standard Condition)

			PSCXXXX - Street Name Plates (Non-Standard Condition) PSCXXXX - Roadworks Construction (Non-Standard Condition) PSCXXXX - Intersection signposting (Non-Standard Condition) PSCXXXX - Road signposting (Non-Standard Condition) CCSXXXX – Road Design PSCXXXX – Road Construction
Do they need to upgrade any roads?	No		All Conditions Above CACW1406 – Road Upgrade POC1953 – Road Upgrade
Do they need to construct kerb and gutter?	No		CCSXXXX – Kerb and Gutter Design (Non-Standard) PSCXXXX – Kerb and Gutter Construction (Non-Standard)
Do they require intersection treatment? If so what type?	Yes	Intersection treatment is required on Oakes Road into the development.	CCSXXXX – T-intersection Design (Non-Standard) PSCXXXX – T-intersection Construction (Non-Standard) CCSXXXX – BAR/BAL Intersection Treatment (Non-Standard) PSCXXXX – BAR/BAL Intersection Treatment (Non-Standard)
Do they require any concrete medians or are any proposed?	No		CACW1407 – Access/intersection works POC1956 – Access/intersection works
Do they require street lightings along proposed or existing roads?	No		CCSXXXX – Street and Intersection Lighting (Non-Standard) PSCXXXX – Street and Intersection Lighting (Non-Standard)
Are there any restrictions to access required for main roads?	Yes	Yes articulated heavy vehicles are limited to right in / left out on Oakes Road.	PSCXXXX – Restriction to User
Are any cul-de-sacs proposed?	No		CCSXXXX - Cul-de-sac for dead end roads PSCXXXX – Cul-de-sac for dead end roads

Is there sufficient sight distance and/or stopping distance at existing and proposed intersections?	No		CCB1226 – Sight Distance (Amend as required)

Accessways and Pedestrian Access Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**
Are any existing accessways required to be removed?	No		POC1926 – Redundant Laybacks POC1927 – Redundant Accessways
Are any battle-axe allotments proposed? If so, is it rural residential or residential?	No		POC1928 – Accessway Construction POCXXXX – Internal Driveway (Rural) POCXXXX – Internal Driveway (Residential)
Does the PAMP indicate that a footpath is required? Does the development generate foot traffic?	Yes	Council does not require the construction of footpath even though PAMP details on Oakes Road as the nature of the subject development does not warrant a footpath.	CACW1401 - Shared path POC1947 - Shared path CACW1402 - Footpath POC1948 - Footpath
Do they require a pedestrian crossing?	No		CACW1404 - Raised pedestrian crossing POC1951 - Raised pedestrian crossing construction
Do they require lighting for pedestrian safety?	No		

Flooding Conditions and Considerations			
Consideration	**Answer**	**Comments**	**Proposed Conditions if Answer Yes**

DA 47/2026 – Increase in Capacity Mawsons Concrete/Quarry From 30000tpa To Max 140000tpa

Lot 1 DP 1181518 – 127 Oakes Road, Griffith

Is the land identified as flood prone land?	No		
Has a flood report been completed?	Yes	Not flood prone	
Has the applicant submitted a Flood Impact Assessment?	No		
What type of flooding affects the site? (e.g. floodway, flood storage or flood fringe)	No		PSCXXXX – Restriction to user for flood affected lots

ANTHONY CARUSI

DEVELOPMENT ENGINEER

GREG BALIND

TRAFFIC AND DEVELOPMENT COORDINATOR

M E M O R A N D U M

DATE: 18/08/2026
TO: Kerry Rourke - Development Assessment Planner
FROM: Laura van Lijf - Environmental Health Officer
RE: DA 47/2026 - Environmental Health referral

Hi Kerry

I have reviewed the following documents for DA 47/2026:

- HPE 26/32385 - SLR – Mawsons Griffith Concrete Batching Plant Noise Impact Assessment – dated 2/02/2026
- HPE 26/32386 – SLR – Mawsons Griffith Concrete Batching Plant Air Quality Impact Assessment 0 1/12/2025
- HPE 26/32390 – Mawsons Concrete – Environmental Management System Manual v1
- HPE 26/32401 – Waste Management Plan – ENV-PLA-006
- HPE 26/45517 – SLR – Environmental Impact Statement – Mawsons Griffith Concrete Batching Plant – 20 April 2026
- HPE 26/82153 – SLR – Mawsons Griffith Concrete Batching Plant – SLR Project no: 630.032127.00006 – 26 June 2026 – Revision: v 3.0
- Cement Concrete & Aggregates Australia – *Environmental Management Guideline for Concrete Batch Plants* (October 2019) - CCAA_Environmental_Guideline_Final.pdf

Please see below environmental health assessment & referral:

Assessment

Proposal

The concrete batching plant is located at 127 Oakes Road, Griffith. The site currently operates under DA approval 17/2025(1), which allowed for modification to the existing concrete batching plant. The proposal is seeking consent to increase the approved annual production capacity of 30,000 tonnes per annum (tpa) to a maximum of 140,000 tpa.

No changes to operating hours are proposed as part of the proposal. While the existing development consent does not impose restrictions, the facility has historically operated as follows:

- Monday to Saturday: 5:00am – 6:00pm
- Sunday and Public Holidays: No operations

These established operating hours are proposed to continue under the Project. The facility typically operates 300 days per year, or approximately over 50 weeks. The proposal does not involve changes to the approved plant as detailed in DA 17/2025(1), with the exception of increasing production capacity.

Legislation

Protection of the Environment Operations Act 1997 & Regulations

Given the proposed capacity of 140,000 tonnes per annum, the premises becomes an activity for which the NSW EPA is the appropriate regulatory authority under clause 13(1)(b) of Protection of the Environment Operations (General) Regulation 2022 - NSW Legislation

13 EPA—certain non-scheduled activities

(1) The EPA is declared to be the appropriate regulatory authority for the following non-scheduled activities—

(a) the mixing of crushed or ground rock with bituminous materials, if the activity—

(i) has a capacity to produce more than 150 tonnes of bituminous mixture per day or 30,000 tonnes of bituminous mixture per year, and

(ii) is carried out otherwise than on, or adjacent to, a construction site to provide bituminous mixture for the site for a period totalling no more than 12 months,

(b) the production of pre-mixed concrete having a capacity to produce more than 30,000 tonnes per year of concrete,

Example—

An example of the production of pre-mixed concrete is concrete batching plants

NSW EPA has reviewed the proposal and issued General Terms of Approval (GTAs) (HPE 26/95114).

Dust & Air Quality

Air Quality – Legislative Framework

The Air Quality Assessment was undertaken against the National Environment Protection (Ambient Air Quality) Measure (Air NEPM) and the POEO Act 1997.

The Air NEPM establishes national air quality standards for pollutants including PM2.5 and PM10 to protect human health. The POEO Act requires plant and equipment to be operated and maintained to minimise air pollution, materials to be managed appropriately to prevent pollution and odour, and emissions to comply with

relevant standards. It also requires pollution incidents that may cause material harm to the environment to be reported.

HPE 26/32386 – Air Quality Impact Assessment

The Air Quality Impact Assessment considered potential dust emissions from operation of the concrete batching plant and assessed compliance with the NSW POEO and national air quality standards (NEPM).

The assessment identified dust as the primary air quality issue, generated from:

- Wind erosion of the stockpiles and storage bays;
- Onsite material handling;
- Wheel generated dust from onsite vehicle movements

Diesel powered vehicles and machinery will emit combustion pollutants; however, the assessment concluded these emissions would be negligible and were not considered a significant risk.

No sources of odour were identified.

Proposed Dust Controls

The site currently implements a range of dust mitigation measures, including:

- Minimising silt and other material build-up on paved areas and around erosion and sediment control structures;
- Ensure that all stockpiles have appropriate controls in place e.g., store within three-sided enclosures and watering as required;
- Minimising drop heights from loading/unloading equipment;
- Managing truck speeds on-site to reduce wheel generated dust – the speed limit is 10km/h, which is sign posted and stated in site induction material.

Assessment Methodology

The assessment as undertaken in accordance with the NSW EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022)* and relevant provisions of the POEO Act 1997.

Dispersion modelling assessed both:

- Average production rates; and
- Maximum production rates.

The modelling assumed a highly conservative worst-case scenario, with the plant operating at maximum production every operating day of the year, resulting in emissions significantly higher than would occur in practice.

The assessment found:

- No exceedances were predicted for PM10, PM2.5, Total Suspended Particulates (TSP) or dust deposition criteria at any sensitive receptor.
- Predicted dust impacts were low, generally around 1% of assessment criteria under average operations and approximately 3% under maximum operations
- Cumulative dust deposition was predicted to remain below the NSW nuisance dust criterion of 4 g/m^3/month.
- No significant odour sources were identified, which is typical for concrete batching plants.

EHO comment

The assessment predicts compliance with air quality criteria. NSW EPA have reviewed the air quality impact assessment and provided general terms of approval (HPE 26/95114)



Stockpiles with sprinklers for dust suppression

Water

Water management on the site is conducted according to whether the water is polluted (high in pH and suspended solids), dirty (suspended solids) or clean. Contaminated water should be captured and retained on site in pits and tanks and subsequently reused onsite (e.g., dust suppression). Dirty water can typically be reused on site after the solids have settled out of suspension for such uses as concrete batching, cleaning trucks or controlling dust.

Only clean water is discharged to the stormwater system off-site according to applicants.

Polluted wastewater from plants may contain potential pollutants such as cement and aggregates that can increase the turbidity of local waterways and cement

contaminated water can also be highly alkaline. Inappropriate storage and handling of fuels onsite can also lead to polluted surfaces and groundwaters.

According to the EIS the and a site visit on the 29/05/2026:

1. Stormwater is collected via various drop structures through the site and directed to a water storage tank, located adjoining the eastern boundary of the site adjoining the washout area.
2. Water is collected within the storage tank and is reused on-site where possible.
3. Stormwater overflow is discharged to the channel adjoining the site.



Truck washbay (site visit 29/05/2026)

EHO comment

The proposal does not include any new or additional hardstand to the site that would increase stormwater generation or discharge from the site. Therefore, no additional stormwater controls are proposed to be implemented onsite.

EPA NSW have included water quality in their General Terms of Approval.

Noise

Acoustic & Vibration Assessments – HPE 26/32385 & HPE 26/82153 (revision)

The proposal does not seek to change the existing operating hours of the concrete batching plant, which will remain 5:00am to 6:00pm Monday to Saturday, with no operation on Sundays or public holidays. The facility operates approximately 300 days per year.

The assessment was undertaken in accordance with the NSW EPA Noise Policy for Industry (NPfI, 2017). Existing noise monitoring found that the surrounding noise environment is generally dominated by road traffic and nearby industrial development.

HPE 26/32385 – Acoustic & Vibration Assessment

Receivers

The nearest residential receivers are located south of the site. The assessment also considered the approved residential subdivision opposite the site for 28 future residential lots (DA 41/2024).

Assessment findings

The acoustic modelling found:

- Daytime operations comply with the applicable Project Noise Trigger Levels (PNTLs) at all existing residential receivers under both standard and noise-enhancing weather conditions.
- During the morning shoulder period (before 7:00am), exceedances are predicted at some existing receivers:
  - Receiver **R18**: exceedance of 7dB to 10 dB
  - Receivers **R07, R12-14, R19** and **R21**: exceedances of 1dB to 3 dB under noise-enhancing weather conditions.
- The primary source of exceedances is existing truck movements and mobile plant operations, which are not expected to increase as a result of the proposed capacity increase.
- The assessment concludes that the proposal will result in no measurable increase in operational noise levels.

Future residential subdivision

Noise modelling undertaken for the approved subdivision indicates that some future residential lots are predicted to exceed the NPfI criteria, particularly during the morning shoulder period. However:

- Predicted noise levels are consistent with the site's existing approved operations and are not attributable to the proposed project modifications;
- Previous subdivision acoustic assessments identified industrial noise impacts and recommended acoustic treatment of future dwellings to achieve acceptable internal noise levels.

Sleep disturbance

Maximum noise levels (LAmax) are predicted to exceed the NPfI sleep disturbance screening level at receivers **R18-R21**, with the highest predicted level being 57 dBA at **R18**.

Recommended mitigation measures

The report recommends continuation of existing noise management measures, including:

- Scheduling noisier activities, such as silo filling, outside the morning shoulder period where practicable;
- Replacing tonal reversing alarms with broadband alarms where feasible;
- Staff training on noise management and quiet work practices;
- Maintaining plant and equipment in good working order;
- Minimising vehicle idling;
- Undertaking noise monitoring in response to complaints if required.

EHO assessment

The assessment concludes that the proposed increase in production capacity is not expected to increase operational noise levels above existing operations. While some exceedances of NPfI trigger levels are predicted during the morning shoulder period at existing and future receivers, these are primarily associated with existing vehicle and mobile plant activities and are not expected to worsen as a result of the proposal. Appropriate operational noise management measures are recommended to minimise impacts. NSW EPA has provided recommended general terms of approval (HPE 26/95114) which recommends that all recommendations outlined in the acoustic report be implemented and further acoustic monitoring be undertaken post consent.

Waste management

According to the applicant, regulated or controlled wastes are disposed of in accordance with the relevant State waste regulation. In general, returned concrete is minimised by careful planning of production to match sales. Any wet waste concrete is recycled back into the concrete batching process, subject to quality requirements.

Unused wet waste concrete, waste oil, chemicals, contaminated water or other admixtures such as bagged oxide and silica should not be disposed of down stormwater drains.

A Waste Management Plan was submitted with the DA (HPE 26/32401).



Waste concrete stockpiles

SEPP (Resilience & Hazards) 2021

A preliminary hazard screening was undertaken in accordance with the SEPP (Resilience & Hazards) requirements to assess the storage and transport of dangerous goods that may have the potential to cause off-site impacts.

Dangerous goods identified on the site include:

- **Class 2.2 Non-Flammable, Non-Toxic Gases** associated with fire extinguishers and fire suppression systems;
- **Class 3 Flammable Liquids** comprising a 30,000L bunded diesel tank and 3,000L AdBlue tank associated with the existing operation;
- **Class 3 Flammable Liquids** including lubricating oils, hydraulic oils and grease stored in a 1,000L IBC and approximately 1,500L of oil drums within bunded storage areas.

The assessment determined that the quantities of dangerous goods stored and transported do not exceed the relevant hazard screening thresholds. As such, the proposal is considered suitable for ongoing use and does not require further detailed hazard analysis under the SEPP.

Local Government Act 1993 – Section 68

The site is currently serviced by three separate on-site sewage management systems (OSMS). In addition, wastewater generated from the amenities at the pre-cast shed is transferred via a pump station to the Aerated Wastewater Treatment System (AWTS) servicing the office building.

A separate Section 68 application has been submitted seeking approval to operate the existing on-site sewage management systems. Assessment of the systems has been undertaken concurrently with the development application.

Due to identified deficiencies and failures associated with the existing on-site sewage management systems, the applicant is currently progressing arrangements to connect the site to the reticulated sewer network, which will provide a more suitable long-term wastewater management solution for the development (HPE 26/95445).

Overall EHO conclusion

Environmental Health has reviewed the submitted Acoustic Assessments, Air Quality Impact Assessment, Environmental Impact Statement, Waste Management Plan and Environmental Management System.

The proposal involves an increase in annual production capacity from 30,000 tonnes per annum to 140,000tpa with no changes to proposed plant infrastructure, operating hours or the overall site layout.

The Air Quality Impact Assessment predicts compliance with the relevant assessment criteria at all sensitive receivers. The Noise Impact Assessment concludes that the proposed increase in production capacity is not expected to result in a measurable increase in operational noise impacts when compared with the existing approved operation.

The NSW EPA, as the ARA, has reviewed the proposal and issued General Terms of Approval addressing matters including air quality, water quality and environmental management.

Subject to compliance with the EPA's GTAs and conditions of consent, no objections raised from an Environmental Health perspective.

Conditions

ADMINISTRATIVE CONDITIONS

Production Limits

(XX) The proposal must not exceed the following production output of pre-mixed concrete:

Scenario	Tonnes	Cubic Meters
Maximum Daily Production	650 tonnes	260m^3
Maximum Yearly Production*	140,000 tonnes	56,000 m^3

**For the purpose of this condition, an average concrete density of 2.5 m^3 has been adopted*

Should the applicant seek to exceed these thresholds, a modification application or new development consent, as applicable, must first be obtained from Council.

(XX) The operator must maintain production records demonstrating compliance with this condition and make such records available to Council upon request.

CONDITIONS WHICH MUST BE SATISFIED DURING THE ONGOING USE OF THE DEVELOPMENT

Amenity

(XX) The premises and operation must be conducted in such a manner so as to not interfere unreasonably with the amenity of the adjoining lots by way of noise, vibration, smell, fumes, vapour, steam, soot, ash, dust, waste water, waste products, grit, oil and any other matter.

Hazardous goods

(XX) All hazardous or toxic materials must be stored, used or disposed of in a manner which does not harm the environment in accordance with sections 115 and 116 of the *Protection of the Environment Operations Act 1997* (NSW). The storage and handling of flammable and combustible liquids for use on the site shall be in accordance with Australian Standard AS1940-2017 – *The storage and handling of flammable and combustible liquids*.

Recording of pollution and environmental nuisance complaints

(XX) The occupier of the premises must keep a legible record of all complaints made to the operator or any employee or agent of the premises, in relation to pollution or environmental nuisance (i.e., noise, odour issues) arising from any activity to which this consent applies.

The record must include details of the following:

(a) The date and time of the complaint;
(b) The method by which the complaint was made;
(c) Any personal details of the complainant which were provided by the complainant, or if no such details were provided, a note to that effect;
(d) The nature of the complaint;
(e) The action taken by the occupier in relation to the complaint, including any follow-up contact with the complainant; and
(f) If no action was taken by the operator/occupier, the reason why no action was taken.

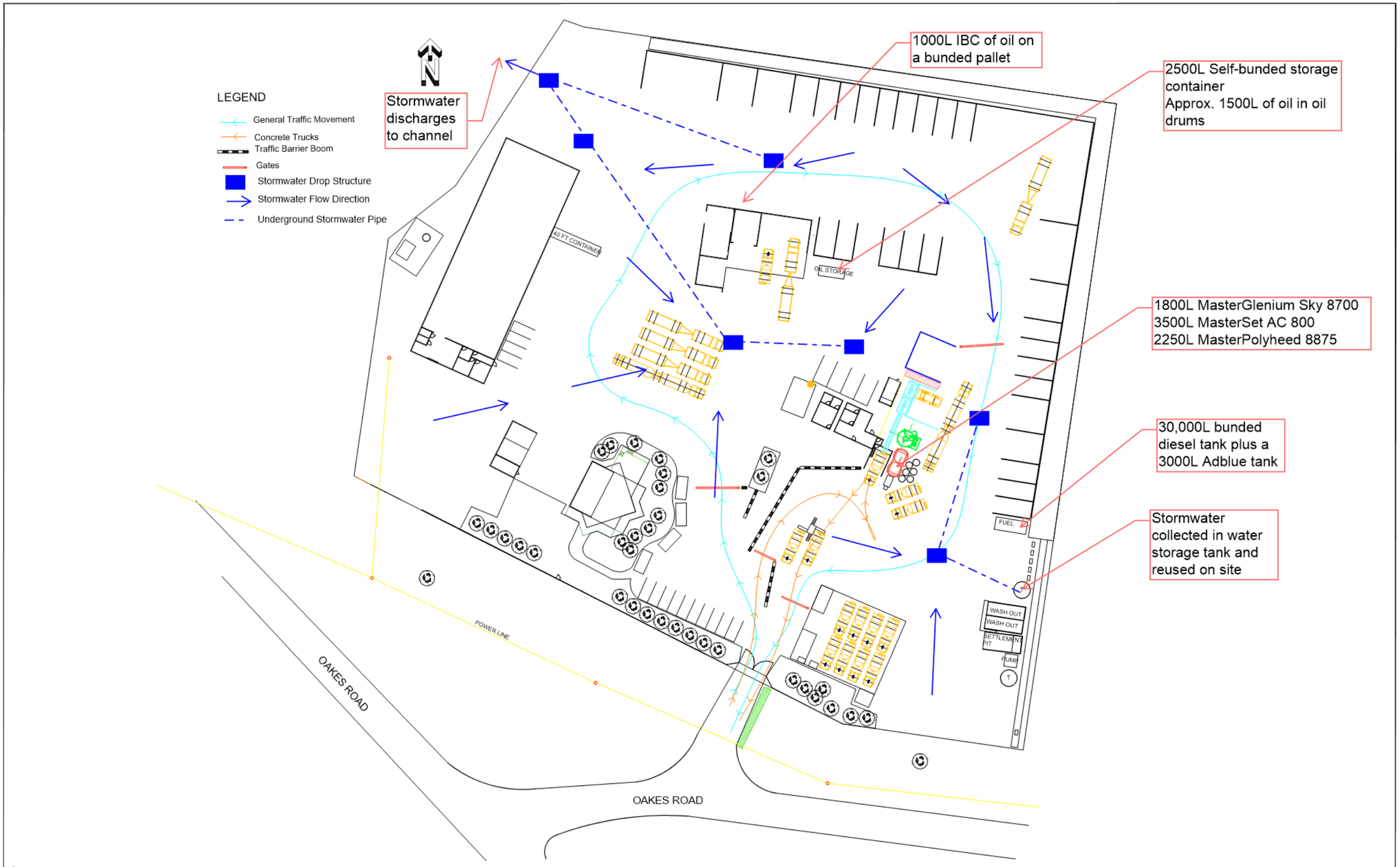
The record of a complaint must be kept for at least 4 years after the complaint was made.

The record must be produced to an authorised Council officer upon request.

(XX) All environmental management measures, mitigation measures and pollution control infrastructure identified in the approved plans, environmental assessments and supporting documentation submitted with the development application and approved by this consent but be implemented, maintained and operated for the life of the development, unless otherwise approved in writing by the consent authority.



LAURA VAN LIJF
ENVIRONMENTAL HEALTH OFFICER



© THESE DRAWINGS REMAIN THE PROPERTY OF E. B. MAWSON & SONS PTY LTD AND MAY NOT BE COPIED OR TRANSFERRED IN FULL OR IN PART WITHOUT THEIR EXPRESS PERMISSION.

MAWSONS Concrete & Quarries

E.B. MAWSON & SONS PTY LTD

141 KING GEORGE ST COHUNA, VIC 3568 P: 03 5456 2409 F: 03 5465 2428

NOTES:
UNLESS OTHERWISE STATED ALL DIMENSIONS IN MILIMETERS

REV NO:	DESCRIPTION	DATE:
1	UPDATED LAYOUT	04-12-2023
2	ADDITIONAL DETAILS ADDED	04-12-2023
3	UPDATED AS PER CHANGES DISCUSSED	26-02-2024

DRAWN.	JH	DRAWING NAME:	GRIFFITH SITE MAP - PROPOSED
CHECKED.	-	DRAWING NO:	DR01
APPROVED.	-	SHEET:	1/1
ISSUED.	-	REV:	-
SCALE:	1 : 800	SIZE:	A3
DATE:	04-12-2023		

Appendix D Compliance Assessment

Table 1 Griffith Development Control Plan Compliance Table

Controls	Comment	Compliance
No. 3 – Industrial Development (adopted 21/3/95)		
Buildings are to be setback a minimum of 10 metres from the front boundary, to cater for customer parking. A minimum of 25% of the area in front of buildings within the property is to be landscaped.	No additional buildings are proposed as part of the development.	N/A
Access, carparking, loading and unloading facilities, drainage and external construction works are to comply with Council's "Development Manual". A building line level (for the access) is to be obtained from Council.		Y
Vehicular access with a minimum of 3.5 metres for one way movement and 6.5 metres for two-way movement is to be provided.		
On site parking is to be provided in the ratio of 1 space for each 100m^2 of building and 1 space per employee. Customer parking is to be provided at the front of the building. A minimum of 2 spaces is to be provided at the front. Shade trees are to be provided to all external carparking areas.	A total of approximately forty-three (43) car parking spaces is approved to be provided on site, comprising 29 spaces (including two spaces for persons with a disability) as approved under DA 26/2025(1) within the Council road reserve along the Oakes Road per Condition 10, and approximately fourteen (14) car parking spaces existing on site. Parking is provided within informal unmarked areas adjacent to the main site office and main warehouse building nearby the access crossovers. The approved parking arrangements are sufficient to accommodate the proposed development, and no additional parking spaces are proposed.	Y

Controls	Comment	Compliance
The design of the building is to be functional for its intended purpose. The façade of the building when viewed from the street shall be stepped back or designed so as to provide architectural relief and reduce the impact of the building from the streetscape.	No additional building works are proposed as part of the development. The existing structures on site are sufficient to accommodate the proposed development.	N/A
Side and rear walls where not brick or the like are to be of precoloured metal cladding and should provide a satisfactory appearance when viewed from the street.	No building works are proposed.	N/A
Details in relation to pollution control, which meet the following criteria, are to be submitted with the building application:- a. Storage and disposal of trade waste are to be provided for in such a manner so as to cause no interference with the amenity of the area; b. Air impurities and emission levels are to be within the limits set by the regulations under the Clean Air Act; c. Noise emission meeting the requirements of the Noise Control Act and information in relation to plant, equipment, operating hours and measures to be taken to reduce noise are to be submitted; and d. Approval of the Department of Public Works is to be obtained prior to the acceptance of liquid wastes into the sewerage system and compliance with Council's "Standards for Acceptance of Liquid Trade Wastes"; e. In accordance with Council's Trade Waste Policy, the execution of an Agreement with Council for discharge to sewer.	Refer to the documentation appended to the EIS, as follows: a. Waste Management Plan (Appendix J) b. Air Quality Impact Assessment (Appendix G) c. Noise Impact Assessment (Appendix F) d. Not required – no liquid waste disposal into the sewerage system is proposed. e. Not required – no increase in discharge is proposed.	
A concept landscaping plan complying with Council's "Development Manual" is to be submitted with the Development Application. For a combined Building Application and Development Application a detailed plan is required.	No additional landscaping works are proposed.	N/A

SLR

Traffic Impact Assessment

Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

127 Oakes Road
Griffith NSW 2680

Prepared by:

SLR Consulting Australia

Level 16, 175 Eagle Street, Brisbane QLD 4000,
Australia

SLR Project No.: 630.032127.00003

5 December 2025

Revision: 01

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	5 December 2025	Mitchell Else	Chris Lawlor	Chris Lawlor
	Click to enter a date.			
	Click to enter a date.			
	Click to enter a date.			
	Click to enter a date.			

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with E.B. Mawsons & Sons Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Table of Contents

Basis of Report i
1.0 Introduction 1
1.1 Context 1
1.2 Assessment Scope 1
1.3 Planning Application 1
1.4 SEARs Assessment Requirements 2
2.0 Existing Conditions 3
2.1 Site Location 3
2.2 Surrounding Road Network 4
2.2.1 Key Roads 4
2.2.2 Road Network Planning 4
2.3 Existing Development Consents 5
2.4 Development Consent for 25 & 35 Old Willbriggie Road 5
3.0 Proposed Development 6
3.1 Development Summary 6
3.2 Proposed Traffic Arrangements 7
4.0 Internal Design Considerations 8
4.1 Overview 8
4.2 Site Access 8
4.3 Car Parking 9
4.3.1 Provision 9
4.3.2 Design 9
4.4 Servicing Arrangements and Internal Circulation 10
5.0 Assessed Traffic Demands 11
5.1.1 Existing Traffic Demands 11
5.2 Background Traffic Demands 11
5.3 Development Traffic Demands 12
5.3.1 Key Operational Assumptions 12
5.3.2 Development Peak Traffic Demand 12
5.4 External Distribution 13
6.0 Operational Assessment 14
6.1 Study Intersections 14
6.2 Assessment Scenario 15
6.3 Performance Criteria 15

6.3.1 Degree of Saturation 15
6.3.2 Critical Delay 16
6.4 Intersection Assessment 17
6.4.1 Old Willbriggie Road/Oakes Road Intersection 17
6.4.2 Oakes Road/Site Access 18
6.4.3 Kurrajong Avenue/Oakes Road Intersection 19
6.5 State Intersections 20
6.6 Mitigation Measures 20
7.0 Safety Considerations 21
7.1 Site Access 21
7.2 Old Willbriggie Road/Oakes Road Intersection 21
8.0 Summary and Recommendations 22

Tables

Table 1 SEARs 2033 Traffic and Transport Requirements 2
Table 2 Key Roads 4
Table 3 Development Consent History 5
Table 4 Development Operational Summary 6
Table 5 Development Peak Hour Traffic Demands 12
Table 6 Adopted External Trip Distribution 13
Table 7 Degree of Saturation Thresholds 15
Table 8 Critical Delay Thresholds 16
Table 9 SIDRA Outputs: Old Willbriggie Road/Oakes Road 17
Table 10 SIDRA Outputs: Oakes Road/Site Access 18
Table 11 SIDRA Outputs: Kurrajong Avenue / Oakes Road 19
Table 12 CBP Proportional Traffic Demand at Old Willbriggie Road/Oakes Road 21

Figures

Figure 1 Subject Site 3
Figure 2 Site Access Upgrade - Conceptual Layout 7
Figure 3 Study Intersections 14
Figure 4 Old Willbriggie Road/Oakes Road – Existing Form 17
Figure 5 Oakes Road/Site Access – Existing Form 18
Figure 6 Kurrajong Avenue / Oakes Road – Existing Form 19

Appendices

Appendix A Approved Plans
Appendix B Extracts of Consent No. 41/2024.1
Appendix C Site Access Upgrade Concept & Swept Path Assessments
Appendix D Turn Warrant Assessment
Appendix E Traffic Surveys
Appendix F Assessment Traffic Volumes
Appendix G Detailed SIDRA Outputs

1.0 Introduction

1.1 Context

SLR Consulting Australia Pty Ltd (**SLR**) has been engaged by E.B. Mawsons & Sons Pty Ltd (**Mawsons**) to provide traffic engineering advice in relation to the Development Application (**DA**) to increase the operations of the existing Griffith Concrete Batch Plant (**CBP**) located at 127 Oakes Road, Griffith, NSW. Plans for the development, which have previously been approved by Griffith City Council (**Council**) as part of Consent No. 17/2025(1) (**Approved Plans**), are included at **Appendix A**.

1.2 Assessment Scope

This Traffic Impact Assessment (**TIA**) report has been prepared to inform assessment of the DA by Council and Transport for NSW (**TfNSW**) by identifying and addressing the relevant traffic and transport matters.

Secretary's Environmental Assessment Requirements (**SEARs**) have been issued by the Department of Planning, Housing and Infrastructure (**DPHI**) for the Environmental Impact Statement (**EIS**) which is required to accompany the DA. SEARs 2033 dated 6 November, 2025, which has been prepared in consultation with TfNSW, identifies a number of traffic and transport assessment requirements, which are reproduced in **Section 1.4** of this report.

1.3 Planning Application

This TIA has been prepared as supporting information to accompany a DA from Mawsons, seeking an expansion under Part 4 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**). In summary, the DA seeks approval to increase the production limits of the CBP from 30,000 tonnes per annum (**tpa**) to 140,000tpa. Mawsons has advised SLR that the proposed maximum production is a conservative approach to provide for operational flexibility to respond to large projects, and the average annual and daily production is anticipated to be significantly less.

1.4 SEARs Assessment Requirements

The SEARs 2033 traffic and transport assessment requirements, including TfNSW input, are reproduced in **Table 1** along with a response as to how each requirement has been addressed herein.

Table 1 SEARs 2033 Traffic and Transport Requirements

Assessment Requirement	Report Section
Details of road transport routes and access to the site	• Section 4.2 (Site Access) • Section 7.0 (Safety Considerations)
Road traffic predictions for the development during construction and operation	• Section 5.3 (Development Traffic Demands) • Appendix F (Assessment Traffic Volumes)
Consideration of any potential cumulative impacts to the surrounding road network, and in particular the intersections of Oakes Road with Jondaryan Avenue (Kidman Way) and Lenehan Road with Banna Avenue (Burley Griffin Way)	• Section 5.3 (Development Traffic Demands) • Section 6.5 (State Intersections)
Swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site	• Section 4.4 (Servicing Arrangements and Internal Circulation) • Appendix C (Site Access Upgrade Concept & Swept Path Assessments)
An assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development	• Section 6.0 (Operational Assessment) • Section 7.0 (Safety Considerations)

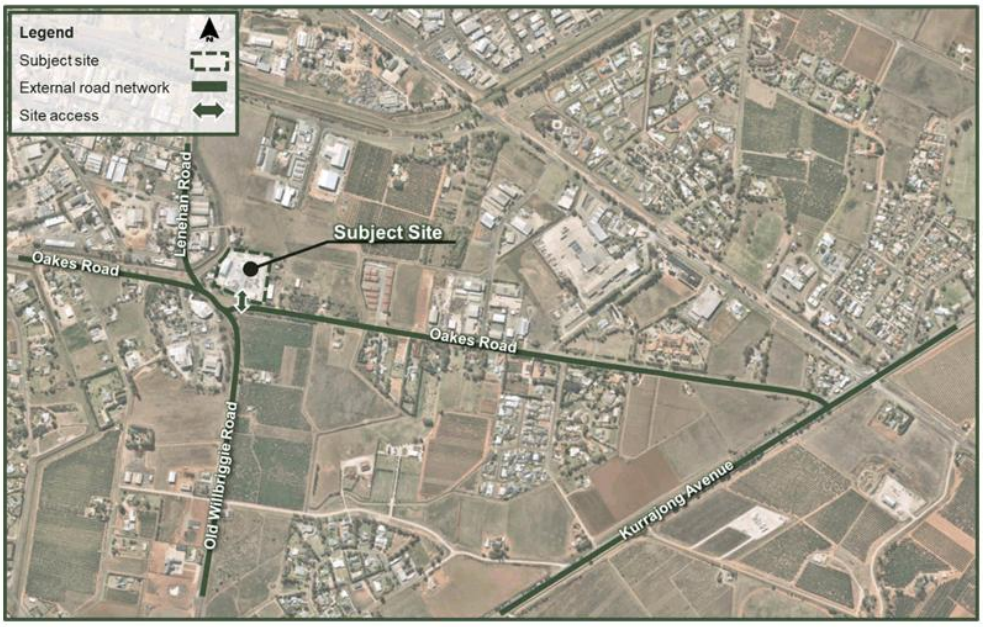
2.0 Existing Conditions

2.1 Site Location

The subject site, facilitating an existing CBP operation, is located at 127 Oakes Road, Griffith. The site is situated on the corner of Old Willbriggie Road and Oakes Road, Griffith, and is formally described as Lot 1 on DP1181518.

The site is zoned as 'IN1 General Industry' under the provisions of the Council's *Local Environmental Plan* (**LEP**) and is surrounded by other general industry uses. The site is shown in the context of the local area on **Figure 1**.

Figure 1 Subject Site



Source: Nearmap. Note, site bounds and locations indicative only.

Vehicular access to the CBP is currently achieved via a single, sealed driveway crossover to Oakes Road, which is approximately 8m in width at the property boundary.

2.2 Surrounding Road Network

2.2.1 Key Roads

Details of the key roads surrounding the subject site are provided in **Table 2**.

Table 2 Key Roads

Road Name	Authority	Existing form	Posted Speed	NHVR[1] Gazettal – Permitted Heavy Vehicle Types
Oakes Road	Council	Single carriageway with rural cross section (swales) and ~7m wide sealed pavement	60km/h (at the site frontage)	GML[2] & CML[3] 26m B-doubles
Old Willbriggie Road	Council	Single carriageway with rural cross section (swales) and ~6.5m wide sealed pavement	60km/h (in the vicinity of Oaks Road)	GML & CML 26m B-doubles
Kurrajong Avenue	Council	Single carriageway with rural cross section (swales) and ~8.5m wide sealed pavement	60km/h (in the vicinity of Oakes Road)	GML & CML 26m B-doubles

[1]National Heavy Vehicle Regulator
[2]General Mass Limit
[3]Concessional Mass Limit

2.2.2 Road Network Planning

A review of publicly available State and Council infrastructure planning has been undertaken to identify any planned upgrades of the transport networks surrounding the subject site.

The review indicates that works are currently being undertaken by Council for Stage 3 of the *Griffith Southern Industrial Link* which requires the closure of Kurrajong Avenue between Oakes Road and the Kurrajong Avenue/Old Willbriggie Road/Watkins Avenue/Thorne Road roundabout until February 2026. These works are not expected to significantly impact on the subject site (i.e. in the development scenario), however, have impacted on traffic surveys undertaken at the Kurrajong Avenue/Oakes Road intersection as discussed in **Section 5.1** herein.

Additionally, it is noted that a nearby development approval (Council ref: 41/2024.1 will upgrade Oakes Road proximate to the subject site as discussed in **Section 2.4** herein.

2.3 Existing Development Consents

The CBP is operating under Development Consent 258/82, granted on 04 January 1983, with various subsequent development consents approved by Council as summarised in **Table 3**.

Table 3 Development Consent History

Consent No.	Description	Determination
493/2005(2)	Constructing a shed for the purpose of pre-cast concrete panel manufacturing & an office & a carport & a storage structure	Approved 20/08/2010
193/2012(1)	Construction of a fixed wireless broadband telecommunications facility	Approved 12/02/2013
40/2015(1)	Truck shelter and storage	Approved 27/04/2015
40/2015(2)	Modification of Consent - Truck shelter and storage	Approved 28/10/2016
102/2019(1)	Extension of awning at front of existing workshop and carport type awning for cover over a hot works (welding) area	Approved 04/07/2019
26/2025(1)	Construction of a carpark on a portion of the road reserve adjoining Lot 1 DP 1181815, Oakes Road	Approved 11/04/2025
18/2025(1)	Demolition works & construction of a replacement roof on double storey administration building	Approved 14/03/2025
17/2025(1)	Demolition Works, Alterations & Additions to an Existing Structure	Approved 23/05/2025

As detailed in the table above, the most recent consent (Council ref: 17/2025(1)) for the Site, approved on 23 May 2025, was for '*Demolition Works, Alterations & Additions to a concrete batching plant*.' Specifically, the works comprised the demolition and removal of plant/equipment and the installation of new plant/equipment associated with the existing concrete batching operation.

2.4 Development Consent for 25 & 35 Old Willbriggie Road

There is a recent development consent for the lot opposite the subject site on 23 & 35 Old Willbriggie Road for a 1 lot into 28 lots residential subdivision (Council ref: 41/2024(1)). As part of the conditions of consent for this application, Conditions 26 and 27 require upgrading Oakes Road to a collector road standard in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standard*s. The extent of these upgrades on southern side of Oakes Road covers the full frontage of 23 & 35 Old Willbriggie Road. The northern extent is from for a minimum length of 35 metres either side of the centreline of the proposed site access to Oakes Road. Based on the available plans (i.e. showing the proposed location of the site access), it is understood that the required upgrades on the northern side of Oakes Road would approximately extend to Oakes Road in line with the eastern boundary of the subject site.

An extract of the relevant conditions from the adjacent site's Notice of Determination is included at **Appendix B.**

3.0 Proposed Development

3.1 Development Summary

The DA seeks approval to increase the existing production limit of the CBP from 30,000tpa to 140,000tpa. A summary of the development's proposed operational details of relevance from a traffic engineering perspective is provided in **Table 4**.

Table 4 Development Operational Summary

Element	Details
Land use	Concrete Production Facility
Existing concrete production	Annual: 30,000tpa
Proposed concrete production	Annual (tpa): 140,000tpa Annual (m^3)[1]: 56,000 m^3 Daily (average tonnes): 195t Daily (average m^3)[1]: 78m^3 Daily (max m^3)[1]: 260m^3
Hours of operation	12 hours a day, six (6) days a week
Operational days per year	300 days
Site based staff	Up to 27 staff (includes managers, production personnel and drivers)
Car parking provision	43 car parking spaces, inclusive of two (2) spaces for Persons with a Disability (PWD)
Largest anticipated design vehicle	26m B-double
Design vehicle for concrete export	7.5m^3 concrete agitator (4 axle rigid truck)

[1] Density of concrete is assumed to be 2.5 tonnes / m^3.

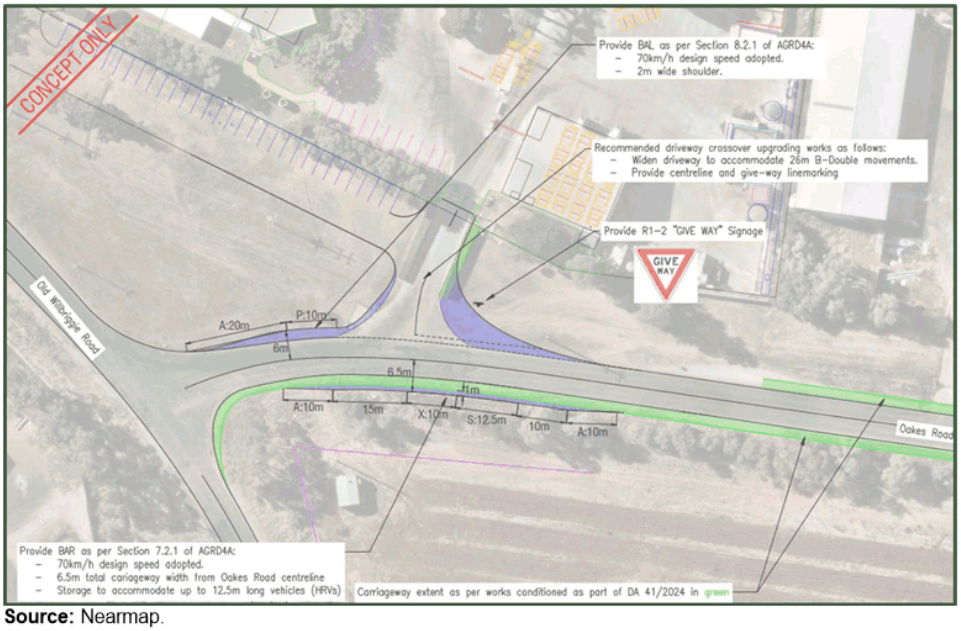
3.2 Proposed Traffic Arrangements

No changes to the site's internal traffic arrangements are proposed (i.e. compared to that reflected on the Approved Plans included at **Appendix A**). Vehicular access to the development will be achieved via a modified configuration of the existing driveway crossover on Oakes Road. The proposed modifications include the following:

- The driveway crossover will be widened to accommodate left in/left out only movements by 26m B-doubles (**B-double**) and all-movements by vehicles up to Heavy Rigid Vehicle (**HRV**) size. It is proposed that access for all articulated heavy vehicle types (i.e. including truck and dogs, semis and B-doubles) will be restricted to left in/left out only to deal with the constrained designs of adjacent intersections;
- Basic Left (**BAL**) and Basic Right (**BAR**) turn treatments will be provided at the site access on Oakes Road.

A concept plan showing the recommended upgrades to the site access has been prepared and is included at **Appendix C** and is reproduced on **Figure 2** for ease of reference.

Figure 2 Site Access Upgrade - Conceptual Layout



Source: Nearmap.

The Approved Plans accommodate:

- Circulation by vehicles up to B-double size in a clockwise direction;
- 43 car parking spaces, inclusive of two (2) PWD spaces;
- Areas within the site for heavy vehicles to store, suitable to accommodate vehicles up to HRV size.

4.0 Internal Design Considerations

4.1 Overview

A review of the proposed internal traffic arrangements, as shown on the development plans included at **Appendix A**, was undertaken against the following relevant documents:

- Council *Development Control Plan No.3 – Industrial Development 1995* (**DCP 03**);
- Council *Development Control Plan No.20 – Off Street Carparking 2011*(**DCP 20**);
- *Engineering Guidelines for Subdivisions and Development Standards – Amended May 2016*
- Australian Standards for Parking facilities *Part 1: Off-street car parking* (**AS2890.1**);
- Australian Standards for Parking facilities *Part 2: Off-street commercial vehicle facilities* (**AS2890.2**).

4.2 Site Access

The following is noted in relation to the proposed design of the site access arrangements:

- The driveway crossover has been designed to accommodate to accommodate left in/left out only movements B-doubles and all-movements by vehicles up to HRV size;
- Approximately 30m separation is provided between the western edge of the modified driveway crossover and the Old Willbriggie Road/Oakes Road intersection, which exceeds the minimum separation required by both AS2890 and Council's DCP 20 (i.e. minimum of 6m separation required);
- The modified driveway crossover provides a minimum of 100m of sight distance in either direction along Oakes Road, readily satisfying the relevant AS2890.2 requirement (i.e. minimum of 83m required for a 60km/h posted speed);
- A turn warrant assessment has been undertaken based on the Austroads Guide to Traffic Management *Part 6: Intersections, Interchanges and Crossings Management* (**AGTM6**). The assessment, a summary of which is included at **Appendix D**, indicates that BAL and BAR turning treatments are required;
- As per the conceptual layout sketch provided at **Appendix C**, the modified driveway crossover will be supported by BAL and BAR turning treatments designed for a 70km/h design speed in accordance with *Section 7.2.1* and *Section 8.2.1* of Austroads Guide to Road Design *Part 4A: Unsignalised and Signalised Intersections* (**AGRD4A**) respectively. A HRV has been adopted as the design vehicle for the BAR treatment given the proposed access restrictions;
- Approximately 45m queuing provision is provided between the site boundary and the entry boom gate, which readily accommodates the length of the largest anticipated design vehicle (i.e. up to 26m).

Based on the above, the proposed driveway satisfies the requirements from AS2890 and Council's DCPs and is therefore considered suitable from a traffic engineering perspective.

4.3 Car Parking

4.3.1 Provision

The DCPs have differing car parking requirements for an industrial use, with DCP 03 requiring one (1) space per employee and a minimum of two (2) spaces for customers, and DCP 20 requiring one (1) space per 100m^2 Gross Floor Area (**GFA**), with a minimum of two (2) spaces per tenancy.

Notwithstanding, given the limited GFA provided for the proposed use, application of the DCP rates would be impractical in this instance (i.e. the site's practical car parking demands are likely to significantly exceed the DCP rates), and hence the developments peak car parking demands have been considered based on the developments proposed operational details for staff and the DCP rates for visitors.

Based on a maximum of 27 site-based staff and up to two (2) visitors on-site at any one time, the development's peak car parking demand would be for up to 29 spaces at any one time. The car parking provision of 43 spaces (inclusive of 2 PWD spaces) shown on the Approved Plans is therefore sufficient to accommodate the development's peak demand for up to 29 car parking spaces and also readily satisfies the relevant DCP requirements.

4.3.2 Design

Although no changes to the car parking layout shown on the Approved Plans are proposed, a review indicates that the approved configuration allows for 90 degrees car parking spaces which are 5.4m in length by 2.5m in width, accessed by a 7.0m aisle, which are suitable to accommodate parking by user classes 1 and 2 in accordance with *Figure 2.2* of AS2890.1.

4.4 Servicing Arrangements and Internal Circulation

Council's Engineering Guidelines for Subdivisions and Development Standards requires that for all industrial developments over 500m² or greater, a turning circle will be required to accommodate a Large Rigid Truck for access to the loading bay/service area or the largest vehicle expected to access the site.

Swept path assessments are included at **Appendix C**, demonstrating that B-doubles can access and circulate around the site providing the clearances in excess of that required by *Clause 5.4* (Manoeuvring clearances) of AS2890.2 (i.e. 300mm on both sides of the vehicle plus an additional 300mm on the outside of curves);

Based on the above, the design of servicing and internal circulation arrangements satisfies the relevant AS2890.2 and DCP requirements.

5.0 Assessed Traffic Demands

5.1.1 Existing Traffic Demands

To establish existing traffic demands on the road network surrounding the site, SLR commissioned Traffic Information Specialist (**TIS**) to conduct traffic surveys on Thursday 7th August 2025 between 6AM and 6PM at the following intersections:

- Old Willbriggie Road/Oakes Road;
- Oakes Road/Site Access;
- Kurrajong Avenue/Oakes Road.

Based on traffic survey data, it was established that the network peak hours were:

- AM peak hour: 8:00AM – 9:00AM;
- PM peak hour: 2:45PM – 3:45PM.

A copy of the undertaken traffic surveys is included at **Appendix E.**

5.2 Background Traffic Demands

The operational assessment documented herein has considered background traffic demands generated by the following components:

- **Surveyed traffic demands**: Weekday AM and PM peak hour intersection surveys of the subject intersections from 2025, included at **Appendix E**; and
- **Background traffic growth:** A 2% p.a. linear background traffic growth rate has conservatively been adopted to simulate potential background development within the study area.

As discussed in **Section 2.2.2** herein, the southern leg of Kurrajong Avenue/Oakes Road intersection is closed until February 2026, which has impacted on the surveyed traffic volumes by redistributing traffic from Kurrajong Avenue/Oakes Road intersection to Old Willbriggie Road / Oakes Road intersection via detours. To estimate the regular/non-redistributed traffic at the surveyed intersections, the following assumptions were adopted:

- Vehicles surveyed turning right into Oakes Road from Kurrajong Avenue (to the north) at the Kurrajong Avenue/Oakes Road intersection and then also turning left into Old Willbriggie Road (to the south) from Oakes Road at the Oakes Road/Old Willbriggie Road intersection have been redistributed so that 95% of the right turn movements were reassigned to head southbound on Kurrajong Avenue;
- Vehicles surveyed turning right into Oakes Road from Old Willbriggie Road (to the south) at the Oakes Road/Old Willbriggie Road intersection and then also turning left into Kurrajong Avenue from Oakes Road at the Kurrajong Avenue/Oakes Road intersection have been redistributed such that 95% of these movements were resigned to head northbound along Kurrajong Avenue.

Based on the above reassignments, the 'synthesised' traffic volumes adopted for this assessment are included at **Appendix F.**

5.3 Development Traffic Demands

5.3.1 Key Operational Assumptions

It has been assumed that the year of opening for the proposed production limit increase is 2026 and therefore a 10-year design horizon of 2036 has been assumed.

For the purpose of the traffic assessment, the daily production that has been adopted is 650 tonnes per day (equivalent to 260m^3 of concrete) which is consistent with operational information provided for a one-time maximum production day during the year. This approach is expected to be conservative as the CBP will rarely be producing the upper limit of 650 tonnes per day.

5.3.2 Development Peak Traffic Demand

The traffic surveys used to inform the traffic assessment were undertaken on a day that the CBP exported 186.6 m^3 of concrete. It has been assumed that all existing material import and export movements captured by the traffic surveys (i.e. all heavy vehicle movements) will increase linearly to match the traffic demand of a maximum production day (260m^3). Therefore, surveyed heavy vehicle movements at the site access have been multiplied by a factor of 1.4 (260/186.6m = 1.39) to estimate future traffic demands.

With regard to light vehicle movements, given that staff numbers will not change as part of the DA, it is expected that the number of light vehicle trips will remain consistent with the existing situation.

Based on the above commentary, the development's existing and (estimated) proposed peak hour traffic demands are summarised in **Table 5.**

Table 5 Development Peak Hour Traffic Demands

Scenario	AM peak hour		PM peak hour	
	Light vehicles	Heavy vehicles	Light vehicles	Heavy vehicles
Existing (186.6m^3 on survey day)	10vph	4vph	18vph	6vph
	14vph		**24vph**	
Proposed (260m^3 one-time maximum day)	10vph	6vph	18vph	8vph
	16vph		26vph	
Incremental increase	***+0vph***	***+2vph***	***+0vph***	***+2vph***
	+2vph		***+2vph***	

vph = vehicles per hour

Table 5 indicates that the proposed increase in production could result in an additional 2vph during peak hour periods (i.e. on the busiest production day of the year), equivalent to (one) 1 additional vehicle trip every 30 minutes. This level of increase in traffic demand is immaterial from a traffic engineering perspective; however, the operation of key study intersections has been assessed in any case.

5.4 External Distribution

The external distribution of vehicle trips adopted for the purposes of the operational assessment herein, which is consistent that surveyed, is summarised in **Table 6**.

Table 6 Adopted External Trip Distribution

Direction	Proportion
East via Oakes Road	25%
Northwest via Old Willbriggie Road	64%
Southwest via Old Willbriggie Road	11%
Total	**100%**

Reflective of all assumptions documented above, the traffic volumes utilised for the operational assessment are included at **Appendix F**.

6.0 Operational Assessment

6.1 Study Intersections

A detailed analysis of the impacts of the additional traffic demands generated by development on the operation of the external road network has been undertaken at the three (3) locations identified on **Figure 3**.

Figure 3 Study Intersections



ID	Intersection	Intersection Form	Authority
1	Old Willbriggie Road/Oakes Road		Council
2	Oakes Road/Site Access		Council
3	Kurrajong Avenue/Oakes Road		Council

Source: Nearmap

6.2 Assessment Scenario

An operational assessment of study intersections has been undertaken for the following assessment scenarios:

- **'2036 background':** To establish the baseline operational performance at the 10-year design horizon in the absence of the development;
- **2036 'Background With Development':** To identify the marginal impact of development generated traffic demands at the 10-year design horizon.

The operation of the road network has been assessed for the above scenario during both the weekday AM and PM peak hour periods in SIDRA Intersection. Assessment traffic volumes are included at **Appendix F.**

6.3 Performance Criteria

Study intersections have been assessed in SIDRA Intersection; an industry recognised analysis tool used to estimate the capacity and performance of intersections based on input parameters, including geometry and traffic volumes. SIDRA Intersection provides an estimate of an intersection's Degree of Saturation (**DOS**), queues and delays. The performance thresholds adopted for the operational assessment reported herein are detailed below.

6.3.1 Degree of Saturation

The maximum DOS thresholds identified by the Austroads Guide to Traffic Management *Part 12: Integrated Transport Assessments for Developments* (**AGTM12-20**) for each intersection type are reproduced in **Table 7**.

Table 7 Degree of Saturation Thresholds

Intersection Type	DOS Threshold
Signalised intersections	Less than or equal to 0.90
Roundabouts	Less than or equal to 0.85
Priority-controlled intersections	Less than or equal to 0.80

DOS values exceeding those presented in **Table 7** indicate that an intersection is nearing its practical capacity and upgrade works may be required. Above these threshold values, users of the intersection are likely to experience rapidly increasing delays and queuing.

6.3.2 Critical Delay

The RMS (now TfNSW) *Guide to Traffic Generating Developments* (2002) recommends that the average delay statistic for the critical movement provides a better indication of intersection performance and safety for roundabouts and priority-controlled intersections than DOS. A summary of the delay thresholds recommended by TfNSW is provided in **Table 8**.

Table 8 Critical Delay Thresholds

LOS	Description	Critical Delay (sec/vehicle)
A	Good operation	< 14 sec
B	Acceptable delays and spare capacity	15 - 28 sec
C	Satisfactory	29 - 42 sec
D	Near capacity	43 - 56 sec
E	At capacity, requires other control mode	57 - 70 sec

6.4 Intersection Assessment

6.4.1 Old Willbriggie Road/Oakes Road Intersection

The Old Willbriggie Road/Oakes Road intersection is a priority-controlled T-intersection. The assessed SIDRA layout of the intersection is shown on **Figure 4**. The results of the SIDRA assessment are presented in **Table 9**. Detailed SIDRA outputs are provided at **Appendix G**.

Figure 4 Old Willbriggie Road/Oakes Road – Existing Form



Source:Nearmap

Table 9 SIDRA Outputs: Old Willbriggie Road/Oakes Road

Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Critical Delay	95th %ile Queue	DOS	Critical Delay	95th %ile Queue
2036 BG	0.20	8 sec	5m	0.20	8 sec	5m
2036 BG + DEV	0.20	8 sec	5m	0.21	8 sec	5m

Table 9 identifies that the existing intersection layout performs well within typically adopted performance (i.e. DOS of 0.80 for a priority-controlled intersection) and safety (i.e. critical delay of 57 seconds or less) thresholds for all assessed scenarios.

6.4.2 Oakes Road/Site Access

The Oakes Road/Site Access is currently a priority-controlled driveway crossover. The assessed SIDRA layout of the site access is shown on **Figure 5**. The results of the SIDRA assessment are presented in **Table 10**. Detailed SIDRA outputs are provided at **Appendix G**.

Figure 5 Oakes Road/Site Access – Existing Form



Source: Nearmap

Table 10 SIDRA Outputs: Oakes Road/Site Access

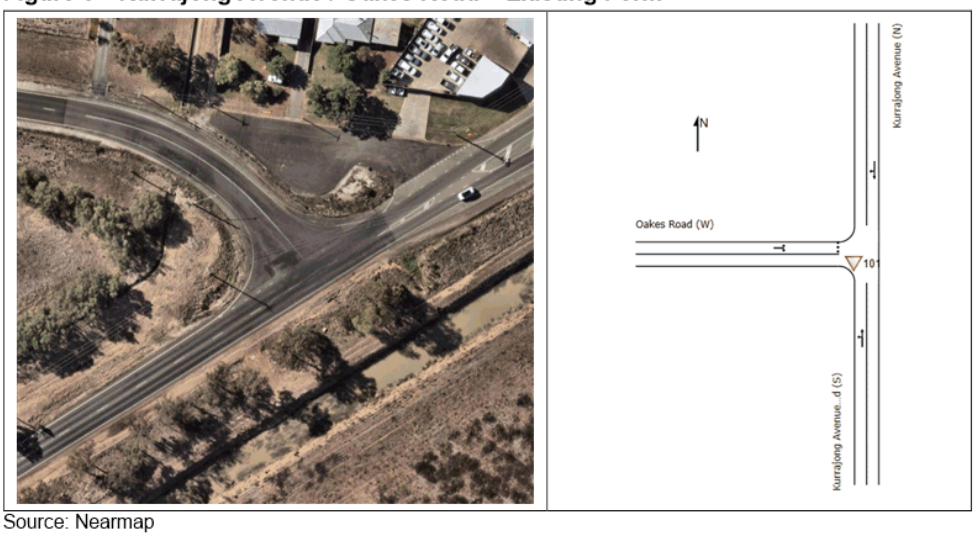
Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Critical Delay	95th %ile Queue	DOS	Critical Delay	95th %ile Queue
2036 BG	0.09	7 sec	1m	0.08	7 sec	1m
2036 BG + DEV	0.09	7 sec	1m	0.08	7 sec	1m

The SIDRA analysis summarised in **Table 10** identifies that the site access performs well within typically adopted performance (i.e. DOS of 0.80 for a priority-controlled intersection) and safety (i.e. critical delay of 57 seconds or less) thresholds for all assessed scenarios.

6.4.3 Kurrajong Avenue/Oakes Road Intersection

The Kurrajong Avenue/Oakes Road intersection is a priority-controlled T-intersection. The assessed SIDRA layout of the intersection is shown on **Figure 6**. The results of the SIDRA assessment are presented in **Table 11**. Detailed SIDRA outputs are provided at **Appendix G**.

Figure 6 Kurrajong Avenue / Oakes Road – Existing Form



Source: Nearmap

Table 11 SIDRA Outputs: Kurrajong Avenue / Oakes Road

Scenario	AM Peak Hour			PM Peak Hour		
	DOS	Critical Delay	95th %ile Queue	DOS	Critical Delay	95th %ile Queue
2036 BG	0.07	7 sec	3m	0.07	7 sec	2m
2036 BG + DEV	0.07	7 sec	3m	0.07	7 sec	2m

The SIDRA analysis summarised in **Table 11** identifies that the existing intersection layout performs well within typically adopted performance (i.e. DOS of 0.80 for a priority-controlled intersection) and safety (i.e. critical delay of 57 seconds or less) thresholds for all assessed scenarios.

6.5 State Intersections

As per SEARs 2033 (refer to **Table 1**), TfNSW has requested the '*consideration of any potential impacts potential cumulative impacts to the surrounding network*' at the following locations (collectively referred to as the **State intersections**):

- Jondaryn Avenue (Kidman Way)/Oakes Road intersection;
- Banna Avenue (Burley Griffin Way)/Oakes Road intersection.

In that regard, the following is noted:

- As discussed in **Section 5.3.2**, the proposed expansion will generate up to nine (9) additional trips (i.e. across the entire road network) within the peak hour periods during the busiest production day of the year. On an average production day, the development's traffic demand will be equivalent to that assessed under the 'background' traffic scenarios;
- The additional peak hour traffic demands generated by the proposed production increase will be dispersed widely across the surrounding road network. Given the remoteness of the State intersections from the subject site, it is expected that the proposed expansion could result in up to one (1) to two (2) additional trips during peak hour periods on peak production days, and no additional traffic on average production day.

Based on the above commentary, the proposed increase in production is expected to introduce negligible additional traffic demands at the State intersections, and hence the development's traffic impacts at these locations will be immaterial. Accordingly, no operational analysis or further consideration of the State intersections is warranted.

6.6 Mitigation Measures

Based on the results of the operational assessment presented above, it is evident that the existing road network and site access have sufficient capacity to accommodate the conservative development traffic scenario assessed herein. On this basis, no additional measures are considered necessary to offset the operational impacts of traffic associated with the development.

7.0 Safety Considerations

7.1 Site Access

It is considered that the implementation of the site access upgrades recommended herein (refer to **Section 4.2** and **Appendix C**), combined with the restriction of site access movements by articulated vehicles to left in/left out only (note, all-movements are to be maintained for all other vehicle types), would result in a significant improvement in the safety of the site access compared with the existing situation.

To reinforce the above, it is recommended that the development be conditioned to prepare an operational traffic management plan, to be implemented prior to the commencement of increased operations, which includes details of the following (at a minimum):

- Transport routes on the wider road network to be used by articulated vehicles in order to ensure left in/left out only movements at the site access;
- Driver training and site induction processes.

7.2 Old Willbriggie Road/Oakes Road Intersection

Mawson's attended a pre-lodgement meeting with Council officers on 9 October 2025 whereby Council advised the following of note in relation to the Old Willbriggie Road/Oakes Road intersection:

- Council is aware of the existing design constraints at the subject intersection and would not expect Mawsons to undertake any upgrades at this location as part of a DA;
- The above would be supported by evidence demonstrating that the Mawson's CBP are minority users of the above intersection, and it would also benefit to restrict site access movements for articulated vehicles to left in/left out only (i.e. to minimise right turns at the subject intersection and also remove conflicts due to long vehicles turning right out of the site access).

With respect to Council's latter request, this is proposed to be addressed by implementation of an operational traffic management plan and detailed in **Section 7.1**.

With regard to the Council's former request item, based on the adopted assessment traffic volumes included at **Appendix F**, a summary of the development's expected peak hour traffic demands (i.e. for the proposed maximum production day) proportional to the total intersection traffic demands is provided in **Table 12**.

Table 12 CBP Proportional Traffic Demand at Old Willbriggie Road/Oakes Road

Peak hour	Total vehicles (2036)	CPB vehicles	Proportion
AM	643vph	12vph	1.9%
PM	703vph	24vph	3.4%

Table 12 indicates that development traffic is expected to make up between 2-3% of total intersection traffic demands during peak hour periods, confirming that the development is a minority user of the intersection, and hence supporting no upgrades of the intersection consistent with Council's guidance.

8.0 Summary and Recommendations

SLR has been engaged by Mawsons to provide traffic engineering advice in relation to a DA to increase the operations of the existing Griffith CPB. Approved plans are included at **Appendix A**.

Based on the assessment documented herein, the following is concluded:

- Whilst no changes to the internal traffic arrangements shown on the Approved Plans are proposed, the car parking and loading provisions indicated thereon are considered sufficient to accommodate the peak demands anticipated to be generated by the development and hence readily satisfy the relevant DCP requirements;
- The design of the proposed site access and internal traffic arrangements satisfy the relevant AS2890 criteria, and are therefore considered to be appropriate;
- The proposed increase in production could result in an additional 2vph during peak hour periods (i.e. on the busiest production day of the year), equivalent to (one) 1 additional vehicle trip every 30 minutes. This level of increase in traffic demand is immaterial from a traffic engineering perspective;
- The operational assessment conducted herein demonstrates that the site access and assessed external intersections will operate well within acceptable performance levels under the 'With Development' traffic scenario at the 2036 design horizon;
- It is recommended that the existing site access to Oakes Road be upgraded to facilitate left in and left out movements by vehicles up to B-doubles and all-movements by HRV's, including widening of the driveway crossover and provision of BAR and BAL turning treatments;
- It is recommended that the development be conditioned to prepare an operational traffic management plan, to be implemented prior to the commencement of the increased operations. At a minimum, the operational traffic management plan should provide details of the transport routes on the wider road network to be used by articulated vehicles in order to ensure left in/left out only movements at the site access and should also include details of driver training and site induction processes;
- The additional traffic demands generated by the expansion of operations are not anticipated to impact on the safety of the surrounding transport networks compared with the existing situation, and therefore no further upgrades of the external transport networks (i.e. beyond the proposed upgrade of the site access to Oakes Road) are considered to be warranted to accommodate the development.



Appendix A Approved Plans

Traffic Impact Assessment

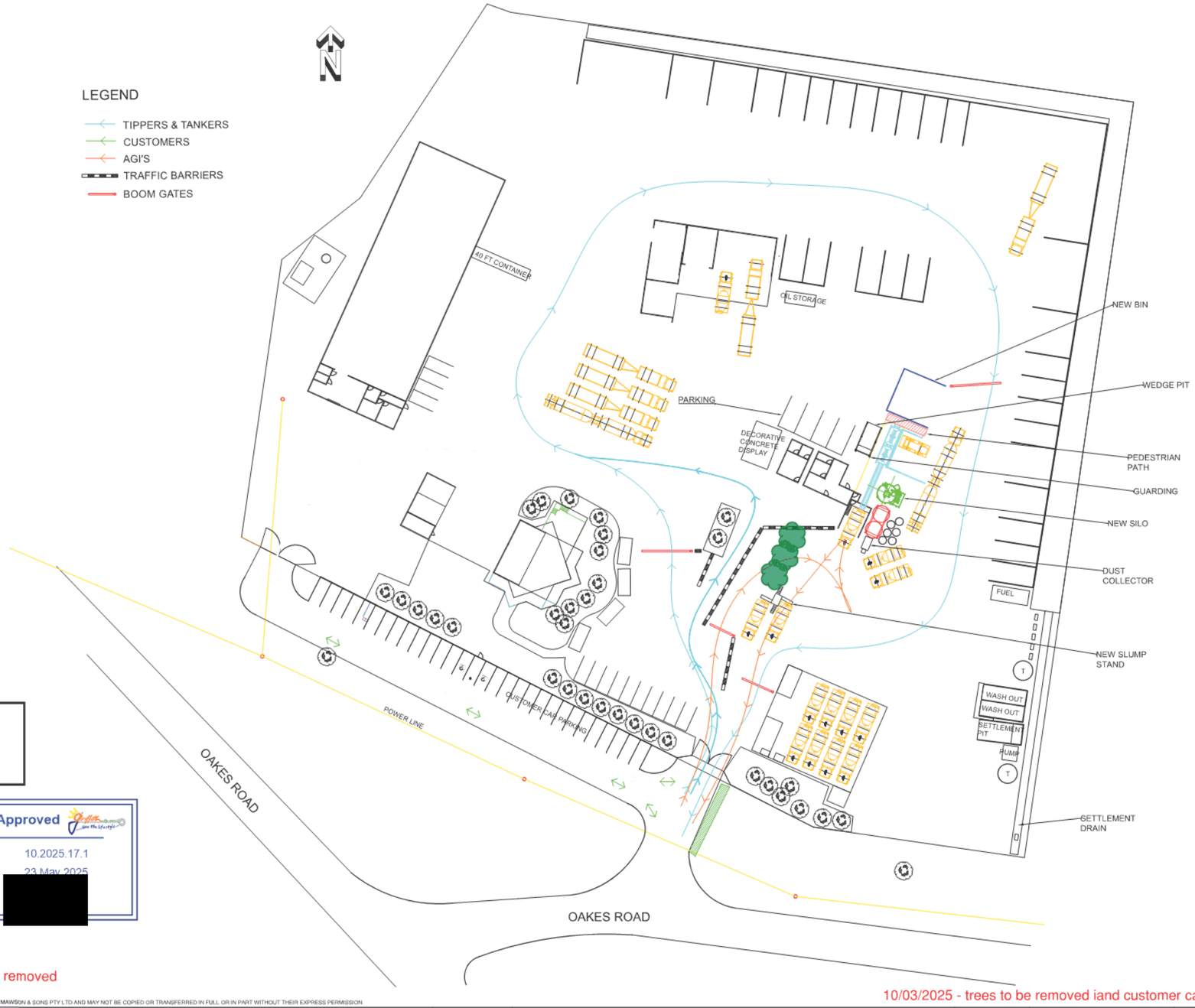
Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

5 December 2025

SLR



RECEIVED
17 April 2025

Development Approved
Consent No.: 10.2025.17.1
Date: 23 May 2025
Signature: [redacted]

= Trees to be removed

© THESE DRAWINGS REMAIN THE PROPERTY OF E. B. MAWSON & SONS PTY LTD AND MAY NOT BE COPIED OR TRANSFERRED IN FULL OR IN PART WITHOUT THEIR EXPRESS PERMISSION

10/03/2025 - trees to be removed iand customer car movements added by Planningmatters

E.B. MAWSON & SONS PTY LTD
141 KING GEORGE ST COHUNA, VIC 3568 P: 03 5456 2409 F: 03 5465 2428

MAWSONS Concrete & Quarries

NOTES:
UNLESS OTHERWISE STATED ALL DIMENSIONS IN MILIMETERS

REV NO:	DESCRIPTION	DATE:
1	UPDATED LAYOUT	04-12-2023
2	ADDITIIONAL DETAILS ADDED	04-12-2023
3	UPDATED AS PER CHANGES DISCUSSED	26-02-2024

DRAWN.	JH	DRAWING NAME:	GRIFFITH SITE MAP - PROPOSED		
CHECKED.	-	DRAWING NO:	SHEET:	REV:	SIZE:
APPROVED.	-	DR01	1/1	-	A3
ISSUED.	-	SCALE: 1 : 800	DATE: 04-12-2023		

Appendix B Extracts of Consent No. 41/2024(1)

Traffic Impact Assessment

Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

5 December 2025

SLR

intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TfNSW Delineation.

26. Oakes Road upgrade (Southern Side)

The southern side of Oakes Road is to be upgraded for the full frontage of the development site to comply with the Collector Road specifications outlined in Council's Engineering *Guidelines – Subdivisions and Development Standards.* **Prior to the issue of a Subdivision Works Certificate**, detailed engineering design drawings for the roadworks shall be submitted to Council for approval. Such plans shall include design and specifications for all proposed work as required for approval by Council.

27. Oakes Road upgrade (Northern Side)

The northern side of Oakes Road is to be upgraded for a minimum length of 35 metres either side of the centreline of where the proposed internal road intersects with Oakes Road to comply with the "Collector Road" road width specifications outlined in Council's *Engineering Guidelines – Subdivisions and Development Standards*. **Prior to the issue of a Subdivision Works Certificate**, detailed engineering design drawings for the roadworks shall be submitted to Council for approval. Such plans shall include design and specifications for all proposed work as required for approval by Council.

28. Kerb and Gutter – Oakes Road

Nominal 150mm high integral kerb & guttering and associated roadworks is to be constructed along the southern side of Oakes Road from the eastern boundary of Lot 723 DP 751709 to the tangent line of the southern corner at the intersection of Oakes Road and Old Willbriggie Road. Additionally, kerb and gutter is to be constructed along the northern side of Oakes Road for a minimum length of 35 metres either side of the centreline of where the proposed internal road intersects with Oakes Road. Detailed engineering design drawings for the kerb and gutter shall be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The requirements are to comply with *Council's Engineering Guidelines - Subdivisions and Development Standards*.

29. Proposed internal road

The proposed internal road is to be constructed with an 8m wide carriageway and 5.5m wide road reserves on either side of the road, resulting in an ultimate road reserve width of 19m. Detailed engineering design drawings for the roadworks shall be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate.** Such plans shall include designs and specifications for all proposed works as required for approval by Council.

The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

Appendix C Site Access Upgrade Concept & Swept Path Assessments

Traffic Impact Assessment

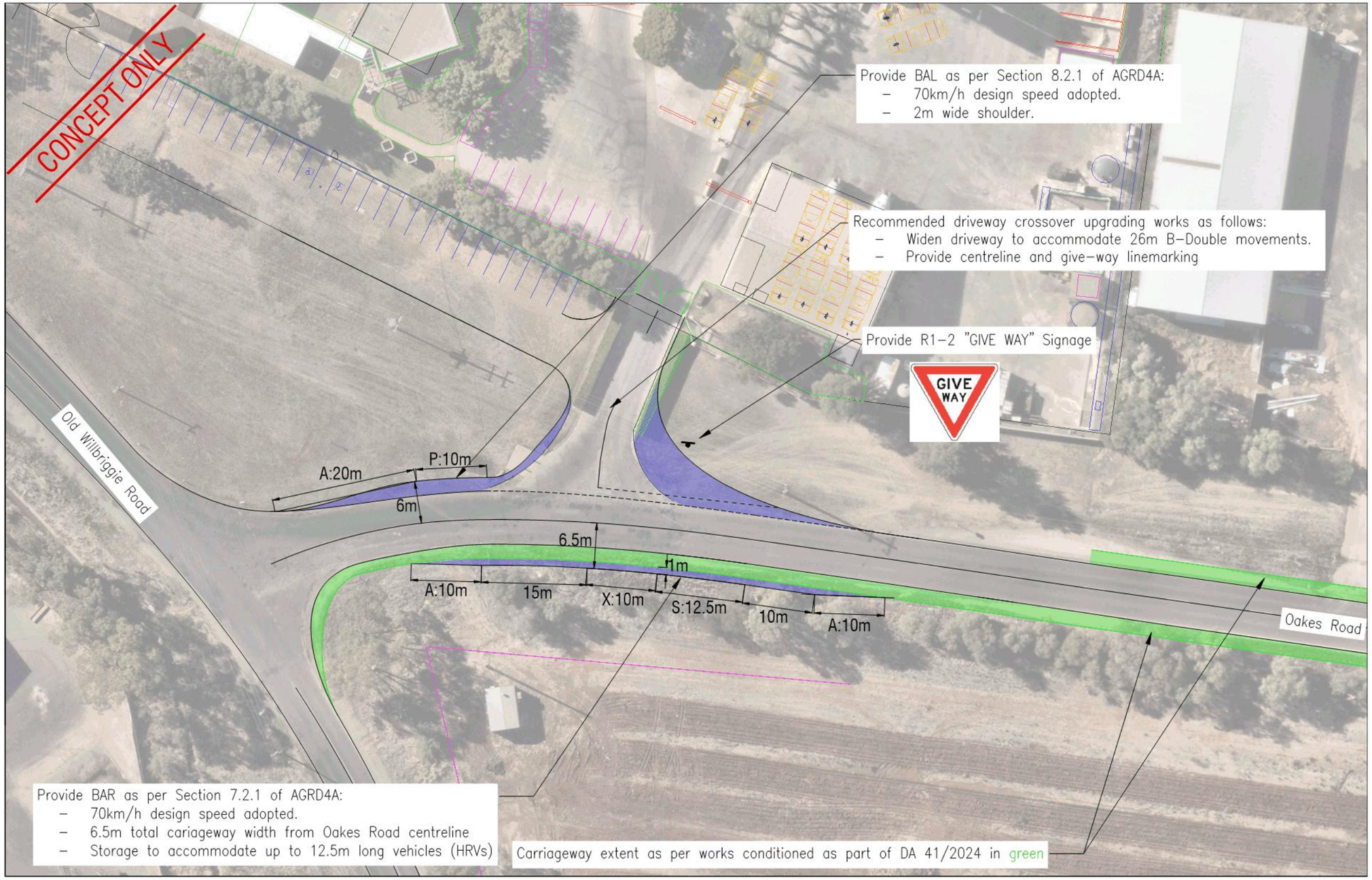
Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

5 December 2025

SLR



SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

Project No:	620.032127
Date:	11/11/25
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

N

0.0 5.0 10 15 20
METRES
SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Site Access Upgrade Concept

FIGURE SK01

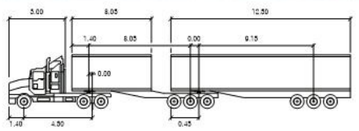


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

Project No:	620.032127
Date:	11/11/25
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
Vehicle Path
Vehicle Body
500mm Body Clearance



B-double

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

N

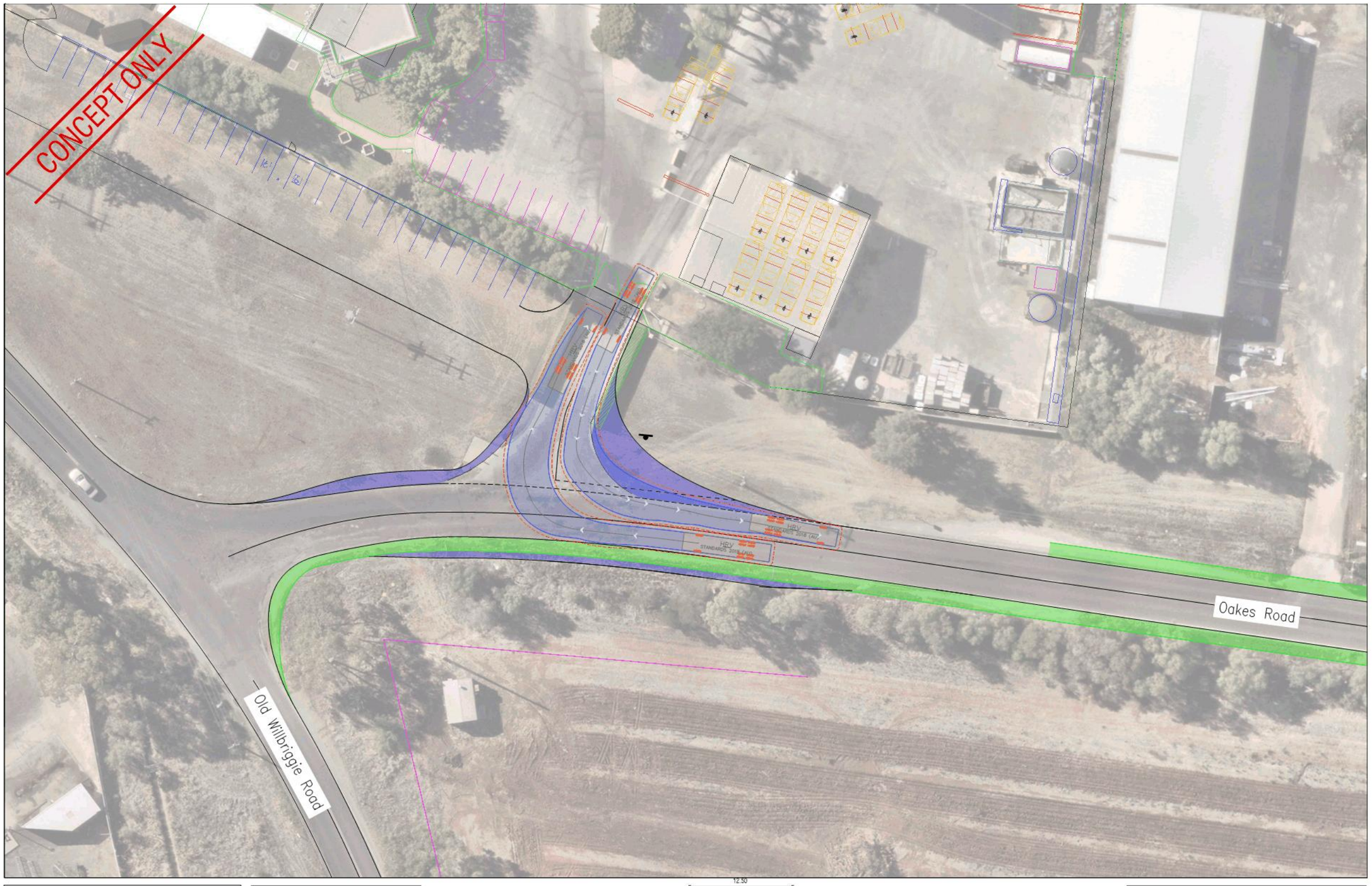
0.0 5.0 10 15 20
METRES
SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - 26m B-Doubles

FIGURE SK02

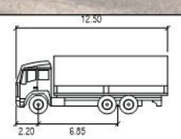


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

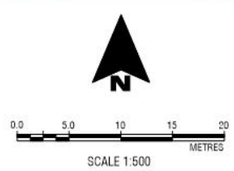
Project No:	620.032127
Date:	011/11/25
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- 500mm Body Clearance



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7



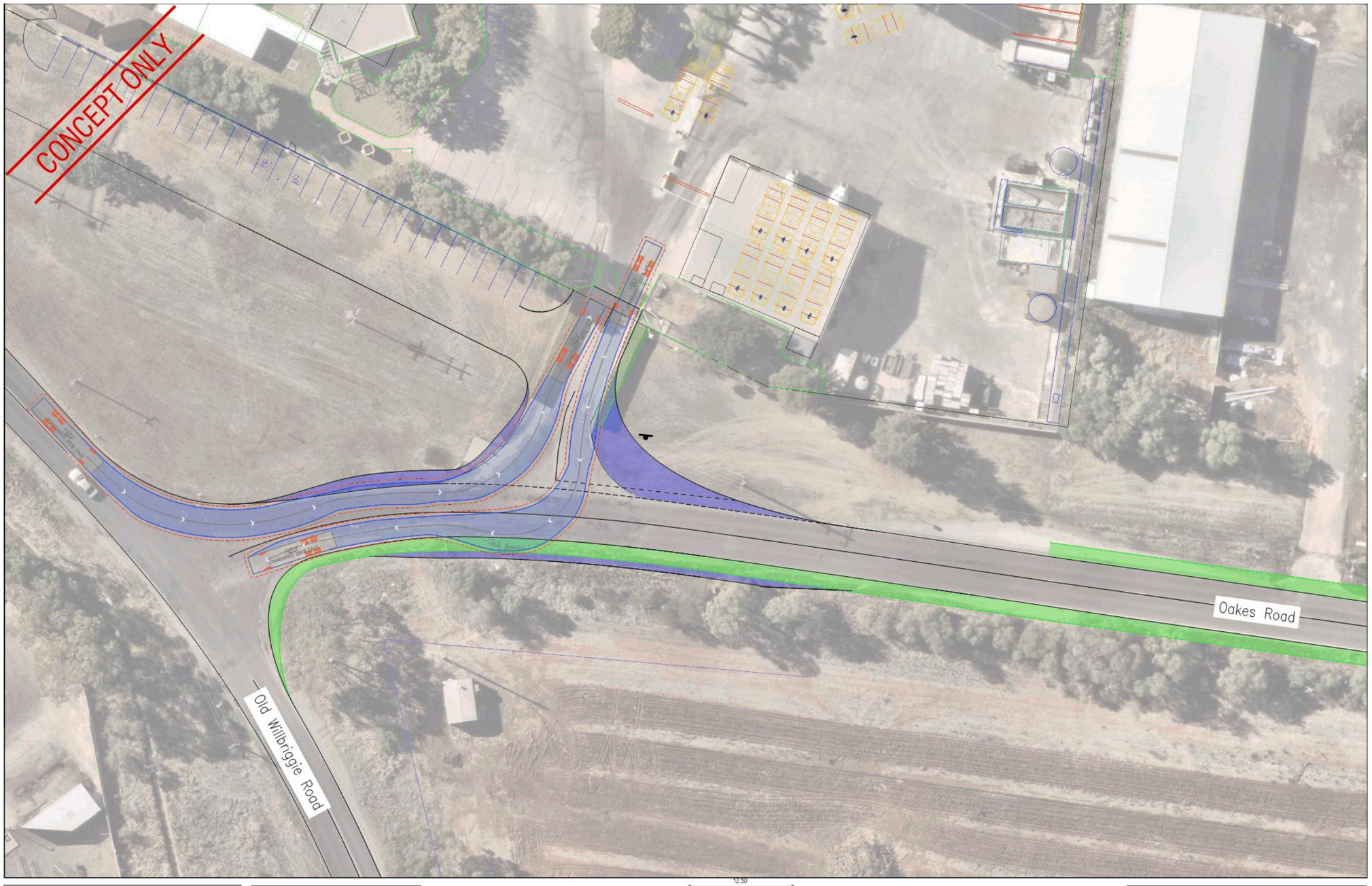
SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - HRV Sheet 1 of 2

FIGURE SK03

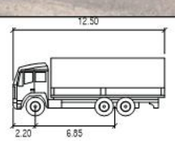


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

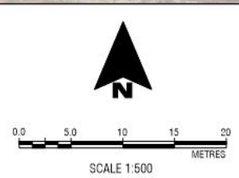
Project No:	620.032127
Date:	011/11/25
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- 500mm Body Clearance



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7



SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - HRV Sheet 2 of 2

FIGURE SK04

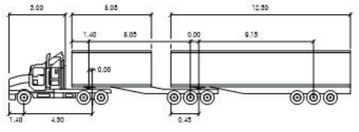


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

Project No:	620.032127
Date:	11/11/25
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
Vehicle Path
Vehicle Body
500mm Body Clearance



B-double

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	28.4
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

N

0.0 7.5 15 22.5 30
METRES
SCALE 1:750

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - 26m B-Doubles

FIGURE SK05

Appendix D Turn Warrant Assessment

Traffic Impact Assessment

Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

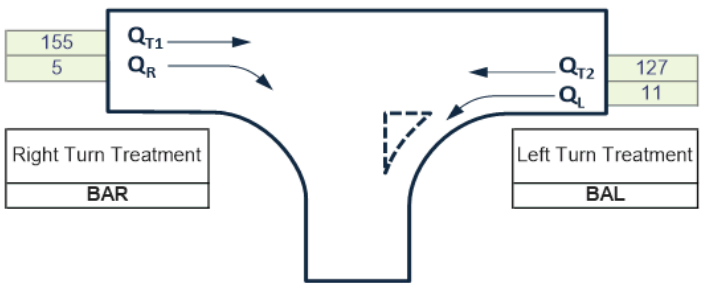
5 December 2025

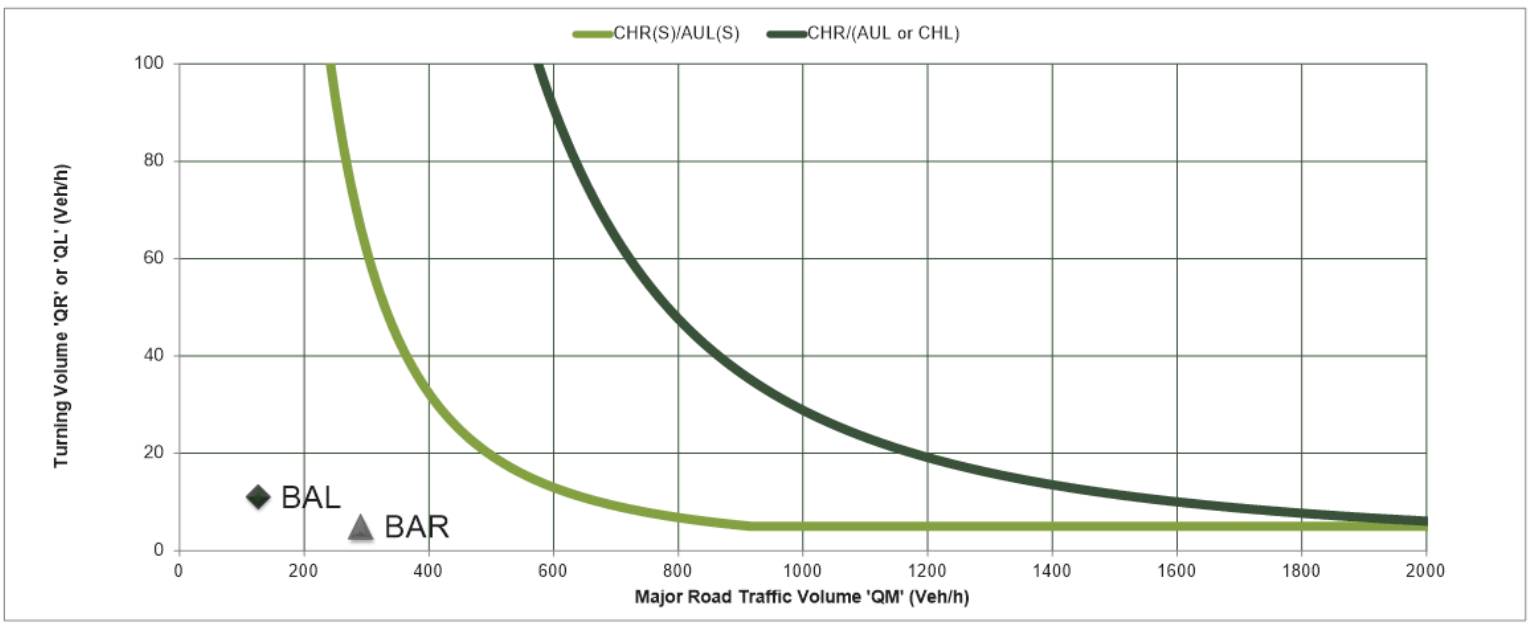
SLR

Assessment Year	2036
Peak Period	AM
Scenario	Background + Dev

Design Domain	Normal Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	<= 70km/h
Splitter Island?	No

Q_M	Q_R/Q_L	
293	5	Right
127	11	Left

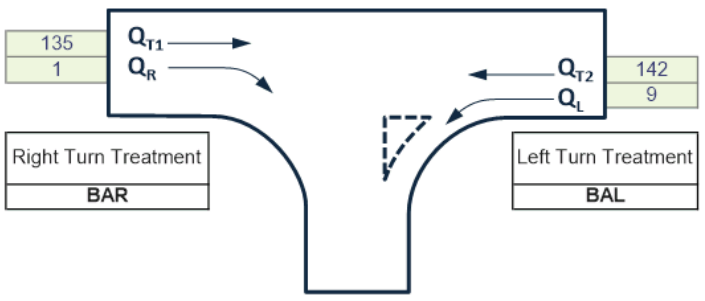


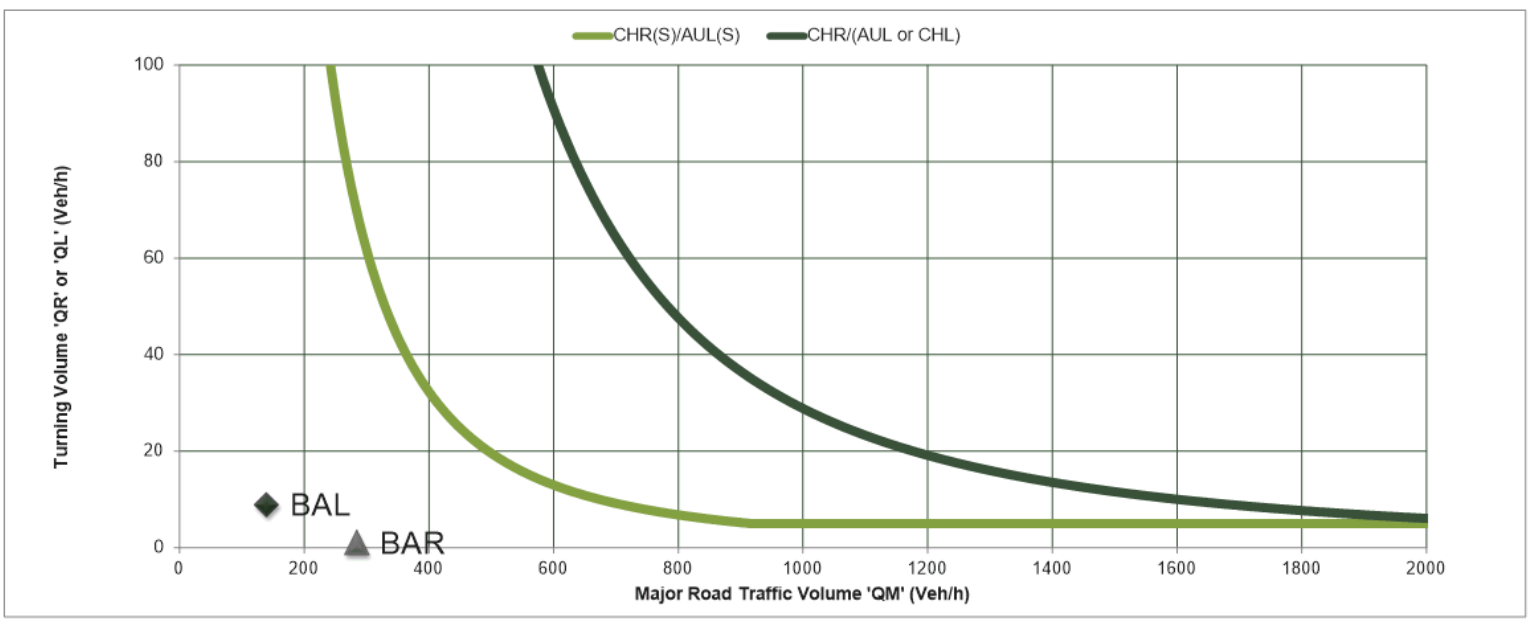


Assessment Year	2036
Peak Period	PM
Scenario	Background + Dev

Design Domain	Normal Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	<= 70km/h
Splitter Island?	No

Q_M	Q_R/Q_L	
286	1	Right
142	9	Left





Reflects changes made in RPDM (Ed2: Vol3) Supplement to Austroads Part 4A (DTMR - August, 2014)

Turn Warrant Assessment

Site Access
630.032127.00001
07 November 2025

SLR

Appendix E Traffic Surveys

Traffic Impact Assessment

Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

5 December 2025

SLR

Location	Kurrajong Avenue - Kurrajong Avenue Oakes Road	Duration	6:00 - 12:00 - 12:00 - 18:00		
Suburb	GRIFFITH	Date Weather	Wednesday, 7 August 2024 Dry		

All Vehicles Time Per 15 Mins	NORTHEAST *Kurrajong Avenue*										SOUTHEAST -										TOTAL		
	L			T			R				L			T			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 6:15				0	0	0	4	1	5	5											10	1	11
6:15 - 6:30				0	0	0	10	0	10	10											16	1	17
6:30 - 6:45				0	0	0	15	0	15	15											30	4	34
6:45 - 7:00				0	0	0	16	0	16	16											22	1	23
7:00 - 7:15				0	0	0	9	3	12	12											21	5	26
7:15 - 7:30				0	0	0	11	5	16	16											20	12	32
7:30 - 7:45				0	0	0	11	4	15	15											21	8	29
7:45 - 8:00				0	0	0	24	2	26	26											38	6	44
8:00 - 8:15				0	0	0	16	3	19	19											27	7	34
8:15 - 8:30				0	0	0	19	1	20	20											34	7	41
8:30 - 8:45				0	0	0	23	2	25	25											45	5	50
8:45 - 9:00				0	0	0	29	1	30	30											52	5	57
9:00 - 9:15				0	0	0	12	3	15	15											23	7	30
9:15 - 9:30				0	0	0	18	7	25	25											33	8	41
9:30 - 9:45				0	0	0	19	2	21	21											30	7	37
9:45 - 10:00				0	0	0	12	3	15	15											29	7	36
10:00 - 10:15				0	0	0	8	3	11	11											20	7	27
10:15 - 10:30				0	0	0	15	3	18	18											25	5	30
10:30 - 10:45				0	0	0	3	5	8	8											16	9	25
10:45 - 11:00				0	0	0	7	3	10	10											21	7	28
11:00 - 11:15				0	0	0	7	4	11	11											20	7	27
11:15 - 11:30				0	0	0	9	7	16	16											20	10	30
11:30 - 11:45				0	0	0	9	1	10	10											21	6	27
11:45 - 12:00				0	0	0	5	5	10	10											20	5	25
Period End				0	0	0	311	68	379	379											614	147	761
12:00 - 12:15				0	0	0	13	5	18	18											32	9	41
12:15 - 12:30				0	0	0	17	3	20	20											29	4	33
12:30 - 12:45				0	0	0	13	3	16	16											29	6	35
12:45 - 13:00				0	0	0	12	0	12	12											26	3	29
13:00 - 13:15				0	0	0	14	1	15	15											32	3	35
13:15 - 13:30				0	0	0	5	0	5	5											20	3	23
13:30 - 13:45				0	0	0	9	3	12	12											23	7	30
13:45 - 14:00				0	0	0	12	3	15	15											29	8	37
14:00 - 14:15				0	0	0	14	1	15	15											30	2	32
14:15 - 14:30				0	0	0	21	2	23	23											42	3	45
14:30 - 14:45				0	0	0	13	1	14	14											36	7	43
14:45 - 15:00				0	0	0	20	2	22	22											44	4	48
15:00 - 15:15				0	0	0	18	1	19	19											42	2	44
15:15 - 15:30				0	0	0	29	1	30	30											55	1	56
15:30 - 15:45				0	0	0	20	2	22	22											40	2	42
15:45 - 16:00				0	0	0	16	1	17	17											37	1	38
16:00 - 16:15				0	0	0	15	1	16	16											43	1	44
16:15 - 16:30				0	0	0	15	2	17	17											30	6	36
16:30 - 16:45				0	0	0	14	1	15	15											34	2	36
16:45 - 17:00				0	0	0	15	1	16	16											36	1	37
17:00 - 17:15				0	0	0	10	0	10	10											27	0	27
17:15 - 17:30				0	0	0	15	1	16	16											36	2	38
17:30 - 17:45				0	0	0	11	4	15	15											27	5	32
17:45 - 18:00				0	0	0	13	0	13	13											29	0	29
Period End				0	0	0	354	39	393	393											808	82	890

All Vehicles Time Per 15 Mins	SOUTHWEST *Kurrajong Avenue*										NORTHWEST *Oakes Road*										TOTAL		
	L			T			R				L			T			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 6:15	0	0	0	0	0	0				0	6	0	6				0	0	0	6	6	0	6
6:15 - 6:30	0	0	0	0	0	0				0	6	1	7				0	0	0	7	6	1	7
6:30 - 6:45	0	0	0	0	0	0				0	15	4	19				0	0	0	19	15	4	19
6:45 - 7:00	0	0	0	0	0	0				0	6	1	7				0	0	0	7	6	1	7
7:00 - 7:15	0	0	0	0	0	0				0	12	2	14				0	0	0	14	12	2	14
7:15 - 7:30	0	0	0	0	0	0				0	9	7	16				0	0	0	16	9	7	16
7:30 - 7:45	0	0	0	0	0	0				0	10	4	14				0	0	0	14	10	4	14
7:45 - 8:00	0	0	0	0	0	0				0	14	4	18				0	0	0	18	14	4	18
8:00 - 8:15	0	0	0	0	0	0				0	11	4	15				0	0	0	15	11	4	15
8:15 - 8:30	0	0	0	0	0	0				0	15	6	21				0	0	0	21	15	6	21
8:30 - 8:45	0	0	0	0	0	0				0	22	3	25				0	0	0	25	22	3	25
8:45 - 9:00	0	0	0	0	0	0				0	23	4	27				0	0	0	27	23	4	27
9:00 - 9:15	0	0	0	0	0	0				0	11	4	15				0	0	0	15	11	4	15
9:15 - 9:30	0	0	0	0	0	0				0	15	1	16				0	0	0	16	15	1	16
9:30 - 9:45	0	0	0	0	0	0				0	11	5	16				0	0	0	16	11	5	16
9:45 - 10:00	0	0	0	0	0	0				0	17	4	21				0	0	0	21	17	4	21
10:00 - 10:15	0	0	0	0	0	0				0	12	4	16				0	0	0	16	12	4	16
10:15 - 10:30	0	0	0	0	0	0				0	10	2	12				0	0	0	12	10	2	12
10:30 - 10:45	0	0	0	0	0	0				0	13	4	17				0	0	0	17	13	4	17
10:45 - 11:00	0	0	0	0	0	0				0	14	4	18				0	0	0	18	14	4	18
11:00 - 11:15	0	0	0	0	0	0				0	13	3	16				0	0	0	16	13	3	16
11:15 - 11:30	0	0	0	0	0	0				0	11	3	14				0	0	0	14	11	3	14
11:30 - 11:45	0	0	0	0	0	0				0	12	5	17				0	0	0	17	12	5	17
11:45 - 12:00	0	0	0	0	0	0				0	15	0	15				0	0	0	15	15	0	15
Period End	0	0	0	0	0	0				0	303	79	382				0	0	0	382	614	147	761
12:00 - 12:15	0	0	0	0	0	0				0	19	4	23				0	0	0	23	19	4	23
12:15 - 12:30	0	0	0	0	0	0				0	12	1	13				0	0	0	13	12	1	13
12:30 - 12:45	0	0	0	0	0	0				0	16	3	19				0	0	0	19	16	3	19
12:45 - 13:00	0	0	0	0	0	0				0	14	3	17				0	0	0	17	14	3	17
13:00 - 13:15	0	0	0	0	0	0				0	18	2	20				0	0	0	20	18	2	20
13:15 - 13:30	0	0	0	0	0	0				0	15	3	18				0	0	0	18	15	3	18
13:30 - 13:45	0	0	0	0	0	0				0	14	4	18				0	0	0	18	14	4	18
13:45 - 14:00	0	0	0	0	0	0				0	17	5	22				0	0	0	22	17	5	22
14:00 - 14:15	0	0	0	0	0	0				0	16	1	17				0	0	0	17	16	1	17
14:15 - 14:30	0	0	0	0	0	0				0	21	1	22				0	0	0	22	21	1	22
14:30 - 14:45	0	0	0	0	0	0				0	23	6	29				0	0	0	29	23	6	29
14:45 - 15:00	0	0	0	0	0	0				0	24	2	26				0	0	0	26	24	2	26
15:00 - 15:15	0	0	0	0	0	0				0	24	1	25				0	0	0	25	24	1	25
15:15 - 15:30	0	0	0	0	0	0				0	26	0	26				0	0	0	26	26	0	26
15:30 - 15:45	0	0	0	0	0	0				0	20	0	20				0	0	0	20	20	0	20
15:45 - 16:00	0	0	0	0	0	0				0	21	0	21				0	0	0	21	21	0	21
16:00 - 16:15	0	0	0	0	0	0				0	28	0	28				0	0	0	28	28	0	28
16:15 - 16:30	0	0	0	0	0	0				0	15	4	19				0	0	0	19	15	4	19
16:30 - 16:45	0	0	0	0	0	0				0	20	1	21				0	0	0	21	20	1	21
16:45 - 17:00	0	0	0	1	0	1				1	20	0	20				0	0	0	20	21	0	21
17:00 - 17:15	0	0	0	0	0	0				0	17	0	17				0	0	0	17	17	0	17
17:15 - 17:30	0	0	0	0	0	0				0	21	1	22				0	0	0	22	21	1	22
17:30 - 17:45	0	0	0	0	0	0				0	16	1	17				0	0	0	17	16	1	17
17:45 - 18:00	0	0	0	0	0	0				0	16	0	16				0	0	0	16	16	0	16
Period End	0	0	0	1	0	1				1	453	43	496				0	0	0	496	808	82	890

Traffic Information Specialist
ABN: 42 613 389 923
Email: info@tistraffic.com.au

Traffic Information Specialist

Locati: Kurrajong Avenue - Kurrajong Avenue - Oakes Road
Subur: GRIFFITH
Durati: 6:00 - 12:00 / 12:00 - 18:00
Dat: Wednesday, 7
Weath: Dry

All Vehicles Time Per Hour	NORTHEAST Kurrajong Avenue L			NORTHEAST Kurrajong Avenue T			NORTHEAST Kurrajong Avenue R				SOUTHEAST - L			SOUTHEAST - T			SOUTHEAST - R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 7:00				0	0	0	45	1	46	46											78	7	85
6:15 - 7:15				0	0	0	50	3	53	53											89	11	100
6:30 - 7:30				0	0	0	51	8	59	59											93	22	115
6:45 - 7:45				0	0	0	47	12	59	59											84	26	110
7:00 - 8:00				0	0	0	55	14	69	69											100	31	131
7:15 - 8:15				0	0	0	62	14	76	76											106	33	139
7:30 - 8:30				0	0	0	70	10	80	80											120	28	148
7:45 - 8:45				0	0	0	82	8	90	90											144	25	169
8:00 - 9:00				0	0	0	87	7	94	94											158	24	182
8:15 - 9:15				0	0	0	83	7	90	90											154	24	178
8:30 - 9:30				0	0	0	82	13	95	95											153	25	178
8:45 - 9:45				0	0	0	78	13	91	91											138	27	165
9:00 - 10:00				0	0	0	61	15	76	76											115	29	144
9:15 - 10:15				0	0	0	57	15	72	72											112	29	141
9:30 - 10:30				0	0	0	54	11	65	65											104	26	130
9:45 - 10:45				0	0	0	38	14	52	52											90	28	118
10:00 - 11:00				0	0	0	33	14	47	47											82	28	110
10:15 - 11:15				0	0	0	32	15	47	47											82	28	110
10:30 - 11:30				0	0	0	26	19	45	45											77	33	110
10:45 - 11:45				0	0	0	32	15	47	47											82	30	112
11:00 - 12:00				0	0	0	30	17	47	47											81	28	109
Period End																							
12:00 - 13:00				0	0	0	55	11	66	66											116	22	138
12:15 - 13:15				0	0	0	56	7	63	63											116	16	132
12:30 - 13:30				0	0	0	44	4	48	48											107	15	122
12:45 - 13:45				0	0	0	40	4	44	44											101	16	117
13:00 - 14:00				0	0	0	40	7	47	47											104	21	125
13:15 - 14:15				0	0	0	40	7	47	47											102	20	122
13:30 - 14:30				0	0	0	56	9	65	65											124	20	144
13:45 - 14:45				0	0	0	60	7	67	67											137	20	157
14:00 - 15:00				0	0	0	68	6	74	74											152	16	168
14:15 - 15:15				0	0	0	72	6	78	78											164	16	180
14:30 - 15:30				0	0	0	80	5	85	85											177	14	191
14:45 - 15:45				0	0	0	87	6	93	93											181	9	190
15:00 - 16:00				0	0	0	83	5	88	88											174	6	180
15:15 - 16:15				0	0	0	80	5	85	85											175	5	180
15:30 - 16:30				0	0	0	66	6	72	72											150	10	160
15:45 - 16:45				0	0	0	60	5	65	65											144	10	154
16:00 - 17:00				0	0	0	59	5	64	64											143	10	153
16:15 - 17:15				0	0	0	54	4	58	58											127	9	136
16:30 - 17:30				0	0	0	54	3	57	57											133	5	138
16:45 - 17:45				0	0	0	51	6	57	57											126	8	134
17:00 - 18:00				0	0	0	49	5	54	54											119	7	126
Period End																							

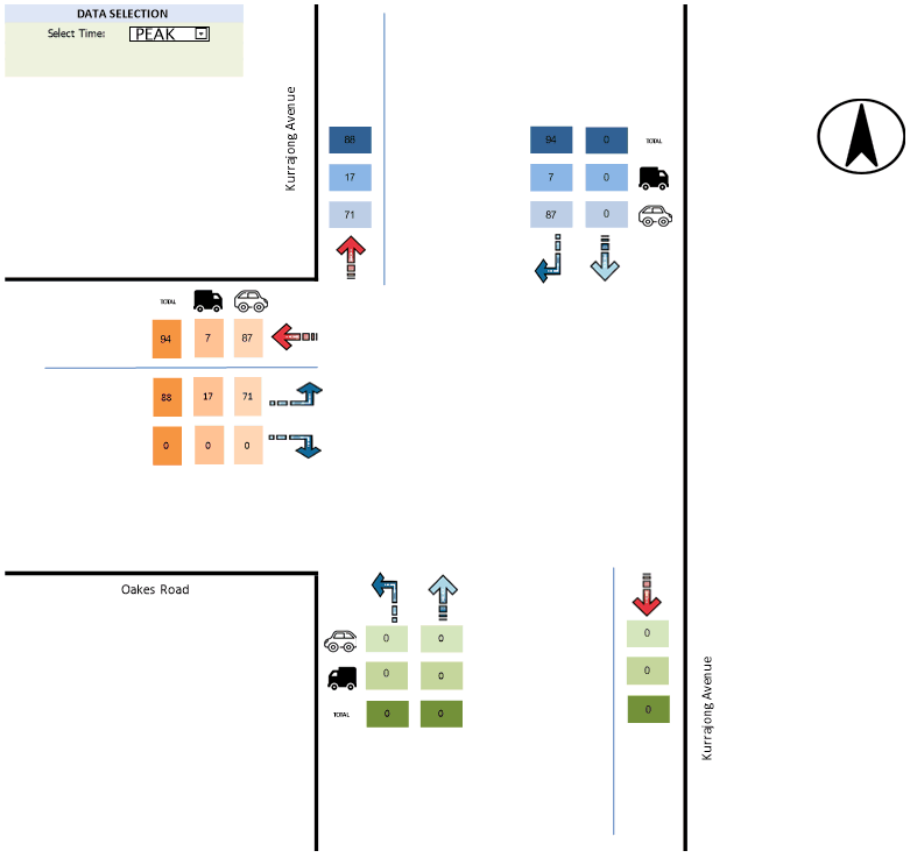
All Vehicles Time Per Hour	SOUTHWEST Kurrajong Avenue L			SOUTHWEST Kurrajong Avenue T			SOUTHWEST Kurrajong Avenue R				NORTHWEST Oakes Road L			NORTHWEST Oakes Road T			NORTHWEST Oakes Road R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 7:00	0	0	0	0	0	0				0	33	6	39				0	0	0	39	78	7	85
6:15 - 7:15	0	0	0	0	0	0				0	39	8	47				0	0	0	47	89	11	100
6:30 - 7:30	0	0	0	0	0	0				0	42	14	56				0	0	0	56	93	22	115
6:45 - 7:45	0	0	0	0	0	0				0	37	14	51				0	0	0	51	84	26	110
7:00 - 8:00	0	0	0	0	0	0				0	45	17	62				0	0	0	62	100	31	131
7:15 - 8:15	0	0	0	0	0	0				0	44	19	63				0	0	0	63	106	33	139
7:30 - 8:30	0	0	0	0	0	0				0	50	18	68				0	0	0	68	120	28	148
7:45 - 8:45	0	0	0	0	0	0				0	62	17	79				0	0	0	79	144	25	169
8:00 - 9:00	0	0	0	0	0	0				0	71	17	88				0	0	0	88	158	24	182
8:15 - 9:15	0	0	0	0	0	0				0	71	17	88				0	0	0	88	154	24	178
8:30 - 9:30	0	0	0	0	0	0				0	71	12	83				0	0	0	83	153	25	178
8:45 - 9:45	0	0	0	0	0	0				0	60	14	74				0	0	0	74	138	27	165
9:00 - 10:00	0	0	0	0	0	0				0	54	14	68				0	0	0	68	115	29	144
9:15 - 10:15	0	0	0	0	0	0				0	55	14	69				0	0	0	69	112	29	141
9:30 - 10:30	0	0	0	0	0	0				0	50	15	65				0	0	0	65	104	26	130
9:45 - 10:45	0	0	0	0	0	0				0	52	14	66				0	0	0	66	90	28	118
10:00 - 11:00	0	0	0	0	0	0				0	49	14	63				0	0	0	63	82	28	110
10:15 - 11:15	0	0	0	0	0	0				0	50	13	63				0	0	0	63	82	28	110
10:30 - 11:30	0	0	0	0	0	0				0	51	14	65				0	0	0	65	77	33	110
10:45 - 11:45	0	0	0	0	0	0				0	50	15	65				0	0	0	65	82	30	112
11:00 - 12:00	0	0	0	0	0	0				0	51	11	62				0	0	0	62	81	28	109
Period End																							
12:00 - 13:00	0	0	0	0	0	0				0	61	11	72				0	0	0	72	116	22	138
12:15 - 13:15	0	0	0	0	0	0				0	60	9	69				0	0	0	69	116	16	132
12:30 - 13:30	0	0	0	0	0	0				0	63	11	74				0	0	0	74	107	15	122
12:45 - 13:45	0	0	0	0	0	0				0	61	12	73				0	0	0	73	101	16	117
13:00 - 14:00	0	0	0	0	0	0				0	64	14	78				0	0	0	78	104	21	125
13:15 - 14:15	0	0	0	0	0	0				0	62	13	75				0	0	0	75	102	20	122
13:30 - 14:30	0	0	0	0	0	0				0	68	11	79				0	0	0	79	124	20	144
13:45 - 14:45	0	0	0	0	0	0				0	77	13	90				0	0	0	90	137	20	157
14:00 - 15:00	0	0	0	0	0	0				0	84	10	94				0	0	0	94	152	16	168
14:15 - 15:15	0	0	0	0	0	0				0	92	10	102				0	0	0	102	164	16	180
14:30 - 15:30	0	0	0	0	0	0				0	97	9	106				0	0	0	106	177	14	191
14:45 - 15:45	0	0	0	0	0	0				0	94	3	97				0	0	0	97	181	9	190
15:00 - 16:00	0	0	0	0	0	0				0	91	1	92				0	0	0	92	174	6	180
15:15 - 16:15	0	0	0	0	0	0				0	95	0	95				0	0	0	95	175	5	180
15:30 - 16:30	0	0	0	0	0	0				0	84	4	88				0	0	0	88	150	10	160
15:45 - 16:45	0	0	0	0	0	0				0	84	5	89				0	0	0	89	144	10	154
16:00 - 17:00	0	0	0	1	0	1				1	88	3	88				0	0	0	88	143	10	153
16:15 - 17:15	0	0	0	1	0	1				1	72	5	77				0	0	0	77	127	9	136
16:30 - 17:30	0	0	0	1	0	1				1	78	2	80				0	0	0	80	133	5	138
16:45 - 17:45	0	0	0	1	0	1				1	74	2	76				0	0	0	76	126	8	134
17:00 - 18:00	0	0	0	0	0	0				0	70	2	72				0	0	0	72	119	7	126
Period End																							

Traffic Information Specialist
ABN: 42 613 389 923
Email: info@tistraffic.com.au

Location	Kurrajong Avenue		Duration	6:00 -	12:00
	-			-	
	Kurrajong Avenue			12:00 -	18:00
	Oakes Road		Date	Wednesday, 7 August 2024	
Suburb	GRIFFITH		Weather	Dry	

DATA SELECTION
Select Time: PEAK

TIME RANGE		
PEAK	-	AM
PEAK		
8:00	-	9:00

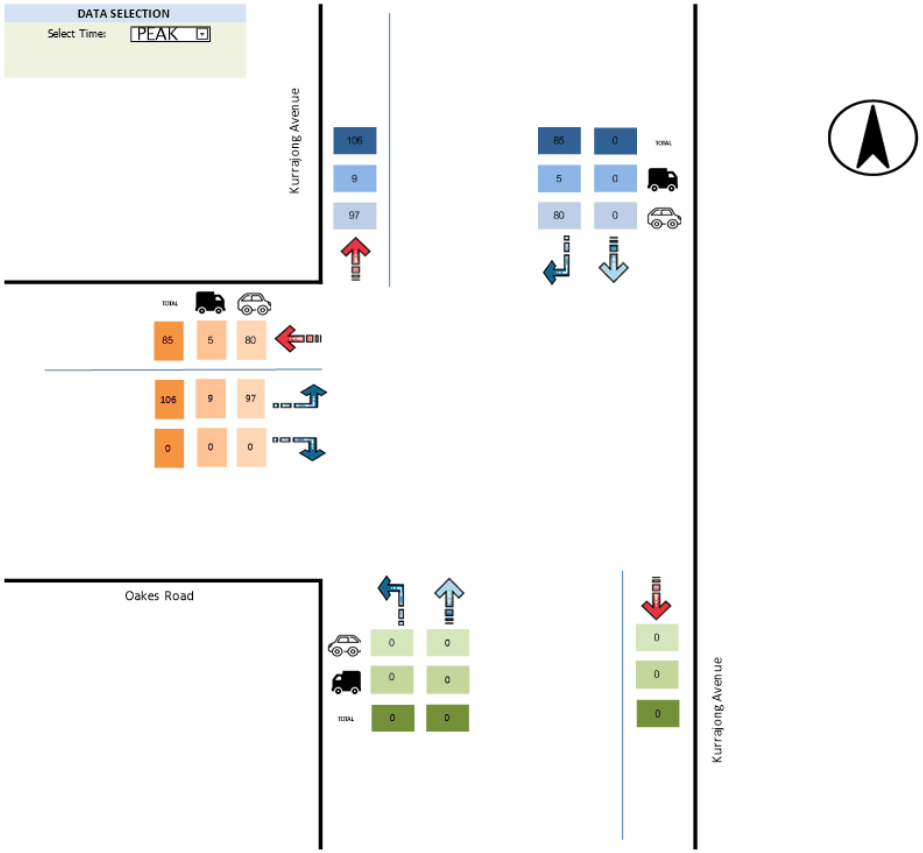


Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	Kurrajong Avenue		Duration	6:00 - 12:00	
	-			-	
	Kurrajong Avenue			12:00 - 18:00	
	Oakes Road		Date	Wednesday, 7 August 2024	
Suburb	GRIFFITH		Weather	Dry	

DATA SELECTION
Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
14:30	-	15:30



Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	Old Willbriggie Road Oakes Road Old Willbriggie Road -	Duration	6:00 - 12:00 - 12:00 - 18:00		
Suburb	GRIFFITH	Date Weather	Thursday, 7 August 2025 Dry		

All Vehicles Time Per 15 Mins	NORTH Old Willbriggie Road										EAST Oakes Road										TOTAL		
	L			T			R				L			T			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 6:15	7	0	7	13	1	14				21	5	4	9				1	1	2	11	39	6	45
6:15 - 6:30	20	0	20	13	3	16				36	7	0	7				5	0	5	12	69	4	73
6:30 - 6:45	14	3	17	18	1	19				36	7	1	8				5	2	7	15	63	9	72
6:45 - 7:00	19	1	20	27	2	29				49	15	0	15				14	1	15	30	105	6	111
7:00 - 7:15	14	2	16	24	2	26				42	3	2	5				9	2	11	16	70	12	82
7:15 - 7:30	19	10	29	24	5	29				58	10	1	11				12	1	13	24	91	21	112
7:30 - 7:45	14	4	18	26	2	28				46	4	6	10				16	3	19	29	86	18	104
7:45 - 8:00	25	3	28	22	2	24				52	14	4	18				19	2	21	39	124	13	137
8:00 - 8:15	27	11	38	13	5	18				56	7	0	7				22	2	24	31	91	23	114
8:15 - 8:30	19	4	23	45	1	46				69	8	3	11				25	3	28	39	144	16	160
8:30 - 8:45	21	5	26	25	0	25				51	7	0	7				28	1	29	36	134	8	142
8:45 - 9:00	21	5	26	28	4	32				58	9	1	10				37	3	40	50	146	19	165
9:00 - 9:15	15	7	22	20	2	22				44	4	3	7				14	3	17	24	88	17	105
9:15 - 9:30	16	3	19	17	5	22				41	6	2	8				16	3	19	27	85	16	101
9:30 - 9:45	21	1	22	19	2	21				43	6	2	8				17	2	19	27	82	13	95
9:45 - 10:00	11	1	12	20	1	21				33	10	1	11				14	3	17	28	86	11	97
10:00 - 10:15	13	4	17	17	3	20				37	7	4	11				10	0	10	21	72	16	88
10:15 - 10:30	13	2	15	22	6	28				43	4	3	7				17	3	20	27	78	17	95
10:30 - 10:45	15	2	17	27	2	29				46	2	3	5				15	3	18	23	84	15	99
10:45 - 11:00	15	2	17	14	6	20				37	11	1	12				9	2	11	23	72	18	90
11:00 - 11:15	23	5	28	10	0	10				38	3	1	4				19	2	21	25	80	13	93
11:15 - 11:30	16	1	17	27	6	33				50	3	7	10				16	4	20	30	89	22	111
11:30 - 11:45	13	2	15	26	1	27				42	6	0	6				16	3	19	25	95	15	110
11:45 - 12:00	18	2	20	23	2	25				45	6	2	8				22	4	26	34	108	14	122
Period End	409	80	489	520	64	584				1073	164	51	215				378	53	431	646	2181	342	2523
12:00 - 12:15	27	1	28	17	2	19				47	9	3	12				14	0	14	26	97	13	110
12:15 - 12:30	22	1	23	22	0	22				45	4	5	9				27	2	29	38	111	17	128
12:30 - 12:45	21	2	23	28	3	31				54	7	1	8				19	4	23	31	115	18	133
12:45 - 13:00	21	3	24	38	4	42				66	2	1	3				25	0	25	28	116	10	126
13:00 - 13:15	21	2	23	47	1	48				71	9	0	9				17	1	18	27	134	9	143
13:15 - 13:30	31	3	34	28	7	35				69	3	7	10				14	2	16	26	109	24	133
13:30 - 13:45	21	3	24	25	2	27				51	6	0	6				22	4	26	32	103	17	120
13:45 - 14:00	19	4	23	31	3	34				57	8	1	9				13	1	14	23	142	12	154
14:00 - 14:15	29	2	31	35	4	39				70	3	1	4				21	0	21	25	116	12	128
14:15 - 14:30	27	2	29	25	0	25				54	12	1	13				20	5	25	38	124	11	135
14:30 - 14:45	21	3	24	27	4	31				55	8	0	8				34	3	37	45	127	17	144
14:45 - 15:00	22	3	25	32	2	34				59	6	3	9				26	3	29	38	141	14	155
15:00 - 15:15	21	1	22	26	0	26				48	9	1	10				30	0	30	40	141	9	150
15:15 - 15:30	26	1	27	42	4	46				73	15	1	16				25	2	27	43	150	13	163
15:30 - 15:45	31	0	31	29	6	35				66	13	1	14				22	1	23	37	146	12	158
15:45 - 16:00	12	1	13	35	6	41				54	13	1	14				16	0	16	30	133	10	143
16:00 - 16:15	25	0	25	29	0	29				54	9	0	9				28	0	28	37	152	1	153
16:15 - 16:30	21	3	24	26	3	29				53	6	2	8				17	1	18	26	107	12	119
16:30 - 16:45	22	1	23	33	1	34				57	4	0	4				20	1	21	25	116	4	120
16:45 - 17:00	19	1	20	33	1	34				54	9	1	10				20	1	21	31	125	7	132
17:00 - 17:15	17	0	17	27	4	31				48	6	0	6				19	0	19	25	115	5	120
17:15 - 17:30	20	0	20	25	4	29				49	10	0	10				17	1	18	28	115	6	121
17:30 - 17:45	22	1	23	23	0	23				46	5	3	8				16	0	16	24	101	6	107
17:45 - 18:00	15	0	15	34	1	35				50	6	0	6				10	0	10	16	87	2	89
Period End	533	38	571	717	62	779					182	33	215				492	32	524	739	2923	261	3184

All Vehicles Time Per 15 Mins	SOUTH Old Willbriggie Road										WEST -										TOTAL		
	L			T			R				L			T			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 6:15				9	0	9	4	0	4	13											39	6	45
6:15 - 6:30				20	1	21	4	0	4	25											69	4	73
6:30 - 6:45				14	1	15	5	1	6	21											63	9	72
6:45 - 7:00				21	1	22	9	1	10	32											105	6	111
7:00 - 7:15				13	3	16	7	1	8	24											70	12	82
7:15 - 7:30				21	3	24	5	1	6	30											91	21	112
7:30 - 7:45				17	1	18	9	2	11	29											86	18	104
7:45 - 8:00				31	0	31	13	2	15	46											124	13	137
8:00 - 8:15				15	4	19	7	1	8	27											91	23	114
8:15 - 8:30				37	3	40	10	2	12	52											144	16	160
8:30 - 8:45				37	1	38	16	1	17	55											134	8	142
8:45 - 9:00				36	4	40	15	2	17	57											146	19	165
9:00 - 9:15				30	0	30	5	2	7	37											88	17	105
9:15 - 9:30				21	3	24	9	0	9	33											85	16	101
9:30 - 9:45				11	2	13	8	4	12	25											82	13	95
9:45 - 10:00				23	1	24	8	4	12	36											86	11	97
10:00 - 10:15				21	3	24	4	2	6	30											72	16	88
10:15 - 10:30				17	1	18	5	2	7	25											78	17	95
10:30 - 10:45				22	3	25	3	2	5	30											84	15	99
10:45 - 11:00				18	3	21	5	4	9	30											72	18	90
11:00 - 11:15				19	3	22	6	2	8	30											80	13	93
11:15 - 11:30				21	1	22	6	3	9	31											89	22	111
11:30 - 11:45				26	4	30	8	5	13	43											95	15	110
11:45 - 12:00				28	2	30	11	2	13	43											108	14	122
Period End				528	48	576	182	46	228												2181	342	2523
12:00 - 12:15				24	3	27	6	4	10	37											97	13	110
12:15 - 12:30				28	8	36	8	1	9	45											111	17	128
12:30 - 12:45				33	4	37	7	4	11	48											115	18	133
12:45 - 13:00				25	1	26	5	1	6	32											116	10	126
13:00 - 13:15				31	3	34	9	2	11	45											134	9	143
13:15 - 13:30				26	3	29	7	2	9	38											109	24	133
13:30 - 13:45				24	4	28	5	4	9	37											103	17	120
13:45 - 14:00				67	1	68	4	2	6	74											142	12	154
14:00 - 14:15				21	4	25	7	1	8	33											116	12	128
14:15 - 14:30				31	1	32	9	2	11	43											124	11	135
14:30 - 14:45				29	4	33	8	3	11	44											127	17	144
14:45 - 15:00				42	2	44	13	1	14	58											141	14	155
15:00 - 15:15				37	5	42	18	2	20	62											141	9	150
15:15 - 15:30				29	5	34	13	0	13	47											150	13	163
15:30 - 15:45				43	4	47	8	0	8	55											146	12	158
15:45 - 16:00				43	1	44	14	1	15	59											133	10	143
16:00 - 16:15				47	1	48	14	0	14	62											152	1	153
16:15 - 16:30				30	1	31	7	2	9	40											107	12	119
16:30 - 16:45				33	1	34	4	0	4	38											116	4	120
16:45 - 17:00				35	2	37	9	1	10	47											125	7	132
17:00 - 17:15				36	1	37	10	0	10	47											115	5	120
17:15 - 17:30				38	0	38	5	1	6	44											115	6	121
17:30 - 17:45				29	1	30	6	1	7	37											101	6	107
17:45 - 18:00				13	0	13	9	1	10	23											87	2	89
Period End				794	60	854	205	36	241	1095											2923	261	3184

Traffic Information Specialist
ABN: 42 613 389 923
Email: info@tistraffic.com.au

Location	Old Willbriggie Road			Duration	6:00	-	12:00
	Oakes Road					-	
	Old Willbriggie Road				12:00	-	18:00
	-			Date	Thursday, 7 August 2025		
Suburb	GRIFFITH			Weather	Dry		

All Vehicles
Time Per Hour

NORTH — *Old Willbriggie Road*

	L			T			R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 7:00	60	4	64	71	7	78				142	276	25	301
6:15 - 7:15	67	6	73	82	8	90				163	307	31	338
6:30 - 7:30	66	16	82	93	10	103				185	329	48	377
6:45 - 7:45	66	17	83	101	11	112				195	352	57	409
7:00 - 8:00	72	19	91	96	11	107				198	371	64	435
7:15 - 8:15	85	28	113	85	14	99				212	392	75	467
7:30 - 8:30	85	22	107	106	10	116				223	445	70	515
7:45 - 8:45	92	23	115	105	8	113				228	493	60	553
8:00 - 9:00	88	25	113	111	10	121				234	515	66	581
8:15 - 9:15	76	21	97	118	7	125				222	512	60	572
8:30 - 9:30	78	20	98	90	11	101				199	453	60	513
8:45 - 9:45	73	16	89	84	13	97				186	401	65	466
9:00 - 10:00	63	12	75	76	10	86				161	341	57	398
9:15 - 10:15	61	9	70	73	11	84				154	325	56	381
9:30 - 10:30	58	8	66	78	12	90				156	318	57	375
9:45 - 10:45	52	9	61	86	12	98				159	320	59	379
10:00 - 11:00	56	10	66	80	17	97				163	306	66	372
10:15 - 11:15	66	11	77	73	14	87				164	314	63	377
10:30 - 11:30	69	10	79	78	14	92				171	325	68	393
10:45 - 11:45	67	10	77	77	13	90				167	336	68	404
11:00 - 12:00	70	10	80	86	9	95				175	372	64	436
Period End													
12:00 - 13:00	91	7	98	105	9	114				212	439	58	497
12:15 - 13:15	85	8	93	135	8	143				236	476	54	530
12:30 - 13:30	94	10	104	141	15	156				260	474	61	535
12:45 - 13:45	94	11	105	138	14	152				257	462	60	522
13:00 - 14:00	92	12	104	131	13	144				248	488	62	550
13:15 - 14:15	100	12	112	119	16	135				247	470	65	535
13:30 - 14:30	96	11	107	116	9	125				232	485	52	537
13:45 - 14:45	96	11	107	118	11	129				236	501	60	561
14:00 - 15:00	99	10	109	119	10	129				238	508	54	562
14:15 - 15:15	91	9	100	110	6	116				216	533	51	584
14:30 - 15:30	90	8	98	127	10	137				235	559	53	612
14:45 - 15:45	100	5	105	129	12	141				246	578	48	626
15:00 - 16:00	90	3	93	132	16	148				241	570	44	614
15:15 - 16:15	94	2	96	135	16	151				247	581	36	617
15:30 - 16:30	89	4	93	119	15	134				227	538	35	573
15:45 - 16:45	80	5	85	123	10	133				218	508	27	535
16:00 - 17:00	87	5	92	121	5	126				218	500	24	524
16:15 - 17:15	79	5	84	119	9	128				212	463	28	491
16:30 - 17:30	78	2	80	118	10	128				208	471	22	493
16:45 - 17:45	78	2	80	108	9	117				197	456	24	480
17:00 - 18:00	74	1	75	109	9	118				193	418	19	437
Period End													

EAST — *Oakes Road*

	L			T			R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 7:00	34	5	39				25	4	29	68	276	25	301
6:15 - 7:15	32	3	35				33	5	38	73	307	31	338
6:30 - 7:30	35	4	39				40	6	46	85	329	48	377
6:45 - 7:45	32	9	41				51	7	58	99	352	57	409
7:00 - 8:00	31	13	44				56	8	64	108	371	64	435
7:15 - 8:15	35	11	46				69	8	77	123	392	75	467
7:30 - 8:30	33	13	46				82	10	92	138	445	70	515
7:45 - 8:45	36	7	43				94	8	102	145	493	60	553
8:00 - 9:00	31	4	35				112	9	121	156	515	66	581
8:15 - 9:15	28	7	35				104	10	114	149	512	60	572
8:30 - 9:30	26	6	32				95	10	105	137	453	60	513
8:45 - 9:45	25	8	33				84	11	95	128	401	65	466
9:00 - 10:00	26	8	34				61	11	72	106	341	57	398
9:15 - 10:15	29	9	38				57	8	65	103	325	56	381
9:30 - 10:30	27	10	37				58	8	66	103	318	57	375
9:45 - 10:45	23	11	34				56	9	65	99	320	59	379
10:00 - 11:00	24	11	35				51	8	59	94	306	66	372
10:15 - 11:15	20	8	28				60	10	70	98	314	63	377
10:30 - 11:30	19	12	31				59	11	70	101	325	68	393
10:45 - 11:45	23	9	32				60	11	71	103	336	68	404
11:00 - 12:00	18	10	28				73	13	86	114	372	64	436
Period End													
12:00 - 13:00	22	10	32				85	6	91	123	439	58	497
12:15 - 13:15	22	7	29				88	7	95	124	476	54	530
12:30 - 13:30	21	9	30				75	7	82	112	474	61	535
12:45 - 13:45	20	8	28				78	7	85	113	462	60	522
13:00 - 14:00	26	8	34				66	8	74	108	488	62	550
13:15 - 14:15	20	9	29				70	7	77	106	470	65	535
13:30 - 14:30	29	3	32				76	10	86	118	485	52	537
13:45 - 14:45	31	3	34				88	9	97	131	509	52	561
14:00 - 15:00	29	5	34				101	11	112	146	508	54	562
14:15 - 15:15	35	5	40				110	11	121	161	533	51	584
14:30 - 15:30	38	5	43				115	8	123	166	559	53	612
14:45 - 15:45	43	6	49				103	6	109	158	578	48	626
15:00 - 16:00	50	4	54				93	3	96	150	570	44	614
15:15 - 16:15	50	3	53				91	3	94	147	581	36	617
15:30 - 16:30	41	4	45				83	2	85	130	538	35	573
15:45 - 16:45	32	3	35				81	2	83	118	508	27	535
16:00 - 17:00	28	3	31				85	3	88	119	500	24	524
16:15 - 17:15	25	3	28				76	3	79	107	463	28	491
16:30 - 17:30	29	1	30				76	3	79	109	471	22	493
16:45 - 17:45	30	4	34				72	2	74	108	456	24	480
17:00 - 18:00	27	3	30				62	1	63	93	418	19	437

All Vehicles
Time Per Hour

SOUTH — *Old Willbriggie Road*

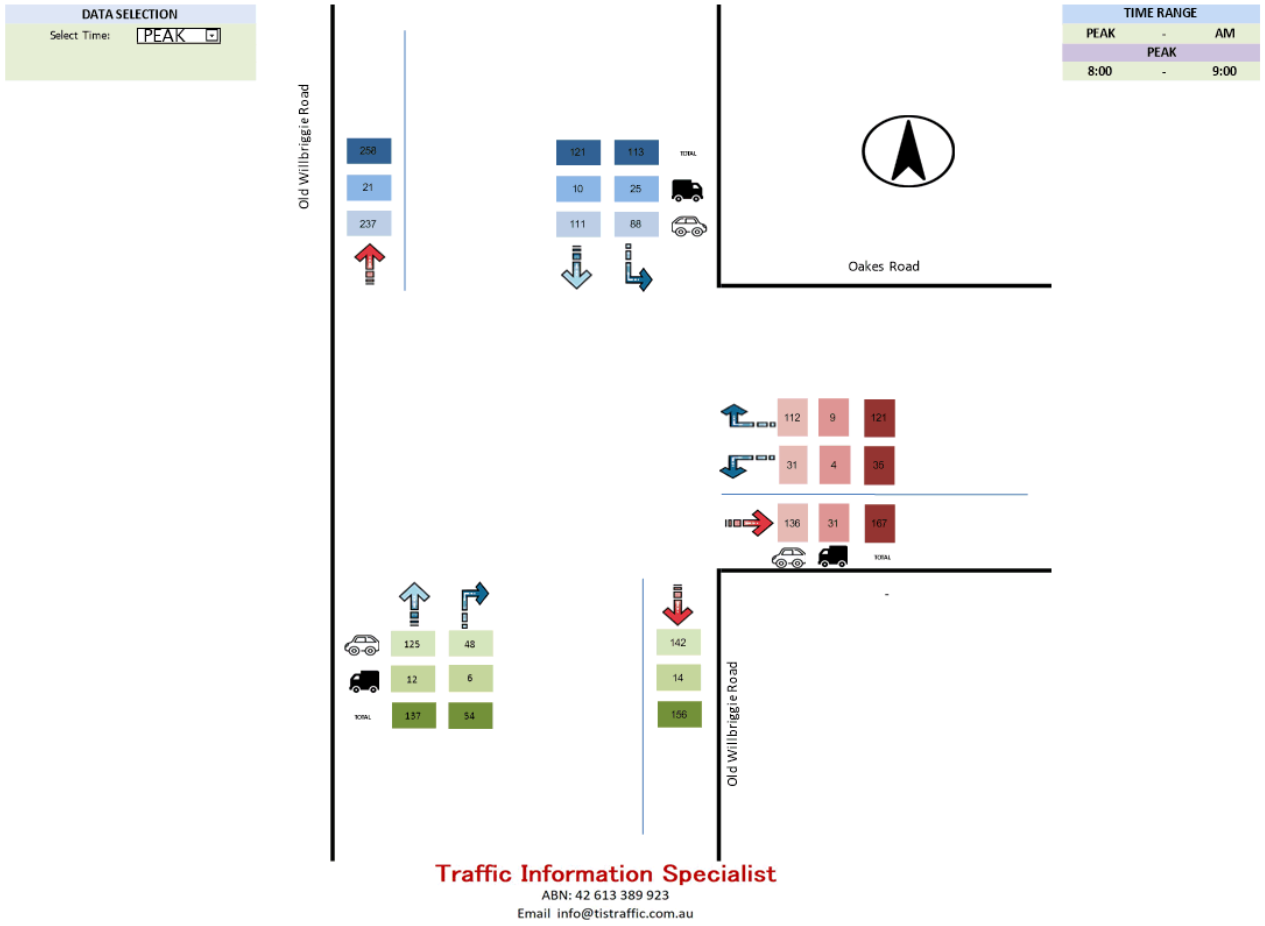
	L			T			R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 7:00				64	3	67	22	2	24	91	276	25	301
6:15 - 7:15				68	6	74	25	3	28	102	307	31	338
6:30 - 7:30				69	8	77	26	4	30	107	329	48	377
6:45 - 7:45				72	8	80	30	5	35	115	352	57	409
7:00 - 8:00				82	7	89	34	6	40	129	371	64	435
7:15 - 8:15				84	8	92	34	6	40	132	392	75	467
7:30 - 8:30				100	8	108	39	7	46	154	445	70	515
7:45 - 8:45				120	8	128	46	6	52	180	493	60	553
8:00 - 9:00				123	12	137	48	6	54	191	515	66	581
8:15 - 9:15				140	8	148	46	7	53	201	512	60	572
8:30 - 9:30				124	8	132	45	5	50	182	453	60	513
8:45 - 9:45				98	9	107	37	8	45	152	401	65	466
9:00 - 10:00				85	6	91	30	10	40	131	341	57	398
9:15 - 10:15				76	9	85	29	10	39	124	325	56	381
9:30 - 10:30				72	7	79	25	12	37	116	318	57	375
9:45 - 10:45				83	8	91	20	10	30	121	320	59	379
10:00 - 11:00				78	10	88	17	10	27	115	306	66	372
10:15 - 11:15				76	10	86	19	10	29	115	314	63	377
10:30 - 11:30				80	10	90	20	11	31	121	325	68	393
10:45 - 11:45				84	11	95	25	14	39	134	336	68	404
11:00 - 12:00				94	10	104	31	12	43	147	372	64	436
Period End													
12:00 - 13:00				110	16	126	26	10	36	162	439	58	497
12:15 - 13:15				117	16	133	29	8	37	170	476	54	530
12:30 - 13:30				115	11	126	28	9	37	163	474	61	535
12:45 - 13:45				106	11	117	26	9	35	152	462	60	522
13:00 - 14:00				148	11	159	25	10	35	194	488	62	550
13:15 - 14:15				138	12	150	23	9	32	182	470	65	535
13:30 - 14:30				143	10	153	25	9	34	187	485	52	537
13:45 - 14:45				148	10	158	28	8	36	194	509	52	561
14:00 - 15:00				123	11	134	37	7	44	178	508	54	562
14:15 - 15:15				139	12	151	48	8	56	207	533	51	584
14:30 - 15:30				137	16	153	52	6	58	211	559	53	612
14:45 - 15:45				151	16	167	52	3	55	222	578	48	626
15:00 - 16:00				152	15	167	53	3	56	223	570	44	614
15:15 - 16:15				162	11	173	49	1	50	223	581	36	617
15:30 - 16:30				163	7	170	43	3	46	216	538	35	573
15:45 - 16:45				153	4	157	39	3	42	199	508	27	535
16:00 - 17:00				145	5	150	34	3	37	187	500	24	524
16:15 - 17:15				134	5	139	30	3	33	172	463	28	491
16:30 - 17:30				142	4	146	28	2	30	176	471	22	493
16:45 - 17:45				138	4	142	30	3	33	175	456	24	480
17:00 - 18:00				116	2	118	30	3	33	151	418	19	437
Period End													

WEST — -

	L			T			R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 7:00											276	25	301
6:15 - 7:15											307	31	338
6:30 - 7:30											329	48	377
6:45 - 7:45											352	57	409
7:00 - 8:00											371	64	435
7:15 - 8:15											392	75	467
7:30 - 8:30											445	70	515
7:45 - 8:45											493	60	553
8:00 - 9:00											515	66	581
8:15 - 9:15											512	60	572
8:30 - 9:30											453	60	513
8:45 - 9:45											401	65	466
9:00 - 10:00											341	57	398
9:15 - 10:15											325	56	381
9:30 - 10:30											318	57	375
9:45 - 10:45											320	59	379
10:00 - 11:00											306	66	372
10:15 - 11:15											314	63	377
10:30 - 11:30											325	68	393
10:45 - 11:45											336	68	404
11:00 - 12:00											372	64	436
Period End													
12:00 - 13:00											439	58	497
12:15 - 13:15											476	54	530
12:30 - 13:30											474	61	535
12:45 - 13:45											462	60	522
13:00 - 14:00											488	62	550
13:15 - 14:15											470	65	535
13:30 - 14:30											485	52	537
13:45 - 14:45											509	52	561
14:00 - 15:00											508	54	562
14:15 - 15:15											533	51	584
14:30 - 15:30											559	53	612
14:45 - 15:45											578	48	626
15:00 - 16:00											570	44	614
15:15 - 16:15											581	36	617
15:30 - 16:30											538	35	573
15:45 - 16:45											508	27	535
16:00 - 17:00											500	24	524
16:15 - 17:15											463	28	491
16:30 - 17:30											471	22	493
16:45 - 17:45											456	24	480
17:00 - 18:00											418	19	437
Period End													

Traffic Information Specialist
ABN: 42 613 389 923
Email: info@tistraffic.com.au

Location	Old Willbriggie Road		Duration	6:00 -	12:00
	Oakes Road			-	
	Old Willbriggie Road			12:00 -	18:00
	-		Date	Thursday, 7 August 2025	
Suburb	GRIFFITH		Weather	Dry	

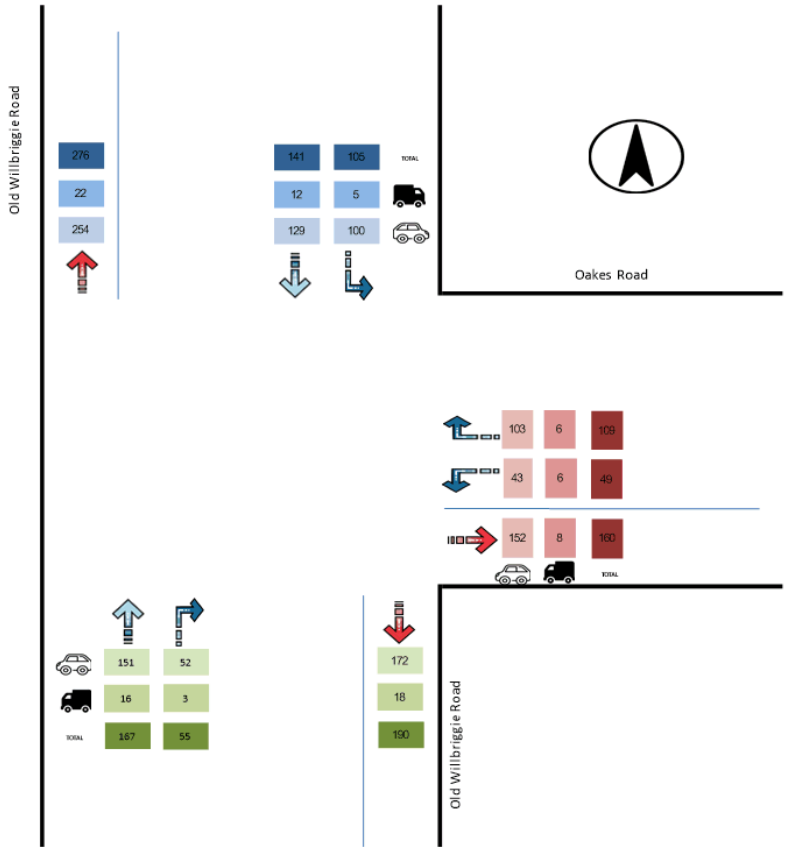


Location	Old Willbriggie Road		Duration	6:00 - 12:00	
	Oakes Road			-	
	Old Willbriggie Road			12:00 - 18:00	
	-		Date	Thursday, 7 August 2025	
Suburb	GRIFFITH		Weather	Dry	

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
14:45	-	15:45



Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	Site Access (127 Oakes Road)	Duration	6:00	-	12:00
	Oakes Road		-		-
	-		12:00	-	18:00
	Oakes Road	Date	Thursday, 7 August 2025		
Suburb	GRIFFITH	Weather	Dry		

All Vehicles — Time Per 15 Mins

	NORTH — Site Access (127 Oakes Road)									EAST — Oakes Road										TOTAL		
	L			T			R			L			T			R					
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 6:15	1	0	1				0	3	3	4				7	1	8	0	0	0	8	19	4	23
6:15 - 6:30	0	0	0				0	0	0	0				13	0	13	0	0	0	13	39	0	39
6:30 - 6:45	0	0	0				0	0	0	0				13	3	16	0	0	0	16	33	7	40
6:45 - 7:00	0	0	0				1	0	1	1				28	1	29	1	0	1	30	57	2	59
7:00 - 7:15	0	0	0				0	0	0	0				12	3	15	0	0	0	15	32	6	38
7:15 - 7:30	0	0	0				0	0	0	0				24	2	26	0	1	1	27	51	12	63
7:30 - 7:45	0	0	0				1	2	3	3				18	8	26	0	0	0	26	43	14	57
7:45 - 8:00	0	0	0				1	1	2	2				32	6	38	0	0	0	38	74	12	86
8:00 - 8:15	0	0	0				2	0	2	2				26	2	28	2	0	2	30	49	8	57
8:15 - 8:30	0	0	0				0	1	1	1				34	4	38	0	1	1	39	64	12	76
8:30 - 8:45	0	0	0				1	0	1	1				38	1	39	0	0	0	39	77	6	83
8:45 - 9:00	0	0	0				1	0	1	1				44	4	48	0	0	0	48	83	10	93
9:00 - 9:15	0	0	0				2	0	2	2				22	4	26	0	0	0	26	45	10	55
9:15 - 9:30	0	0	0				0	1	1	1				18	8	26	1	2	3	29	44	17	61
9:30 - 9:45	0	0	0				2	0	2	2				21	3	24	0	1	1	25	48	9	57
9:45 - 10:00	0	0	0				0	0	0	0				26	4	30	0	0	0	30	46	8	54
10:00 - 10:15	0	0	0				0	0	0	0				19	4	23	0	0	0	23	37	11	48
10:15 - 10:30	0	0	0				1	1	2	2				16	5	21	1	1	2	23	38	11	49
10:30 - 10:45	0	0	0				2	0	2	2				16	6	22	0	0	0	22	40	10	50
10:45 - 11:00	0	0	0				4	0	4	4				17	2	19	0	0	0	19	38	8	46
11:00 - 11:15	0	0	0				0	0	0	0				23	3	26	0	0	0	26	53	6	59
11:15 - 11:30	1	0	1				1	1	2	3				20	8	28	0	0	0	28	47	13	60
11:30 - 11:45	0	0	0				1	0	1	1				21	3	24	0	0	0	24	44	10	54
11:45 - 12:00	0	0	0				2	0	2	2				24	5	29	0	0	0	29	55	10	65
Period End	2	0	2				22	10	32	34				532	90	622	5	6	11	633	1156	216	1372
12:00 - 12:15	0	0	0				0	0	0	0				22	3	25	0	0	0	25	56	8	64
12:15 - 12:30	0	0	0				0	1	1	1				36	6	6	0	0	0	6	69	9	42
12:30 - 12:45	0	0	0				1	1	2	2				22	4	26	0	0	0	26	50	11	61
12:45 - 13:00	0	0	0				0	1	1	1				29	0	29	0	0	0	29	54	3	57
13:00 - 13:15	0	0	0				0	0	0	0				29	1	30	0	0	0	30	57	6	63
13:15 - 13:30	0	0	0				0	0	0	0				15	1	16	0	0	0	16	53	6	59
13:30 - 13:45	0	1	1				1	1	2	3				26	3	29	0	0	0	29	54	10	64
13:45 - 14:00	0	0	0				1	0	1	1				20	2	22	0	0	0	22	45	7	52
14:00 - 14:15	0	0	0				0	0	0	0				23	2	25	0	0	0	25	58	7	65
14:15 - 14:30	0	0	0				0	1	1	1				33	5	38	0	0	0	38	71	9	80
14:30 - 14:45	2	0	2				1	0	1	3				41	3	44	1	1	2	46	74	11	85
14:45 - 15:00	0	0	0				4	1	5	5				29	4	33	0	0	0	33	67	8	75
15:00 - 15:15	1	0	1				2	0	2	3				35	1	36	0	0	0	36	77	4	81
15:15 - 15:30	0	0	0				4	1	5	5				38	2	40	0	0	0	40	86	4	90
15:30 - 15:45	0	1	1				2	0	2	3				32	2	34	0	0	0	34	71	3	74
15:45 - 16:00	0	0	0				0	0	0	0				25	2	27	0	0	0	27	52	2	54
16:00 - 16:15	1	0	1				0	0	0	1				40	1	41	0	0	0	41	80	1	81
16:15 - 16:30	0	0	0				0	0	0	0				22	2	24	0	0	0	24	48	7	55
16:30 - 16:45	1	0	1				3	1	4	5				22	1	23	0	0	0	23	47	3	50
16:45 - 17:00	0	0	0				1	0	1	1				28	2	30	0	0	0	30	56	3	59
17:00 - 17:15	0	0	0				4	0	4	4				22	0	22	0	0	0	22	53	0	53
17:15 - 17:30	0	0	0				1	0	1	1				25	1	26	0	0	0	26	52	2	54
17:30 - 17:45	0	0	0				0	0	0	0				21	3	24	0	0	0	24	50	5	55
17:45 - 18:00	0	0	0				0	0	0	0				15	0	15	0	0	0	15	40	0	40
Period End	5	2	7				25	8	33	0				650	51	665	1	1	2	667	1420	129	1513

All Vehicles — Time Per 15 Mins

	SOUTH — -									WEST — Oakes Road										TOTAL		
	L			T			R			L			T			R					
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
6:00 - 6:15											0	0	0	11	0	11				11	19	4	23
6:15 - 6:30											1	0	1	25	0	25				26	39	0	39
6:30 - 6:45											4	0	4	16	4	20				24	33	7	40
6:45 - 7:00											6	0	6	21	1	22				28	57	2	59
7:00 - 7:15											2	0	2	18	3	21				23	32	6	38
7:15 - 7:30											1	0	1	26	9	35				36	51	12	63
7:30 - 7:45											2	0	2	22	4	26				28	43	14	57
7:45 - 8:00											0	0	0	41	5	46				46	74	12	86
8:00 - 8:15											0	1	1	19	5	24				25	49	8	57
8:15 - 8:30											1	0	1	29	6	35				36	64	12	76
8:30 - 8:45											2	1	3	36	4	40				43	77	6	83
8:45 - 9:00											1	0	1	37	6	43				44	83	10	93
9:00 - 9:15											0	0	0	21	6	27				27	45	10	55
9:15 - 9:30											0	0	0	25	6	31				31	44	17	61
9:30 - 9:45											1	0	1	24	5	29				30	48	9	57
9:45 - 10:00											0	0	0	20	4	24				24	46	8	54
10:00 - 10:15											0	0	0	18	7	25				25	37	11	48
10:15 - 10:30											1	0	1	19	4	23				24	38	11	49
10:30 - 10:45											0	0	0	22	4	26				26	40	10	50
10:45 - 11:00											0	1	1	17	5	22				23	38	8	46
11:00 - 11:15											3	0	3	27	3	30				33	53	6	59
11:15 - 11:30											1	0	1	24	4	28				29	47	13	60
11:30 - 11:45											0	2	2	22	5	27				29	44	10	54
11:45 - 12:00											0	0	0	29	5	34				34	55	10	65
Period End											26	5	31	569	105	674				705	1156	216	1372
12:00 - 12:15											3	1	4	31	4	35				39	56	8	64
12:15 - 12:30											2	0	2	31	2	33				35	69	9	42
12:30 - 12:45											0	2	2	27	4	31				33	50	11	61
12:45 - 13:00											0	0	0	25	2	27				27	54	3	57
13:00 - 13:15											0	0	0	28	5	33				33	57	6	63
13:15 - 13:30											0	1	1	38	4	42				43	53	6	59
13:30 - 13:45											0	0	0	27	5	32				32	54	10	64
13:45 - 14:00											0	1	1	24	4	28				29	45	7	52
14:00 - 14:15											1	1	2	34	4	38				40	58	7	65
14:15 - 14:30											1	1	2	37	2	39				41	71	9	80
14:30 - 14:45											0	0	0	29	7	36				36	74	11	85
14:45 - 15:00											1	0	1	33	3	36				37	67	8	75
15:00 - 15:15											0	2	2	39	1	40				42	77	4	81
15:15 - 15:30											3	1	4	41	0	41				45	86	4	90
15:30 - 15:45											1	0	1	36	0	36				37	71	3	74
15:45 - 16:00											0	0	0	27	0	27				27	52	2	54
16:00 - 16:15											0	0	0	39	0	39				39	80	1	81
16:15 - 16:30											1	1	2	25	4	29				31	48	7	55
16:30 - 16:45											0	0	0	21	1	22				22	47	3	50
16:45 - 17:00											0	0	0	27	1	28				28	56	3	59
17:00 - 17:15											1	0	1	26	0	26				27	53	0	53
17:15 - 17:30											0	0	0	26	1	27				27	52	2	54
17:30 - 17:45											0	0	0	29	2	31				31	50	5	55
17:45 - 18:00											0	0	0	25	0	25				25	40	0	40
Period End											14	11	25	725	56	781				806	1420	129	1513

Traffic Information Specialist
ABN: 42 613 389 923
Email: info@tistraffic.com.au

Location	Site Access (127 Oakes Road) Oakes Road - Oakes Road	Duration	6:00 - 12:00	- - -	12:00 18:00
Suburb	GRIFFITH	Date Weather	Thursday, 7 August 2025 Dry		

All Vehicles
Time Per Hour

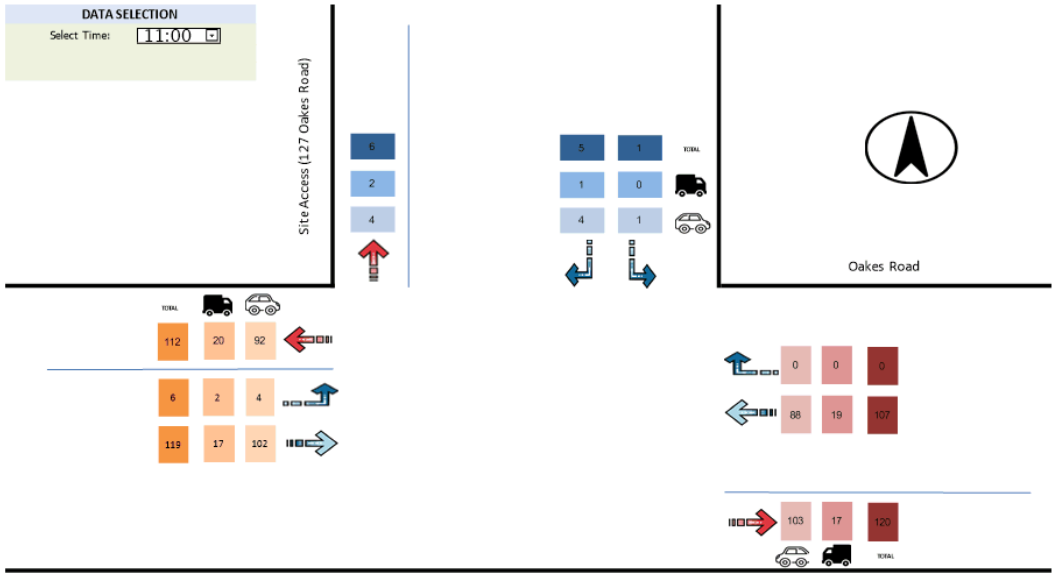
	NORTH Site Access (127 Oakes Road) L			T			R			TOTAL	EAST Oakes Road L			T			R			TOTAL	TOTAL		TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	
6:00 - 7:00	1	0	1				1	3	4	5				61	5	66	1	0	1	67	148	13	161
6:15 - 7:15	0	0	0				1	0	1	1				66	7	73	1	0	1	74	161	15	176
6:30 - 7:30	0	0	0				1	0	1	1				77	9	86	1	1	2	88	173	27	200
6:45 - 7:45	0	0	0				2	2	4	4				82	14	96	1	1	2	98	183	34	217
7:00 - 8:00	0	0	0				2	3	5	5				86	19	105	0	1	1	106	200	44	244
7:15 - 8:15	0	0	0				4	3	7	7				100	18	118	2	1	3	121	217	46	263
7:30 - 8:30	0	0	0				4	4	8	8				110	20	130	2	1	3	133	230	46	276
7:45 - 8:45	0	0	0				4	2	6	6				130	13	143	2	1	3	146	264	38	302
8:00 - 9:00	0	0	0				4	1	5	5				142	11	153	2	1	3	156	273	36	309
8:15 - 9:15	0	0	0				4	1	5	5				138	13	151	0	1	1	152	269	38	307
8:30 - 9:30	0	0	0				4	1	5	5				122	17	139	1	2	3	142	249	43	292
8:45 - 9:45	0	0	0				5	1	6	6				105	19	124	1	3	4	128	220	46	266
9:00 - 10:00	0	0	0				4	1	5	5				87	19	106	1	3	4	110	183	44	227
9:15 - 10:15	0	0	0				2	1	3	3				84	19	103	1	3	4	107	175	45	220
9:30 - 10:30	0	0	0				3	1	4	4				82	16	98	1	2	3	101	169	39	208
9:45 - 10:45	0	0	0				3	1	4	4				77	19	96	1	1	2	98	161	40	201
10:00 - 11:00	0	0	0				7	1	8	8				68	17	85	1	1	2	87	153	40	193
10:15 - 11:15	0	0	0				7	1	8	8				72	16	88	1	1	2	90	169	35	204
10:30 - 11:30	1	0	1				7	1	8	9				76	19	95	0	0	0	95	178	37	215
10:45 - 11:45	1	0	1				6	1	7	8				81	16	97	0	0	0	97	182	37	219
11:00 - 12:00	1	0	1				4	1	5	6				88	19	107	0	0	0	107	199	39	238
Period End																							
12:00 - 13:00	0	0	0				1	3	4	4				108	13	86	0	0	0	86	229	31	224
12:15 - 13:15	0	0	0				1	3	4	4				116	11	91	0	0	0	91	230	29	223
12:30 - 13:30	0	0	0				1	2	3	3				95	6	101	0	0	0	101	214	26	240
12:45 - 13:45	0	1	1				1	2	3	4				99	5	104	0	0	0	104	218	25	243
13:00 - 14:00	0	1	1				2	1	3	4				90	7	97	0	0	0	97	209	29	238
13:15 - 14:15	0	1	1				2	1	3	4				84	8	92	0	0	0	92	210	30	240
13:30 - 14:30	0	1	1				2	2	4	5				102	12	114	0	0	0	114	228	33	261
13:45 - 14:45	2	0	2				2	1	3	5				117	12	129	1	1	2	131	248	34	282
14:00 - 15:00	2	0	2				5	2	7	9				126	14	140	1	1	2	142	270	35	305
14:15 - 15:15	3	0	3				7	2	9	12				138	13	151	1	1	2	153	289	32	321
14:30 - 15:30	3	0	3				11	2	13	16				143	10	153	1	1	2	155	304	27	331
14:45 - 15:45	1	1	2				12	2	14	16				134	9	143	0	0	0	143	301	19	320
15:00 - 16:00	1	1	2				8	1	9	11				130	7	137	0	0	0	137	286	13	299
15:15 - 16:15	1	1	2				6	1	7	9				135	7	142	0	0	0	142	289	10	299
15:30 - 16:30	1	1	2				2	0	2	4				119	7	126	0	0	0	126	251	13	264
15:45 - 16:45	2	0	2				3	1	4	6				109	6	115	0	0	0	115	227	13	240
16:00 - 17:00	2	0	2				4	1	5	7				112	6	118	0	0	0	118	231	14	245
16:15 - 17:15	1	0	1				8	1	9	10				94	5	99	0	0	0	99	204	13	217
16:30 - 17:30	1	0	1				9	1	10	11				97	4	101	0	0	0	101	208	8	216
16:45 - 17:45	0	0	0				6	0	6	6				96	6	102	0	0	0	102	211	10	221
17:00 - 18:00	0	0	0				5	0	5	5				83	4	87	0	0	0	87	195	7	202
Period End																							

All Vehicles
Time Per Hour

	SOUTH - L			T			R			TOTAL	WEST Oakes Road L			T			R			TOTAL	TOTAL		TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	
6:00 - 7:00											11	0	11	73	5	78				89	148	13	161
6:15 - 7:15											13	0	13	80	8	88				101	161	15	176
6:30 - 7:30											13	0	13	81	17	98				111	173	27	200
6:45 - 7:45											11	0	11	87	17	104				115	183	34	217
7:00 - 8:00											5	0	5	107	21	128				133	200	44	244
7:15 - 8:15											3	1	4	108	23	131				135	217	46	263
7:30 - 8:30											3	1	4	111	20	131				135	230	46	276
7:45 - 8:45											3	2	5	125	20	145				150	264	38	302
8:00 - 9:00											4	2	6	121	21	142				148	273	36	309
8:15 - 9:15											4	1	5	123	22	145				150	269	38	307
8:30 - 9:30											3	1	4	119	22	141				145	249	43	292
8:45 - 9:45											2	0	2	107	23	130				132	220	46	266
9:00 - 10:00											1	0	1	90	21	111				112	183	44	227
9:15 - 10:15											1	0	1	87	22	109				110	175	45	220
9:30 - 10:30											2	0	2	81	20	101				103	169	39	208
9:45 - 10:45											1	0	1	79	19	98				99	161	40	201
10:00 - 11:00											1	1	2	76	20	96				98	153	40	193
10:15 - 11:15											4	1	5	85	16	101				106	169	35	204
10:30 - 11:30											4	1	5	90	16	106				111	178	37	215
10:45 - 11:45											4	3	7	90	17	107				114	182	37	219
11:00 - 12:00											4	2	6	102	17	119				125	199	39	238
Period End																							
12:00 - 13:00											5	3	8	114	12	126				134	229	31	224
12:15 - 13:15											2	2	4	111	13	124				128	230	29	223
12:30 - 13:30											0	3	3	118	15	133				136	214	26	240
12:45 - 13:45											0	1	1	118	16	134				135	218	25	243
13:00 - 14:00											0	2	2	117	18	135				137	209	29	238
13:15 - 14:15											1	3	4	123	17	140				144	210	30	240
13:30 - 14:30											2	3	5	122	15	137				142	228	33	261
13:45 - 14:45											2	3	5	124	17	141				146	248	34	282
14:00 - 15:00											3	2	5	133	16	149				154	270	35	305
14:15 - 15:15											2	3	5	138	13	151				156	289	32	321
14:30 - 15:30											4	3	7	142	11	153				160	304	27	331
14:45 - 15:45											5	3	8	149	4	153				161	301	19	320
15:00 - 16:00											4	3	7	143	1	144				151	286	13	299
15:15 - 16:15											4	1	5	143	0	143				148	289	10	299
15:30 - 16:30											2	1	3	127	4	131				134	251	13	264
15:45 - 16:45											1	1	2	112	5	117				119	227	13	240
16:00 - 17:00											1	1	2	112	6	118				120	231	14	245
16:15 - 17:15											2	1	3	99	6	105				108	204	13	217
16:30 - 17:30											1	0	1	100	3	103				104	208	8	216
16:45 - 17:45											1	0	1	108	4	112				113	211	10	221
17:00 - 18:00											1	0	1	106	3	109				110	195	7	202
Period End																							

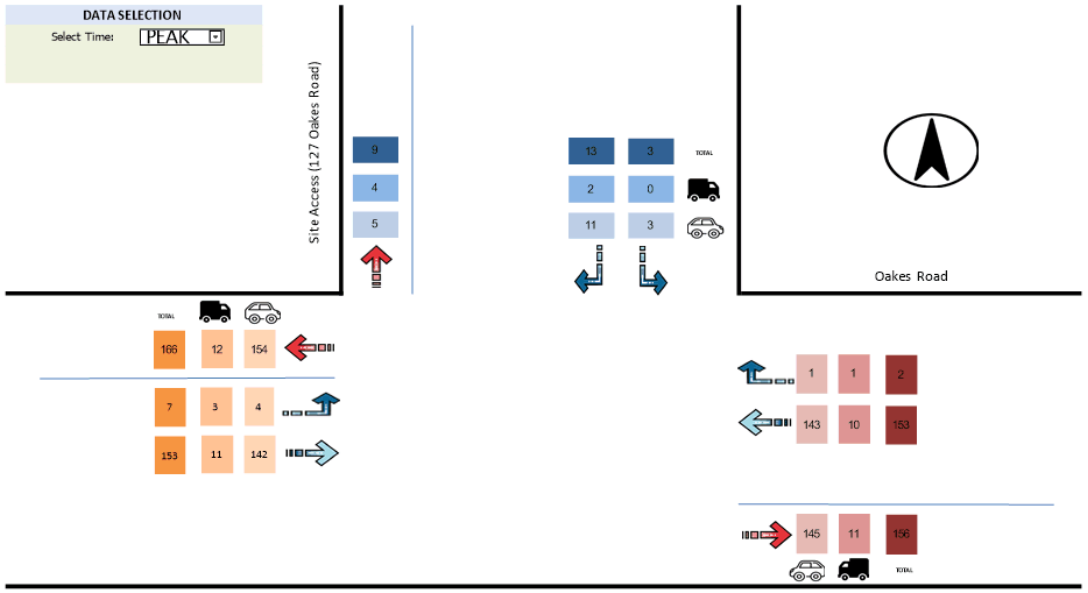
Traffic Information Specialist
ABN: 42 613 389 923
Email: info@tistraffic.com.au

Location	Site Access (127 Oakes Road)		Duration	6:00 - 12:00	
	Oakes Road			-	
	-			12:00 - 18:00	
	Oakes Road		Date	Thursday, 7 August 2025	
Suburb	GRIFFITH		Weather	Dry	



Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	Site Access (127 Oakes Road)		Duration	6:00 - 12:00	
	Oakes Road			-	
	-			12:00 - 18:00	
	Oakes Road		Date	Thursday, 7 August 2025	
Suburb	GRIFFITH		Weather	Dry	



Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Appendix F Assessment Traffic Volumes

Traffic Impact Assessment

Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

5 December 2025

SLR

Development Assumptions

Existing Operation Details

Item	Staff	Unit
Staff	27	Persons
Production Limit (Annual)	30,000	Tonnes per Annum
Production Limit (Daily)	100	Tonnes per day
Operational Days	300	Days

Proposed Operation Details

Item	Value	Unit
Staff	27	Persons
Production Limit (Annual)	140,000	Tonnes per Annum
Production Limit (Daily)	466.6666667	Tonnes per day
Operational Days	300	Days
Existing Production Survey Day	466.5	Tonnes per day
Proposed Max Day Production	650	Tonnes per day

Peak Hour Factor

Item	Value	Unit
Existing Demand on Survey Day	467	0
Proposed Max Day Production	650	0
Linear Factor	1.4	-

Peak Hour Site access Volumes

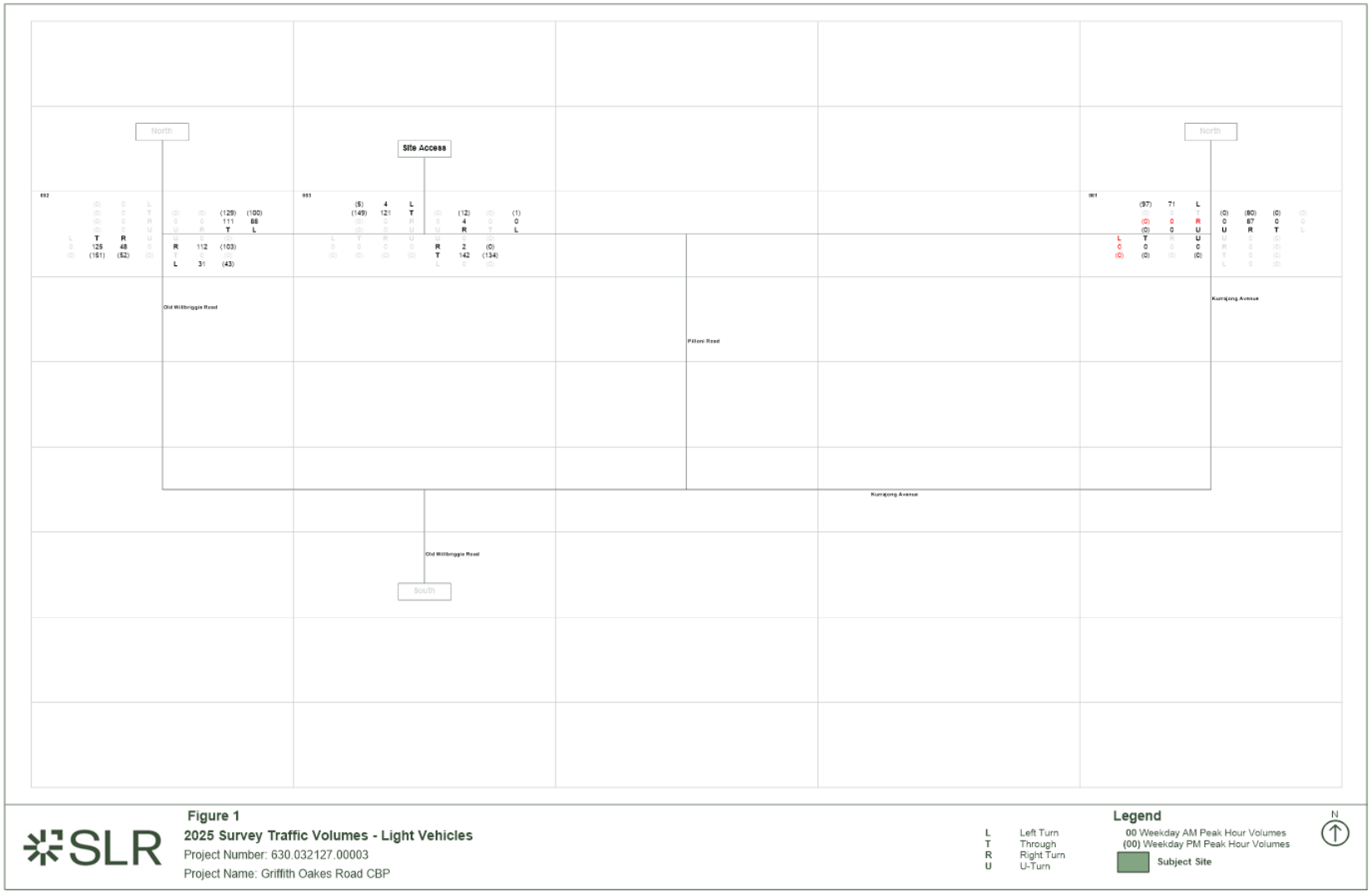
	AM Peak						PM Peak					
	In		Out		Total		In		Out		Total	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Survey	6	3	4	1	10	4	5	3	13	3	18	6
Proposed	6	4	4	1	10	6	5	4	13	4	18	8
Increase	0	1	0	0	0	2	0	1	0	1	0	2

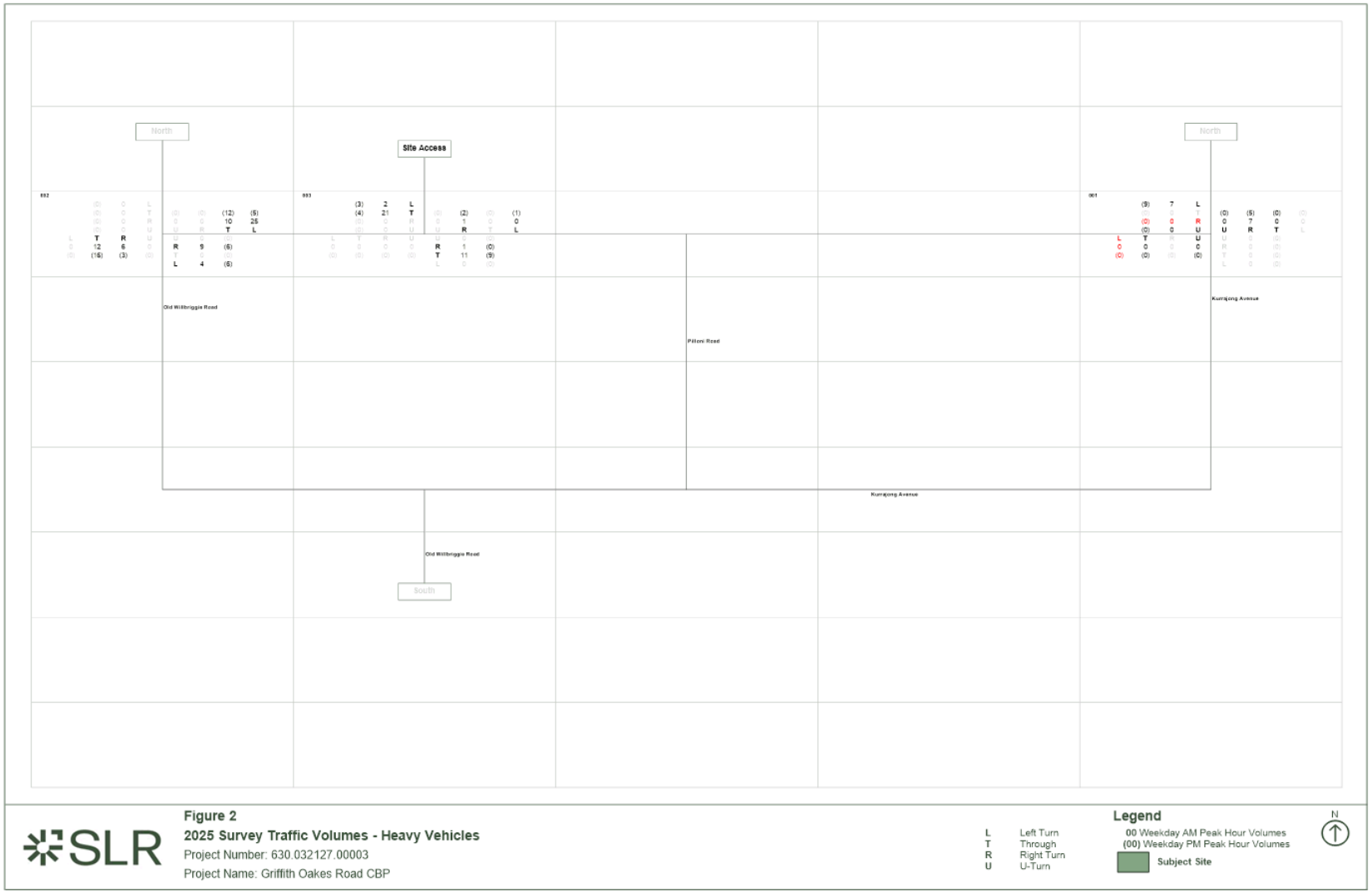
Distributions based on Survey

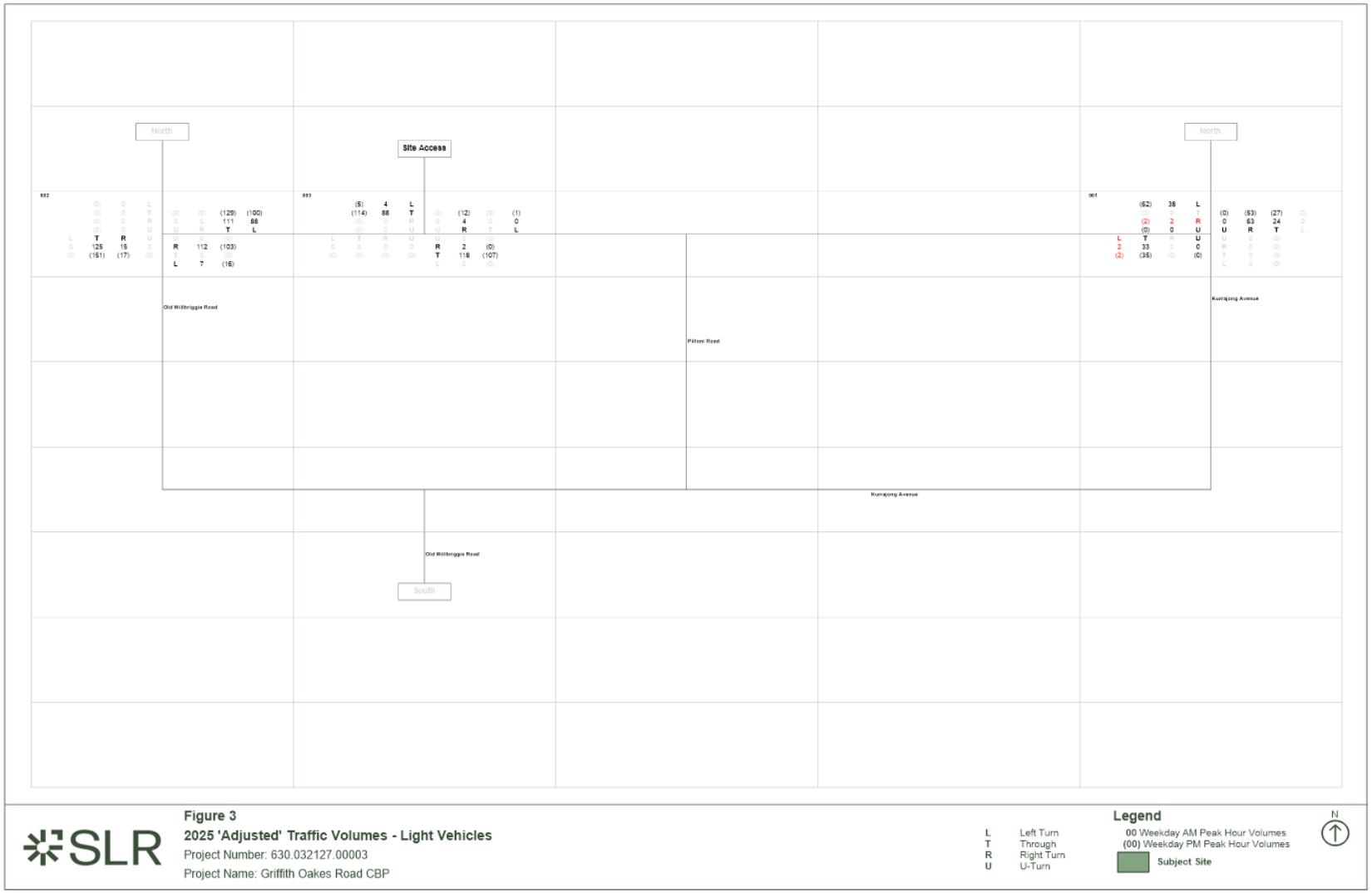
Direction	%
East	25%
West	75%
North @ Old Willbriggie Road	85%
South @ Old Willbriggie Road	15%

Distributions based on Survey

Element	Value
Survey Year	2025
Year of Opening	2026
10 Year Horizon	2036
Growth Rate	2%
10 Year Growth Factor	1.22


North
Site Access
North
Old Willbriggie Road
Pilloni Road
Kumajong Avenue
Kumajong Avenue
Old Willbriggie Road
South
Figure 1
2025 Survey Traffic Volumes - Light Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP
L Left Turn
T Through
R Right Turn
U U-Turn
Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site
N


North
Site Access
North
Old Willbriggie Road
Pilloni Road
Kumajong Avenue
Kumajong Avenue
Old Willbriggie Road
South
Figure 2
2025 Survey Traffic Volumes - Heavy Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP
L Left Turn
T Through
R Right Turn
U U-Turn
Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site
N


North
Site Access
North
Old Willbriggie Road
Pilloni Road
Kumajong Avenue
Kumajong Avenue
Old Willbriggie Road
South
Figure 3
2025 'Adjusted' Traffic Volumes - Light Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP
L Left Turn
T Through
R Right Turn
U U-Turn
Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site
N

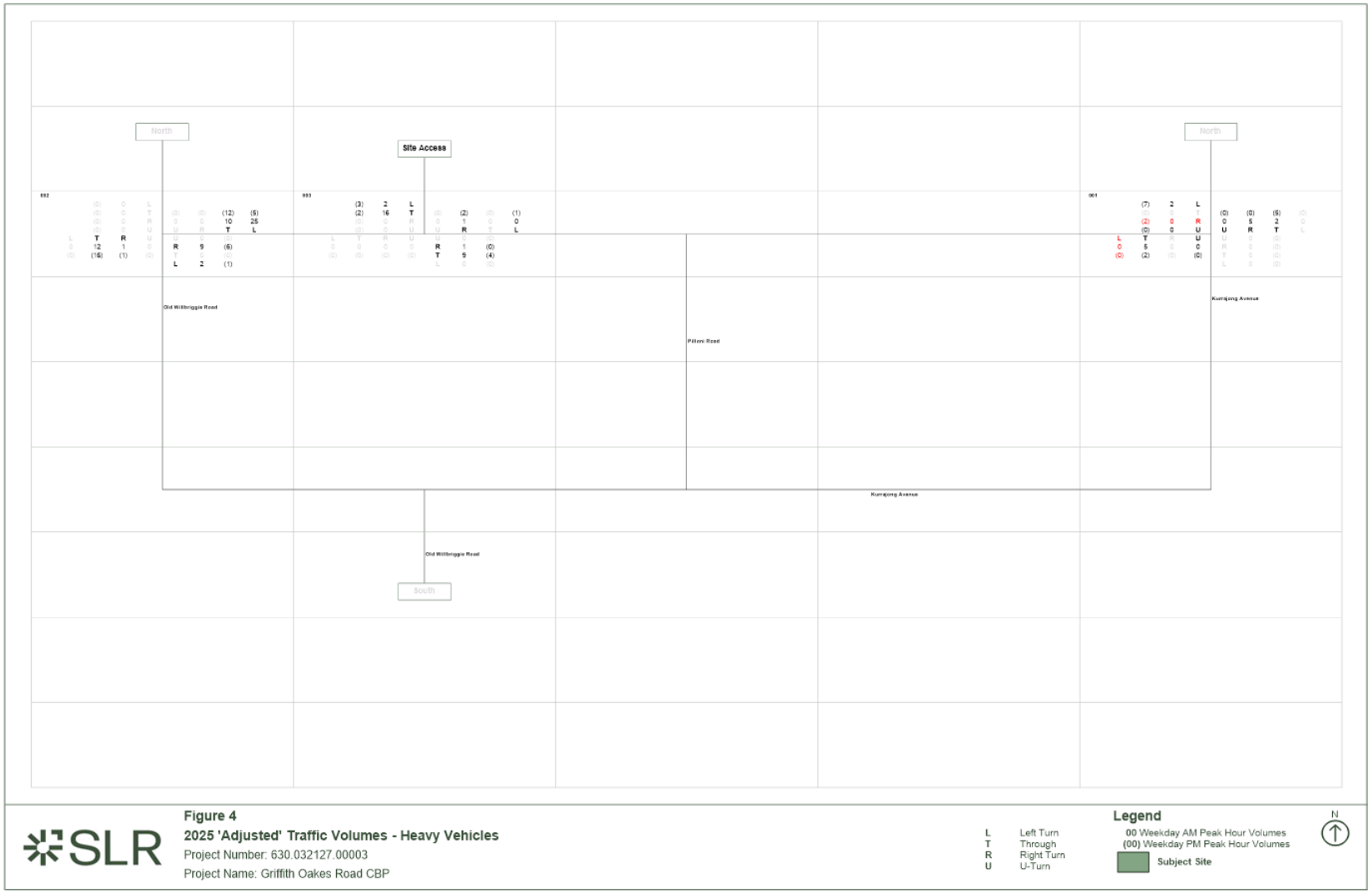
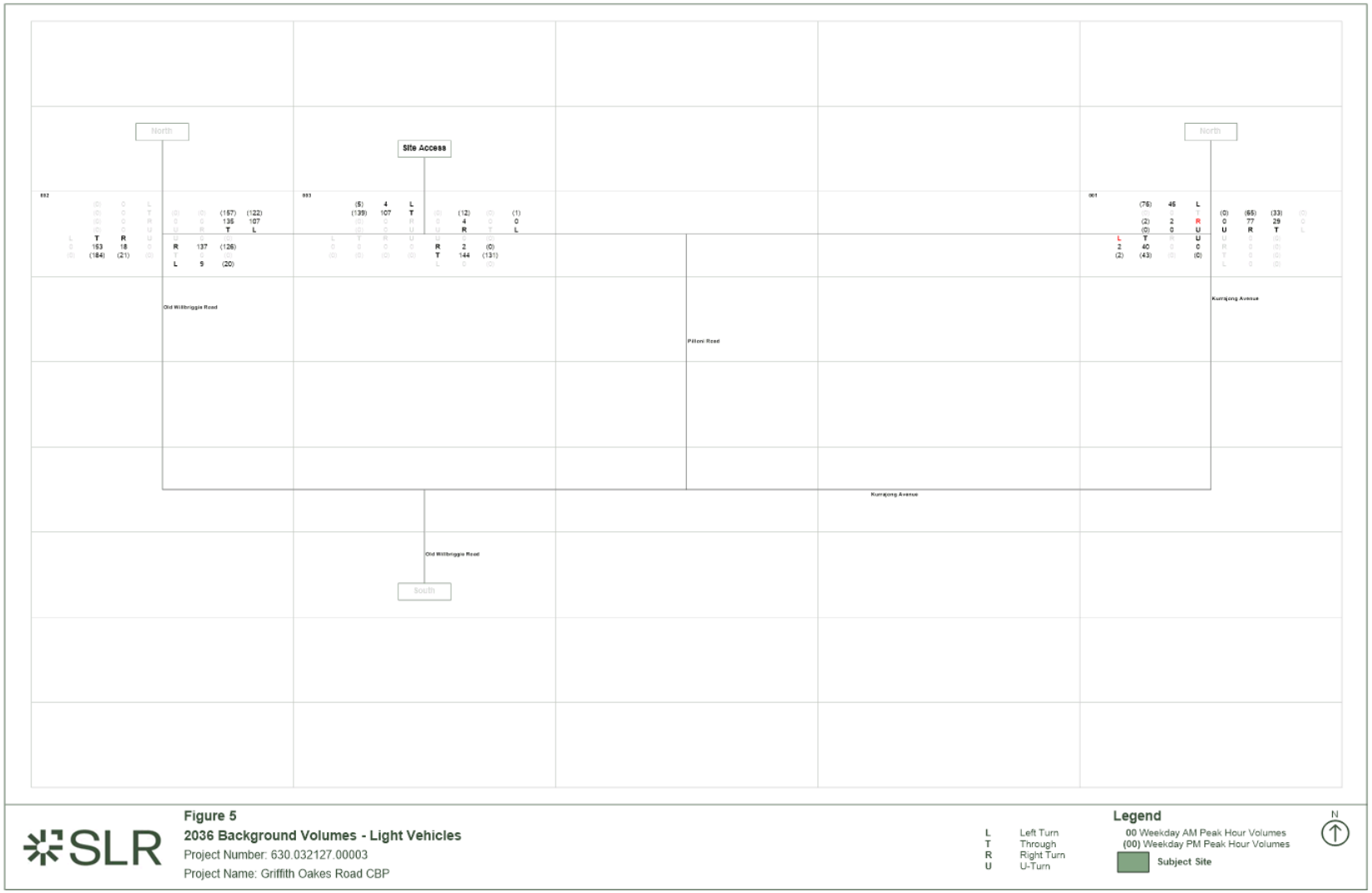


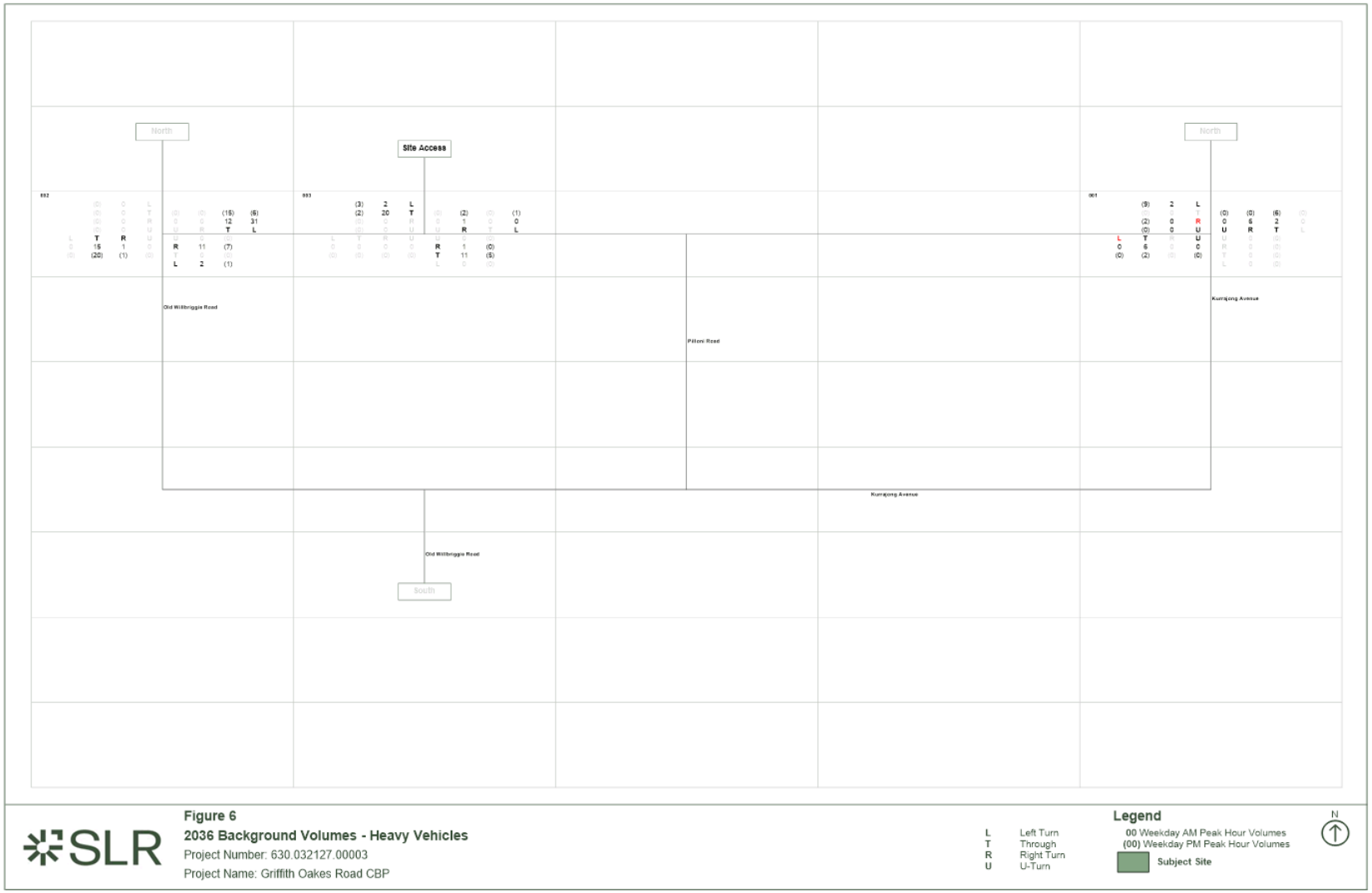
Figure 4
2025 'Adjusted' Traffic Volumes - Heavy Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP

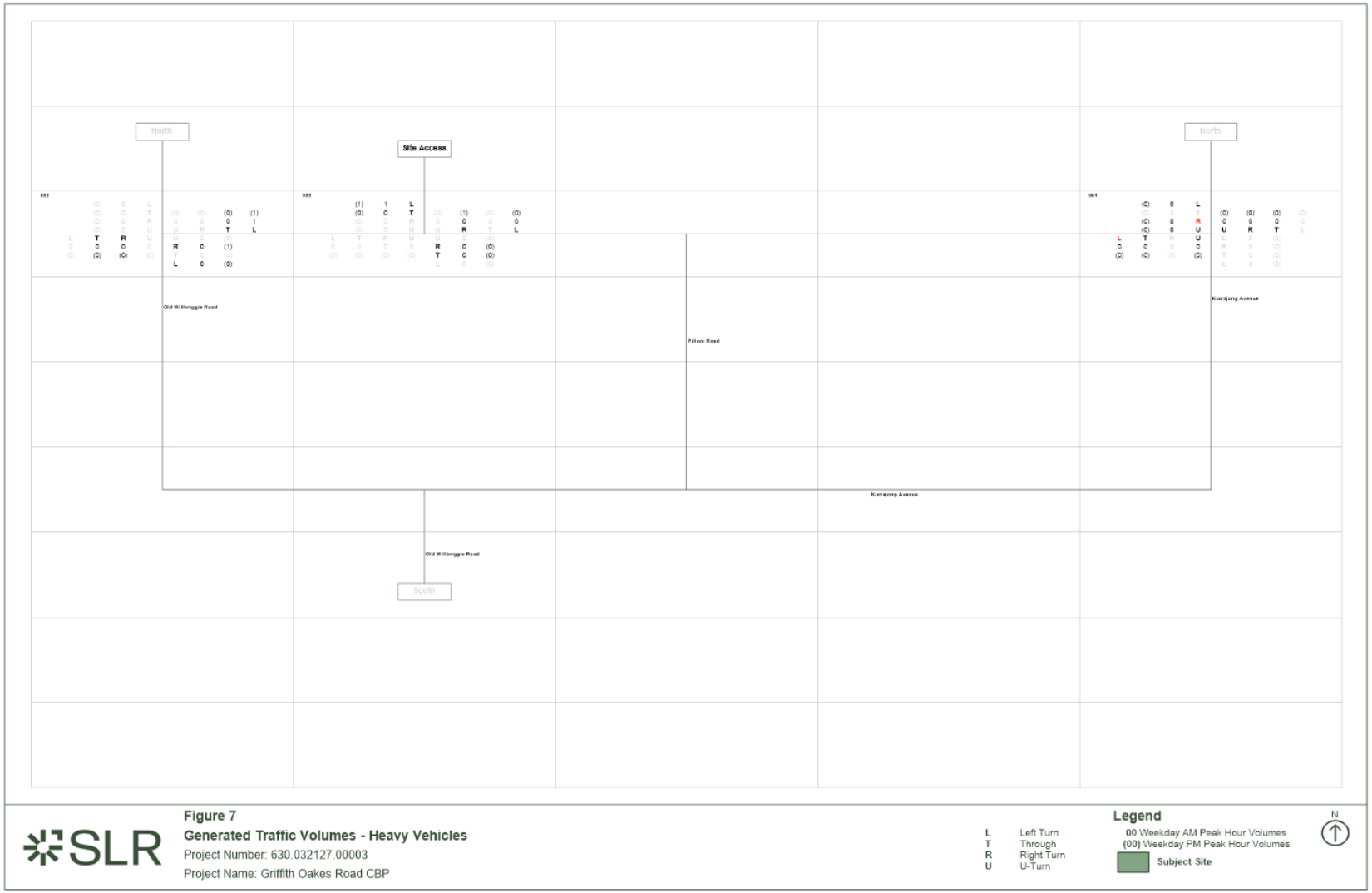
L Left Turn
T Through
R Right Turn
U U-Turn

Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site

N


North
Site Access
North
Old Willbriggie Road
Pillon Road
Kumajong Avenue
Kumajong Avenue
Old Willbriggie Road
South
Figure 5
2036 Background Volumes - Light Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP
L Left Turn
T Through
R Right Turn
U U-Turn
Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site
N


North
Site Access
North
Old Willbriggie Road
Pillom Road
Kumajong Avenue
Kumajong Avenue
Old Willbriggie Road
South
Figure 6
2036 Background Volumes - Heavy Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP
L Left Turn
T Through
R Right Turn
U U-Turn
Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site
N


North
Site Access
North
Old Willbriggie Road
Pilloni Road
Kumajong Avenue
Kumajong Avenue
Old Willbriggie Road
South
Figure 7
Generated Traffic Volumes - Heavy Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP
L Left Turn
T Through
R Right Turn
U U-Turn
Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site
N

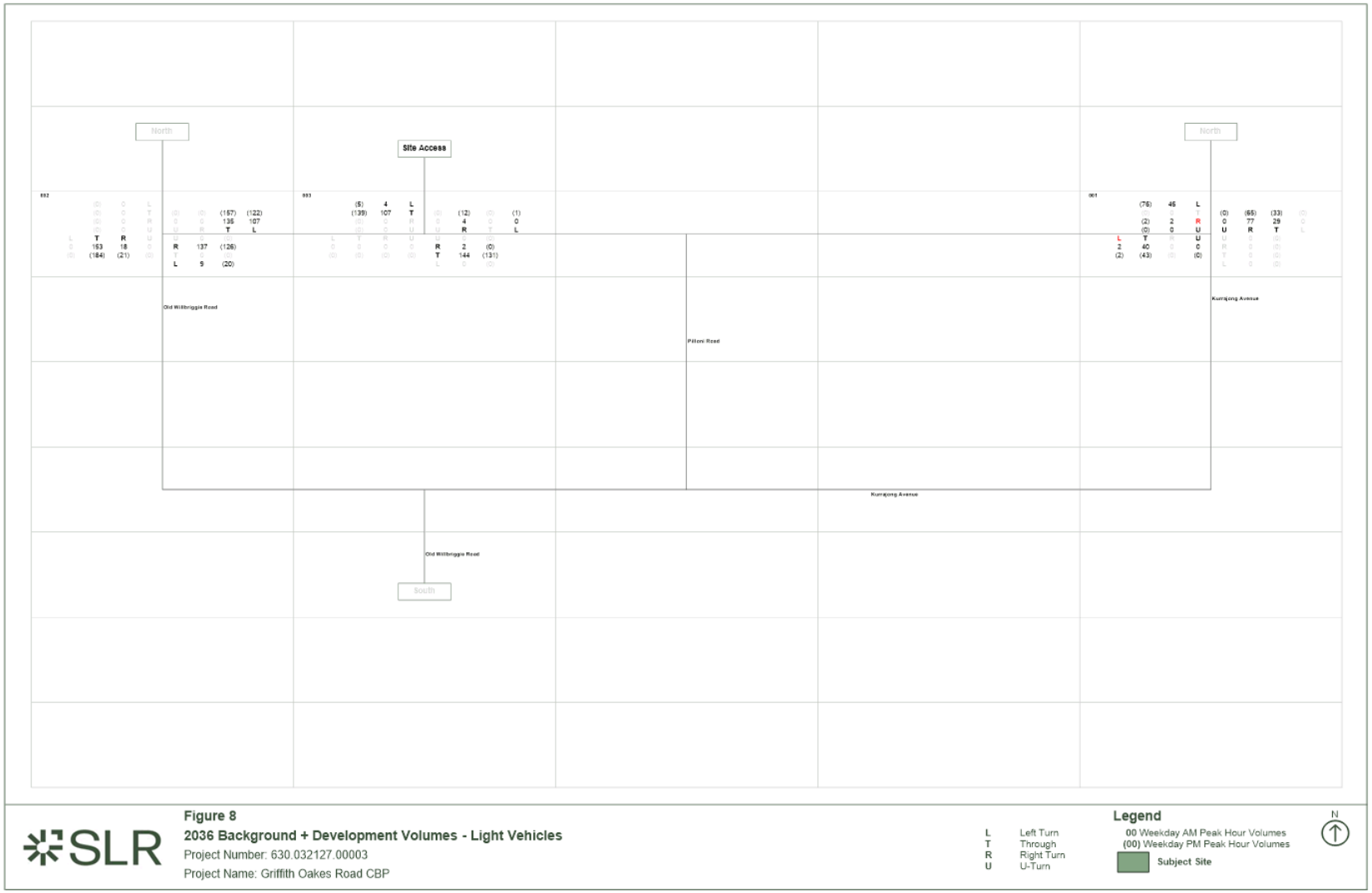


Figure 8
2036 Background + Development Volumes - Light Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP

L Left Turn
T Through
R Right Turn
U U-Turn

Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site

N

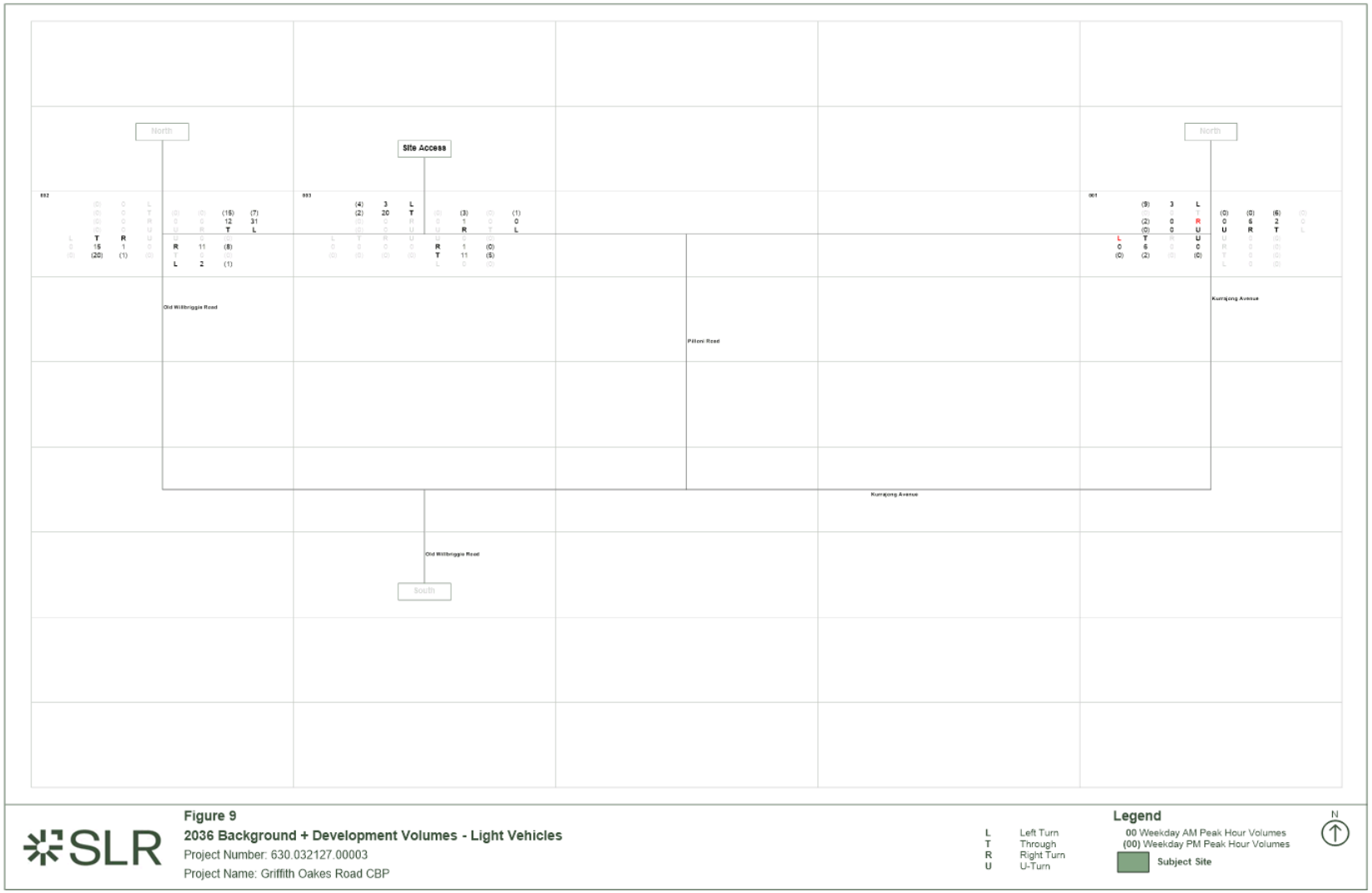


Figure 9
2036 Background + Development Volumes - Light Vehicles
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP

L Left Turn
T Through
R Right Turn
U U-Turn

Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site

N

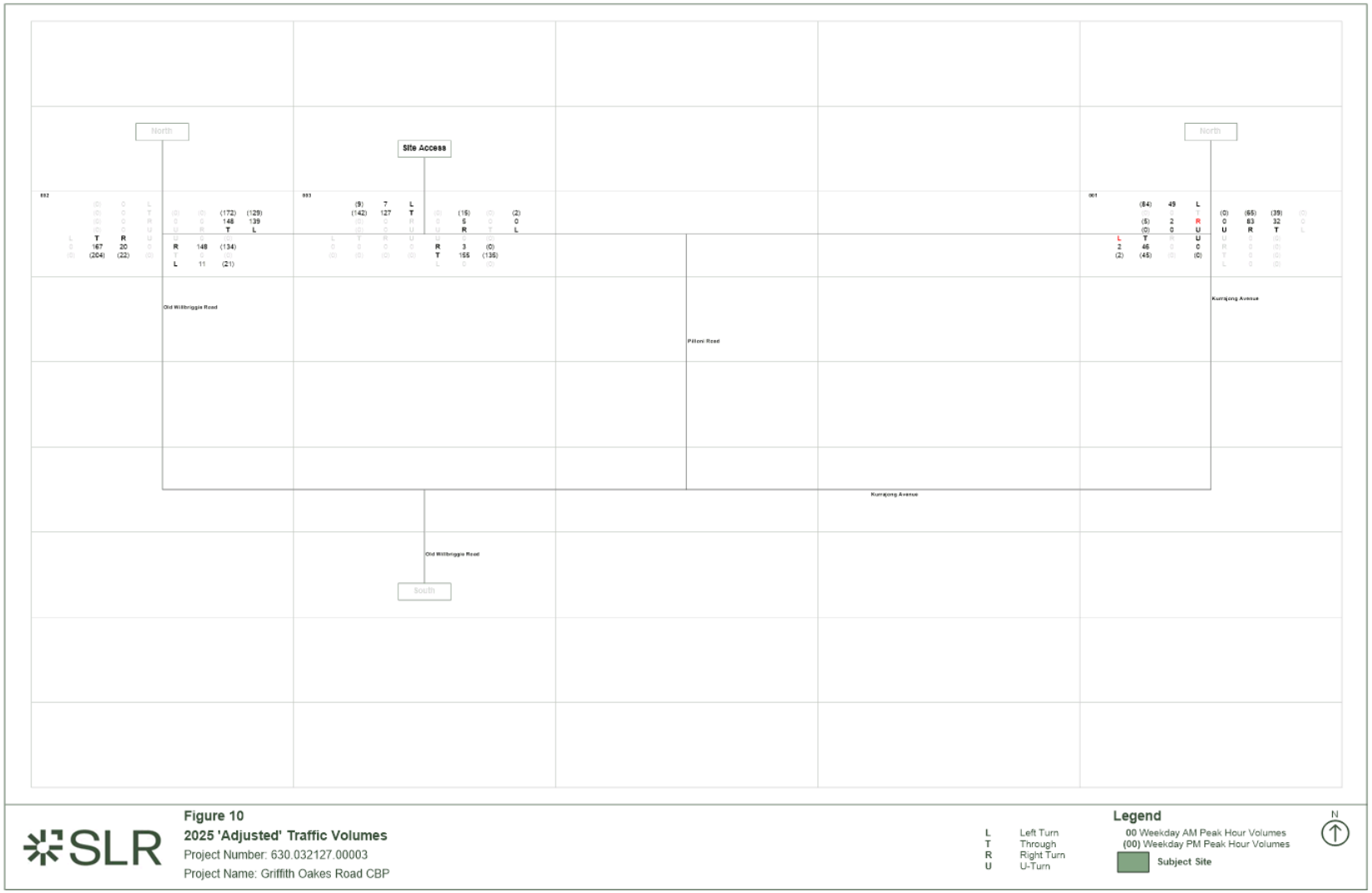


Figure 10
2025 'Adjusted' Traffic Volumes
Project Number: 630.032127.00003
Project Name: Griffith Oakes Road CBP

L Left Turn
T Through
R Right Turn
U U-Turn

Legend
00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
Subject Site

N

Appendix G Detailed SIDRA Outputs

Traffic Impact Assessment

Concrete Batching Plant Extension

E.B. Mawsons & Sons Pty Ltd

SLR Project No.: 630.032127.00003

5 December 2025

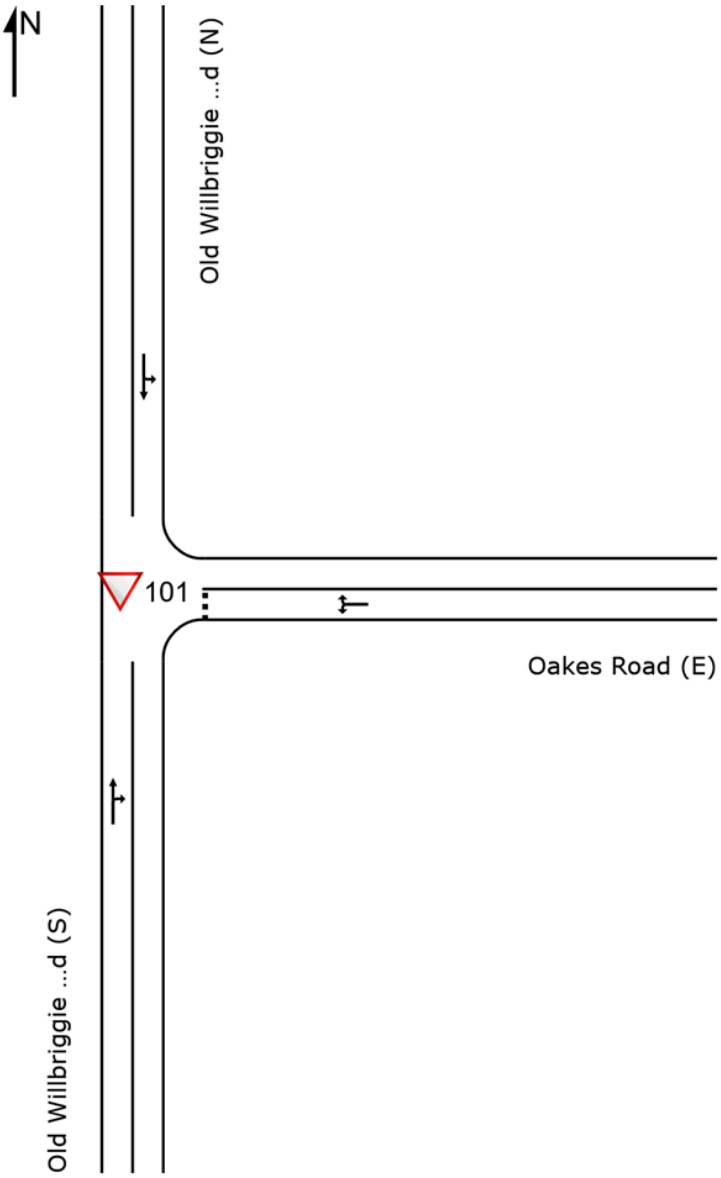
SLR

SITE LAYOUT

Site: 101 [2036 BG AM (Site Folder: Old Willbriggie Rd / Oakes Rd)]

Old Willbriggie Road / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Created: Friday, 7 November 2025 10:40:00 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG AM (Site Folder: Old Willbriggie Rd / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Old Willbriggie Road / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Old Willbriggie Road (S)															
2	T1	All MCs	177	8.9	177	8.9	0.112	0.2	LOS A	0.2	1.3	0.10	0.12	0.10	59.0
3	R2	All MCs	20	5.3	20	5.3	0.112	6.8	LOS A	0.2	1.3	0.10	0.12	0.10	56.0
Approach			197	8.6	197	8.6	0.112	0.9	NA	0.2	1.3	0.10	0.12	0.10	58.7
East: Oakes Road (E)															
4	L2	All MCs	12	18.2	12	18.2	0.203	6.4	LOS A	0.7	5.4	0.45	0.71	0.45	50.5
6	R2	All MCs	156	7.4	156	7.4	0.203	7.9	LOS A	0.7	5.4	0.45	0.71	0.45	50.7
Approach			167	8.2	167	8.2	0.203	7.8	LOS A	0.7	5.4	0.45	0.71	0.45	50.7
North: Old Willbriggie Road (N)															
7	L2	All MCs	145	22.5	145	22.5	0.174	5.8	LOS A	0.0	0.0	0.00	0.28	0.00	54.3
8	T1	All MCs	155	8.2	155	8.2	0.174	0.0	LOS A	0.0	0.0	0.00	0.28	0.00	57.6
Approach			300	15.1	300	15.1	0.174	2.9	NA	0.0	0.0	0.00	0.28	0.00	55.9
All Vehicles			664	11.4	664	11.4	0.203	3.5	NA	0.7	5.4	0.14	0.34	0.14	55.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:33 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG PM (Site Folder: Old Willbriggie Rd / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Old Willbriggie Road / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Old Willbriggie Road (S)															
2	T1	All MCs	215	9.8	215	9.8	0.135	0.2	LOS A	0.2	1.5	0.10	0.12	0.10	59.0
3	R2	All MCs	23	4.5	23	4.5	0.135	6.8	LOS A	0.2	1.5	0.10	0.12	0.10	56.1
Approach			238	9.3	238	9.3	0.135	0.8	NA	0.2	1.5	0.10	0.12	0.10	58.7
East: Oakes Road (E)															
4	L2	All MCs	22	4.8	22	4.8	0.199	6.3	LOS A	0.7	5.2	0.46	0.71	0.46	50.9
6	R2	All MCs	140	5.3	140	5.3	0.199	8.2	LOS A	0.7	5.2	0.46	0.71	0.46	50.7
Approach			162	5.2	162	5.2	0.199	7.9	LOS A	0.7	5.2	0.46	0.71	0.46	50.7
North: Old Willbriggie Road (N)															
7	L2	All MCs	135	4.7	135	4.7	0.173	5.6	LOS A	0.0	0.0	0.00	0.25	0.00	55.1
8	T1	All MCs	181	8.7	181	8.7	0.173	0.0	LOS A	0.0	0.0	0.00	0.25	0.00	57.6
Approach			316	7.0	316	7.0	0.173	2.4	NA	0.0	0.0	0.00	0.25	0.00	56.5
All Vehicles			716	7.4	716	7.4	0.199	3.2	NA	0.7	5.2	0.14	0.31	0.14	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:33 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG+DEV AM (Site Folder: Old Willbriggie Rd / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Old Willbriggie Road / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Old Willbriggie Road (S)															
2	T1	All MCs	177	8.9	177	8.9	0.113	0.2	LOS A	0.2	1.3	0.11	0.13	0.11	59.0
3	R2	All MCs	21	5.0	21	5.0	0.113	6.8	LOS A	0.2	1.3	0.11	0.13	0.11	56.0
Approach			198	8.5	198	8.5	0.113	0.9	NA	0.2	1.3	0.11	0.13	0.11	58.6
East: Oakes Road (E)															
4	L2	All MCs	12	18.2	12	18.2	0.204	6.4	LOS A	0.7	5.4	0.45	0.71	0.45	50.5
6	R2	All MCs	156	7.4	156	7.4	0.204	7.9	LOS A	0.7	5.4	0.45	0.71	0.45	50.7
Approach			167	8.2	167	8.2	0.204	7.8	LOS A	0.7	5.4	0.45	0.71	0.45	50.7
North: Old Willbriggie Road (N)															
7	L2	All MCs	149	21.8	149	21.8	0.177	5.8	LOS A	0.0	0.0	0.00	0.29	0.00	54.3
8	T1	All MCs	155	8.2	155	8.2	0.177	0.1	LOS A	0.0	0.0	0.00	0.29	0.00	57.5
Approach			304	14.9	304	14.9	0.177	2.9	NA	0.0	0.0	0.00	0.29	0.00	55.9
All Vehicles			669	11.3	669	11.3	0.204	3.5	NA	0.7	5.4	0.14	0.35	0.14	55.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:33 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG+DEV PM (Site Folder: Old Willbriggie Rd / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Old Willbriggie Road / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Old Willbriggie Road (S)															
2	T1	All MCs	215	9.8	215	9.8	0.136	0.2	LOS A	0.2	1.5	0.10	0.12	0.10	59.0
3	R2	All MCs	23	4.5	23	4.5	0.136	6.8	LOS A	0.2	1.5	0.10	0.12	0.10	56.1
Approach			238	9.3	238	9.3	0.136	0.8	NA	0.2	1.5	0.10	0.12	0.10	58.7
East: Oakes Road (E)															
4	L2	All MCs	22	4.8	22	4.8	0.206	6.3	LOS A	0.7	5.4	0.46	0.71	0.46	50.9
6	R2	All MCs	144	5.8	144	5.8	0.206	8.3	LOS A	0.7	5.4	0.46	0.71	0.46	50.6
Approach			166	5.7	166	5.7	0.206	8.0	LOS A	0.7	5.4	0.46	0.71	0.46	50.6
North: Old Willbriggie Road (N)															
7	L2	All MCs	136	5.4	136	5.4	0.174	5.6	LOS A	0.0	0.0	0.00	0.25	0.00	55.1
8	T1	All MCs	181	8.7	181	8.7	0.174	0.0	LOS A	0.0	0.0	0.00	0.25	0.00	57.6
Approach			317	7.3	317	7.3	0.174	2.4	NA	0.0	0.0	0.00	0.25	0.00	56.5
All Vehicles			721	7.6	721	7.6	0.206	3.2	NA	0.7	5.4	0.14	0.32	0.14	55.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

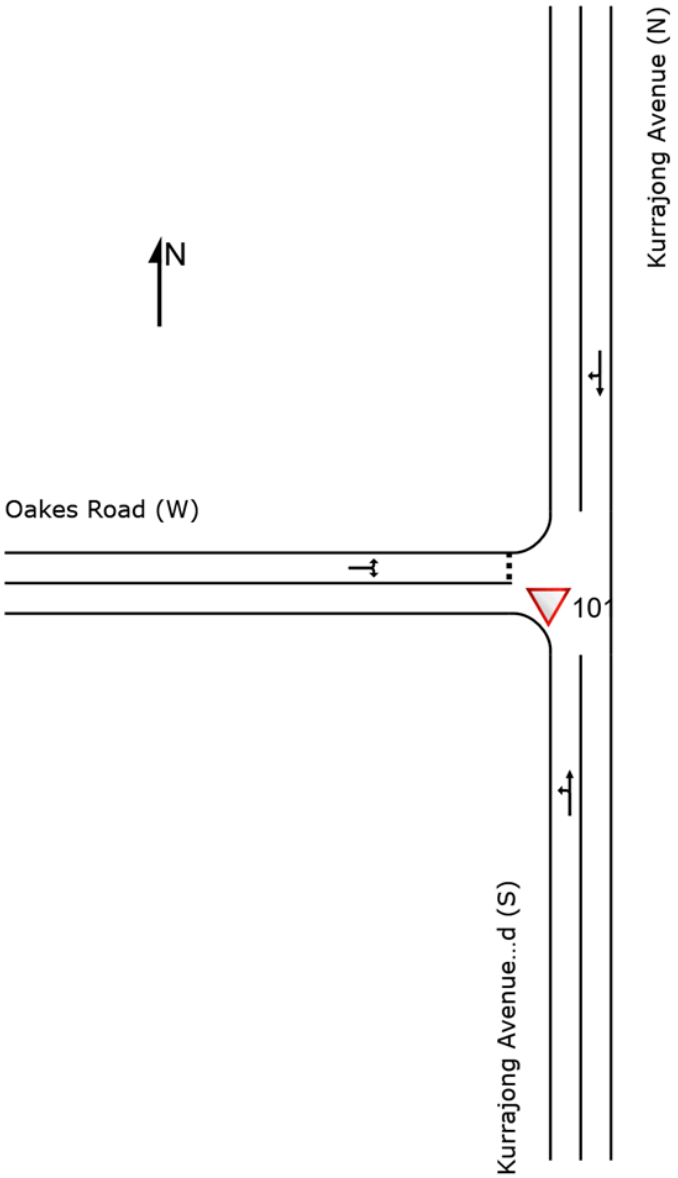
SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:33 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

SITE LAYOUT

Site: 101 [2036 BG AM (Site Folder: Kurrajong Ave / Oakes Rd)]

Kurrajong Avenue / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Created: Friday, 7 November 2025 10:40:04 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG AM (Site Folder: Kurrajong Ave / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kurrajong Avenue / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kurrajong Avenue Road (S)															
1	L2	All MCs	3	33.3	3	33.3	0.029	5.9	LOS A	0.0	0.0	0.00	0.04	0.00	55.6
2	T1	All MCs	48	13.0	48	13.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach			52	14.3	52	14.3	0.029	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.5
North: Kurrajong Avenue (N)															
8	T1	All MCs	33	6.5	33	6.5	0.071	0.2	LOS A	0.3	2.5	0.15	0.42	0.15	55.8
9	R2	All MCs	87	7.2	87	7.2	0.071	5.7	LOS A	0.3	2.5	0.15	0.42	0.15	53.1
Approach			120	7.0	120	7.0	0.071	4.2	NA	0.3	2.5	0.15	0.42	0.15	53.8
West: Oakes Road (W)															
10	L2	All MCs	58	16.4	58	16.4	0.045	5.9	LOS A	0.2	1.5	0.14	0.54	0.14	51.8
12	R2	All MCs	4	50.0	4	50.0	0.045	7.1	LOS A	0.2	1.5	0.14	0.54	0.14	50.1
Approach			62	18.6	62	18.6	0.045	6.0	LOS A	0.2	1.5	0.14	0.54	0.14	51.7
All Vehicles			234	11.7	234	11.7	0.071	3.8	NA	0.3	2.5	0.11	0.37	0.11	54.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:26 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG PM (Site Folder: Kurrajong Ave / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kurrajong Avenue / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kurrajong Avenue Road (S)															
1	L2	All MCs	3	33.3	3	33.3	0.027	5.9	LOS A	0.0	0.0	0.00	0.04	0.00	55.7
2	T1	All MCs	47	4.4	47	4.4	0.027	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach			51	6.3	51	6.3	0.027	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.5
North: Kurrajong Avenue (N)															
8	T1	All MCs	41	15.4	41	15.4	0.063	0.1	LOS A	0.3	2.1	0.13	0.37	0.13	56.2
9	R2	All MCs	69	1.5	69	1.5	0.063	5.6	LOS A	0.3	2.1	0.13	0.37	0.13	53.6
Approach			111	6.7	111	6.7	0.063	3.6	NA	0.3	2.1	0.13	0.37	0.13	54.5
West: Oakes Road (W)															
10	L2	All MCs	89	10.6	89	10.6	0.065	5.8	LOS A	0.3	2.0	0.13	0.54	0.13	52.1
12	R2	All MCs	4	50.0	4	50.0	0.065	7.0	LOS A	0.3	2.0	0.13	0.54	0.13	50.1
Approach			94	12.4	94	12.4	0.065	5.9	LOS A	0.3	2.0	0.13	0.54	0.13	52.0
All Vehicles			255	8.7	255	8.7	0.065	3.8	NA	0.3	2.1	0.11	0.37	0.11	54.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:26 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG+DEV AM (Site Folder: Kurrajong Ave / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kurrajong Avenue / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kurrajong Avenue Road (S)															
1	L2	All MCs	3	33.3	3	33.3	0.029	5.9	LOS A	0.0	0.0	0.00	0.04	0.00	55.6
2	T1	All MCs	48	13.0	48	13.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach			52	14.3	52	14.3	0.029	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.5
North: Kurrajong Avenue (N)															
8	T1	All MCs	33	6.5	33	6.5	0.072	0.2	LOS A	0.3	2.5	0.15	0.42	0.15	55.8
9	R2	All MCs	88	7.1	88	7.1	0.072	5.7	LOS A	0.3	2.5	0.15	0.42	0.15	53.0
Approach			121	7.0	121	7.0	0.072	4.2	NA	0.3	2.5	0.15	0.42	0.15	53.8
West: Oakes Road (W)															
10	L2	All MCs	58	16.4	58	16.4	0.045	5.9	LOS A	0.2	1.5	0.14	0.54	0.14	51.8
12	R2	All MCs	4	50.0	4	50.0	0.045	7.1	LOS A	0.2	1.5	0.14	0.54	0.14	50.1
Approach			62	18.6	62	18.6	0.045	6.0	LOS A	0.2	1.5	0.14	0.54	0.14	51.7
All Vehicles			235	11.7	235	11.7	0.072	3.8	NA	0.3	2.5	0.11	0.37	0.11	54.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:27 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG+DEV PM (Site Folder: Kurrajong Ave / Oakes Rd)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kurrajong Avenue / Oakes Road
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kurrajong Avenue Road (S)															
1	L2	All MCs	3	33.3	3	33.3	0.027	5.9	LOS A	0.0	0.0	0.00	0.04	0.00	55.7
2	T1	All MCs	47	4.4	47	4.4	0.027	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach			51	6.3	51	6.3	0.027	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.5
North: Kurrajong Avenue (N)															
8	T1	All MCs	41	15.4	41	15.4	0.063	0.1	LOS A	0.3	2.1	0.13	0.37	0.13	56.2
9	R2	All MCs	69	1.5	69	1.5	0.063	5.6	LOS A	0.3	2.1	0.13	0.37	0.13	53.6
Approach			111	6.7	111	6.7	0.063	3.6	NA	0.3	2.1	0.13	0.37	0.13	54.5
West: Oakes Road (W)															
10	L2	All MCs	91	10.5	91	10.5	0.066	5.8	LOS A	0.3	2.1	0.13	0.54	0.13	52.1
12	R2	All MCs	4	50.0	4	50.0	0.066	7.0	LOS A	0.3	2.1	0.13	0.54	0.13	50.1
Approach			95	12.2	95	12.2	0.066	5.9	LOS A	0.3	2.1	0.13	0.54	0.13	52.0
All Vehicles			256	8.6	256	8.6	0.066	3.8	NA	0.3	2.1	0.11	0.37	0.11	54.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

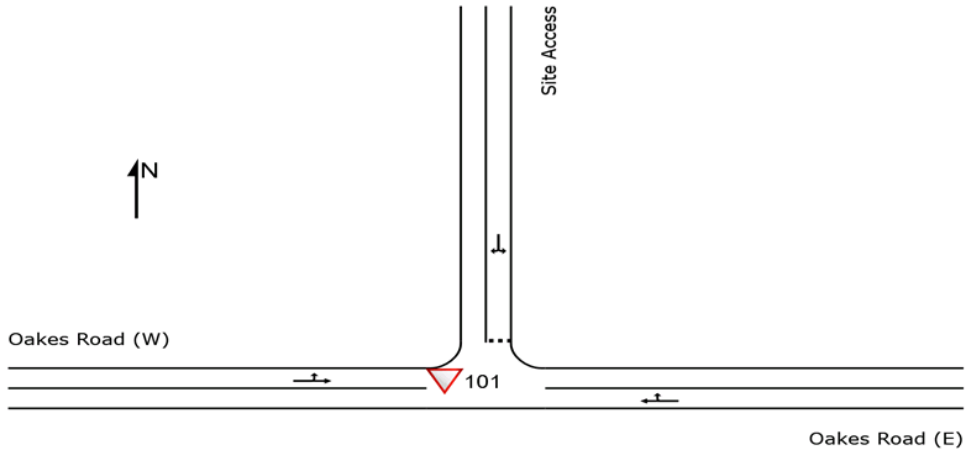
SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Friday, 7 November 2025 8:32:27 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

SITE LAYOUT

Site: 101 [2036 BG AM (Site Folder: Oakes Road / Site Access)]

Oakes Road / Site Access
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Created: Friday, 7 November 2025 10:40:09 AM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG AM (Site Folder: Oakes Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Oakes Road / Site Access
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Oakes Road (E)															
5	T1	All MCs	163	7.1	163	7.1	0.090	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.9
6	R2	All MCs	3	33.3	3	33.3	0.090	6.1	LOS A	0.0	0.2	0.01	0.01	0.01	55.3
Approach			166	7.6	166	7.6	0.090	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
North: Site Access															
7	L2	All MCs	2	50.0	2	50.0	0.008	6.8	LOS A	0.0	0.2	0.32	0.57	0.32	50.0
9	R2	All MCs	5	20.0	5	20.0	0.008	7.1	LOS A	0.0	0.2	0.32	0.57	0.32	50.9
Approach			7	28.6	7	28.6	0.008	7.0	LOS A	0.0	0.2	0.32	0.57	0.32	50.6
West: Oakes Road (W)															
10	L2	All MCs	6	33.3	6	33.3	0.080	5.9	LOS A	0.0	0.0	0.00	0.03	0.00	55.7
11	T1	All MCs	134	15.7	134	15.7	0.080	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.8
Approach			140	16.5	140	16.5	0.080	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.6
All Vehicles			314	12.1	314	12.1	0.090	0.4	NA	0.0	0.2	0.02	0.03	0.02	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Thursday, 6 November 2025 1:49:08 PM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG PM (Site Folder: Oakes Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Oakes Road / Site Access
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Oakes Road (E)															
5	T1	All MCs	143	3.7	143	3.7	0.077	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.9
6	R2	All MCs	2	50.0	2	50.0	0.077	6.3	LOS A	0.0	0.2	0.01	0.01	0.01	54.5
Approach			145	4.3	145	4.3	0.077	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
North: Site Access															
7	L2	All MCs	2	50.0	2	50.0	0.018	6.8	LOS A	0.1	0.5	0.32	0.60	0.32	50.0
9	R2	All MCs	15	14.3	15	14.3	0.018	6.9	LOS A	0.1	0.5	0.32	0.60	0.32	51.1
Approach			17	18.8	17	18.8	0.018	6.9	LOS A	0.1	0.5	0.32	0.60	0.32	51.0
West: Oakes Road (W)															
10	L2	All MCs	8	37.5	8	37.5	0.083	6.0	LOS A	0.0	0.0	0.00	0.03	0.00	55.5
11	T1	All MCs	148	1.4	148	1.4	0.083	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.8
Approach			157	3.4	157	3.4	0.083	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			319	4.6	319	4.6	0.083	0.6	NA	0.1	0.5	0.02	0.05	0.02	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Thursday, 6 November 2025 1:44:34 PM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG+DEV AM (Site Folder: Oakes Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Oakes Road / Site Access
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Oakes Road (E)															
5	T1	All MCs	163	7.1	163	7.1	0.092	0.0	LOS A	0.0	0.3	0.02	0.02	0.02	59.8
6	R2	All MCs	5	20.0	5	20.0	0.092	6.0	LOS A	0.0	0.3	0.02	0.02	0.02	55.9
Approach			168	7.5	168	7.5	0.092	0.2	NA	0.0	0.3	0.02	0.02	0.02	59.6
North: Site Access															
7	L2	All MCs	2	50.0	2	50.0	0.008	6.8	LOS A	0.0	0.2	0.32	0.57	0.32	50.0
9	R2	All MCs	5	20.0	5	20.0	0.008	7.2	LOS A	0.0	0.2	0.32	0.57	0.32	50.9
Approach			7	28.6	7	28.6	0.008	7.1	LOS A	0.0	0.2	0.32	0.57	0.32	50.6
West: Oakes Road (W)															
10	L2	All MCs	13	25.0	13	25.0	0.084	5.8	LOS A	0.0	0.0	0.00	0.05	0.00	55.9
11	T1	All MCs	134	15.7	134	15.7	0.084	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach			146	16.5	146	16.5	0.084	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.2
All Vehicles			322	12.1	322	12.1	0.092	0.5	NA	0.0	0.3	0.02	0.05	0.02	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Thursday, 6 November 2025 1:49:08 PM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2036 BG+DEV PM (Site Folder: Oakes Road / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

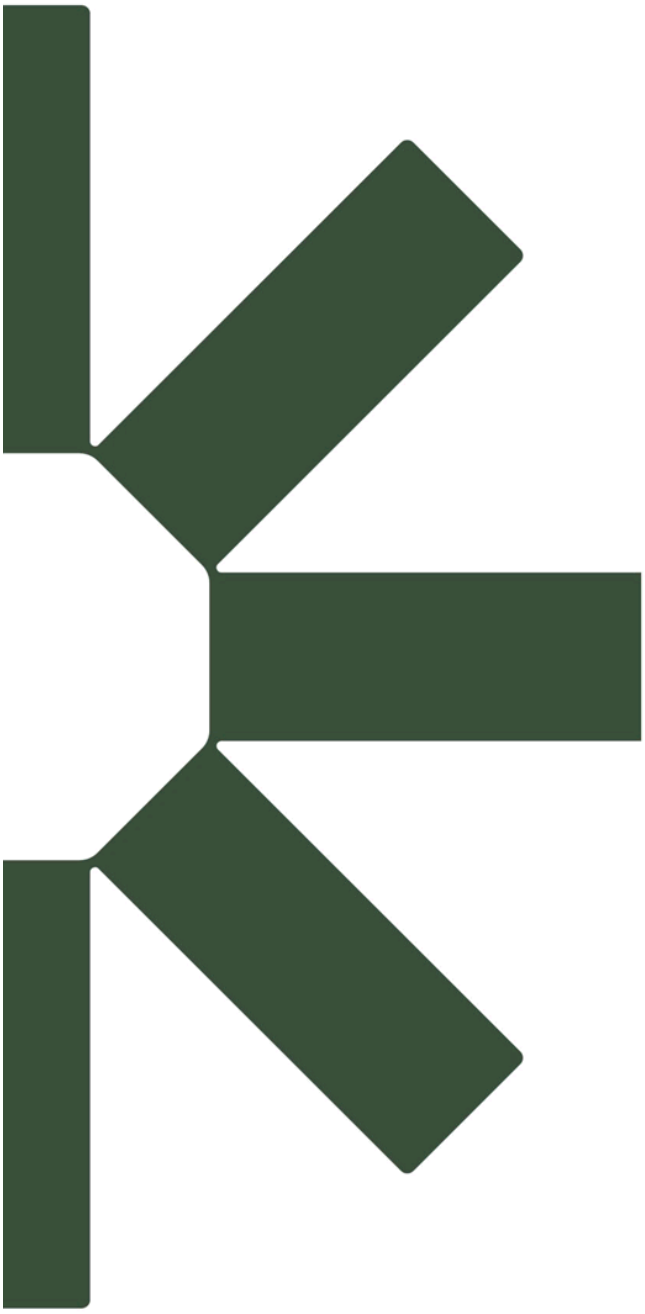
Oakes Road / Site Access
630.032127
Prepared by ME
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Oakes Road (E)															
5	T1	All MCs	143	3.7	143	3.7	0.077	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.9
6	R2	All MCs	2	50.0	2	50.0	0.077	6.3	LOS A	0.0	0.2	0.01	0.01	0.01	54.5
Approach			145	4.3	145	4.3	0.077	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
North: Site Access															
7	L2	All MCs	4	25.0	4	25.0	0.027	6.4	LOS A	0.1	0.7	0.32	0.60	0.32	51.0
9	R2	All MCs	21	15.0	21	15.0	0.027	7.0	LOS A	0.1	0.7	0.32	0.60	0.32	51.1
Approach			25	16.7	25	16.7	0.027	6.9	LOS A	0.1	0.7	0.32	0.60	0.32	51.1
West: Oakes Road (W)															
10	L2	All MCs	9	44.4	9	44.4	0.084	6.1	LOS A	0.0	0.0	0.00	0.03	0.00	55.2
11	T1	All MCs	148	1.4	148	1.4	0.084	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.8
Approach			158	4.0	158	4.0	0.084	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			328	5.1	328	5.1	0.084	0.8	NA	0.1	0.7	0.03	0.07	0.03	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: SLR CONSULTING AUSTRALIA | Licence: NETWORK / 1PC | Processed: Thursday, 6 November 2025 1:49:05 PM
Project: H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\08 TA\02 Analysis\2025 09 08 - SIDRA Check\25 09 08_032127.00001 SIDRA.sip9



Making Sustainability Happen

SLR Consulting Australia Pty Ltd
Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

6 July 2026

SLR Ref No.: 630.032127-L01-v1.0 Response to Council IR Traffic Matters 20260706.docx

Attention: Erin Douglas
E.B. Mawsons & Sons Pty Ltd C/- SLR Consulting Australia Pty Ltd
10 Kings Road
New Lambton NSW 2305

SLR Project No.: 620.032127.00008

RE: Council Information Request – Response to Traffic Matters
Concrete Batching Plant – 127 Oakes Road, Griffith

1.0 Context

Reference is made to the Information Requests (**IRs**) issued by Giffith City Council (**GCC** or **Council**) on 22 April 2026 and 25 May 2026 (Council reference: 47/2026) (**Council IRs**) in relation to a Development Application (**DA**) to increase the operations of the existing Griffith Concrete Batch Plant (**CBP**) located at 127 Oakes Road, Griffith. Copies of the Council IRs are included at **Attachment A**.

The traffic matters raised in the subject IRs are reproduced in **Section 2.0** below followed by a formal response to each matter.

2.0 Response to GCC Traffic Matters

2.1 Item 2 – Swept Path Assessments (22 April 2026)

"Please provide amended swept path diagrams using Austroads Design Vehicles and Turning Path Templates Guide 2023 showing the simultaneous two-way manoeuvring of a B-double configured vehicle via the proposed accessway without conflict and without encroaching into the opposing travel lane of Oakes Road. As turning restrictions for such vehicles will be imposed should consent be granted, the diagrams need only show left turn out and right turn in movements through that accessway."

To inform Council's assessment of the application, the following clarifications are provided:

- The *Traffic Impact Assessment* report prepared by SLR dated 5 December 2025 (**SLR TIA**) had indicated that site access to Oakes Road for all articulated heavy vehicles (i.e. including truck and dogs, semis and B-doubles) would be restricted to left in/left out movements to deal with the constrained design of the adjacent Oakes Road/Old Willbriggie Road intersection to the west. However, it is understood that following discussions between Council and Mawsons, Council has indicated their desire for all articulated vehicles to arrive and depart the site from Oakes Road to the east.
- Accordingly, the conceptual design of the proposed site access arrangements to Oakes Road and all associated swept path assessments have been updated and are included at **Attachment B**. Of note, the swept path assessments presented on SK02 confirm that the amended site access conceptual design can accommodate simultaneous left-out and right-in 26m B-double movements in accordance with the referenced Austroads guideline.

2.2 Item 3 – Development Traffic Generation (22 April 2026)

"The submitted Traffic Impact Assessment (SLR Consulting 5 December 2025) has based the increase in development peak hour traffic demand on the current average concrete production and compared it with the average concrete production to maximum day operation (186.6m3/day surveyed (7 August 2025)/average daily and 260m3/day maximum day production). This means that the report is only presenting a 2 vehicle per hour (vph) increase in the peak hour traffic demands. To provide a more definitive representation of the increase in peak hour vehicle trips and the increase in daily vehicle trips the site will generate, please provide calculations on the increase in development traffic demands shown as a comparison between the approved 30,000 tonnes per annum (tpa) production capacity and the proposed 140,000 tpa production capacity."

To inform Council's assessment of the application, the following clarifications are provided:

- To assist with Council's understanding of the traffic generation estimates and assessment documented within the SLR TIA, more detailed traffic generation estimates are presented in **Table 1** below, noting that:
  - The 'average day' concrete production is based on 300 operational days per year.
  - As per the SLR TIA, given that staff numbers will not change between the below scenarios, it is expected that light vehicle trips will not change. Accordingly, only heavy vehicle movements have been 'factored' based on the change in scale of daily concrete production relative to the traffic survey day (i.e. 7 August 2025).

Table 1 Peak Hour and Daily Traffic Demands

Element	Existing (30,000tpa)				Proposed (140,000tpa)			
	Average day		Survey day		Average day		Maximum day	
	LVs	HVs	LVs	HVs	LVs	HVs	LVs	HVs
Concrete production	100t/day (40m³/day)		466.5t/day (186.6m³/day)		467t/day (187m³/day)		650t/day (260m³/day)	
Factor (to/from survey day)	0.21		1.0		1.0		1.39	
AM peak hour trips	10vph	1vph	10vph	4vph	10vph	4vph	10vph	6vph
	11vph		**14vph**		**14vph**		**16vph**	
PM peak hour trips	18vph	1vph	18vph	6vph	18vph	6vph	18vph	8vph
	19vph		**24vph**		**24vph**		**26vph**	
Daily trips	100vpd	15vpd	100vpd	70vpd	100vpd	70vpd	100vpd	97vpd
	115vpd		**170vpd**		**170vpd**		**197vpd**	

vph = vehicles per hour. vpd = vehicles per day.

- Of note, **Table 1** indicates that the development is expected to result in up to 170vpd on an average day and up to 197vpd on a maximum day. It is also noted that the survey day was a peak production day, with production 4-5 times higher than the 'existing' average day, and equivalent to the 'proposed' average day.
- Based on the above, it is considered that the traffic assessment documented in the SLR TIA considered an appropriate 'peak' design scenario and no further assessments are warranted.



We trust that this now provides all of the information required for Council to finalise their assessment of the DA. Should you have any queries in relation to this response, please do not hesitate to contact the undersigned.

Yours sincerely

[redacted]

Chris Lawlor
Principal – Transport Advisory
BEng(Civil)(Hons) MIEAust CPEng RPEQ NER
clawlor@slrconsulting.com

Attachments
A **Council IRs**
B **Amended Site Access Concept and Swept Path Assessments**

SLR Consulting Australia Pty Ltd
Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

SLR

Attachment A

Council IRs

DA 47/2026:CP:AM

22 April 2026

SLR Consulting Aust Pty Ltd
Suite 2
2 Domville Avenue
HAWTHORN VIC 3122

Dear Sir/Madam

Development Application No. 47/2026 proposed Continued use of existing development at increased capacity on Lot 1 DP 1181518, No, 127 Oakes Road GRIFFITH

Council requires the submission of the following information, which Council considers necessary to properly consider the subject development application, prior to further assessment of your application:

1. A genuine cost estimate for the development is requested, as if being constructed new from the former approval, at today's costs to cover the development you are seeking as zero cost is neither sufficient nor appropriate. DA fees are then likely to be required to be paid based on that cost of works.

   It is acknowledged that a recent DA has been approved for replacement equipment (DA 152/2024) but that is effectively a part of this DA for continued use – increased production and thus it's cost should be included in this new DA.

2. Please provide amended swept path diagrams using Austroads Design Vehicles and Turning Path Templates Guide 2023 showing the simultaneous two-way manoeuvring of a B-double configured vehicle via the proposed accessway without conflict and without encroaching into the opposing travel lane of Oakes Road. As turning restrictions for such vehicles will be imposed should consent be granted, the diagrams need only show left turn out and right turn in movements through that accessway.

3. The submitted Traffic Impact Assessment (SLR Consulting 5 December 2025) has based the increase in development peak hour traffic demand on the current average concrete production and compared it with the average concrete production to maximum day operation (186.6m3/day surveyed (7 August 2025)/average daily and 260m3/day maximum day production). This means that the report is only presenting a 2 vehicle per hour (vph) increase in the peak hour traffic demands. To provide a more definitive representation of the increase in peak hour vehicle trips **and** the increase in daily vehicle trips the site will generate, please provide calculations on the increase in development traffic demands shown as a comparison between the approved 30,000 tonnes per annum (tpa) production capacity and the proposed 140,000 tpa production capacity.

Griffith City Council, Wiradjuri Country, PO Box 485, Griffith NSW 2680, 1 Benerembah Street, Griffith NSW 2680
Ph: 1300 176 077 ABN: 81 274 100 792
Email: admin@griffith.nsw.gov.au Web: www.griffith.nsw.gov.au

In accordance with Section 36 (3)(c) of the *Environmental Planning and Assessment Regulation 2021*, note that the application is at day 9 after lodgement and the clock is stopped on the assessment of this application.

It is requested that this information be submitted to Council within twenty one (21) days from the date of this letter. Please note that the time frames associated with the assessment of this application for the purposes of Section 36 of the Environmental Planning and Assessment Regulation 2021 have been stopped and will not commence until Council is in receipt of all of the requested information, or Council is provided with correspondence from the applicant indicating that the information will not be provided. Any information or correspondence in response to this letter is to be provided through the NSW Planning Portal.

For further information regarding this matter please contact Council's Planning and Environment Manager, Carel Potgieter on 1300 176 077 or email Carel.Potgieter@griffith.nsw.gov.au.

Yours sincerely

[redacted]

CAREL POTGIETER
PLANNING & ENVIRONMENT MANAGER

DA 47/2026:CPAM

25 May 2026

SLR Consulting Aust Pty Ltd
Suite 2
2 Domville Avenue
HAWTHORN VIC 3122

Dear Erin

Development Application No. 47/2026 proposed Designated Development application for a Concrete Batching Plan on Lot 1 DP 1181518, No. 127 Oakes Road GRIFFITH

Further to Council's previous request for additional information, we require the submission of the following information which Council considers necessary to properly consider the subject development application, prior to further assessment of your application:

1. The application has been reviewed by the NSW Environment Protection Agency and they seek the following:

    - Demonstrate how the proposed development will achieve compliance with the Noise Policy for Industry (2017) project noise trigger levels at existing and approved future residential receivers, or otherwise provide a robust and evidence-based justification where compliance cannot be achieved;
    - Identify and assess feasible and reasonable mitigation measures to eliminate or significantly reduce the predicted exceedances, including but not limited to operational, engineering and/or layout-based controls;
    - Provide a revised noise assessment, where necessary, incorporating the proposed mitigation measures and demonstrating the resulting noise outcomes at all sensitive receivers; and
    - Provide a detailed and enforceable noise management framework that includes monitoring, performance criteria, and clearly defined corrective actions in the event that impacts exceed predicted levels.

2. Previous letter requesting additional information has not been fully responded to, noting a response in the portal late April. The change in truck movements to/from the site relates to the change in capacity from 30,000 t/a to 140,000 t/a, and the information provided in that response doesn't adequately address Council's concerns. Thus, the application remains on stop the clock.

3. Notification of this application has now been completed and two submissions been received to which Council seeks comment from you. One of those submissions is an objection and the other raises concerns. The submission objecting means that this development application will be referred to Council for determination in coming months (date to be determined based on application assessment completion of which you'll be

Griffith City Council, Wiradjuri Country, PO Box 485, Griffith NSW 2680, 1 Benerembah Street, Griffith NSW 2680
Ph: 1300 176 077 ABN: 81 274 100 792
Email: admin@griffith.nsw.gov.au Web: www.griffith.nsw.gov.au

advised). You are requested to provide a separate written response to the submissions and the objections / concerns raised in them so that we can report the matter to Council for their determination.

The objections raised in the first mentioned submission to the DA are:

- *With the proposed increase of concrete batching from 30,000 tonnes to 140,000 tonnes, and with the extra early commencement of business, as we are the neighbouring property our concerns include the extra noise pollution involved as the noise level now can be quite deafening at times. The noise of the pneumatic chisel, which is used to clean the agitator and the constant running of trucks and loaders directly behind our rental sheds which resonates off the colourbond sheeting can be quite unbearable at times.*

- *The amount of dust build up in the gutters with all the extra truck movements will only exacerbate the dust problem.*

- *The extra water in the truck washing bays which over sprays into our property causing rusting on the fence, as the soil is constantly damp, and also causes extra vegetation.*

The concerns raised in the other submission are:

Whilst we do not object in principle to the proposed concrete batching plant, acknowledging that such industrial activity forms part of the broader employment and infrastructure, and housing needs of Griffith, we do have concerns regarding the scale of the proposed increase in production from 30,000 tonnes per annum to 140,000 tonnes per annum, representing an increase of approximately 4.6 times the current capacity. In our view, the practical implications of this increase have not been adequately addressed within the application material submitted.

We purchased our site on the understanding that it formed part of a Council led rezoning process and that the surrounding land use framework had been appropriately considered to ensure the locality remained fit for purpose. Since that time, we have obtained development consent for a 28 lot residential subdivision and are currently in the final stages of engineering approval prior to commencement of works.

We note the applicant undertook consultation with other neighbouring landowners but chose not to consult with us directly regarding this application, despite contacting us to request access for the placement of noise monitoring equipment on our property.

Whilst the application acknowledges our approved subdivision in relation to noise impacts, we do not believe it adequately considers this in other aspects of the reports as some of the future residential dwellings will ultimately be located within approximately 50 to 60 metres of the batching plant operations.
We have made provisions for this in our application but this was against the existing concrete batching plant approvals, not the substantial increase of capacity.

1. Operating Hours

We seek clarity regarding both the sites current approved and proposed operating hours. This is because the submitted documents continually reference operations commencing at 5am and allude to an approval in the 2025 DA. We are worried this start time could result in staff arrivals, truck movements and general operational activity commencing from approximately 4:30am onwards.

Given that some of the residential lots in our estate are located within close proximity to batching plant of the site, we are worried that operations commencing before 7am could

result in a detrimental impact in the residential amenity, particularly when considered in conjunction with a proposed production increase.

2. *Traffic Impacts and Road Network Capacity*

We request Council assess whether the applicant's traffic report has adequately considered the cumulative impact of our approved subdivision, including the traffic generation assumptions adopted within our own traffic assessment.

We also request consideration of whether increased industrial traffic movements associated with the batching plant warrant additional road infrastructure upgrades or operational restrictions, including but not limited to:

- *Left in / right out vehicle movements for all non-rigid trucks, to create a separation of heavy vehicle and residential traffic movements where practical.*
- *Whether turning lanes or a roundabout need to be provide at the intersection Old Willbriggie and Oakes Rd Road.*
- *Will council require kerb and guttering across the full frontage of the batching plant site as our site has been required to do so.*
- *Confirming whether new car park proposed to be built in the road reserve in front of batching plant office will be built and when.*
- *Conformation that council will require as a condition of consent any road widening on the southern side of Oakes Rd to be provided by the batching plant and not rely on these works be solely by our land.*

Given the scale of the proposed increase in production, we believe cumulative traffic impacts require more detailed assessment than presently provided.

3. *Noise, Light Spill and Residential Amenity*

Should operations commence from 5:00am, we are concerned that future residences in our subdivision may be impacted by lighting, vehicle movements, reversing alarms, etc occurring before this time.

We request that Council carefully assess (internally and independently) potential impacts associated with:

- *Noise generation from the batching plant and cumulative industrial activity in the locality.*
- *Early morning truck and staff movements from both batching and cumulative industrial activity in the locality.*
- *Operational lighting and light spill onto nearby residential lots.*
- *Dust and air quality impacts.*
- *Potential cumulative amenity impacts associated with expanded industrial throughput.*

We again request that any modelling or assumptions relied upon by the applicant be independently verified to ensure consistency with the approved residential subdivision outcomes and anticipated residential amenity expectations.

In accordance with Section 36 (3)(c) of the *Environmental Planning and Assessment Regulation 2021*, note that the application is at day 9 after lodgement and the clock is stopped on the assessment of this application.

It is requested that this information be submitted to Council within twenty one (21) days from the date of this letter. Please note that the time frames associated with the assessment of this application for the purposes of Section 36 of the Environmental Planning and Assessment Regulation 2021 have been stopped and will not commence until Council is in receipt of all of the requested information, or Council is provided with correspondence from the applicant indicating that the information will not be provided. Any information or correspondence in response to this letter is to be provided through the NSW Planning Portal.

For further information regarding this matter please contact Council's Carel Potgieter, Planning & Environment Manager, 1300 176 077, admin@griffith.nsw.gov.au.

Yours sincerely

[redacted]

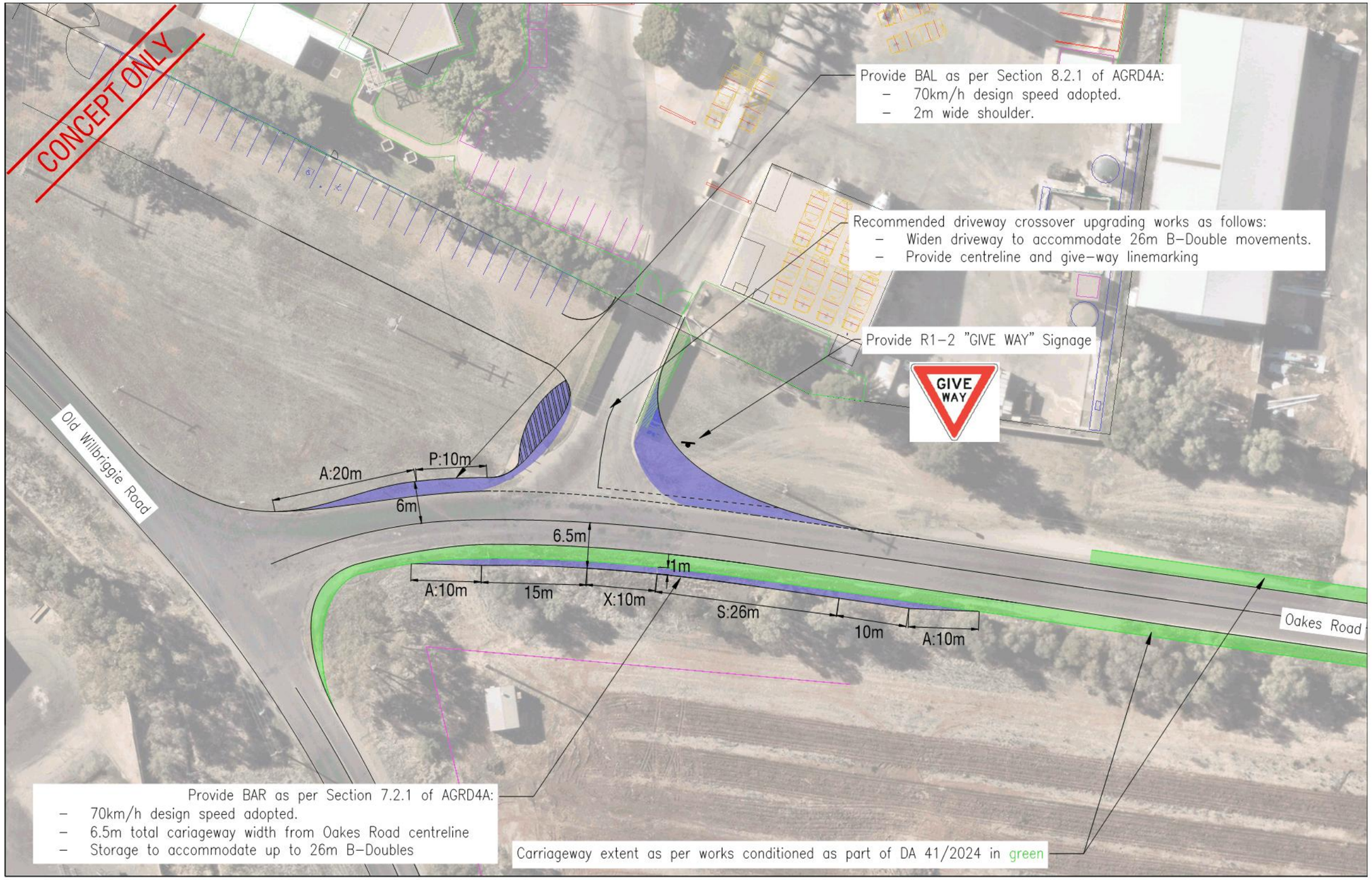
CAREL POTGIETER
PLANNING & ENVIORNMENT MANAGER

SLR Consulting Australia Pty Ltd
Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

SLR

Attachment B

Amended Site Access Concept and Swept Path Assessments



SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

Project No:	620.032127
Date:	29/06/26
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

N

0.0 5.0 10 15 20
METRES
SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Site Access Upgrade Concept

FIGURE SK01

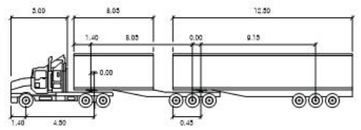


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

Project No:	620.032127
Date:	29/06/26
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- 500mm Body Clearance



B-double

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	33.4
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

N

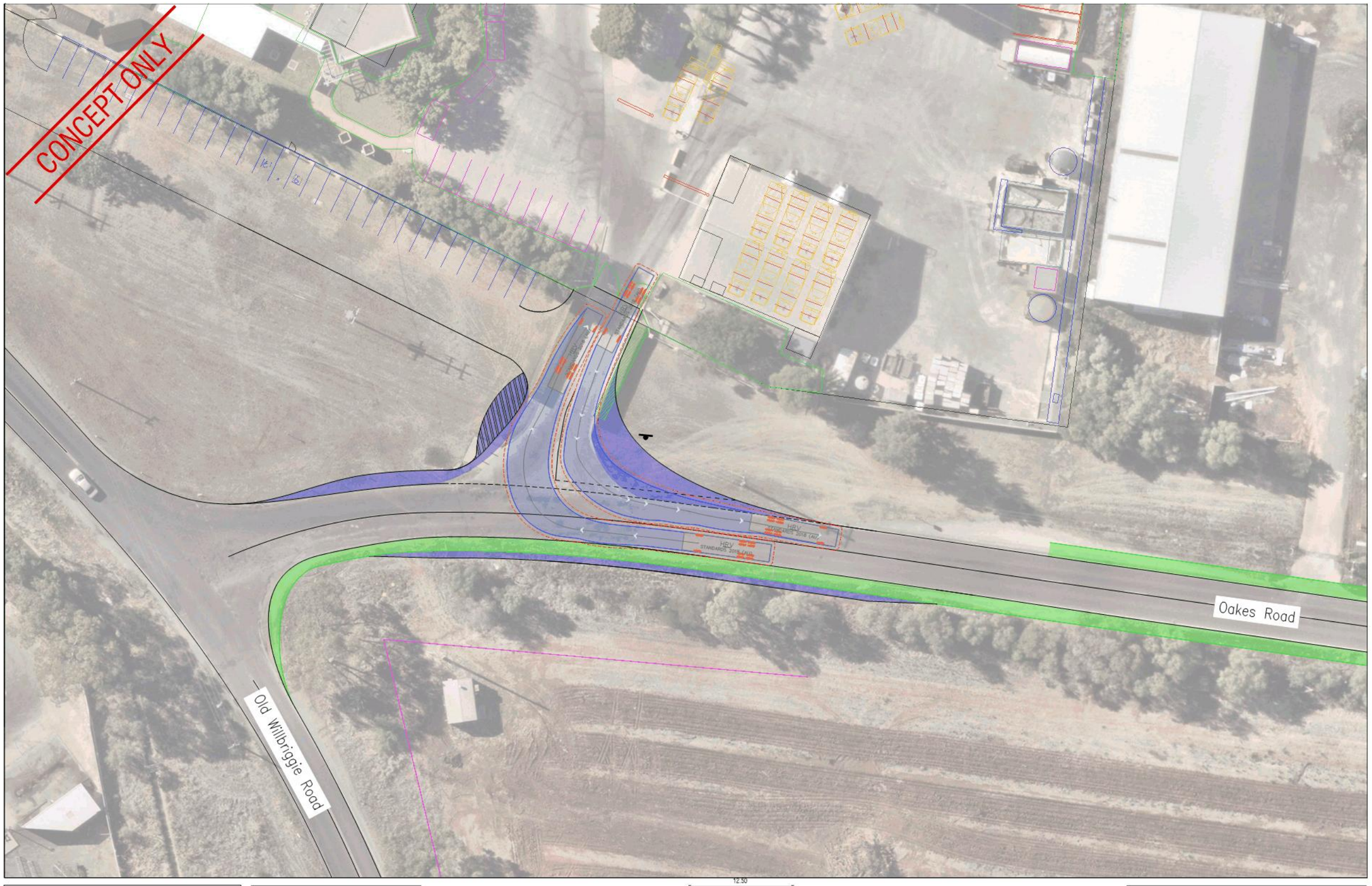
0.0 5.0 10 15 20
METRES
SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - 26m B-Doubles

FIGURE SK02

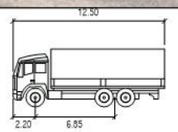


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

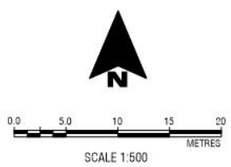
Project No:	620.032127
Date:	29/06/26
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- 500mm Body Clearance



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7



SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - HRV Sheet 1 of 2

FIGURE SK03

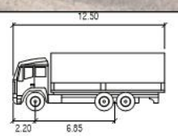


SLR
LEVEL 16, 175 EAGLE ST
BRISBANE
QUEENSLAND 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

The content contained within this document may be based on third party data.
SLR Consulting Australia Pty Ltd does not guarantee the accuracy of any such information.

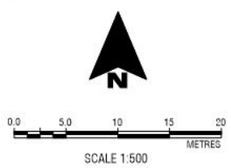
Project No:	620.032127
Date:	29/06/26
Drawn by:	ME
Certified by:	-
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- 500mm Body Clearance



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7



SCALE 1:500

E.B. Mawsons & Sons Pty Ltd

Mawsons Griffith CBP

Swept Path Assessment - HRV Sheet 2 of 2

FIGURE SK04

SLR

Mawsons Griffith Concrete Batching Plant

Noise Impact Assessment

E.B. Mawsons and Sons Pty Ltd

Prepared by:

SLR Consulting Australia Pty Ltd

SLR Project No.: 630.032127.00006

26 June 2026

Revision: v3.0

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v3.0	26 June 2026	Jonathan Caine	Martin Davenport	Martin Davenport
v2.1	2 February 2026	Jonathan Caine	Jim Lawler	Martin Davenport
v1.0	27 November 2025	Jonathan Caine	Jim Lawler	Martin Davenport

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with E.B. Mawsons and Sons Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Table of Contents

Basis of Report i
1.0 Introduction 1
1.1 Project Description 1
1.2 Nearest Receivers 4
2.0 Existing Noise Environment 8
2.1 Unattended Noise Monitoring 8
2.2 Attended Noise Monitoring 8
3.0 Assessment Requirements 10
3.1 Planning Secretary's Environmental Assessment Requirements (SEARS) 10
3.2 Existing Conditions 10
3.3 Griffith City Council Assessment Requirements 10
4.0 Assessment Criteria 11
4.1 Noise Policy for Industry 11
4.1.1 Industrial Noise Trigger Levels 11
4.1.2 Project Noise Trigger Levels 13
4.1.3 Cumulative Noise Impacts 14
4.1.4 Sleep Disturbance 14
4.1.5 Corrections for Annoying Noise Characteristics 15
4.2 Off-Site Traffic on Surrounding Roads 16
5.0 Methodology 17
5.1 Operational Noise Assessment 17
5.1.1 Operational Noise Sources 17
5.1.2 Corrections for Annoying Noise Characteristics 18
5.1.3 Noise Sources with Potential for Sleep Disturbance 18
5.1.4 Weather Conditions 18
6.0 Assessment of Impacts 20
6.1 Operational Noise Assessment 20
6.1.1 Future Receiver Noise Assessment 22
6.1.2 Cumulative Noise Assessment 24
6.1.3 Sleep Disturbance 24
6.1.4 Operational Road Traffic 26
7.0 Noise Mitigation and Management Measures 28
7.1 Operational Noise Mitigation and Management Measures 28
7.1.1 Subdivision At-Property Noise Mitigation Investigation 29



7.2 General Noise Mitigation and Management Measures 30
7.3 Operational Noise Assessment – Mitigated 31
8.0 Conclusion 35

Tables

Table 1: Identified Sensitive Receivers and Relative Distance from Site 4
Table 2: Unattended Noise Monitoring Results Summary 8
Table 3: Attended Monitoring Results 9
Table 4 SEARS Requirements 10
Table 5: Residential Receiver Amenity 12
Table 6: Residential Receiver Amenity Category Assessment 12
Table 7: Operational Project Noise Trigger Levels 13
Table 8: Sleep Disturbance Screening Levels 14
Table 9: NPfI Modifying Factors 15
Table 10: RNP / NCG Criteria for Assessing Traffic on Surrounding Public Roads 16
Table 11: Operational Scenario 17
Table 12: Sleep Disturbance Noise Events - LAmax Sound Power Levels 18
Table 13: Standard and Noise Enhancing Weather Conditions 19
Table 14: Modelled Weather Conditions 19
Table 15: Predicted Noise Levels 20
Table 16 Predicted Noise Levels – Future Receivers 22
Table 17: Predicted Sleep Disturbance Noise Levels 24
Table 18 Project Traffic Noise Impact Assessment 26
Table 19 Summary of Noise Mitigation and Management Options 28
Table 20 Subdivision Façade Noise Investigation 30
Table 21 Predicted Noise Levels – Mitigated 31

Figures

Figure 1: Site Location, Surrounding Receivers and Noise Monitoring Locations 2
Figure 2: Site Layout Plan 3
Figure 3 Residential Subdivision Plans 23 and 30 Old Willbriggie Road 7

Appendices

Appendix A Acoustic Terminology

Appendix B **Unattended Noise Monitoring – Statistical Noise Levels**

Appendix C **Plant and Equipment Spectral Sound Power Levels**

Appendix D **Outer Envelope Noise Emission Contours**



1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) was engaged by E.B. Mawsons and Sons Pty Ltd (Mawsons) to undertake a noise impact assessment relating to the proposal to increase the operations of an existing concrete batching plant (CBP) in Griffith, NSW.

The existing development consent for the CBP has a production capacity limit of 30,000 tonnes per annum and 150 tonnes per day. Mawsons propose to increase the CBP operations to 140,000 tonnes per annum and 650 tonnes per day (the Project).

Mawsons has advised SLR that the proposed maximum annual and daily production is a conservative approach to provide for operational flexibility to respond to large projects, and the average annual and daily production is anticipated to be significantly less.

This report assesses the potential noise impact associated with the operation of the Project including the approved plant upgrade against contemporary noise impact assessment methodology.

This report uses specialist terminology. An explanation of common terms is provided in **Appendix A**.

1.1 Project Description

The Project is located at 127 Oakes Rd, Griffith within the City of Griffith Local Government Area (LGA). The site currently operates under approval DA17/2025(1), which allowed for modification to the existing concrete batching plant. At the time of reporting, there have been no changes to the plant as approved in DA17/2025(1).

The site in its current form for noise assessment purposes has been described as the “existing operations”. The site following the changes to the plant as approved in DA17/2025(1) has been described as the “Project operations”.

No changes to operating hours are proposed as part of the Project. While the existing development consent does not impose restrictions, the facility has historically operated during the following hours:

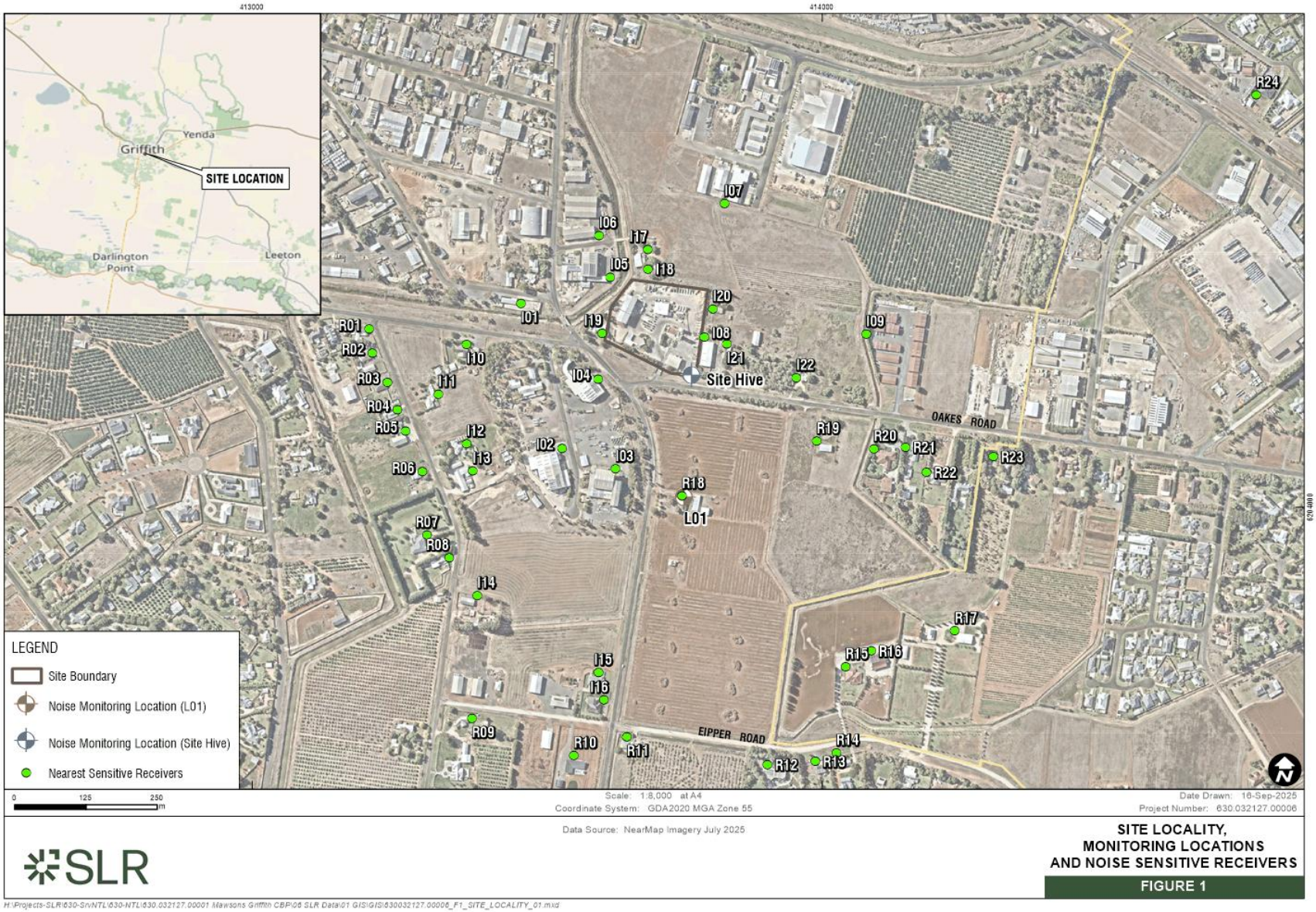
- Monday to Saturday: 5:00 am - 6:00 pm
- Sunday and Public Holidays: No operations

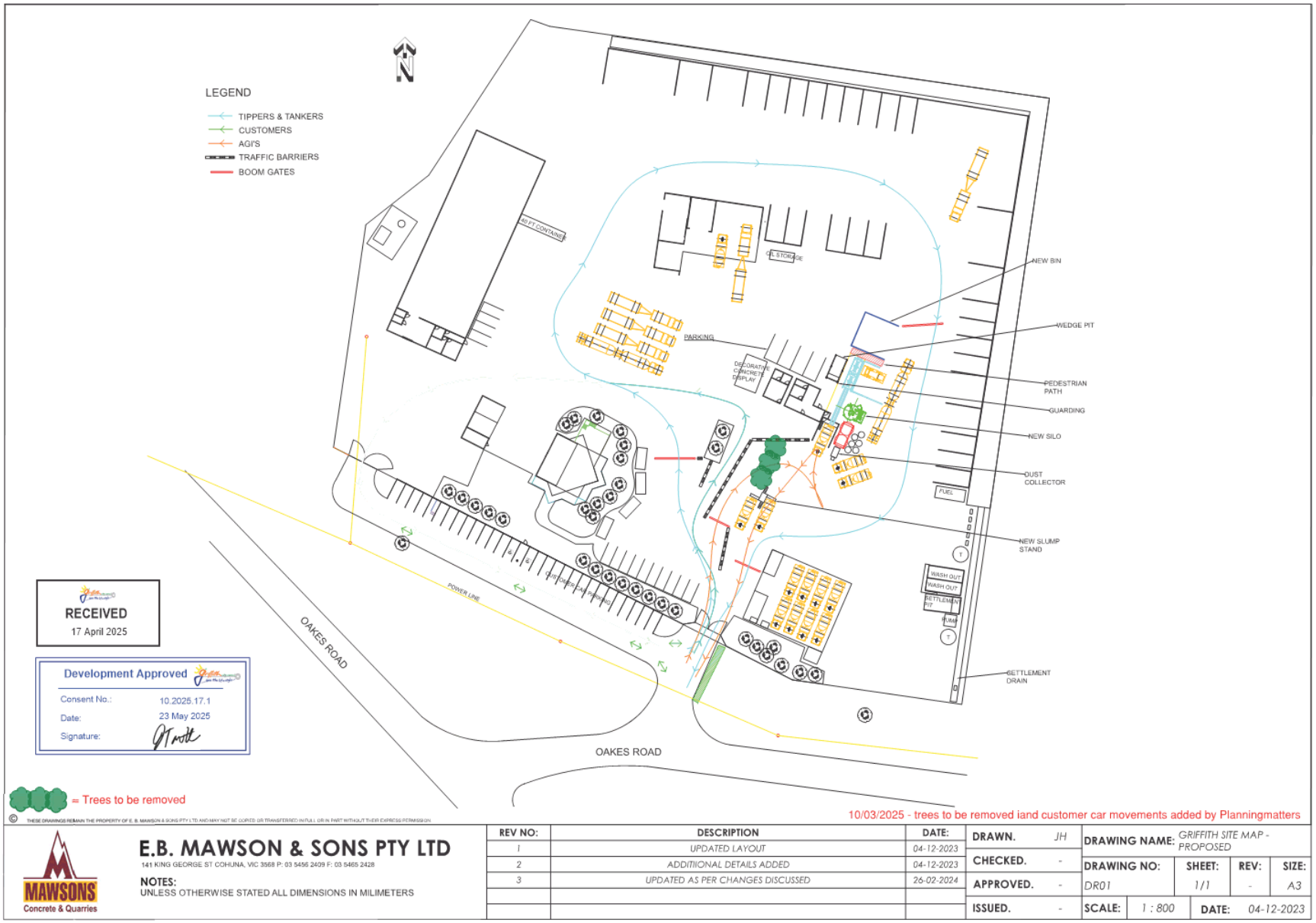
These established operating hours will continue under the Project.

The facility typically operates 300 days per year (six days per week over approximately 50 weeks).

The Project does not involve changes to the approved plant as detailed in DA17/2025(1), with the exception of increasing production capacity as detailed above.

The site location and surrounding receivers are shown in **Figure 1** and an approved site layout under the lower production capacity limit is shown in **Figure 2**.


413000
414000
6204000
Yenda
Griffith
SITE LOCATION
Darlington Point
Leeton
Site Hive
OAKES ROAD
EIPPER ROAD
I01
I02
I03
I04
I05
I06
I07
I08
I09
I10
I11
I12
I13
I14
I15
I16
I17
I18
I19
I20
I21
I22
R01
R02
R03
R04
R05
R06
R07
R08
R09
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
L01
LEGEND
Site Boundary
Noise Monitoring Location (L01)
Noise Monitoring Location (Site Hive)
Nearest Sensitive Receivers
0
125
250
m
Scale: 1:8,000 at A4
Coordinate System: GDA2020 MGA Zone 55
Date Drawn: 16-Sep-2025
Project Number: 630.032127.00006
Data Source: NearMap Imagery July 2025
SLR
SITE LOCALITY,
MONITORING LOCATIONS
AND NOISE SENSITIVE RECEIVERS
FIGURE 1
H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\06 SLR Data\01 GIS\GIS\630032127.00006_F1_SITE_LOCALITY_01.mxd


LEGEND
TIPPERS & TANKERS
CUSTOMERS
AGI'S
TRAFFIC BARRIERS
BOOM GATES
N
NEW BIN
WEDGE PIT
PEDESTRIAN PATH
GUARDING
NEW SILO
DUST COLLECTOR
NEW SLUMP STAND
GETTLEMENT DRAIN
PARKING
POWER LINE
OAKES ROAD
OAKES ROAD
RECEIVED
17 April 2025
Development Approved
Consent No.: 10.2025.17.1
Date: 23 May 2025
Signature:
= Trees to be removed
10/03/2025 - trees to be removed iand customer car movements added by Planningmatters
E.B. MAWSON & SONS PTY LTD
141 KING GEORGE ST COHUNA, VIC 3568 P: 03 5456 2409 F: 03 5465 2428
NOTES:
UNLESS OTHERWISE STATED ALL DIMENSIONS IN MILIMETERS
REV NO: DESCRIPTION DATE:
1 UPDATED LAYOUT 04-12-2023
2 ADDITIONAL DETAILS ADDED 04-12-2023
3 UPDATED AS PER CHANGES DISCUSSED 26-02-2024
DRAWN. JH
CHECKED. -
APPROVED. -
ISSUED. -
DRAWING NAME: GRIFFITH SITE MAP - PROPOSED
DRAWING NO: DR01
SHEET: 1/1
REV: -
SIZE: A3
SCALE: 1 : 800
DATE: 04-12-2023

1.2 Nearest Receivers

The site is bound by industrial receivers with the nearest residential receivers located off Oakes Road immediately to the south as well as 250 metres to the south-east and 400 m to the south-west.

It is noted that the property located across Oakes Road to the south at 23 Old Willbriggie Road and 35 Willbriggie Road Griffith has been approved for a residential subdivision, which may potentially lead to the construction of future residential receivers. Noise levels from the Project have been predicted to the potential future 28 lots in as shown in the approved subdivision plans shown in **Figure 3**.

It is noted that there are a number of residential dwellings located closer to the site on the south-western boundary and to the north of the Project, however in accordance with the NSW EPA Noise Policy for Industry 2017 (NPfI), these receivers have been classed as industrial receivers (see **Section 4.1**).

The locations of the nearest noise sensitive receivers are shown in **Table 1** and **Figure 1**.

Table 1: Identified Sensitive Receivers and Relative Distance from Site

ID	Address	Approximate Distance from Site (m)	Direction
Residential Receivers			
R01	74 Oakes Road Griffith	400	W
R02	8 Holt Road Griffith	400	W
R03	12 Holt Road Griffith	400	W
R04	16 Holt Road Griffith	400	SW
R05	20 Holt Road Griffith	400	SW
R06	30 Holt Road Griffith	400	SW
R07	42 Holt Road Griffith	500	SW
R08	46 Holt Road Griffith	500	SW
R09	75 Holt Road Griffith	700	S
R10	25 Eipper Road Griffith	700	S
R11	36 Eipper Road Griffith	700	S
R12	13 Melville Crescent Griffith	700	SE
R13	15 Melville Crescent Griffith	700	SE
R14	17 Melville Crescent Griffith	700	SE
R15	71 Eipper Road Griffith	600	SE
R16	71 Eipper Road Griffith	600	SE
R17	89 Eipper Road Griffith	650	SE
R18	23 Old Willbriggie Road Griffith	200	S
R19	158 Oakes Road Griffith	250	E
R20	168 Oakes Road Griffith	350	E

ID	Address	Approximate Distance from Site (m)	Direction
R21	174 Oakes Road Griffith	400	E
R22	182 Oakes Road Griffith	450	E
R23	190 Oakes Road Griffith	500	E
R24	14 Camellia Court Yoogali	1000	NE
Future Receivers[1]			
Lot 1	23 Old Willbriggie Road Griffith	120	S
Lot 2	23 Old Willbriggie Road Griffith	80	S
Lot 3	23 Old Willbriggie Road Griffith	130	S
Lot 4	23 Old Willbriggie Road Griffith	180	S
Lot 5	23 Old Willbriggie Road Griffith	210	S
Lot 6	23-35 Old Willbriggie Road Griffith	250	S
Lot 7	35 Old Willbriggie Road Griffith	280	S
Lot 8	35 Old Willbriggie Road Griffith	350	S
Lot 9	35 Old Willbriggie Road Griffith	350	S
Lot 10	35 Old Willbriggie Road Griffith	350	S
Lot 11	35 Old Willbriggie Road Griffith	400	S
Lot 12	35 Old Willbriggie Road Griffith	400	S
Lot 13	35 Old Willbriggie Road Griffith	400	S
Lot 14	35 Old Willbriggie Road Griffith	500	S
Lot 15	35 Old Willbriggie Road Griffith	550	S
Lot 16	35 Old Willbriggie Road Griffith	600	S
Lot 17	35 Old Willbriggie Road Griffith	600	S
Lot 18	35 Old Willbriggie Road Griffith	550	S
Lot 19	35 Old Willbriggie Road Griffith	500	S
Lot 20	35 Old Willbriggie Road Griffith	450	S
Lot 21	35 Old Willbriggie Road Griffith	400	S
Lot 22	35 Old Willbriggie Road Griffith	350	S
Lot 23	35 Old Willbriggie Road Griffith	300	S
Lot 24	23-35 Old Willbriggie Road Griffith	250	S
Lot 25	23 Old Willbriggie Road Griffith	200	S
Lot 26	23 Old Willbriggie Road Griffith	150	S
Lot 27	23 Old Willbriggie Road Griffith	100	S
Lot 28	23 Old Willbriggie Road Griffith	50	S
Industrial Receivers			

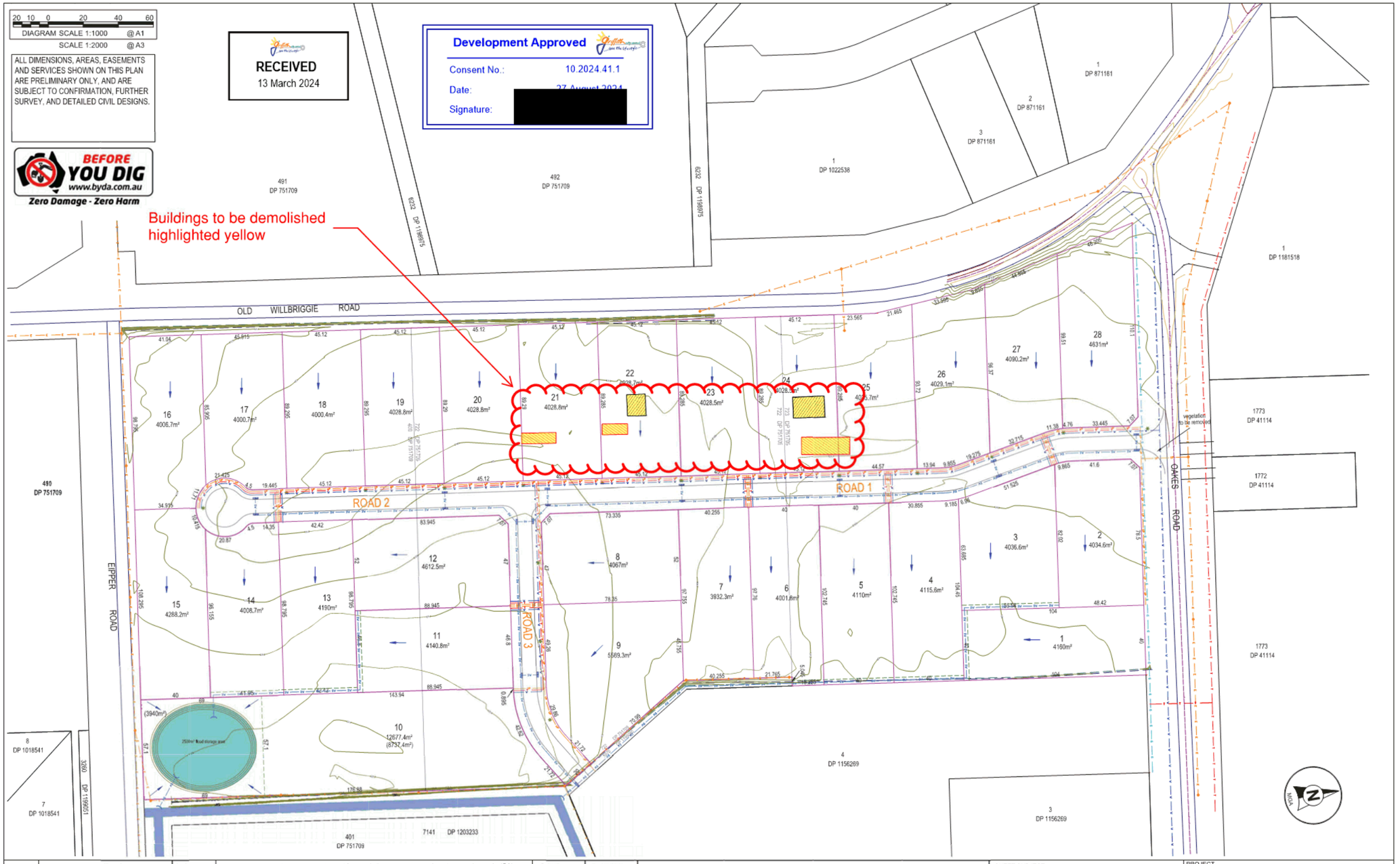


ID	Address	Approximate Distance from Site (m)	Direction
I01	Rae Road Griffith	200	W
I02	10-12 Irving Place Griffith	300	SW
I03	7 Irving Place Griffith	200	SW
I04	1 Irving Place Griffith	80	SW
I05	23-27 Lenehan Road Griffith	50	NW
I06	15-21 Lenehan Road Griffith	100	NW
I07	1-3 Best Street Griffith	200	N
I08	139 Oakes Road Griffith	<10	E
I09	70-71 Oakes Road Griffith	300	E
I10[1]	90 Oakes Road Griffith	250	W
I11[2]	17 Holt Road Griffith	300	SW
I12[2]	27 Holt Road Griffith	300	SW
I13[2]	33 Holt Road Griffith	300	SW
I14[2]	55 Holt Road Griffith	500	SW
I15[2]	31 Eipper Road Griffith	500	S
I16[2]	29 Eipper Road Griffith	600	S
I17[2]	10 Potter Place Griffith	60	N
I18[2]	10 Potter Place Griffith	30	N
I19[2]	5 Old Willbriggie Road Griffith	<10	W
I20[2]	139 Oakes Road Griffith	20	E
I21[2]	141 Oakes Road Griffith	50	E
I22[2]	151 Oakes Road Griffith	150	E

Note 1: Future receivers based on *Noise Impact Assessment Residential Subdivision Lots 400, 722 & 723 DP. 751709 Oakes Road Griffith NSW February 2024, Reverb Acoustics.*

Note 2: Isolated residences in an industrial zone. See **Section 4.1.**





ISSUE	AMENDMENT	DATE
G	Amendments to lot layout	10th Mar, 2024
F	Minor amendments to easements	4th Feb, 2024
E	Lot layout changes	1st Feb, 2024
D	Addition of service lines	15th Sep, 2023
C	Channel widening and lot changes	12th Sep, 2023

LEGEND: easements; stormwater; gas; overhead power; underground power; stormwater; existing boundary; telecommunications; proposed boundary; existing boundary; edge of bitumen; kerb; detention; drainage channel; major contour; minor contour; water main; street light; power pole; stop valve; hydrant; existing house; existing shed

COPYRIGHT THIS DRAWING IS NOT TO TO BE COPIED, OR TRANSFERRED TO ANY THIRD PARTY, STORED ON ANY OTHER STORAGE MEDIUM WITHOUT THE WRITTEN PERMISSION OF PLANNINGMATTERS DEVELOPMENT SERVICE

DATE	10th Mar, 2024
CHECKED	MR
DRAWN	EK
APPROVED	MR
DESIGNED	EK
SCALE	1:1000 @A1 1:2000 @A3

Planningmatters DEVELOPMENT SERVICE
23 Noorilla Street, Griffith, NSW 2680 M: 0427 844 374 E: admin@planningmatters.net.au

SHEET SUBJECT: LOT LAYOUT PLAN VIEW

PROJECT: SUBDIVISION OF LOTS 400, 722 & 723 IN DP 751709 OLD WILLBRIGGIE ROAD & OAKES ROAD GRIFFITH

ISSUE	PROJECT NO.	SHEET NO.	SHEET
G	2023.02	2	A1

2.0 Existing Noise Environment

2.1 Unattended Noise Monitoring

Unattended noise monitoring was completed in the study area in August 2025. The measured noise levels have been used to determine the existing noise environment and to set the criteria used to assess the potential impacts from the Project.

The monitoring equipment was positioned to measure existing noise levels that are representative of receivers potentially most affected by the Project, within constraints such as accessibility, security and landowner permission.

The noise monitoring equipment was set to continuously measure existing noise levels in 15-minute periods during the daytime, evening and night-time. All equipment carried current National Association of Testing Authorities (NATA) or manufacturer calibration certificates and equipment calibration was confirmed before and after each measurement.

The measured data has been processed to exclude noise from extraneous events and periods affected by adverse weather conditions, such as strong wind or rain (measured at the Bureau of Meteorology weather station located at Griffith Airport - Station ID: 075041), to establish representative existing noise levels in the study area in accordance with NPfI weather exclusion methodology.

The proponent also operates a SiteHive noise and dust monitoring station in the southeastern corner of the Project.

The noise monitoring location and SiteHive monitoring station are shown in **Figure 1** and the results including corresponding SiteHive data for the monitoring period are summarised in **Table 2** . Graphs of the daily measured noise levels are provided in **Appendix B.**

Table 2: Unattended Noise Monitoring Results Summary

ID	Address	Measured Noise Levels (dBA)						
		Background Noise (RBL)				Average Noise (LAeq)		
		Day	Evening	Night	Morning Shoulder (5am – 7am)[2]	Day	Evening	Night
L01	23 Old Willbriggie Rd Griffith NSW	46	35	31	35 (36 actual)[3]	55	51	49
Site Hive	127 Oakes Road Griffith NSW	45	40	39	40	61	55	53

Note 1: The assessment periods are the daytime which is 7 am to 6 pm Monday to Saturday and 8 am to 6 pm on Sundays and public holidays, the evening which is 6 pm to 10 pm, and the night-time which is 10 pm to 7 am on Monday to Saturday and 10 pm to 8 am on Sunday and public holidays.

Note 2: Morning Shoulder RBL determined using operational period in accordance with the Noise Policy for Industry.

Note 3: RBL reduced to match the evening RBL, as outlined in the NPfI.

Note 4: SiteHive Hexanodes do not achieve full pattern approval in line with international standard IEC 61672, are included for reference, and were not used to determine noise criteria.

2.2 Attended Noise Monitoring

A short-term attended noise measurement was also completed at the monitoring location representative of the nearest noise sensitive receivers. The attended measurement allows



the contributions of the various noise sources at the monitoring location to be determined and to validate unattended noise monitoring results. Observations from the attended measurement are provided in **Table 3** and the monitoring location is shown in **Figure 1**.

Table 3: Attended Monitoring Results

Location	Period	Date/ Start Time/ Weather	Primary Noise Description (dBA re 20 µPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
			LAmax	LA1	LA10	LA90	LAeq	
L01	Day	21/09/2025 09:51 AM 16°C 4.9 m/s NE	77	67	54	46	55	Birds 77 Traffic 45-59 Passbys 75-82 Wind in trees 44-47 Other industry 40-58

The attended measurement was generally found to be consistent with the results of the unattended noise monitoring and show that existing noise levels are typically dominated by road traffic as well as industrial noise from the surrounding industrial premises.



3.0 Assessment Requirements

3.1 Planning Secretary's Environmental Assessment Requirements (SEARS)

The NSW Government Department of Planning, Housing and Infrastructure has provided the Planning Secretary's Environmental Assessment Requirements (SEARS) for the EIS.

The requirements contained within *Concrete works EF25/16259 SEAR 2033 – 127 Oakes Road, Griffith (Lot 1 DP 118518) – Griffith LGA, Planning Secretary's Environmental Assessment Requirements (SEAR) 2033* dated 6 November 2025 (the SEARS) relevant to noise, along with the location in this report where there are addressed are shown in **Table 4.**

Table 4 SEARS Requirements

Requirement	Where addressed in report
Noise and vibration – including: A description of all potential noise and vibration sources during increased operation, including road traffic noise and any cumulative impacts from existing onsite operations.	Operational Noise **Section 5.1.1** Road Traffic Noise **Section 6.1.4** Cumulative impacts **Section 6.1.2**
A noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines.	This report. NSW EPA Noise Policy Criteria **Section 4.1** NSW EPA Road Noise Policy Criteria **Section 4.2**
A description and appraisal of noise and vibration mitigation and monitoring measures.	Background noise level monitoring **Section 2.0** Noise monitoring for operations **Section 7.2**

3.2 Existing Conditions

DA17/2025(1) Condition 50 places the following consent condition on noise from operations at the Project site:

> *(50) Noise*
>
> *The premises and operations must not permit the emission of offensive noise that interferes with the acoustic privacy and amenity of residents and businesses of nearby buildings and spaces.*

3.3 Griffith City Council Assessment Requirements

The Griffith City Council Local Environmental Plan 2014 does not contain any specific, relevant criteria with respect to industrial noise from the Project.

Griffith City Council Development Control Plans do not contain any specific, relevant criteria with respect to industrial noise from the Project.

In such cases, it is common and appropriate to apply the assessment criteria described by the NPfI.



4.0 Assessment Criteria

4.1 Noise Policy for Industry

The NPfI was released in 2017 and sets out the requirements for the assessment and management of operational noise from industry in NSW.

4.1.1 Industrial Noise Trigger Levels

The NPfI defines how to determine 'trigger levels' for noise emissions from industrial developments. Where a development is likely to exceed the trigger levels at existing noise sensitive receivers, feasible and reasonable noise management measures are required to be considered to reduce the impacts.

The NPfI defines a residence as follows:

> *A lawful and permanent structure erected in a land-use zone that permits residential use (or for which existing use rights under the EP&A Act apply) where a person/s permanently reside and is not, nor associated with, a commercial undertaking such as caretakers' quarters, hotel, motel, transient holiday accommodation or caravan park.*

The NPfI also notes the following guidance for isolated residences located in an industrial zoned area:

> *Industrial – an area defined as an industrial zone on a local environment plan; for isolated residences within an industrial zone the industrial amenity level would usually apply.*

There are two types of trigger levels – one to account for 'intrusive' noise impacts and one to protect the 'amenity' of particular land uses:

- The **intrusiveness** of an industrial noise source is generally considered acceptable if the L_{Aeq} noise level of the source, measured over a period of 15-minutes, does not exceed the representative background noise level by more than 5 dB. Intrusive noise levels are only applied to residential receivers. For other receiver types, only the amenity levels apply.
- To limit continual increases in noise levels from the use of the intrusiveness level alone, the ambient noise level within an area from all industrial sources should remain below the recommended **amenity** levels specified in the NPfI for that particular land use.

Intrusive and amenity noise levels are not used directly as regulatory limits. They are used to assess the potential impact of noise, assess feasible and reasonable mitigation options, and subsequently determine achievable noise requirements.

A number of residential buildings have been identified that are located within an industrial zone, it is appropriate to apply the relevant amenity noise goal for an industrial receiver.

For other receivers the NPfI provides guidance on assigning residential receiver amenity noise categories based on the site-specific features shown in **Table 5**.

Table 5: Residential Receiver Amenity

Receiver Category	Typical Planning Land Use Zoning	Typical Existing Background Noise Levels (RBL)	Description
Rural	RU1 – primary production RU2 – rural landscape RU4 – primary production small lots R5 – large lot residential E4 – environmental living	Daytime <40 dBA Evening <35 dBA Night <30 dBA	**Rural** – an area with an acoustical environment that is dominated by natural sounds, having little or no road traffic noise and generally characterised by low background noise levels. Settlement patterns would be typically sparse. Note: Where background noise levels are higher than those presented due to existing industry or intensive agricultural activities, the selection of a higher noise amenity area should be considered.
Suburban residential	RU5 – village RU6 – transition R2 – low density residential R3 – medium density residential E2 – environmental conservation E3 – environmental management	Daytime <45 dBA Evening <40 dBA Night <35dBA	**Suburban** – an area that has local traffic with characteristically intermittent traffic flows or with some limited commerce or industry. This area often has the following characteristic: evening ambient noise levels defined by the natural environment and human activity.
Urban residential	R1 – general residential R4 – high density residential B1 – neighbourhood centre (boarding houses and shop-top housing) B2 – local centre (boarding houses) B4 – mixed use	Daytime >45 dBA Evening >40 dBA Night >35 dBA	**Urban** – an area with an acoustical environment that: Is dominated by 'urban hum' or industrial source noise, where urban hum means the aggregate sound of many unidentifiable, mostly traffic and/or industrial related sound sources Has through-traffic with characteristically heavy and continuous traffic flows during peak periods Is near commercial districts or industrial districts Has any combination of the above.

Amenity noise categories have been determined for the surrounding receivers with reference to the NPfI. The assessment is shown in **Table 6**.

Table 6: Residential Receiver Amenity Category Assessment

Representative Logging Location	Land Use Zoning	Existing Background Noise Levels RBL (dBA)			Resulting Amenity Classification	Discussion
		Day	Eve.	Night		
L01	R5 – Large Lot Residential RU5 – Village	46	35	31	Suburban	This area has local traffic with characteristically intermittent traffic flows with some nearby industry.



Representative Logging Location	Land Use Zoning	Existing Background Noise Levels RBL (dBA)			Resulting Amenity Classification	Discussion
		Day	Eve.	Night		
	RU4 – Primary Production small lots					It is noted that R5 and RU4 zoned land would generally be considered 'rural' however given that background noise levels are dominated by existing industrial operations adopting the suburban amenity classification for the surrounding residential receivers is appropriate.

4.1.2 Project Noise Trigger Levels

The trigger levels for industrial noise from the Project are summarised in **Table 7**. The Project Noise Trigger Levels (PNTL) are the most stringent of the intrusiveness and amenity trigger level for each period and are highlighted below.

Table 7: Operational Project Noise Trigger Levels

Monitoring Location (Representative Receivers)	Area Type	Period	Recommended Amenity Noise Level LAeq(period)	Measured Noise Level (dBA)		Project Noise Trigger Levels dBA LAeq(15minute)	
				RBL[1]	LAeq(period)	Intrusiveness	Amenity[2,3]
Residential Receivers	Suburban	Morning Shoulder	47[7]	35 (36 actual)[6]	49	**40**	45
		Day	55	45	55	**50**	53
		Evening	45	35	51	**40**	43
Isolated residences in an industrial zone[4]		When in use	When in use	70	N/A	N/A	**68**
Commercial receivers		When in use	65	N/A	N/A	N/A	**63**
Industrial receivers		When in use	70	N/A	N/A	N/A	**68**

Note 1: RBL = Rating Background Level

Note 2: The recommended amenity noise levels have been reduced by 5 dB to give the project amenity noise levels due to other sources of industrial noise being present in the area, as outlined in the NPfI.

Note 3: The project amenity noise levels have been converted to a 15 minute level by adding 3 dB, as outlined in the NPfI.

Note 4: In accordance with the NPfI, areas defined as an industrial zone on a local environment plan; for isolated residences within an industrial zone the industrial amenity level would usually apply.

Note 5: RBL reduced to match the evening RBL, as outlined in the NPfI.

Note 6: Morning shoulder RBL, defined by the NPfI as the night period.

Note 7: A recommended amenity noise level for the morning shoulder period is not specified within the NPfI. In keeping with the objective to achieve environmental amenity in a feasible and reasonable manner a conservatively rounded down mid-point between the day and night-time amenity noise levels has been used.

The EPA in applying the NPfI to existing premises acknowledges that:

> *Many existing industrial sources were designed for higher noise emission levels than the project noise trigger levels outlined in this policy. In other cases, industries*



may have been in existence before neighbouring noise-sensitive developments and even before noise-control legislation was introduced. The range of mitigation measures available for these sites can be limited or costly.

Applications for extensions to existing premises often provide an opportunity to redress issues that relate to the whole site. Where noise emissions from the site exceed the project noise trigger levels, the regulatory authorities and the noise-source manager will determine achievable noise limits for the site, taking into account matters that must be considered in accordance with the relevant legislation or process, including negotiation with proponents and discussion with stakeholders as required.

As noted in the NPfI the PNTLs provide a benchmark for assessing a site and are not intended for use a mandatory requirement.

4.1.3 Cumulative Noise Impacts

The NPfI aims to limit continuing increases in industrial noise through the application of amenity noise levels. The project amenity noise levels are reduced by 5 dB relative to the recommended amenity levels to allow for other sources of industrial noise in the area (existing and new). By doing this, the policy accounts for potential cumulative impacts by lowering the criteria for each individual development. The NPfI states that *"where the project amenity noise level applies and it can be met, no additional consideration of cumulative industrial noise is required."*

4.1.4 Sleep Disturbance

The potential for sleep disturbance from maximum noise level events during the night-time period from the Project is required to be considered.

In addition to the PNTLs, the NPfI provides guidance in relation to the assessment of Sleep Disturbance Noise Levels (SDNLs). Specifically, the NPfI states:

Where the subject development/premises night-time noise levels at a residential location exceed:

$L_{Aeq(15minute)}$ 40 dBA or the prevailing RBL plus 5 dB, whichever is the greater, and/or

L_{Amax} 52 dBA or the prevailing RBL plus 15 dB, whichever is the greater, a detailed maximum noise level assessment should be undertaken.

The sleep disturbance screening levels for the Project are shown in Table 8.

Table 8: Sleep Disturbance Screening Levels

Representative Logging Location	Measured Prevailing Night-time Background Level	Sleep Disturbance Screening Noise Level SDNL, dBA	
		LAeq	LAmax
L01	35 (36 actual)[2]	40	52
Note 1: The sleep disturbance screening level is 52 dBA LAFmax or the prevailing background level plus 15 dB, whichever is greater. Note 2: RBL reduced to match the evening RBL, as outlined in the NPfI.			

A detailed maximum noise level event assessment should be completed where the sleep disturbance screening level is exceeded. The detailed assessment should cover the

maximum noise level, the extent to which the maximum noise level exceeds the RBL, and the number of times this happens during the night-time period.

The NPfI refers to the Road Noise Policy (RNP) for additional information regarding sleep disturbance.

The RNP goes on to conclude that from the research on sleep disturbance to date:

- Maximum internal noise levels below 50 dBA to 55 dBA are unlikely to awaken people from sleep.
- One or two events per night with maximum internal noise levels of 65-70 dBA are not likely to affect health and wellbeing significantly.

Internal noise levels in a dwelling, with the windows open, are commonly 10 dB lower than external noise levels. Therefore, the first conclusion above suggests that short-term external noises of 60 dBA to 65 dBA are unlikely to cause awakening reactions. The second conclusion suggests that one or two noise events per night with maximum external noise levels of 75 dBA to 80 dBA are not likely to affect health and wellbeing significantly.

4.1.5 Corrections for Annoying Noise Characteristics

Sources of industrial noise can cause greater annoyance where they contain certain characteristics, such as tonality, intermittency or dominant low-frequency content. The NPfI specifies the following modifying factors, shown in **Table 9,** which are to be applied where annoying characteristics are present. The corrections are to be added to the noise level at the receiver before comparison with the PNTLs.

Table 9: NPfI Modifying Factors

Factor	Assessment/Measurement	When to Apply	Correction[1]
Tonal noise	One-third octave or narrow band analysis	Level of one-third octave band exceeds the level of the adjacent bands on both sides by the levels defined in the NPfI.	5 dB[2]
Low-frequency noise	Measurement of source contribution C-weighted and A-weighted level and one-third octave measurements	Measure/assess source contribution C and A weighted Leq,t levels over same time period. Correction to be applied where the C minus A level is 15 dB or more and the level to which the thresholds defined in the NPfI are exceeded.	2 or 5 dB[2]
Intermittent noise	Subjectively assessed but should be assisted with measurement to gauge the extent of change in noise level	The source noise heard at the receiver varies by more than 5 dB and the intermittent nature of the noise is clearly audible. The NPfI further defines intermittent noise as noise where the level suddenly drops/increases several times during the assessment period, with a noticeable change in source noise level of at least 5 dB, for example, equipment cycling on and off. The intermittency correction is not intended to be applied to changes in noise level due to meteorology.	5 dB[3]
Maximum adjustment	Refer to individual modifying factors	Where two or more modifying factors are indicated.	Maximum correction of 10 dB[2] (excluding duration correction)
Note 1: Corrections to be added to the measured or predicted levels.			



Factor	Assessment/Measurement	When to Apply	Correction[1]
Note 2: Where a source emits tonal and low-frequency noise, only one 5 dB correction should be applied if the tone is in the low-frequency range, that is, at or below 160 Hz.			
Note 3: Adjustment to be applied to night-time only.			

4.2 Off-Site Traffic on Surrounding Roads

The potential impacts from Project related traffic on the surrounding public roads are assessed using the *NSW Road Noise Policy (RNP)*.

An initial screening test is first applied to evaluate if existing road traffic noise levels are expected to increase by more than 2.0 dB. Where this is considered likely, further assessment is required using the RNP criteria shown in **Table 10**.

Table 10: RNP / NCG Criteria for Assessing Traffic on Surrounding Public Roads

Road Category	Type of Project/Land Use	Assessment Criteria (dBA)	
		Daytime (7 am – 10 pm)	Night-time (10 pm – 7 am)
Freeway/ arterial/ sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq(15hour)}$ 60 (external)	$L_{Aeq(9hour)}$ 55 (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq(1hour)}$ 55 (external)	$L_{Aeq(1hour)}$ 50 (external)

5.0 Methodology

5.1 Operational Noise Assessment

The potential operational noise levels from the Project have been predicted to the surrounding receivers using CONCAWE industrial noise algorithms in SoundPLAN 8.2. The model includes ground topography, ground type buildings and representative worst-case noise sources from the Project.

The potential impacts have been determined by comparing the predicted peak operational activity noise levels to the NPfI PNTLs in a 15-minute assessment period.

5.1.1 Operational Noise Sources

Acoustically significant plant and equipment modelled at the concrete batch plant including sound power levels have been derived from onsite observations and measurements, manufacturer specifications and an SLR database of similar equipment.

The noise model incorporates two site layouts one using the existing site layout and one using the approved site layout in **Figure 2**.

Other assumptions incorporated into the noise model include the following:

- All acoustically significant plant and equipment operate simultaneously over a 15 minute period.
- Vehicle movements on site were modelled based on the observations made on-site and includes:
    - 1 Delivery Truck per 15 minute period entering site, travelling to the storage area and unloading at the bund area.
    - 1 Light Vehicle entering site, travelling to onsite parking.
    - 1 Concrete Truck entering site and travelling to batch plant.
    - 1 Front End Loader travelling onsite and operating for 10 minutes in every 15 minute period.

The model assumes the sound power levels and plant and equipment in operation as summarised in **Table 11**. The sound power level and spectral data for the operational equipment is presented in **Appendix C.**

Table 11: Operational Scenario

Plant and Equipment	Sound Power Level LAeq	Duration of 15 minute period
Fixed Plant		
Conveyors/Augers[1]	72 dBA / m	All times
Aggregate Weighing Hopper[1]	89 dBA	All times
Mobile Equipment		
Front End Loader[1]	105	10 minutes
Concrete Truck loading/mixing[1]	108	All times
Cement Truck unloading at silo[1]	106	All times



Plant and Equipment	Sound Power Level LAeq	Duration of 15 minute period
Delivery truck unloading at storage area[1]	94	8 minutes
Heavy Vehicle manoeuvring onsite[1]	99	Dependent on path length 20 km/h
Light Vehicle manoeuvring onsite	85	Dependent on path length 20 km/h
Note 1: SWL obtained from onsite measurements.		

5.1.2 Corrections for Annoying Noise Characteristics

The potential annoying noise characteristics and modifying factor corrections relevant to the Project are:

- **Tonality** – the only source identified with potential tonal characteristics is reversing alarms and drive-off alarms in isolation. However, when considered in conjunction with all site noise emissions tonal characteristics are not predicted at the nearest residential receivers. Notwithstanding, the use of broadband alarms have been recommended as a noise mitigation measure (see Section 6.0).
- **Low frequency noise** –. Spectral data for plant and equipment at the Project was recorded during a site visit and incorporated into the noise model. Analysis of the predicted spectral data was also conducted at the worst-affected residential receiver (R18), as per the NPfI. Results of the analysis indicated no correction for low-frequency noise is triggered for the Project.

5.1.3 Noise Sources with Potential for Sleep Disturbance

As the development operates during the morning shoulder period (part of the NPfI defined night-time period), noise emissions during the morning shoulder require assessment for potential sleep disturbance at the nearest residential receivers. The details of typical activities with the potential to cause sleep disturbance are shown in **Table 12**.

Table 12: Sleep Disturbance Noise Events - L_{Amax} Sound Power Levels

Plant and Equipment	Sound Power Level L_{Amax} (dBA)
Delivery Truck Drop-Off	106
Delivery Truck Acceleration	108

5.1.4 Weather Conditions

Certain weather conditions can increase noise levels by focusing noise toward receivers. Noise-enhancing weather conditions can occur where wind blows from the source to the receiver, or where temperature inversions occur.

The NPfI defines ‘standard’ and ‘noise-enhancing’ weather conditions as shown in **Table 13**. Noise-enhancing weather should be included in the assessment where it occurs for more than 30% of the daytime, evening or night-time period in any season.



Table 13: Standard and Noise Enhancing Weather Conditions

Weather Conditions	Meteorological Parameters
Standard	Daytime/evening/night-time: stability categories A–D with wind speed up to 0.5 m/s
Noise-enhancing	Daytime/evening: stability categories A–D with light winds up to 3 m/s Night-time: stability categories A–D with light winds up to 3 m/s and/or stability category F with winds up to 2 m/s

The weather conditions used in the assessment are shown in **Table 14**. As per the NPfI, noise-enhancing meteorological conditions have been conservatively assumed for all assessment periods. The assessment considers source-to-receiver wind vectors for all receivers and F class temperature inversions with wind speeds up to 2 m/s during the morning shoulder.

Table 14: Modelled Weather Conditions

Period	Weather Condition	Meteorological Parameters used in Assessment
All	Standard	Stability category D with winds of 0.5 m/s
	Noise-enhancing	Stability category D with winds of 3 m/s
Morning Shoulder	Noise-enhancing	Stability category F with winds of 2 m/s



6.0 Assessment of Impacts

6.1 Operational Noise Assessment

Noise emission levels were predicted from the existing operation of the site and operation of the Project based on the operational scenario detailed in **Table 11**. Predicted LAeq(15minute) noise levels at the nearest noise sensitive receivers and industrial receiver locations from the existing and Project operations are provided in **Table 15.**

Table 15: Predicted Noise Levels

Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA	
	Existing Operations		Project Operations		Day	Morning Shoulder (5:00 am-7:00 am)[1,2]
	Standard	Enhanced	Standard	Enhanced		
R01	29	32	29	32	50	40
R02	31	34	31	34	50	40
R03	33	36	32	36	50	40
R04	30	33	30	33	50	40
R05	29	32	29	32	50	40
R06	23	26	23	26	50	40
R07	40	**43**	40	**43**	50	40
R08	27	30	27	30	50	40
R09	24	27	24	27	50	40
R10	30	33	30	33	50	40
R11	37	40	37	40	50	40
R12	39	**42**	39	**42**	50	40
R13	39	**42**	39	**42**	50	40
R14	39	**42**	39	**42**	50	40
R15	36	39	35	39	50	40
R16	37	40	37	40	50	40
R17	31	34	31	34	50	40
R18	**47**	**51**	**47**	**50**	50	40
R19	39	**42**	39	**42**	50	40
R20	37	40	37	40	50	40
R21	38	**42**	38	**41**	50	40
R22	35	38	34	38	50	40
R23	33	36	33	36	50	40
R24	26	29	26	29	50	40

Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA	
	Existing Operations		Project Operations		Day	Morning Shoulder (5:00 am-7:00 am)[1,2]
	Standard	Enhanced	Standard	Enhanced		
I01	45	47	45	47	63 When in use	
I02	47	50	47	50	68 When in use	
I03	50	52	50	52	68 When in use	
I04	55	57	55	57	68 When in use	
I05	52	54	52	54	68 When in use	
I06	47	50	47	50	68 When in use	
I07	51	54	51	53	68 When in use	
I08	63	64	63	64	68 When in use	
I09	42	45	42	45	68 When in use	
I10	34	37	34	37	68 When in use	
I11	34	37	34	37	68 When in use	
I12	32	35	32	35	68 When in use	
I13	32	35	32	35	68 When in use	
I14	28	31	28	31	68 When in use	
I15	33	36	33	36	68 When in use	
I16	33	36	33	36	68 When in use	
I17	49	51	48	50	68 When in use	
I18	55	56	55	56	68 When in use	
I19	46	48	45	48	68 When in use	
I20	63	65	64	65	68 When in use	
I21	56	58	57	58	68 When in use	
I22	44	47	44	47	68 When in use	

Note 1: Results indicating predicted compliance with the PNTLs from the Project Operations are shown with light green shading.

Note 2: Results indicating a predicted exceedance of the PNTLs are shown in bold red text.

It can be seen in Table 15 that predicted $L_{Aeq(15minute)}$ from the Project comply with PNTLs at all identified noise sensitive receivers during the day period.

During the morning shoulder period, the Project is predicted to exceed the PNTLs at:

- Receiver R18 by 7 dB and 10 dB under standard and noise enhanced weather conditions, respectively.
- Receivers R07, R12-R14, R19 and R21 by 1 dB to 3 dB under noise enhancing weather conditions.



The Project operations DA17/2025(1) modification to the existing plant is predicted to result in a small net beneficial outcome for the site and surrounding area in terms of acoustic considerations by decreasing $L_{Aeq(15minute)}$ noise levels to nearby receivers by 0-1 dB relative to existing operations.

The assessment indicates that the main contributors to the predicted exceedance is due to vehicles and mobile plant operating onsite. The operation of these vehicles and mobile plant would not materially change as a result of the Project. Furthermore, the proposed increase in production would not lead to the intensification of noise emissions from the site over a 15 minute period.

Notwithstanding the above and as a result of predicted noise levels exceeding the PNTLs an assessment of reasonable and feasible noise management and mitigation measures is detailed in **Section 7.0.**

6.1.1 Future Receiver Noise Assessment

For the purpose of determining noise impacts to the potential future receivers to be constructed at 23 and 35 Old Willbriggie Road in close proximity to the site, an additional noise modelling scenario was developed with the inclusion of future residential lots incorporating hypothetical dwellings to include noise path blocking and reflections from the new subdivision construction. It is noted that these buildings are representative in nature as the dimensions of the buildings to be constructed are not included in the publicly available plans.

Noise emissions from the existing and Project operational scenario detailed in **Table 11** were predicted to the potential future noise receivers at the residential subdivision with the predicted noise levels at those receivers shown in **Table 16** under both standard and noise enhancing weather conditions.

Table 16 Predicted Noise Levels – Future Receivers

Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA	
	Existing Operations		Project Operations		Day	Morning Shoulder (5:00 am-7:00 am)[1,2]
	Standard	Noise Enhanced	Standard	Noise Enhanced		
Lot 1	40	43	40	43	50	40
Lot 2	54	56	54	56	50	40
Lot 3	52	55	52	55	50	40
Lot 4	51	54	51	54	50	40
Lot 5	51	54	51	53	50	40
Lot 6	49	52	49	52	50	40
Lot 7	48	51	48	51	50	40
Lot 8	36	40	36	40	50	40
Lot 9	46	49	46	49	50	40
Lot 10	34	37	34	37	50	40
Lot 11	44	47	44	47	50	40
Lot 12	41	45	41	45	50	40



Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA	
	Existing Operations		Project Operations		Day	Morning Shoulder (5:00 am-7:00 am)[1,2]
	Standard	Noise Enhanced	Standard	Noise Enhanced		
Lot 13	38	**41**	38	**41**	50	40
Lot 14	38	**41**	38	**41**	50	40
Lot 15	36	40	36	40	50	40
Lot 16	36	40	36	40	50	40
Lot 17	37	40	37	40	50	40
Lot 18	38	**41**	38	**41**	50	40
Lot 19	39	**42**	39	**42**	50	40
Lot 20	40	**43**	40	**43**	50	40
Lot 21	36	39	36	39	50	40
Lot 22	**42**	**45**	**42**	**45**	50	40
Lot 23	**44**	**47**	**44**	**47**	50	40
Lot 24	**45**	**48**	**45**	**48**	50	40
Lot 25	**42**	**45**	**42**	**45**	50	40
Lot 26	**49**	**52**	**49**	**52**	50	40
Lot 27	**42**	**44**	**42**	**44**	50	40
Lot 28	**55**	**57**	**55**	**57**	50	40

Note 1: Results indicating compliance with the PNTLs are shown with light green shading.
Note 2: Results indicating exceedance of the PNTLs are shown in bold red text.

The results for future potential receivers examined in **Table 16** indicate the following:

- Daytime PNTLs are exceeded at Lots 2-5 and Lot 28 by 1 to 5 dB under standard weather conditions and at Lots 2-7, Lot 26 and Lot 28 from 1 dB to 7 dB under noise enhancing weather conditions.
- Morning Shoulder PNTLs are predicted to be exceeded under standard weather conditions at Lots 2-7, Lot 9, Lot 11-14, Lot 22-28 by 1-15 dB.
- Under noise enhancing weather conditions during the morning shoulder period, the Project is predicted to exceed the PNTLs at Lots 1-7, Lot 9, Lots 11-14, Lots 18-20 and Lots 22-28 with exceedances between 1-17 dB

Noise levels from the Project to the potential future receivers are predicted to be consistent with existing operation of the site and would not change as a result of the Project.

It is important to note that the intensity of onsite activities over any given 15 minute period would not change as a result of the Project. Ambient noise levels at future residential locations closer to the Project site are also expected to be higher than those at the monitoring location near Lot 28 due to traffic and industrial noise levels. This is reflected in the SiteHive monitoring data for the monitoring period.

According to the residential subdivisions noise impact assessment (*Noise Impact Assessment Residential Subdivision Lots 400, 722 & 723 DP. 751709 Oakes Road Griffith NSW*, February 2024, Reverb Acoustics) the predicted noise levels from local industry (inclusive of existing site operations) was predicted to exceed the relevant NPfI criteria. As a result, acoustic treatment to potential future dwellings was recommended as a mitigation measure in the subdivision noise impact assessment to reduce internal noise levels.

Notwithstanding the above, as the Project exceeds the PNTLs, reasonable and feasible noise management and mitigation measures are recommended, detailed in **Section 7.0.**

6.1.2 Cumulative Noise Assessment

This assessment indicates the Project would not lead to the intensification of noise emissions from the site over a 15 minute period. As a result, no cumulative noise impacts are anticipated for the Project.

6.1.3 Sleep Disturbance

The predicted highest L_{Amax} noise levels for every receiver at the nearest residential receivers and potential future residential receivers are compared against the sleep disturbance noise level are shown in **Table 17.**

Table 17: Predicted Sleep Disturbance Noise Levels

Receiver	Predicted Noise Level LAmax dBA				Sleep Disturbance Screening Level (SDNL) LAmax	Below Screening Level
	Existing Operations		Project Operations			
	Standard Weather Conditions	Noise Enhancing Weather Conditions	Standard Weather Conditions	Noise Enhancing Weather Conditions		
Existing Residential Receivers						
R01	44	47	44	47	52	Yes
R02	46	49	46	49	52	Yes
R03	46	49	46	49	52	Yes
R04	38	41	38	41	52	Yes
R05	33	36	33	36	52	Yes
R06	36	39	36	39	52	Yes
R07	44	47	44	47	52	Yes
R08	32	35	32	35	52	Yes
R09	40	43	40	43	52	Yes
R10	41	44	41	44	52	Yes
R11	43	46	43	46	52	Yes
R12	44	47	44	47	52	Yes
R13	44	47	44	47	52	Yes
R14	42	45	42	46	52	Yes

Receiver	Predicted Noise Level LAmax dBA				Sleep Disturbance Screening Level (SDNL) LAmax	Below Screening Level
	Existing Operations		Project Operations			
	Standard Weather Conditions	Noise Enhancing Weather Conditions	Standard Weather Conditions	Noise Enhancing Weather Conditions		
R15	45	48	45	48	52	Yes
R16	44	47	44	47	52	Yes
R17	43	46	43	46	52	Yes
R18	**54**	**57**	**54**	**57**	52	**No**
R19	52	**54**	52	**54**	52	**No**
R20	49	**53**	49	**53**	52	**No**
R21	51	**55**	51	**55**	52	**No**
R22	48	51	48	51	52	Yes
R23	46	49	46	49	52	Yes
R24	38	41	38	41	52	Yes
Potential Future Residential Receivers						
Lot 1	**55**	**58**	**55**	**58**	52	**No**
Lot 2	**58**	**61**	**59**	**61**	52	**No**
Lot 3	**58**	**60**	**58**	**60**	52	**No**
Lot 4	**55**	**58**	**55**	**58**	52	**No**
Lot 5	**56**	**59**	**56**	**59**	52	**No**
Lot 6	**54**	**57**	**54**	**57**	52	**No**
Lot 7	**52**	**54**	**52**	**54**	52	**No**
Lot 8	47	50	47	50	52	Yes
Lot 9	51	**54**	51	**54**	52	**No**
Lot 10	38	41	38	41	52	Yes
Lot 11	48	51	48	51	52	Yes
Lot 12	49	52	48	51	52	Yes
Lot 13	45	48	45	48	52	Yes
Lot 14	44	47	44	47	52	Yes
Lot 15	43	46	43	46	52	Yes
Lot 16	43	46	43	46	52	Yes
Lot 17	44	47	44	47	52	Yes
Lot 18	44	47	44	47	52	Yes
Lot 19	45	48	45	48	52	Yes
Lot 20	46	49	46	49	52	Yes

Receiver	Predicted Noise Level LAmax dBA				Sleep Disturbance Screening Level (SDNL) LAmax	Below Screening Level
	Existing Operations		Project Operations			
	Standard Weather Conditions	Noise Enhancing Weather Conditions	Standard Weather Conditions	Noise Enhancing Weather Conditions		
Lot 21	48	51	47	49	52	Yes
Lot 22	48	51	48	52	52	Yes
Lot 23	50	**53**	50	**53**	52	**No**
Lot 24	**53**	**56**	**53**	**56**	52	**No**
Lot 25	52	**55**	52	**55**	52	**No**
Lot 26	**55**	**58**	**55**	**60**	52	**No**
Lot 27	**59**	**60**	**59**	**60**	52	**No**
Lot 28	**62**	**64**	**62**	**64**	52	**No**
Note 1: Exceedance of the SDNL is shown in bold red text.						

As shown in **Table 17** the L_{Amax} noise levels are predicted to be above the sleep disturbance screening level at the receivers at R18-R21 with the highest external maximum noise level at R18 being 57 dBA. For future receiver locations, Lots 1-7 and Lot 9 as well as Lots 23-28 exceed the screening level with a maximum external maximum noise level of 64 dBA. Therefore, in accordance with the NPfI methodology for assessing sleep disturbance outlined in **Section 4.1.4**, further assessment is required.

External noise levels of up to 64 dBA at the most affected potential future receivers taking into account 10 dB reduction in noise level passing through an open window would result in internal maximum noise levels of up to 54 dBA. According to the RNP internal noise levels of up to 55 dBA are unlikely to cause awakening reactions. As such maximum noise level events during the morning shoulder period are unlikely to result in awakening reactions at all residential receivers.

6.1.4 Operational Road Traffic

The criteria for the assessment of road traffic as required by the RNP are detailed in **Section 4.2.** Traffic count data from August 2025 on Oakes Road was used to assess the potential increase in Project traffic, the results of the traffic impact assessment are detailed in **Table 18**.

Table 18 Project Traffic Noise Impact Assessment

Oakes Road Traffic Count	Existing Road Traffic inclusive of existing operations		Future Traffic due to the Project		Predicted Increase in Traffic Noise Level dB	
	Morning Shoulder (5am-7am)[1]	Daytime (7am-6pm)	Morning Shoulder (5am-7am)	Daytime (7am-6pm)	Morning Shoulder (5am-7am)	Daytime (7am-6pm)
Light Vehicles	292	2376	376	2634	1.7	0.9



Oakes Road Traffic Count	Existing Road Traffic inclusive of existing operations		Future Traffic due to the Project		Predicted Increase in Traffic Noise Level dB	
	Morning Shoulder (5am-7am)[1]	Daytime (7am-6pm)	Morning Shoulder (5am-7am)	Daytime (7am-6pm)	Morning Shoulder (5am-7am)	Daytime (7am-6pm)
Heavy Vehicles	20	320	38	440		
Note 1: Estimate based on 6am-7am traffic count.						

The results of the assessment indicate that the Project is expected to result in an increase of less than 2 dB. In assessing reasonable and feasible mitigation measures, an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person.

Given the minor predicted relative increase, noise mitigation to reduce road traffic noise levels associated with the Project is not considered reasonable in this instance.



7.0 Noise Mitigation and Management Measures

7.1 Operational Noise Mitigation and Management Measures

As the Project is predicted to exceed the PNTLs at some receivers, an investigation of potentially feasible and reasonable noise mitigation and management measures is required to be undertaken in accordance with the NPfI.

A summary of potential mitigation measures considered is detailed in **Table 19**.

Table 19 Summary of Noise Mitigation and Management Options

Mitigation Measure	Noise Impact/Benefits	Description and Comments on Feasibility and Reasonableness
Source Control Measures		
Plant Selection	Negligible	It would be considered feasible and reasonable for the noise emission of new plant and equipment. The impact of this change is negligible however due to the comparatively low impact of fixed plant. Annoying noise characteristics should be considered during equipment procurement, with the aim of avoiding mechanical plant that may result in low frequency or tonal noise emission characteristics.
Limiting truck acceleration during the morning shoulder period.	Moderate L_{Amax} reduction	Feasible and reasonable noise mitigation management measure.
Limit vacuum truck silo refilling activity and truck deliveries, where practicable, to the daytime period. Pre-filling of storage yard and silos would be conducted on a previous day period before morning shoulder batch production and loading into concrete trucks.	Significant L_{Aeq} reduction for Morning Shoulder period.	Feasible and potentially reasonable noise mitigation measure
Limit concrete truck idling in queue areas where practical.	Minor reductions in LAeq at the nearest residential receivers.	Potentially reasonable and feasible noise mitigation measures, however idling may be required where concrete trucks agitators need to remain in operation due to residual concrete remaining in the agitator.
Path Control Measures		
Noise Barrier constructed along the southern boundary on the eastern half of the Project site. This Noise Screen or Barrier would be constructed from any solid material including lapped and capped timber fencing, masonry, fibre cement, steel, earth-mounding or any combination of the above. The barrier should contain	Minor reduction in LAeq noise levels 0-2 dB.	Feasible to construct in locations where current fencing contains significant gaps (i.e. chain link fencing or posts) and does not screen line-of-sight to nearby residential receivers from noise. The most effective section of fencing to be upgraded is on the south-east corner on both the southern and eastern spans. The achievable reduction in noise level at the nearest residential subdivision lots and R19 is predicted to



Mitigation Measure	Noise Impact/Benefits	Description and Comments on Feasibility and Reasonableness
no holes or gaps and be constructed to a minimum height of 1.8m		be 0-2 dB at those receivers and is therefore potentially not reasonable.
Extension of the existing concrete loading shed to allow for the noise generating portions of the concrete truck to be contained inside the shed.	Minor reductions in LAeq noise levels 0-2 dB.	Feasible and potentially reasonable noise mitigation measure taken into account with health, safety and other concerns associated for the concrete truck drivers.
Addition of a suitable noise absorptive lining the walls and roof of the concrete loading shed to limit the reverberant build-up and reduce noise emissions from the shed to receivers.	Minor reductions in LAeq noise levels 0-2dB	Potentially feasible and reasonable to be conducted in accordance with the extension of the concrete shed to contain the noise generating portions of the concrete trucks (I.e engine and exhausts). Effectiveness would be somewhat dependent on the ongoing maintenance of washing off concrete dust and liquid concrete product to prevent the degradation of the absorptive linings.
Mitigation at Receptor		
At-property treatments	The NPfI notes that noise mitigation at a residence may be required to be considered where the residual impact exceeds the PNTLs by ≥3 dB. At-property treatments typically include mechanical ventilation to allow windows to be closed as a noise mitigation measure, together with upgraded facade elements such as windows, doors and acoustic seals.	Potentially feasible for the nearest most potentially affected receivers above the morning shoulder PNTLs. Potentially not reasonable for residences within the subdivision. The subdivision noise assessment[1] indicates that at property treatment would be implemented at receivers according to noise control zones on the plans as a result of traffic and industrial noise levels. Considering that at property mitigation measures are already required as a part of conditions of consent for DA 412024 for the potentially impacted receivers at this location. Given the above and that Project noise levels are not expected to increase as a result of the Project additional at property treatment is not considered reasonable to implement at future subdivision receivers.
Note 1: Noise Impact Assessment Residential Subdivision Lots 400, 722 & 723 DP. 751709 Oakes Road Griffith NSW February 2024, Reverb Acoustics (Subdivision NIA)		

The NPfI acknowledges that generally the range of noise mitigation for existing developments is more limited than that for a new development at the planning stage. As such it is acknowledged that some residual impacts, despite the implementation of feasible and reasonable mitigation options would remain.

7.1.1 Subdivision At-Property Noise Mitigation Investigation

An investigation was conducted to determine the acceptability of proposed construction requirements as determined by the Subdivision NIA and if any further façade upgrades would be required.



The worst-affected receiver in each Noise Control Zone specified in the Subdivision NIA requiring upgraded façade details has been assessed based on a combination of traffic noise as assumed in the Subdivision NIA and the noise predictions from the Project to a theoretical bedroom.

The controlling criteria is the night-time internal noise level of 35 dBA $L_{Aeq(15minute)}$.

Assumptions for the theoretical bedrooms include:

- Total affected Bedroom façade area 9 m^2
- Total Window area 1.5 m x 1.5 m = 2.3 m^2
- Bedroom volume 3 m x 3 m x 2.7 m = 24 m^3
- Reverberation time of 0.5s representing a typical furnished bedroom.

The internal noise level predictions are summarised in **Table 20**.

Table 20 Subdivision Façade Noise Investigation

Noise Control Zone	Most Project Affected Lot	Minimum Rw (Bedroom/ Sleeping Areas)[1]	External Traffic Noise Level $L_{Aeq(9hour)}$	Predicted Worst Case Project External Noise Level $L_{Aeq(15minute)}$ dBA	Combined External Noise Level $L_{Aeq(15minute)}$	Internal Noise Level $L_{Aeq(15minute)}$ dBA
Zone 1[2]	N/A	N/A	N/A	N/A	N/A	N/A
Zone 2	Lot 28	33	59	57	61	34
Zone 3	Lot 3	29	54	55	58	31
Note 1: Source – Subdivision NIA Note 2: Exclusion Zone – no residential development permitted.						

As a result of the internal noise prediction results, no further at-property treatments or noise mitigation and management measures are recommended for the residential subdivision receivers.

7.2 General Noise Mitigation and Management Measures

Best practice noise mitigation and management strategies, which are currently implemented on site, should continue to be implemented and include, but are not limited to:

- The noisiest activities that can potentially be rescheduled (i.e. refilling silos) to be scheduled to the least noise sensitive times of the day (i.e. not during the morning shoulder period) where practicable.
- Beeper motion alarms where practical should be replaced with broadband motion alarms on mobile plant/trucks in accordance with best practice.
- An awareness and understanding of noise issues and the use of quiet work practices will be included in Site inductions for all staff, contractors and visitors to the Site. Specific mention of the following items will be included:
  - Site specific noise management measures to be followed.
  - Locations of nearby noise sensitive receivers.



- Best Management practices such as operating equipment in a quiet and efficient manner and limiting unnecessary acceleration when driving mobile plant on-site.

- All machinery, plant and noise suppression equipment will be maintained and operated in a proper and efficient manner to minimise noise generation.
- Switch off plant and equipment when not in use and avoid excessive idling.
- Noise verification monitoring to be conducted following the completion of the Project during morning shoulder and daytime operations to verify operational noise levels are consistent with the predicted levels. A verification report will be generated comparing the measured noise levels to the predicted noise levels at the nearest noise sensitive receivers. Performance criteria to be utilised for future noise monitoring would be generated based on the results of this assessment.
- Noise monitoring may be conducted (as appropriate) in the event of formal complaints received to verify that operational noise levels are consistent with the predicted noise levels.
  - If noise monitoring conducted identifies a significant exceedance of predicted levels, notification will be provided to the site and a review of noise management and mitigation measures will be conducted and provided to the relevant regulatory authorities.

7.3 Operational Noise Assessment – Mitigated

A mitigated operational scenario was modelled with the inclusion of selected potentially feasible and reasonable noise mitigation measures including:

- Restricting deliveries and refill activities to the day period only.
- Idling concrete trucks awaiting filling to shut off engine when not required.
- Shed extension enclosing noise-generating portion of concrete trucks within concrete loading shed.
- Addition of absorptive lining on the walls and ceiling of the concrete loading shed (absorption specifications used taken from Soundblock Solutions Stratocell Whisper 25 mm acoustic panels).

The results of the mitigated operational assessment are shown in Table 21.

Table 21 Predicted Noise Levels – Mitigated

Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA		Noise Reduction from Existing Enhanced Conditions dB	
	Daytime Operations		Morning Shoulder Operations		Day	Morning Shoulder	Day	Morning Shoulder
	Standard	Enhanced	Standard	Enhanced				
Existing Residential Receivers								
R01	29	32	29	31	50	40	0	1
R02	31	34	30	34	50	40	0	1
R03	33	36	32	35	50	40	0	1
R04	29	31	28	31	50	40	2	2

Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA		Noise Reduction from Existing Enhanced Conditions dB	
	Daytime Operations		Morning Shoulder Operations		Day	Morning Shoulder	Day	Morning Shoulder
	Standard	Enhanced	Standard	Enhanced				
R05	27	30	26	29	50	40	3	3
R06	21	24	20	23	50	40	2	3
R07	34	37	34	37	50	40	6	6
R08	24	26	23	26	50	40	4	4
R09	22	25	22	25	50	40	2	2
R10	29	32	29	32	50	40	1	1
R11	36	40	33	36	50	40	0	4
R12	37	40	32	35	50	40	2	7
R13	37	40	33	36	50	40	2	6
R14	36	39	33	36	50	40	3	7
R15	36	39	36	39	50	40	0	1
R16	35	38	35	37	50	40	2	3
R17	31	34	31	34	50	40	0	0
R18	44	47	**42**	**45**	50	40	4	7
R19	39	42	39	**42**	50	40	0	0
R20	37	40	36	40	50	40	0	0
R21	39	42	38	**42**	50	40	0	1
R22	34	38	34	37	50	40	1	1
R23	33	36	33	36	50	40	0	0
R24	25	28	24	27	50	40	1	2
Future Residential Receivers								
FR01	41	44	40	**42**	50	40	-1	1
FR02	**53**	**55**	**49**	**50**	50	40	1	6
FR03	50	**52**	**46**	**48**	50	40	3	7
FR04	49	**52**	**44**	**46**	50	40	3	8
FR05	49	**52**	**44**	**46**	50	40	3	8
FR06	47	50	**42**	**45**	50	40	2	7
FR07	45	48	39	**42**	50	40	3	9
FR08	36	39	34	37	50	40	1	3
FR09	44	47	39	**42**	50	40	2	7
FR10	32	35	29	32	50	40	2	5

Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA		Noise Reduction from Existing Enhanced Conditions dB	
	Daytime Operations		Morning Shoulder Operations		Day	Morning Shoulder	Day	Morning Shoulder
	Standard	Enhanced	Standard	Enhanced				
FR11	41	44	35	38	50	40	3	9
FR12	41	44	37	40	50	40	1	5
FR13	38	41	34	37	50	40	0	4
FR14	37	40	33	36	50	40	1	5
FR15	36	39	32	35	50	40	1	5
FR16	36	39	32	35	50	40	1	5
FR17	37	40	33	36	50	40	0	4
FR18	38	41	34	37	50	40	0	4
FR19	39	42	34	38	50	40	0	5
FR20	39	43	35	38	50	40	0	5
FR21	36	39	33	35	50	40	1	4
FR22	42	45	38	**41**	50	40	0	5
FR23	43	46	39	**42**	50	40	1	5
FR24	44	47	**42**	**45**	50	40	4	7
FR25	42	45	39	**42**	50	40	4	6
FR26	49	**52**	**44**	**47**	50	40	0	5
FR27	41	43	38	40	50	40	1	4
FR28	**55**	**57**	**50**	**52**	50	40	0	5
Industrial Receivers								
I01	43	45	43	45	63 When in use		3	3
I02	44	46	43	45	68 When in use		4	5
I03	44	46	44	46	68 When in use		6	6
I04	52	53	51	52	68 When in use		4	5
I05	52	54	52	53	68 When in use		1	1
I06	47	50	47	49	68 When in use		1	1
I07	51	53	48	50	68 When in use		1	4
I08	63	64	58	59	68 When in use		0	5
I09	42	45	40	43	68 When in use		0	2
I10	35	37	34	37	68 When in use		0	0
I11	33	36	33	35	68 When in use		1	2
I12	29	31	29	31	68 When in use		4	4



Receiver	Predicted Noise Level dBA				PNTL LAeq(15minute) dBA		Noise Reduction from Existing Enhanced Conditions dB	
	Daytime Operations		Morning Shoulder Operations		Day	Morning Shoulder	Day	Morning Shoulder
	Standard	Enhanced	Standard	Enhanced				
I13	29	31	27	30	68 When in use		4	5
I14	23	25	22	25	68 When in use		6	6
I15	32	35	32	35	68 When in use		1	1
I16	32	35	32	35	68 When in use		1	2
I17	48	50	48	49	68 When in use		2	2
I18	54	56	54	56	68 When in use		0	0
I19	47	48	46	47	68 When in use		0	1
I20	63	65	60	61	68 When in use		1	4
I21	56	58	54	55	68 When in use		0	3
I22	44	47	44	47	68 When in use		0	0

Note 1: Results indicating predicted compliance with the PNTLs from the Project Operations are shown with light green shading.
Note 2: Results indicating a predicted exceedance of the PNTLs are shown in bold red text.

During the morning shoulder period, the mitigated Project is predicted to exceed the PNTLs at:

- Receiver R18, by 2 dB and 5 dB under standard and noise enhanced weather conditions, respectively.
- Receivers R19 and R21 by 2 dB under noise enhancing weather conditions.
- Future receivers FR02-FR06, FR24, FR26 and FR28 during standard and noise enhanced weather conditions by up to 12 dB.
- Future residential receivers FR01, FR07, FR09, FR22, FR23 and FR25 under noise enhancing conditions by up to 2 dB.

During the daytime period, the mitigated Project is predicted to exceed the PNTLs at:

- No existing residential or industrial receivers
- FR02 and FR28 during enhanced and standard weather conditions by up to 7 dB
- FR03, FR03, FR05 and FR26 during noise enhancing weather conditions by up to 2 dB

The results in Table 21 indicate significant noise reductions can be achieved at a number of receivers with the application of all feasible and reasonable noise mitigation measures including those implemented, however these reductions would not be sufficient to reduce the predicted noise levels to the PNTLs at the future subdivision receivers.

The Noise Policy for Industry states in Section 3.1:

> *Where the project noise trigger level is exceeded, assess the feasible and reasonable mitigation measures that could be implemented to reduce noise down*



towards the relevant project noise trigger level. If it is reasonable to achieve these levels, the proponents should do so. If not, then achievable noise levels should be identified. It is not mandatory to achieve the trigger levels but the assessment should provide justification if they cannot be met. An assessment of the acceptability of residual impacts should also be provided.

In this case, achieving the PNTLs at all existing and future receivers is not reasonably achievable. The Project related changes to this long-term existing operation would not result in a noticeable increase in overall $L_{Aeq(15\ minute)}$ noise levels at any nearby receivers and would provide noise reductions at many receivers.

8.0 Conclusion

SLR has conducted a Noise Impact Assessment (NIA) for the concrete batch plant currently located at 127 Oakes Road Griffith NSW. The objectives for the NIA were to assess the potential noise impacts of the Project at the nearest noise sensitive receivers following an increase of production capacity.

The $L_{Aeq(15minute)}$ noise levels from the Project are not predicted to increase above existing operations as a result of the proposed increase of capacity.

The Project is predicted to comply with the PNTLs at all existing receivers under standard and noise-enhancing weather conditions during the day period.

With the implementation of reasonable and feasible mitigation measures at R18 during the morning shoulder period the Project is predicted to exceed the PNTLs by 2 dB and 5 dB under standard and noise enhanced weather conditions, respectively. Under noise enhancing weather conditions at receivers R19 and R21 the Project is predicted to exceed the PNTLs by up to 2 dB.

The Project is predicted to exceed the PTNLs at a number of potential future receivers at the subdivision to the south of the Project across Oakes Road. Noise levels from the Project to the potential future receivers are predicted to be consistent with existing operation of the site and would not change as a result of the Project The NIA for the subdivision recommended at property treatments to address the potential exceedances predicted at these future residential locations.

Notwithstanding that predicted Project $L_{Aeq(15minute)}$ noise levels would be similar or less than the existing operating noise levels, feasible and reasonable noise mitigation and management measures have been recommended for the Project.

Road traffic noise levels on the surrounding road network are expected to result in an increase of less than 2 dB due to the Project and in accordance with the RNP would not be noticeable to the average listener and would not require consideration of mitigation.

Maximum noise levels from the Project are unlikely to cause awakening reactions at any existing or future residential receivers in accordance with guidance provided in the RNP.



Appendix A Acoustic Terminology

Mawsons Griffith Concrete Batching Plant

Noise Impact Assessment

E.B. Mawsons and Sons Pty Ltd

SLR Project No.: 630.032127.00006

26 June 2026

SLR

1. Sound Level or Noise Level

The terms 'sound' and 'noise' are almost interchangeable, except that 'noise' often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. The human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2 x 10^{-5} Pa.

2. 'A' Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	
80	Kerbside of busy street	Loud
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (eg B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as 'linear', and the units are expressed as dB(lin) or dB.

3. Sound Power Level

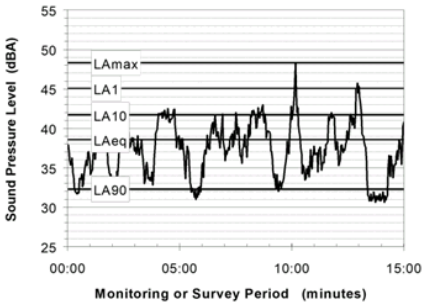
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

LA1 The noise level exceeded for 1% of the 15 minute interval.

LA10 The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.

LA90 The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.

LAeq The A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

5. Frequency Analysis

Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

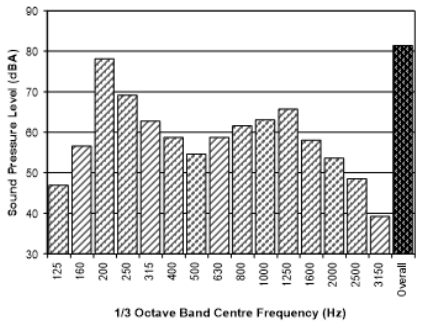
The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)

Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

- **Tonality** - tonal noise contains one or more prominent tones (ie differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- **Impulsiveness** - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- **Intermittency** - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and off.
- **Low Frequency Noise** - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

Appendix B Unattended Noise Monitoring – Statistical Noise Levels

Mawsons Griffith Concrete Batching Plant

Noise Impact Assessment

E.B. Mawsons and Sons Pty Ltd

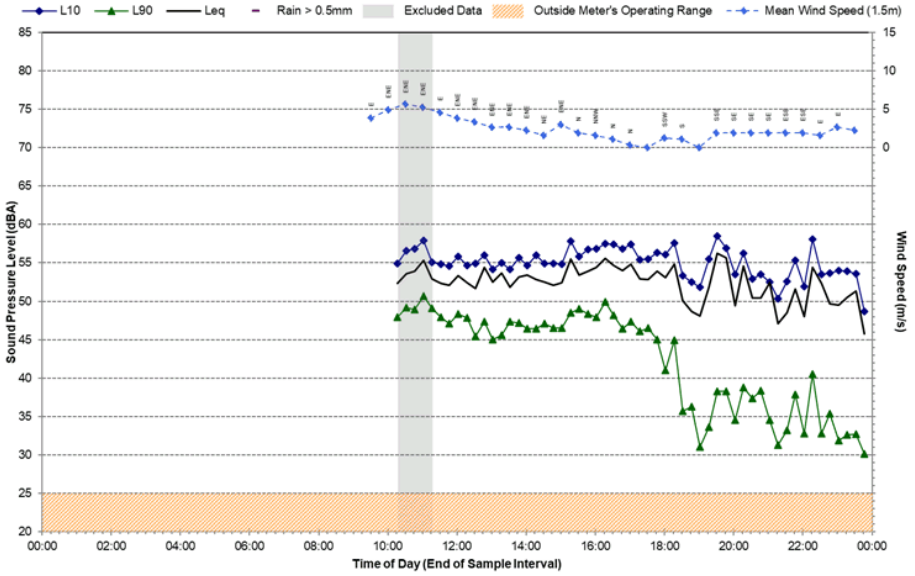
SLR Project No.: 630.032127.00006

26 June 2026

SLR

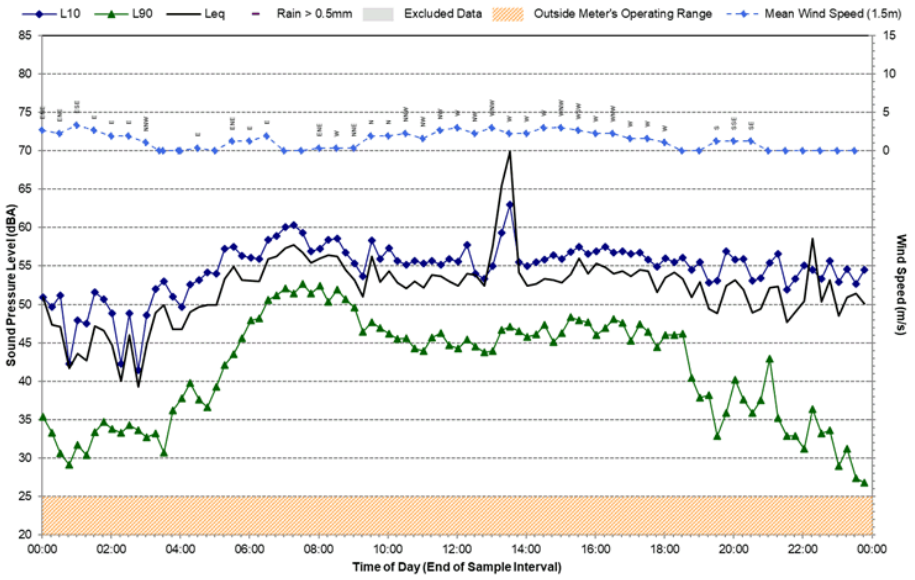
Statistical Ambient Noise Levels

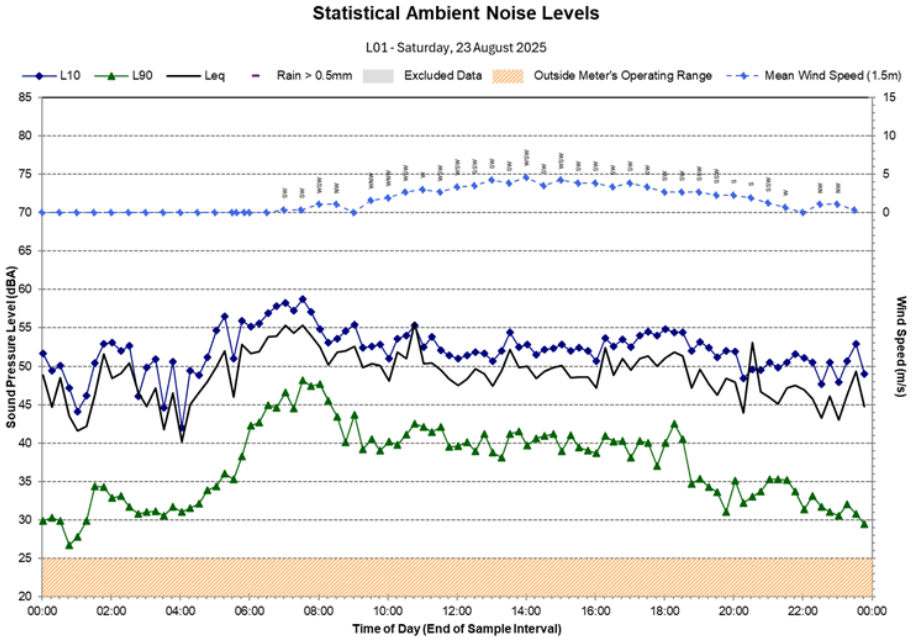
L01 - Thursday, 21 August 2025

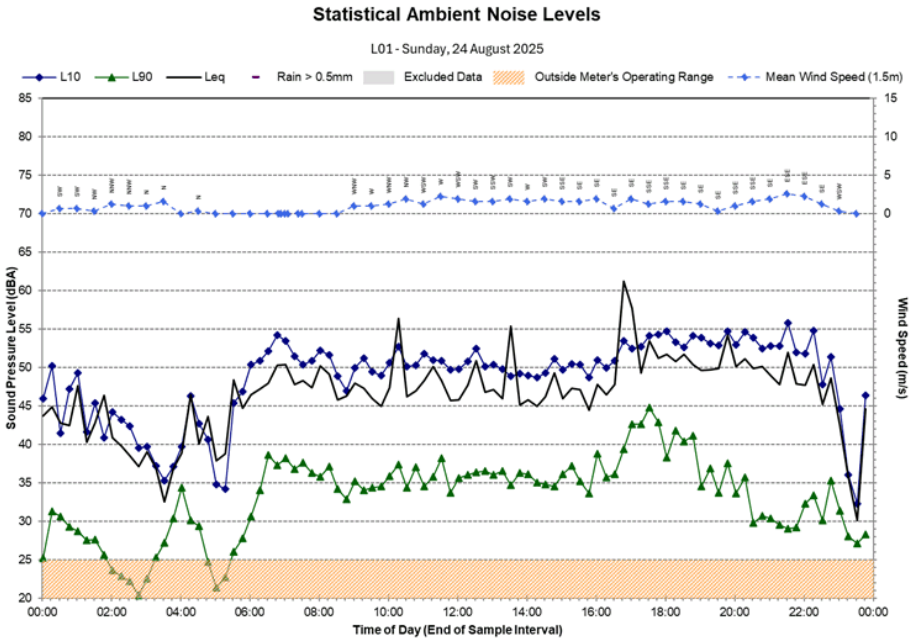


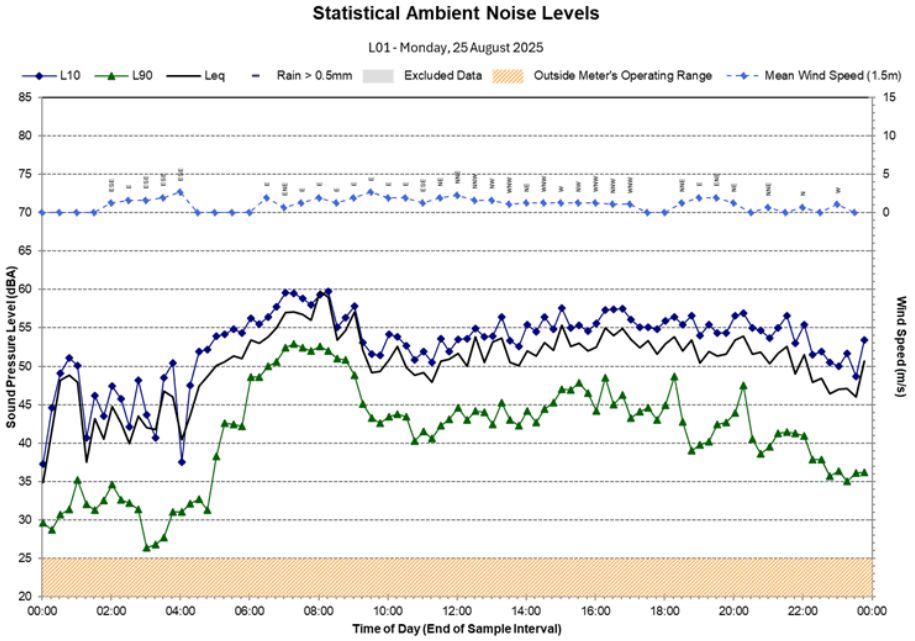
Statistical Ambient Noise Levels

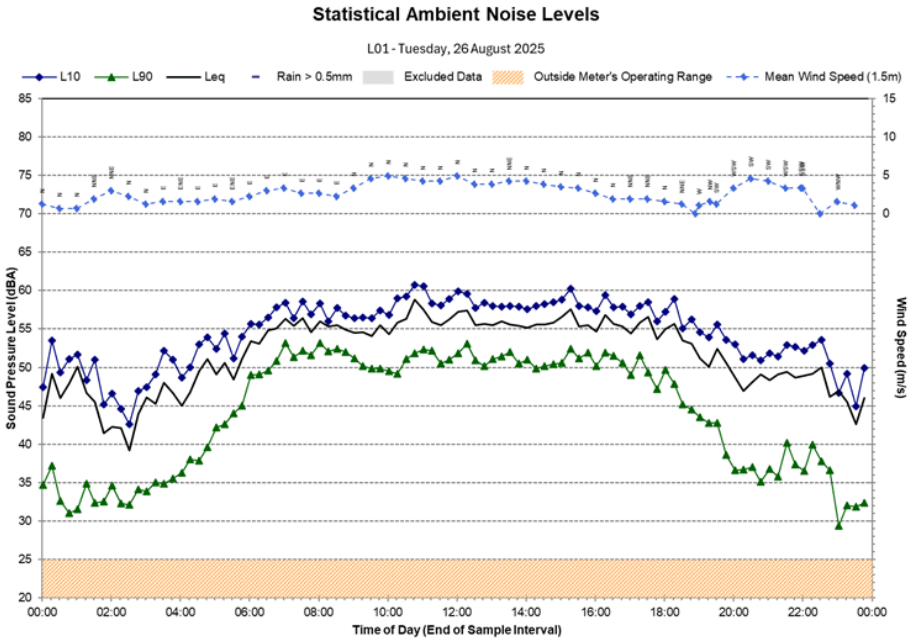
L01 - Friday, 22 August 2025




Statistical Ambient Noise Levels
L01 - Saturday, 23 August 2025
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Outside Meter's Operating Range
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

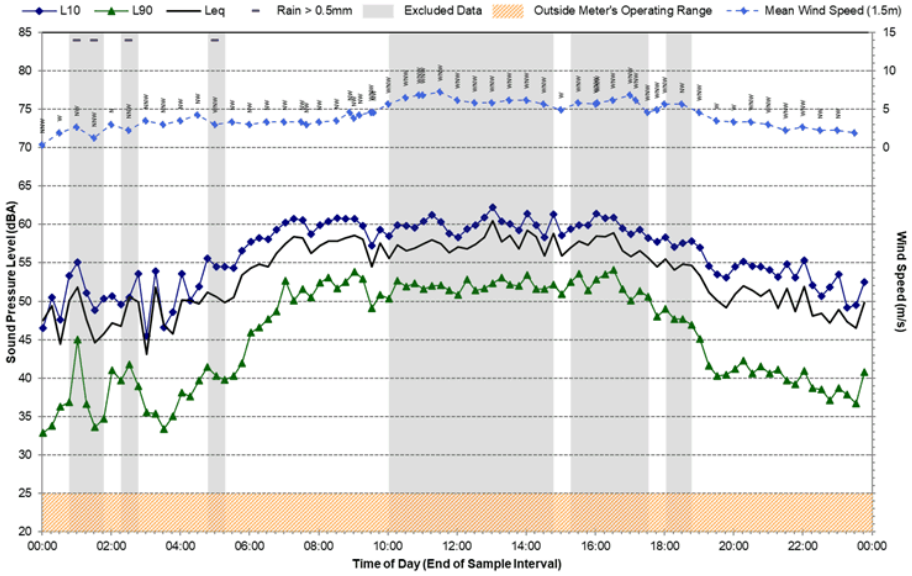

Statistical Ambient Noise Levels
L01 - Sunday, 24 August 2025
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Outside Meter's Operating Range
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L01 - Monday, 25 August 2025
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Outside Meter's Operating Range
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L01 - Tuesday, 26 August 2025
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Outside Meter's Operating Range
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

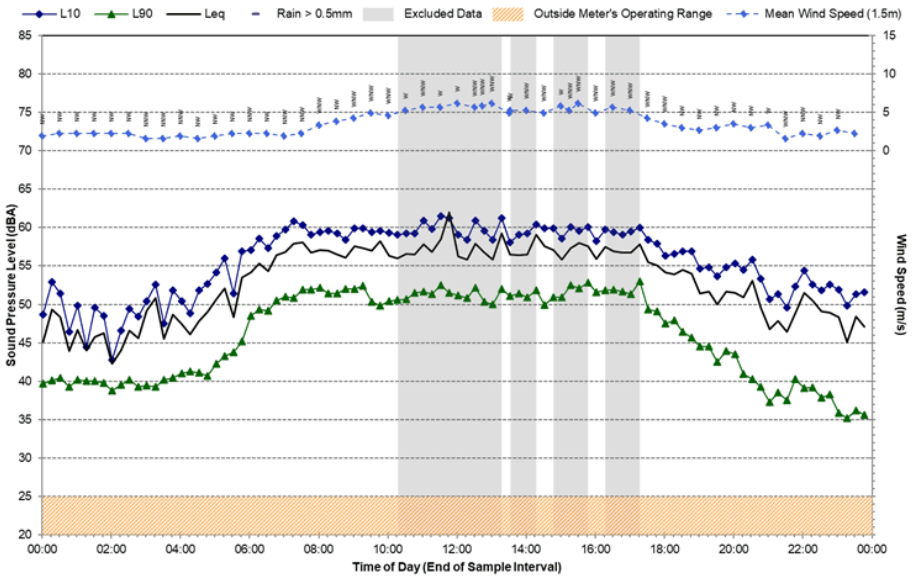
Statistical Ambient Noise Levels

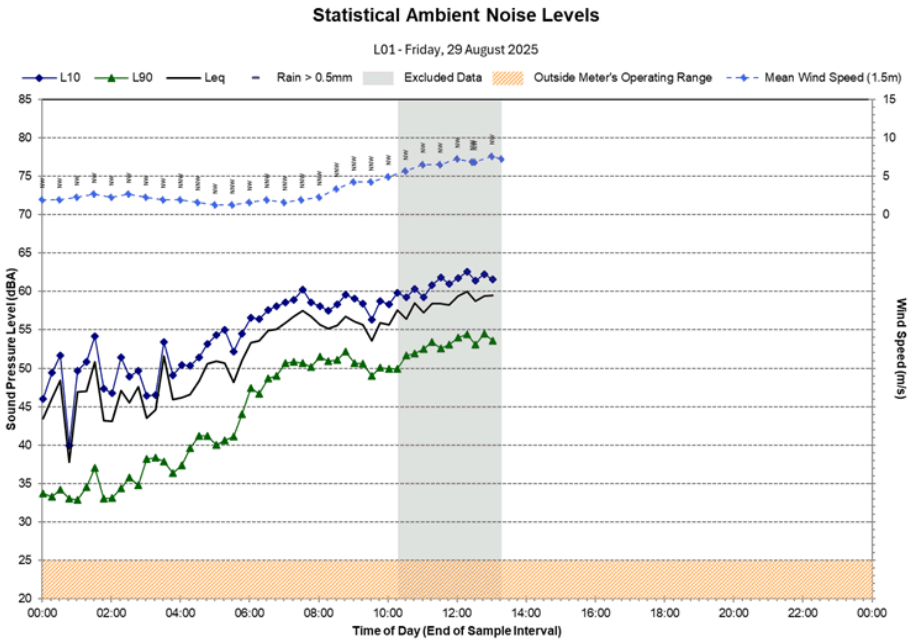
L01 - Wednesday, 27 August 2025



Statistical Ambient Noise Levels

L01 - Thursday, 28 August 2025




Statistical Ambient Noise Levels
L01 - Friday, 29 August 2025
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Outside Meter's Operating Range
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

Appendix C Plant and Equipment Spectral Sound Power Levels

Mawsons Griffith Concrete Batching Plant

Noise Impact Assessment

E.B. Mawsons and Sons Pty Ltd

SLR Project No.: 630.032127.00006

26 June 2026

SLR

Plant/Equipment	Octave Band Frequency (Hz) Noise Level dBA										Total dBA
	16	31	63	125	250	500	1000	2000	4000	8000	
Fixed Plant											
Conveyors/Augers	17	37	45	53	59	67	68	64	59	52	72
Aggregate Weighing Hopper	19	61	70	69	77	82	85	81	79	70	89
Mobile Equipment											
Front End Loader	38	64	77	86	93	97	101	101	93	83	105
Concrete Truck Mixing/Loading	51	74	87	91	97	101	104	100	94	85	108
Vacuum Truck refuelling silos	36	63	80	84	91	98	99	102	99	85	106
Delivery Truck activity	32	58	69	73	80	85	91	88	79	72	94
Heavy Vehicle Driving	24	45	68	75	92	94	94	91	84	79	99
Light Vehicle	18	44	57	66	73	77	81	81	73	63	85

Appendix D Outer Envelope Noise Emission Contours

Mawsons Griffith Concrete Batching Plant

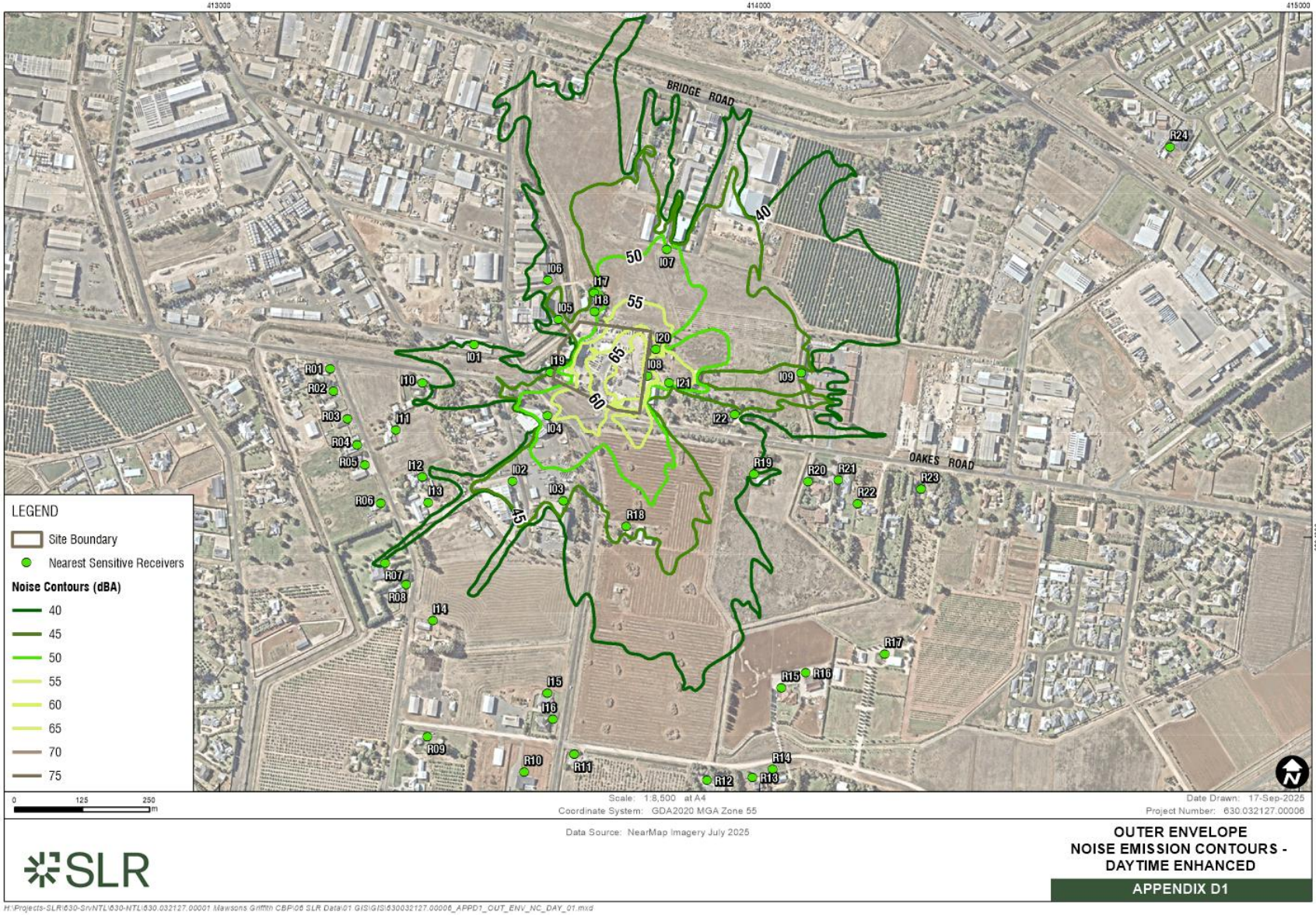
Noise Impact Assessment

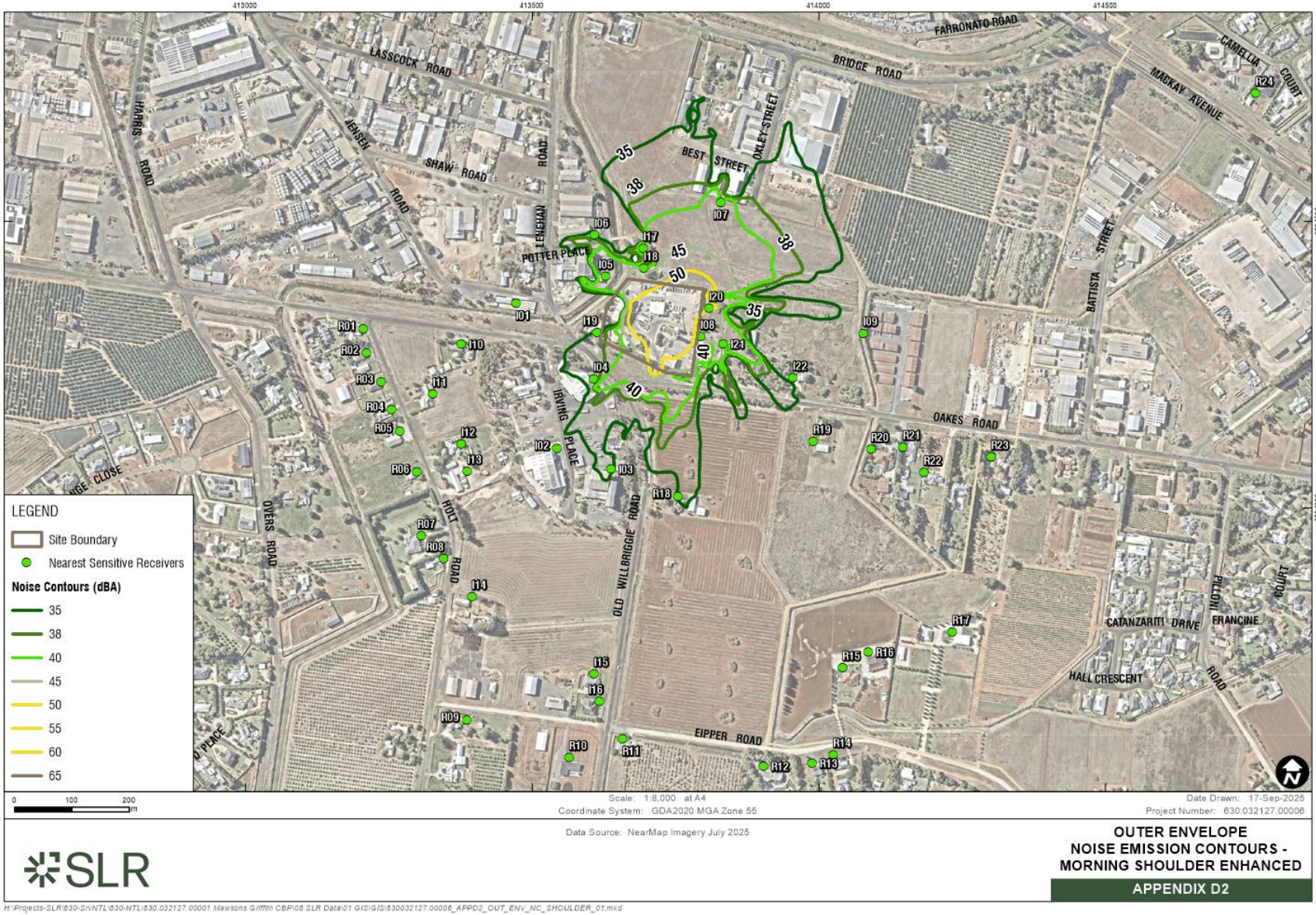
E.B. Mawsons and Sons Pty Ltd

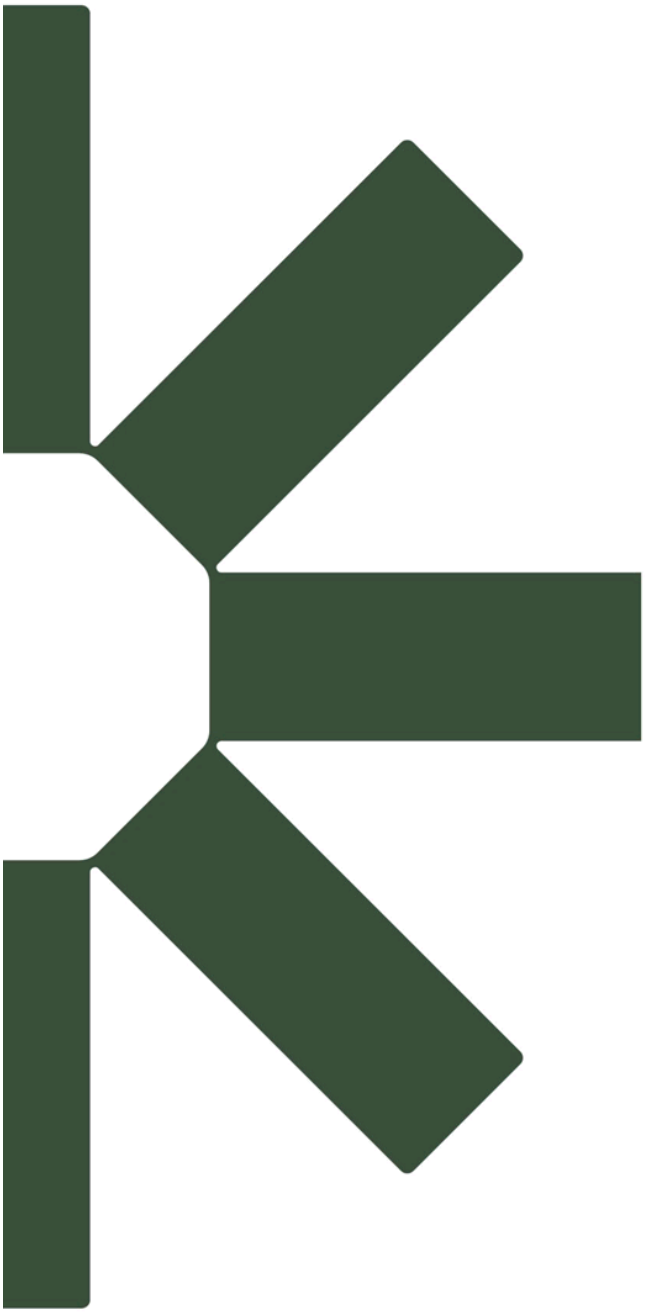
SLR Project No.: 630.032127.00006

26 June 2026

SLR


413000
414000
415000
BRIDGE ROAD
OAKES ROAD
R24
40
50
55
60
65
45
I06
I07
I17
I18
I05
I20
I01
I19
I08
I09
I21
I10
R01
R02
R03
I11
I22
I04
R04
R05
I12
I02
R19
R20
R21
R22
R23
I13
I03
R06
R18
R07
R08
I14
R17
R15
R16
I15
I16
R09
R10
R11
R12
R13
R14
LEGEND
Site Boundary
Nearest Sensitive Receivers
Noise Contours (dBA)
40
45
50
55
60
65
70
75
0
125
250
m
Scale: 1:8,500 at A4
Coordinate System: GDA2020 MGA Zone 55
Date Drawn: 17-Sep-2025
Project Number: 630.032127.00006
Data Source: NearMap Imagery July 2025
SLR
OUTER ENVELOPE
NOISE EMISSION CONTOURS -
DAYTIME ENHANCED
APPENDIX D1
H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\06 SLR Data\01 GIS\GIS\630032127.00006_APPD1_OUT_ENV_NC_DAY_01.mxd


413000
413500
414000
414500
6304000
6304500
LASSCOCK ROAD
HARRIS ROAD
JENSEN ROAD
SHAW ROAD
LENGHAN ROAD
POTTER PLACE
IRVING PLACE
OLD WILLBRIGGIE ROAD
HOLT ROAD
OVERS ROAD
BRIDGE ROAD
FARRONATO ROAD
BEST STREET
OXLEY STREET
MACKAY AVENUE
CAMELLIA COURT
BATTISTA STREET
OAKES ROAD
CATANZARITI DRIVE
FRANCINE COURT
HALL CRESCENT
EIPPER ROAD
35
38
40
45
50
LEGEND
Site Boundary
Nearest Sensitive Receivers
Noise Contours (dBA)
35
38
40
45
50
55
60
65
0
100
200
m
Scale: 1:8,000 at A4
Coordinate System: GDA2020 MGA Zone 55
Date Drawn: 17-Sep-2025
Project Number: 630.032127.00006
Data Source: NearMap Imagery July 2025
SLR
OUTER ENVELOPE
NOISE EMISSION CONTOURS -
MORNING SHOULDER ENHANCED
APPENDIX D2
H:\Projects-SLR\630-SrvNTL\630-NTL\630.032127.00001 Mawsons Griffith CBP\06 SLR Data\01 GIS\GIS\630032127.00006_APPD2_OUT_ENV_NC_SHOULDER_01.mxd



Making Sustainability Happen

Mawsons Griffith Concrete Batching Plant

Air Quality Impact Assessment

E.B. Mawsons and Sons Pty Ltd

Prepared by:
SLR Consulting Australia Pty Ltd

SLR Project No.: 630.032127.00005

1 December 2025

Revision: V1.0

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
V1.0	1 December 2025	S Bagheri & M Pickett	J Lawler	Final

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with E.B. Mawsons and Sons Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Table of Contents

Basis of Report i
1.0 Introduction 1
1.1 Project Description 1
1.2 Identification of Potential Emissions to Air 2
2.0 Legislative and Policy Context 3
2.1 Commonwealth 3
2.1.1 National Environment Protection Council Act 1994 3
2.1.2 National Environment Protection (Air Quality) Measure 3
2.2 State (NSW) 4
2.2.1 Environment Acts 4
2.2.2 Approved Methods 5
2.2.3 Secretary's Environmental Assessment Requirements 5
3.0 Air Quality Assessment Criteria 7
3.1 Airborne Particulate Matter 7
3.2 Deposited Dust 7
4.0 Existing Environment 9
4.1 Surrounding Sensitive Receptors 9
4.2 Local Meteorological Conditions 11
4.2.1 Rainfall 11
4.2.2 Relative Humidity 11
4.2.3 Temperature 11
4.2.4 Wind Speed and Wind Direction 13
4.3 Baseline Air Quality 16
4.4 Background Air Quality Assumptions 18
5.0 Assessment Methodology 19
5.1 Plume Dispersion Model 19
5.2 Meteorological Modelling 19
5.2.1 Selection of Meteorological Year 19
5.3 Dispersion Modelling 21
6.0 Emission Estimation 23
6.1 Scenarios Assessed 23
6.2 Emission Factors and Activity Data 23
6.3 Estimated Emissions 28
7.0 Assessment of Air Quality Impacts 31



7.1 TSP and Dust Deposition 31
7.2 PM_{10} 33
7.3 $PM_{2.5}$ 34
8.0 Management Measures 37
8.1 Nuisance Dust Control Measures 37
8.2 Plant and Machinery Control Measures 37
8.3 Site Management 37
8.4 Complaints Handling 38
9.0 Summary and Conclusions 39
10.0 References 40

Tables

Table 2-1 Air NEPM Ambient Air Quality Standards 4
Table 3-1 Air Quality Assessment Criteria for Suspended Particulates 7
Table 3-2 Air Quality Impact Assessment Criteria for Dust Deposition 8
Table 4-1 Sensitive Receptors: Co-ordinate Locations 9
Table 4-2 Summary of Griffith AQMS Data (2020 – 2024) 17
Table 4-3 Background Concentrations Assumptions for Cumulative Assessment 18
Table 5-1 Meteorological Modelling Parameters - TAPM v 4.0.5 20
Table 5-2 Meteorological Modelling Parameters - CALMET 21
Table 5-3 CALPUFF Domain Details and Model Settings 22
Table 6-1 Emission Factors Used to Estimate Potential Emissions 24
Table 6-2 Emission Sources and Mitigation Measures 27
Table 6-3 Average and Maximum Operations Throughput and Activity Rates 27
Table 6-4 Average and Maximum Emission Rates (with Control Factors Applied) 29
Table 7-1 Predicted TSP Concentrations and Dust Deposition at Sensitive Receptors 31
Table 7-2 Predicted PM_{10} Concentrations at Sensitive Receptors 33
Table 7-3 Predicted $PM_{2.5}$ Concentrations at Sensitive Receptors 35

Figures

Figure 1-1 Site Layout Plan 2
Figure 4-1 Surrounding Sensitive Receptors 9
Figure 4-2 Monthly Rainfall Data for Griffith Airport AWS 12
Figure 4-3 Humidity Data for Griffith Airport AWS 12
Figure 4-4 Temperature Data for Griffith Airport AWS 13



Figure 4-5 Annual and Seasonal Wind Roses for Griffith Airport AWS (2020 to 2024)..... 15
Figure 4-6 Wind Speed Frequency Chart for Griffith Airport AWS – 2020-2024 16
Figure 4-7 Griffith AQMS PM_{10} 24-hour Average Data (2020-2024)..... 17
Figure 4-8 Griffith AQMS $PM_{2.5}$ 24-hour Average Data (2020-2024) 18

Appendices

Appendix A **Selection of Representative Meteorological Data**
Appendix B **Evaluation of Meteorological Data**
Appendix C **Fugitive Dust Emission Factors and Source Locations**
Appendix D **Incremental Isopleth Plots**

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) was engaged by E.B. Mawsons and Sons Pty Ltd (Mawsons) to undertake an air quality impact assessment relating to the proposal to increase the operations of an existing concrete batching plant (CBP) in Griffith, NSW.

The existing development consent for the CBP has a production capacity limit of 30,000 tonnes per annum and 150 tonnes per day. Mawsons proposes to increase the CBP operations to 140,000 tonnes per annum and 650 tonnes per day (the Project).

Mawsons has advised SLR that the proposed maximum annual and daily production is a conservative approach to provide for operational flexibility to respond to large projects. The average annual and daily production is anticipated to be less.

This report assesses the potential air quality impacts associated with the Project.

1.1 Project Description

The Project is located at 127 Oakes Rd, Griffith within the City of Griffith Local Government Area (LGA). The site currently operates under approval DA17/2025(1), which allowed for modification to the existing concrete batching plant. At the time of reporting, there have been no changes to the plant as approved in DA17/2025(1).

No changes to operating hours are proposed as part of the Project. While the existing development consent does not impose restrictions, the facility has historically operated as follows:

- Monday to Saturday: 5:00 am - 6:00 pm
- Sunday and Public Holidays: No operations

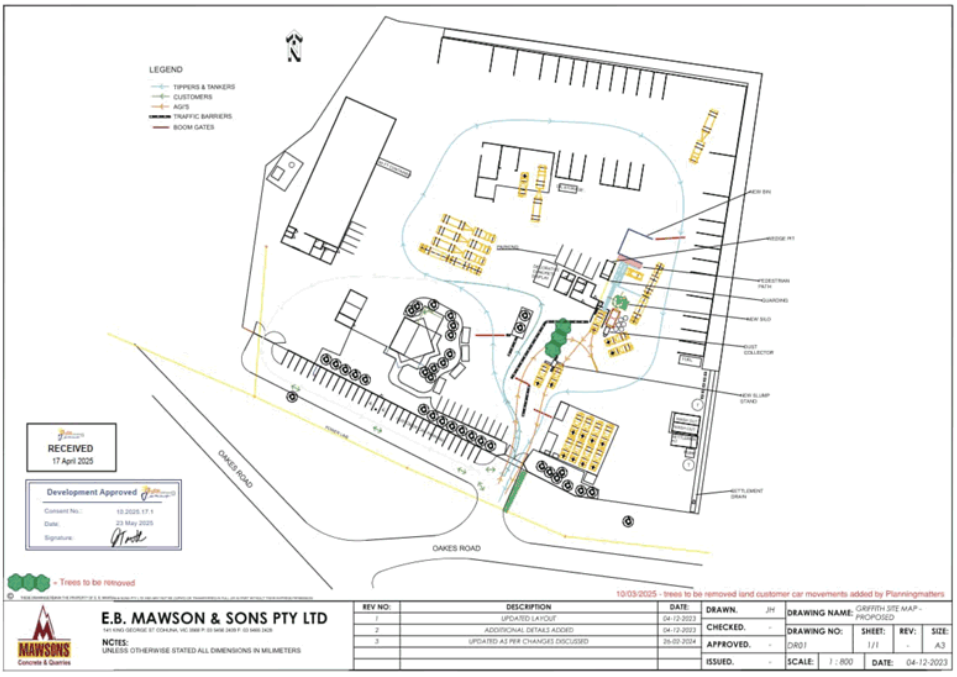
These established operating hours are proposed to continue under the Project.

The facility typically operates 300 days per year, or approximately six days per week over 50 weeks.

The Project does not involve changes to the approved plant as detailed in DA17/2025(1), with the exception of increasing production capacity as detailed above.

The approved site layout under the current production capacity limit is shown in **Figure 1-1**.

Figure 1-1 Site Layout Plan



1.2 Identification of Potential Emissions to Air

The key potential air emission sources associated with the operation of the Project will be dust emissions due to the following activities:

- Wind erosion of the stockpiles and storage bays
- Onsite material handling
- Wheel generated dust from onsite vehicle movements.

Where diesel-powered mobile machinery and vehicles are being used, localised elevations in ambient concentrations of pollutants from diesel combustion will occur, however the potential for their impact assessment criteria to be exceeded is expected to be negligible, therefore not considered further.

2.0 Legislative and Policy Context

2.1 Commonwealth

2.1.1 National Environment Protection Council Act 1994

The National Environment Protection Council (NEPC) was established under the *National Environment Protection Council Act 1994* (NEPC Act). The primary functions of the NEPC are to:

- to prepare National Environment Protection Measures (NEPMs)
- to assess and report on the implementation and effectiveness of the NEPMs in each state and territory.

NEPMs are a special set of national objectives designed to assist in protecting or managing aspects of the environment, e.g., air quality.

2.1.2 National Environment Protection (Air Quality) Measure

The *National Environment Protection (Ambient Air Quality) Measure* (NEPC 2021) (Air NEPM) contains standards for key pollutants that are required to be achieved nationwide, with due regard to population exposure, which are designed to protect human health and wellbeing. Air NEPM standards apply at performance monitoring locations, with each station located in such a manner that it obtains a representative measure of air quality likely to be experienced by the general population in a region or sub-region of 25,000 people or more.

The Air NEPM include air quality standards and performance monitoring goals for the following key air pollutants:

- carbon monoxide (CO)
- lead (Pb)
- nitrogen dioxide (NO_2)
- particulate matter with an aerodynamic equivalent diameter of 10 microns or less (PM_{10})
- particulate matter with an aerodynamic equivalent diameter of 2.5 microns or less ($PM_{2.5}$)
- photochemical oxidants, as ozone (O_3)
- sulfur dioxide (SO_2).

The Air NEPM air quality standards are provided in **Table 2-1**.



Table 2-1 Air NEPM Ambient Air Quality Standards

Pollutant	Averaging Period	Maximum Concentration	Units
PM_{10}	24 hours	50	µg/m³
	Annual	25	µg/m³
$PM_{2.5}$	24 hours	25 (20 by 2025)	µg/m³
	Annual	8 (7 by 2025)	µg/m³
CO	8 hours	9	ppm
NO_2	1 hour	0.08	ppm
	Annual	0.015	ppm
SO_2	1 hour	0.10	ppm
	24 hours	0.02	ppm

2.2 State (NSW)

2.2.1 Environment Acts

The *Protection of the Environment Operations Act 1997* (POEO Act) is a key piece of environment protection legislation administered by the NSW Environment Protection Authority (NSW EPA), which enables the Government to establish instruments for setting environmental standards, goals, protocols, and guidelines.

The following sections of the POEO Act are of general relevance to the Project:

- Sections 124 and 125 of the POEO Act state that any plant located at a premise should be maintained in an efficient condition and operated in a proper and efficient manner to reduce the potential for air pollution.
- Section 126 of the POEO Act requires that materials; e.g., waste materials stored/handled at the Project, are managed in a proper and efficient manner to prevent air pollution; e.g., odour.
- Section 128 of the POEO Act states:
  1. *The occupier of a premises must not carry out any activity or operate any plant in or on the premises in such a manner to cause or permit the emission at any point specified in or determined in accordance with the regulation of air impurities in excess of [the standard of concentration and/or the rate] prescribed by the regulations in respect of any such activity or any such plant.*
  2. *Where neither such a standard nor rate has been so prescribed, the occupier of any premises must carry on activity, or operate any plant, in or on the premises by such practicable means as may be necessary to prevent or minimise air pollution.*
- Section 129 of the POEO Act relates to emission of odours from premises licensed for scheduled activities and states:
  1. *The occupier of any premises at which scheduled activities are carried on under the authority conferred by a licence must not cause or permit the emission of any offensive odour from the premises to which the licence applies.*
  2. *It is a defence in proceedings against a person for an offence against this section if the person establishes that—*



(a) the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of the licence directed at minimising the odour, or

(b) the only persons affected by the odour were persons engaged in the management or operation of the premises.

3. *A person who contravenes this section is guilty of an offence*

The *Protection of the Environment Legislation Amendment Act 2011* introduced changes to the way pollution incidents are reported and managed. Whilst most of the changes apply to EPL holders under the POEO Act, it also introduced obligations that require anyone carrying on an activity or occupying a premises who becomes aware of a pollution incident to report it immediately if there is a risk of 'material harm to the environment,' which is defined in section 147 of the POEO Act as follows:

"(a)…harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment."

2.2.2 Approved Methods

NSW EPA is the NSW regulatory authority responsible for air quality regulation and associated activities. The New South Wales Environment Protection Authority (EPA) "*Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*" (NSW EPA 2022) (hereafter the 'Approved Methods'), lists the statutory methods for modelling and assessing air pollutants from stationary sources and specifies criteria which reflect the environmental outcomes adopted by the EPA. The Approved Methods are referred to in the "*POEO (Clean Air) Regulation 2021"* for assessment of impacts of air pollutants.

The air quality criteria set out in the Approved Methods relevant to the Project are reproduced and discussed in **Section 3.0**.

2.2.3 Secretary's Environmental Assessment Requirements

On 6th November 2025, the NSW Department of Planning, Housing and Infrastructure (DPHI) issued Secretary's Environmental Assessment Requirements (SEAR) for the Project (DPHI 2025). The SEAR stated the matter of air quality and odour must be addressed for an Environmental Impact Statement (EIS), including:

- *a quantitative assessment of the potential air quality, dust and odour impacts of the development, during operation, in accordance with relevant Environment Protection Authority (EPA) guidelines*
- *a description and appraisal of air quality and odour impact mitigation and monitoring measures, in line with the requirements of the Protection of the Environment Operations (Clean Air) Regulation 2022 and criteria within the EPA guideline*

- *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022).*

Similarly, in an attachment to (DPHI 2025), the NSW EPA set out the following requirements:

- *4.1. The EIS must demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the POEO Act and the Protection of the Environment Operations (Clean Air) Regulation 2022. This consideration should include section 129 of the POEO Act concerning control of "offensive odour".*
- *4.2. The EIS must include an air quality impact assessment (AQIA). The AQIA must be carried out in accordance with the document, Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022).*
- *4.3. The EIS must detail emission control techniques/practices that will be employed at the site and identify how the proposed control techniques/practices will meet the requirements of the POEO Act, POEO (Clean Air) Regulation (2022) and criteria within Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2022).*



3.0 Air Quality Assessment Criteria

3.1 Airborne Particulate Matter

Airborne contaminants that can be inhaled directly into the lungs can be classified on the basis of their physical properties as gases liquid aerosols, or solid aerosols (particulate matter). In common usage for assessment purposes, the terms "dust" and "particulates" may be used interchangeably. "Total Suspended Particulates (TSP) refers to a category of airborne particles with diameters less than approximately 30 microns (µm).

The Approved Methods impact assessment criterion for TSP is an annual average mass concentration: 90 micrograms per cubic metre of air (µg/m^3). The TSP criterion was used in the U.S. before more recent results of epidemiological studies suggested a relationship between health impacts and exposure to concentrations of finer particulate matter, such as PM_{10}.

The assessment criteria for particulate matter are presented in **Table 3-1**.

Table 3-1 Air Quality Assessment Criteria for Suspended Particulates

Pollutant	Averaging Period	Impact Assessment Criterion (µg/m^3)	Application of Impact Assessment Criterion
TSP	Annual	90	• At nearest existing or likely off-site sensitive receptor • Incremental impact for each pollutant in units and averaging periods consistent with impact assessment criteria • Total impact (incremental plus background) at 100th percentile in units and averaging periods consistent with impact assessment criteria
PM_{10}	24-hour	50	
	Annual	25	
$PM_{2.5}$	24-hour	25*	
	Annual	8*	
Source: Table 11 Approved Methods (NSW EPA 2022) Note the NSW criteria for $PM_{2.5}$ may be lowered in future given current national goals are less; see **Table 2-1**.			

3.2 Deposited Dust

The preceding section is concerned with the health impacts of airborne particulate matter. Nuisance impacts on amenity, i.e., from deposited dust, need to be considered also. In NSW, from experience, annual average dust deposition rates exceeding 4 grams per square metre per month (g/m^2/month) can pose unacceptable nuisance to sensitive receptors. The Approved Methods provide impact assessment criteria for dust deposition, including the allowable increase in dust deposition level over the ambient (background) level to avoid dust nuisance (**Table 3-2**).

Table 3-2 Air Quality Impact Assessment Criteria for Dust Deposition

Averaging Period	Maximum Increase in Deposited Dust Level	Maximum Total Deposited Dust Level	Application of Impact Assessment Criterion
Annual	2 g/m^2/month	4 g/m^2/month	• At nearest existing or likely off-site sensitive receptor • Incremental impact for each pollutant in units and averaging periods consistent with impact assessment criteria • Total impact (incremental plus background) at 100th percentile in units and averaging periods consistent with impact assessment criteria



4.0 Existing Environment

4.1 Surrounding Sensitive Receptors

The nearest sensitive receptors that have the potential to be impacted by air emissions during operation of the Project have been identified from available aerial imagery. The closest residential receptor ('R1') is located approximately 220 m south of the Site, and the nearest industrial receptors are adjoining industries as identified in **Figure 4-1** and **Table 4-1**.

Figure 4-1 Surrounding Sensitive Receptors

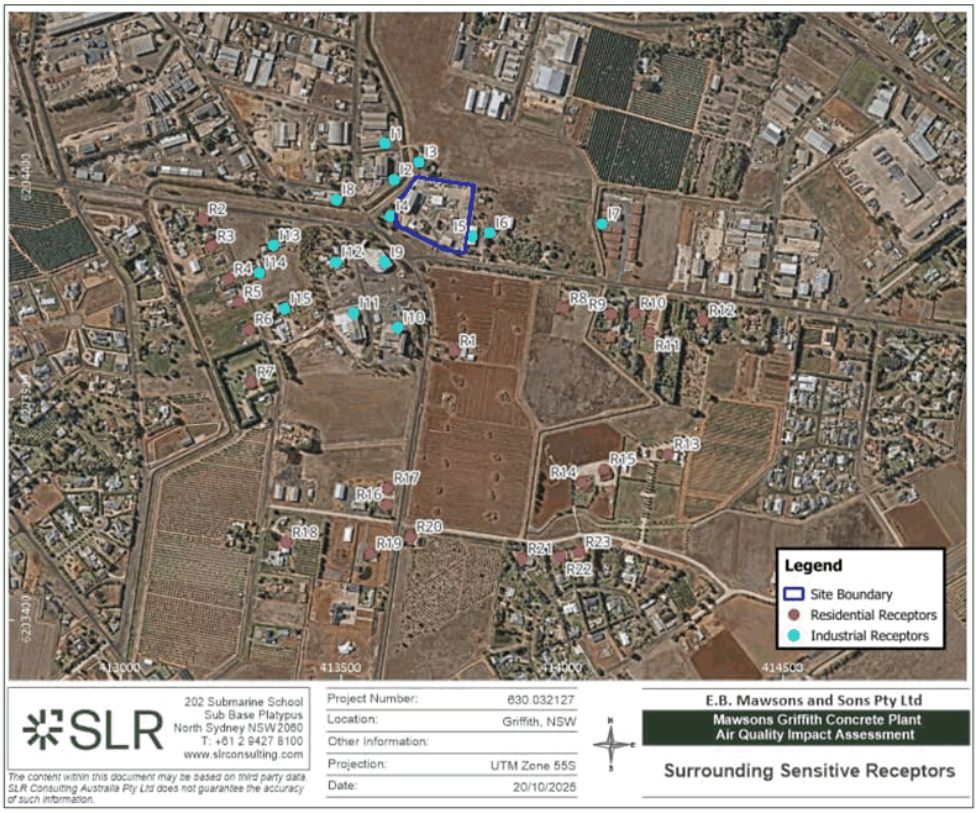


Table 4-1 Sensitive Receptors: Co-ordinate Locations

Receptor ID	Category	GDA2020*	
		Easting (m)	Northing (m)
R1	Residential	413,755	6,204,008
R2	Residential	413,187	6,204,306
R3	Residential	413,206	6,204,245
R4	Residential	413,245	6,204,171
R5	Residential	413,267	6,204,119

Receptor ID	Category	GDA2020*	
		Easting (m)	Northing (m)
R6	Residential	413,292	6,204,057
R7	Residential	413,296	6,203,938
R8	Residential	414,004	6,204,105
R9	Residential	414,112	6,204,091
R10	Residential	414,163	6,204,094
R11	Residential	414,197	6,204,050
R12	Residential	414,319	6,204,077
R13	Residential	414,240	6,203,775
R14	Residential	414,045	6,203,711
R15	Residential	414,095	6,203,741
R16	Residential	413,605	6,203,661
R17	Residential	413,606	6,203,698
R18	Residential	413,376	6,203,575
R19	Residential	413,566	6,203,550
R20	Residential	413,657	6,203,588
R21	Residential	413,909	6,203,539
R22	Residential	413,996	6,203,544
R23	Residential	414,039	6,203,554
R24	Industrial	413,599	6,204,477
R25	Industrial	413,620	6,204,395
R26	Industrial	413,676	6,204,435
R27	Industrial	413,611	6,204,313
R28	Industrial	413,796	6,204,267
R29	Industrial	413,836	6,204,275
R30	Industrial	414,090	6,204,295
R31	Industrial	413,489	6,204,350
R32	Industrial	413,599	6,204,209
R33	Industrial	413,628	6,204,061
R34	Industrial	413,528	6,204,094
R35	Industrial	413,488	6,204,209
R36	Industrial	413,347	6,204,247
R37	Industrial	413,315	6,204,185
R38	Industrial	413,372	6,204,104

*Geocentric Datum of Australia 2020

4.2 Local Meteorological Conditions

Local wind speed and direction influence the dispersion of air pollutants. Wind speed determines both the distance of downwind transport and the rate of dilution as a result of 'plume' stretching. Wind direction, and the variability in wind direction, determines the general path pollutants will follow and the extent of crosswind spreading. Surface roughness, characterised by features such as the topography of the land and the presence of buildings, structures and trees, affects the degree of mechanical turbulence, which also influences the rate of dispersion of air pollutants.

The Bureau of Meteorology (BoM) maintains and publishes data from weather stations across Australia. The closest such station to the Site is Griffith Airport (Station ID. 0 75041), which is located approximately 6 km to the north of the Site.

The Griffith Airport automatic weather station (AWS) was commissioned in 2019, sits at an elevation of 134 m and has data available for the following parameters:

- Wind speed (m/s) and wind direction (degrees)
- Temperature (°C)
- Rainfall (mm)
- Relative humidity (%).

A review of the long-term climate data collected at this station is provided in the following sections.

4.2.1 Rainfall

Rainfall statistics for Griffith Airport AWS are summarised in **Figure 4-2**. The average monthly rainfall is distributed evenly throughout the year. The lowest average monthly rainfall was nil during the periods of January to April and September to December. The highest average monthly rainfall of 257.1 mm/month occurred in January, with an average of 4.9 rain days recorded in this month.

4.2.2 Relative Humidity

Relative humidity monthly average results for 9 am and 3 pm for Griffith Airport AWS are summarised in **Figure 4-3**. Morning humidity levels range from an average of around 49% in early summer to around 88% in mid-winter. Afternoon humidity levels are lower at around 28% in early summer, and around 63% in early winter.

4.2.3 Temperature

Temperature statistics for Griffith Airport AWS are summarised in **Figure 4-4**. Mean maximum temperatures range from 14.8°C in winter to 33.4°C in summer, while mean minimum temperatures range from 3.4°C in winter to around 14.3°C in summer. Maximum temperatures above 17.5°C and minimum temperatures less than –5°C have been recorded.

Figure 4-2 Monthly Rainfall Data for Griffith Airport AWS

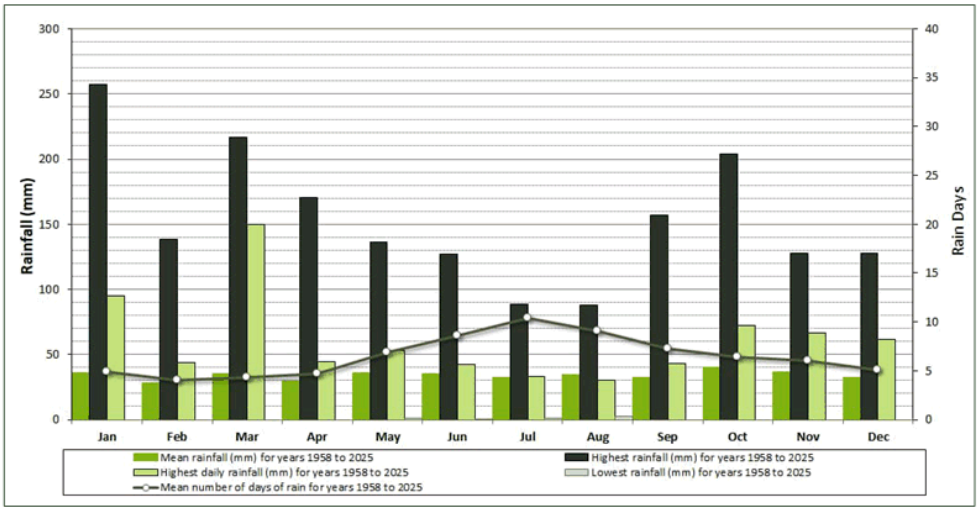


Figure 4-3 Humidity Data for Griffith Airport AWS

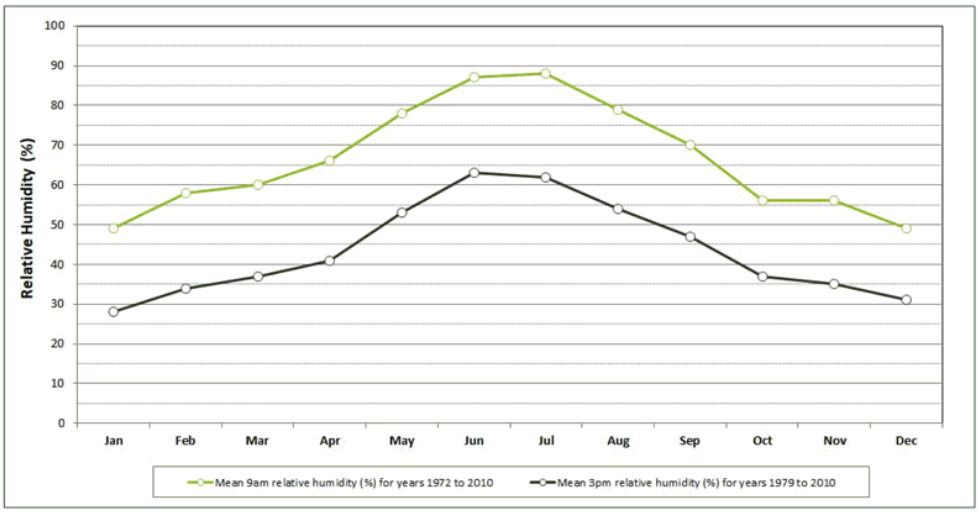
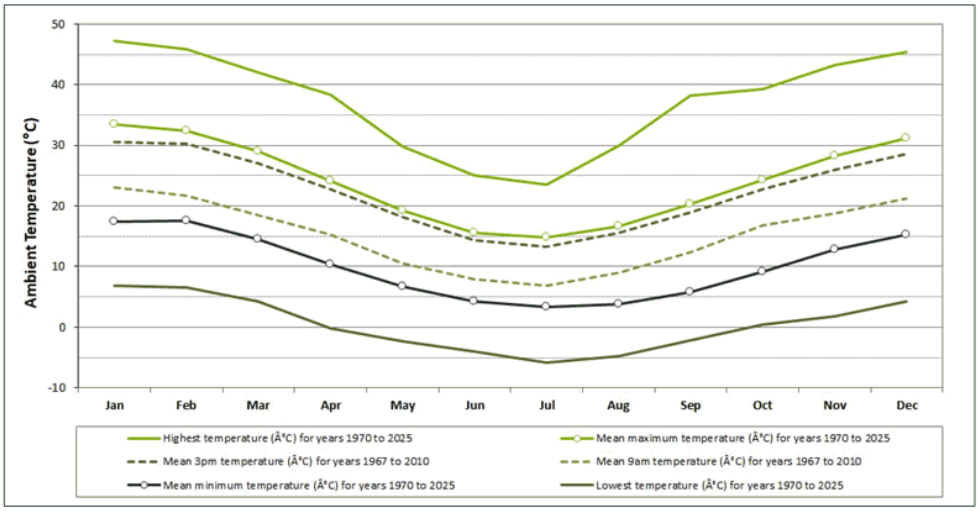


Figure 4-4 Temperature Data for Griffith Airport AWS



4.2.4 Wind Speed and Wind Direction

Annual and seasonal wind roses for the years 2020 to 2024 compiled from data recorded by the Griffith Airport AWS are presented in **Figure 4-5**.

Wind roses show the frequency of occurrence of winds by direction and strength. The bars correspond to the 16 compass points (degrees from North). The bar at the top of each wind rose diagram represents winds blowing from the north; i.e., “northerly winds”, and so on. The length of the bar represents the frequency of occurrence of winds from that direction, and the widths of the bar sections correspond to wind speed categories, the narrowest representing the lightest winds. Thus, it is possible to visualise how often winds of a certain direction and strength occur over a long period, either for all hours of the day, or for particular periods during the day.

The annual wind rose indicates that there are winds present from each direction. Calm wind conditions (wind speed less than 0.5 m/s) were recorded 8.1% of the time throughout the five-year period reviewed.

The average seasonal wind roses for the years 2020-2024 (**Figure 4-5**) indicate that:

- In summer, wind speeds ranged from calm to strong winds (between 0.5 m/s and 15.4 m/s). The majority of winds originated from north-eastern and south-western quadrants. Calm wind conditions were recorded approximately 4.4% of the time during summer.
- In autumn, wind speeds ranged from calm to strong winds (between 0.5 m/s and 12.3 m/s). There majority of winds originated from eastern quadrant. Calm wind conditions were observed to occur approximately 10.0% of the time during autumn.
- In winter, wind speeds ranged from calm to strong winds (between 0.5 m/s and 12.2 m/s). The majority of winds originated from south-western and north-western quadrants. Calm wind conditions were observed to occur approximately 11.6% of the time during winter.

- In spring, wind speeds ranged from calm to strong winds (between 0.5 m/s and 12.7 m/s) and were generally evenly spread from each direction. Calm wind conditions were observed to occur approximately 6.5% of the time during spring.

Wind erosion of dust from exposed surfaces is initiated when wind speeds exceed the threshold friction velocity for a given surface or material. In general, wind erosion can occur during dry conditions and with 1-hour average wind speeds above approximately 5 m/s measured at a height of 10 metres (USEPA 2006). The frequency of wind speeds for the period of 2020-2024 is presented in **Figure** 4-6. The plot shows that the frequency of wind speeds exceeding 5 m/s for the period 2020-2024 at Griffith Airport AWS is approximately 28%.

Figure 4-5 Annual and Seasonal Wind Roses for Griffith Airport AWS (2020 to 2024)

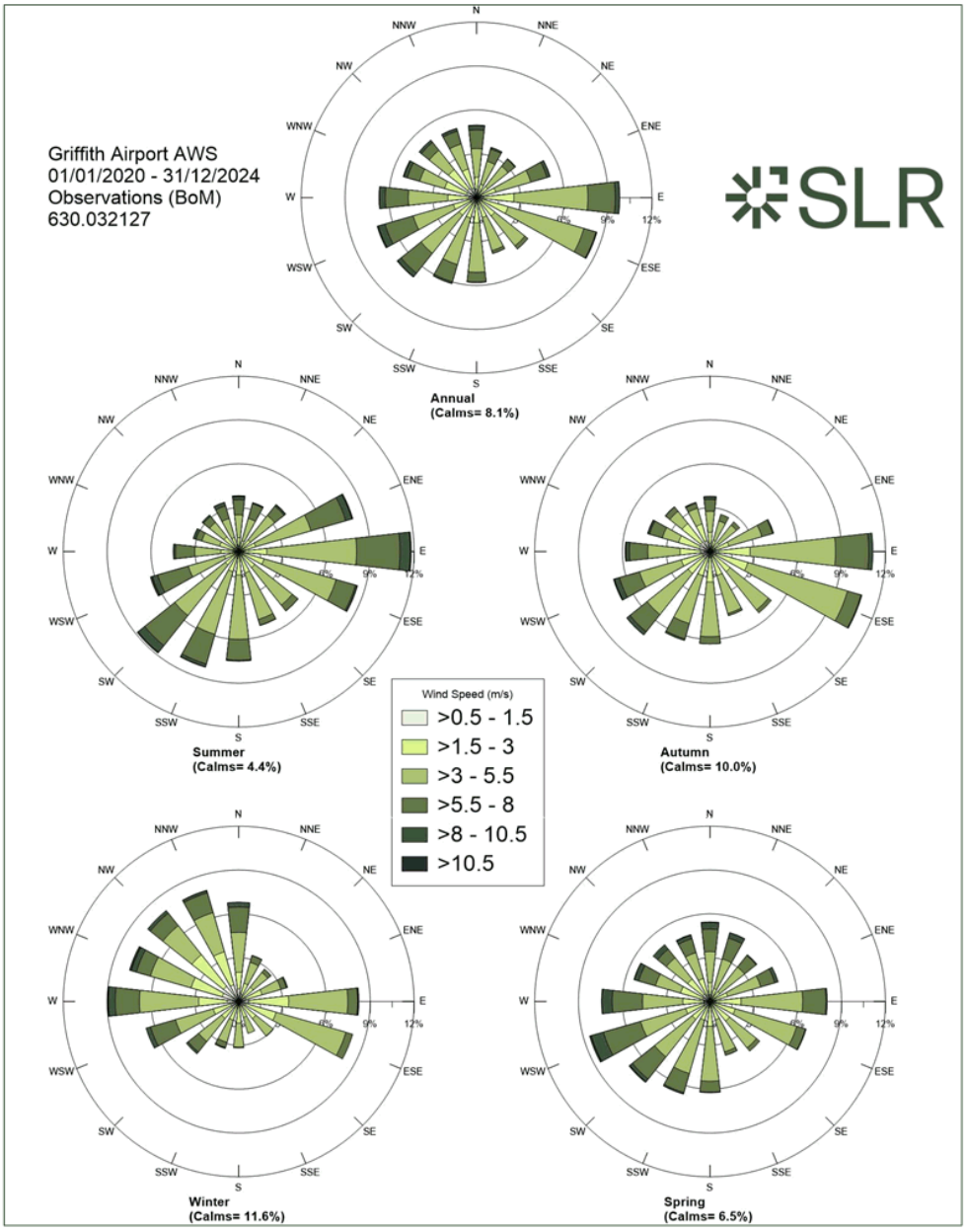
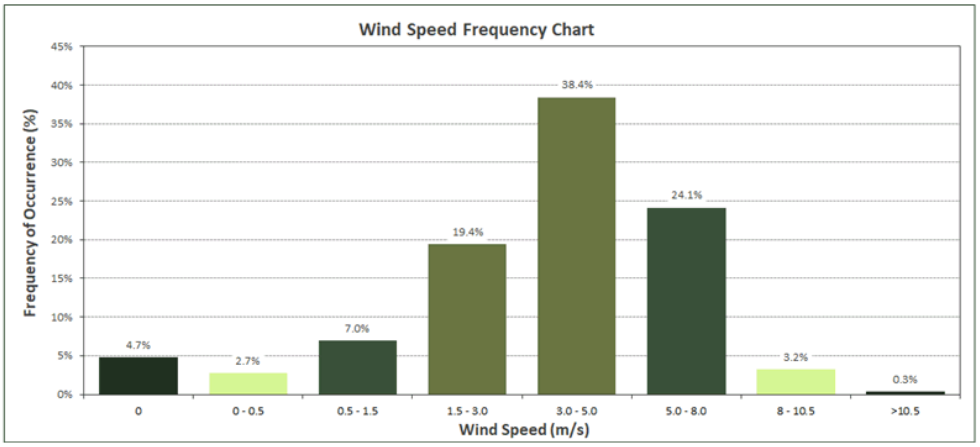


Figure 4-6 Wind Speed Frequency Chart for Griffith Airport AWS – 2020-2024



4.3 Baseline Air Quality

Ambient air quality criteria are developed to protect health and amenity based on the pollutant exposure levels that the public may be exposed to. To fully assess compliance with the ambient air quality criteria for a specific project, it is therefore necessary to consider the existing ambient pollutant levels in order to provide an assessment of the total cumulative impacts.

Air quality monitoring is performed by Environment and Heritage Group within NSW Department of Planning and Environment (DPE) at a number of air quality monitoring stations (AQMS) across NSW. Ambient air quality monitoring data representative of the Project Site have been sourced from the nearest such AQMS located at Griffith, approximately 5 km to the north of the Project Site. PM_{10}, $PM_{2.5}$ and TSP are measured at the Griffith AQMS. The data are summarised in **Table 4-2** and presented graphically in **Figure 4-7** and **Figure 4-8**.

A review of the monitoring data indicates that, in general, Griffith experiences very good air quality. However, exceedances of the 24-hour average PM_{10} criterion were recorded at the Griffith AQMS in 2020 and 2021, while the 24-hour average $PM_{2.5}$ criterion was exceeded only in 2021. Annual average concentrations of PM_{10}, $PM_{2.5}$, and TSP remained below the respective guideline values throughout the five-year assessment period.

A review of the PM_{10} and $PM_{2.5}$ exceedances indicates the high values around the start of April in each year are likely to be due to rice stubble burning that occurs for 4-6 weeks in the region, starting in April. Exceptional events such as bushfires and dust storms may have contributed to some of the higher results. Also, smoke from domestic wood heaters may have contributed to peak $PM_{2.5}$ concentrations during the colder months.

Table 4-2 Summary of Griffith AQMS Data (2020 – 2024)

Year	PM_{10}		$PM_{2.5}$		TSP
	Maximum 24-hours	Annual	Maximum 24-hours	Annual	Annual
	$\mu g/m^3$				
2020	51.2 (1)	10.7	13.0	2.3	24.4
2021	79.4 (5)	11.3	31.5 (2)	2.0	16.6
2022	39.5	6.0	22.4	1.6	9.0
2023	28.5	5.8	19.4	2.3	7.5
2024	39.4	6.2	24.4	2.4	7.9
Criterion	**50**	**25**	**25**	**8**	**90**

Notes:
Red font indicates exceedances of criteria and numbers in bracket show the number of exceedances

Figure 4-7 Griffith AQMS PM_{10} 24-hour Average Data (2020-2024)

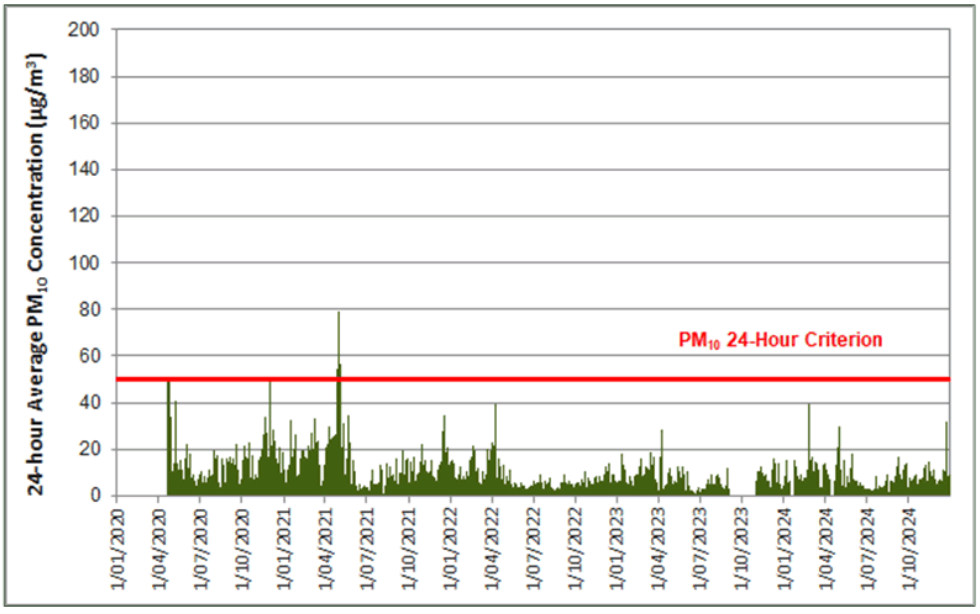
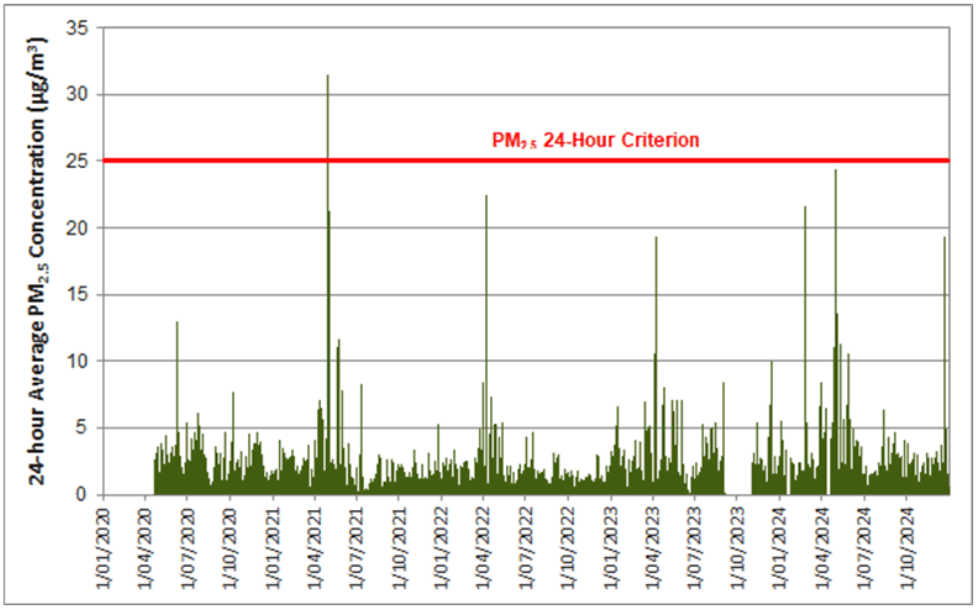


Figure 4-8 Griffith AQMS $PM_{2.5}$ 24-hour Average Data (2020-2024)



4.4 Background Air Quality Assumptions

Based on the review of existing ambient air quality, the background concentrations presented in **Table 4-3** have been selected for the modelling year of 2024.

Table 4-3 Background Concentrations Assumptions for Cumulative Assessment

Pollutant	Averaging Period	Background Concentration	Source
PM_{10}	24 hours	Daily varying	Griffith AQMS 2024
	Annual	6.2 µg/m³	Griffith AQMS 2024
$PM_{2.5}$	24 hours	Daily varying	Griffith AQMS 2024
	Annual	2.4 µg/m³	Griffith AQMS 2024
TSP	Annual	7.9 µg/m³	Griffith AQMS 2024

5.0 Assessment Methodology

The assessment of air emissions from the operational phase of the Site was performed quantitatively through the use of dispersion modelling techniques.

5.1 Plume Dispersion Model

Emissions from the Site were modelled using the CALPUFF model in accordance with the Approved Methods. CALPUFF is a transport and dispersion model that ejects "puffs" of material emitted from modelled sources, simulating dispersion and transformation processes along the way. In doing so, it typically uses the fields generated by a meteorological pre-processor CALMET, discussed further below. Temporal and spatial variations in the meteorological fields selected are explicitly incorporated in the resulting distribution of puffs throughout a simulation period. The primary output files from CALPUFF contain hourly concentrations evaluated at selected receptor locations. The CALPOST post-processor is then used to process these files, producing tabulations that summarise the results of the simulation for user-selected averaging periods.

5.2 Meteorological Modelling

Meteorological mechanisms govern the dispersion, transformation and eventual removal of pollutants from the atmosphere. The extent to which pollution will accumulate or disperse in the atmosphere is dependent on the degree of thermal and mechanical turbulence within the Earth's boundary layer. Dispersion comprises vertical and horizontal components of motion. The stability of the atmosphere and the depth of the surface-mixing layer define the vertical component. The horizontal dispersion of pollution in the boundary layer is primarily a function of the wind field. The wind speed determines both the distance of downwind transport and the rate of dilution as a result of plume 'stretching'. The generation of mechanical turbulence is similarly a function of the wind speed, in combination with the surface roughness. The wind direction and the variability in wind direction, determine the general path that pollutants will follow, and the extent of crosswind spreading. Pollution concentration levels, therefore, fluctuate in response to changes in atmospheric stability, to concurrent variations in the mixing depth, and to shifts in the wind field (Oke 2002).

For this study, a site-representative three-dimensional meteorological dataset was compiled using a combination of TAPM and CALMET, as discussed in the following sections.

5.2.1 Selection of Meteorological Year

In order to determine a representative meteorological year for use in dispersion modelling, five years of meteorological data (2020-2024) from the closest meteorological monitoring station with detailed hourly data available (Griffith Airport AWS) were analysed against the five-year average meteorological conditions. Specifically, the following parameters were analysed:

- frequency and distribution of the predominant wind directions
- hourly wind speeds
- hourly temperature
- calm conditions.

Based on this analysis, the representative year used for the modelling was selected to be 2024. A detailed analysis is presented in **Appendix A**.



5.2.1.1 TAPM

In order to calculate all required meteorological parameters required by the dispersion modelling process, meteorological modelling using The Air Pollution Model (TAPM, v.4.0.5) has been performed. TAPM, developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a prognostic model that can be used to predict three-dimensional meteorological data and air pollution concentrations.

TAPM predicts wind speed and direction, temperature, pressure, water vapour, cloud, rainwater and turbulence. The program allows the user to generate synthetic observations by referencing databases covering terrain, vegetation and soil type, sea surface temperature and synoptic scale meteorological analyses, which are subsequently used in the model input to generate one full year of hourly meteorological observations at user-defined levels within the atmosphere.

TAPM can assimilate actual local wind observations so that they can be included in a model solution. TAPM parameters used for this study, including the observational data assimilated into the model run are presented in **Table 5-1**. The three-dimensional upper air data from the TAPM output was used as input for the diagnostic meteorological model (CALMET).

Table 5-1 Meteorological Modelling Parameters - TAPM v 4.0.5

Parameter	Data
Modelling Period	1 January 2024 to 31 December 2024
Centre of analysis	412,578 m E 6,204,171 m S
Number of grid points	25 × 25 × 35
Number of grids (spacing)	5 (30 km, 10 km, 3 km, 1 km, 300 m)
Data assimilation	Griffith Airport AWS

5.2.1.2 CALMET

In the simplest terms, CALMET is a meteorological model that develops hourly wind and CALMET is a diagnostic meteorological model that develops wind and temperature fields on a 3-dimensional gridded modelling domain. Associated 2-dimensional fields such as mixing height, surface characteristics, and dispersion properties are also included in the file produced by CALMET. The interpolated wind field is then modified within the model to account for the influences of topography, as well as differential heating and surface roughness associated with different land uses across the modelling domain. These modifications are applied to the winds at each grid point to develop a final wind field. The final wind field thus reflects the influences of local topography and land uses.

CALMET modelling was conducted using the 'no observations' for two domains, an outer domain with a coarse meteorological grid (10 km by 10 km domain with a 100 m grid resolution) and a more refined grid (5 km by 5 km domain with a 50 m grid resolution). TAPM-generated three-dimensional meteorological data were used as the 'initial-guess' wind field for both CALMET domains. Local topography and land use information were used to refine the wind field predetermined by the TAPM output.

Table 5-2 details the parameters used in the meteorological modelling to drive the CALMET model.

A summary of the key meteorological conditions predicted by CALMET at the Site is presented in **Appendix B**.



Table 5-2 Meteorological Modelling Parameters - CALMET

Parameter	Data
Coarse Grid	
Modelling period	1 January 2024 to 31 December 2024
Domain size	10 km x 10 km
Meteorological grid resolution	100 m
Grid southwest corner coordinates	407,577.7 m 6,199,171.4 m
Initial guess filed	TAPM output
Vertical resolution (cell heights)	10 (0 m, 20 m, 40 m, 80 m, 160 m, 320 m, 640 m, 1200 m, 2000 m, 3000 m, 4000 m)
Data assimilation	None
Refined Grid	
Modelling period	1 January 2024 to 31 December 2024
Domain size	5 km x 5 km
Meteorological grid resolution	50 m
Grid southwest corner coordinates	410,077.7 m 6,201,671.4 m
Initial guess filed	TAPM output
Vertical resolution (cell heights)	10 (0 m, 20 m, 40 m, 80 m, 160 m, 320 m, 640 m, 1200 m, 2000 m, 3000 m, 4000 m)
Data assimilation	None

5.3 Dispersion Modelling

CALPUFF was used for the dispersion modelling and is widely used in Australia as a suitable model for a range of applications and conditions including dust dispersion modelling assessments.

As with any air dispersion model, CALPUFF requires inputs in three major areas:

- Emission rates and source details
- Meteorology
- Terrain and surface details, as well as specification of specific receptor locations.

A summary of the model details is provided in **Table 5-3**.

Table 5-3 CALPUFF Domain Details and Model Settings

Item	Details
Domain details	100 m resolution for 3 km by 3 km domain
Receptor details	100 m resolution
Emission data	Varys by emission source. Refer **Section 6.0** for details.
Further details on model settings can be provided as required.	

6.0 Emission Estimation

Particulate matter emissions from the Project were calculated using estimates set out in the US EPA AP-42 Chapter 11.9 *Western Surface Coal Mining* (US EPA 1998), Section 11.19.2 *Crushed Stone Processing and Pulverized Mineral Processing* (US EPA 2004), Section 11.12 *Concrete Batching* (USEPA 2006), Section 13.2.1 *Paved Roads* (US EPA 2011), Section 13.2.4 *Aggregate Handling And Storage Piles* (USEPA 2006), and Section 11.12 *Concrete Batching* (US EPA 2012) supplemented with relevant control efficiencies from National Pollutant Inventory EETM for Concrete *Batching and Concrete Product Manufacturing* (DSEWPC 1999).

No odour sources from construction and operations were identified for assessment – commonly, odour sources are not associated with concrete batching plants.

6.1 Scenarios Assessed

To effectively assess the impacts due to proposed operations of the Project, the proposed activities were assessed in the form of two scenarios:

- average production
- maximum production.

The average production rate has been derived based on the annual throughput of 58,500 tonnes and the total operational hours per annum (Monday to Saturday 5:00 am to 6:00 pm, no work on Sunday and public holidays). This average rate of operation has been applied to every hour of the day and used to assess against the air quality criteria with annual averaging periods.

The maximum production rate is based on the peak plant production rate of 650 tonnes/day.

To ensure the worst-case 24-hour average concentrations were predicted, the results are based on the conservative assumption that the maximum daily production rate of 650 tpd occurs every operating day of the year (300 days per year). Technically this would result in a total annual production of 195,000t. However, this would not occur because the proposed maximum annual production is 140,000t. This conservative approach has overestimated the annual average downwind air pollutant concentrations.

6.2 Emission Factors and Activity Data

The emission factors used for the estimation of TSP, PM_{10} and $PM_{2.5}$ emissions from each source at the proposed Site are presented in **Table 6-1** with further details provided in **Appendix C**.

The control factors used in the calculations to account for the mitigation measures proposed for the Project are outlined in **Table 6-2**. The average and maximum operational throughput and activity rates used in the calculations are outlined in **Table 6-3**.



Table 6-1 Emission Factors Used to Estimate Potential Emissions

Source	Emission Factors			Unit	Variables
	TSP	PM_{10}	$PM_{2.5}$		
Aggregate					
Aggregate - Haulage on paved roads (deliver to storage Bays) [a]	0.00469	0.00090	0.00022	kg/t	*Silt loading = 3 g/m² Load weight = 38.5 t Onsite travel distance = 500 m Average weight of trucks = 38.3 t
Aggregate - Haulage on unpaved roads (deliver to storage Bays) [b]	0.00189	0.00051	0.00005	kg/t	**Silt loading = 6.4 g/m² Load weight = 38.5 t Onsite travel distance = 30 m Average weight of trucks = 38.3 t
Aggregate - Emplacing in storage bins [c]	0.00045	0.00021	0.00003	kg/t	Wind speed factor1 = 1.78 Moisture Content = 6% 50% control (water sprays)
Aggregate - FEL loading aggregate from storage bins for transfer [a]	0.00045	0.00021	0.00003	kg/t	Wind speed factor1 = 1.78 Moisture Content = 6% 50% control (water sprays)
Aggregate - FEL travel on paved roads (storage Bays to hopper) [a]	0.00469	0.00090	0.00022	kg/t	*Silt loading = 3 g/m² Load weight2 = 4.6 t Onsite travel distance = 87 m Average weight of FEL[3] = 15.5 t
Aggregate - FEL travel on unpaved roads (storage Bays to hopper) [b]	0.00189	0.00051	0.00005	kg/t	**Silt loading = 6.4 g/m² Load weight2 = 4.6 t Onsite travel distance = 30 m Average weight of FEL3 = 15.5 t
Aggregate - FEL unloading to conveyor (bins) [c]	0.00045	0.00021	0.00003	kg/t	Wind speed factor1 = 1.78 Moisture Content = 6% 50% control (water sprays)



Source	Emission Factors			Unit	Variables
	TSP	PM_{10}	$PM_{2.5}$		
Aggregate – conveying [d]	0.00350	0.00170	0.00050	kg/t	-
Sand					
Sand - Road haulage within site (paved roads) [a]	0.00469	0.00090	0.00022	kg/t	*Silt loading = 3 g/m² Load weight = 38.5 t Onsite travel distance = 500 m Average weight of trucks = 38.3 t
Sand - Road haulage within site (unpaved roads) [b]	0.00189	0.00051	0.00005	kg/t	**Silt loading = 6.4 g/m² Load weight = 38.5 t Onsite travel distance = 30 m Average weight of trucks = 38.3 t
Sand - Emplacing in storage bins (Average Scenario) [c]	0.0032	0.0015	0.00023	kg/t	Wind speed factor1 = 1.78 Moisture Content (Average Scenario) = 1.5% Moisture Content (Maximum Scenario) = 3% 50% control (water sprays)
Sand - Emplacing in storage bins (Maximum Scenario) [c]	0.0012	0.0006	0.00009		
Sand - FEL loading sand from storage bins for transfer from Bays to hopper (Average Scenario) [a]	0.0032	0.0015	0.00023	kg/t	Wind speed factor1 = 1.78 Moisture Content (Average Scenario) = 1.5% Moisture Content (Maximum Scenario) = 3% 50% control (water sprays)
Sand - FEL loading sand from storage bins for transfer from Bays to hopper (Maximum Scenario) [a]	0.0012	0.0006	0.00009		
Sand - FEL travel on paved roads (Bays to plant) [a]	0.0013	0.00025	0.00006	kg/t	*Silt loading = 3 g/m² Load weight4 = 5.4 t Onsite travel distance = 87 m Average weight of FEL3 = 15.5 t
Sand - FEL unloading to conveyor (Average Scenario) [c]	0.0032	0.0015	0.00023	kg/t	Wind speed factor1 = 1.78 Moisture Content (Average Scenario) = 1.5% Moisture Content (Maximum Scenario) = 3% 50% control (water sprays)
Sand - FEL unloading to conveyor (Maximum Scenario) [c]	0.0012	0.0006	0.00009		
Sand - conveying [d]	0.00350	0.00170	0.00050	kg/t	-

Source	Emission Factors			Unit	Variables
	TSP	PM_{10}	$PM_{2.5}$		
Product					
Product - Road haulage within site (paved roads) using agitators [a]	0.0028	0.00054	0.00013	0.0028	*Silt loading = 3 g/m² Load weight = 17.5 t Onsite travel distance = 140 m Average weight of trucks = 37.3 t
Wind Erosion					
WE - Aggregate storage Bays [e]	0.10	0.05	0.008	kg/ha/h	Area = 0.11 ha; 8,760 h/y 70% control (water sprays)
WE - Sand storage Bays [e]	0.10	0.05	0.008	kg/ha/h	Area = 0.03 ha; 8,760 h/y 70% control (water sprays)

Notes:

1. Wind speed factor = Average ((Wind speed/2.2)^1.3) - adjusted for operating hours 5:00 am to 6:00 pm
2. Load weight calculated based on the FEL capacity of 3 m^3 and the aggregate density of 1.52 t/m^3
3. Average weight of Komatsu Loader WA320-8.
4. Load weight calculated based on the FEL capacity of 3 m^3 and the sand density of 1.8 t/m^3.
5. B-double cement tanker deliveries: there are no appropriate dust emissions factors to use for slow-moving, (crawling), heavily loaded, B-double cement tankers moving in the tight confines of the Site. Relatively small dust emissions will be immaterial to the outcome of the assessment (average of 1 tanker delivery per day).

* Silt loading : per AWMA 2000 – paved road dust - dirty roads with less than 5,000 vehicles per day

** Default Silt Content Values for Publicly Accessible Unpaved Roads from Emission Estimation Technique Manual for Aggregated Emissions from Paved and Unpaved Roads (DSEWPC 1999).

References:

a. AP-42 Section 13.2.1 (US EPA 2011)
b. AP-42 Section 13.2.2 (USEPA 2006)
c. AP-42 Section 13.2.4 (USEPA 2006)
d. AP-42 Section 11.12 (US EPA 2012)
e. AP-42 Section 11.9.1 (US EPA 1998)



Table 6-2 Emission Sources and Mitigation Measures

Source	Control Type[1]	Control Efficiency
Road Haulage	-	-
Emplacing in storage bins	Water sprays	50%
FEL loading aggregate from storage bins for transfer	Water sprays	50%
FEL travel on paved roads	-	-
FEL unloading to conveyor	-	-
Conveying	Guarded	70%
Agitator travel on paved roads	-	-
Wind erosion from storage bays	Water sprays	70%

1. Taken from NPI Emission Estimation Technique Manual for Concrete Batching and Concrete Product Manufacturing, fabric filter on clinker processing (DSEWPC 1999).

Table 6-3 Average and Maximum Operations Throughput and Activity Rates

Parameter	Average operations	Maximum operations
General		
Yearly Throughput of Product	195 tpd	650 tpd
	58,500 tpa	195,000 tpa
Number of days of operation	300 days/year	
Hours of operation	• 5:00 am to 6:00 pm Monday to Saturday • No work Sundays/Public holidays	
Hours of raw material delivery	13 hours/day	
Hours of operation - FEL aggregate handling	13 hours/day	
Hours of operation - conveyor etc.	13 hours/day	
Aggregate		
Annual aggregate throughput	38.5 tpd	115.5 tpd
	11,550 tpa	34,650 tpa
Truck capacity - aggregate delivery	38.5 tonnes	
Empty truck weight - aggregate delivery	19 tonnes	
Loaded truck weight - aggregate delivery	57.5 tonnes	
Load weight	38.5 tonnes	
Average weight of trucks - aggregate delivery (for inventory)	38.25 tonnes	
Sand		
Annual sand throughput	38.5 tpd	115.5 tpd

Parameter	Average operations	Maximum operations
	11,550 tpa	34,650 tpa
Truck capacity - sand delivery	38.5 tonnes	
Empty truck weight - sand delivery	19 tonnes	
Loaded truck weight - sand delivery	57.5 tonnes	
Load weight	38.5 tonnes	
Average weight of trucks - sand delivery (for inventory)	38.25 tonnes	
Product		
Agitator capacity - product	17.5 tonnes	
Empty agitator weight - product	28.5 tonnes	
Loaded agitator weight - product	46 tonnes	
Load weight	17.5 tonnes	
Average weight of trucks - product for inventory)	37.25 tonnes	

6.3 Estimated Emissions

Potential particulate matter emissions from the proposed operation were estimated based on the emission factors and control factors presented in **Table 6-1** and **Table 6-2** and the average and maximum operational throughput and activity rates outlined in **Table 6-3**. The resulting estimated emission rates are presented in **Table 6-4** for both average throughput and maximum throughput scenarios.

Table 6-4 Average and Maximum Emission Rates (with Control Factors Applied)

Activity	Annual Average Emission Rate (kg/y)			Annual Maximum Emission Rate (kg/y)		
	TSP emission (kg/y)	PM_{10} emission (kg/y)	$PM_{2.5}$ emission (kg/y)	TSP emission (kg/y)	PM_{10} emission (kg/y)	$PM_{2.5}$ emission (kg/y)
Aggregate						
Aggregate - Haulage on paved roads (deliver to storage Bays)	54.2	10.4	2.5	162.5	31.2	7.5
Aggregate - Haulage on unpaved roads (deliver to storage Bays)	21.8	5.9	0.6	65.4	17.7	1.8
Aggregate - Emplacing in storage bins	2.6	1.2	0.2	7.8	3.7	0.6
Aggregate - FEL loading aggregate from storage bins for transfer	2.6	1.2	0.2	7.8	3.7	0.6
Aggregate - FEL travel on paved roads (storage Bays to hopper)	31.7	6.1	1.5	95.0	18.2	4.4
Aggregate - FEL travel on unpaved roads (storage Bays to hopper)	122.6	33.1	3.3	367.9	99.3	9.9
Aggregate - FEL unloading to conveyor (bins)	5.2	2.5	0.4	15.7	7.4	1.1
Aggregate - conveying	12.1	5.9	1.7	36.4	17.7	5.2
Sand						
Sand - Road haulage within site (paved roads)	54.2	10.4	2.5	162.5	31.2	7.5
Sand - Road haulage within site (unpaved roads)	21.8	5.9	0.6	65.4	17.7	1.8
Sand - Emplacing in storage bins	18.2	8.6	1.3	20.7	9.8	1.5
Sand - FEL loading sand from storage bins for transfer from Bays to hopper	18.2	8.6	1.3	20.7	9.8	1.5
Sand - FEL travel on paved roads (Bays to plant)	14.8	2.8	0.7	44.3	8.5	2.1
Sand - FEL unloading to conveyor (bins)	18.2	8.6	1.3	20.7	9.8	1.5
Sand - conveying	12.1	5.9	1.7	36.4	17.7	5.2
Product						
Product - Road haulage within site (paved roads) using AGI's	163.3	31.4	7.6	544.4	104.5	25.3
Wind Erosion						
WE - Aggregate storage Bays	27.6	13.8	2.1	27.6	13.8	2.1



Activity	Annual Average Emission Rate (kg/y)			Annual Maximum Emission Rate (kg/y)		
	TSP emission (kg/y)	PM_{10} emission (kg/y)	$PM_{2.5}$ emission (kg/y)	TSP emission (kg/y)	PM_{10} emission (kg/y)	$PM_{2.5}$ emission (kg/y)
WE - Sand storage Bays	6.6	3.3	0.5	6.6	3.3	0.5
Total emissions (kg/yr)	**607.9**	**165.6**	**30.0**	**1,708.0**	**425.0**	**80.0**

7.0 Assessment of Air Quality Impacts

The predicted impacts at the sensitive receptors from the dispersion modelling study are presented in this section. Isopleth plots showing model-predicted air pollutant concentrations over the study area are presented in **Appendix D**.

7.1 TSP and Dust Deposition

The annual average incremental TSP concentrations and dust deposition rates predicted at the sensitive receptor locations are presented in **Table 7-1**. The predicted incremental annual average TSP concentrations and dust deposition rates are presented as isopleth plots in **Appendix D.**

The modelling results were conservative, based on the maximum daily operations occurring each day, as discussed in **Section 6.1**. The results show that the incremental annual average TSP concentrations and dust deposition rates predicted at all sensitive receptors are below relevant criteria.

The modelling results indicate that incremental TSP and dust deposition concentrations at all sensitive receptors are predicted to be minimal—approximately 1% of the relevant criteria under average operating conditions and around 3% under maximum conditions. Furthermore, all cumulative annual TSP concentrations are well below the applicable guideline values at all sensitive receptors.

While background results for deposited dust were unavailable, for the purpose of assessment a reasonable estimate for background is 2 g/m^2/month. Using this estimate, the results for cumulative deposited dust would not exceed the criterion of 4 g/m^2/month (see **Section 3.2**).

On this basis of these results, it is concluded that dust emissions from the Project are not expected to result in exceedances of TSP and dust deposition criteria at any sensitive receptor location.

Table 7-1 Predicted TSP Concentrations and Dust Deposition at Sensitive Receptors

Map ID	Category	Annual Average			Daily Maximum		
		TSP (µg/m³)		Dust Deposition (g/m2/month)	TSP (µg/m³)		Dust Deposition (g/m2/month)
		Increment	Cumulative	Increment	Increment	Cumulative	Increment
Impact Assessment Criteria		**-**	***90***	***2***	**-**	***90***	***2***
R1	Residential	0.07	7.97	<0.01	0.21	8.11	<0.01
R2	Residential	0.04	7.94	<0.01	0.11	8.01	<0.01
R3	Residential	0.04	7.94	<0.01	0.11	8.01	<0.01
R4	Residential	0.03	7.93	<0.01	0.10	8.00	<0.01
R5	Residential	0.03	7.93	<0.01	0.09	7.99	<0.01
R6	Residential	0.02	7.92	<0.01	0.07	7.97	<0.01
R7	Residential	0.02	7.92	<0.01	0.05	7.95	<0.01
R8	Residential	0.07	7.97	<0.01	0.22	8.12	<0.01

Map ID	Category	Annual Average			Daily Maximum		
		TSP (µg/m³)		Dust Deposition (g/m2/month)	TSP (µg/m³)		Dust Deposition (g/m2/month)
		Increment	Cumulative	Increment	Increment	Cumulative	Increment
R9	Residential	0.05	7.95	<0.01	0.15	8.05	<0.01
R10	Residential	0.04	7.94	<0.01	0.13	8.03	<0.01
R11	Residential	0.03	7.93	<0.01	0.10	8.00	<0.01
R12	Residential	0.03	7.93	<0.01	0.08	7.98	<0.01
R13	Residential	0.02	7.92	<0.01	0.05	7.95	<0.01
R14	Residential	0.02	7.92	<0.01	0.06	7.96	<0.01
R15	Residential	0.02	7.92	<0.01	0.06	7.96	<0.01
R16	Residential	0.01	7.91	<0.01	0.04	7.94	<0.01
R17	Residential	0.02	7.92	<0.01	0.04	7.94	<0.01
R18	Residential	0.01	7.91	<0.01	0.02	7.92	<0.01
R19	Residential	0.01	7.91	<0.01	0.03	7.93	<0.01
R20	Residential	0.01	7.91	<0.01	0.04	7.94	<0.01
R21	Residential	0.01	7.91	<0.01	0.04	7.94	<0.01
R22	Residential	0.01	7.91	<0.01	0.04	7.94	<0.01
R23	Residential	0.01	7.91	<0.01	0.04	7.94	<0.01
R24	Industrial	0.16	8.06	<0.01	0.46	8.36	0.01
R25	Industrial	0.46	8.36	0.01	1.32	9.22	0.03
R26	Industrial	0.45	8.35	0.01	1.29	9.19	0.03
R27	Industrial	0.47	8.37	0.01	1.41	9.31	0.04
R28	Industrial	0.93	8.83	0.03	2.78	10.68	0.08
R29	Industrial	0.53	8.43	0.01	1.57	9.47	0.04
R30	Industrial	0.08	7.98	<0.01	0.22	8.12	0.00
R31	Industrial	0.16	8.06	<0.01	0.47	8.37	0.01
R32	Industrial	0.19	8.09	0.01	0.57	8.47	0.02
R33	Industrial	0.06	7.96	<0.01	0.19	8.09	<0.01
R34	Industrial	0.05	7.95	<0.01	0.15	8.05	<0.01
R35	Industrial	0.09	7.99	<0.01	0.28	8.18	0.01
R36	Industrial	0.06	7.96	<0.01	0.18	8.08	<0.01
R37	Industrial	0.04	7.94	<0.01	0.13	8.03	<0.01
R38	Industrial	0.04	7.94	<0.01	0.10	8.00	<0.01



7.2 PM_{10}

Table 7-2 presents the maximum 24-hour and annual average incremental and cumulative PM_{10} concentrations predicted at sensitive receptors. Isopleths of the predicted incremental PM_{10} concentrations are presented in **Appendix D**.

As discussed in **Section 4.3** daily varying background concentrations were adopted from the Griffith AQMS for contemporaneous analysis of the 24-hour average cumulative concentrations.

There are no exceedances predicted of the current cumulative 24-hour average PM_{10} impact assessment criterion of 50 $\mu g/m^3$ at any of the sensitive receptors. In addition, as identified in **Section 6.0**, the emission estimation and modelling conservatively assumed that all fugitive dust activities would occur continuously at the maximum daily rate, as such conservative.

Even given the conservative nature of the assessment, the contribution of the Project to annual average PM_{10} concentrations is not expected to have a significant impact on annual average concentrations compared to existing background levels, and no exceedances of the annual average impact assessment criterion of 25 $\mu g/m^3$ are predicted.

Table 7-2 Predicted PM_{10} Concentrations at Sensitive Receptors

Map ID	Annual Average Scenario		Daily Maximum Scenario	
	Incremental Annual	Cumulative Annual	Incremental Maximum 24-hour	Cumulative Maximum 24-hour
	$\mu g/m^3$			
Impact Assessment Criteria	***-***	***25***	***-***	***50***
R1	0.02	6.3	0.71	39.44
R2	0.01	6.3	0.46	39.44
R3	0.01	6.3	0.41	39.44
R4	0.01	6.3	0.39	39.44
R5	0.01	6.3	0.40	39.44
R6	0.01	6.3	0.36	39.44
R7	0.01	6.3	0.20	39.44
R8	0.02	6.3	0.80	39.54
R9	0.02	6.3	0.49	39.51
R10	0.01	6.3	0.44	39.49
R11	0.01	6.3	0.38	39.49
R12	0.01	6.3	0.30	39.46
R13	0.01	6.3	0.32	39.47
R14	0.01	6.3	0.34	39.44
R15	0.01	6.3	0.36	39.45
R16	0.01	6.3	0.20	39.44
R17	0.01	6.3	0.22	39.44
R18	<0.01	6.3	0.20	39.44

Map ID	Annual Average Scenario		Daily Maximum Scenario	
	Incremental Annual	Cumulative Annual	Incremental Maximum 24-hour	Cumulative Maximum 24-hour
	µg/m³			
R19	<0.01	6.3	0.17	39.44
R20	<0.01	6.3	0.16	39.44
R21	<0.01	6.3	0.24	39.44
R22	<0.01	6.3	0.23	39.44
R23	<0.01	6.3	0.24	39.44
R24	0.05	6.3	1.48	39.44
R25	0.14	6.4	2.82	39.44
R26	0.14	6.4	3.14	39.44
R27	0.13	6.4	2.63	39.44
R28	0.27	6.5	4.21	40.10
R29	0.16	6.4	2.64	39.85
R30	0.03	6.3	0.74	39.46
R31	0.05	6.3	1.35	39.44
R32	0.05	6.3	1.20	39.44
R33	0.02	6.3	0.76	39.44
R34	0.02	6.3	0.50	39.44
R35	0.03	6.3	0.88	39.44
R36	0.02	6.3	0.58	39.44
R37	0.01	6.3	0.48	39.44
R38	0.01	6.3	0.46	39.44

7.3 $PM_{2.5}$

Table 7-3 presents the maximum 24-hour and annual average incremental and cumulative $PM_{2.5}$ concentrations at the sensitive receptors. The isopleths of predicted incremental $PM_{2.5}$ concentrations are presented in **Appendix D**.

As discussed in **Section 4.3**, daily varying background concentrations were adopted from the Griffith AQMS to complete a contemporaneous analysis of the 24-hour average cumulative concentrations.

In addition, as identified in **Section 6.0**, the emission estimation and modelling conservatively assumed that all fugitive dust activities would occur continuously at the maximum daily rate, as such conservative.

Even given the conservative nature of the assessment, the contribution of the Project to annual average $PM_{2.5}$ concentrations is not expected to have a significant impact on annual average concentrations compared to existing background levels and no exceedances of the annual average impact assessment criterion of 8 µg/m³ are predicted.

Table 7-3 Predicted $PM_{2.5}$ Concentrations at Sensitive Receptors

Map ID	Annual Average		Daily Maximum	
	Incremental Annual	Cumulative Annual	Incremental Maximum 24-hour	Cumulative Maximum 24-hour
	µg/m³			
Impact Assessment Criteria	***-***	***8***	***-***	***25***
R1	<0.01	2.37	0.15	24.36
R2	<0.01	2.37	0.09	24.36
R3	<0.01	2.37	0.09	24.36
R4	<0.01	2.37	0.08	24.36
R5	<0.01	2.37	0.08	24.36
R6	<0.01	2.37	0.07	24.36
R7	<0.01	2.37	0.04	24.36
R8	<0.01	2.37	0.16	24.36
R9	<0.01	2.37	0.10	24.36
R10	<0.01	2.37	0.09	24.36
R11	<0.01	2.37	0.08	24.36
R12	<0.01	2.37	0.06	24.36
R13	<0.01	2.37	0.07	24.36
R14	<0.01	2.37	0.07	24.36
R15	<0.01	2.37	0.08	24.36
R16	<0.01	2.37	0.04	24.36
R17	<0.01	2.37	0.05	24.36
R18	<0.01	2.37	0.04	24.36
R19	<0.01	2.37	0.04	24.36
R20	<0.01	2.37	0.03	24.36
R21	<0.01	2.37	0.05	24.36
R22	<0.01	2.37	0.05	24.36
R23	<0.01	2.37	0.05	24.36
R24	0.01	2.37	0.28	24.40
R25	0.02	2.39	0.52	24.39
R26	0.02	2.39	0.53	24.59
R27	0.03	2.39	0.56	24.36
R28	0.06	2.42	0.88	24.36
R29	0.03	2.40	0.59	24.36
R30	0.01	2.37	0.16	24.36
R31	0.01	2.37	0.26	24.36
R32	0.01	2.38	0.28	24.36



Map ID	Annual Average		Daily Maximum	
	Incremental Annual	Cumulative Annual	Incremental Maximum 24-hour	Cumulative Maximum 24-hour
	µg/m³			
R33	<0.01	2.37	0.16	24.36
R34	<0.01	2.37	0.10	24.36
R35	0.01	2.37	0.18	24.36
R36	<0.01	2.37	0.12	24.36
R37	<0.01	2.37	0.09	24.36
R38	<0.01	2.37	0.10	24.36

8.0 Management Measures

8.1 Nuisance Dust Control Measures

Based on the emission inventories shown in **Table 6-4**, ambient dust emissions from wheel-generated dust, and handling and conveying of aggregate, sand, and product should be the primary focus of dust control at the Project site. Dust control measures typical for the industry, which are currently implemented on site, should continue to be implemented and include, but are not limited to:

- Minimise and manage silt and other material build-up on paved areas and around erosion and sediment control structures.
- Ensure that all stockpiles have appropriate additional control measures in place; e.g., stored within the proposed three-sided enclosures and watering as required.
- Minimise drop heights from loading / unloading equipment.
- Manage truck speeds on site to reduce wheel generated dust – the speed limit is 10 km/hour, which is sign-posted and stated in site induction material.

8.2 Plant and Machinery Control Measures

Control measures typical for the industry, which are currently implemented on site, should continue to be implemented and include, but are not limited to:

- Ensure vehicles and machinery are maintained in accordance with manufacturer's specifications.
- Minimise truck queuing and unnecessary trips through logistical planning of materials delivery and work practices.
- Ensure all vehicles, where appropriate, switch off engines when stationary so that there are no idling vehicles.

8.3 Site Management

Air emissions associated with all site activities should also be managed through compliance with a site Environment Management Plan (EMP). The EMP should be implemented so that:

- The works are conducted in a manner that minimises the generation of air emissions.
- The effectiveness of the controls being implemented is monitored.
- Additional measures are implemented where required.

Operators should also undertake daily environmental inspections of their works and worksite. The daily environmental inspection reports could include the observations listed in the following points:

- Visual inspection of dust generation. Authorise any stop work procedures if visible dust is observed leaving the site on high wind speed days.
- Inspection of the erosion and sediment controls.

Any remedial or corrective actions should be reported to the site manager as soon as is practicable.



8.4 Complaints Handling

An effective complaint logging system should be maintained. This would allow for effective management of any requests for information, response to any public concerns in relation to the proposed activities, and to ensure identified incidents are dealt with through investigation and implementation of corrective treatments.

9.0 Summary and Conclusions

An air quality impact assessment was undertaken in accordance with the SEAR for the Project (DPHI 2025). Primarily, this means the assessment was undertaken in accordance with the Approved Methods.

The assessment focussed on the potential for dust emissions from the Project to cause air quality impacts. No sources of odour were identified – as is commonly the case for concrete batching plants.

Air (dust) emissions estimates were based on the Project's production rates of an average throughput of 195 tpd and a maximum potential throughput of 650 tpd. The estimated emissions from the Project during the operational phase were modelled based on the plant operating at maximum production continuously, to assess the potential worst-case impacts at surrounding sensitive receptors. This approach is considered conservative as emissions from the Project will not be operating at maximum capacity for every hour of every day of operations.

The modelling results showed there were no predicted exceedances of NSW air quality impact assessment criteria for the key dust indicators: PM_{10}, $PM_{2.5}$, TSP, and deposited dust.

Based on the results of the modelling, it is concluded that air emissions from the operation of the Project will not have significant air quality impacts provided dust controls typical for the industry and as outlined in this report are implemented.



10.0 References

DPHI. 2025. "Concrete works, 127 Oakes Road, Griffith 2680 (Lot 1 DP 1181518) - Griffith LGA, Planning Secretary's Environmental Assessment Requirements (SEAR) 2033, EF25/16259, SEAR 2033."

DSEWPC. 1999. "Emission Estimation Technique Manual for Aggregated Emissions from Paved and Unpaved Roads."

DSEWPC. 1999. *NPI Emissions Estimation Techique Manual for Concrete Batching and Concrete Product Manufacturing.* Department of Sustainability, Environment, Water, Population and Communities.

NEPC. 2021. *National Environment Protection (Ambient Air Quality) Measure.* National Environment Protection Council.

NOAA. 2018. *Air Resources Laboratory.* 14 February. Accessed February 20, 2018. https://www.ready.noaa.gov/READYpgclass.php.

NSW EPA. 2022. *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales.* NSW Environment Protection Authority.

Oke, T. R. 2002. *Boundary Layer Climates.* Routledge.

US EPA. 2011. *AP 42 Compilation of Air Pollutant Emission Factors.* United States Environmental Protection Agency.

US EPA. 2012. *AP 42 Compilation of Air Pollutant Emission Factors.* United States Environmental Protection Agency.

US EPA. 1998. *AP-42 Compilation of Air Pollutant Emission Factors.* United States Environmental Protection Agency.

US EPA. 2004. *AP-42 Crushed Stone Processing and Pulverized Mineral Processing .* US: USEPA.

US EPA. 2012. *Emission Factors & AP42, Compilation of Air Pollutant Emission Factors.* US Environmental Protection Agency.

USEPA. 2006. "AP 42 Compilation of Air Pollutant Emission Factors ." *Section 13.2.5 Industrial Wind Erosion.* United States Environmental Protection Agency.

USEPA. 2006. "AP-42 Compilation of Air Pollutant Emission Factors for Unpaved Roads."

USEPA. 2006. "United States Environmental Protection Authority, Compilation of Air Pollutant Emission Factors AP-42 - Chapter 13.2. Aggregate Handling and Storage Piles."

Appendix A Selection of Representative Meteorological Data

Mawsons Griffith Concrete Batching Plant

Air Quality Impact Assessment

E.B. Mawsons and Sons Pty Ltd

SLR Project No.: 630.032127.00005

1 December 2025

SLR

Once emitted to atmosphere, the emissions will:

- Rise according to the momentum and buoyancy of the emission at the discharge point relative to the prevailing atmospheric conditions.
- Be advected from the source according to the strength and direction of the wind at the height which the plume has risen in the atmosphere.
- Be diluted due to mixing with the ambient air, according to the intensity of turbulence.
- (Potentially) be chemically transformed and/or depleted by deposition processes.

Dispersion is the combined effect of these processes. Dispersion modelling is used as a tool to simulate the air quality effects of specific emission sources, given the meteorology typical for a local area together with the expected emissions. Selection of a year when the meteorological data is atypical means that the resultant predictions may not appropriately represent the most likely air quality impacts. Therefore, in dispersion modelling, one of the key considerations is the representative nature of the meteorological data used.

The year of meteorological data used for the dispersion modelling was selected by reviewing the most recent five years of historical surface observations at (2018 to 2022 inclusive) to determine the year that is most representative of average conditions. Wind direction and wind speed were compared to averages for the region to determine the most representative year.

Data collected from 2018 to 2022 is summarised in **Figure A 1** to **Figure A 2**. Examination of the data indicates the following:

- **Figure A 1** indicates relatively similar wind roses for all years analysed.
- **Figure A 2** indicates that 2024 exhibit wind speeds that are lower than the 5-year average which will result in a conservative assessment due to reduced dispersion.

Given the above, the year 2024 was selected as the representative year of meteorology.

Figure A 1 Frequency of Winds at Griffith Airport for 2020 – 2024

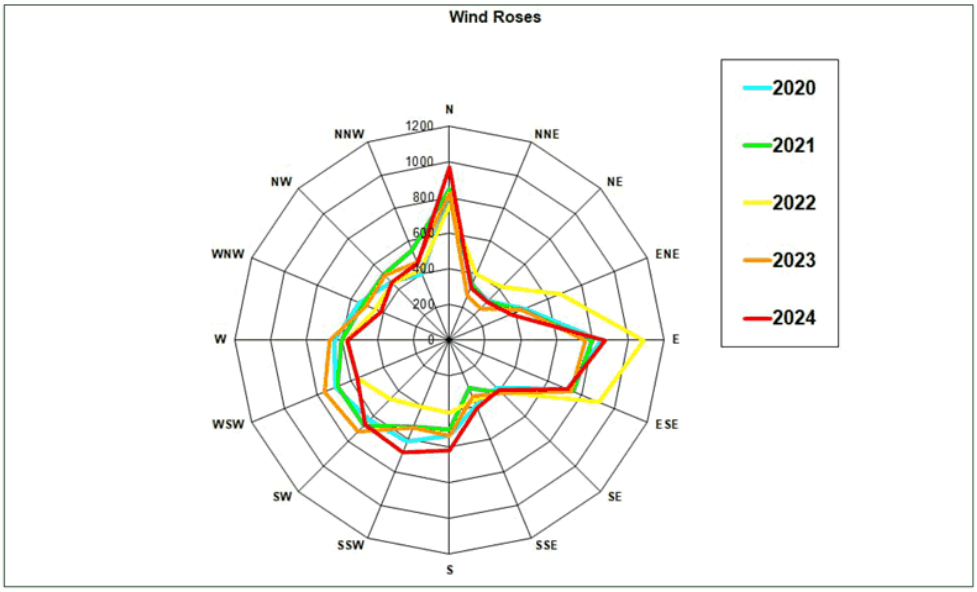
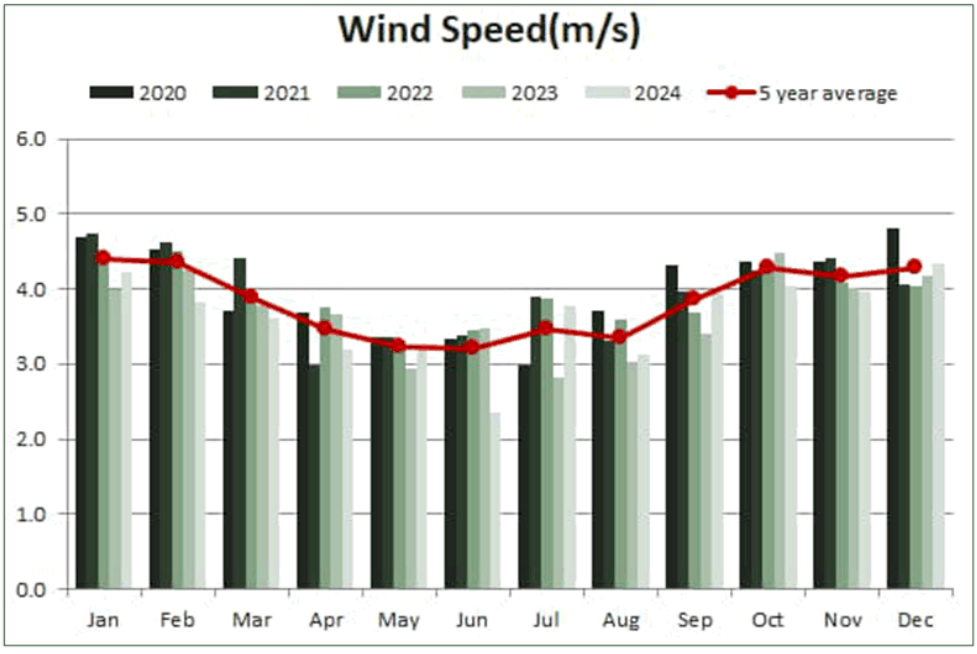


Figure A 2 Monthly Average Wind Speed at Griffith Airport for 2020 – 2024



Appendix B Evaluation of Meteorological Data

Mawsons Griffith Concrete Batching Plant

Air Quality Impact Assessment

E.B. Mawsons and Sons Pty Ltd

SLR Project No.: 630.032127.00005

1 December 2025

SLR

Evaluation of Meteorological Data

The primary meteorological data parameters relevant for dispersion modelling are typically:

- wind (wind speed and direction)
- turbulence (atmospheric stability)
- mixing height (depth of turbulent layer)

A review of the meteorological data used in the dispersion modelling for the above parameters is provided below.

Wind Speed and Wind Direction

A summary of the annual wind behaviour predicted by CALMET for 2024 (extracted at the Project Site) is presented as wind roses in **Figure B 1** and as a wind speed distribution plot in **Figure B 2**. These plots show that winds in the study area were predicted to be predominantly gentle to strong during 2024. Calm wind conditions were predicted to occur approximately 3.4% of the time throughout the modelling period. It is noted that the moderate winds and low percentage of calm wind conditions will assist pollutant dispersion, resulting in lower pollution concentrations at the surrounding receptors.

The seasonal wind roses indicate that typically:

- In summer, winds predominantly blow from north-eastern and south-western quadrants with a very low frequency of winds from the north-western quadrant. On average, calm winds are experienced 2.5% of the time during summer.
- In autumn, winds predominantly blow from eastern and south-western quadrants with a very low frequency of winds from the north-western quadrant. On average, calm winds are experienced 4.9% of the time during autumn.
- In winter, winds predominantly blow from north-western and eastern quadrants with a very low frequency of winds from south-eastern quadrant. On average, calm winds are experienced 4.2% of the time during winter.
- In spring, winds were generally evenly distributed across all directions except for the south-eastern quadrant, where the frequency of winds was very low. On average, calm winds occurred 2.0% of the time during winter.

A comparison of the wind roses presented in **Figure B 1** with the Canberra Airport AWS wind roses presented in **Figure 4-5** shows that the frequency of south-westerly winds is higher at the Project Site. Based on the wind roses, the seasons with the greatest potential for air quality impacts at the nearest residential receptors (located to the south of the site) would be spring and winter.

Figure B 1 CALMET-Predicted Seasonal Wind Roses for the Project Site – 2024

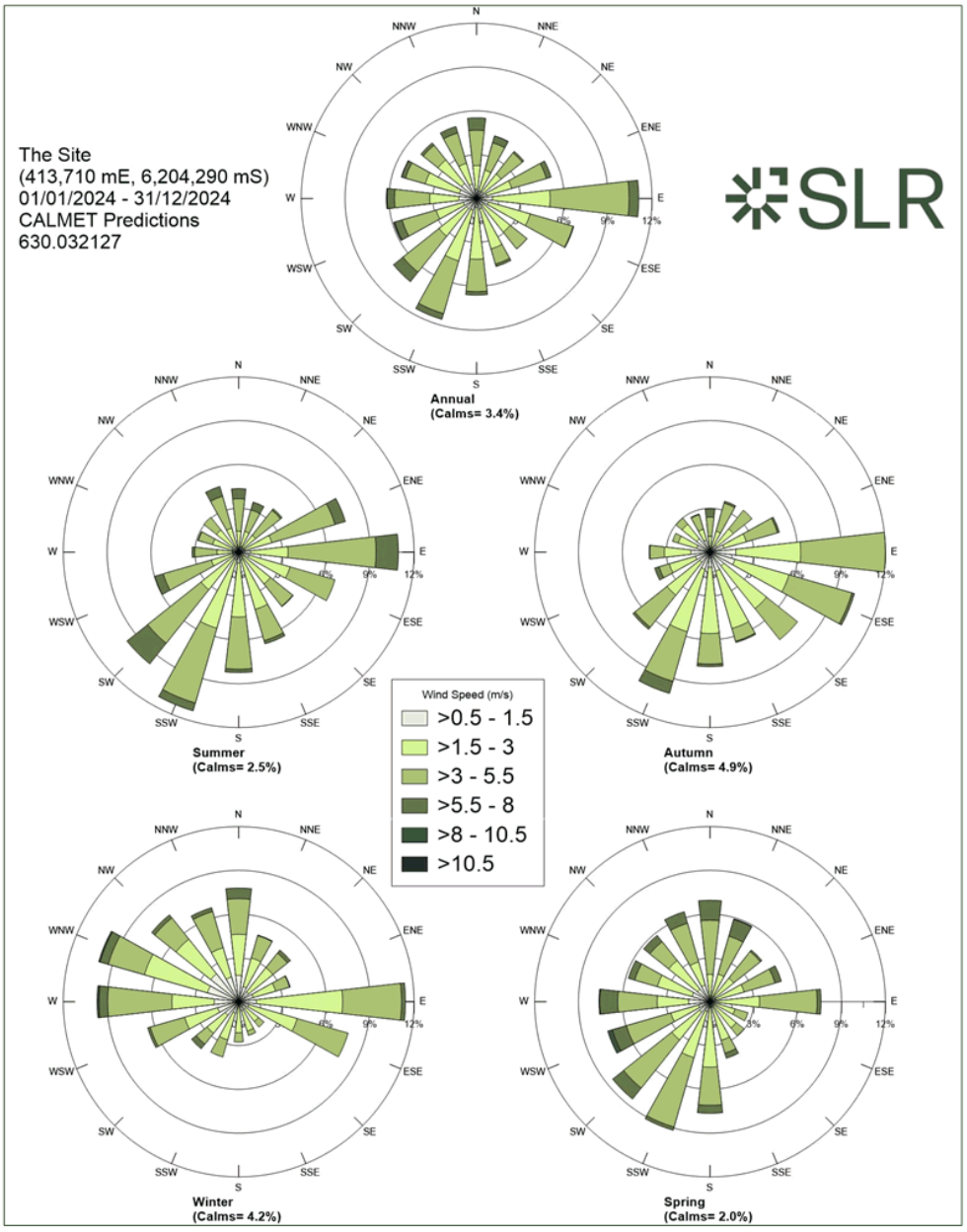
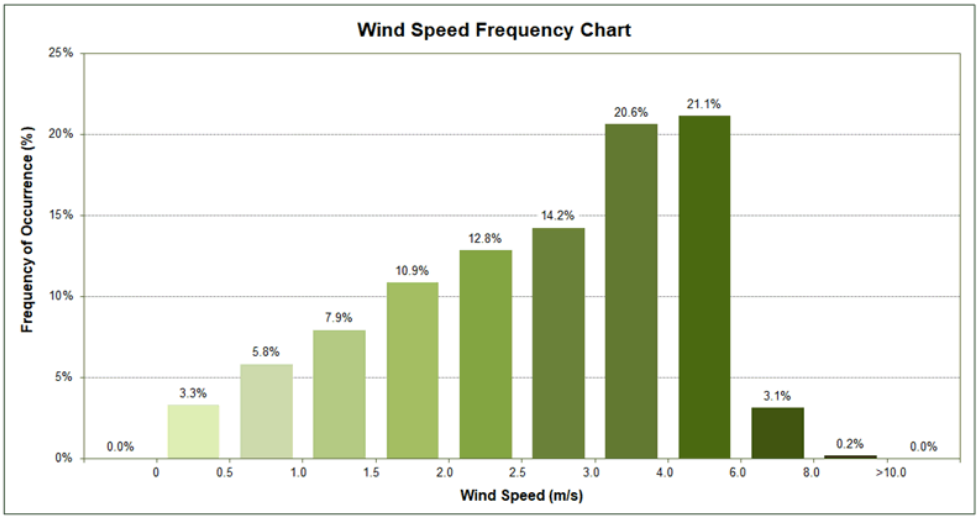


Figure B 2 Annual Wind Speed Frequencies at the Project Site (CALMET Predictions, 2024)



Atmospheric Stability

Atmospheric stability refers to atmospheric turbulence and the tendency of the atmosphere to resist or enhance vertical motion. Depending on conditions the atmospheric stability can either inhibit or promote pollutant dispersion. The Pasquill-Gifford scheme provides six stability classes, A to F, to categorise the degree of atmospheric stability as follows:

- A = Extremely unstable conditions
- B = Moderately unstable conditions
- C = Slightly unstable conditions
- D = Neutral conditions
- E = Slightly stable conditions
- F = Moderately stable conditions

The meteorological conditions defining each PGT stability class are shown in **Figure B 3**.

Unstable conditions are favourable for dispersion, while stable conditions are unfavourable for dispersion.

The dispersion modelling in CALPUFF used a more advanced atmospheric stability scheme (based on micro meteorology). Stability class data was extracted from the meteorological dispersion modelling data set for the meteorological data evaluation.

Table B 1 Meteorological Conditions Defining PGT Stability Classes

Surface Wind Speed (m/s)	Daytime Insolation			Night-Time Conditions	
	Strong	Moderate	Slight	Thin overcast or > 4/8 low cloud	<= 4/8 cloudiness
< 2	A	A - B	B	E	F
2 - 3	A - B	B	C	E	F
3 - 5	B	B - C	C	D	E
5 - 6	C	C - D	D	D	D
> 6	C	D	D	D	D

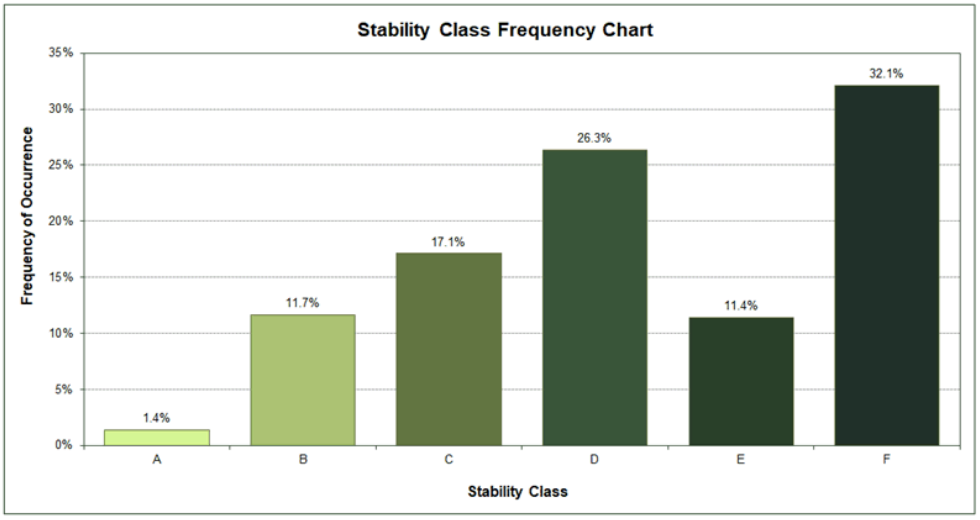
Source: (NOAA 2018)

Notes:

1. Strong insolation corresponds to sunny midday in midsummer in England, slight insolation to similar conditions in midwinter.
2. Night refers to the period from 1 hour before sunset to 1 hour after sunrise.
3. The neutral category D should also be used, regardless of wind speed, for overcast conditions during day or night and for any sky conditions during the hour preceding or following night as defined above.

The frequency of each stability class predicted by CALMET at the Project Site during the modelling period is presented in **Figure B 3**. The results indicate a high frequency of conditions typical to Stability Class D and F. Stability Class D is indicative of neutral conditions, conducive to a moderate level of pollutant dispersion due to mechanical mixing. Stability Class F is indicative of calm conditions, that typically indicates poorer dispersion of pollutants.

Figure B 3 Predicted Stability Class Frequencies at the Project Site (CALMET predictions, 2024)



Mixing Heights

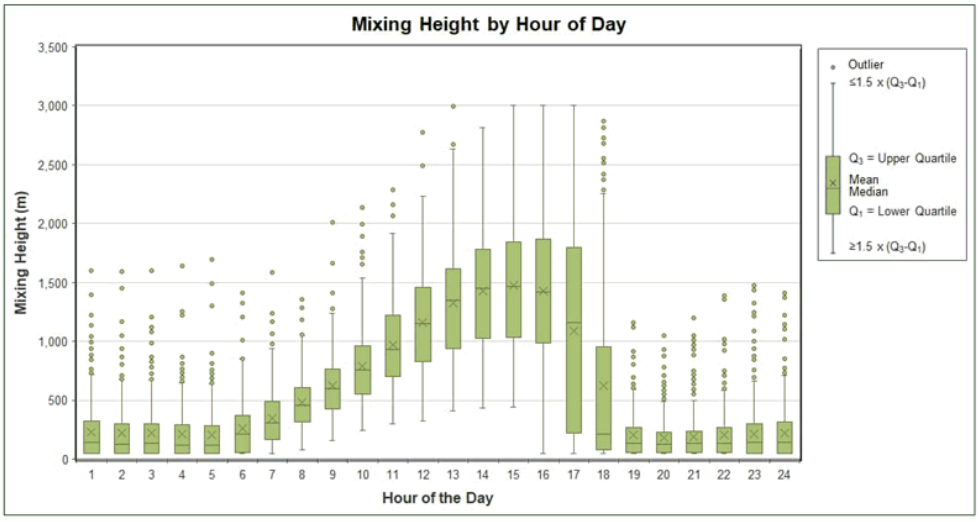
The mixing height is the depth of the atmospheric mixing layer between ground level and an elevated temperature inversion. Depending on conditions, vertical dispersion is typically limited by the mixing height. This is an important parameter in dispersion modelling since the mixing height largely sets the vertical profile the dispersion can take place in.

Mixing heights have a diurnal variation in response to mixing from convection due to insolation and grow from sunrise to around midday. Followed by a decline until sunset when there typically is a rapid decline. If a plume penetrates through, or is released above, the mixing height the pollutants will be trapped aloft with no mixing to ground level (unless in specific conditions such as fumigation). Similarly, if a plume is trapped below a low mixing height (inversion layer) the vertical dispersion will be limited, and higher ground-level concentrations are likely to occur.

Diurnal variations in maximum and average mixing heights predicted by CALMET at the Project Site during the 2024 modelling period are illustrated in **Figure B 4**.

As would be expected, an increase in mixing depth during the morning is apparent, arising due to the onset of vertical mixing following sunrise. Maximum mixing heights occur in the mid to late afternoon, due to the dissipation of ground-based temperature inversions and growth of the convective mixing layer.

Figure B 4 Predicted Mixing Heights at the Project Site (CALMET predictions, 2024)



Appendix C Fugitive Dust Emission Factors and Source Locations

Mawsons Griffith Concrete Batching Plant

Air Quality Impact Assessment

E.B. Mawsons and Sons Pty Ltd

SLR Project No.: 630.032127.00005

1 December 2025

SLR

Table C-1 provides details of the emission factors/equations and assumptions used to estimate the fugitive dust emissions. **Figure C- 1** and **Table C-2** show the location of the volume sources and allocation to each activity.

Table C-1: Summary of Emission Factors Used to Estimate Emissions

Activity	Emission Factor / Equation	Units	Source	Variables
Raw Material & RAP Handling				
Loading and unloading from stockpiles and processing plants	$EF = \frac{k \times 0.0016 \times \frac{U}{2.2}^{1.3}}{\frac{M}{2}^{1.4}}$	kg/t	(USEPA 2006)	k = 0.74 (TSP); k = 0.35 (PM_{10}); k = 0.053 ($PM_{2.5}$) U1.3/2.2 = wind speed factor M = moisture content (%)
Road Haulage				
Road haulage within the site (paved roads)	$EF_{TSP} = 3.23 \times sL^{0.91} \times W^{1.02}$ $EF_{PM10} = 0.62 \times sL^{0.91} \times W^{1.02}$ $EF_{PM2.5} = 0.15 \times sL^{0.91} \times W^{1.02}$	kg/VKT	(US EPA 2011)	sL = road surface silt loading (3 g/m²) W = weighted average weight of vehicles travelling on the road
Vehicle Movements on Unpaved Roads	$EF_{TSP} = 1.38 \times \left(\frac{s}{12}\right)^{0.7} \times \left(\frac{W \times 1.1023}{3}\right)^{0.45}$ $EF_{PM10} = EF_{PM10} = 0.42 \times \left(\frac{s}{12}\right)^{0.9} \times \left(\frac{W \times 1.1023}{3}\right)^{0.45}$ $EF_{PM2.5} = = 0.04 \times \left(\frac{s}{12}\right)^{0.9} \times \left(\frac{W \times 1.1023}{3}\right)^{0.45}$	kg/VKT	(USEPA 2006)	sL = road surface silt loading (6.4 g/m²) W = weighted average weight of vehicles travelling on the road
Wind Erosion				
Stockpiles/Storage Bays	$EF_{TSP} = 0.1$ $EF_{PM10} = 0.5 \times EF_{TSP}$ $EF_{PM2.5} = 0.075 \times EF_{TSP}$	kg/ha/hr	(US EPA 2011)	-

Figure C- 1: Source Locations

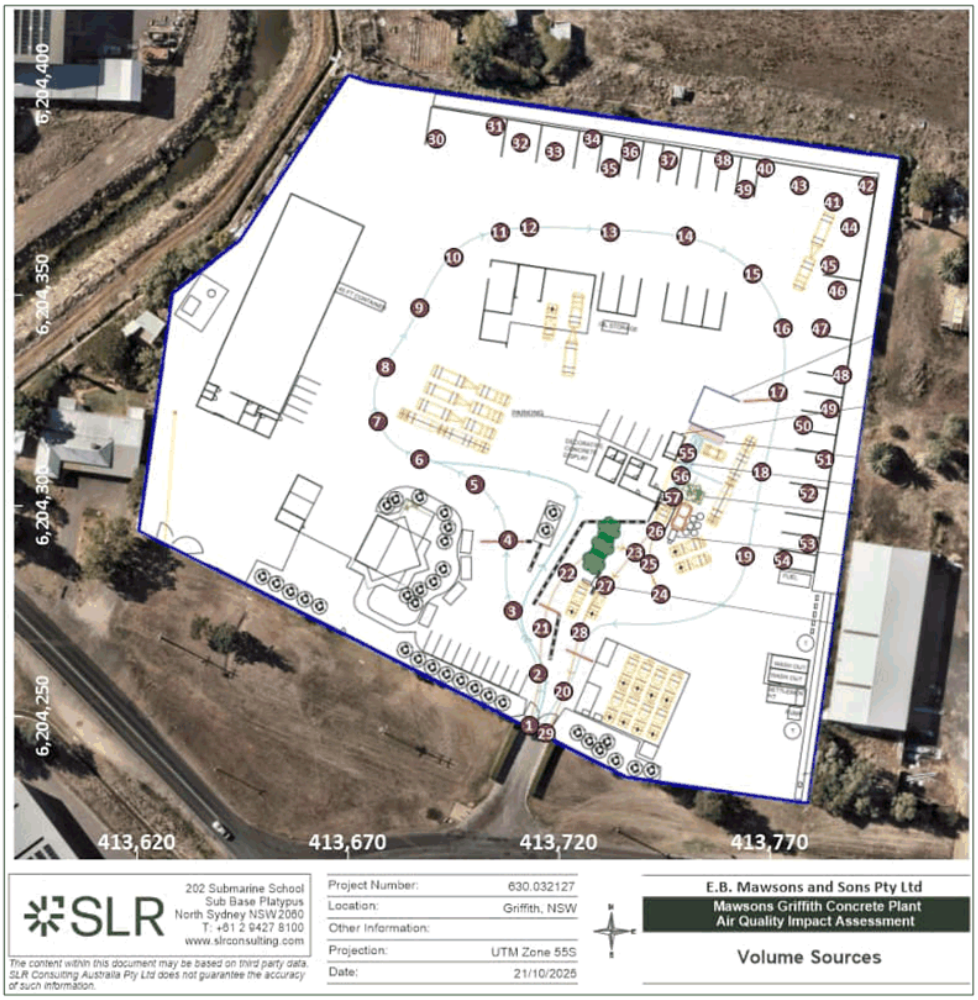


Table C-2: Source Allocations

Activity	Source IDs
Aggregate - Haulage on paved roads (deliver to storage Bays)	1-11; 13-19
Aggregate - Haulage on unpaved roads (deliver to storage Bays)	11-13
Aggregate - Emplacing in storage bins	30-39; 46-54
Aggregate - FEL loading aggregate from storage bins for transfer	30-39; 46-54
Aggregate - FEL travel on paved roads (storage Bays to hopper)	10-11; 13-18
Aggregate - FEL travel on unpaved roads (storage Bays to hopper)	11-13
Aggregate - FEL unloading to conveyor (bins)	55
Aggregate - conveying	56; 57
Sand - Road haulage within site (paved roads)	1-11; 13-15
Sand - Road haulage within site (unpaved roads)	11-13
Sand - Emplacing in storage bins	40-45
Sand - FEL loading sand from storage bins for transfer from Bays to hopper	40-45
Sand - FEL travel on paved roads (Bays to plant)	15-18
Sand - FEL unloading to conveyor (bins)	55
Sand - conveying	56; 57
Product - Road haulage within site (paved roads) using agitators	1-2; 20-29
WE - Aggregate storage Bays	30-39; 46-54
WE - Sand storage Bays	40-45

Appendix D Incremental Isopleth Plots

Mawsons Griffith Concrete Batching Plant

Air Quality Impact Assessment

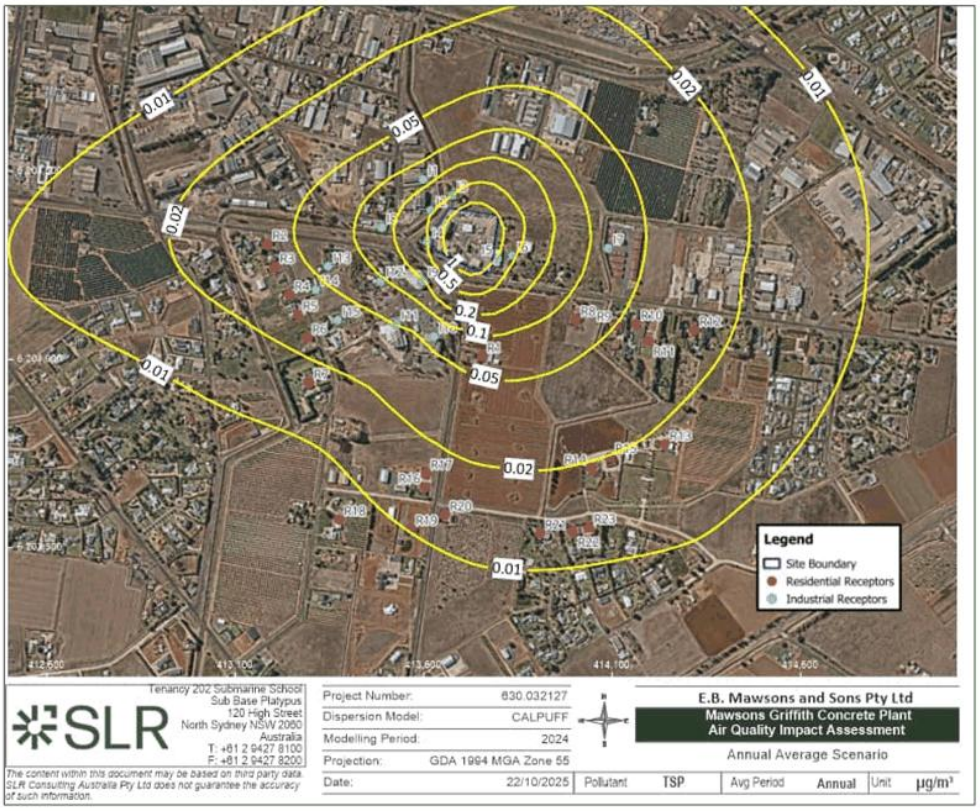
E.B. Mawsons and Sons Pty Ltd

SLR Project No.: 630.032127.00005

1 December 2025

SLR

Figure D-1 Predicted Annual Average Incremental TSP Concentrations – Annual Average Scenario



SLR
Tenancy 202 Submarine School
Sub Base Platypus
120 High Street
North Sydney NSW 2060
Australia
T: +61 2 9427 8100
F: +61 2 9427 8200

The content within this document may be based on third party data. SLR Consulting Australia Pty Ltd does not guarantee the accuracy of such information.

Project Number:	630.032127
Dispersion Model:	CALPUFF
Modelling Period:	2024
Projection:	GDA 1994 MGA Zone 55
Date:	22/10/2025

E.B. Mawsons and Sons Pty Ltd
Mawsons Griffith Concrete Plant
Air Quality Impact Assessment
Annual Average Scenario

Pollutant	TSP	Avg Period	Annual	Unit	µg/m³

Figure D-2 Predicted Annual Average Incremental Dust Deposition – Annual Average Scenario

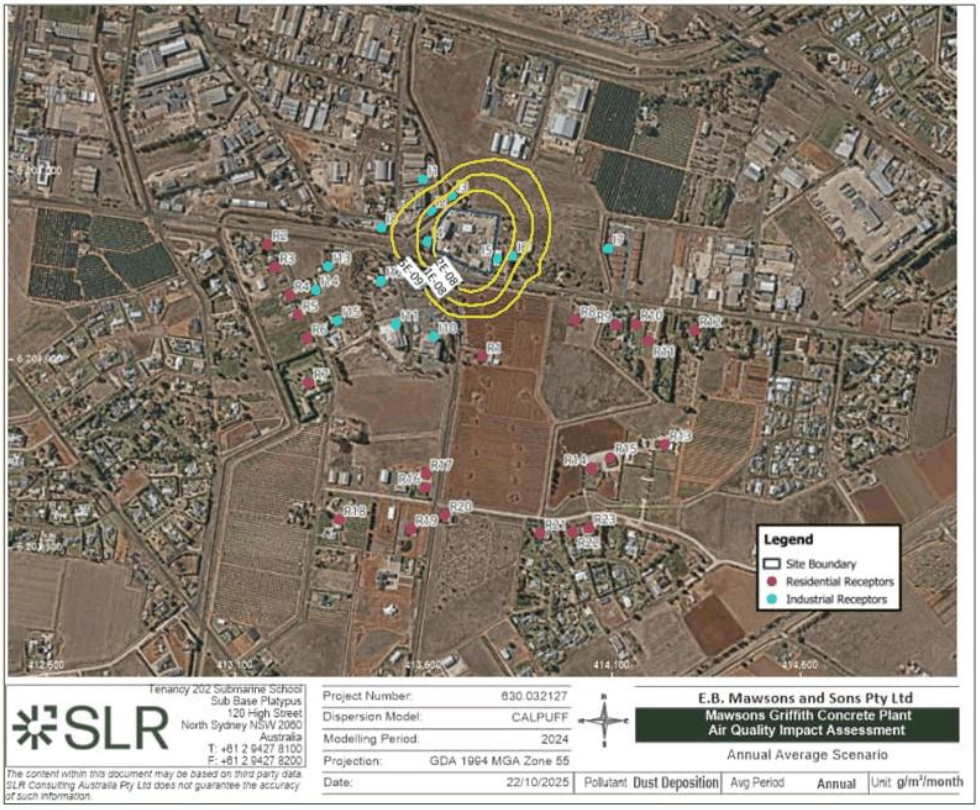


Figure D-3 Predicted Annual Average Incremental PM_{10} Concentrations – Annual Average Scenario

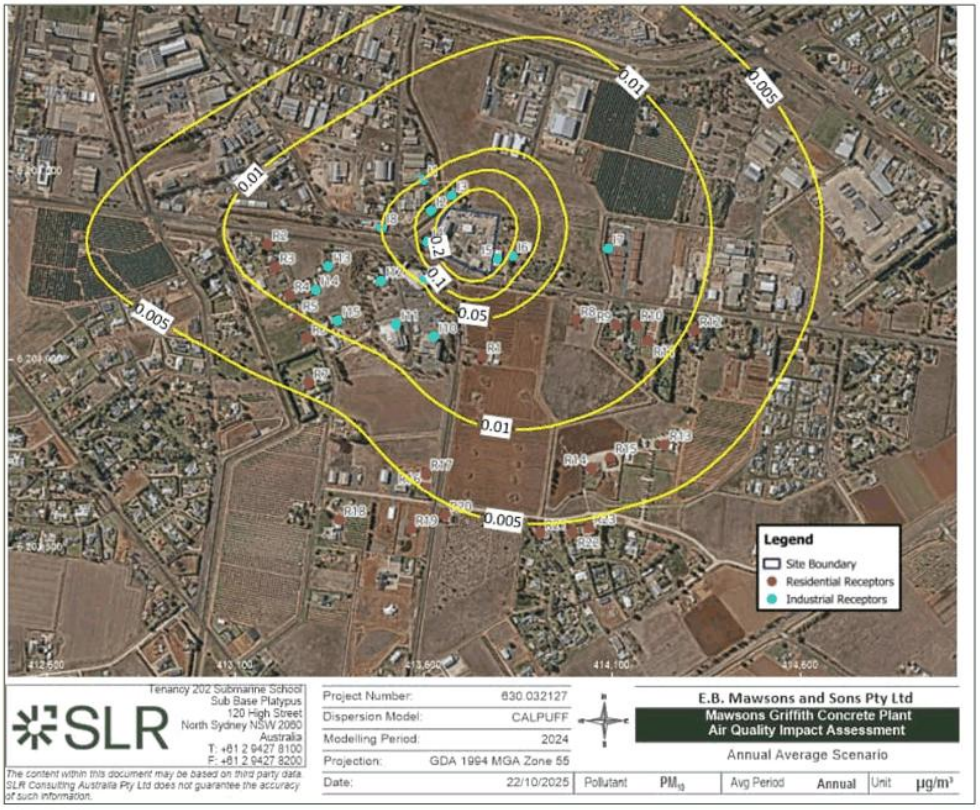


Figure D-4 Predicted 24-hour Average Incremental PM_{10} Concentrations – Annual Average Scenario

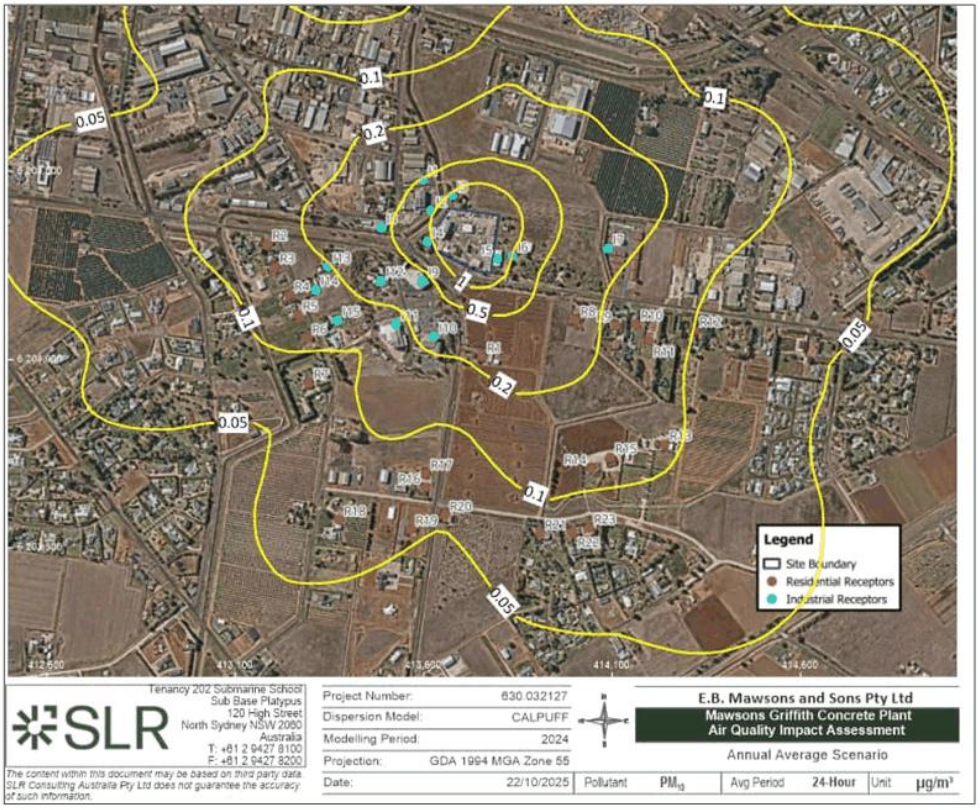


Figure D-5 Predicted Annual Average Incremental $PM_{2.5}$ Concentrations – Annual Average Scenario

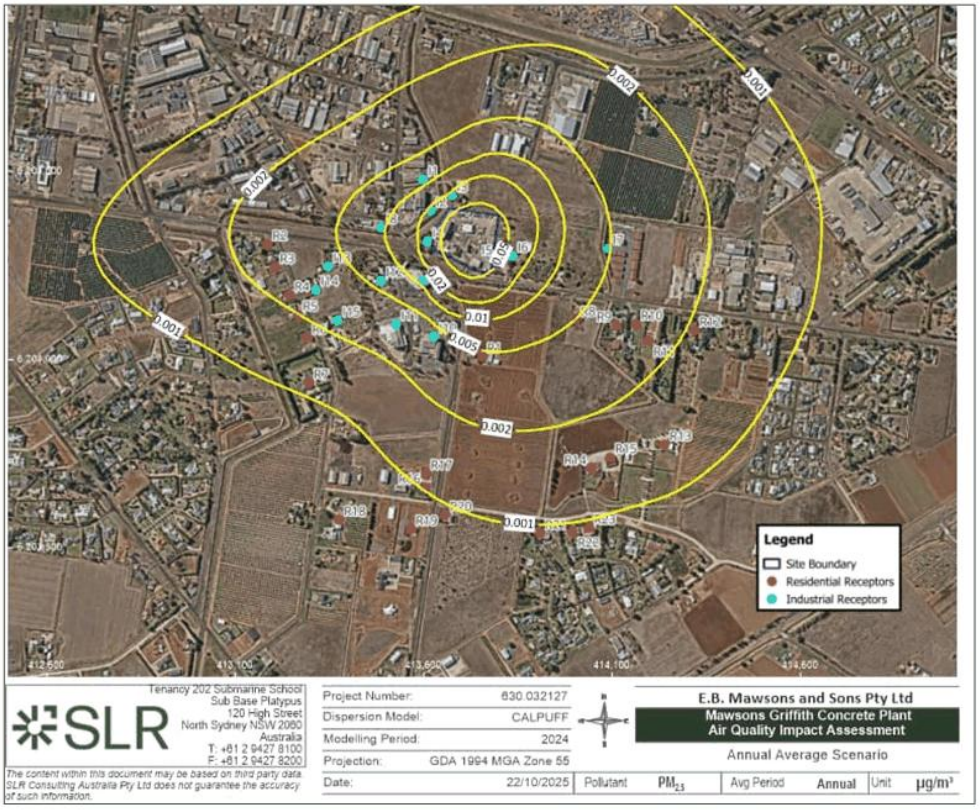


Figure D-6 Predicted 24-hour Average Incremental $PM_{2.5}$ Concentrations – Annual Average Scenario

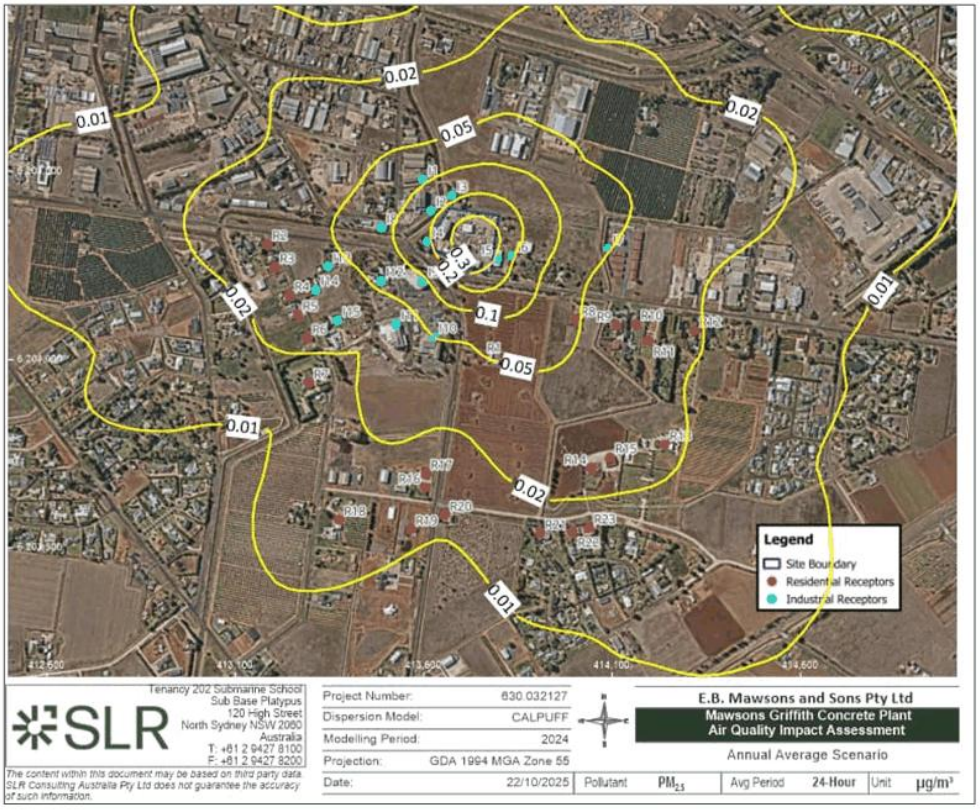


Figure D-7 Predicted Annual Average Incremental TSP Concentrations – Maximum Daily Scenario

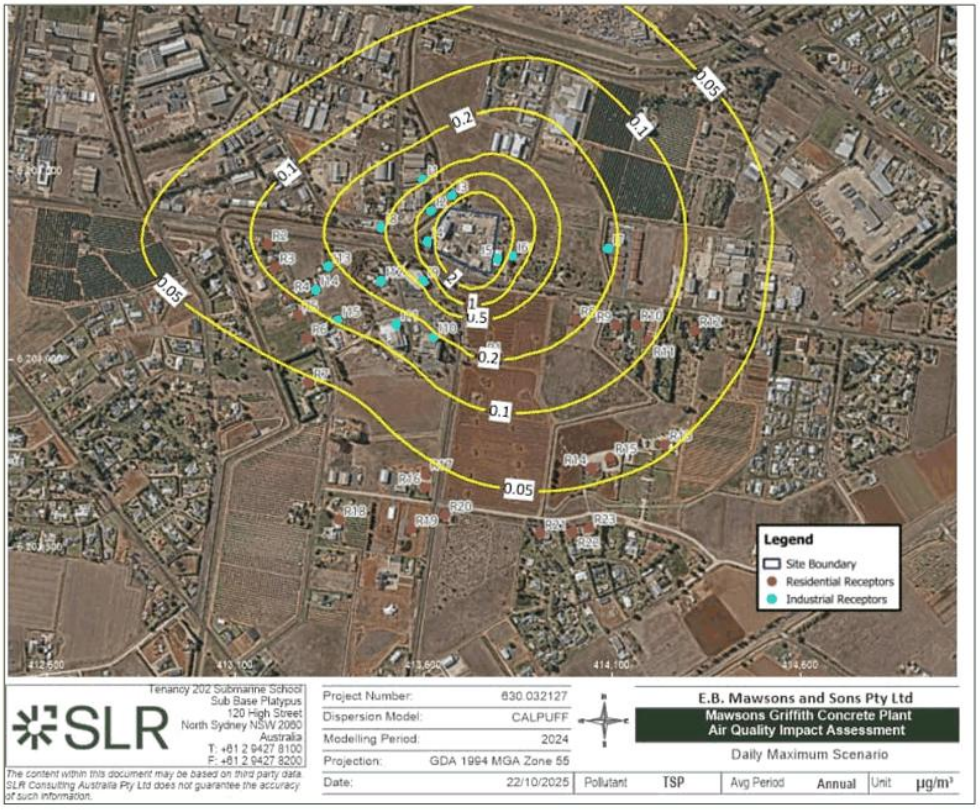


Figure D-8 Predicted Annual Average Incremental Dust Deposition – Maximum Daily Scenario

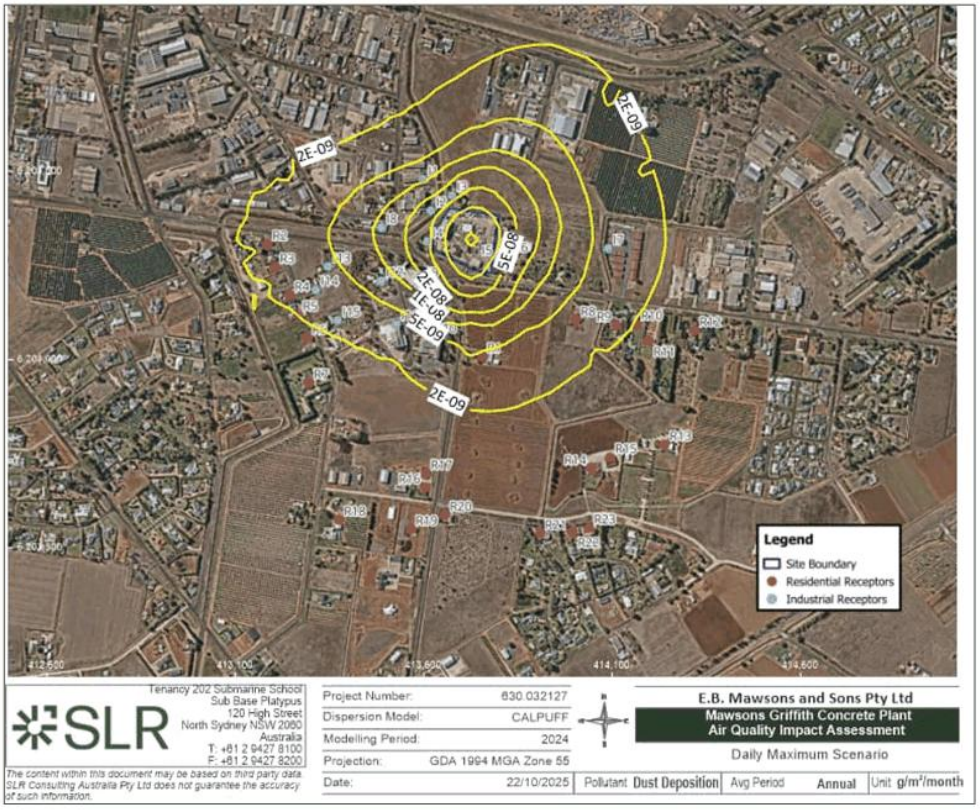


Figure D-9 Predicted Annual Average Incremental PM_{10} Concentrations – Maximum Daily Scenario

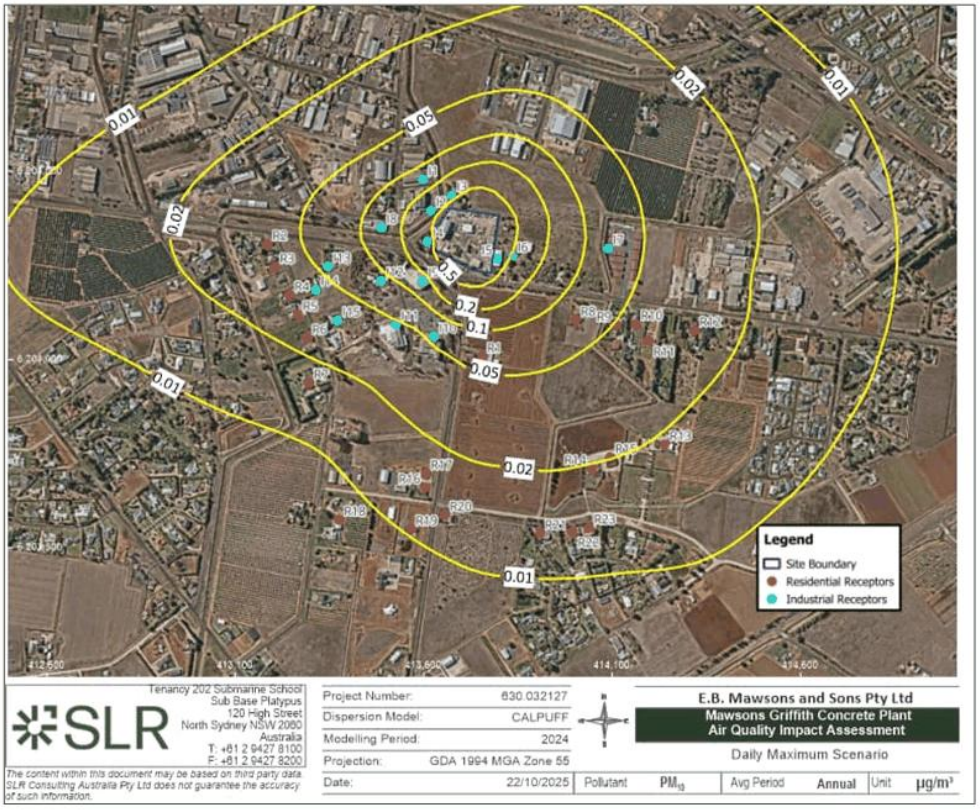


Figure D-10 Predicted 24-hour Average Incremental PM_{10} Concentrations – Maximum Daily Scenario

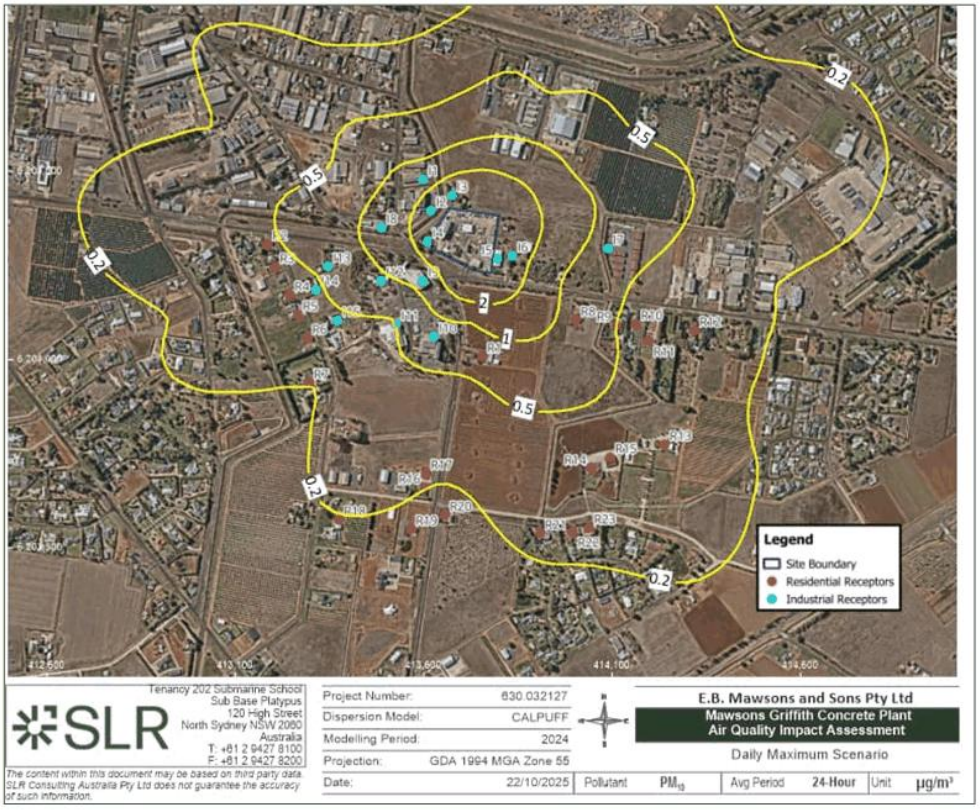


Figure D-11 Predicted Annual Average Incremental $PM_{2.5}$ Concentrations – Maximum Daily Scenario

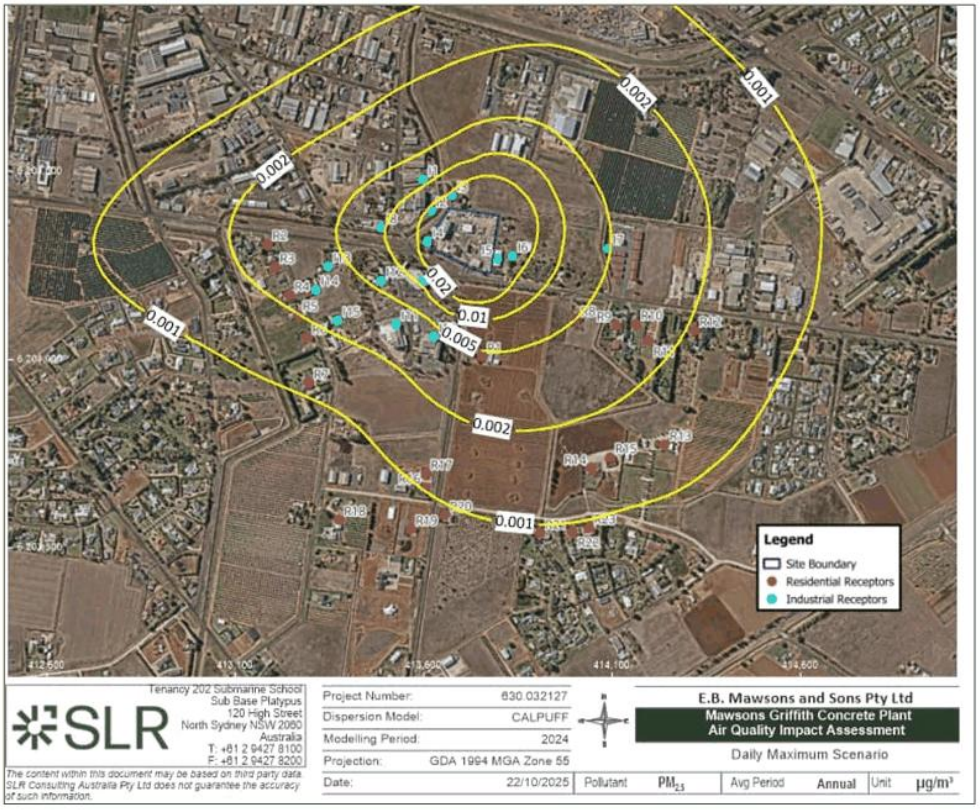
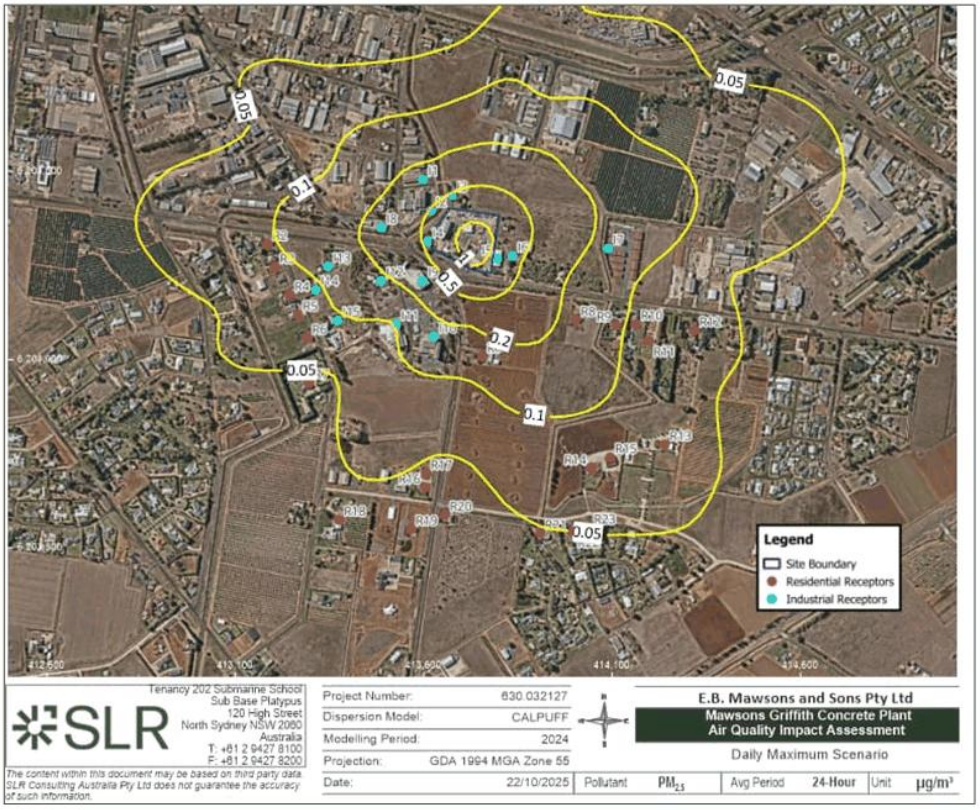
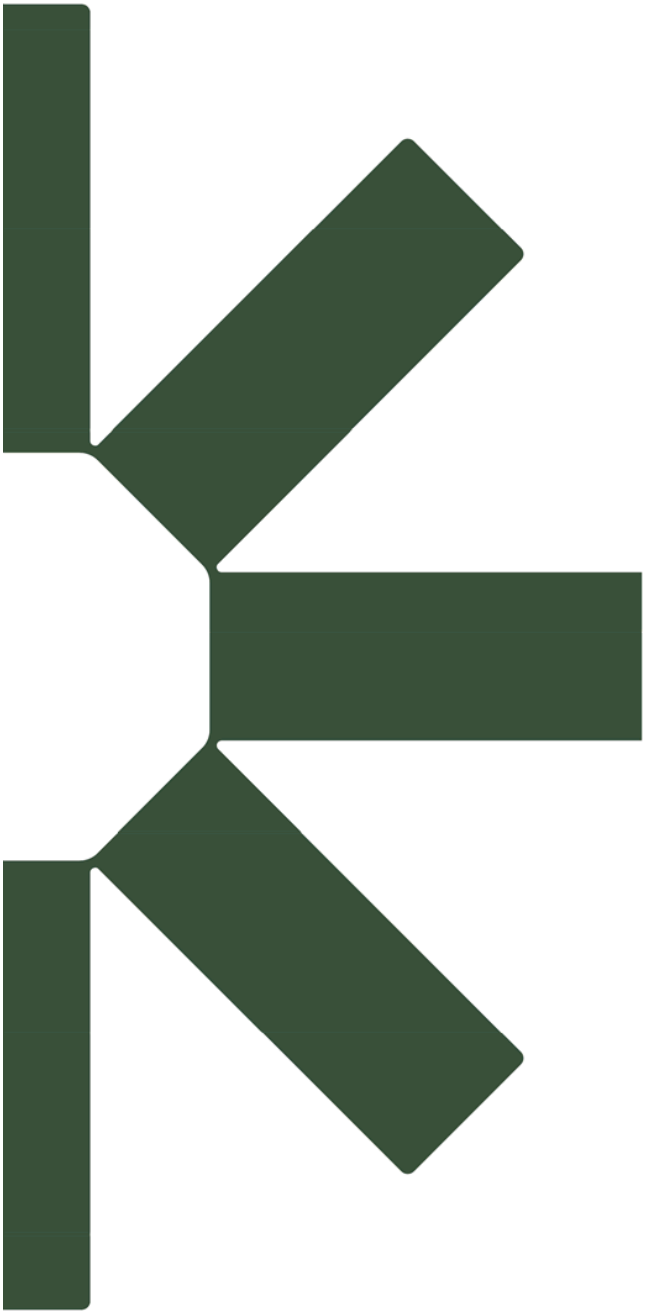


Figure D-12 Predicted 24-hour Average Incremental $PM_{2.5}$ Concentrations – Annual Average Scenario





Making Sustainability Happen

MAWSONS
Concrete & Quarries

MILBRAE
CONCRETE, QUARRIES & MINING SERVICES

Environmental Management System Manual v1

ENV-GUI-001



Table of Contents

1 Introduction 3
2 Activities 3
3 Operating Environments 3
4 Environmental Risks 4
5 Stakeholders 7
6 Legislative and Other Compliance Obligations 11
7 Environmental Objectives 13
8 Risk Treatments and Compliance Management 14
9 Monitoring 15
10 Incidents, Complaints, Non-Compliance & Non-Conformity 15
11 Roles & Responsibilities 16
12 Management Processes 18
Appendix A: Guidance Documents 20

Title: Environmental Management System Manual v1	**Ref: ENV-GUI-001 v1**
Prepared By: Progressive Environmental	**Date:** 21 March 2022
Approved By: C. Ward *Resource Development Manager*	**Due for Review:** March 2024

1 Introduction

This environmental management system (EMS) manual describes the environmental risks associated with activities undertaken by Mawsons Concrete and Quarries, and the measures in place to minimise these risks as far as reasonably practicable.

Mawsons is a concrete and quarrying business with operations across Victoria and NSW. The company operates approximately 50 concrete batching plants and 40 quarries and employs approximately 500 people.

2 Activities

- Resource Development
- Quarry Operation
- Sand Extraction and Washing
- Cement Transport
- Concrete Production & Transport
- Laboratory Operation
- Manufacturing and Mechanical Maintenance

3 Operating Environments

Mawson's quarries are in areas of low residential density and concrete plants are located in industrial areas. Mechanical and fabrication workshops are mostly located on quarry sites and the main Mawsons workshop is in the industrial estate in Cohuna. Environments vary and, therefore, each quarry and concrete plant will have site-specific maps that show locations of activities and sensitive receptors. These maps will detail terrain, geology, and sensitive receptors, including surface waters, and identify locations of waste management controls, including bunding and containment areas and facilities.

3.1 Sensitive Receptors

Sensitive receptors are site-specific and identified in site-specific maps and management plans. In general, sensitive receptors include residential communities, ecological communities, land, surface waters and groundwater.

4 Environmental Risks

Environmental risks identification processes vary across operations and states but risk management processes are standardised under the Mawsons Environmental Management System.

For Victorian quarries, environmental risks are assessed in detail at the time of application for approval for development, as part of the Work Plan that must be endorsed under the *Mineral Resources Sustainable Development Act* 1990 (MRSDA). Mawsons follows the detailed guidance provided by the Department of Jobs, Precincts, and Regions, *Preparation of Work Plans and Work Plan Variations: Guideline for Extractive Industry Projects* (current version dated December 2020), when completing risk assessment for development of a new site or changes to activities that have an existing approval.

In NSW quarries are licensed under the POEO Act and environmental risks are controlled by compliance with the licences.

Concrete plants are not currently licensed in Victoria or NSW and not subject to specific legislation. In Victoria they must comply with the General Environmental Duty (GED, *Environment Protection Act* 2017) which requires understanding and control of environmental risks. In NSW the Protection of the Environment Operations (POEO) Act 1997 prohibits pollution of water, air, or land. Effective risk management prevents pollution and supports the defence of "reasonable precautions" and "due diligence" under the POEO Act.

To ensure that environmental risks are controlled at all Mawsons sites, each quarry and concrete site will have a Risk Management Plan which is comprised of a risk register and risk treatment plans that describe the measures implemented to minimise risks.

The sub-sections below provide an overview of the environmental risks associated with the activities that Mawsons undertakes.

4.1 Resource Development

Exploration for, and development of, gravel, rock, and sand resources, involving clearing, excavation and small-scale processing.

Receptor	Impact
Flora/fauna/ecosystems	Destruction of floral species, habitat, and integral elements of ecosystems
Human communities	Noise, dust, degradation of visual amenity
Land	Erosion, instability, degraded soil structure
Surface waters, groundwater	Pollution by wastewater, sediment-laden run-off, changes to hydrology
Air/atmosphere	Emission of greenhouse gases

4.2 Quarry Operation

Extraction and processing of gravel and rock.

Receptor	Impact
Human communities	Noise, dust, degradation of visual amenity Disturbance of cultural and European heritage values
Land	Erosion, instability, degraded soil structure, unauthorised disturbance, pollution by waste
Surface waters, groundwater	Pollution by wastewater, sediment-laden run-off, acid mine drainage
Flora, fauna, ecosystems	Degradation by introduction/spread of vermin or weeds Destruction by bushfires
Air/atmosphere	Emission of greenhouse gases

4.3 Sand Extraction and Washing

Extraction of sand from sand pits or separation of sand from rock and pebbles out of gravel and rock quarries, and washing to remove organic matter.

Receptor	Impact
Human communities	Noise, dust, degradation of visual amenity Disturbance of cultural and European heritage values
Land	Erosion, instability, degraded soil structure, unauthorised disturbance, pollution by waste
Surface waters, groundwater	Pollution by wastewater, sediment-laden run-off, acid mine drainage, flooding
Flora, fauna, ecosystems	Degradation by introduction/spread of vermin or weeds Destruction by bushfires
Air/atmosphere	Emission of greenhouse gases

4.5 Cement Transport

Transport, by truck, of the fine powdered limestone and clay minerals that is blended with sand or rock to make concrete.

Receptor	Impact
Human communities	Noise and dust
Land	Contamination by spill of cement
Surface waters	Contamination by spill of cement
Air/atmosphere	Emission of greenhouse gases

4.6 Concrete Production / Transport

Blending cement with aggregate and water in a concrete batching plant and delivering it to points of use in agitator trucks

Receptor	Impact
Human communities	Noise, dust, degradation of visual amenity
Surface waters,	Pollution by wastewater, spilled chemicals, or stormwater run-off carrying cement or sediment
Land	Contamination caused by chemical spill or inappropriate waste management
Flora, fauna, ecosystems	Degradation by introduction/spread of weeds Destruction by bushfires
Farms	Introduction of weeds or pathogens
Air/atmosphere	Emission of greenhouse gases

4.8 Mawsons Maintenance Workshops

Activities undertaken Mawson's maintenance workshops relate to servicing of large and small diesel equipment, including degreasing and parts washing, vehicle washing, replacement of batteries, re-gassing air-conditioners, spray-painting, and replacing tyres.

Receptor	Impact
Human communities	Odour
Surface waters	Contamination by wastewater, chemical spill, or contaminated stormwater run-off
Land	Contamination by chemical spill, contaminated stormwater run-off, or inappropriate waste disposal
Air/atmosphere	Emission of greenhouse gases

4.9 Laboratory Operation

Mawsons has some laboratories on operating sites and a main laboratory within its Cohuna workshop and office building. The laboratories process samples of extractive materials to determine suitability for particular uses and conduct concrete testing to ensure customer specifications are met.

Receptor	Impact
Surface waters	Contamination by wastewater or chemical spill
Land	Contamination by chemical spill or inappropriate waste disposal

4.10 Manufacturing Workshop

Workshop for the fabrication of structures required for concrete plants and quarries.

Receptor	Impact
Human communities	Noise
Surface waters	Contamination by wastewater or chemical spill
Land	Contamination by chemical spill or inappropriate waste disposal

5 Stakeholders

Internal and external stakeholders, their interests, and modes of engagement are presented in the following sub-sections.

Quarries and concrete plants also have site-specific Community Engagement Plans.

5.1 Internal Stakeholders

Stakeholder	Interest	Engagement
The Board	External disclosures on environmental issues	As required, at the discretion of the Managing Director
Managing Director	High risk activities	Annual risk review
	External disclosures	Notification of external disclosures
General Manager Quarries	Resource development	Report on key resource development milestones at time of achievement
	Quarry-related risks	Annual risk review
	External disclosures (quarries)	Consultation with the Environment and Compliance Manager regarding all quarry-related external disclosures
Regional Quarry Managers	Environmental risks and compliance obligations	Involved in development and maintenance of environmental management system
		Annual site risk review
General Manager Concrete	Risks related to concrete operations.	Annual risk review
	External disclosures (concrete)	Approval of all concrete-related external disclosures
Engineering and Design Manager	Environmental risks and compliance obligations	Involved in development and maintenance of environmental management system
Resource Development Manager	Information required for resource development approvals	Provide environmental risk and control information for resource development activities, as needs
Environment and Compliance Manager (ECM)	Compliance with legislative obligations	Involved in development, implementation, and maintenance of environmental management system
	Conformance to environmental management system	Approval of all external disclosures following consultation with GM Quarries
		Project-specific environmental support
		Induction

Stakeholder	Interest	Engagement
Plant, quarry, workshop, and laboratory managers	Environmental risks and controls relevant to their sites.	6-monthly site inspections
		Annual performance reporting
		Incident investigation
Operators	Environmental risks relevant to the operations they are involved in	Induction
		Tool box meetings
		6-monthly site inspections
		Hazard identification

5.2 External Stakeholders

Stakeholder	Interest	Engagement
Neighbours	Proposed development with potential for impact on them	Community Engagement Plan (CEP)
	Potential incidents and communication plans	Pollution Incident Response Management Plan
	Actual incidents with potential for impact on them	In the event of an incident as determined by the relevant Mawsons/Milbrae manager
Local Council	Proposed development	Development approval process
	Incidents	In the event of an incident as determined by the relevant Mawsons/Milbrae manager
Environment Protection Authority	Proposed development	Development approval process
	Incidents	In the event of an incident that causes or threatens material harm
	Environmental performance (licensed sites)	Annual Return
Earth Resources Regulator	Proposed development	Development approval process
	Incidents	In the event of an incident that causes significant impact to public safety, the environment, or assets
NSW Ministry of Health	Incidents	In the event of an incident that causes or threatens material harm
SafeWork NSW		
Fire & Rescue NSW		
Catchment Management Authorities / Local Land Services	Proposed Development	Development approval process
Department Environment, Land, Water and Planning (DELWP)	Proposed Development	Development approval process
	National Pollution Inventory (NPI) reporting	Operations
Department of Agriculture, Water and the Environment (DAWE)	Proposed Development	Development approval process
Clean Energy Regulator	Emissions reporting	Operations

6 Legislative and Other Compliance Obligations

6.1 Legislative Obligations

The legislation applicable to Mawsons activities is presented in the following subsections and details regarding how it applies is provided in the topic-specific environmental management plans.

6.1.1 Commonwealth

The activities undertaken by Mawsons are primarily Regulated under State legislation, however, they must also comply with the following Commonwealth legislation:

- *Environment Protection and Biodiversity Conservation Act*, 1999
- *National Greenhouse and Energy Reporting* (NGER) *Act*, 2007
- *National Greenhouse and Energy Reporting Regulations*, 2008
- *National Greenhouse and Energy Reporting (Measurement) Determination*, 2008

6.1.2 Victoria

In Victoria quarries are primarily Regulated under the ***Mineral Resources (Sustainable Development) Act* 1990** (MRSDA) and the ***Mineral Resources (Sustainable Development) (Extractive Industries) Regulations* 2019** by the Earth Resources Regulator which sits within the Department of Jobs, Precincts and Regions.

New quarries require Planning Permits issued by Local Government under the ***Planning and Environment Act* 1987** as well as approval under the MRSDA. New concrete plants also require Planning Permits.

All businesses in Victoria must comply with the ***Environment Protection Act* 2017**, and relevant sections of the ***Environment Protection Regulations* 2021** and the ***Environmental Reference Standard* 2021**.

Depending on their location, activities and surrounding environment, Victorian sites may also have obligations under the following legislation:

- *Water Act* 1989
- *Catchment and Land Protection Act* 1994
- EPA Publication 1827.2, *Waste Classification Assessment Protocol,* 2020
- *Dangerous Goods Act* 1985
- *Dangerous Goods (Storage and Handling) Regulations* 2012
- *Climate Change Act*, 2017
- *Climate Change Regulations*, 2017

6.1.3 NSW

In NSW, quarries are primarily Regulated by the EPA and are issued licences under the ***Protection of the Environment (Operations) Act* 1997** and must comply with the relevant sections of the ***Protection of the Environment (General) Regulation* 2021**. New quarries and concrete plants in NSW generally require a Development Consent issued under the ***Environmental Planning and Assessment Act* 1979**.

Depending on their location, activities and surrounding environment, sites in NSW may also have obligations under the following legislation:

- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries)* 2007
- *Noise Policy for Industry* 2017
- *Waste Avoidance and Resource Recovery Act*, 2001
- *Protection of the Environment Operations (Waste) Regulation 2014*
- *Dangerous Goods (Road and Rail Transport) Act*, 2008
- *Dangerous Goods (Road and Rail Transport) Regulation*, 2014

6.2 Other Compliance Obligations

6.2.1 Commonwealth

- *Australian Code for the Transport of Dangerous Goods by Road & Rail*, 2020

6.2.2 Victoria

In Victoria standards and guidelines can be considered examples of reasonably practicable measures to minimise risks as far as reasonably practicable, which is required by the General Environmental Duty given by Section 25 of the Environment Protection Act. In practice controls must be equal to or better than those presented in the standard or guideline, unless the alternative is well justified.

There is a quite a lot of guidance developed by Regulators and industry groups, so these have been listed in Appendix A.

6.2.3 NSW

Under the POEO Act in NSW it is an offence to cause harm to the environment. A defence to that offence is that reasonable precautions were taken, and due diligence exercised, to prevent the harm. Available guidance would be considered in determining "reasonable precautions". The NSW EPA website contains some reasonably detailed guidance but few discrete guidance documents. Relevant documents are listed in Appendix A.

7 Environmental Objectives

Mawsons Social Responsibility Policy (GOV-POL-001 describes Mawsons environmental objectives, in summary:

- Compliance with legislative obligations
- Continuous improvement in environmental performance and sustainability
- Resource efficiency and waste minimisation
- Organisational capability in environmental protection and conservation

At an operational level, Mawsons describes environmental objectives in company-wide environmental management plans that each address a specific environmental topic. The objectives included in these plans include:

- Efficient use of energy and the generation and use of renewable electricity
- Conservation and recycling of water and responsible rainwater harvesting
- Use of alternative cementitious materials
- Minimization and recycling of waste
- Tree planting and the use of offsets – area protected/rehabilitated > area disturbed
- Safe storage, handling and disposal of dangerous goods and hazardous substances
- Preservation and improvement of groundwater and soil quality
- Building capability of operations and management teams
- Developing and maintaining positive relationships with local communities

Environmental objectives for specific sites are contained within the risk treatment plans that are part of the risk management plan which is a fundamental component of the work plan approved under the MRSDA.

8 Risk Treatments and Compliance Management

A range of management plans and processes are employed at strategic, operational, and tactical levels of the company, as described below.

8.1 Strategic

The company-wide *Social Responsibility Policy* (GOV-POL-001) describes Mawsons' commitments to environmental protection and sustaibability, social procurement and local community support, and prevention of modern slavery.

The Resource Development and Environmental Management Team maintains flow charts that describe the approvals processes for new developments and significant changes to existing operations. These documents trigger applications for statutory approvals where required.

8.2 Operational

Mawsons has management plans that apply company-wide and describe its approach to managing risks and compliance obligations associated with the following environmental aspects:

- Waste
- Bushfire
- Pests and weeds
- Noise
- Erosion and sediment
- Hydrocarbons and chemicals
- Air quality
- Greenhouse gas emissions

These management plans also provide for delivery of the objectives described in Section 7.

8.3 Site-Specific

Where risks, controls, or compliance obligations vary depending on location and/or environment, site-specific documents have been produced. These include:

- Risk management plan, including risk register and risk treatment plans
- Waste inventory and disposal map
- Bushfire access map
- Weed identification map
- Community Engagement Plan
- Surface Water and Groundwater Plan
- Chemical storage map
- Rehabilitation Management Plan
- Blast Management Plan
- Biosecurity Management Plan
- Hazardous Materials Management Plan

9 Monitoring

The monitoring program is comprised of:

- Daily inspections by site managers, recorded in the site diary if an issue is identified.
- 6-monthly inspections by the Environment and Compliance Manager confirming effective management of all environmental aspects. Inspection results are recorded in MawCentral.
- Monthly area inspections for waste management practices.
- Pest and weed inspections completed annually in spring and stored within ArcGIS to determine effectiveness of management strategies.
- Noise and vibration monitoring conducted in accordance with Work Authority and Licence requirements. Records of noise and vibration associated with blasts are stored in the blasting database. Other compliance monitoring results are stored within MawCentral.
- Air quality monitoring, including on-going visual inspection of dust generated on site and hourly assessment of dust on hot, dry, and/or windy days. Scheduled monitoring to demonstrate compliance is stored in MawCentral.
- Surface water and groundwater monitoring. Records are stored within MawCentral.
- Rehabilitation effectiveness is monitored visually through assessment of aerial photos sorted within Propeller. Surveys are stored within ArcGIS.
- Annual review of electricity and diesel consumption, and greenhouse gas emissions, to determine if thresholds for NGER Act reporting have been reached. Records are stored within the accounting system.

Monitoring results for quarries in NSW that are licensed under the POEO Act are reported to the Environment Protection Authority annually. To facilitate the preparation of the reports, Site Managers are required to provide monitoring data to the Environment and Compliance Manager after each licence anniversary.

10 Incidents, Complaints, Non-Compliance & Non-Conformity

Incident response and reporting requirements are described in Mawsons' *Incident Management Procedure* which applies to all operations across the company.

Non-compliance with legislative obligations is considered an incident and managed as such under the *Incident Management Procedure*.

Non-conformity refers to a failure to follow the requirements of the environmental management system described in this manual, including environmental management plans and site-specific management plans.

Complaints regarding environmental aspects are managed by site managers in consultation with the Environment and Compliance Manager, as described in the *Quarry Complaints Management Process* (QUA-GUI-003).

Incidents, complaints, and non-conformities are recorded in an electronic management system called O4I (Opportunities for Improvement) which tracks actions required to rectify the issue.

11 Roles & Responsibilities

11.1 Summary of Responsibilities

Role	Responsibilities
Managing Director	Ultimate responsibility for legislative compliance Demonstrate commitment to environmental protection and sustainability Endorse strategic objectives
Quarry Operations General Manager Concrete General Manager Technical General Manager Transport General Manager	Demonstrate commitment to environmental protection and sustainability Allocate resources to deliver strategic objectives Endorse operational objectives
Environment and Compliance Manager	Develop strategic and operational objectives Implement systems and manage resources to deliver objectives, maintain compliance with environmental legislation and control environmental risks. Guide and support site managers in the implementation of environmental controls, including training, monitoring, and reporting.
Resource Development Manager	Liaise with upper and quarry management to identify development opportunities while minimising impacts to the environment
Quarry Site Managers Concrete Site Managers	Demonstrate respect for the environment and commitment to sustainability. Endorse and implement site-specific environmental management plans. Guide and support operators and contractors in compliance with environmental plans and general respect for the environment. Manage and investigate environmental incidents and complaints.
All employees	Respect the environment. Understand the environmental risks associated with the activities that they are involved in and implement the relevant control measures. Identify environmental hazards.
Contractors	Respect the environment. Understand Mawsons commitment to environmental protection and sustainability. Understand the environmental risks associated with the activities that they are involved in and implement the relevant control measures. Identify environmental hazards.

11.2 Awareness

11.2.1 Leadership

The Environment and Compliance Manager engages with the CEO and GMs Quarries and Concrete on an annual basis to:

- Communicate the broad environmental compliance and risk profile of the organisation and measures in place to maintain control
- Confirm environmental objectives
- Agree resourcing

11.2.2 Operations

The Environment and Compliance Manager engages with site managers and operators approximately annually to:

- Facilitate awareness of organisational environmental values
- Facilitate understanding of site-specific environmental management plans
- Provide training in implementation of control measures and conduct of monitoring
- Monitor environmental performance

11.2.3 External Stakeholders

Environmental and Social Responsibility Policies are available on the Mawsons website for any interested party, as are contact details for anyone wishing to contact the organisation.

Details of environmental management are provided to Regulators, customers, and other interested parties on an as needs basis.

Pollution Incident Response Management Plans for NSW quarries licensed by the EPA are provided on the Milbrae website.

11.3 Capability

Mawsons employs an Environment and Compliance Manager and a Resource Development Manager who have qualifications and experience in environmental management.

The organisation is committed to the development of training materials that communicate its environmental values, objectives, and management processes. This includes the risk controls described in environmental management plans as relevant to the person undertaking training.

The Environment and Compliance Manager works with Site Managers and Operators to build the capability required to implement environmental management strategies and actions.

Standard operating procedures, safe work method statements, job safety analyses are used to ensure that all personnel undertaking operations with potential for environmental impact understand the risks and are capable of implementing preventative and mitigative controls.

12 Management Processes

12.1 Risk Review

On an annual basis the Resource Development and Environmental Management Team will review environmental risks across the organisation and present findings to senior management.

12.2 Maintaining Compliance

Compliance obligations are reviewed and updated during two-yearly review of environmental management procedures. Changes to obligations that are relevant to operations will be communicated to Site Managers at the time of review.

12.3 Non-Conformity and Corrective Action

Records from O4I will be reviewed to assess the effectiveness of the EMS and identify opportunities for improvement. Opportunities for improvement will be included in the planning process and prioritised in relation to other commitments and objectives.

12.4 Management Review

Every second year, a management review of the EMS will be undertaken. The intent of the review is to determine if environmental objectives are being achieved, legislative compliance requirements met, and risks adequately controlled.

The review will include:

- Environmental monitoring results
- Incidents, legislative compliance, and conformance to environmental management procedures
- Risk registers/review report
- Currency of procedures
- Training records
- Resource development opportunities
- Changes to activities and the operating environment.

A review report will be produced and presented to senior management.

12.5 Planning

Taking the information generated by the Management Review and planning for achievement of environmental objectives.

- Update Environmental Objectives (Section 7)
- Consider organisational commitments and objectives broader than environmental
- Establish environmental management targets and actions
- Allocate resources and assign roles
- Integrate environmental management activities into broader business planning processes, e.g. budgeting.

12.6 Documentation

12.6.1 Controlled documents

Documents are managed within MawCentral under EBM (controlled documents system), which is managed by the Learning and Development Management Team. The document management system provides unique identifiers and review and approval requirements for controlled documents.

In relation to the EMS, controlled documents include:

- This manual
- Company-wide, topic-specific Environmental Management Plans
- Statutorily approved Work Plans
- Site-specific management plans and maps
- 6-monthly site-inspection protocols

12.6.2 Records management

Records relating to environmental management of quarries, including review reports, monitoring results and inspection reports, are managed in a shared drive under specific folder structure as outlined in Resource Development Records Management QUA-GUI-001.

Environmental records for concrete plants are stored in MawCentral.

Appendix A: Guidance Documents

Earth Resource Regulator (Victoria) Publications

- *Preparation of Work Plans and Work Plan Variations: Guideline for Extractive Industry Projects*, 2020
- *Code of Practice for Small Quarries*, 2010

EPA Victoria Publications

- Publication 1741 *Industry Guidance: Supporting You to Comply with the General Environmental Duty*, 2019
- Publication 1695.1 *Assessing and Controlling Risk: A Guide for Business,* 2018
- Publication 1823.1 *Mining and quarrying – guide to preventing harm to people and the environment*, 2021
- Draft Publication 1961 *Guideline for Assessing and Minimising Air Pollution for Victoria*, 2021
- Publication 1191 *Protocol for Environmental Management: Mining and Extractive Industries*, 2007
- *Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry*, 2002
- Publication 1806 *Reducing Risk in the Premixed Concrete Industry* 2019
- Publication 982 *Reducing Stormwater Pollution from Concreting Operations* 2005
- Publication 1411 *Noise from industry in Regional Victoria* 2011
- Publication 1518 *Recommended Separation Distances for Industrial Residual Air Emissions,* 2013
- Publication 1730 *Solid Storage and Handling Guidelines,* 2019
- Publication 1698 *Liquid Storage and Handling Guidelines*, 2018

EPA NSW Publications

- *Construction and Demolition Waste: A Management Toolkit*, 2020
- *Waste Classification Guidelines*, 2014
- *Handling Liquid Waste* (Fact Sheet) 2005
- *Storing Liquid Waste* (Fact Sheet) 2005
- *Responding to Spills* (Fact Sheet) 2005
- *Reducing Liquid Waste Through Cleaner Production* (Fact Sheet) 2005

Industry Guidelines

The following guidelines have been produced by Cement Concrete & Aggregates Australia, a peak body for the heavy construction materials industry.

- *First Flush and Water Management Systems: Guide and Principles*, 2013
- *Guidelines for Delivery of Bulk Cementitious Products to Premixed Concrete Plants,* 2018

Waste Management Plan v1

ENV-PLA-006



	Title	Name	Date
Creator:	Resource Development Manager	C Ward	16/03/2022
Reviewed	Environment and Compliance Manager	S Rankin	24/06/2022
Reviewed	General Manager Quarries	D Brown	
Reviewed	Concrete Manager	T Price	

Contents

1 Introduction 3
2 Purpose and Objectives 3
3 Definitions 3
4 Activities 4
4.1 Wastes from Quarrying 4
4.2 Concrete Plant Wastes 4
5 Existing Environment 4
6 Potential Environmental Impacts 4
7 Legislative Context 5
7.1 Commonwealth Legislation 5
7.2 Victorian Legislation 5
7.3 NSW Legislation 6
7.4 Site-Specific Licences and Authorities 7
8 Management Controls 7
8.1 Management Controls – Quarries 7
8.2 Management Controls – Concrete Plants 8
9 Monitoring 9
10 Records 9
11 Roles and Responsibilities 9
12 Training 10
13 Review and Audit 10
14 Document History 10
Appendix A: Guidelines 1
Appendix B: Schematic of Concrete Plant Waste Management 1

1 Introduction

Mawsons quarrying and concrete plant operations reuse and recycle the majority of waste that they produce. Waste management is an integral aspect of Mawsons Environmental Management System and risk management framework which ensure that all wastes are stored, handled, and disposed of in accordance with legislative requirements, and in a manner that minimises environmental impact. This plan has been prepared in accordance with relevant legislative requirements and associated standards and guidelines.

2 Purpose and Objectives

The purpose of the Waste Management plan is to describe the wastes generated at Mawsons quarries and concrete plants and management processes that provide for minimisation and appropriate storage, handling, and disposal, in accordance with legislative obligations and industry best practice.

The objectives of the Waste Management Plan are to:

- Minimise the volume of waste disposed to landfill through reducing resource consumption, segregating different waste materials, and reusing or recycling where possible.
- Minimise potential impacts to land and water through poor or improper waste management practices, including potential contamination associated with hazardous wastes.
- Provide clear guidance to Site Managers and Operators regarding appropriate management processes for the different types of waste that may be generated.

3 Definitions

Waste: matter that is discarded, rejected, abandoned, unwanted or surplus, irrespective of any potential use or value.

Industrial Waste: waste arising from commercial, industrial, or trade activities, or from laboratories.

Priority Waste: Refers to waste generated from commercial or industrial sources that are potentially hazardous to humans or the environment and require a higher level of control, or are important in terms of resource efficiency (EP Act S.138).

Recyclable Waste: Refers to materials which can be removed from site and processed for reuse in a different form. Several types of recyclable waste are generated on site, including scrap metal, paper, cardboard, glass, aluminium cans, plastic bottles, poly pipe, batteries, E-waste, cable reels and timber pallets.

General Waste: Non-hazardous and non-recyclable wastes, such as waste generated in kitchens, offices, workshops and crib rooms.

Reusable: Refers to materials that can be used again in the same or a different form.

4 Activities

4.1 Wastes from Quarrying

- Topsoil and overburden removed to expose valuable quarry products.
- Excess groundwater or surface run-off water removed from quarry pit
- Wastewater from washing stones or extracting sand
- Acid sulfate soil
- Oils, oily rags, and parts from equipment maintenance
- Office and lunchroom wastes, including paper, plastic, printer cartridges, packaging, and food scraps.

4.2 Concrete Plant Wastes

- Excess wet concrete
- Excess dry concrete
- Wastewater from rinsing out agitators
- Wastewater from washing trucks
- Wastewater from washing or rinsing plant
- Stormwater contaminated with dust and/or cement
- Oils, oily rags, and parts from equipment maintenance
- Office and lunchroom wastes, including paper, plastic, printer cartridges, packaging, food scraps, and sewage.

5 Existing Environment

Mawsons quarries are generally located in rural areas and concrete plants in rural or industrial areas, with low residential density. Some of Mawsons sites are near significant waterways, and some have residential neighbours reasonably close by.

Site specific waste management maps will show the natural and physical environments where activities are conducted, and include sensitive receptors, waste storage locations, and other waste management controls.

6 Potential Environmental Impacts

Potential impacts from improper waste management include the following:

- Contamination of land
- Groundwater contamination
- Surface water pollution
- Contamination of air (e.g. odour)
- Biodiversity disturbance or degradation
- Altered visual amenity
- Noncompliance with legislative obligations, including license/authorisation conditions
- Unnecessary resource consumption
- Unnecessary use of landfill space

7 Legislative Context

Legislation, regulatory standards, and guidance materials applicable to the management of waste are described int the following sub-sections.

7.1 Commonwealth Legislation

7.1.1 Australian Code for the Transport of Dangerous Goods by Road & Rail

The Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.7, 2020 (ADG Code) is not legislation but is called up in State legislation and, as a result, effectively becomes a legislative compliance obligation.

The ADG Code provides a national system for the transport of dangerous goods, including classification, labelling, packaging, and documentation requirements. It also provides requirements for stowage and segregation.

7.2 Victorian Legislation

7.2.1 Mineral Resources (Sustainable Development) Act 1990

Quarries are required to have a Work Authority issued under the Mineral Resources (Sustainable Development) Act 1990 (MRSDA). A Work Authority can only be granted following approval of a Work Plan developed in compliance with the requirements of the MRSDA, which include identification and minimisation of risks to the environment, the public, land, property, or infrastructure in the vicinity of the activity.

7.2.2 The Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019

The Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019 (MRSD(EI) Regs) prescribe the information required in Work Plans (R.8). This information includes a general description of quarry operations relating to waste disposal methods and facilities.

7.2.3 Environment Protection Act 2017

Quarries and concrete plants must comply with the Environment Protection Act 2017 (EP Act). The EP Act imposes a number of Duties that provide for protection of human health and the environment, from the harmful effects of pollution and waste.

The Duties that are particularly relevant to management of waste are:

1. The General Environmental Duty (GED), which requires operators to understand the risks associated with their activities and minimise them as far as reasonably practicable.
2. Duty of person depositing industrial waste, requiring confirmation that the receiver is authorised to receive the waste being deposited.
3. Duty of person managing priority waste, requiring classification, safe storage, and provision of information to transporters.
4. Duty to investigate alternatives to disposal of priority waste, by taking all reasonable steps to identify and assess alternatives to disposal.

The EP Act also contains duties relating to incidents and contamination that may be caused by waste. These are addressed in site-specific environmental management plans.

To meet the obligation to minimise risks as far as reasonably practicable, relevant guidelines and industry standards must be considered. A list of EPA guidelines relevant to the types of waste that Mawsons sites may produce are provided in Appendix A.

7.2.4 Environment Protection Regulations 2021

The Environment Protection Regulations 2021 (EP Regs) provide detailed requirements for classification of industrial waste. Industrial waste is any waste arising from commercial, industrial or trade activities, or from laboratories.

Under the EP Regs a person disposing of industrial waste must classify that waste in accordance with the EP Regs to determine applicable code or codes and whether it is also a priority waste.

Specific clauses require all reasonable steps to be taken to ensure that septic systems are operated so as not to pose a risk of harm to human health or the environment.

7.2.5 Publication 1827.2 Waste Classification Assessment Protocol 2020

EPA Victoria Publication 1827.2 *Waste Classification Assessment Protocol* 2020 is called up by the EP Regs and, therefore, compliance with the Protocol becomes a legislative requirement. This means that waste produced during the course of Mawsons quarrying activities must be classified in accordance with the Protocol.

7.2.6 Preparation of Work Plans and Work Plan Variations: Guideline for Extractive Industry Projects 2020

The Department of Jobs, Precincts and Regions publication *Preparation of Work Plans and Work Plan Variations: Guideline for Extractive Industry Projects* 2020 provides guidance on risk treatments for "rubbish or industrial wastes (as defined by EPA)". To comply with the GED, this guidance should be considered when determining risk minimisation measures for waste.

7.2.7 Dangerous Goods Act 1985

The objectives of the Dangerous Goods Act include:

- to promote the safety of persons and property in relation to the manufacture, storage, transport, transfer, sale and use of dangerous goods and the import of explosives into Victoria.
- to ensure adequate precautions are taken in the storage and handling of dangerous goods and incidents are reported to relevant parties.
- to provide for sharing of information, allocation of responsibilities, and licensing.

7.2.8 Dangerous Goods (Storage and Handling) Regulations 2012

The Dangerous Goods (Storage and Handling) Regulations sets out specific duties of an occupier of a premises where dangerous goods are stored and handled. These duties include:

- consulting with workers and providing information, training, and supervision
- identification of hazards and control of risks
- preparedness for incidents and emergencies, response, and notification

7.3 NSW Legislation

7.3.1 Protection of the Environment Operations Act 1997

The Protection of the Environment (Operations) (POEO) Act provides for the licensing of quarries (extractive industries), with conditions relating to waste management. It establishes offences for pollution and harm to the environment and imposes a duty to notify relevant authorities of pollution incidents. The POEO Act requires that waste is deposited at a facility that can lawfully accept the waste.

7.3.2 Protection of the Environment Operations (Waste) Regulation 2014

The POEO (Waste) Regulations provide for tracking of potentially harmful wastes, including obligations on the consignor to have the required documentation and ensure that the receiving facility can lawfully accept the waste. The POEO (Waste) Regulation also limits the distances over which waste can be transported.

7.3.3 Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery (WARR) Act promotes waste avoidance and resource recovery. It provides for the development of Waste Strategies which may contain responsibilities for industry.

7.3.4 Dangerous Goods (Road and Rail Transport) Regulation 2014

The Dangerous Goods (Road and Rail Transport) Regulation provides that a person must not consign dangerous goods for transport if there is a special provision that applies to the transport of those goods. These regulations also establish responsibilities for consignors in relation to labelling and placarding of dangerous goods for transport, the adequacy of vehicles to be used for transport, suitability of stowage and segregation, documentation, and emergency management.

7.3.5 NSW EPA Guidelines

NSW EPA has published a number of documents that provide guidance on the management of waste. A list of relevant publications is provided in Appendix A.

7.4 Site-Specific Licences and Authorities

Mawsons Quarries in NSW are licensed under the POEO Act and regulated by the EPA. These licences typically include a condition that requires that handling of waste generated by the activity is carried out in a competent manner. In Victoria, quarries are required to be authorised under the MRSD Act and comply with approved Work Plans.

8 Management Controls

To manage the effective reduction, reuse, and recycling of waste, materials need to be separated at the source of use, prior to disposal. Appropriate segregation of waste streams facilitates reuse and recycling and improves the quantification of waste types and volumes, allowing potential waste management improvements to be identified. Segregated waste will be disposed of in designated bins or stored in appropriately marked containment bays located across the site. Effective collection and disposal of waste items can then occur.

In Victoria and NSW environmental legislation defines waste as matter that is released into the environment or matter that is unwanted, amongst other things. Whilst excess materials from some quarrying and concrete processes are considered wastes in relation to those processes, for example overburden or wash-waters, they are generally reused on site and, as such, don't meet the legislative definition of waste.

Waste that is to be disposed of must be classified in accordance with guidance provided by the Environment Protection Authorities (Victoria and NSW), and disposed of at appropriately licensed facilities.

8.1 Management Controls – Quarries

A schematic of waste management at concrete plants is provided as Appendix B.

8.1.1 Topsoil and Overburden

Topsoil and overburden are stockpiled on site for reuse in quarry rehabilitation.

8.1.2 Dewatering

Groundwater and surface run-off that are removed from quarry pits by dewatering are generally managed on site. Dewater is pumped from the quarry pit to a holding dam and reused in processing plants. If volumes in holding dams build up and the site is licensed or authorised to discharge to the environment, and water quality meets licence or Work Authority limits, water may be released from holding dams to surface waters or to land.

8.1.3 Process Wastewater

Wastewater from washing stones or extracting sand in processing plants is discharged to a settling pond or channel before being released to the holding dam for reuse or potential off-site discharge.

8.1.4 Acid sulfate soils

If acid sulfate soils are suspected they are left in situ, contained to prevent run-off, sampled and analysed to determine if they are acidic and managed in-situ to minimise exposure and prevent acid run-off.

8.1.5 Oils, oily rags, and parts

Wastes generated by maintenance of plant and equipment are considered generated by the maintenance contractor and removed from site by that contractor for appropriate disposal.

8.1.6 General Waste

Quarries generate small volumes of office and lunchroom waste and have a skip bin serviced by a commercial waste provider to dispose of it. Site Managers may take office recyclables to the local transfer station for recycling.

8.1.7 Septic Waste

Septic systems are serviced as needed to maintain the system in good working order. In Victoria, septic waste is classified as a Priority Waste under Schedule 5 of the EP Regs (Waste Code K410) and must be collected by a person who understands that it is a priority waste and the risks it presents to human health and the environment and has assessed alternatives to disposal.

8.2 Management Controls – Concrete Plants

A schematic of waste management at concrete plants is provided as Appendix C.

8.2.1 Wet Concrete

Excess wet concrete is laid down near the waste concrete bunker and allowed to dry. Once dry it is broken up and transferred to the waste concrete bunker by front-end loader.

8.2.2 Dry Concrete

Waste dry concrete is collected in the waste concrete bunker and when a truck load has accumulated is taken to the nearest quarry for crushing for reuse as aggregate for green concrete.

8.2.3 Agitator Rinse-Out Wastewater

Agitators are rinsed out into wash out pits. In the wash out pits, solids settle on the bottom and water is drained off the top. The solids are allowed to dry out and then broken up and transferred by front-end loader to the waste concrete bunker. The water is pumped to recycled water storage tanks and used in the concrete production process.

8.2.4 Truck-Washing Wastewater

Wastewater from washing the outsides of agitator trucks is collected and pumped to recycled water storage tanks for use in concrete production.

8.2.5 Plant Cleaning Wastewater

Wastewater from rinsing or washing fixed plant is collected and pumped to recycled water storage tanks for use in concrete production.

8.2.6 Contaminated Stormwater

Sealed areas drain to the truck washing bay where water is collected for pumping to recycled water storage tanks for use in concrete production.

8.2.7 Maintenance Waste

Trucks are not serviced on site and consequently site does not generate oily waste. Plant maintenance contactors take any waste generated by their activities away with them.

8.2.8 General Waste

Concrete plants generate small volumes of office and lunchroom waste and have a skip bin serviced by a commercial waste provider to dispose of it.

8.2.9 Septic Waste

Septic systems are serviced as needed to maintain the system in good working order. In Victoria, septic waste is classified as a Priority Waste under Schedule 5 of the EP Regs (Waste Code K410) and must be collected by a person who understands that it is a priority waste and the risks it presents to human health and the environment and has assessed alternatives to disposal.

9 Monitoring

Site Managers monitor water for reuse at least weekly to prevent uncontrolled release.

Concrete Plant Managers monitor dry concrete waste storage daily to determine timing for trucking to quarries for reuse.

Mawsons Environmental Team will provide 6-monthly site inspections that include consideration of waste management and confirm that wastes other than water are being appropriately managed, including inspection of the septic system to assess the need for servicing.

10 Records

Records of septic system maintenance must be retained.

Records of any off-site release of water, in accordance with a licence or authorisation, must be retained, including results of analysis that demonstrate suitable quality.

Records of general waste services should be retained.

11 Roles and Responsibilities

Management of waste is ultimately the responsibility of the Site Manager.

Role	Responsibility
Quarry Manager Concrete Plant Manager	Identify waste reduction and recycling opportunities. Ensure waste management requirements are included in contractor agreements.
All employees	Undertake operational activities in a manner which minimises waste.
Environment & Compliance Manager	Provide technical support to Site Managers regarding waste management issues, including regulatory requirements. Provide a 6-monthly site inspection that considers waste management.

12 Training

It is important to provide training and further development of Site Managers and operational personnel to inform them of possible hazards associated with the waste, and measures in place to ensure waste is appropriately managed. This will be achieved through the company's induction program, and toolbox talks.

It is the responsibility of the Site Manager to ensure all quarry personnel undertake training to understand waste management, and for each site personnel to know their role(s) and responsibilities.

13 Review and Audit

Refinement of Mawsons waste management practices will be assessed routinely based on data collated by waste contractors.

This procedure will be reviewed and updated every five years or in response to significant changes to activities or legislative obligations.

14 Document History

Revision	Date	Amended By	Reason for Change
0	25/05/21	C Ward	Document Created
1	25/05/2022	Progressive Environmental	Review legislative obligations, include information relevant to concrete plants, update guidance on management of specific waste types.

Appendix A: Guidelines

EPA Victoria

Publication 1976 Guidance for owners & occupiers of land with an OWMS ≤5,000 litres on any day (including septic tank systems) 2021

Publication 1968 Guide to Classifying Industrial Waste 2021

Publication 1828.2 Waste Disposal Categories – Characteristics and Thresholds 2021

Publication 1872.2 Waste Classification Assessment Protocol 2021

Publication 655.1 *Acid Sulfate Soil and Rock* 2009

EPA NSW

Publication 0796 *Waste Classification Guidelines – Part 1: Classifying Waste* 2014

Publication 0559 Addendum to *Waste Classification Guidelines – Part 1: Classifying Waste* 2014

Publication 0798 *Waste Classification Guidelines – Part 1: Acid Sulfate Soils* 2014

Appendix B: Schematic of Concrete Plant Waste Management



Attachment B – Conditions of Consent

(1) Partial Consent

In accordance with the provisions of Section 4.16(4) and Section 4.22 of the Environmental Planning and Assessment Act 1979, Council grants consent to the following parts of the development covering the following components:

1. Subdivision of 100 residential lots and 1 open space reserve with associated infrastructure works in nine (9) stages
2. In principle, approval for a single dwelling on each of the 100 residential lots (building envelope)

Prior to proceeding to any subsequent part of the development, a separate development application must be submitted and consent gained for that subsequent part. A development application for a proposed dwelling on a lot must not be lodged until the subdivision plan for the stage creating that lot has been registered with NSW Land Registry Services.

Administrative Conditions

The development must be carried out in accordance with the following conditions of consent.

(2) Approved Development

Development consent has been granted for Concept Proposal and Staged Development Application for the subdivision of 100 residential lots and 1 open space reserve with associated infrastructure works in nine (9) stages and the development of a single dwelling on each lot at Lot 1 DP 1278203 and Lot 286 DP 1196929 Boorga Road LAKE WYANGAN.

It is advised that the proposed development has been assessed in regard to the provisions of the Griffith Local Environmental Plan 2014 and is a subdivision under Clause 2.6 and Clause 4.6 of the Plan and dwellings, which is defined as:

dwelling means a room or suite of rooms occupied or used or so constructed or adapted as to be capable of being occupied or used as a separate domicile.

The development must be implemented in accordance with Development Application No. 91/2026(1) accepted by Council on 22 May 2026 and the below mentioned plans and/or documents, except where amended in red on the attached plans or modified by the conditions of this consent.

Drawing / Plan	Date Accepted by Council	Prepared or Drawn By
Subdivision and Concept Plans (26/98905)	10 August 2026	JZ Management
Document	**Date Accepted by Council**	**Prepared or Drawn By**
Statement of Environmental Effects (26/98903 & 26/52451)	11 August 2026	MiaPlan
Geotechnical report (26/52789)	22 May 2026	Aitken Rowe Geotechnical Engineering

If there is any inconsistency between the approved plans and documents referred to above, the conditions shall prevail.

(3) Subdivision Works Certificate

In accordance with the provisions of Part 6, Divisions 6.2 and 6.4 of the Environmental Planning and Assessment Act 1979, a person must not carry out subdivision works until such time as:

a. A Subdivision Works Certificate has been obtained from either Griffith City Council.
b. A Principal Certifier has been appointed; and
c. The person with the benefit of the development consent has given at least two (2) days notice to Griffith City Council and the Principal Certifier of the person's intention to commence the subdivision works.

Note 1:Should the plans submitted with the Subdivision Works Certificate differ substantially from the plans approved as part of the development consent then a Section 4.55 modification of consent will be required to be made to Council.

(4) Subdivision Works Certificate

An application for a Subdivision Works Certificate shall be submitted to Council and approved for the stormwater, potable water, and roadworks to be constructed. Detailed engineering design plans shall be submitted to Council for approval and a Subdivision Works Certificate is to be obtained prior to any Civil Works commencing. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The requirement must conform to Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Austroads specifications.

(5) Provision of Services

The applicant is to be responsible for all amplification, extension and adequate provision for connection to services at their own expense. The work is to be in accordance with Council's Engineering Guidelines – Subdivisions and Develo*pment Standards* and relevant authorities' specifications.

(6) Lapsing of Consent

In accordance with Section 4.53 of the Environmental Planning and Assessment Act, 1979 this consent is valid for a period of five (5) years from the date of consent.

Note 1: Development consent for the purpose of the erection of a building or the subdivision of land or the carrying out of a work does not lapse if building, engineering or construction work relating to the development is lawfully and physically commenced on the land to which the consent applies before the date on which the consent would otherwise lapse.

Note 2: Development consent for the purpose of the use of the land, building or work the subject of the consent does not lapse if it is actually commenced the date on which the consent would otherwise lapse.

(7) Damage to Council property

If any damage is occasioned to Council property during construction and associated works (of any stage), the cost of repairs will be recoverable. It is therefore requested that any damage which is obvious before works commence be immediately notified to Council to avoid later conflict.

(8) Existing Services

The applicant must check that the proposed works do not affect any Council, electricity, telecommunications, gas or other services. Any required alterations to services will be at the developer's expense.

(9) Tree Preservation

The applicant is advised that the land is subject to Council's Tree Policy and the requirements of that policy are to be strictly adhered to. Should the applicant/owner require advice in this regard they are to contact Council's Parks and Gardens Department.

(10) Contaminated land - unexpected finds

In the instance that works cause the generation of odours or uncovering of previously unidentified contaminants, works must immediately cease, Council is to be notified and a suitably qualified environmental consultant appointed to further assess the site.

The exposed material/excavation is to be assessed by the environmental consultant and determine an appropriate response in consultation with the applicant, which is agreed to by Griffith City Council, in order to make the site safe from potential human health and environmental harm.

(11) Aboriginal Heritage

No Aboriginal objects may be harmed without an approval from Heritage NSW under the National Parks and Wildlife Act 1974.

If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:

(a) Not further harm the object(s).
(b) Immediately cease all work at the particular location.
(c) Secure the area so as to avoid further harm to the Aboriginal object(s).
(d) Notify the NSW Environment Line as soon as practical by calling 131 555 or emailing: info@environrment.nsw.gov.au, providing any details of the Aboriginal object and its location.
(e) Not recommence any work at the particular location unless authorised in writing by Heritage NSW.

If harm to Aboriginal objects cannot be avoided, an application for an Aboriginal Heritage Impact Permit must be prepared and submitted to heritage NSW before work may continue.

In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and the Department contacted of Planning, Industry and Environment

(12) Other Cultural Heritage

Should any cultural artefacts, archaeological relics or any object having interest due to its age or association with the past be located during the course of works, all works are to cease immediately and notification shall be provided to the Office of Environment and Heritage in accordance with the *National Parks and Wildlife Act 1974*. Work shall not recommence in the area until this is authorised by the Office of Environment and Heritage.

Note. Depending on the significance of the object uncovered, an archaeological assessment and excavation permit under the Heritage Act 1977 may be required before further the work can continue.

(13) Clearing of Vegetation

Vegetation shall not be burned on the site. All vegetation that is approved to be cleared to allow the development shall be either relocated, chipped and/or mulched and removed from the site for disposal at an approved waste recycling or management depot.

Prior to the issue of a Subdivision Works Certificate

Prior to commencing subdivision works you will need a Subdivision Works issued by Council. Before this certificate can be issued, compliance with the following conditions is to be demonstrated.

ALL STAGES

(14) Soil Erosion and Silt Control

Control measures are to be utilised to prevent soil erosion and silt entering the drainage systems. **Prior to the issue of a Subdivision Works Certificate for each stage** details of the proposed measures utilising the principles outlined in following document, *Soils and Construction – Managing Urban Stormwater by Landcom (Blue Book)* are to be submitted to Council for approval and implemented before, during and after development works.

(15) Tile Drainage System

If tile drainage exists then appropriate treatment is required to obviate the collection of underground waters in unwanted places.

Prior to the issue of a Subdivision Works Certificate for each stage drawings are to be submitted to Council confirming the location of the existing tile drainage system. The drawings are to detail the disconnection of the tile drainage system from Murrumbidgee Irrigations drainage infrastructure. The plans must also clearly identify the points at which the tile drainage lines cross property boundaries and specify that the tile drainage lines are to be broken and capped at these locations.

The works relating to the disconnection of the tile drainage from Murrumbidgee Irrigations drainage infrastructure is to be inspected by a representative from Murrumbidgee Irrigation. A representative from Griffith City Council is required to inspect the disconnection of the tile drainage where it crosses property boundaries.

(16) Stormwater Drainage

Adequate arrangements are to be made for the disposal of stormwater. **Prior to the issue of a Subdivision Works Certificate for each stage**, detailed design drawings and hydraulic calculations for each stage of the development are to be submitted to and approved by Council for the development. The stormwater drainage system is to connect to the proposed trunk stormwater main located on Druitt Road in accordance with Council's Detailed Design.

All works relating to stormwater are be designed and constructed in accordance with the Griffith Residential Development Control Plan 2020, the Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Council's Engineering Guidelines – Subdivisions and Development Standards and Council's Stormwater Drainage and Disposal Policy (CS-CP-310). Where stormwater runoff is to cross property boundaries, easements will be required in accordance with Section 88B of the Conveyancing Act.

A qualified Civil Engineer with experience in Hydraulic Analysis are to design and certify the stormwater system. The consultant must sign off all drawings and calculations and provide details of Professional Indemnity insurance.

(17) Extension of Council's sewer main

Detailed design drawings of the proposed gravity sewer system for each stage of the development is to be submitted to and approved by Council **prior to the issue of a Subdivision Works Certificate for each stage**. The sewer system is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the east of the development. All sewer mains are to be designed and constructed at the front of allotments with in the property boundary. The design for pipelines, as well as manholes and other associated components normally associated with sewerage main installations are to comply with the standards prescribed in Council's Engineering Guidelines- Subdivisions and Development Standards and the Water Services Association of Australia - Gravity Sewerage Code of Australia (WSA 02—2014).

(18) Design Drawings

Design drawings for all roadworks, footpaths, stormwater drainage, landscaping, water and sewer infrastructure are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for each stage**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020, and Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TFNSW) for the prevailing speed limit and TFNSW Technical Directions.

(19) Pavement Design

Prior to the issue of a Subdivision Works Certificate for each stage, a pavement design and specifications for all roadworks including Druitt Road and the proposed internal roads are to be prepared by a suitably qualified Geotechnical Engineer and are to be submitted to Council and approved. The pavement design must provide a minimum 20 year design life and conform to Council's Engineering Guidelines - Subdivisions and Development Standards, the Austroads Guide to Pavement Technology.

(20) S138 Roads Act

Prior to the issue of a Subdivision Works Certificate for each stage, a Section 138 Roads Act application, including payment of fees, shall be lodged with Griffith City Council, as the Roads Authority for any works required within a public road. These works may include but are not limited to:

(a) Vehicular crossings (including kerb reinstatement of redundant vehicular crossings)
(b) Road opening for utilities and stormwater (including stormwater connection to Council Infrastructure).
(c) Road Occupancy or road closures

All works shall be carried out with the Roads Act approval, the development consent including the stamped plans and Griffith City Council specifications.

(21) Landscape Plan - Street Trees and Parks

Prior to the issue of the Subdivision Works Certificate for each stage a detailed landscaping plan for the whole development shall be designed for the proposed development for approval by Councils Parks and Gardens Manager or delegated representative.

The landscaping plan shall be drawn to scale by a suitably qualified person and include:

a. minimum scale of 1:200 for parks, detention basins or pedestrian link pathways and 1:500 for subdivision street tree layout
b. Identification of all trees to be retained, removed or transplanted
c. The location of all existing and proposed tree and shrub species
d. Height and spread of selected species at maturity
e. Elevation of landscaped areas
f. Irrigation measures and detailed design specifications
g. Details (including location and method of installation) of any root barrier's to protect infrastructure
h. a landscape maintenance strategy over the two year establishment period. The strategy is to address maintenance issues such as, but not limited to plant survival, irrigation, soil testing, weeding, staking, fertilising, remedial pruning and plant replacement.

Notes:
i. The nature strip and footpath areas of the development are to be incorporated into the overall landscaped area of the development.
ii. Street tree placement is to be designed and maintained to provide safe site distance for pedestrians and motorists, with particular consideration of intersections and pedestrian walkways.
iii. To ensure continuity, street tree species and spacing is to continue from any existing landscaping or approved street tree landscaping plan.
iv. Street trees are to be a minimum of 1.5m in height grown in 40 litre bags or equivalent at planting
v. All Street tree planting locations must meet the Griffith City Council- *Tree Policy (PG-CP-402)* with particular attention to section 3.6.1 Utilities and Services and Council's *Engineering Guidelines – Subdivisions and Development Standards 2008*.
vi. The street trees are to be irrigated by the development on a regular basis and are to be maintained by the developer for a minimum of 24 months after planting.

STAGE 1 (A & B)

(22) Murrumbidgee Irrigation

Murrumbidgee Irrigation's written unconditional approval for the entire development is to be submitted to Council **prior to the issue of a Subdivision Works Certificate for stage 1**.

(23) Druitt Road Design

Druitt Road is to be designed to the following specifications for the full frontage of the development:

a. Collector Road (Ultimately 30m wide road reserve),
b. Half road construction 5.5m wide carriageway,
c. kerb and gutter on the southern side,

Detailed engineering design drawings for the roadworks are to be in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standards,* The Lake *Wyangan Road and Drainage Infrastructure Master Plan – November 2022* and *Section 7.11 Development Contributions Plan – August 2023*, *Griffith Residential Development Control Plan 2020* and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 1.** Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(24) Kerb and Gutter Design

Kerb & guttering is to be constructed along the southern side of Druitt Road for the full frontage of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 1**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(25) Lighting Design

Provision is to be made for the installation of street lighting along Druitt Road for the full frontage of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 1**. Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(26) Shared path

Prior to the issue of a Subdivision Works Certificate for Stage 1 the applicant is to design a 2.5 metre wide, concrete pedestrian and cycleway along the southern side of Druitt Road for the full frontage of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(27) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 1, a Ø250mm potable water main is to be constructed along the southern side of Druitt Road for the full frontage of the site. The potable water main is to connect to the existing Ø200mm water main located on the eastern side of Boorga Road. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 2

(28) Road Construction

Road 501, 502 and 503 is to be designed to the specifications outlined below for the full length identified in stage 2 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 2**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

Note: A Murrumbidgee Irrigation raw water supply is located under proposed Road 501. As such, Road 501 is to be designed in accordance with Murrumbidgee Irrigation specifications. Murrumbidgee Irrigation is to provide approval prior to the issue of a Subdivision Works Certificate.

(29) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 501, 502 and 503 for the full length identified in stage 2 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 2**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(30) Lighting Design

Provision is to be made for the installation of street lighting along Road 501, 502 and 503 for the full length identified in stage 2 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 2.** Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(31) T-Intersection Design

Prior to the issue of a Subdivision Works Certificate for Stage 2, as a minimum, the intersections of Druitt Road and Road 501, and Road 501 and Road 502, and Road 502 and Road 503 is to be designed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided.

(32) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 2 the applicant is to design a 1.5 metre wide, concrete footpath along both sides of Road 501, the northern side Road 502 and western side of Road 503 for the full length identified in stage 2 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(33) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 2, a Ø150mm potable water main is to be constructed along the eastern side of Road 501, northern side of Road 502 and western side of Road 503 for the full length identified in stage 2 of the development. The potable water main is to connect to the proposed Ø250mm trunk water main located on the southern side of Druitt Road. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 3

(34) Road Construction

Road 503 and 504 is to be designed to the specifications outlined below for the full length identified in stage 3 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 3**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(35) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 503 and 504 for the full length identified in stage 3 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 3**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(36) Lighting Design

Provision is to be made for the installation of street lighting along Road 503 and 504 for the full length identified in stage 3 of the development in accordance with Austroads Guide to Road **Design, Australian Standard 1158 and any prescribed requirement of Essential Energy.** Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 3.** Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(37) T-Intersection Design

Prior to the issue of a Subdivision Works Certificate for Stage 3, as a minimum, the intersection of Road 503 and Road 504 is to be designed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided.

(38) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 3 the applicant is to design a 1.5 metre wide, concrete footpath along the western side of Road 503 and the southern side Road 504 for the full length identified in stage 3 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(39) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 3, a Ø150mm potable water main is to be constructed along the western side of Road 503 for the full length identified in stage 3 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(40) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 3, a Ø125mm potable water main is to be constructed along the southern side of Road 504 for the full length identified in stage 3 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 4

(41) Road Construction

Road 502 and 504 is to be designed to the specifications outlined below for the full length identified in stage 4 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 4**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(42) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 502 and 504 for the full length identified in stage 4 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 4**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(43) Lighting Design

Provision is to be made for the installation of street lighting along Road 502 and 504 for the full length identified in stage 4 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 4**. Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(44) T-Intersection Design

Prior to the issue of a Subdivision Works Certificate for Stage 4, as a minimum, the intersection of Road 502 and Road 504 is to be designed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided.

(45) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 4 the applicant is to design a 1.5 metre wide, concrete footpath along the southern side of Road 504 and the eastern side Road 502 for the full length identified in stage 4 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(46) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 4, a Ø150mm potable water main is to be constructed along the eastern side of Road 502 for the full length identified in stage 4 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(47) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 4, a Ø125mm potable water main is to be constructed along the southern side of Road 504 for the full length identified in stage 4 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 5

(48) Road Construction

Road 502 is to be designed to the specifications outlined below for the full length identified in stage 5 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 5**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(49) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 502 for the full length identified in stage 5 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 5**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(50) Lighting Design

Provision is to be made for the installation of street lighting along Road 502 for the full length identified in stage 5 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 5.** Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(51) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 5 the applicant is to design a 1.5 metre wide, concrete footpath along the eastern/northern side of Road 502 for the full length identified in stage 5 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(52) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 5, a Ø150mm potable water main is to be constructed along the eastern/southern side of Road 502 for the full length identified in stage 5 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 6

(53) Road Construction

Road 502, 503 and 505 is to be designed to the specifications outlined below for the full length identified in stage 6 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 6.** Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(54) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 502, 503 and 505 for the full length identified in stage 6 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 6.** Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(55) Lighting Design

Provision is to be made for the installation of street lighting along Road 502, 503 and 505 for the full length identified in stage 6 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, prior to the issue of a Subdivision Works Certificate Stage 6**. Lighting drawings are to be prepared by** a suitably qualified lighting designer/consultant.

(56) T-Intersection Design

Prior to the issue of a Subdivision Works Certificate for Stage 6, as a minimum, the intersection of Road 502 and Road 505, and Road 502 and Road 503 is to be designed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided.

(57) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 6 the applicant is to design a 1.5 metre wide, concrete footpath along the northern side of Road 502, western side Road 503 and Road 505 for the full length identified in stage 6 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(58) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 6, a Ø150mm potable water main is to be constructed along the southern side of Road 502 and western side of Road 503 and Road 505 for the full length identified in stage 6 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 7

(59) Road Construction

Road 501 and 502 is to be designed to the specifications outlined below for the full length identified in stage 7 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 7**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

Note: A Murrumbidgee Irrigation raw water supply is located under proposed Road 501. As such, Road 501 is to be designed in accordance with Murrumbidgee Irrigation specifications. Murrumbidgee Irrigation is to provide approval prior to the issue of a Subdivision Works Certificate.

(60) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 501 and 502 for the full length identified in stage 7 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 7**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(61) Lighting Design

Provision is to be made for the installation of street lighting along Road 501 and 502 for the full length identified in stage 7 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 7.** Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(62) T-Intersection Design

Prior to the issue of a Subdivision Works Certificate for Stage 7, as a minimum, the intersection of Road 501 and the northern-most road connecting to the Subdivision to the west (DA 83/2025) is to be designed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided.

(63) Roundabout Design

Prior to the issue of a Subdivision Works Certificate for Stage 7, as a minimum, the intersection of Road 501, Road 502 and middle road connecting to the Subdivision to the west (DA 83/2025) is to be designed as a roundabout in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The roundabout is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided at each intersection.

(64) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 7 the applicant is to design a 1.5 metre wide, concrete footpath along both sides of Road 501 and northern side of Road 502 for the full length identified in stage 7 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(65) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 7, a Ø150mm potable water main is to be constructed along the eastern side of Road 501 and southern side Road 502 for the full length identified in stage 7 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 8

(66) Road Construction

Road 501 and 505 is to be designed to the specifications outlined below for the full length identified in stage 8 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 8**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

Note: A Murrumbidgee Irrigation raw water supply is located under proposed Road 501. As such, Road 501 is to be designed in accordance with Murrumbidgee Irrigation specifications. Murrumbidgee Irrigation is to provide approval prior to the issue of a Subdivision Works Certificate.

(67) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 501 and 505 for the full length identified in stage 8 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 8**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(68) Lighting Design

Provision is to be made for the installation of street lighting along Road 501 and 505 for the full length identified in stage 8 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 8.** Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(69) T-Intersection Design

Prior to the issue of a Subdivision Works Certificate for Stage 8, as a minimum, the intersection of Road 501 and Road 505 is to be designed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided.

(70) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 8 the applicant is to design a 1.5 metre wide, concrete footpath along both sides of Road 501 and the western/northern side Road 505 for the full length identified in stage 8 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(71) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 8, a Ø150mm potable water main is to be constructed along the eastern side of Road 501 and western/northern side of Road 505 for the full length identified in stage 8 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 9

(72) Road Construction

Road 502 is to be designed to the specifications outlined below for the full length identified in stage 9 of the development:
(a) Local Access Road (Ultimately 20m wide road reserve),
(b) 9m wide carriageway,
(c) 5.5m wide verge on both sides of the proposed road.

Detailed engineering design drawings for the roadworks are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards, The Lake Wyangan Road and Drainage Infrastructure Master Plan – November 2022 and Section 7.11 Development Contributions Plan – August 2023, Griffith Residential Development Control Plan 2020 and are to be submitted to Council and approved **prior to the issue of a Subdivision Works Certificate for stage 9**. Such plans shall include designs and specifications for all proposed works as required for approval by Council. The surface of the proposed road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(73) Kerb and Gutter Design

Kerb & guttering is to be constructed along both sides of proposed Road 502 for the full length identified in stage 9 of the development. Detailed engineering design drawings for the kerb and gutter are to be submitted to Council for approval **prior to the issue of a Subdivision Works Certificate for Stage 9**. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to Council's Engineering Guidelines – Subdivisions and Development Standards.

(74) Lighting Design

Provision is to be made for the installation of street lighting along Road 502 for the full length identified in stage 9 of the development in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy. Detailed design drawings are to be submitted to Council for approval, **prior to the issue of a Subdivision Works Certificate Stage 9.** Lighting drawings are to be prepared by a suitably qualified lighting designer/consultant.

(75) Footpath Design

Prior to the issue of a Subdivision Works Certificate for Stage 9 the applicant is to design a 1.5 metre wide, concrete footpath along the northern/eastern side of Road 502 the full length identified in stage 9 of the development. Such plans are to include designs and specifications for all proposed works as required for approval by Council. The requirements must conform to the Griffith Pedestrian and Bicycle Strategy – July 2021, Council's Engineering Guidelines – Subdivisions and Development Standards, the Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW (TfNSW) for the prevailing speed limit and TfNSW Technical Directions.

(76) Watermain Design

Prior to the issue of a Subdivision Works Certificate for Stage 9, a Ø150mm potable water main is to be constructed along the northern/eastern side of Road 502 for the full length identified in stage 9 of the development. The design is to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

Prior to Commencement of Works for each Stage

The following conditions need to be met prior to the commencement of works. The necessary documentation and information must be provided to the Principal Certifying Authority (PCA), as applicable.

(77) Traffic Management Plan (TMP)

A Traffic Management Plan (TMP) with all supporting documentation, including all relevant Traffic Guidance Schemes (TGS), is to be submitted to Council for approval **prior to the commencement of work within Council's road reserve**. The TMP must comply with the requirements of Transport for New South Wales' Traffic Control at Work Sites Technical Manual (TCAWS Manual), Standards Australia's Manual of uniform traffic control devices, Part 3: Traffic control for works on roads (AS1742.3), and Austroads' Guide to Temporary Traffic Management (AGTTM).

The TMP must be prepared by a person/s with a 'Prepare a Work Zone Traffic Management Plan' qualification. Strict compliance to the TMP is to be maintained throughout the duration of the works. All inspections of the TMP and collection of records must comply with the requirements of the TCAWS Manual.

(78) Construction Management Plan (CMP)

Prior to the commencement of work, a Construction Management Plan is to be prepared by a suitably qualified professional detailing the proposed traffic control and traffic management arrangements during the construction of the development. The Construction Management Plan is to be submitted to Council for approval and is to address, but not be limited to, the following:

a. the management of traffic during construction;
b. the management of loading and unloading of construction materials on site;
c. material stockpiling/storage;
d. identify parking for construction worker vehicles;
e. dust mitigation measures; and
f. complaint management and contingency measures.

The construction management measures specified in the approved Construction Management Plan shall be implemented for duration of construction.

(79) Sedimentation and Erosion Controls

Effective dust, noise, sedimentation and erosion controls are to be implemented prior to the commencement of site works. This is to include (as a minimum):

a. The installation of a sediment fence with returned ends across the low side of the works; and
b. A temporary gravel driveway into the site. All vehicles needing to access the site are to use the temporary driveway.

The control measures are to be installed **prior to the commencement of site works** and maintained during works in order to ensure that site materials do not leave the site and/or enter the stormwater system and to maintain public safety/amenity.

(80) S138 Roads Act

Prior to the commencement of work in Council's road reserve, a Section 138 Roads Act application, including payment of fees, shall be lodged with Griffith City Council, as the Roads Authority for works required within the road reserve. These works may include but are not limited to:

a. vehicular crossings (including kerb reinstatement of redundant vehicular crossings)
b. Road opening for utilities and stormwater (including stormwater connection to Council Infrastructure).
c. Road Occupancy or road closures

All works shall be carried out with the Roads Act approval, the development consent including the stamped plans and Griffith City Council specifications.

(81) Section 68 Application

Prior to the commencement of works on Council's potable water main and stormwater drainage system**,** a Section 68 application in accordance with the Local Government Act 1993 is to be obtained through Council by submitting an application via the NSW Planning Portal and linking it to the Development Application or Construction Certificate application. The application is to include design drawings and details that comply with Council's Engineering Guidelines - Subdivisions and Development Standards and the Water Services Association of Australia - Gravity Sewerage Code of Australia WSA 02—2014/ *Water Services Association of Australia - Pressure Sewerage Code of Australia WSA 07—2007/ Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011)*. All works associated with the sewer, stormwater and potable water works are to be completed at the expense of the applicant.

(82) Traffic Control Plan (TCP)

A traffic control plan is to be submitted to Council satisfying the provisions of Australian Standard 1742.3, for acceptance **prior to the commencement of work within Council's road reserve**. Strict compliance to the traffic control plan is to be maintained throughout the duration of the construction work.

(83) External Service Providers

Prior to the commencement of works written advice shall be obtained from the electricity supply authority, an approved telecommunications carrier and an approved gas carrier (where relevant) stating that satisfactory arrangements have been made to ensure provision of adequate services to the development.

During Construction for each Stage

The following conditions of consent must be complied with at all times during the demolition, excavation and construction of the development.

(84) Civil Construction Works

All civil construction works such as; the installation of stormwater infrastructure, potable water infrastructure and roadworks associated with the development are to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

All works shall be inspected by Council Officers or Council Nominee during normal office hours as specified in Council's Engineering Guidelines - Subdivisions and Development Standards (Part 1 - Section 4). All requests for inspection are to be made to Council's Customer Service Department.

Apart from these inspections various tests are to be conducted in conjunction with the works. Test guidelines and type of tests required are identified in Council's Engineering Guidelines - Subdivisions and Development Standards.

(85) Sedimentation and Erosion Controls

The approved erosion and sediment control measures shall be implemented and maintained during works.

(86) Hours of Work

The principal certifier must ensure that building work, demolition or vegetation removal is only carried out between:

7.00am to 6.00pm on Monday to Saturday.

The principal certifier must ensure building work, demolition or vegetation removal is not carried out on Sundays and public holidays, except where there is an emergency.

Unless otherwise approved within a construction site management plan, construction vehicles, machinery, goods or materials must not be delivered to the site outside the approved hours of site works.

Note: Any variation to the hours of work requires Council's approval.

(87) Burning of Waste or Refuse

No waste or refuse shall be burned on site. All building waste, excavated material, broken concrete, or the like, shall be removed from the site and disposed of at an approved waste management depot.

Prior to the issue of the Subdivision Certificate

Before Council will release the subdivision plan, you will need to demonstrate compliance with the following conditions. The necessary documentation and information must be provided to the Principal Certifying Authority (PCA), as applicable.

ALL STAGES

(88) Subdivision Certificate

A Subdivision Certificate must be issued prior to lodgement of the Final Plan of Survey with the NSW Land Registry Services (LRS). An application for a Subdivision Certificate is required upon completion of all conditions of consent. The application is to be lodged with the Principle Certifier via the NSW Planning Portal.

(89) Compliance with Conditions of Consent

The applicant is to ensure that all conditions of the relevant stage of Development Application No. 91/2026 are completed prior to the issue of the Subdivision Certificate.

(90) Works As Executed (WAE) Drawings

Works As Executed plans and digital data for the approved civil works are to be submitted to Council upon completion of the development **prior to the issue of a Subdivision Certificate for each stage.** Works As Executed plans are to be in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standards.*

(91) Maintenance bond

A Bond Application and a monetary bond is to be submitted to Council to provide a twelve (12) month maintenance period for civil works relating to Council's infrastructure. It is the applicant's responsibility to notify the relevant departments regarding the commencement and finish of the maintenance period and adequate arrangements are to be made regarding any relevant inspections required.

A five percent (5%) bond of the total cost of works is to be submitted to Council for the works that need maintenance **prior to the issue of a Subdivision Certificate for each stage.**

(92) Engineering Inspections

The applicant is required to pay for all inspections carried out by Council's Engineers. Payment must be paid for all inspections as per Council's current Revenue Policy **prior to the issue of a Subdivision Certificate for stage.**

(93) Civil Construction Works

All works specified on the approved Subdivision Works Certificate drawings are to be completed in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards (and other authorities specifications outlined within this Development Application) and approved by Council **prior to the issue of a Subdivision Certificate for each stage**.

(94) S138 Roads Act Approval

Prior to the issue of a Subdivision Certificate for each stage, the Principle Certifying Authority shall ensure that all works associated with a S138 Roads Act approval have been inspected and signed off by Griffith City Council.

(95) Gazetted Road Reserve

Prior to the issue of a Subdivision Certificate for each stage the portion of land proposed to be a public road as part of the proposed development is to be gazetted as a road reserve in accordance with Section 9 of the NSW *Roads Act 1993*. The plan of the subdivision to be registered with the office of the Registrar-General is to include a statement of intention to dedicate the specified land as a public road.

(96) Naming of Roads

Separate written application must be made to Council requesting approval for naming of the internal roads. Application will be made by Griffith City Council to the Geographical Names Board of New South Wales seeking approval for the road name, this approval must be given **prior to the issue of a Subdivision Certificate for each stage.**

(97) Street Name Plates

Street nameplates are to be provided to the proposed public roads to the colour arrangement as adopted by Council and the standard as prescribed by *Council's Engineering Guidelines – Subdivisions and Development Standards*. Council approval of street names must be obtained **prior to the issue of a Subdivision Certificate for each stage**.

(98) Road Signposting

Prior to the issue of a Subdivision Certificate for each stage, all roads are to be appropriately delineated (linemarking, etc) in accordance with the signposting and line marking policy adopted by *Transport for New South Wales* and *Australian Standard 1742*.

(99) Easement for Sewer

Prior to the issue of a Subdivision Certificate for each stage a three (3) metre easement are to be established over Council's sewer infrastructure pursuant to Section 88B of the Conveyancing Act for the drainage of sewage. Matters to be addressed in the instrument should include the width and location of the easement. This is for the purpose of identifying and protecting the sewerage system.

(100) Water Service Installation

Prior to the issue of a Subdivision Certificate for each stage, the developer is to provide a water service to each lot created as part of each stage of the development as per the approved plans. Installation and location is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(101) Temporary Cul-de-sac

Prior to the issue of a Subdivision Certificate each stage, a temporary cul-de-sac bulb with a minimum radii of 9.5 metres is to be constructed of compacted road building gravel with a minimum depth of 200mm along with road signage being installed at the end of each road where a dead end is created due to the staging of road construction.

(102) Restriction to User

Vehicular access to all lots created as part of each stage of the development from Boorga Road is not permitted at any time. **Prior to the issue of a Subdivision Certificate each Stage**, a restriction to user shall be created over all lots created as part of each stage of the development in accordance with Section 88E of the Conveyancing Act. The restriction is to specify that vehicular access to the created allotments off Boorga Road is not permitted at any time.

(103) Restriction on Title

Prior to the issue of a Subdivision Certificate for each stage, a restriction on title shall be created under Section 88B on the Conveyancing Act 1919 in each relevant stage or all lots within the LWGA stating that only one primary dwelling may be constructed.

(104) Restriction on Title

Prior to the issue of a Subdivision Certificate for each stage, a restriction on title shall be created under Section 88B on the Conveyancing Act 1919 in each relevant stage or all lots which back onto Boorga Road which restricts the construction of solid fencing including pre-coloured metal materials facing Boorga Road.

(105) Noise Attenuation

Prior to the issue of the Subdivision Certificate for each stage, a restriction on title shall be placed on all residential lots, pursuant to Section 88B of the Conveyancing Act 1919 requiring any future dwelling be provided with noise attenuation measures so as to minimise the impacts of frost fans on nearby farms, so that the dwelling achieves the Indoor Criteria of 25dB(A)(max) of Council's *Frost Control Fan Policy (*CS- CP 309).

(106) Fibre Ready Facilities

Prior to the issue of a Subdivision Certificate each stage, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:

a. The installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose, and
b. The provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.

(107) Notice of Arrangement for Electricity Provision

Prior to the issue of a Subdivision Certificate each stage, a copy of the Notice of Arrangement (NOA) from Essential Energy which states that satisfactory supply arrangements have been made for the provision of electricity to the proposed development is provided to Council.

(108) External Service Providers

Prior to the issue of a Subdivision Certificate each stage, written advice shall be obtained from an approved telecommunications carrier and an approved gas carrier (where relevant) stating that satisfactory arrangements have been made to ensure provision of adequate services to the development.

(109) Easement for Services

Prior to the issue of a Subdivision Certificate for each stage, services are not permitted to cross property boundaries unless legally created easements in accordance with Section 88B of the Conveyancing Act are created. The location and widths of the easements are to be specified in the instrument for the purpose of protecting and identifying the services.

(110) Landscape Plan - Street Trees and Parks

Prior to the issue of a Subdivision Certificate each stage the approved landscape plan for street trees and parks shall be installed to the satisfaction of Councils Parks and Gardens Manager or delegated officer of that department. The commencement date for installation of plants or irrigation systems must be agreed to by the Parks and Gardens Manager or delegated officer. This work will be inspected by the delegated officer to ensure installation specifications are met. This is to include a final inspection once landscaping has been installed and written approval from the delegated officer.

The installed landscaping must be bonded along with the duration of the two (2) year maintenance period.

STAGE 1A

(111) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 62,176.00** for the creation of **four (4)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of the Subdivision Certificate for Stage 1A**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(112) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	4 ET (1 ET Credit)	**$ 39,312.00**
Sewerage	Lake Wyangan	$ 6,889.00	4 ET (1 ET Credit)	**$ 27,556.00**
Total				**$ 66,868.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 1A.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(113) Druitt Road Construction

Prior to the issue of a Subdivision Certificate for Stage 1A, Druitt Road is to be constructed to the following specifications outlined below for the full frontage of the development:

a. Collector Road (Ultimately 30m wide road reserve),
b. Haft road construction 5.5m wide carriageway,
c. Kerb and gutter on the southern side.

Construction is to be in accordance with *Council's Engineering Guidelines – Subdivisions and Development Standards*. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(114) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 1A kerb & guttering is to be constructed along the southern side of Druitt Road for the full frontage of the development in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*.

(115) Street and Intersection Lighting

The installation of street lighting along Druitt Road is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full frontage of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 1A**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(116) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 1A the applicant is to construct a 2.5 metre wide, concrete pedestrian and cycleway along the southern side of Druitt Road for the full frontage of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(117) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 1A, all drainage infrastructure within stage 1A of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(118) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 1A the gravity sewer system is to be constructed to service all proposed lots within stage 1A of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(119) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 1A, a Ø250mm potable water main is to be constructed along the southern side of Druitt Road for the full frontage of the site. The potable water main is to connect to the existing Ø250mm water main located on the western side of Boorga Road. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 1B

(120) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 77,720.00** for the creation of **five (5)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 1B**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(121) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$9,828.00	5	**$ 46,140.00**
Sewerage	Lake Wyangan	$6,889.00	5	**$ 34,445.00**
Total				**$ 83,585.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 1B.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(122) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 1A, all drainage infrastructure within stage 1B of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(123) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 1B the gravity sewer system is to be constructed to service all proposed lots within stage 1B of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(124) Flooding Condition

Prior to the issue of a Subdivision Certificate for stage 1B, stage 1B is identified as a flood affected stage located within a 'floodway' as specified in the Lake Wyangan Flood Study (2012) and Lake Wyangan Floodplain Risk Management Study and Plan (2013). A Subdivision Certificate must not be issued until such time:

a) The flood mitigation works have been completed in accordance with the adopted Lake Wyangan Master Plan;
b) An updated Flood Study and associated flood mapping, completed by a suitably qualified flood engineer has been formally adopted by Council; and
c) The updated Flood Study and associated flood mapping demonstrates that the proposed lots within stage 1B are no longer affected by the floodway in accordance with Council's adopted Flood Liable Lands Policy (CS-CP-403) and the adopted Flood Study.

STAGE 2

(125) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 202,072.00** for the creation of **thirteen (13)** additional lots at $15544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 2**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(126) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	13	**$ 127,764.00**
Sewerage	Lake Wyangan	$ 6,889.00	13	**$ 89,557.00**
Total				**$ 217,321.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 2.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(127) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 2 Road 501, 502 and 503 is to be constructed to the following specifications for the full length identified in stage 2 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(128) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 2 kerb & guttering is to be constructed along both sides of proposed Road 501, 502 and 503 for the full length identified in stage 2 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(129) Street and Intersection Lighting

The installation of street lighting along Road 501, 502 and 503 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 2 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 2**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(130) T-Intersection Construction

Prior to the issue of a Subdivision Certificate for Stage 2, as a minimum, Druitt Road and Road 501, and Road 501 and Road 502, and Road 502 and Road 503 is to be constructed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(131) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 2 the applicant is to construct a 1.5 metre wide, concrete footpath along both sides of Road 501, the northern side Road 502 and western side of Road 503 for the full length identified in stage 2 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(132) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate, all drainage infrastructure within stage 2 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(133) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 2 the gravity sewer system is to be constructed to service all proposed lots within stage 2 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(134) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 2, a Ø150mm potable water main is to be constructed along the eastern side of Road 501, northern side of Road 502 and western side of Road 503 for the full length identified in stage 2 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(135) Murrumbidgee Irrigation

The applicant shall obtain written approval from Murrumbidgee Irrigation for the construction of proposed Road 501 over the existing Murrumbidgee Irrigation owned raw water supply pipe. Documentary evidence from Murrumbidgee Irrigation shall be submitted to Council **prior to the issue of a Subdivision Certificate for Stage 2.**

STAGE 3

(136) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 186,528.00** for the creation of **twelve (12)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 3**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(137) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	12	**$ 117,936.00**
Sewerage	Lake Wyangan	$ 6,889.00	12	**$ 82,668.00**
Total				**$ 200,604.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 3**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(138) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 3 Road 503 and 504 is to be constructed to the following specifications for the full length identified in stage 3 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(139) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 3 kerb & guttering is to be constructed along both sides of proposed Road 503 and 504 for the full length identified in stage 3 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(140) Street and Intersection Lighting

The installation of street lighting along Road 503 and 504 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 3 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 2**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(141) T-Intersection Construction

Prior to the issue of a Subdivision Certificate for Stage 3, as a minimum, Road 503 and 504 is to be constructed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(142) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 3 the applicant is to construct a 1.5 metre wide, concrete footpath along the western side of Road 503 and the southern side Road 504 for the full length identified in stage 3 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(143) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 3, all drainage infrastructure within stage 3 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(144) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 3 the gravity sewer system is to be constructed to service all proposed lots within stage 3 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(145) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 2, a Ø150mm potable water main is to be constructed along the western side of Road 503 for the full length identified in stage 3 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(146) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 2, a Ø125mm potable water main is to be constructed along the southern side of Road 504 for the full length identified in stage 3 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 4

(147) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 186,528.00** for the creation of **twelve (12)** additional lots at $14,658.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 4**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(148) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	12	**$ 117,936.00**
Sewerage	Lake Wyangan	$ 6,889.00	12	**$ 82,668.00**
Total				**$ 200,604.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 4.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(149) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 4 Road 502 and 504 is to be constructed to the following specifications for the full length identified in stage 4 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(150) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 4 kerb & guttering is to be constructed along both sides of proposed Road 502 and 504 for the full length identified in stage 4 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(151) Street and Intersection Lighting

The installation of street lighting along Road 502 and 504 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 4 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 4**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(152) T-Intersection Construction

Prior to the issue of a Subdivision Certificate for Stage 4, as a minimum, Road 502 and 504 is to be constructed as a T-Intersection in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(153) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 4 the applicant is to construct a 1.5 metre wide, concrete footpath along the southern side of Road 504 and the eastern side Road 502 for the full length identified in stage 4 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(154) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 4, all drainage infrastructure within stage 4 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(155) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 4 the gravity sewer system is to be constructed to service all proposed lots within stage 4 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(156) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 4, a Ø150mm potable water main is to be constructed along the eastern side of Road 502 for the full length identified in stage 4 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(157) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 4, a Ø125mm potable water main is to be constructed along the southern side of Road 504 for the full length identified in stage 4 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(158) Flooding Condition

Prior to the issue of a Subdivision Certificate for stage 4, stage 4 is identified as a flood affected stage located within a 'floodway' as specified in the Lake Wyangan Flood Study (2012) and Lake Wyangan Floodplain Risk Management Study and Plan (2013). A Subdivision Certificate must not be issued until such time:

a) The flood mitigation works have been completed in accordance with the adopted Lake Wyangan Master Plan;
b) An updated Flood Study and associated flood mapping, completed by a suitably qualified flood engineer has been formally adopted by Council; and
c) The updated Flood Study and associated flood mapping demonstrates that the proposed lots within stage 4 are no longer affected by the floodway in accordance with Council's adopted Flood Liable Lands Policy (CS-CP-403) and the adopted Flood Study.

STAGE 5

(159) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 108,808.00** for the creation of **seven (7)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 5**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(160) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	7	$ 68,796.00
Sewerage	Lake Wyangan	$ 6,889.00	7	$ 48,223.00
Total				$ 117,019.00

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 5.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(161) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 5 Road 502 is to be constructed to the following specifications for the full length identified in stage 5 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(162) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 5 kerb & guttering is to be constructed along both sides of proposed Road 502 for the full length identified in stage 5 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(163) Street and Intersection Lighting

The installation of street lighting along Road 502 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 5 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 5**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(164) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 5 the applicant is to construct a 1.5 metre wide, concrete footpath along the eastern/northern side of Road 502 for the full length identified in stage 5 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(165) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 5, all drainage infrastructure within stage 5 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(166) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 5 the gravity sewer system is to be constructed to service all proposed lots within stage 5 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.\

(167) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 5, a Ø150mm potable water main is to be constructed along the eastern/southern side of Road 502 for the full length identified in stage 5 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 6

(168) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 186,528.00** for the creation of **twelve (12)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 6**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(169) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	12	**$ 117,936.00**
Sewerage	Lake Wyangan	$ 6,889.00	12	**$ 82,668.00**
Total				**$ 200,604.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 6.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(170) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 6 Road 502, 503 and 505 is to be constructed to the following specifications for the full length identified in stage 6 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(171) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 6 kerb & guttering is to be constructed along both sides of proposed Road 502, 503 and 505 for the full length identified in stage 6 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(172) Street and Intersection Lighting

The installation of street lighting along Road 502, 503 and 505 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 6 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 6**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(173) T-Intersection Construction

Prior to the issue of a Subdivision Certificate for Stage 6, as a minimum, Road 502 and Road 505, and Road 502 and Road 503 is to be constructed as a T-Intersections in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(174) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 6 the applicant is to construct a 1.5 metre wide, concrete footpath along the northern side of Road 502 and the western side Road 503 and 505 for the full length identified in stage 6 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(175) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 6, all drainage infrastructure within stage 6 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(176) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 6 the gravity sewer system is to be constructed to service all proposed lots within stage 6 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(177) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 6, a Ø150mm potable water main is to be constructed along the southern side of Road 502 and western side of Road 503 and 505 for the full length identified in stage 6 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

STAGE 7

(178) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 202,072.00** for the creation of **thirteen (13)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 7**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(179) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	13	**$ 127,764.00**
Sewerage	Lake Wyangan	$ 6,889.00	13	**$ 89,557.00**
Total				**$ 217,321.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 7.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(180) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 7 Road 501 and 502 is to be constructed to the following specifications for the full length identified in stage 7 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(181) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 7 kerb & guttering is to be constructed along both sides of proposed Road 501 and 502 for the full length identified in stage 7 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(182) Street and Intersection Lighting

The installation of street lighting along Road 501 and 502 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 7 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 7**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(183) T-Intersection Construction

Prior to the issue of a Subdivision Certificate for Stage 7, as a minimum, the intersection of Road 501 and the northern-most road connecting to the Subdivision to the west (DA 83/2025) is to be constructed as a T-Intersections in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(184) Roundabout Construction

Prior to the issue of a Subdivision Certificate for Stage 7, as a minimum, the intersection of Road 501, Road 502 and middle road connecting to the Subdivision to the west (DA 83/2025) is to be constructed a roundabout in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The roundabout is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided at each intersection.

(185) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 7 the applicant is to construct a 1.5 metre wide, concrete footpath along both sides of Road 501 and northern side of Road 502 for the full length identified in stage 7 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(186) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 7, all drainage infrastructure within stage 7 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(187) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 7 the gravity sewer system is to be constructed to service all proposed lots within stage 7 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(188) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 7, a Ø150mm potable water main is to be constructed along the western side of Road 501 and southern side Road 502 for the full length identified in stage 7 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(189) Murrumbidgee Irrigation

The applicant shall obtain written approval from Murrumbidgee Irrigation for the construction of proposed Road 501 over the existing Murrumbidgee Irrigation owned raw water supply pipe. Documentary evidence from Murrumbidgee Irrigation shall be submitted to Council **prior to the issue of a Subdivision Certificate for Stage 7.**

STAGE 8

(190) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 155,440.00** for the creation of **ten (10)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 8**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(191) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	10	**$ 98,280.00**
Sewerage	Lake Wyangan	$ 6,889.00	10	**$ 68,890.00**
Total				**$ 167,170.00**

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 8.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(192) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 8 Road 501 and 505 is to be constructed to the following specifications for the full length identified in stage 8 of the development:

a) Local Access Road (Ultimately 20m wide road reserve),
b) 9m wide carriageway,
c) 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(193) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 8 kerb & guttering is to be constructed along both sides of proposed Road 501 and 505 for the full length identified in stage 8 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(194) Street and Intersection Lighting

The installation of street lighting along Road 501 and 505 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 8 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 8**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(195) T-Intersection Construction

Prior to the issue of a Subdivision Certificate for Stage 8, as a minimum, Road 501 and 505 is to be constructed as a T-Intersections in accordance with Austroads Guide to Road Design as amended by the supplements adopted by Transport for NSW for the prevailing speed limit. Appropriate road tapers at this intersection are required to be sealed and constructed to a width to accommodate the largest sized vehicle likely to access the proposed allotments. The intersection is to be installed with street lighting and linemarked in accordance with Austroads Guidelines and TFNSW Delineation. The intersection is to ensure appropriate measures for safe crossing of pedestrians and cyclists are provided. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(196) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 8 the applicant is to construct a 1.5 metre wide, concrete footpath along both sides of Road 501, and the western/northern side Road 505 for the full length identified in stage 8 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(197) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 8, all drainage infrastructure within stage 8 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(198) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 8 the gravity sewer system is to be constructed to service all proposed lots within stage 8 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(199) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 8, a Ø150mm potable water main is to be constructed along the western side of Road 501 and western/northern side of Road 505 for the full length identified in stage 8 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(200) Murrumbidgee Irrigation

The applicant shall obtain written approval from Murrumbidgee Irrigation for the construction of proposed Road 501 over the existing Murrumbidgee Irrigation owned raw water supply pipe. Documentary evidence from Murrumbidgee Irrigation shall be submitted to Council **prior to the issue of a Subdivision Certificate for Stage 8.**

STAGE 9

(201) Section 7.11 Development Contributions - Lake Wyangan

In accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979 and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au

Total payment shall be **$ 170,984.00** for the creation of **eleven (11)** additional lots at $15,544.00 per lot. The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 9**, unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

(202) Section 64 Water Supply, Sewerage and Drainage Contributions

Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000*, this development requires a payment of a S64 contribution. The amount payable at the time of issue of this consent is set out in the table below.

Table of Contributions Required – Water, Sewerage & Drainage

Type of contribution	Location	Amount per tenement	Number of tenements	Amount to be paid
Water supply	Lake Wyangan	$ 9,828.00	11	$ 108,108.00
Sewerage	Lake Wyangan	$ 6,889.00	11	$ 75,779.00
Total				$ 183,887.00

The total amount payable will be subject to review in accordance with Council's Revenue Policy current at the time of payment.

The contribution is to be paid **prior to the issue of a Subdivision Certificate for Stage 9.**

Applicants are advised to contact Council to confirm the final amount payable. Payment will only be accepted by cash, credit card, or electronic funds transfer (EFT), including direct deposit.

NOTE: The contribution is exclusive of the fees for the connection of water services to the individual allotments.

Reason: Pursuant to Section 64 of the *Local Government Act 1993* and the *Water Management Act 2000,* the applicant is required to apply to Council for a Compliance Certificate under the provisions of S305 of the *Water Management Act 2000*.

(203) Road Construction

Prior to the issue of a Subdivision Certificate for Stage 9 Road 502 is to be constructed to the following specifications for the full length identified in stage 9 of the development:

a. Local Access Road (Ultimately 20m wide road reserve),
b. 9m wide carriageway,
c. 5.5m wide verge on both sides of the proposed road,

Design and construction is to be in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards. The surface of the road is required to be a minimum standard of two coat spray bitumen seal consisting of double bitumen and double stone surface.

(204) Kerb and Gutter Construction

Prior to the issue of a Subdivision Certificate for Stage 9 kerb & guttering is to be constructed along both sides of proposed Road 502 for the full length identified in stage 9 of the development in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards.

(205) Street and Intersection Lighting

The installation of street lighting along Road 502 is to be in accordance with Austroads Guide to Road Design, Australian Standard 1158 and any prescribed requirement of Essential Energy for the full length identified in stage 9 of the development. Street lights are to be installed in accordance with the approved design, **prior to the issue of a Subdivision Certificate for Stage 9**. Written approval is to be submitted to Council from Essential Energy to ensure that all works have been completed to their satisfaction.

(206) Footpath Construction

Prior to the issue of a Subdivision Certificate for Stage 9 the applicant is to construct a 1.5 metre wide, concrete footpath along the northern/eastern side of Road 502 for the full length identified in stage 9 of the development. The alignment and construction of the shared path is to comply with Council's Engineering Guidelines – Subdivisions and Development Standards, the Griffith Pedestrian and Bicycle Strategy – July 2021 and Council requirements.

(207) Installation of stormwater infrastructure

Prior to the issue of a Subdivision Certificate for Stage 9, all drainage infrastructure within stage 9 of the development is to be installed and directed to the trunk stormwater main located on Druitt Road. All stormwater works are to be in accordance with Council's *Engineering Guidelines – Subdivisions and Development Standards*, and Council's *Stormwater Drainage & Disposal Policy (CS-CP- 310)*.

(208) Sewer Main Construction

Prior to the issue of a Subdivision Certificate for Stage 9 the gravity sewer system is to be constructed to service all proposed lots within stage 9 of the development and is to connect to the sewer pump station to be located on the northern side of Druitt Road on Lot 128 DP 751743 to the north of the development. All sewer mains are to be constructed at the front of allotments within the property boundary. All works are to be in accordance with the specifications outlined in Council's *Engineering Guidelines – Subdivision and Development Standards* and the *Sewerage Code of Australia (WSA 03-2002)*.

(209) Water Main Construction

Prior to the issue of a Subdivision Certificate for Stage 9, a Ø150mm potable water main is to be constructed along the northern/eastern side of Road 502 for the full length identified in stage 9 of the development. All works are to be in accordance with the specifications outlined in Council's Engineering Guidelines – Subdivision and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011).

(210) Flooding Condition

Prior to the issue of a Subdivision Certificate for Stage 9, Stage 9 is identified as a flood affected stage located within a 'floodway' as specified in the Lake Wyangan Flood Study (2012) and Lake Wyangan Floodplain Risk Management Study and Plan (2013). A Subdivision Certificate must not be issued until such time:

a) The flood mitigation works have been completed in accordance with the adopted Lake Wyangan Master Plan;
b) An updated Flood Study and associated flood mapping, completed by a suitably qualified flood engineer has been formally adopted by Council; and
c) The updated Flood Study and associated flood mapping demonstrates that the proposed lots within stage 9 are no longer affected by the floodway in accordance with Council's adopted Flood Liable Lands Policy (CS-CP-403) and the adopted Flood Study.

On-Going Requirements – For all Stages

The following conditions or requirements must be complied with at all times, throughout the use and operation of the development.

(211) Landscape Plan - Street Trees and Parks (Ongoing)

The approved street tree and parks landscaping are to be maintained by the developer for an agreed two year period after planting, with maintenance to be handed over to Council after this period.

Attachment C – Advisory Notes

The following information is provided for your assistance to ensure compliance with the *Environmental Planning & Assessment Act 1979, Environmental Planning & Assessment Regulation 2021*, or other relevant legislation and Council's policies. This information does not form part of the conditions of development consent pursuant to Section 4.16 of the Act.

(212) Before You Dig

If excavating, it is recommended you go to Before You Dig Australia at www.byda.com.au and lodge a free enquiry that helps keep people safe and protect underground infrastructure.

(213) Water meter location

In accordance with Council's *Engineering Guidelines – Subdivision and Development Standard*s, potable water services are not permitted to be located through easements. Property services shall be located such that the point where the meter assembly is located is within 300mm of the property side boundary.

(214) Essential Energy

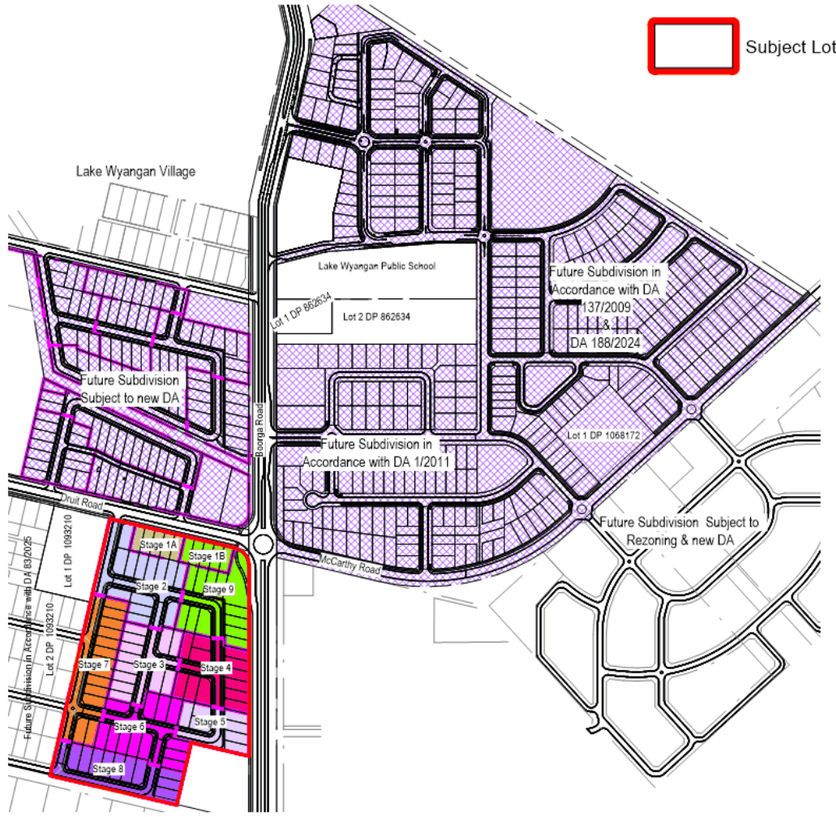
Essential Energy makes the following general comments:

- As part of the subdivision, an easement is created for any existing electrical infrastructure. The easement is to be created using Essential Energy's standard easement terms current at the time of registration of the plan of subdivision;
- If the proposed development changes, there may be potential safety risks and it is recommended that Essential Energy is consulted for further comment;
- Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with;
- All Torrens lots must have access and frontage to a public road as per Service and Installation rules this is to allow for the provision of power/services to the new development, a right of carriageway can not to be used for the provision of power/services to any part of the new development.
- Council should ensure that a Notification of Arrangement (confirming satisfactory arrangements have been made for the provision of power) is issued by Essential Energy with respect to all proposed lots which will form part of the subdivision, prior to Council releasing the Subdivision Certificate. It is the Applicant's responsibility to make the appropriate application with Essential Energy for the supply of electricity to the subdivision, which may include the payment of fees and contributions;
- In addition, Essential Energy's records indicate there is electricity infrastructure located within the property.
- Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure;
- Prior to carrying out any works, a "Dial Before You Dig" enquiry should be undertaken in accordance with the requirements of Part 5E (Protection of Underground Electricity Power Lines) of the Electricity Supply Act 1995 (NSW);

Attachment D – Other Council Approvals and Consents

Section 68 Local Government Act 1993 Approvals

This consent includes the following approvals under Section 4.12 of the *Environmental Planning and Assessment Act 1979* and Section 68 of the *Local Government Act 1993.*



Locality Plan



Similar Street View

General Notes
1 - Dimensions of property boundaries & position of building to be verified by a registered surveyor
2 - These drawings are to be read in conjunction with engineer's specifications
3 - All the materials and the standard of work shall be in accordance with the recognized industry standards
4 - All dimensions, window and door sizes are to be verified before commencement of work
5 - The contractor shall observe and comply with the provisions of all relevant acts, ordinances, regulations, bylaws, orders and rules and all requirements of any authority that are applicable to the works
6 - Method of termite control is to be in accordance with council requirements
7 - Verify position of electricity supply and connect power to main switch board in accordance with energy provider's specifications
8 - Verify position of water meter with council

Stormwater Drainage
1 - Provide underground stormwater as detailed in accordance with Council requirements & connect to;
a) The street frontage via a kerb inlet addapter or
b) An inter allotment drainage pit
2 - Install 100 dia PVC downpipes as required
3 - All stormwater pipes to be 100 PVC UNO

Rainwater Tank
1 - Provide rainwater tank in accordance with the requirements of BASIX
2 - Install tanks in accordance with Councils Urban Water Tanks Policy.
3 - The overflow from tanks must be connected to stormwater system for the site
4 - Where tank water is proposed to be connected to the same plumbing as Councils reticulated water supply, a backflow prevention device must be fitted in accordance with Council requirements.
5 - Inshore Tanks are fitted with a gutter flush, or first flush system to prevent foreign materials entering the tank.
6 - Inshore tanks located along a side boundary do not obstruct acceseets and other public places, and where possible, should be separate from private open space. Inshore a minimum of 8 lineal metres of line is provided.
7 - Insure tanks located less than 450mm from a property boundary are no higher than 1800mm

Landscape Notes
1 - Plant selection and landscaping to be in accordance with Landscape Guidelines prepared by "Tract Landscape Architects"
2 - Garden beds to be covered with 100 thick pine mulch UNO
3 - All plants and lawn areas to have automatic underground drip and sprinkler irrigation system
4 - Plant beds against lawn areas to be bordered with treated pine, galvanized steel or plastic edging
5 - Road reserve to be planted with lawn
6 - Any plant species nominated may be substituted for a similar species.
7 - Where specific plant species are not selected, enshore plant species chosen;
a) Are appropriate for the climate, soil, aspect and drainage of the locality;
b) Incorporate drought-resistant and native plant species wherever possible or appropriate;
c) do not, and will not in the future interfere with underground and overhead utilities;
8 - Landscaped area should establish adequate drainage, including the retention of stormwater on site and prevention of discharge runoff onto adjoining properties"

Fencing
1 - Provide "Colorbond Neaterscreen" (1.8M high) panel fence to side boundaries from building line to rear boundary
2 - Provide "Colorbond Neaterscreen" (1.8M high) panel fence to rear boundary
3 - Provide "Modwood", or similar, slated gate with steel frame (1.8M high) to sides of dwelling.

Site Facilities
1 - Store Waste and Recycling bins on side or rear boundaries
2 - Provide fixed outdoor clothes line, ensure access to winter sunlight and install in a secure and convenient location, which is adequately screened from streets and other public places, and where possible, should be separate from private open space. Inshore a minimum of 8 lineal metres of line is provided.
3 - Provide a lockable mail box to the primary street frontage adjacent to the driveway and within the property boundary

Joinery Wet Area Notes
1 - Provide wall tiles to bathrooms, toilets & ensuites as detailed
2 - Provide mirror above all vanities
3 - Tile behind mirrors
4 - Apply a suitable water proofing barrier prior to tiling to all wet areas by a qualified installer
5 - Provide floor waste / drain as required
6 - Confirm all appliances, taps, basins etc, prior to Fabrication
7 - Dimensions of joinery are indicative. Joiner to provide drawings for approval prior to Fabrication

Lake Gardens Phase 5

Proposed Housing Development

Lake Gardens Estate
Boorga Rd Lake Wyangan NSW

Concept DA for Phase 5
Lot 1 DP 1278203

JZ Management Pty Ltd

JZ HOMES

Lake GARDENS

Designed

JZ MANAGEMENT

design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Concept Approval Documents

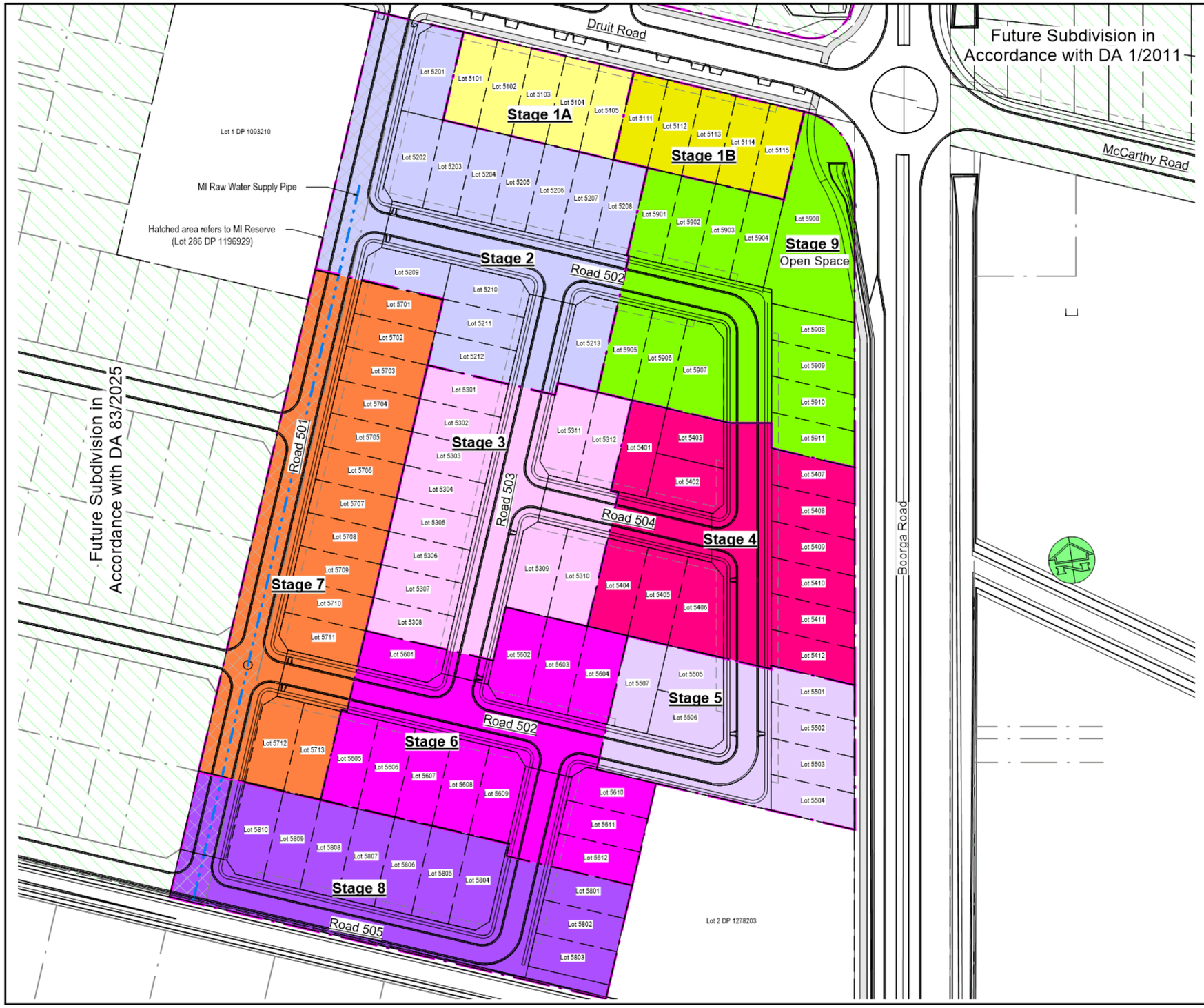
Drawing Schedule

Sheet Number	Building Name	Sheet Name	Current Revision	Current Revision Description	Current Revision Date
A1		Phasing Plan			
A2		Road Hierarchy Plan			
A0-01	N/A (Site)	Staging Plan	G	Road Widths & Lots Revised	26/6/2026
A0-02	N/A (Site)	Roadway Sections	F	Minor Amendments to Pathways	15/6/2026
A0-03	N/A (Site)	Roadway Sections	F	Minor Amendments to Pathways	15/6/2026
A0-04	N/A (Site)	Services Plan	G	Road Widths & Lots Revised	26/6/2026
A0-05	N/A (Site)	Floodway Plan	G	Road Widths & Lots Revised	26/6/2026
A0-06	N/A (Site)	Landscape Plan	G	Road Widths & Lots Revised	26/6/2026
A0-07	N/A (Site)	Lot Size Plan	G	Road Widths & Lots Revised	26/6/2026
A0-11	N/A (Site)	Site Plan (Stage 1)	G	Road Widths & Lots Revised	26/6/2026
A0-12	N/A (Site)	Site Plan (Stage 2)	G	Road Widths & Lots Revised	26/6/2026
A0-13	N/A (Site)	Site Plan (Stage 3)	G	Road Widths & Lots Revised	26/6/2026
A0-14	N/A (Site)	Site Plan (Stage 4)	G	Road Widths & Lots Revised	26/6/2026
A0-15	N/A (Site)	Site Plan (Stage 5)	G	Road Widths & Lots Revised	26/6/2026
A0-16	N/A (Site)	Site Plan (Stage 6)	G	Road Widths & Lots Revised	26/6/2026
A0-17	N/A (Site)	Site Plan (Stage 7)	G	Road Widths & Lots Revised	26/6/2026
A0-18	N/A (Site)	Site Plan (Stage 8)	G	Road Widths & Lots Revised	26/6/2026

Drawing Schedule

Sheet Number	Building Name	Sheet Name	Current Revision	Current Revision Description	Current Revision Date
A0-19	N/A (Site)	Site Plan (Stage 9)	G	Road Widths & Lots Revised	26/6/2026
L0-11	N/A (Site)	Lot Layout (Stage 1)	G	Road Widths & Lots Revised	26/6/2026
L0-12	N/A (Site)	Lot Layout (Stage 2)	G	Road Widths & Lots Revised	26/6/2026
L0-13	N/A (Site)	Lot Layout (Stage 3)	G	Road Widths & Lots Revised	26/6/2026
L0-14	N/A (Site)	Lot Layout (Stage 4)	G	Road Widths & Lots Revised	26/6/2026
L0-15	N/A (Site)	Lot Layout (Stage 5)	G	Road Widths & Lots Revised	26/6/2026
L0-16	N/A (Site)	Lot Layout (Stage 6)	G	Road Widths & Lots Revised	26/6/2026
L0-17	N/A (Site)	Lot Layout (Stage 7)	G	Road Widths & Lots Revised	26/6/2026
L0-18	N/A (Site)	Lot Layout (Stage 8)	G	Road Widths & Lots Revised	26/6/2026
L0-19	N/A (Site)	Lot Layout (Stage 9)	G	Road Widths & Lots Revised	26/6/2026
A1-11	Default 4 Bed Home	Site & Floor Plan	B	Issued for Concept DA	3/9/2025
A1-12	Default 4 Bed Home	Elevations	B	Issued for Concept DA	3/9/2025
A2-11	Alternative 4 Bed Home	Site & Floor Plan	B	Issued for Concept DA	3/9/2025
A2-12	Alternative 4 Bed Home	Elevations	B	Issued for Concept DA	3/9/2025
A4-11	Wide 4 Bed Home	Site & Floor Plan	B	Issued for Concept DA	3/9/2025
A4-12	Wide 4 Bed Home	Elevations	B	Issued for Concept DA	3/9/2025

10/08/2026 12:14:37 PM



Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Staging Plan

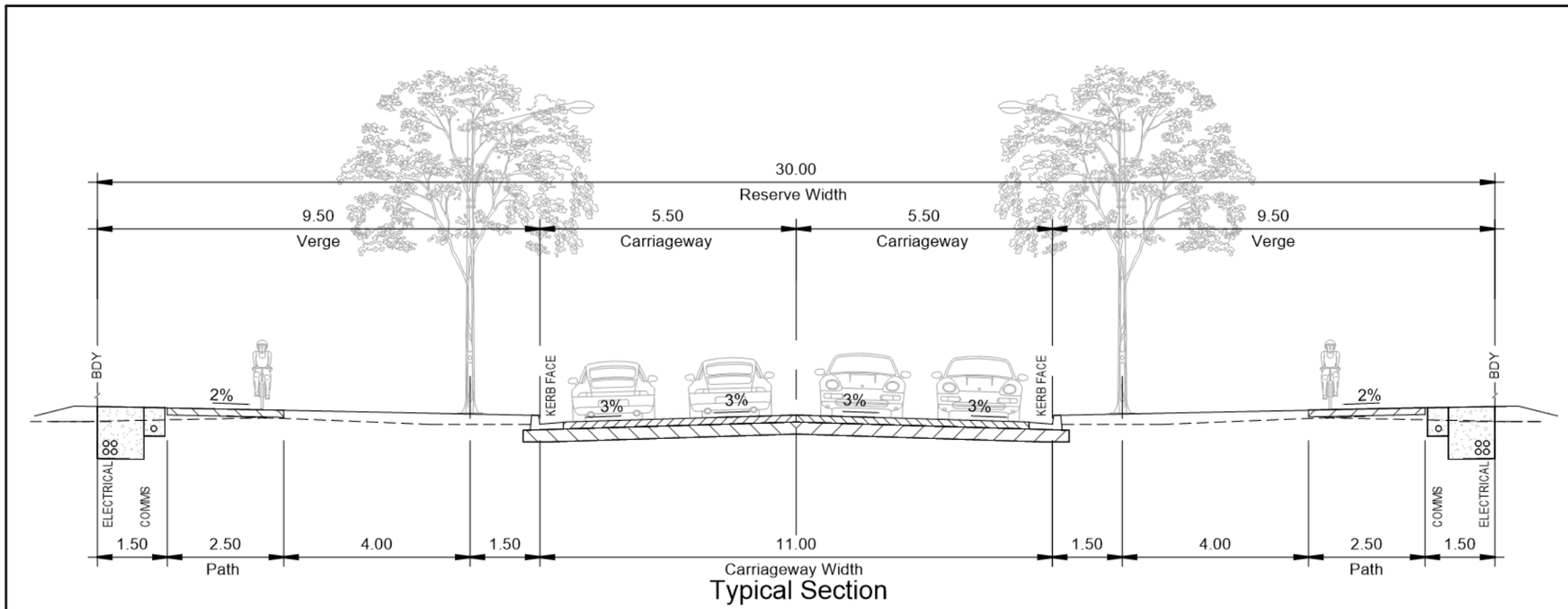
Job No:	Drawing No:
LG-Phase 5	A0-01

Date:	Scale:	Page Size:
28/8/2025	1 : 1500	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

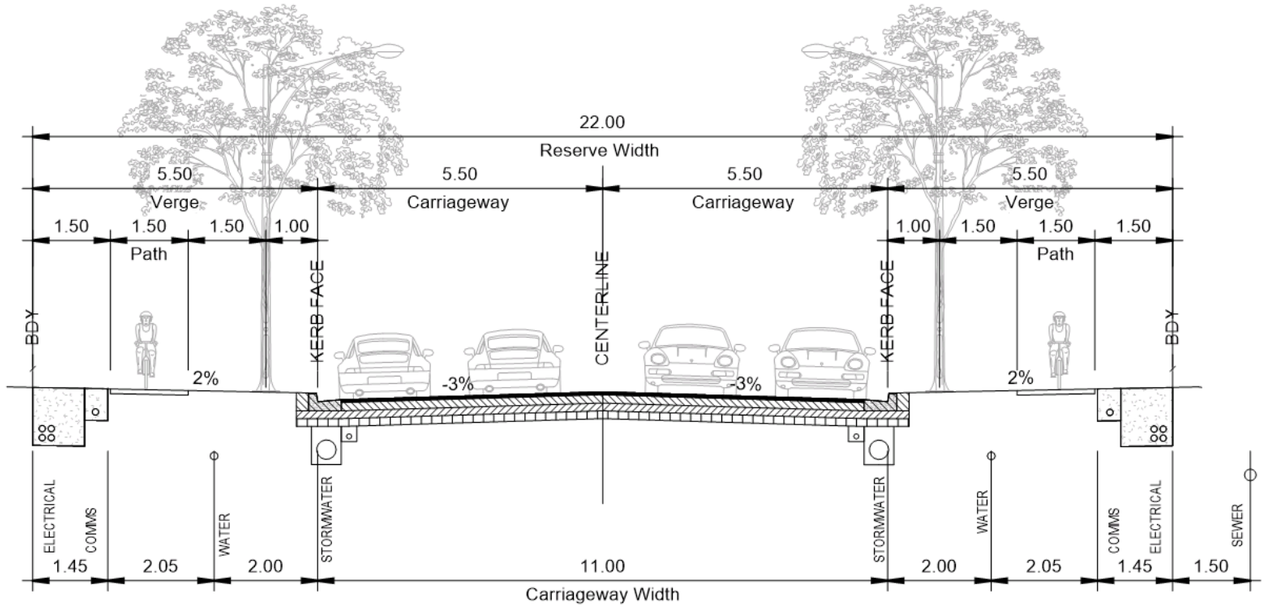
10/08/2026 12:14:39 PM



Typical Section

Druitt Road

Scale: 1 : 100



Typical Section

Collector Road

Scale: 1 : 100

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Roadway Sections

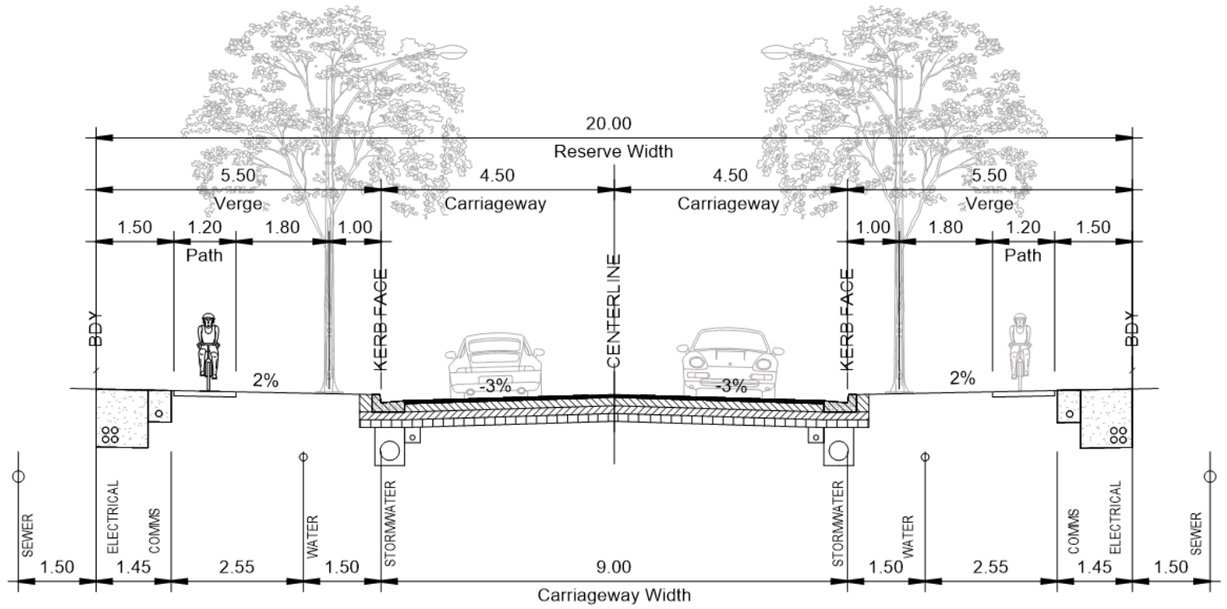
Job No:	Drawing No:
LG-Phase 5	A0-02

Date:	Scale:	Page Size:
28/8/2025	1 : 100	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
E	3/6/2026	Road Sections Amended
F	15/6/2026	Minor Amendments to Pathways

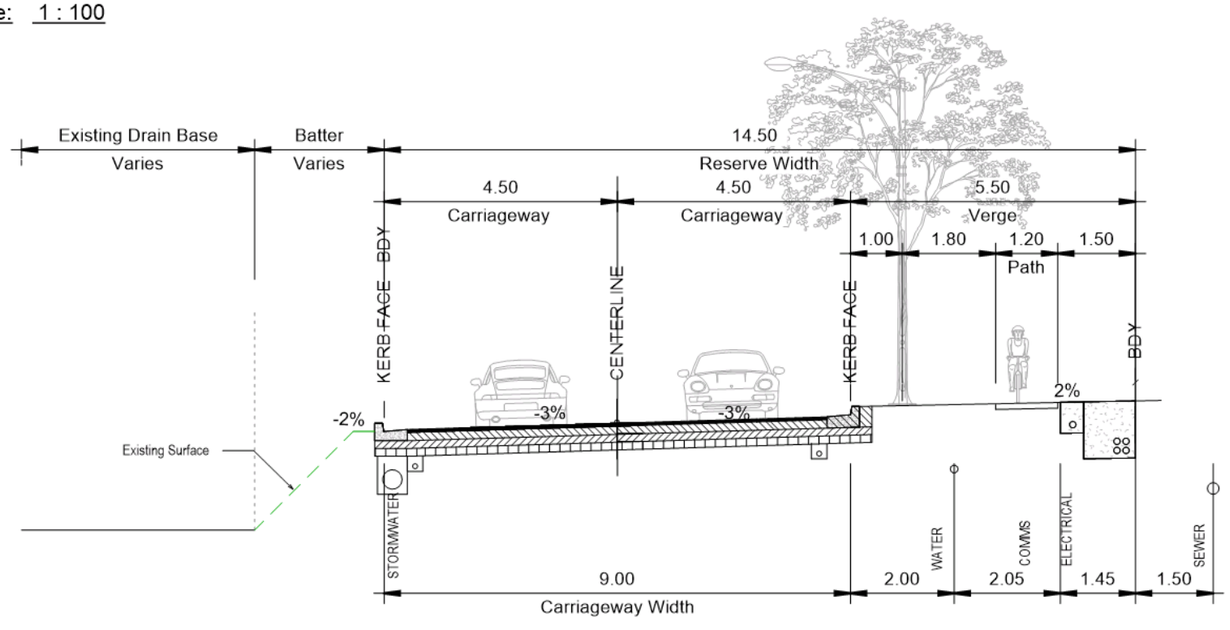
10/08/2026 12:14:40 PM



Typical Section

Local Access Road

Scale: 1 : 100



Typical Section

Local Access Road Adj to Drain

Scale: 1 : 100

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Roadway Sections

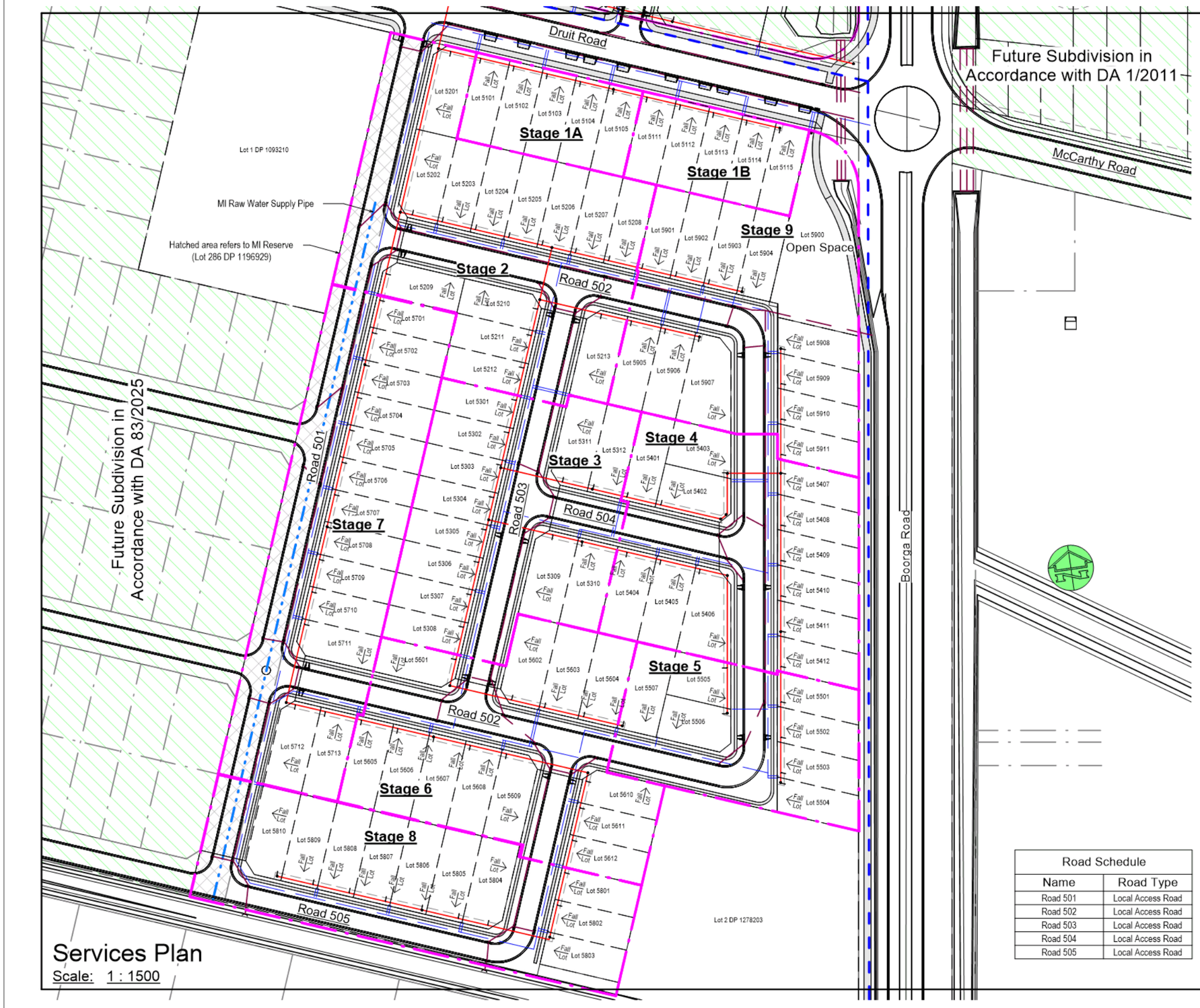
Job No:	Drawing No:
LG-Phase 5	A0-03

Date:	Scale:	Page Size:
28/8/2025	1 : 100	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
E	3/6/2026	Road Sections Amended
F	15/6/2026	Minor Amendments to Pathways

10/08/2026 12:14:41 PM



Road Schedule	
Name	Road Type
Road 501	Local Access Road
Road 502	Local Access Road
Road 503	Local Access Road
Road 504	Local Access Road
Road 505	Local Access Road

Legend

Easement
Existing Water Main
Water Main
Water Fixture
MI Raw Water Main
Stormwater Main
Stormwater Fixture
100 PVC Stormwater Pipe
Rainwater Tank
Sewer Main
Sewer Manhole
Sewer Junction
Domestic Sewer Pipe
Domestic Sewer Fixture
Natural Gas Main
NBN Main
HV or LV Electrical Main
LV Electrical Cables
Electrical Conduit
Principal Private Open Space
90 PVC Irrigation Conduit
Planting (Tree or Shrub)

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	28/8/2026	Road Widths & Lots Revised

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

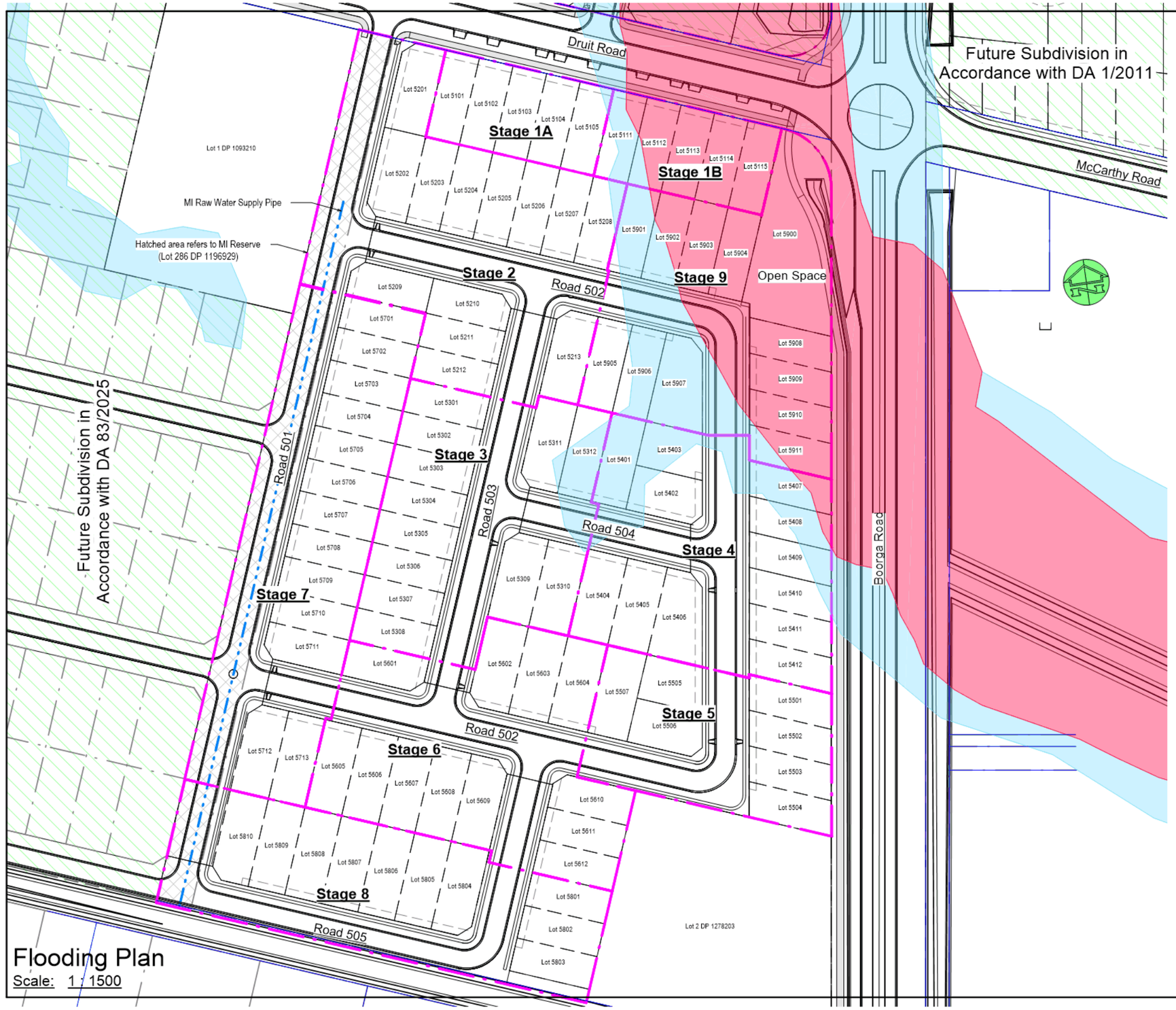
Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Services Plan

Job No:	Drawing No:	
LG-Phase 5	A0-04	
Date: 28/8/2025	Scale: As indicated	Page Size: A3
Designed: Zep	Drawn: Dean	Checked: Zep

10/08/2026 12:14:42 PM



Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Floodway Plan

Job No:	Drawing No:
LG-Phase 5	A0-05

Date:	Scale:	Page Size:
28/8/2025	1 : 1500	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

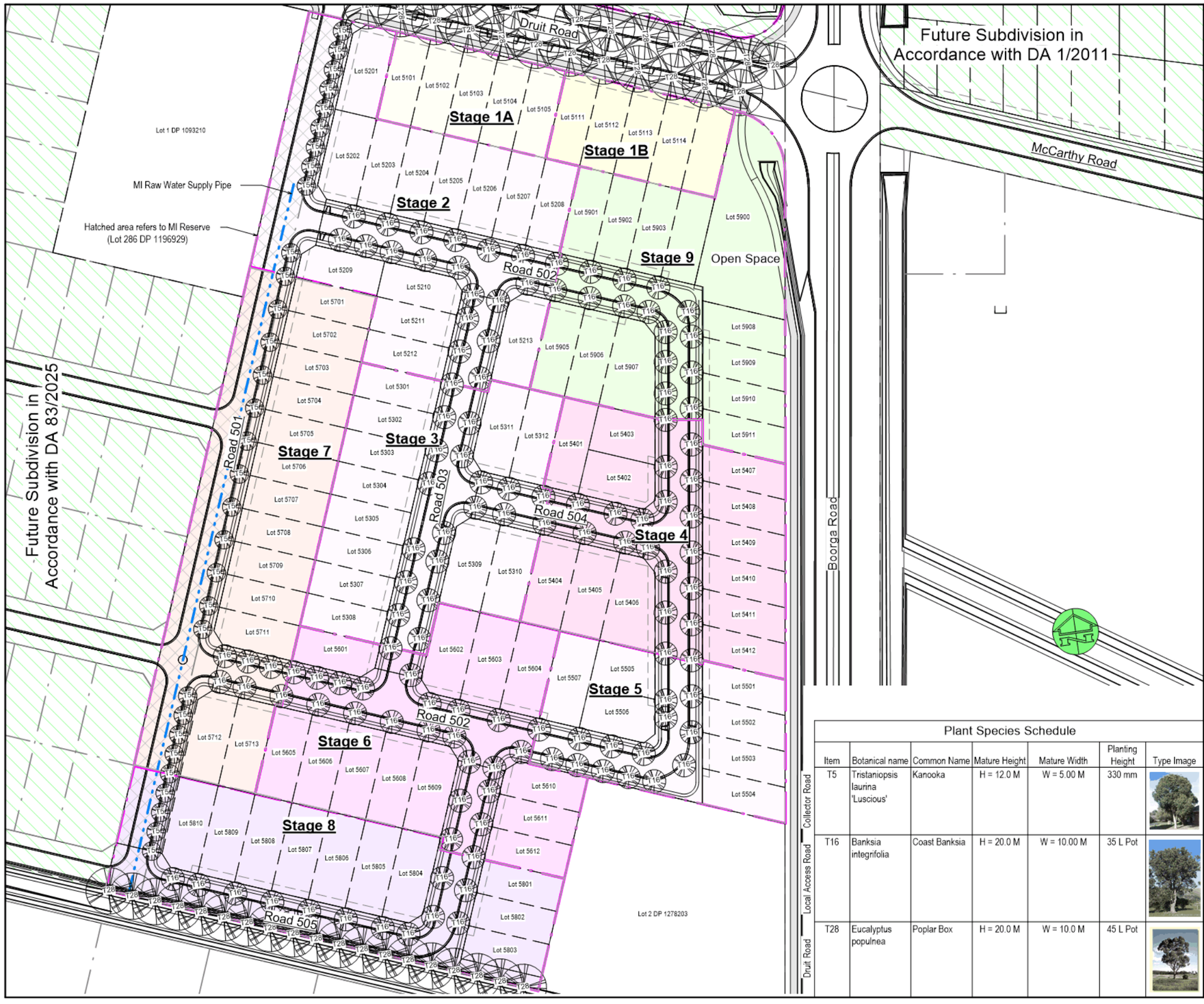
Floodway Legend

Floodway

Flood Fringe

Revision Number	Revision Date	Revision Description
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:14:44 PM



Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Landscape Plan

Job No:	Drawing No:
LG-Phase 5	A0-06

Date:	Scale:	Page Size:
28/8/2025	1 : 1500	A3

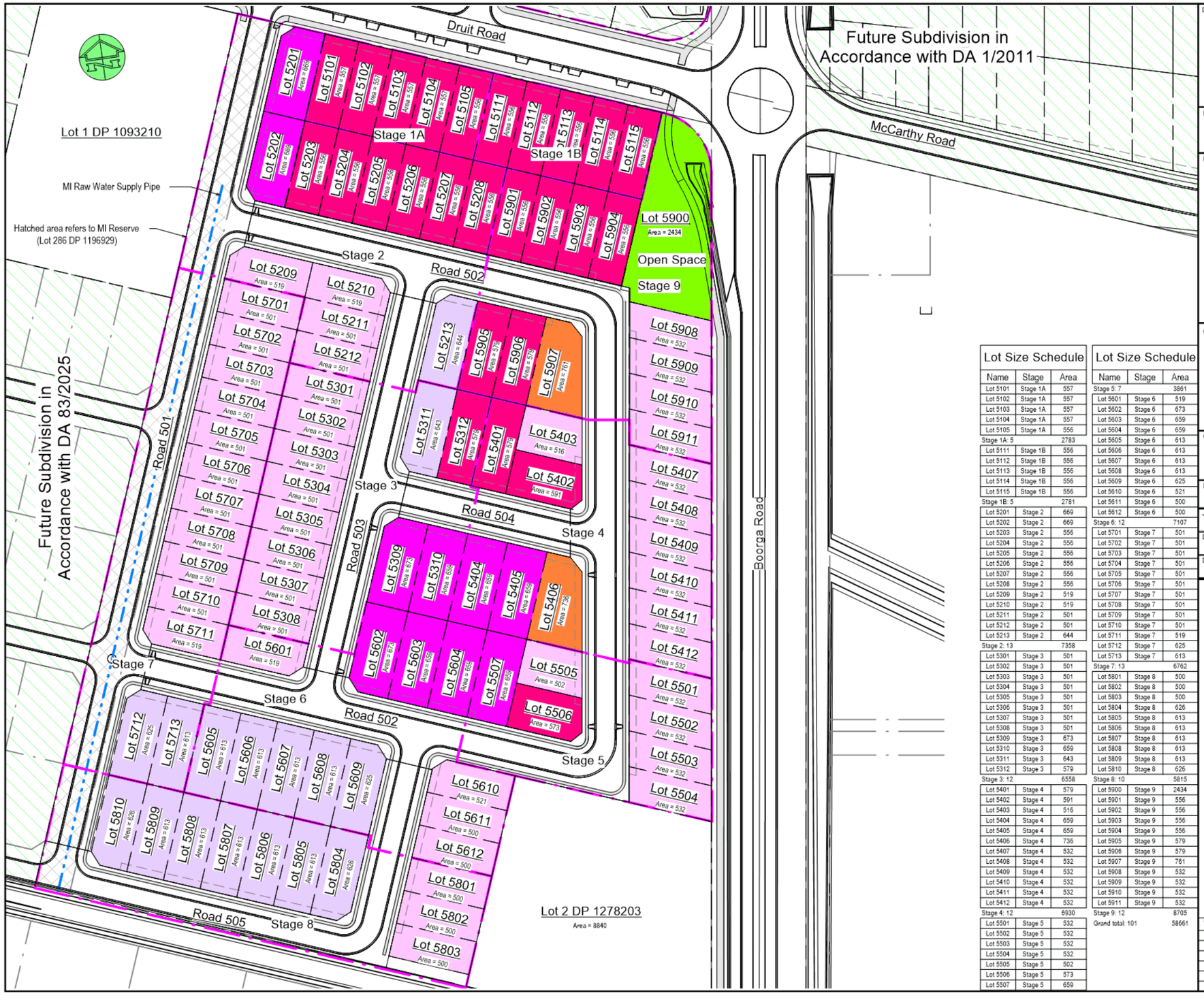
Designed:	Drawn:	Checked:
Sofa	Dean	Zep

Plant Species Schedule

Item	Botanical name	Common Name	Mature Height	Mature Width	Planting Height	Type Image
T5	Tristaniopsis laurina 'Luscious'	Kanooka	H = 12.0 M	W = 5.00 M	330 mm	
T16	Banksia integrifolia	Coast Banksia	H = 20.0 M	W = 10.00 M	35 L Pot	
T28	Eucalyptus populnea	Poplar Box	H = 20.0 M	W = 10.0 M	45 L Pot	

Revision Number	Revision Date	Revision Description
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	28/6/2026	Road Widths & Lots Revised

10/08/2026 12:14:49 PM



Lot Size Schedule		
Name	Stage	Area
Lot 5101	Stage 1A	557
Lot 5102	Stage 1A	557
Lot 5103	Stage 1A	557
Lot 5104	Stage 1A	557
Lot 5105	Stage 1A	556
Stage 1A: 5		2783
Lot 5111	Stage 1B	556
Lot 5112	Stage 1B	556
Lot 5113	Stage 1B	556
Lot 5114	Stage 1B	556
Lot 5115	Stage 1B	556
Stage 1B: 5		2781
Lot 5201	Stage 2	669
Lot 5202	Stage 2	669
Lot 5203	Stage 2	556
Lot 5204	Stage 2	556
Lot 5205	Stage 2	556
Lot 5206	Stage 2	556
Lot 5207	Stage 2	556
Lot 5208	Stage 2	556
Lot 5209	Stage 2	519
Lot 5210	Stage 2	519
Lot 5211	Stage 2	501
Lot 5212	Stage 2	501
Lot 5213	Stage 2	644
Stage 2: 13		7358
Lot 5301	Stage 3	501
Lot 5302	Stage 3	501
Lot 5303	Stage 3	501
Lot 5304	Stage 3	501
Lot 5305	Stage 3	501
Lot 5306	Stage 3	501
Lot 5307	Stage 3	501
Lot 5308	Stage 3	501
Lot 5309	Stage 3	673
Lot 5310	Stage 3	659
Lot 5311	Stage 3	643
Lot 5312	Stage 3	579
Stage 3: 12		6558
Lot 5401	Stage 4	579
Lot 5402	Stage 4	591
Lot 5403	Stage 4	516
Lot 5404	Stage 4	659
Lot 5405	Stage 4	659
Lot 5406	Stage 4	736
Lot 5407	Stage 4	532
Lot 5408	Stage 4	532
Lot 5409	Stage 4	532
Lot 5410	Stage 4	532
Lot 5411	Stage 4	532
Lot 5412	Stage 4	532
Stage 4: 12		6930
Lot 5501	Stage 5	532
Lot 5502	Stage 5	532
Lot 5503	Stage 5	532
Lot 5504	Stage 5	532
Lot 5505	Stage 5	502
Lot 5506	Stage 5	573
Lot 5507	Stage 5	659

Lot Size Schedule		
Name	Stage	Area
Stage 5: 7		3861
Lot 5601	Stage 6	519
Lot 5602	Stage 6	673
Lot 5603	Stage 6	659
Lot 5604	Stage 6	659
Lot 5605	Stage 6	613
Lot 5606	Stage 6	613
Lot 5607	Stage 6	613
Lot 5608	Stage 6	613
Lot 5609	Stage 6	625
Lot 5610	Stage 6	521
Lot 5611	Stage 6	500
Lot 5612	Stage 6	500
Stage 6: 12		7107
Lot 5701	Stage 7	501
Lot 5702	Stage 7	501
Lot 5703	Stage 7	501
Lot 5704	Stage 7	501
Lot 5705	Stage 7	501
Lot 5706	Stage 7	501
Lot 5707	Stage 7	501
Lot 5708	Stage 7	501
Lot 5709	Stage 7	501
Lot 5710	Stage 7	501
Lot 5711	Stage 7	519
Lot 5712	Stage 7	625
Lot 5713	Stage 7	613
Stage 7: 13		6762
Lot 5801	Stage 8	500
Lot 5802	Stage 8	500
Lot 5803	Stage 8	500
Lot 5804	Stage 8	626
Lot 5805	Stage 8	613
Lot 5806	Stage 8	613
Lot 5807	Stage 8	613
Lot 5808	Stage 8	613
Lot 5809	Stage 8	613
Lot 5810	Stage 8	626
Stage 8: 10		5815
Lot 5900	Stage 9	2434
Lot 5901	Stage 9	556
Lot 5902	Stage 9	556
Lot 5903	Stage 9	556
Lot 5904	Stage 9	556
Lot 5905	Stage 9	579
Lot 5906	Stage 9	579
Lot 5907	Stage 9	761
Lot 5908	Stage 9	532
Lot 5909	Stage 9	532
Lot 5910	Stage 9	532
Lot 5911	Stage 9	532
Stage 9: 12		8705
Grand total: 101		58661

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Lot Size Plan

Job No:	Drawing No:
LG-Phase 5	A0-07
Date: 28/8/2025	Scale: 1 : 1500
Page Size: A3	
Designed: Zep	Drawn: Dean
Checked: Zep	

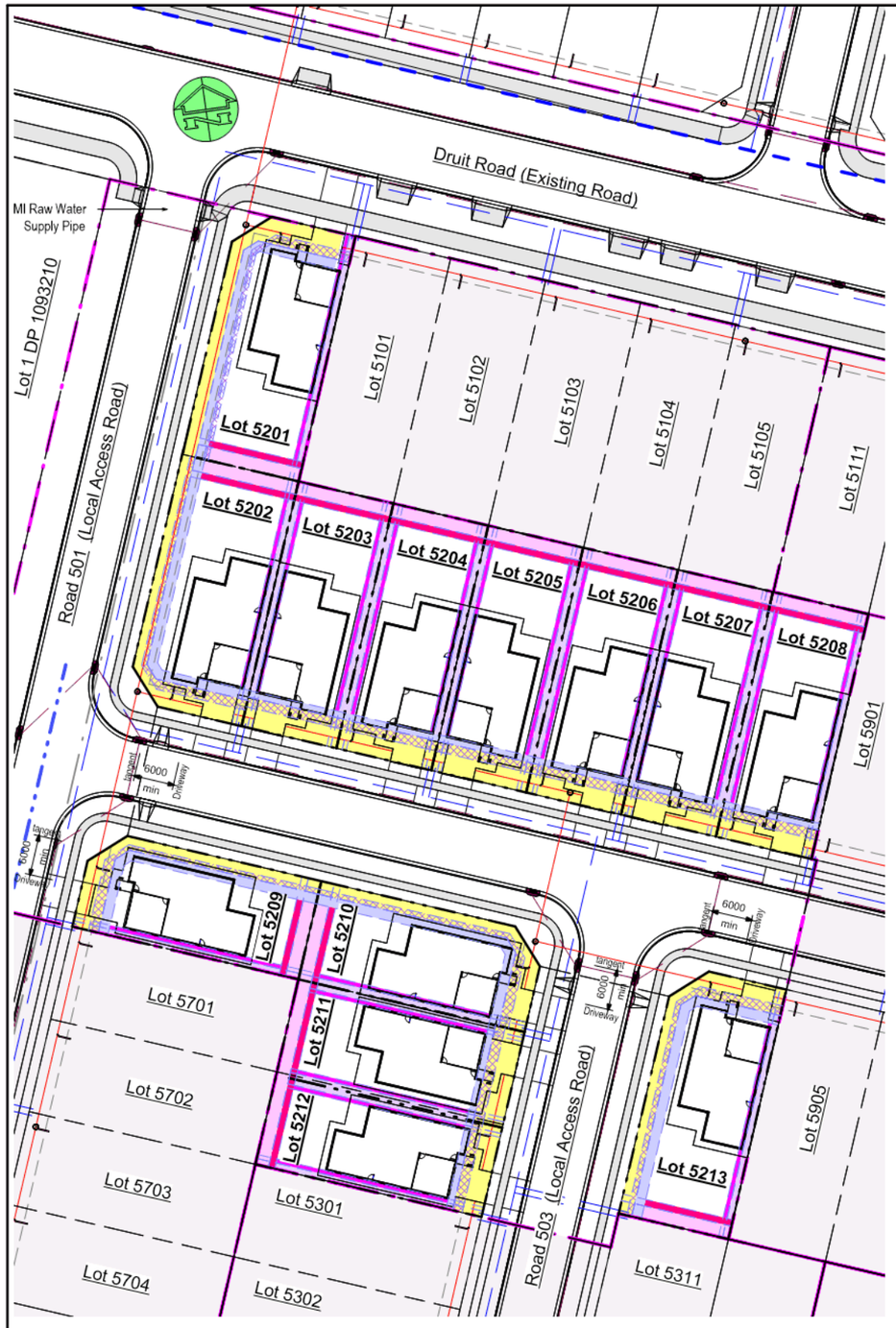
Lot Size Legend

- Lots 400 to 449
- Lots 450 to 499
- Lots 500 to 549
- Lots 550 to 599
- Lots 600 to 649
- Lots 650 to 699
- Lots 700 & Greater
- Open Space

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	28/8/2026	Road Widths & Lots Revised

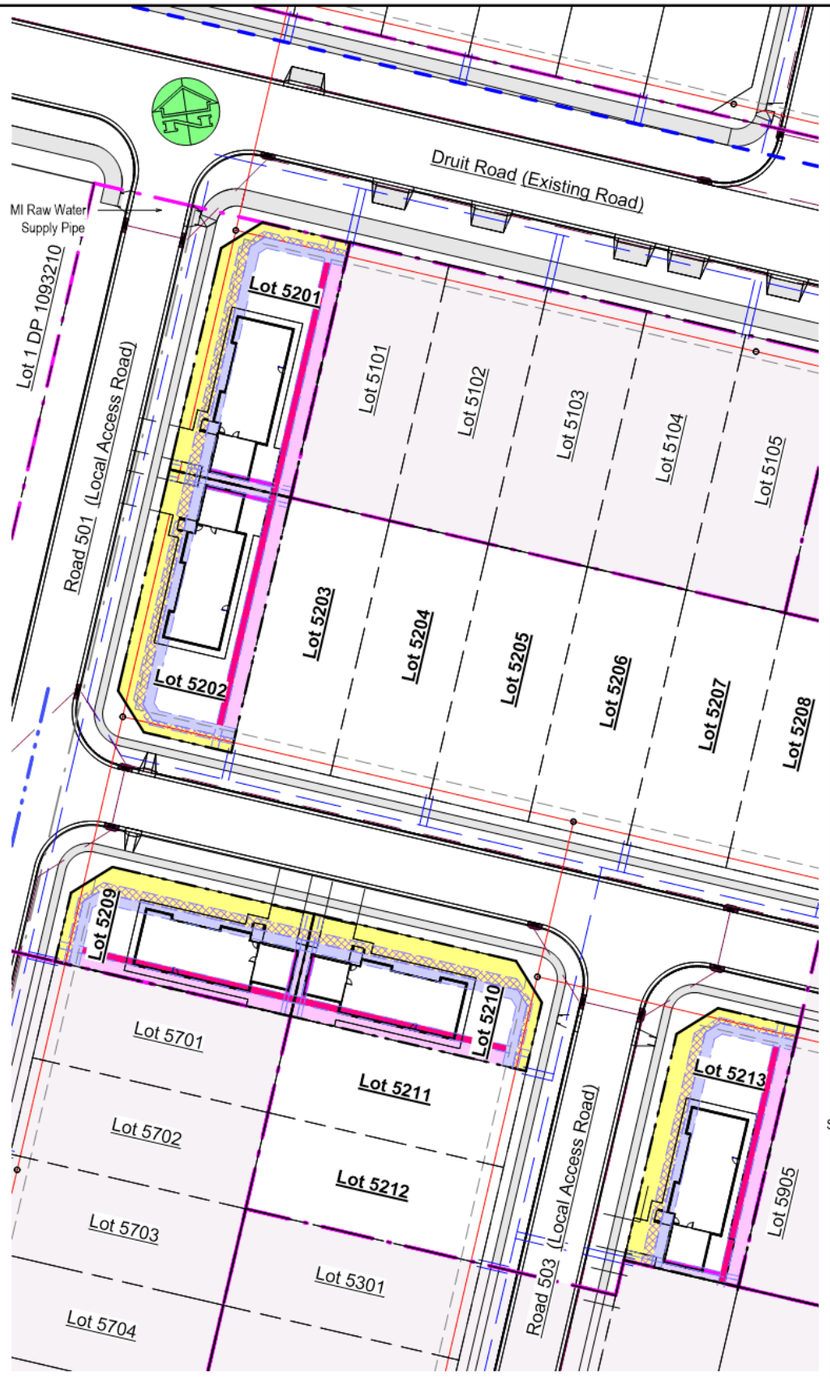
10/08/2026 12:14:50 PM


Lot Layout Stage 1A
Scale: 1 : 750
Druit Road (Existing Road)
Road 501 (Local Access Road)
Boorga Road(Existing Road)
Lot 5201
Lot 5101
Lot 5102
Lot 5103
Lot 5104
Lot 5105
Lot 5111
Lot 5112
Lot 5113
Lot 5114
Lot 5115
Lot 5202
Lot 5203
Lot 5204
Lot 5205
Lot 5206
Lot 5207
Lot 5208
Lot 5901
Lot 5902
Lot 5903
Lot 5904
Open Space
Lot 5900
Lot Layout Stage 1B
Scale: 1 : 750
Druit Road (Existing Road)
Road 501 (Local Access Road)
Boorga Road(Existing Road)
Lot 5201
Lot 5101
Lot 5102
Lot 5103
Lot 5104
Lot 5105
Lot 5111
Lot 5112
Lot 5113
Lot 5114
Lot 5115
Lot 5202
Lot 5203
Lot 5204
Lot 5205
Lot 5206
Lot 5207
Lot 5208
Lot 5901
Lot 5902
Lot 5903
Lot 5904
Open Space
Lot 5900
Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100
Project
Proposed Housing Development
Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW
Lake GARDENS
Client
JZ HOMES
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203
Drawing Title
Site Plan (Stage 1)
Job No: LG-Phase 5
Drawing No: A0-11
Date: 28/8/2025
Scale: As indicated
Page Size: A3
Designed: Zep
Drawn: Dean
Checked: Zep
Rear Setback
Boundary Line
Setback (1 Storey)
Setback (2 Storey)
Easement
Garage Setback
Articulation Zone
Side Setback
Corner (Secondary) Setback
Front (Primary) Setback
Corner Lot Front (Primary) Setback
Setback Legend
Revision Number | Revision Date | Revision Description
A | 8/10/2025 | Issued for Review
B | 12/11/2025 | Issued for Concept DA
C | 22/4/2026 | Lot Layout and Staging Revised
D | 4/5/2026 | Staging Revised & Issued for DA
G | 26/6/2026 | Road Widths & Lots Revised
10/08/2026 12:14:53 PM



General Lot Layout

Scale: 1 : 750



Alt Corner Lot Layout

Scale: 1 : 750

Designed

JZ MANAGEMENT

design@jzmanagement.com.au

(Zep) 0408 696 458 - (James) 0418 623 100

Project

Proposed Housing Development

Project Address

Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client

JZ HOMES

Ocupency

Concept DA for Phase 5
Lot 1 DP 1278203

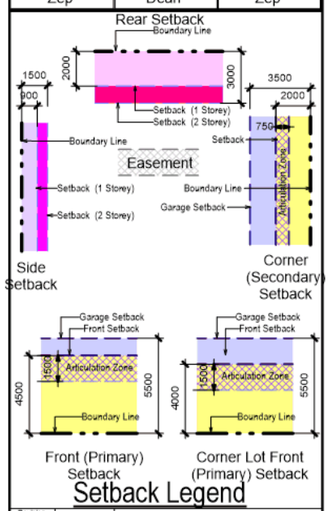
Drawing Title

Site Plan (Stage 2)

Job No:	Drawing No:
LG-Phase 5	A0-12

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

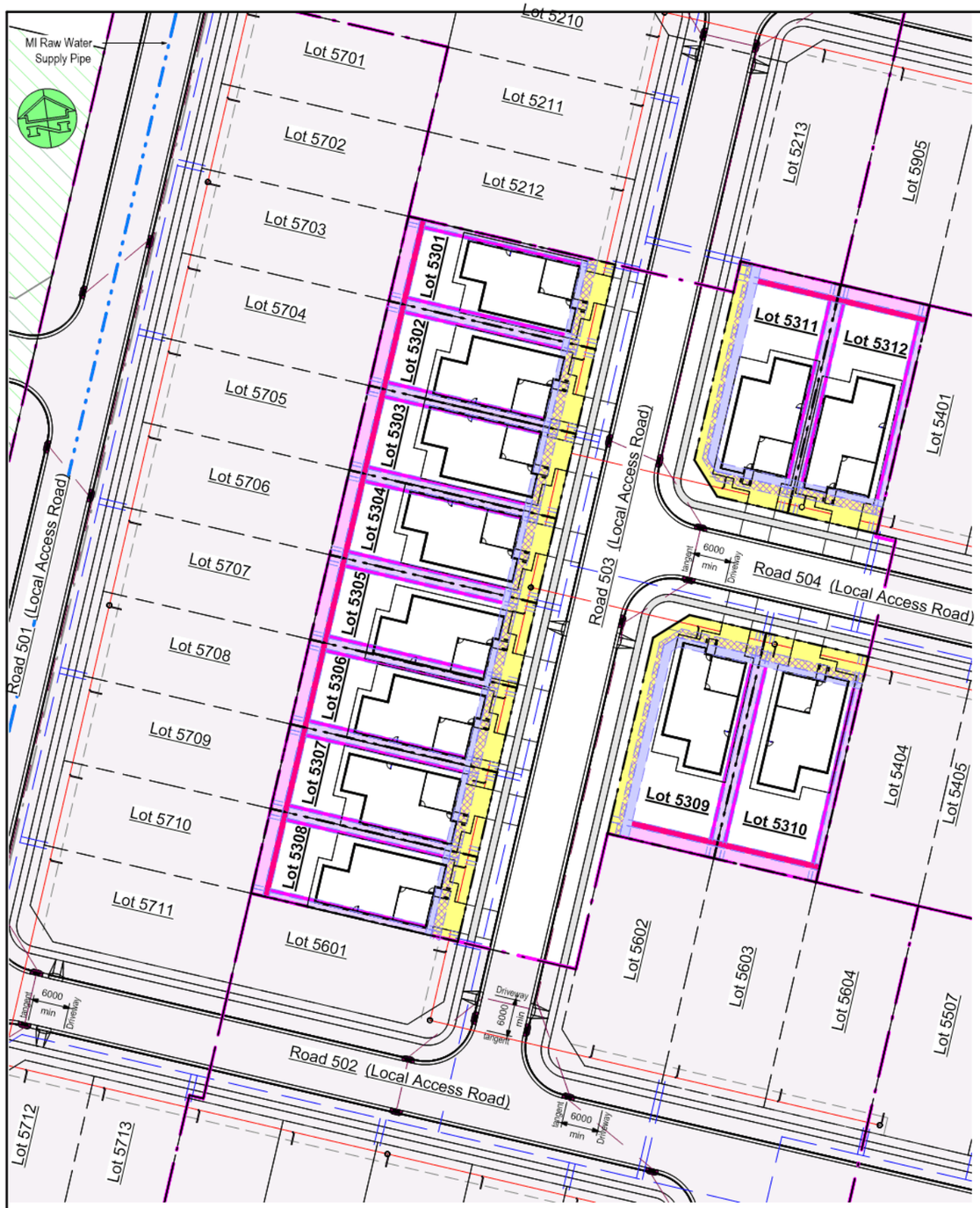
Designed:	Drawn:	Checked:
Zep	Dean	Zep



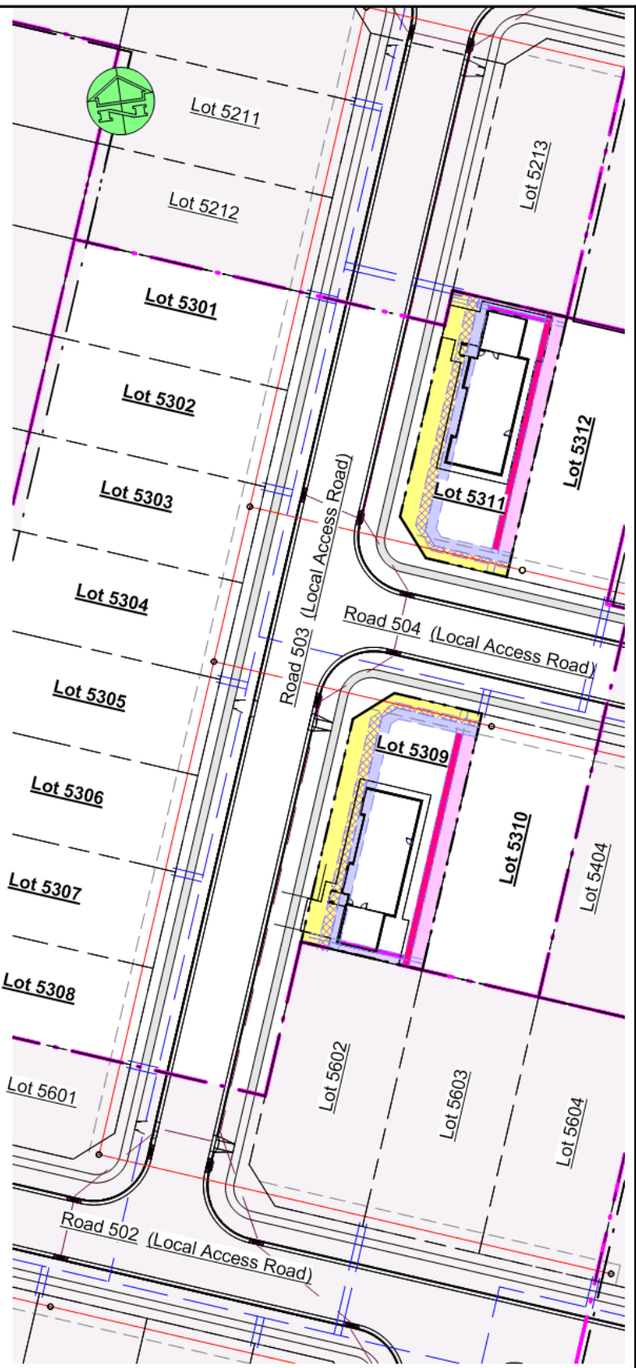
Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:14:56 PM



General Lot Layout
Scale: 1 : 750



Alt Corner Lot Layout
Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

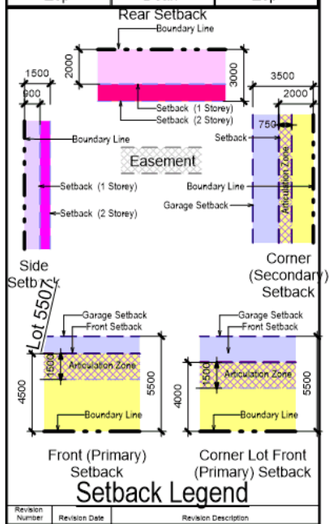
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Site Plan (Stage 3)

Job No:	Drawing No:
LG-Phase 5	A0-13

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

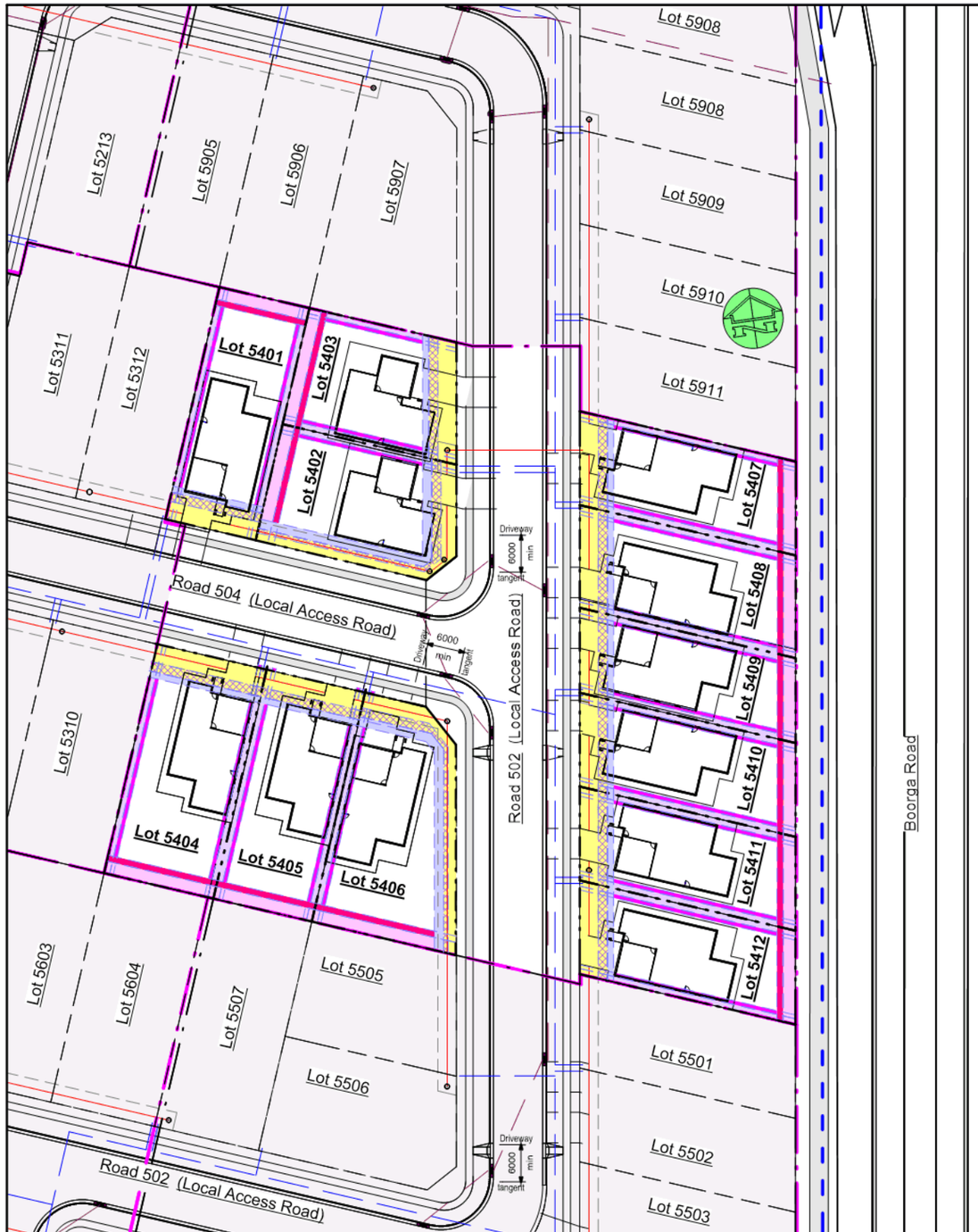
Designed:	Drawn:	Checked:
Zep	Dean	Zep



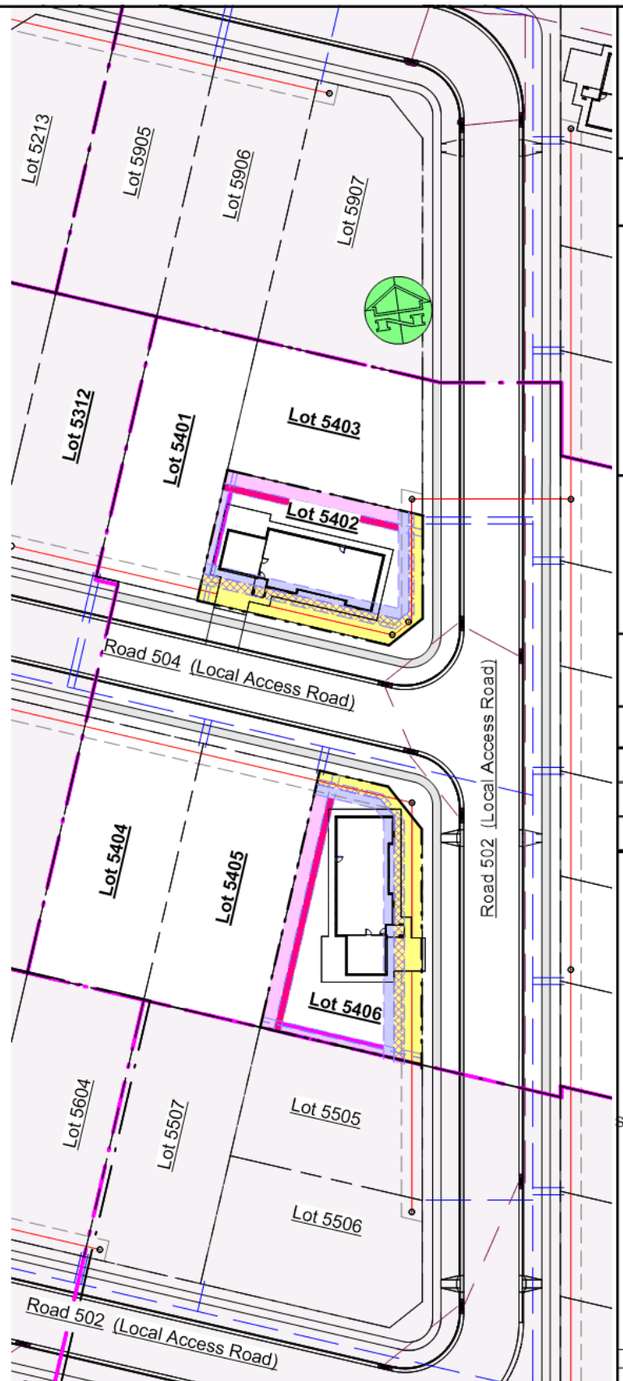
Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:14:59 PM



General Lot Layout
Scale: 1 : 750



Alt Corner Lot Layout
Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

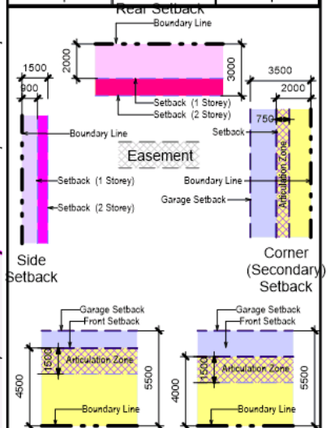
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Site Plan (Stage 4)

Job No:	Drawing No:
LG-Phase 5	A0-14

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

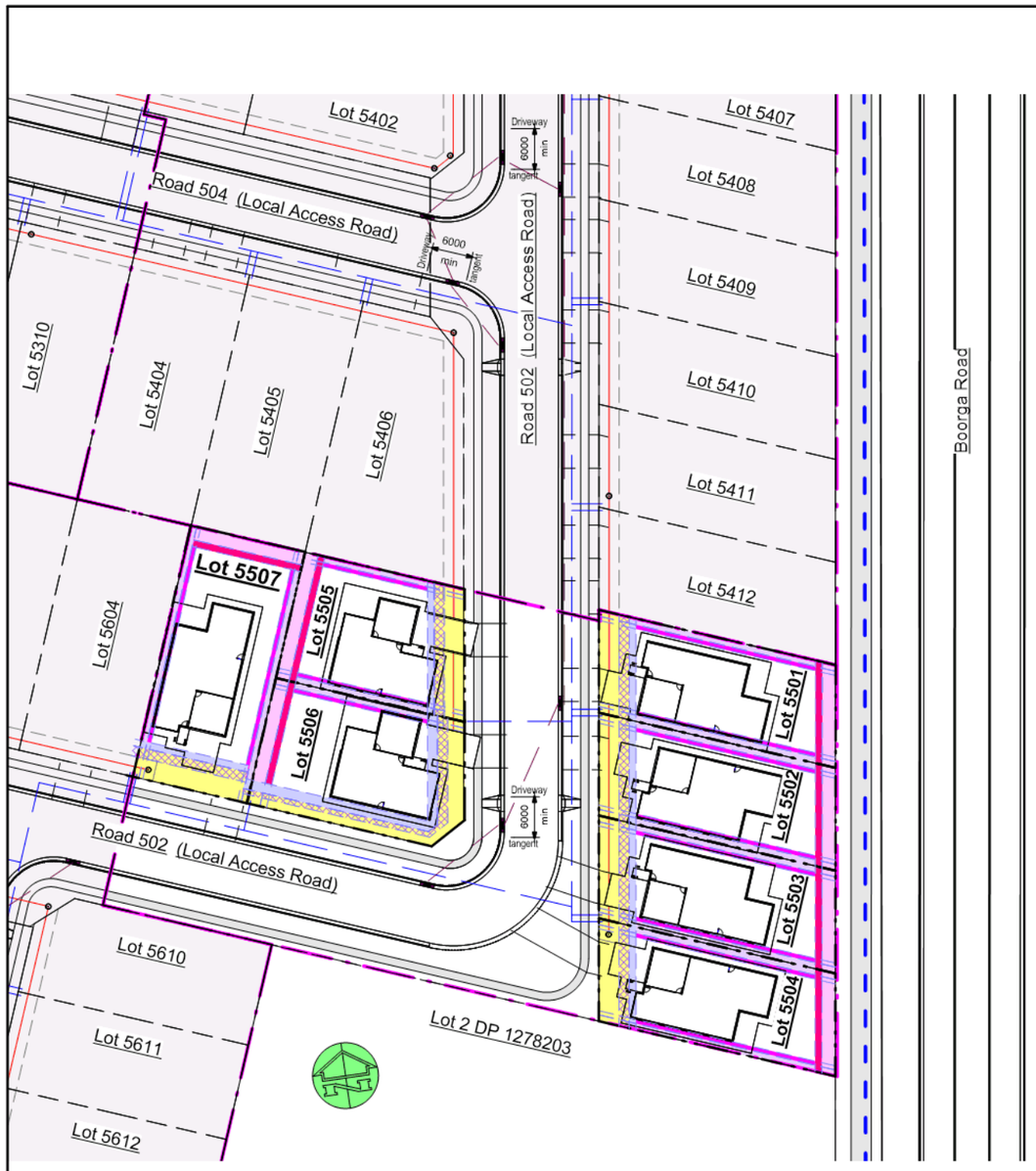
Designed:	Drawn:	Checked:
Zep	Dean	Zep



Front (Primary) Setback
Corner Lot Front (Primary) Setback
Setback Legend

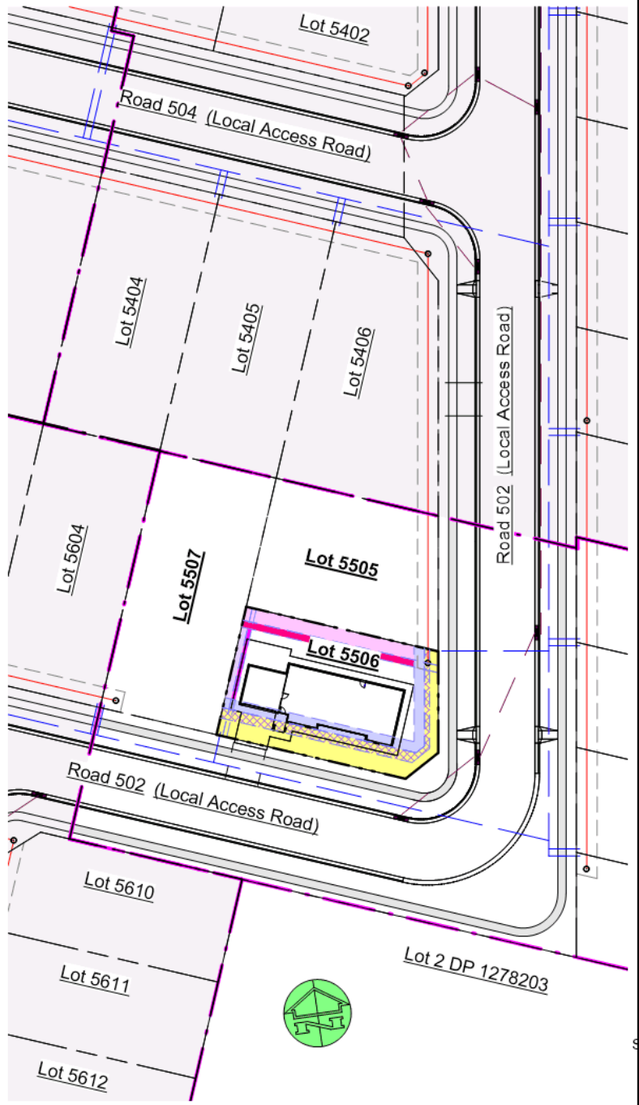
Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	28/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:02 PM



General Lot Layout

Scale: 1 : 750



Alt Corner Lot Layout

Scale: 1 : 750

Designed

JZ MANAGEMENT

design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client

JZ HOMES

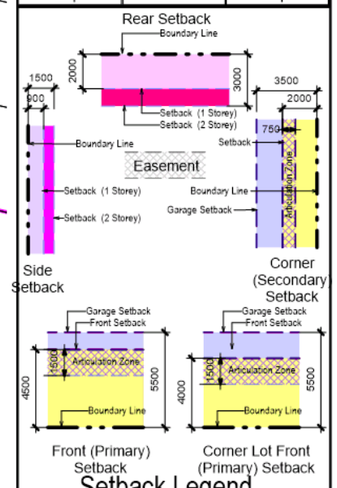
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Site Plan (Stage 5)

Job No:	Drawing No:
LG-Phase 5	A0-15

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep



Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:04 PM

General Lot Layout

Scale: 1 : 750



Alt Corner Lot Layout

Scale: 1 : 750

Designed

JZ MANAGEMENT

design@jzmanagement.com.au

(Zep) 0408 696 458 - (James) 0418 623 100

Project

Proposed Housing Development

Project Address

Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client

JZ HOMES

Ocupency

Concept DA for Phase 5
Lot 1 DP 1278203

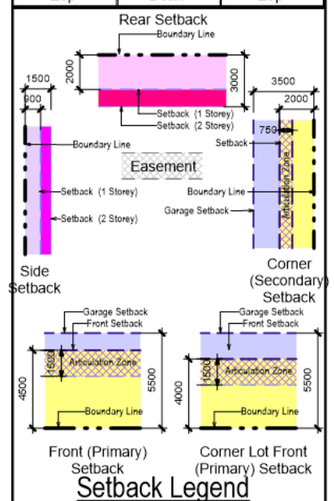
Drawing Title

Site Plan (Stage 6)

Job No:	Drawing No:
LG-Phase 5	A0-16

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep



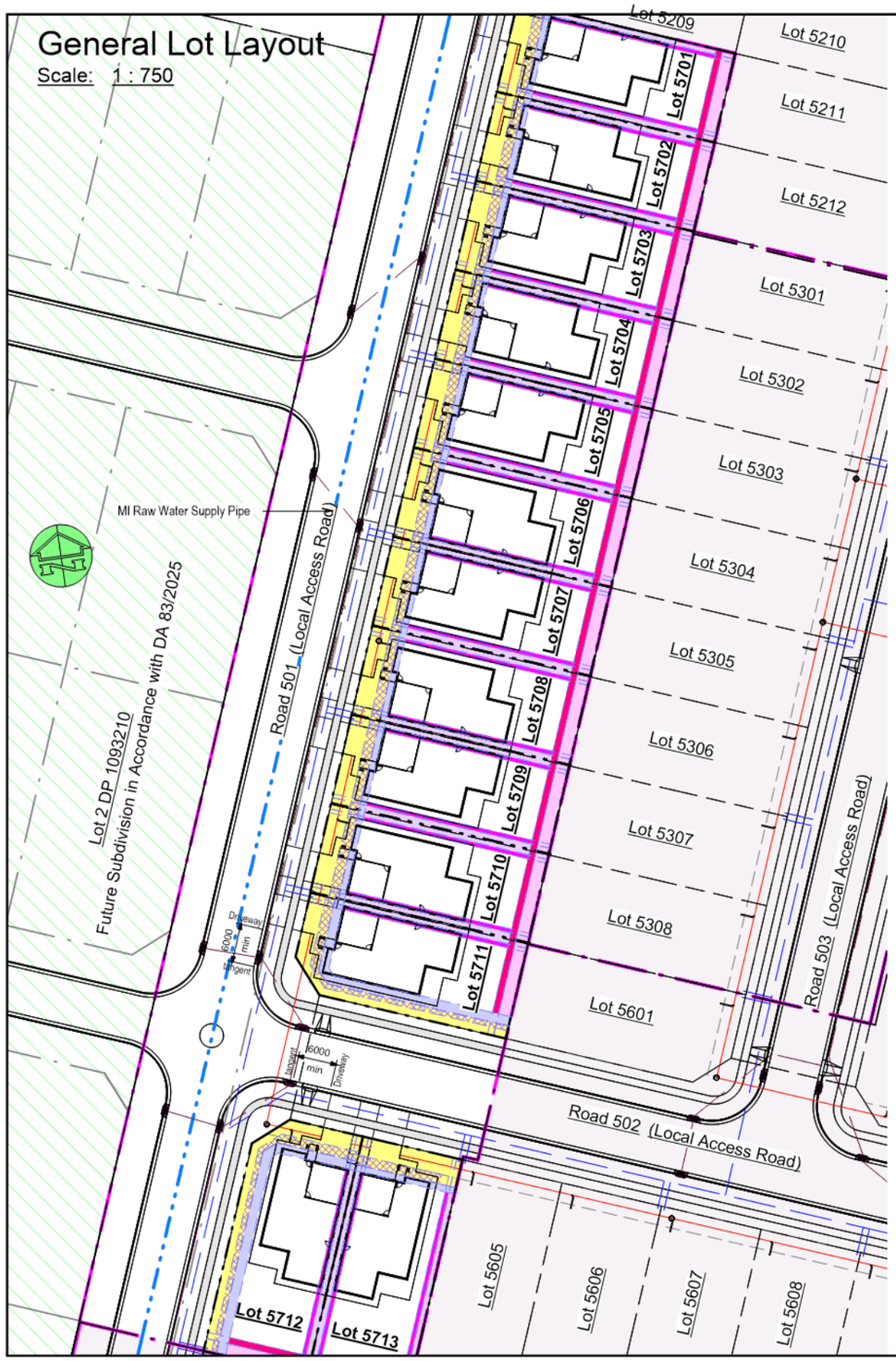
Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:07 PM

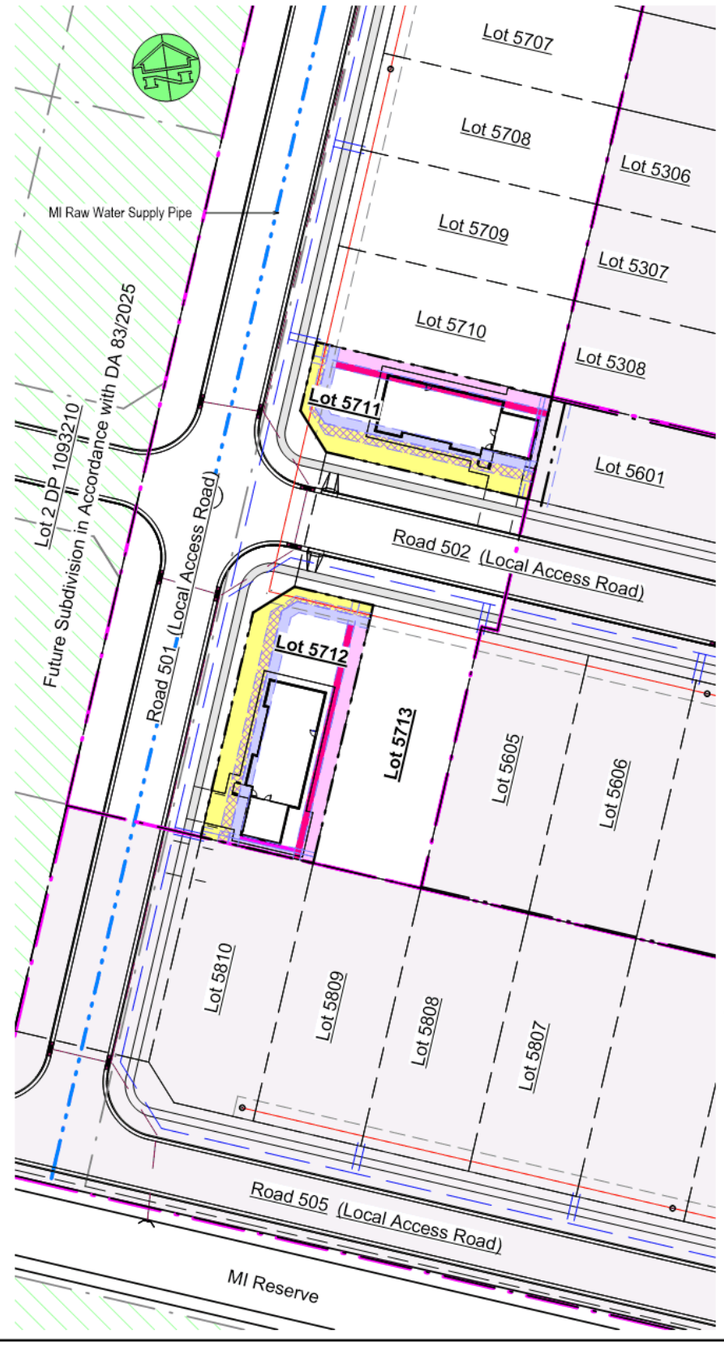
General Lot Layout

Scale: 1 : 750



Alt Corner Lot Layout

Scale: 1 : 750



Designed

JZ MANAGEMENT

design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project: Proposed Housing Development

Project Address: Lake Gardens Estate, Boorga Rd Lake Wyangan NSW

LAKE GARDENS

Client: **JZ HOMES**

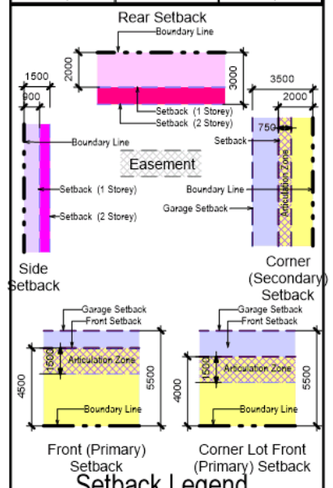
Ocupency: Concept DA for Phase 5 Lot 1 DP 1278203

Drawing Title: Site Plan (Stage 7)

Job No:	Drawing No:
LG-Phase 5	A0-17

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep



Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/8/2026	Road Widths & Lots Revised

10/08/2026 12:15:09 PM



Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

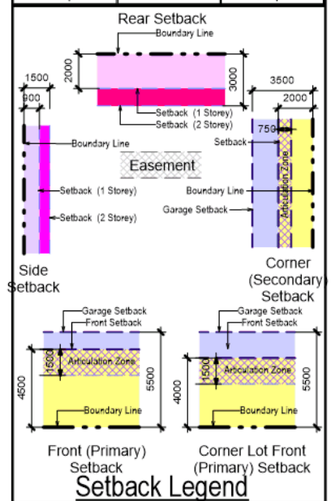
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Site Plan (Stage 8)

Job No:	Drawing No:
LG-Phase 5	A0-18

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

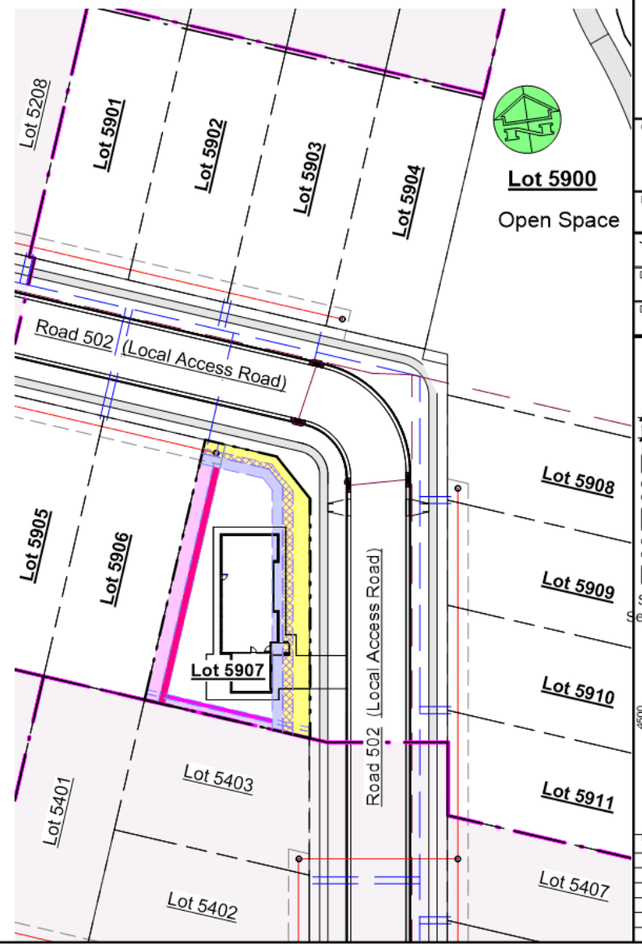


Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:11 PM





Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

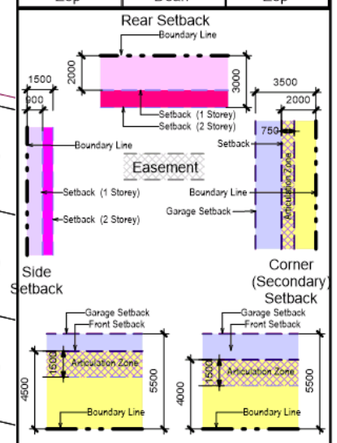
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title
Site Plan (Stage 9)

Job No:	Drawing No:
LG-Phase 5	A0-19

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep



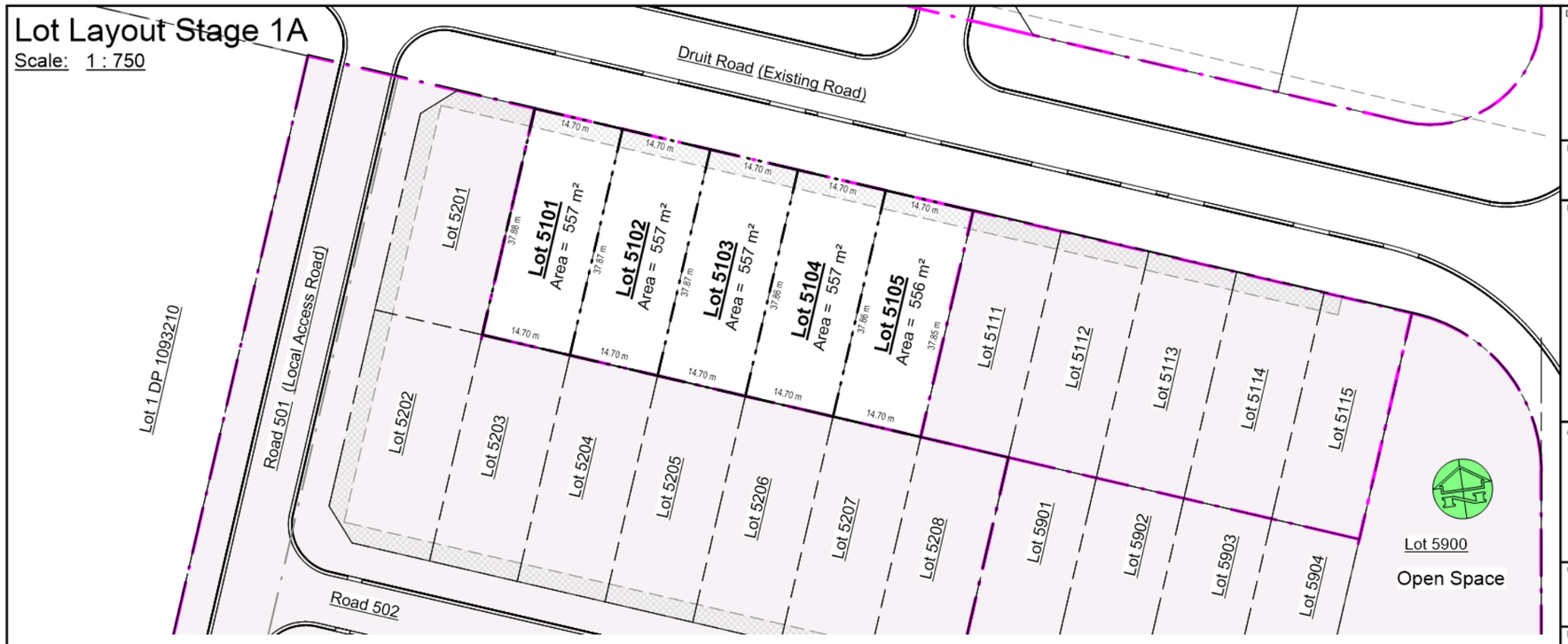
Setback Legend

Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:14 PM

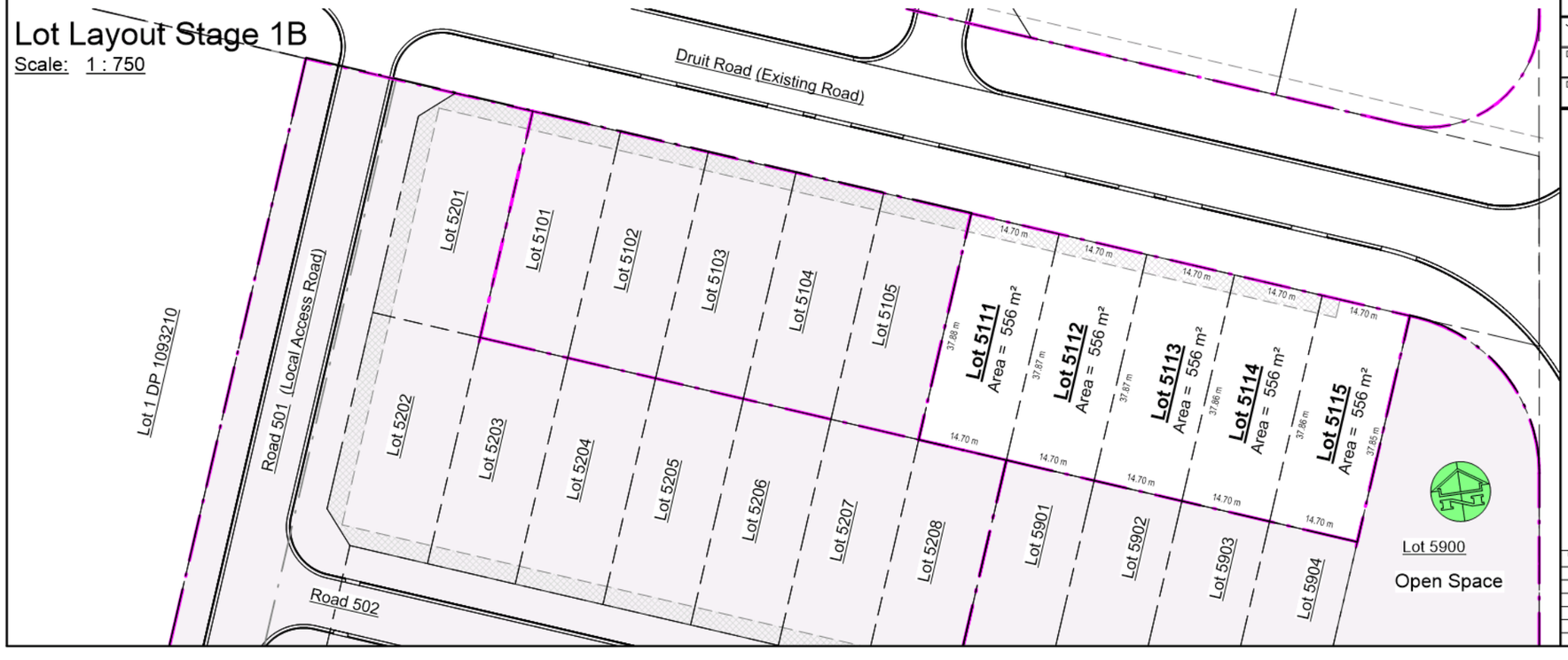
Lot Layout Stage 1A

Scale: 1 : 750



Lot Layout Stage 1B

Scale: 1 : 750



Designed

JZ MANAGEMENT

design@jzmanagement.com.au

(Zep) 0408 696 458 - (James) 0418 623 100

Project

Proposed Housing Development

Project Address

Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client

JZ HOMES

Ocupency

Concept DA for Phase 5
Lot 1 DP 1278203

Drawing Title

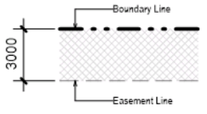
Lot Layout (Stage 1)

Job No:	Drawing No:
LG-Phase 5	L0-11

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

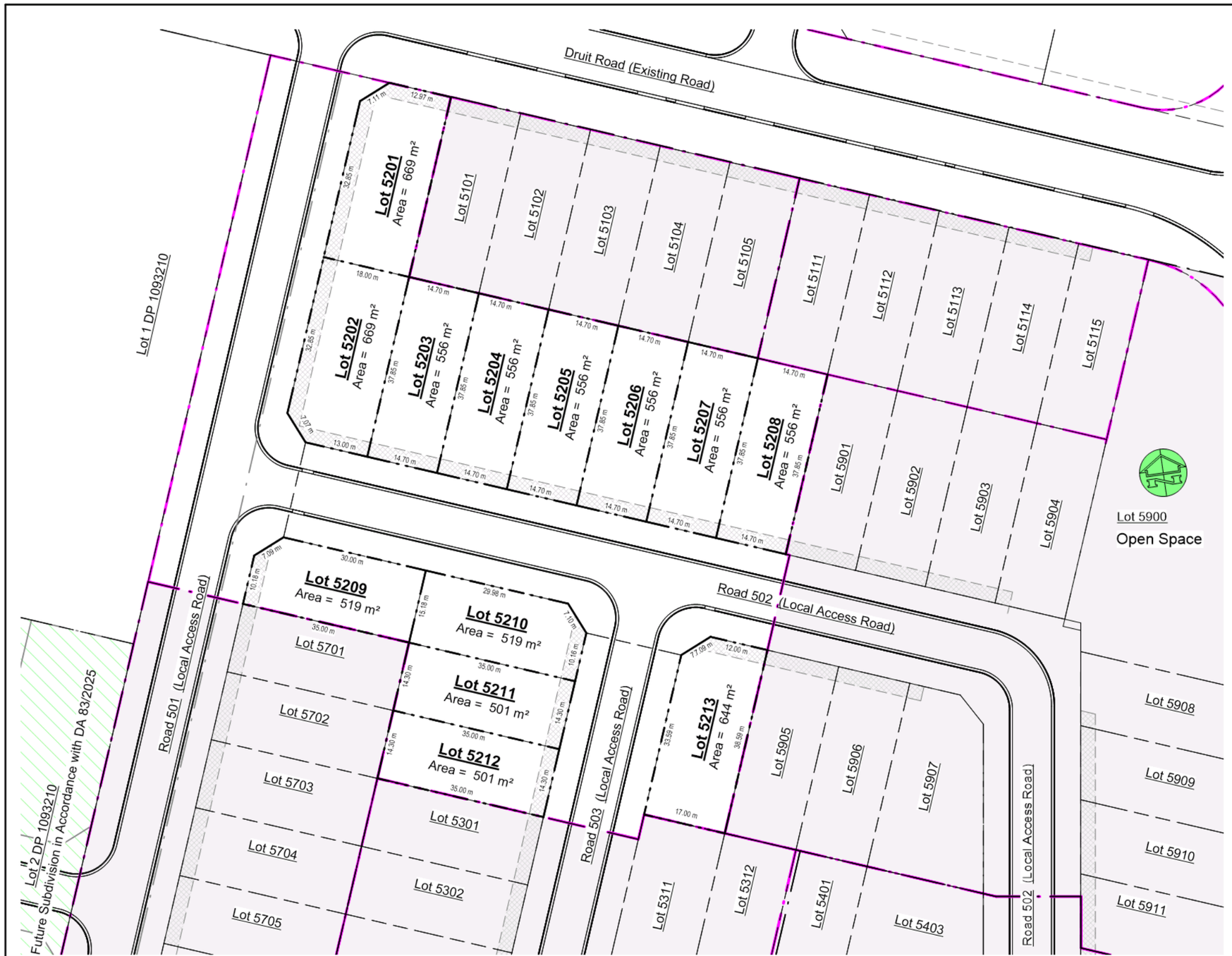
Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer & Drainage



Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:15 PM



Lot Layout Stage 2
Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

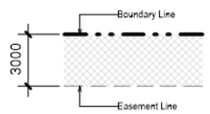
Drawing Title
Lot Layout (Stage 2)

Job No:	Drawing No:
LG-Phase 5	L0-12

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

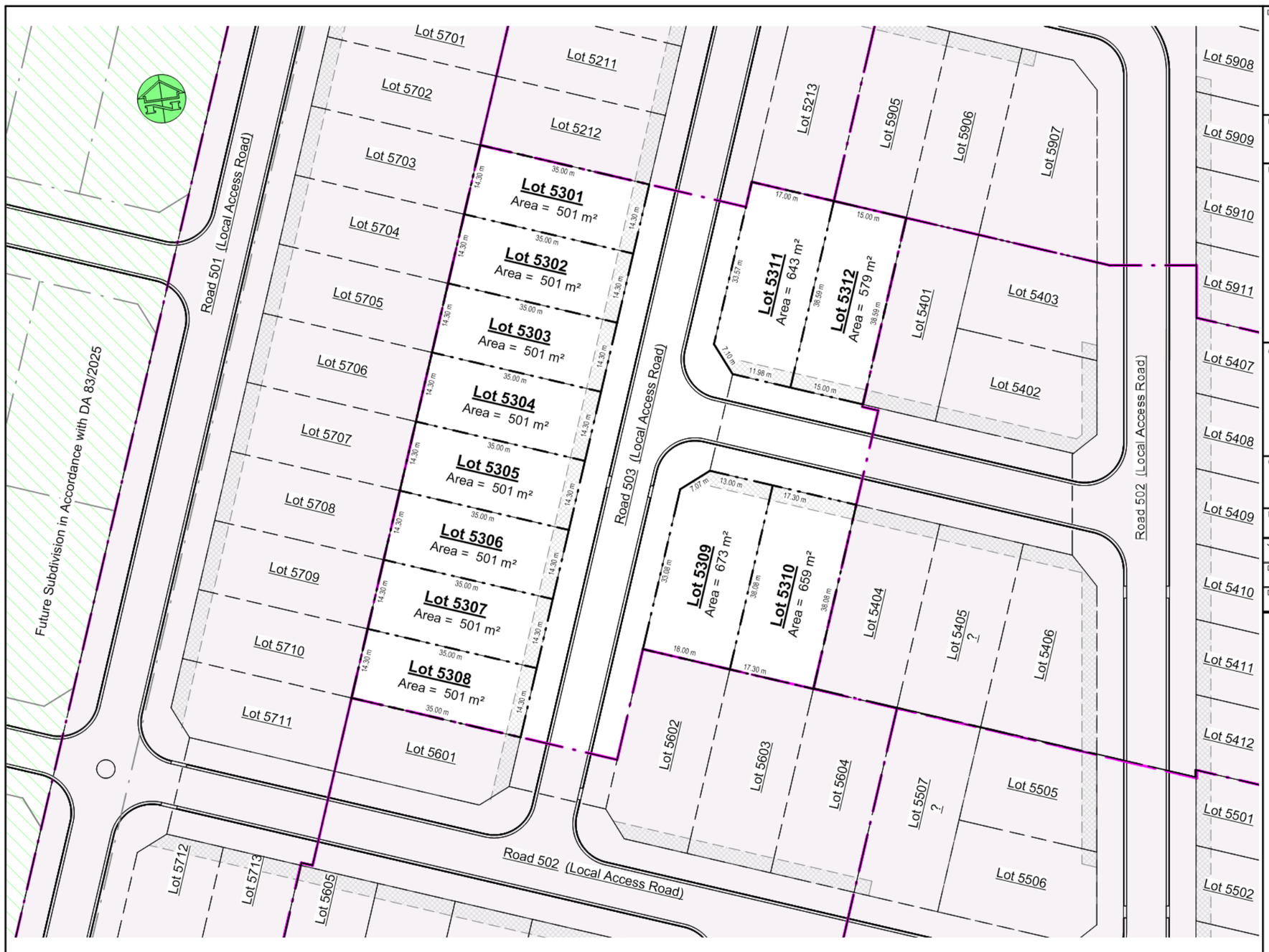
Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer



Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:17 PM



Lot Layout Stage 3

Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

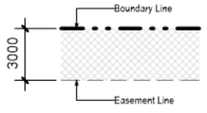
Drawing Title
Lot Layout (Stage 3)

Job No:	Drawing No:
LG-Phase 5	L0-13

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

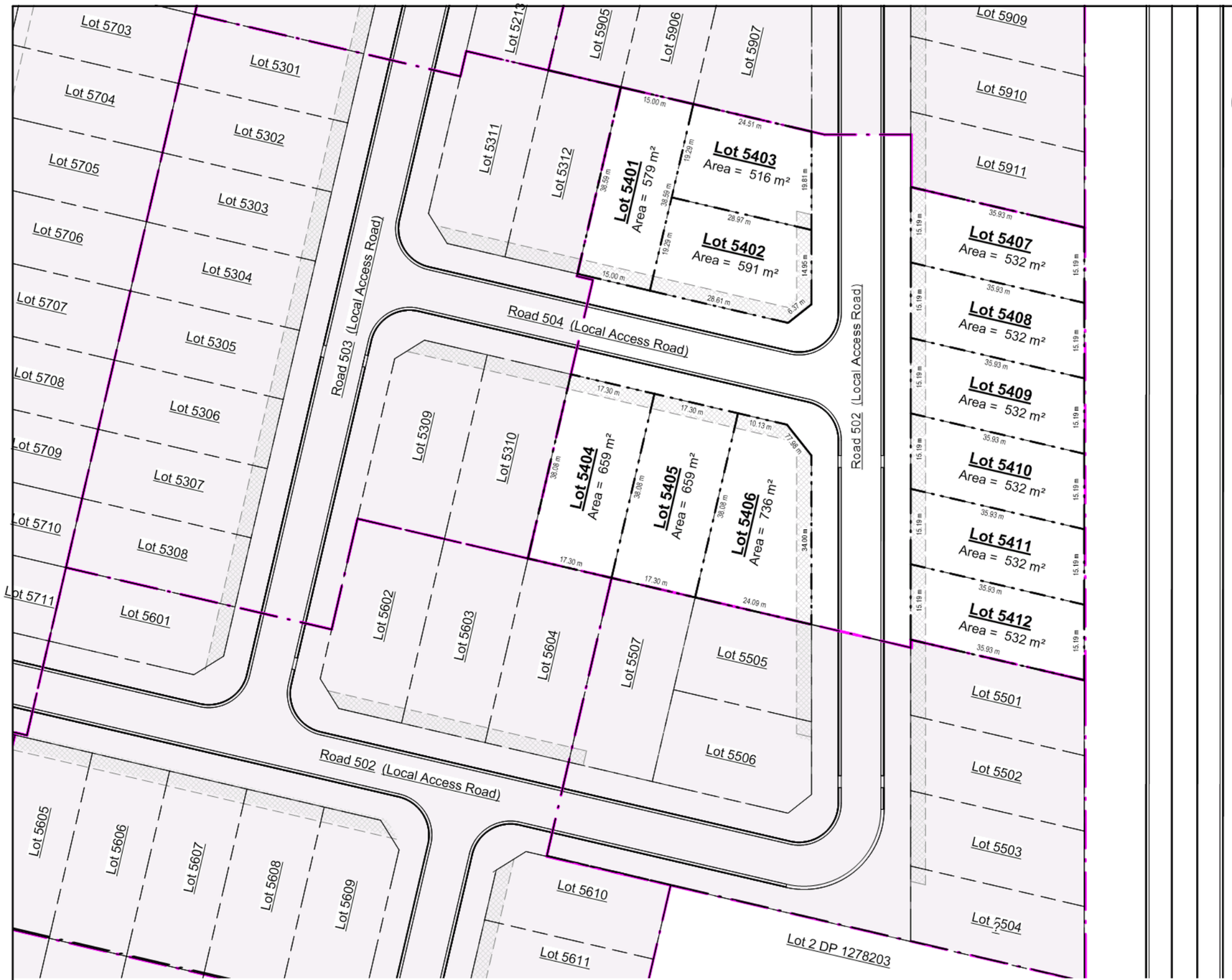
Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer



Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	28/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:18 PM



Lot Layout Stage 4

Scale: 1 : 750

Designed

JZ MANAGEMENT

design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client

JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

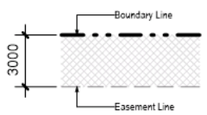
Drawing Title
Lot Layout (Stage 4)

Job No:	Drawing No:
LG-Phase 5	L0-14

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

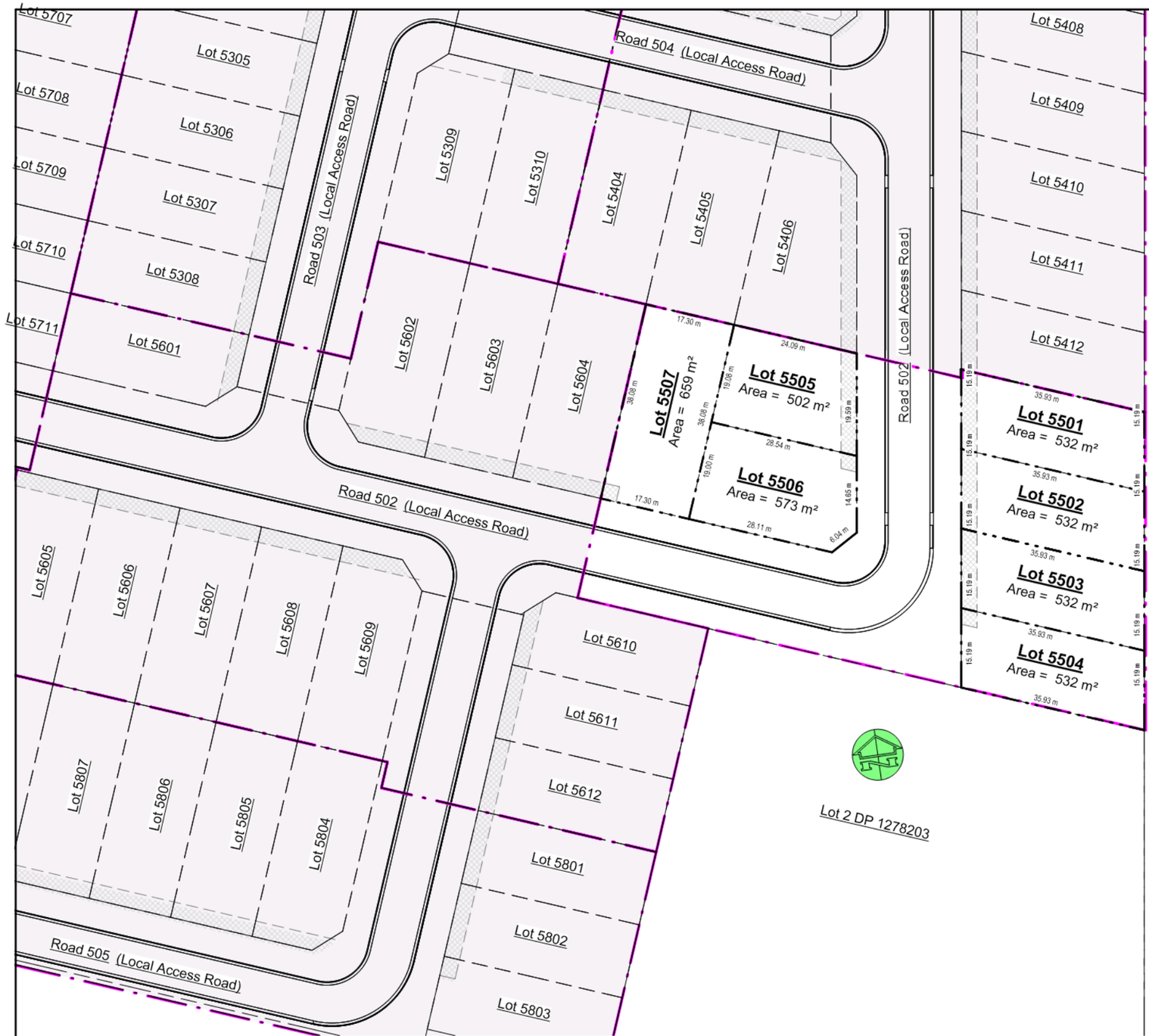
Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer



Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:19 PM



Lot Layout Stage 5
Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

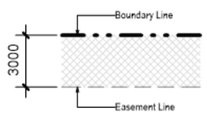
Drawing Title
Lot Layout (Stage 5)

Job No:	Drawing No:
LG-Phase 5	L0-15

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

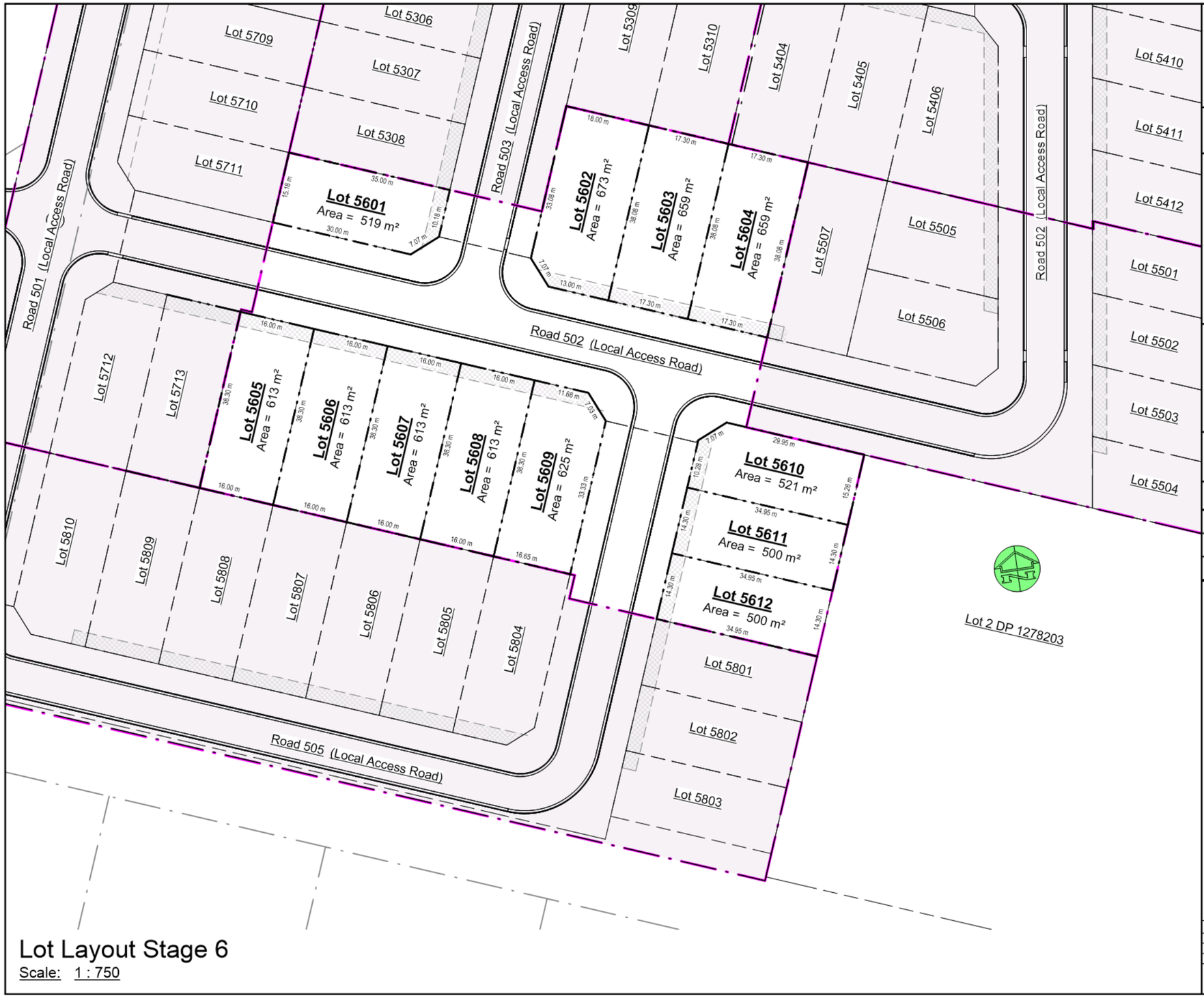
Designed:	Drawn:	Checked:
Zep	Dean	Zep

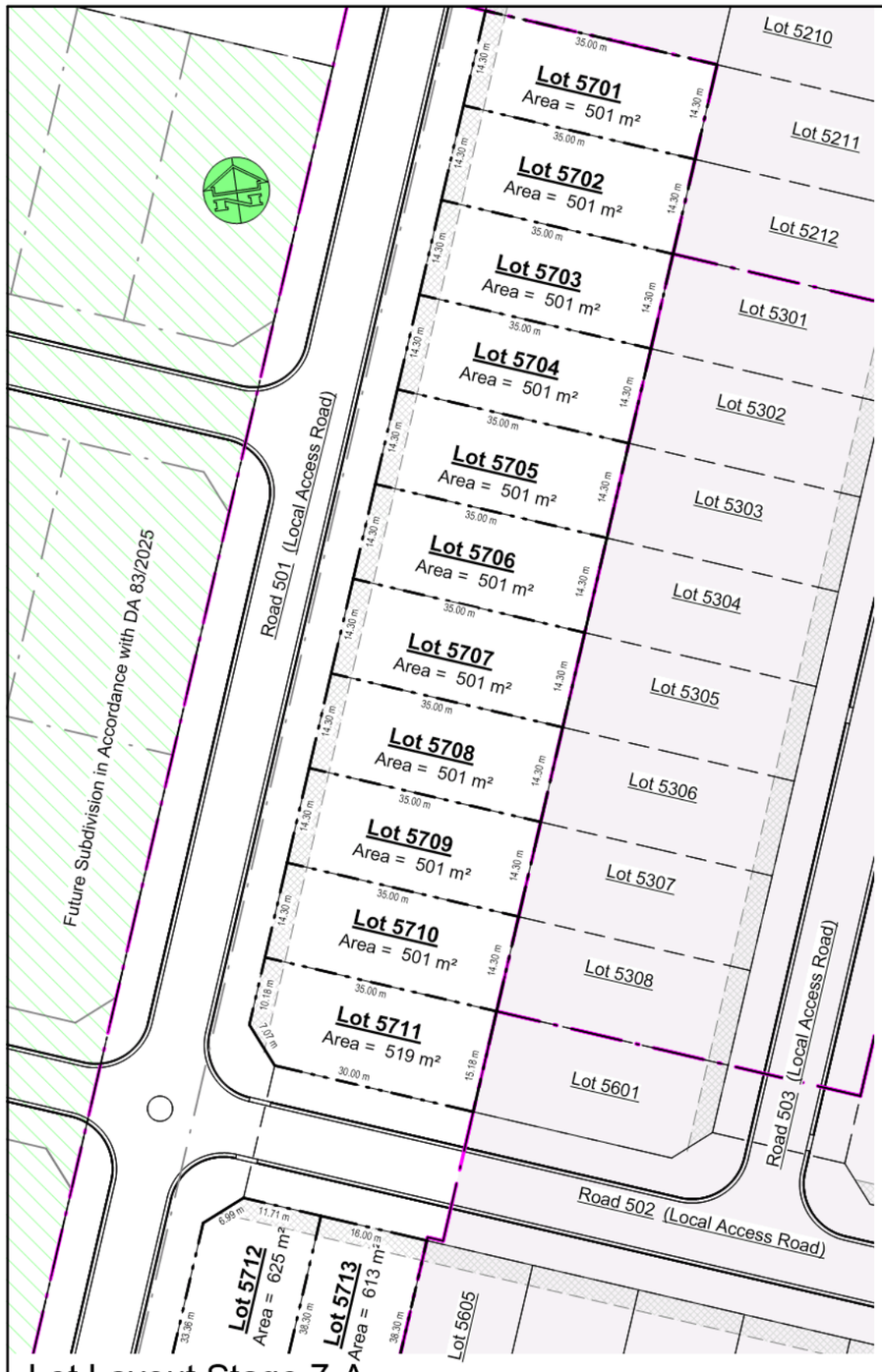
Easement for Sewer



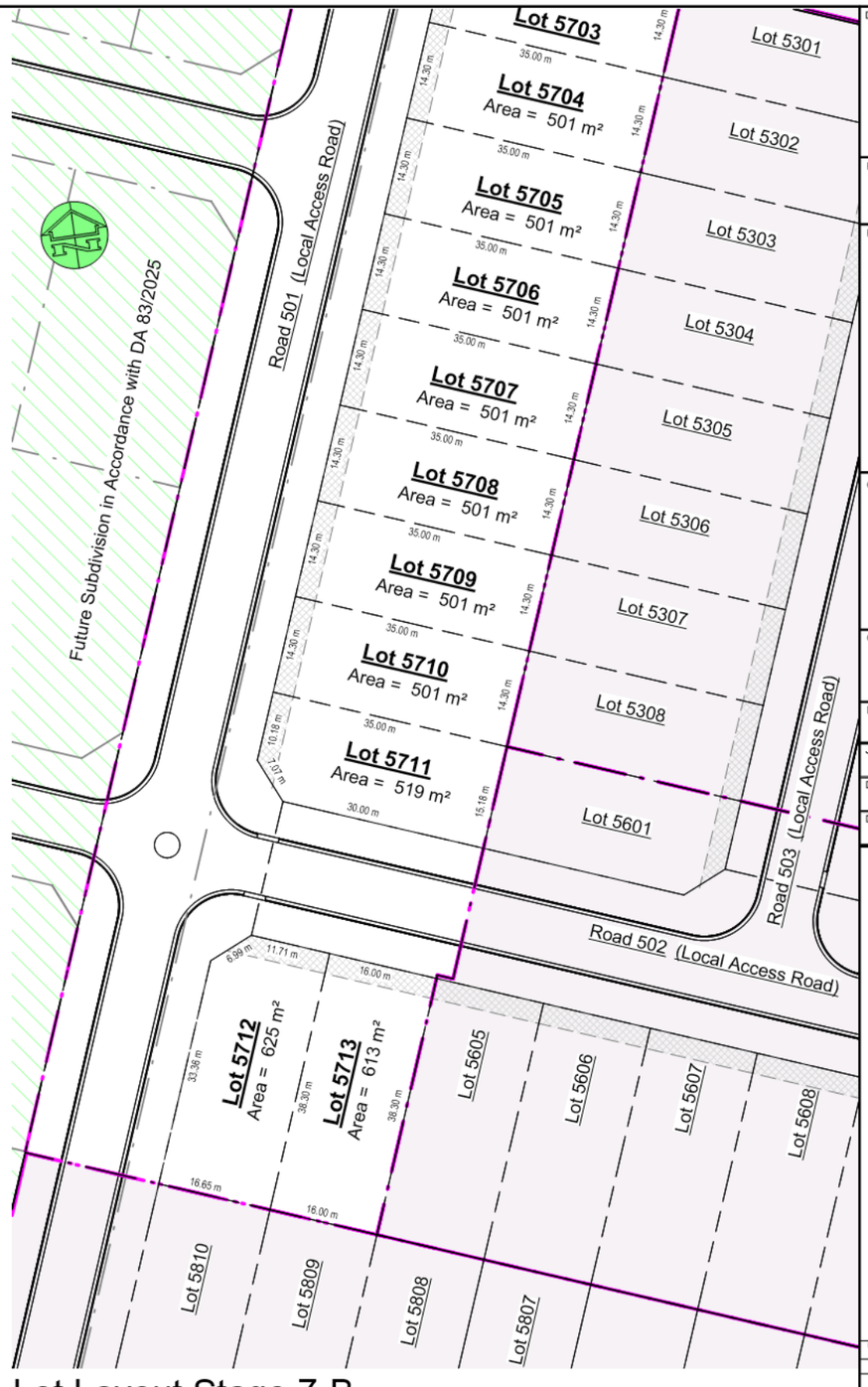
Revision Number	Revision Date	Revision Description
A	8/10/2025	Issued for Review
B	12/11/2025	Issued for Concept DA
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:21 PM


Lot 5709
Lot 5306
Lot 5307
Lot 5710
Lot 5308
Lot 5711
Lot 5601
Area = 519 m²
Road 501 (Local Access Road)
Road 503 (Local Access Road)
Lot 5309
Lot 5310
Lot 5404
Lot 5405
Lot 5406
Lot 5602
Area = 673 m²
Lot 5603
Area = 659 m²
Lot 5604
Area = 659 m²
Lot 5507
Lot 5505
Lot 5506
Road 502 (Local Access Road)
Lot 5410
Lot 5411
Lot 5412
Lot 5501
Lot 5502
Lot 5503
Lot 5504
Lot 5712
Lot 5713
Lot 5605
Area = 613 m²
Lot 5606
Area = 613 m²
Lot 5607
Area = 613 m²
Lot 5608
Area = 613 m²
Lot 5609
Area = 625 m²
Lot 5610
Area = 521 m²
Lot 5611
Area = 500 m²
Lot 5612
Area = 500 m²
Lot 5810
Lot 5809
Lot 5808
Lot 5807
Lot 5806
Lot 5805
Lot 5804
Lot 5801
Lot 5802
Lot 5803
Road 505 (Local Access Road)
Lot 2 DP 1278203
Lot Layout Stage 6
Scale: 1 : 750
Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100
Project
Proposed Housing Development
Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW
Lake GARDENS
Client
JZ HOMES
Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203
Drawing Title
Lot Layout (Stage 6)
Job No: LG-Phase 5
Drawing No: L0-16
Date: 28/8/2025
Scale: As indicated
Page Size: A3
Designed: Zep
Drawn: Dean
Checked: Zep
Easement for Sewer
Boundary Line
3000
Easement Line
Revision Number | Revision Date | Revision Description
C | 22/4/2026 | Lot Layout and Staging Revised
D | 4/5/2026 | Staging Revised & Issued for DA
G | 26/6/2026 | Road Widths & Lots Revised
10/08/2026 12:15:22 PM



Lot Layout Stage 7-A
Scale: 1 : 750



Lot Layout Stage 7-B
Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

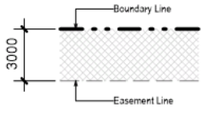
Drawing Title
Lot Layout (Stage 7)

Job No:	Drawing No:
LG-Phase 5	L0-17

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

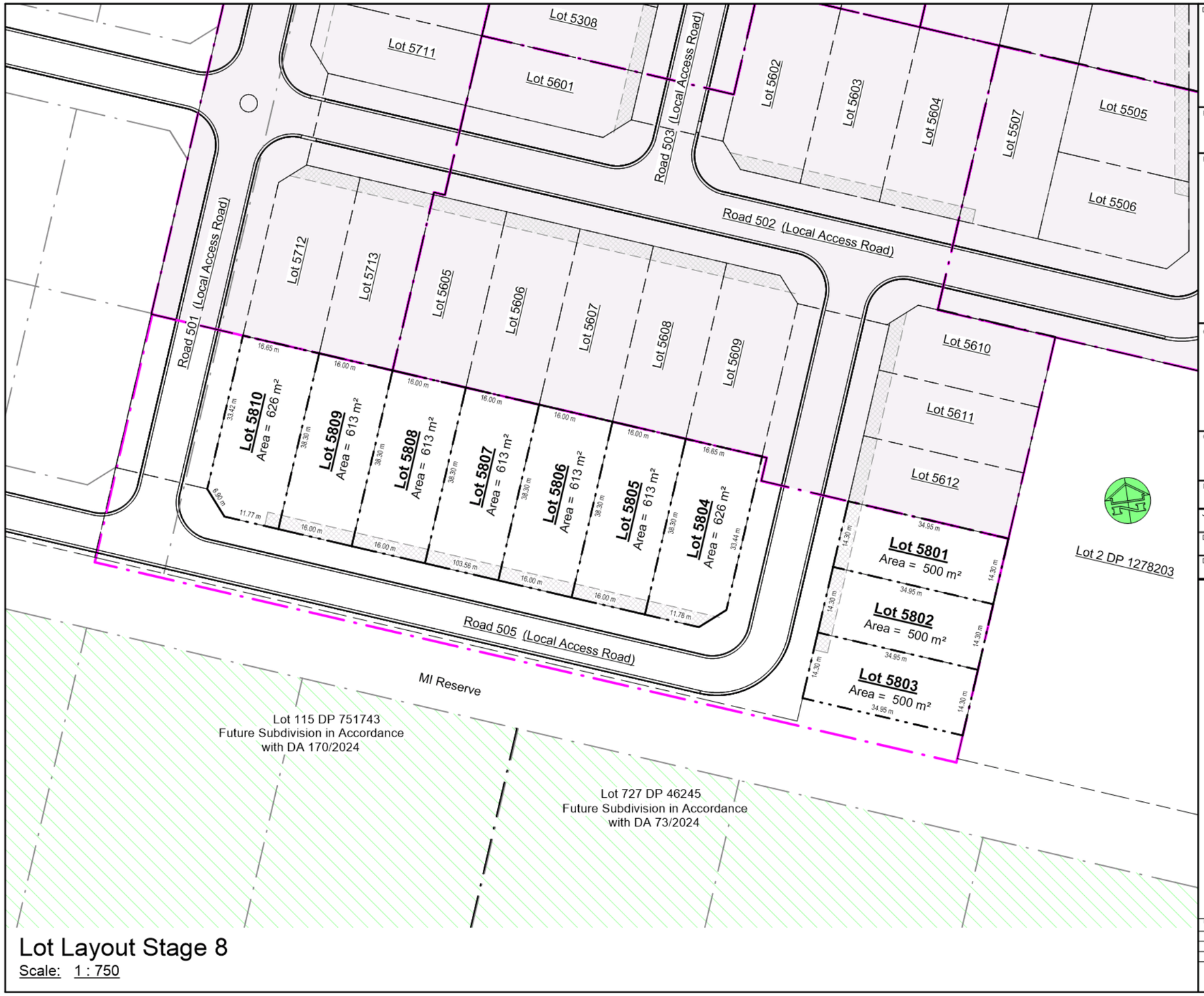
Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer



Revision Number	Revision Date	Revision Description
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:23 PM



Lot Layout Stage 8

Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

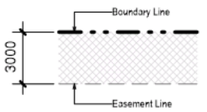
Drawing Title
Lot Layout (Stage 8)

Job No:	Drawing No:
LG-Phase 5	L0-18

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer



Revision Number	Revision Date	Revision Description
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:25 PM



Lot Layout Stage 9

Scale: 1 : 750

Designed
JZ MANAGEMENT
design@jzmanagement.com.au
(Zep) 0408 696 458 - (James) 0418 623 100

Project
Proposed Housing Development

Project Address
Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake GARDENS

Client
JZ HOMES

Ocupency
Concept DA for Phase 5
Lot 1 DP 1278203

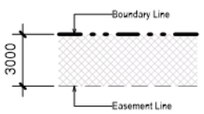
Drawing Title
Lot Layout (Stage 9)

Job No:	Drawing No:
LG-Phase 5	L0-19

Date:	Scale:	Page Size:
28/8/2025	As indicated	A3

Designed:	Drawn:	Checked:
Zep	Dean	Zep

Easement for Sewer



Revision Number	Revision Date	Revision Description
C	22/4/2026	Lot Layout and Staging Revised
D	4/5/2026	Staging Revised & Issued for DA
G	26/6/2026	Road Widths & Lots Revised

10/08/2026 12:15:26 PM

MiaPlan
Urban & Regional Planning

Lake Gardens Estate
Boorga Rd Lake Wyangan
NSW

Lake
GARDENS

Statement of Environmental Effects

Concept Proposal and Staged Development Application

Subdivision & Construction of Dwellings

Boorga & Druitt Road, Lake Wyangan

Lot 1 DP 1278203 & Lot 286 DP 1196929

Title: Statement of Environmental Effects, Concept Proposal and Staged Development Application: Subdivision & Construction of Dwellings, Boorga & Druitt Road, Lake Wyangan, Lot 1 DP 1278203 & Lot 286 DP 1196929

Prepared for:

JZ MANAGEMENT

Prepared by:

Linden Favero

MiaPlan

MiaPlan Urban & Regional Planning

PO Box 1025

Griffith NSW 2680

E: [redacted]

P: [redacted]

ABN: 60 268 251 698

Date of final issue: May 2026 & Amended August 2026

Copyright © MiaPlan. The information contained in this document is subject to copyright under the provisions of the Copyright Act 1968 and may not be reproduced in any form without the written consent of Linden Favero of MiaPlan.

Disclaimer: The information contained in this document is based on knowledge and understanding at the time of writing in May 2026, and has been prepared in good faith on behalf of the client. MiaPlan takes no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties).

Contents

1. Summary 4
2. Introduction & Overview 5
3. Strategic Context 6
5. Background, History & Future Forecast 12
6. Proposed Development 12
7. Statutory Framework 25
8. Development Control Plans 40
9. Impact Assessment 48
10. Conclusion 50
Appendix 1 - Request for a Variation to a Development Standard 51

1. Summary

This Statement of Environmental Effects has been prepared in support of a staged subdivision and concept development proposal at Boorga Road, Lake Wyangan. The subject site is zoned *RU5 Village* and is located in the urban release area included in the Lake Wyangan Master Plan. This application seeks consent to undertake the staged Torrens title subdivision of Lot 1 DP 127803 & Lot 286 DP 1196929, Boorga Road over nine stages resulting in 100 new allotments and one open space lot. The concept proposal outlines the development of a single dwelling on each lot created as part of the staged subdivision development. The proposed lot sizes and design of each home aims to be affordable, sustainable, stylish and contemporary. The application is made on behalf of JZ Management Pty Ltd and Lakes Gardens Estate.

The concept proposal has been lodged in accordance with section 4.24 of the EP& A Act. An assessment of the relevant matters for consideration are included in this Statement of Environmental Effects and concludes that the proposal complies with all applicable controls specified in Chapter 12 of the *Griffith Residential Development Control Plan 2022*, and the proposal achieves the relevant provisions of the *Griffith Local Environmental Plan 2014* and the *Environmental Planning and Assessment Act 1979.* It is noted that a request for a variation to a development standard is included as part of this application, relating to minimum lot sizes.

This Statement of Environmental Effects has been made with refence to the following documents:

Document	Prepared by
Subdivision and Concept document set	JZ Management Pty Ltd
Limited Phase 2 Site Investigation	Aitken Rowe
Lake Gardens Open Spaces concept	JZ Management Pty Ltd

2. Introduction & Overview

2.1 Overview of Concept Development Applications

A concept development application is a development application that:

- Sets out concept proposals for the development of a site (which may include detailed proposals for the first stage of development); and
- for which detailed proposals for the site (or part of the site) are to be the subject of subsequent development applications.

A concept development consent approves concept proposals. The approval of these concept proposals sets the parameters for the determination of any further development application in respect of a site. The idea is to 'lock in' a concept for a proposed development, but still allow detailed plans for each subsequent stage of the development to be submitted subsequently— in 'detailed' development application(s).

While a concept development consent for a site remains in force, the determination of any further development application in respect of the site cannot be inconsistent with the concept development consent — as per section 4.24(2) of the *Environmental Planning and Assessment Act 1979* (the EP&A Act). It is common across NSW to issue a concept development consent to approve something as simple as a building envelope for subsequent stages which would require detailed development applications to be submitted at a later date. This permits Council, neighbours and key stakeholders to understand the proposed vision for a site and how it will be developed in stages. This provides surety in the development process for all interested parties. Concept development consents may be modified, provided that the 'substantially the same' test is met.

2.2 Concept Proposal

The Concept Development Application has been submitted under Section 4.22 of the *Environmental Planning and Assessment Act 1979*. The purpose of submitting the Concept Development Application is for Council to approve the building footprint of future housing for the Lakes Garden Estate, soon to be commenced as per the Lake Wyangan Master Plan.

3. Strategic Context

3.1 Location and Property Description

The subject site is known as Lot 1 DP 127803 Boorga Road, Lake Wyangan. The subject site is located in the suburb of Lake Wyangan and has frontage to both Boorga Road and Druitt Road. The lot is zoned *RU5 Village* under the *Griffith Local Environmental Plan 2014*. It has a site area of 8ha, and is partially flood affected land, including flood way. The site is not identified on the Biodiversity Significance maps, nor are they identified as having local terrestrial biodiversity significance. The development also includes Lot 286 DP 1196929 an MI reserve of which will be included in the development as a road to be constructed for access to the site and the adjoining subdivision on Druitt Road (DA 83/2025).



Figure 1: Aerial image and outline of the development site.

3.2 Surrounding Uses

The surrounding land uses are a mixture of village, large lot residential, primary production for small-scale farming uses including residential properties, citrus packing sheds, and a public school. Land surrounding the subject site is included in the Lake Wyangan Growth Area and included in the Lake Wyangan Master Plan. Subdivisions for residential purposes have been approved at adjoining sites, specifically DA 83/2025 for a 75 residential lot Torrens title on Druitt Road, and DA 73/2024 for a 20 lot Torrens title at 38 Mallinson Road.



Figure 2: Aerial image of the site, locality, with blue area indicating approved adjoining subdivisions



Figure 3: Figure 3: Locality plan indicating subject site in relation to the Lake Gardens Estate development (hatched in purple) in the Lake Wyangan Growth area.

3.3 Riverina Murray Regional plan 2041

The Riverina Murray Regional Plan 2041 is the NSW Government's strategy for guiding land use planning decisions for the Riverina Murray Region for the next 20 years. The plan identifies goals for land use planning and growth for the Riverina Murray Regional area and sets out directions and actions to implement those goals. Griffith is described in the plan as a: major commercial centre providing higher order goods, services, jobs and facilities to a wider subregion of approximately 50,000 people. It sits within the Murrumbidgee Irrigation Area, one of the most diverse and productive agricultural regions in Australia. The proposal is in line with Objective 6: *Support housing in regional cities and their sub-regions: Higher residential densities will be a focus of urban*

growth in regional cities and should be supported by strategic planning, Strategy 6.1 Strategic and statutory planning for the regional cities will aim to: increase infill and residential densities within or close to the CBD.

3.4 Griffith Housing Strategy 2025

The *Griffith Housing Strategy 2025* identifies that Griffith is growing, and so is the need for more homes:
The city has a strong supply of zoned and master planned land ready now for more than 2,560 new homes. This includes over 1,700 lots in the growth areas of Collina, Hanwood, Lake Wyangan, and Yenda that can be developed for either single homes or multiple dwellings per lot. There is also significant potential for higher-density. But despite this capacity, housing delivery is not keeping pace with demand. Delays in construction, high development costs, infrastructure constraints, and inefficiencies in the NSW planning system to achieve Local Environmental Plan (LEP) amendments and rezonings are slowing supply. These issues are contributing to a persistent shortage of homes, pushing up prices and rents, and making it harder for residents – particularly renters, essential workers, and low-income households to find affordable homes. The Griffith Local Housing Strategy 2025 specifies four key priorities, with the following specifically in line with the proposal:

- ***Priority 1 Increase housing supply and affordability***
    - *Unlocking development-ready land, reducing barriers to delivery, and supporting medium-density and lower-cost housing to improve affordability and meet demand.*
        - *17 Amend Clause 4.1A of the LEP to reduce minimum lot sizes for dual occupancies and multi-dwelling housing, extending the clause to the RU5 – Village and R3 – Medium Density Zones, enabling more affordable lot sizes in existing residential areas*
- ***Priority 2 Expand housing choices to meet diverse needs***
    - *Encouraging a broader range of housing types – including multi-dwellings such as dual occupancies and apartments, secondary dwellings such as granny flats, and moveable dwellings such as tiny homes and manufactured homes – to reflect changing demographics and lifestyles.*
        - *Objective 2.1 – Encourage different types of homes. Encouraging a variety of housing types increases choice and diversity, catering to different household lifestyles and needs. This approach helps create vibrant, inclusive communities, offering options for families, couples without children, individuals, and retirees. By diversifying housing stock, it ensures that Griffith remains adaptable to changing demands and supports sustainable, balanced growth.*
    - *Investigate the decrease of minimum lot sizes in growth areas to 500m2 to boost housing supply, support affordability, and encourage more efficient, diverse, and liveable neighbourhoods.*

- ***Priority 4 Encourage well-located, well-designed, and locally appropriate housing***
    - *Focusing growth in designated areas, promoting sustainable development, and ensuring housing is resilient, liveable, and aligned with Griffith's regional character.*
        - Objective 4.1 – Concentrate housing development in identified growth areas. Griffith's key growth areas – Collina, Hanwood, Lake Wyangan, and Yenda – have strong potential to deliver new housing, with capacity for over 1,700 dwellings ready for development now and more than 3,500 dwellings in total. Focusing development in these areas optimises zoning, planning controls, and infrastructure delivery. A coordinated approach ensures access to essential services like schools, healthcare, and public transport, fostering well-designed, liveable communities while managing growth efficiently.

This proposal is entirely consistent with the priorities identified in the 2025 Housing Strategy. This proposal will deliver well located and well-designed housing in the Lake Wyangan Growth Area, and this application should be supported by Council.

3.5 Griffith Local Strategic Planning Statement

The Griffith LSPS outlines the land use planning vision for the growth and development of Griffith over the next 25 years and identifies the strategic framework to achieve the gaols and assist in decision making and direction. The proposed development is in line with:

Planning Priority 13 – Revitalize and Grow The Villages

Strategy 13.2 – Master Plan village growth areas

Action 13.2B – Finalise And Implement The Master Plan For The Growth Of Lake Wyangan (Short Term): Council will finalise the Master Plan for the Lake Wyangan growth area and prepare contribution plans and DSP's to facilitate new development proposals in 2021.

3.6 Lake Wyangan Master Plan

The subject site is situated within Area 1 of the LWMP sequencing plan, and this application seeks consent for development of this stage of the LWMP. As specified in the LWMP, the lot layout and lot yield is subject to development applications, noting that the lot yield and layout varies from the suggested LWMP design. The proposed design has considered the current drainage works underway which will improve drainage conditions

at the site and will allow the area of land designated as "floodway affected" and "drainage corridor" to be developed for residential lots once those works are completed later this year.



Figure 4: Extract from the Lake Wyangan Master Plan.

5. Background, History & Future Forecast

5.1 Site & Development History

The land was included in an Urban Release Area under the GLEP2014, and has been Master Planned as per the Lake Wyangan Master Plan 2020. Historically, the land has formed part of a farm holding under Lot 1 & 2 DP 792549, and was used for primary production purposes. Due to these historical uses the land is clear of any vegetation. At the time of submission of this application, The Lake Wyangan Residential Housing Enabling Infrastructure Project is being undertaken in the area and on part of this site. it is understood that these works include stormwater channel construction and enhancement, which will improve drainage conditions in the locality and remove the floodway classification on the subject site.

5.2 Economic & Feasibility Considerations

The owners and investors of Lake Gardens Estate are committed to undertake a significant residential development in Lake Wyangan. On completion, the overall Lakes Gardens Estate project will deliver approximately 600 homes to the region, with an estimated investment of approximately $450 million over a period of 10 years. Historically, new housing supply in regional NSW has been expensive and slow to deliver. However, Griffith's population is growing and the demand for more housing remains unmet. JZ Management have recently undertaken a local economic impact analysis on the feasibility of the Lakes Gardens development, due to recent global economic factors which have significantly affected construction costs. Diesel and materials inflation is making new builds less attractive relative to established housing. A significant level of analysis has been performed on the viability of the Lake Gardens development. The recent USA/Iran war and the economic flow on effects to the price of oil and other commodities is a significant variable affecting the feasibility of this development at the present time. Diesel, fertiliser, and logistics costs are all rising sharply and simultaneously. The impacts are particularly acute in rural and regional Australia, where farmers, freight, and agricultural industries rely on diesel to keep harvests moving, transport to markets, and for machinery to operate. This in turn impacts the construction costs to deliver housing due to high fuel costs and its implications on gravel, road building, plastic pipes, concrete and the like. However, the demand for more housing will continue in this region. The application for the staged subdivision of 100 lots and construction of a single dwelling on each lot has been specifically proposed to allow economic feasibility for the developers to deliver additional housing in the Griffith LGA, whilst balancing affordability for investors and homeowners.

6. Proposed Development

The proposal seeks consent for the staged subdivision of Lot 1 DP 1278203 Boorga Road. Specifically, consent is sought via this DA for the Torrens title subdivision over 9 stages. This proposal is the second phase of the housing development at Lake Gardens Estate located on Boorga Road, Lake Wyangan. The concept approval is sought for construction a of single dwelling on each of the subdivided allotments.

6.1 Development Application for Staged Subdivision

Consent is sought for the Torrens title subdivision of the subject site over 9 stages, resulting in 100 new allotments in total at the site. The average lot size is estimated to be 564m^2.

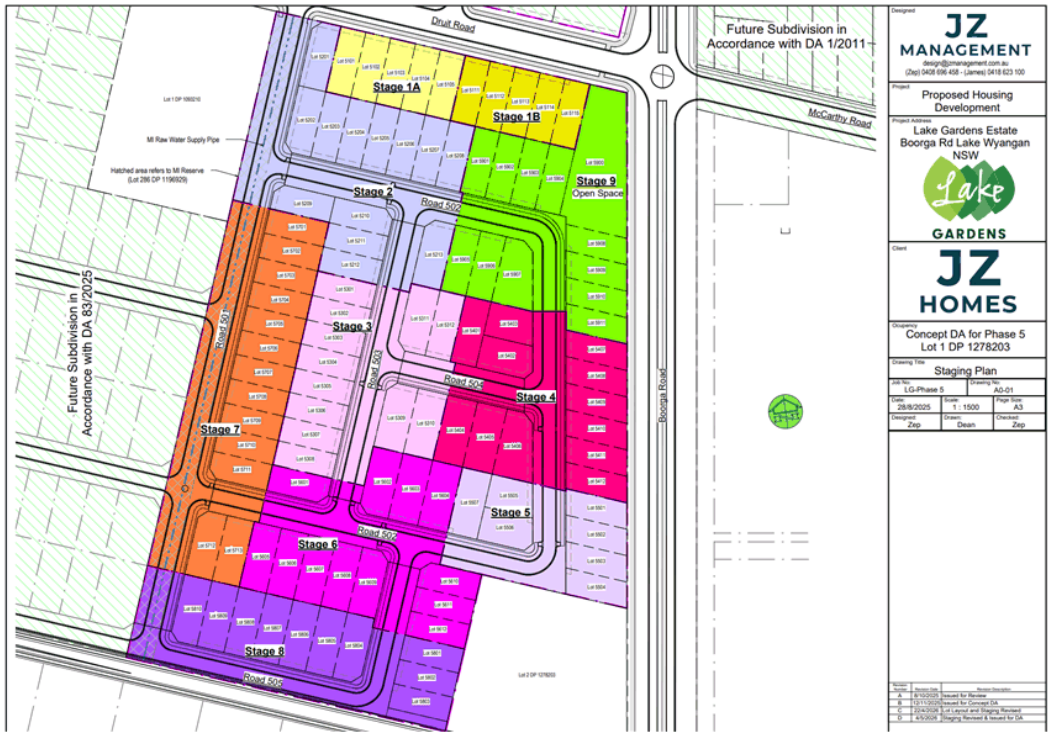


Figure 5: The subdivision of lots is proposed over 9 stages.

Stage 1a & 1b

Stage 1a seeks a subdivision to create 5 lots with lot sizes of 557m^2. These five lots will have frontage and vehicle access to Druitt Road, and lot widths of 14.7m. Stage 1b seeks a subdivision to create 5 lots with lot sizes of 556m^2. These five lots will also have frontage and access to Druitt Road, and lot widths of 14.7m.



Figure 6: Stage 1a & 1b subdivision layout.

Stage 2

Stage 2 includes subdivision to create 13 new lots and partial construction of 3 new local access roads. Lot sizes in this stage range from 501m^2 to 669m^2.

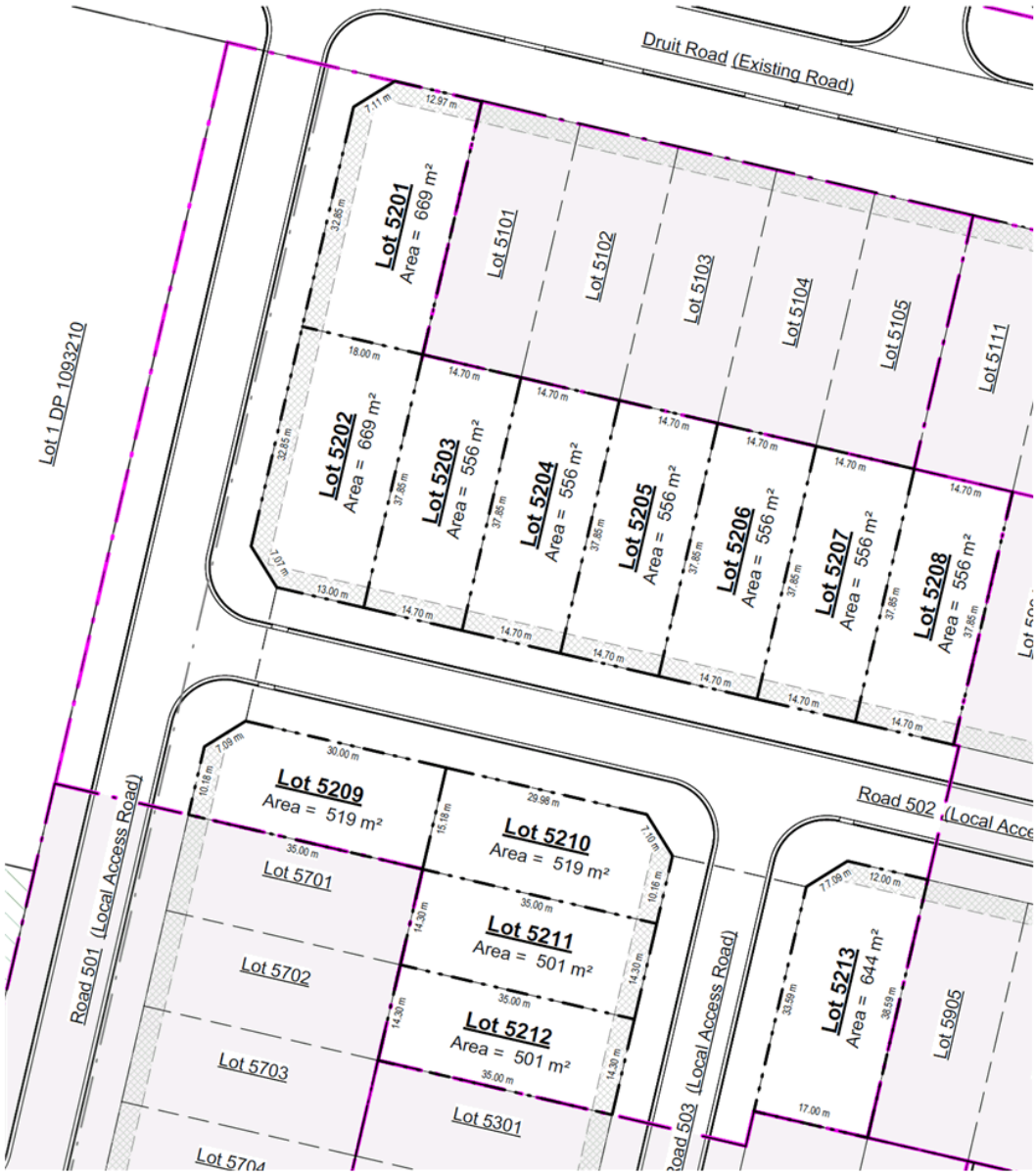


Figure 7: Stage 2 subdivision layout.

Stage 3

Stage 3 includes subdivision to create 12 new lots, and partial construction of a new local access road. Lot sizes in this stage range from 501m^2 to 673m^2.

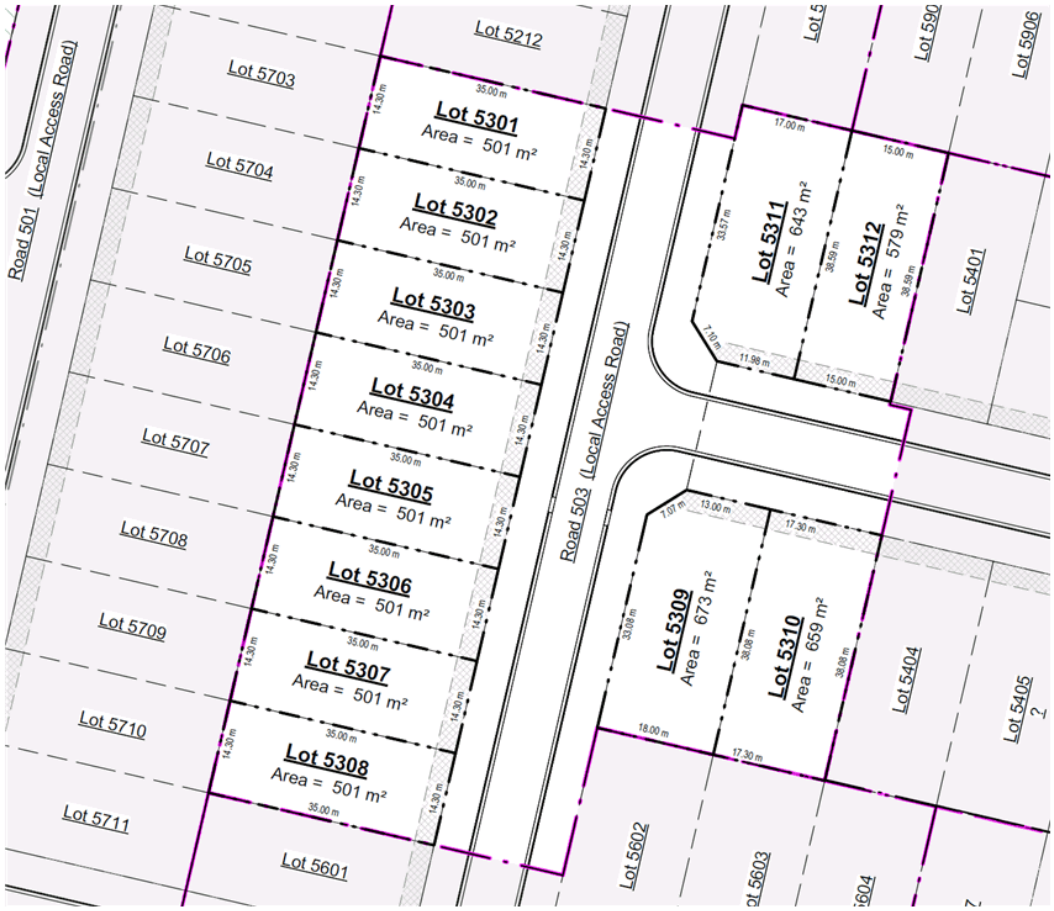


Figure 8: Stage 3 subdivision layout.

Stage 4

Stage 4 includes subdivision to create 12 new lots, and partial construction of a two local access road. Lot sizes in this stage range from 516m^2 to 736m^2. Future dwellings may be designed to address to Boorga Road, with vehicle access from the proposed local access road.

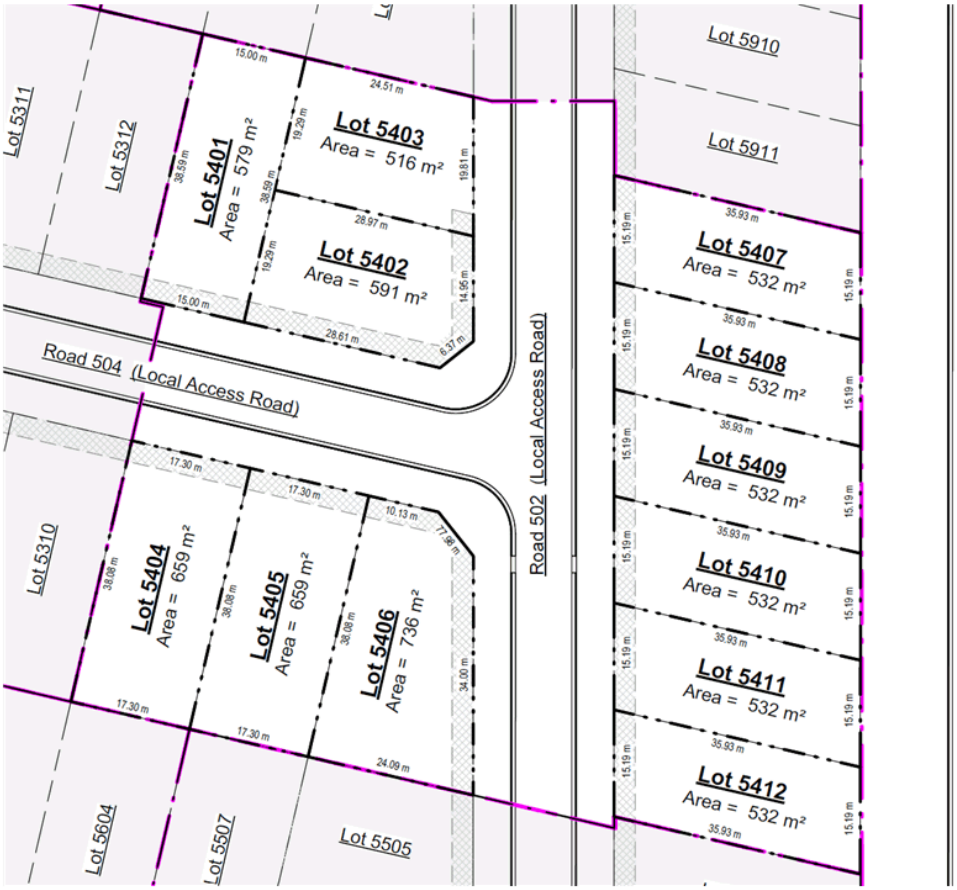


Figure 9: Stage 4 subdivision layout.

Stage 5

Stage 5 includes subdivision to create 7 new lots, and partial construction of a new local access road. Lot sizes in this stage range from 502m^2 to 659m^2.

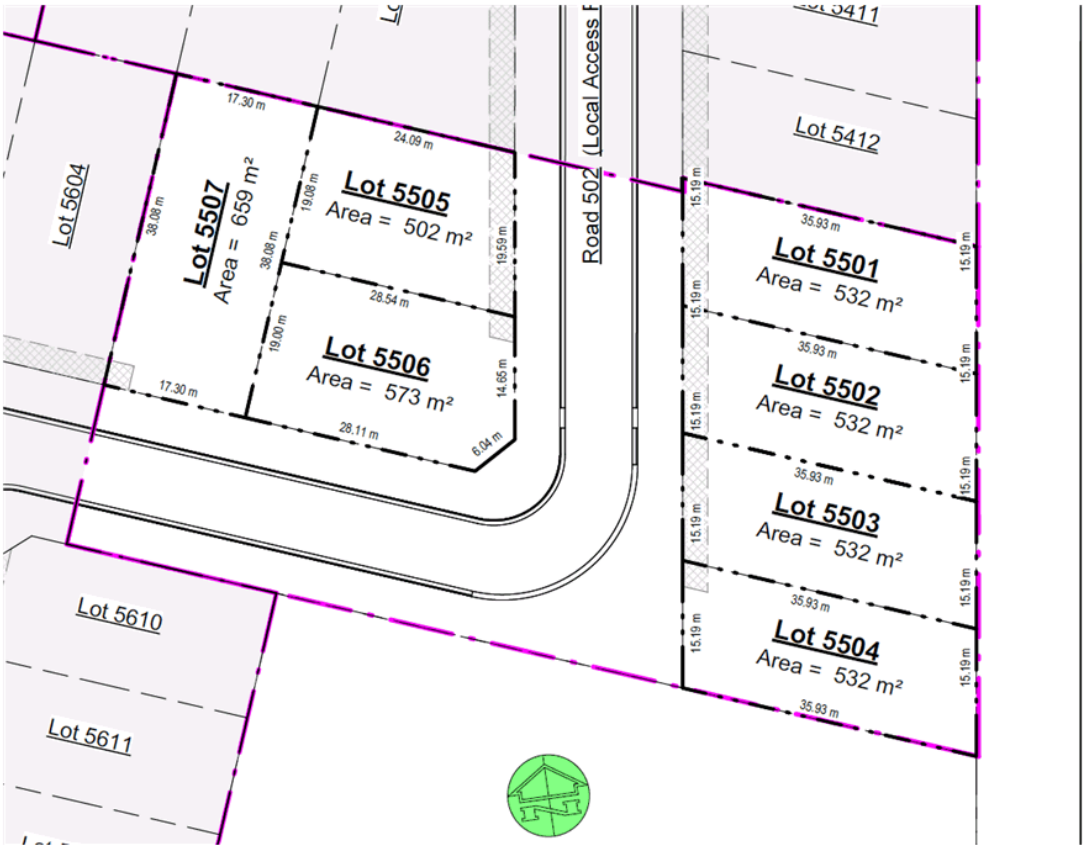


Figure 10: Stage 5 subdivision layout.

Stage 6

Stage 6 includes subdivision to create 12 new lots, and partial construction of 2 new local access roads. Lot sizes in this stage range from 500m^2 to 673m^2.

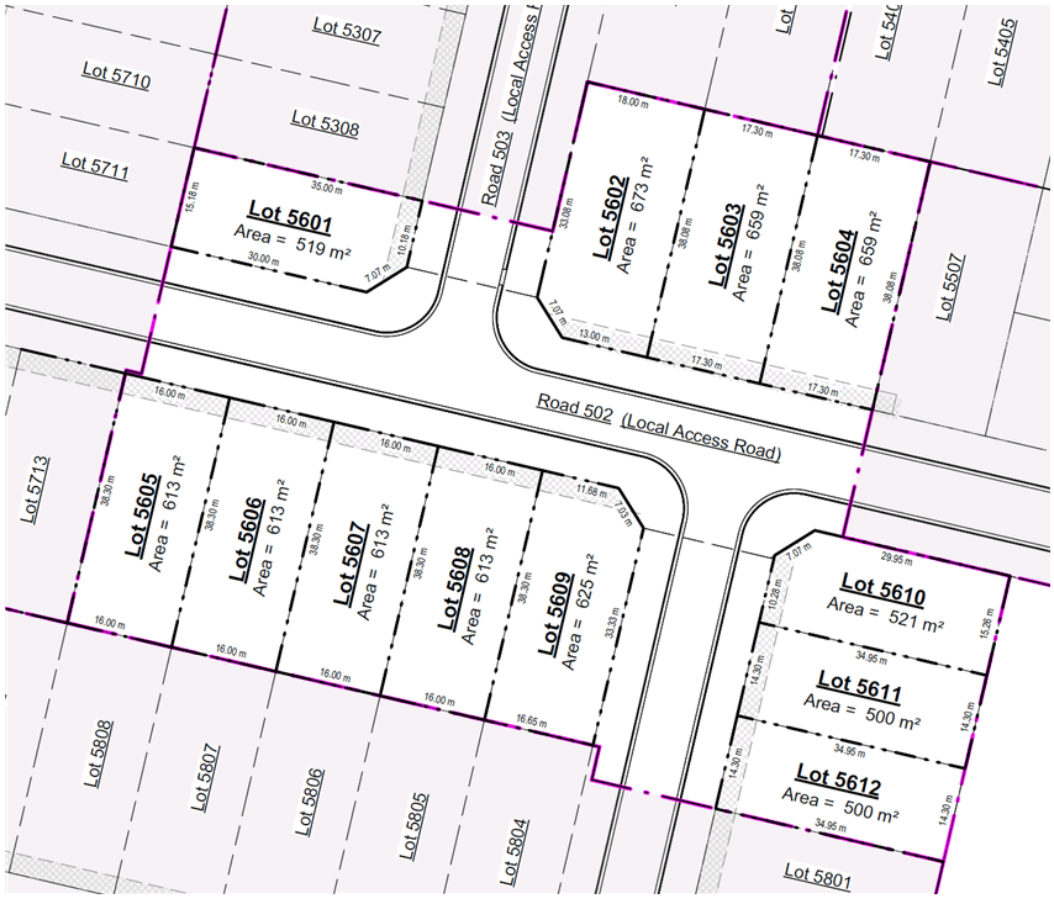


Figure 11: Stage 6 subdivision layout.

Stage 7

Stage 7 includes subdivision to create 13 new lots and partial construction of a new local access road and intersection including round-about. Lot sizes in this stage range from 501m^2 to 625m^2.



Figure 12: Stage 7a & 7b subdivision layout.

Stage 8

Stage 8 includes subdivision to create 10 new lots, and partial construction of a new local access road. Lot sizes in this stage range from 500m^2 to 626m^2.

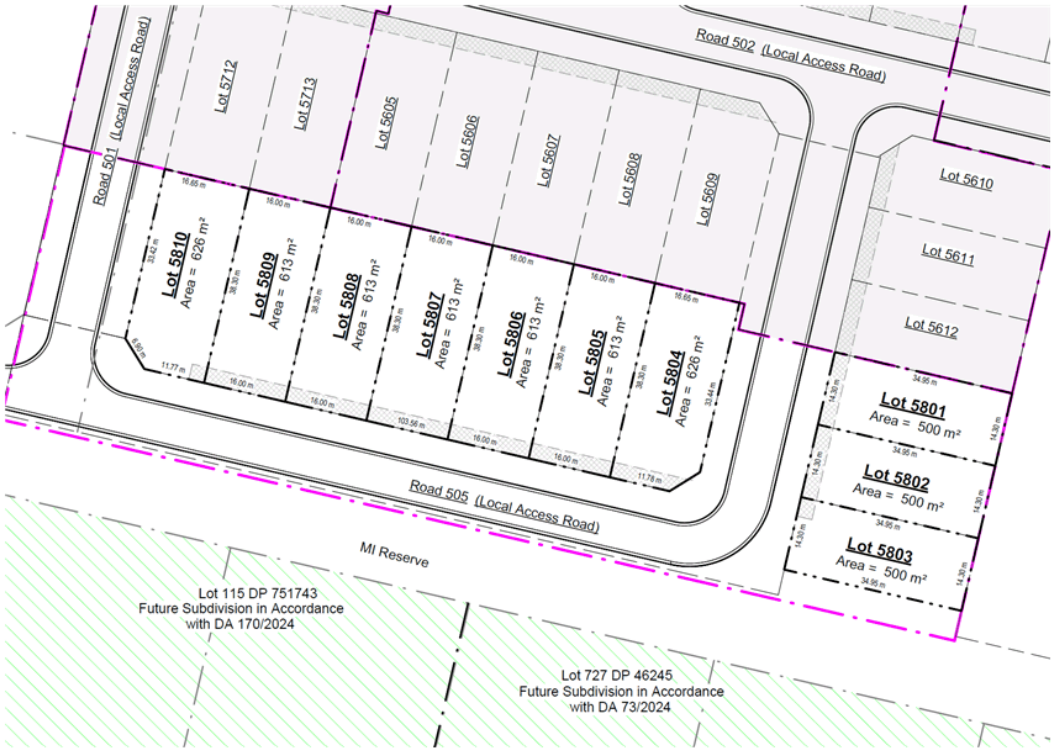


Figure 13: Stage 8 subdivision layout.

Stage 9

Stage 9 includes subdivision to create 11 new residential lots, 1 lot for open space, and partial construction of a new local access road. Lot sizes in this stage range from 532m^2 to 761m^2, with the open space lot having an area of 2434m^2.



Figure 14: Stage 9 subdivision layout.

6.2 Concept Proposal

The Concept development application has been submitted under Section 4.22 of the *Environmental Planning and Assessment Act 1979*. The purpose of submitting the Concept Development Application is for Council to approve the dwelling footprint for this stage of Lakes Garden Estate, which includes the staged construction of a single dwelling on each lot the subject of this development application.



Figure 15: Concept dwelling footprint and layout for stage 1a & 1b lots.



Figure 16: Concept dwelling footprint and layout for stage 6 lots including corner lot.

7. Statutory Framework

7.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

Section 1.3 – Objects of the Act

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

(c) to promote the orderly and economic use and development of land,

(d) to promote the delivery and maintenance of affordable housing,

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

(g) to promote good design and amenity of the built environment,

(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

(j) to provide increased opportunity for community participation in environmental planning and assessment.

Comment: The proposal is not contrary to the objectives of the EP&A Act, the proposal is considered to be orderly and economic use and development of land.

Division 4.4 – Concept Development Applications

(1) For the purposes of this Act, a concept development application is a development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications.

(2) In the case of a staged development, the application may set out detailed proposals for the first stage of development.

(3) A development application is not to be treated as a concept development application unless the applicant requests it to be treated as a concept development application.

(4) If consent is granted on the determination of a concept development application, the consent does not authorise the carrying out of development on any part of the site concerned unless—

(a) consent is subsequently granted to carry out development on that part of the site following a further development application in respect of that part of the site, or

(b) the concept development application also provided the requisite details of the development on that part of the site and consent is granted for that first stage of development without the need for further consent.

The terms of a consent granted on the determination of a concept development application are to reflect the operation of this subsection.

(5) The consent authority, when considering under section 4.15 the likely impact of the development the subject of a concept development application, need only consider the likely impact of the concept proposals (and any first stage of development included in the application) and does not need to consider the likely impact of the carrying out of development that may be the subject of subsequent development applications.

Comment: This application is for a Concept Proposal and Staged development application. The Concept Proposal is for the construction of a single dwelling identified on each lot. The Staged development application relates to the subdivision of the lots, as described above. This approach is being undertaken to allow a cost efficient way to undertake the subdivision over a number of stages, and for Council to provide in-principle support and approval for the dwelling types for Lakes Garden Estate. This DA is seeking consent for the subdivision and subsequent subdivision certificates will be applied for in a sequential manner. Submission of a future development application would be lodged for the construction of each dwelling on each lot. Any future development applications would need to be consistent with the Concept Approval.

4.23 Concept development applications as alternative to DCP required by environmental planning instruments

(1) An environmental planning instrument cannot require the making of a concept development application before development is carried out.

(2) However, if an environmental planning instrument requires the preparation of a development control plan before any particular or kind of development is carried out on any land, that obligation may be satisfied by the making and approval of a concept development application in respect of that land. Note— Section 3.44(5) also authorises the making of a development application where the relevant planning authority refuses to make, or delays making, a development control plan.

(3) Any such concept development application is to contain the information required to be included in the development control plan by the environmental planning instrument or the regulations.

Comment: Chapter 12 and the overall design standards of the amended *Griffith Residential Development Control Plan 2020* applies to the site.

7.2 Biodiversity Conservation Act 2016 (BC Act)

The subject site is cleared former farming land. The subject property is not identified as land included on the Biodiversity Values Map, nor identified as sensitive or vulnerable regulated land. As the proposed development does not propose any land clearing, the proposal is not likely to significantly affect threatened species or ecological communities, or their habitats.

7.3 Griffith Local Environmental Plan 2014

A review of the GLEP2014 has been undertaken and an assessment of the proposal for compliance with the requirements of the relevant parts of the LEP has been provided below.

Zoning: The subject site is zoned *RU5 Village.* The objectives of zone *RU5 Village* specify:

- *To provide for a range of land uses, services and facilities that are associated with a rural village.*
- *To enable development that will not hinder the future expansion of the village.*
- *To provide for a range of land uses, services and facilities that are associated with a rural village.*



Figure 17: GLEP2014 Zoning Map. Source: NSW Planning Portal Spatial Viewer.

Comment: This proposal is entirely consistent with and realises the zone RU5 objectives.

Clause 1.2 – Aims of the Plan

(1) This Plan aims to make local environmental planning provisions for land in Griffith in accordance with the relevant standard environmental planning instrument under section 3.20 of the Act.

(2) The particular aims of this Plan are as follows—

(aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,

(a) to prevent unnecessary urban sprawl by promoting business, industrial, rural and residential uses within and adjacent to existing precincts related to those uses,

(b) to minimise land use conflict in general by creating areas of transition between different and potentially conflicting land uses,

(c) to provide a variety of development options to meet the needs of the community with regard to housing, employment and services,

(d) to manage and protect areas of environmental significance,

(e) to recognise the historical development of the area and to preserve heritage items associated with it.

Comment: The proposal is not contradictory to the aims of the GLEP2014, it is consistent with: c) *provide a variety of development options to meet the needs of the community with regard to housing.*

Part 4 Principal Development Standards

Clause 4.1 Minimum subdivision lot size

(1) The objectives of this clause are as follows—

(a) to provide a minimum lot size for the subdivision of land,

(b) to ensure that subdivision does not unreasonably impact on the natural and environmental values of the area and will not lead to fragmentation of natural areas,

(c) to protect the productive capacity of agricultural land,

(d) to prevent the fragmentation of rural lands,

(e) to encourage a diversity of lot sizes, housing forms and densities in residential zones.

(2) This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.

(3) The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

(3A) Despite subclause (3), the size of each lot resulting from the subdivision of land identified as "Area A", "Area B", "Area C" or "Area D" on the Lot Size Map, if the lot is connected to a reticulated sewer or the consent authority is satisfied that it will be connected to a reticulated sewer, must not be less than the area shown in Column 2 of the Table to this subclause opposite the relevant area.

Column 1	*Column 2*
Area A	*700 square metres*
Area B	*600 square metres*
Area C	*3,000 square metres*
Area D	*2,000 square metres*

(4) This clause does not apply in relation to the subdivision of any land—

(a) by the registration of a strata plan or strata plan of subdivision under the Strata Schemes Development Act 2015, or

(b) by any kind of subdivision under the Community Land Development Act 2021.

Comment: The land has a minimum lot size of 700m^2. Further discussion of this is included under clause 4.6 *Exceptions to development standards.*

Clause 4.6 Exceptions to development standards

(1) The objectives of this clause are as follows—

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,

(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

(3) Development consent must not be granted to development that contravenes a development standard unless the consent authority is satisfied the applicant has demonstrated that—

(a) compliance with the development standard is unreasonable or unnecessary in the circumstances, and

(b) there are sufficient environmental planning grounds to justify the contravention of the development standard.

Note — *The Environmental Planning and Assessment Regulation 2021 requires a development application for development that proposes to contravene a development standard to be accompanied by a document setting out the grounds on which the applicant seeks to demonstrate the matters in paragraphs (a) and (b).*

(4) The consent authority must keep a record of its assessment carried out under subclause (3).

(5) (Repealed)

(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—

(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or

(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.

(7) (Repealed)

(8) This clause does not allow development consent to be granted for development that would contravene any of the following—

(a) a development standard for complying development,

(b) a development standard that arises, under the regulations under the Act, in connection with a commitment set out in a BASIX certificate for a building to which State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies or for the land on which such a building is situated,

(c) clause 5.4,

(caa) clause 5.5,

(ca) clause 6.1 or 6.2.

Comment: Refer to Appendix 1 for assessment of *Clause 4.6 exceptions to development standards.*

Part 5 Miscellaneous provisions

Clause 5.10 Heritage conservation

(1) Objectives The objectives of this clause are as follows—

(a) to conserve the environmental heritage of Griffith,

(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

(c) to conserve archaeological sites,

(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

Comment: There are no recognised items of heritage significant in the locality, nor is the development site a heritage item.

Clause 5.16 Subdivision of, or dwellings on, land in certain rural, residential or conservation zones

(1) The objective of this clause is to minimise potential land use conflict between existing and proposed development on land in the rural, residential or conservation zones concerned (particularly between residential land uses and other rural land uses).

(2) This clause applies to land in the following zones—

(a) Zone RU1 Primary Production,

(b) Zone RU2 Rural Landscape,

(c) Zone RU3 Forestry,

(d) Zone RU4 Primary Production Small Lots,

(e) Zone RU6 Transition,

(f) Zone R5 Large Lot Residential,

(g) Zone C2 Environmental Conservation,

(h) Zone C3 Environmental Management,

(i) Zone C4 Environmental Living.

Comment: This clause excludes RU5 zoned land.

Clause 5.21 Flood planning

(1) The objectives of this clause are as follows—

(a) to minimise the flood risk to life and property associated with the use of land,

(b) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,

(c) to avoid adverse or cumulative impacts on flood behaviour and the environment,

(d) to enable the safe occupation and efficient evacuation of people in the event of a flood.

(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—

(a) is compatible with the flood function and behaviour on the land, and

(b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and

(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and

(d) incorporates appropriate measures to manage risk to life in the event of a flood, and

(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.

(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—

(a) the impact of the development on projected changes to flood behaviour as a result of climate change,

(b) the intended design and scale of buildings resulting from the development,

(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,

(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.

Comment: The subject site is identified as partly flood affected land. The staging of the subdivision addresses the sequencing of the subdivision to allow the current engineering flood works to be finalised. It is noted that the subdivision certificate for flood affected stages would not be released until flood mitigation works have been completed in accordance with the adopted Lake Wyangan Master Plan and a revised Flood Study is undertaken and adopted by Council.

Part 6 Urban release areas

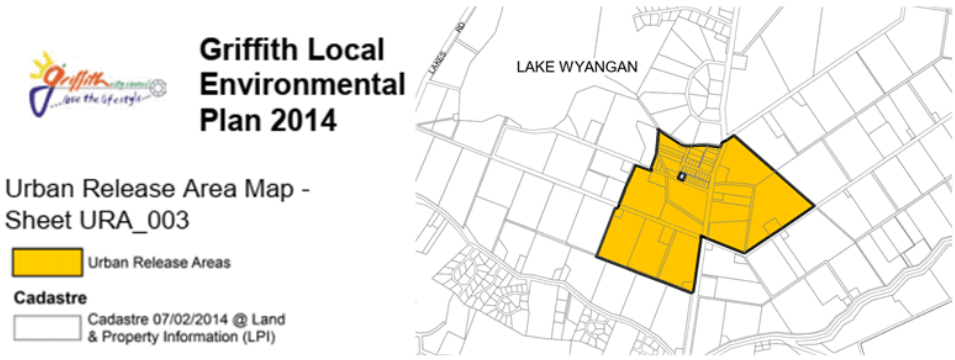


Image 9: Urban Release Area Map – GLEP2014.

Clause 6.2 Public utility infrastructure

(1) Development consent must not be granted for development on land in an urban release area unless the Council is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

(2) This clause does not apply to development for the purpose of providing, extending, augmenting, maintaining or repairing any public utility infrastructure.

Clause 6.3 Development control plan

(1) The objective of this clause is to ensure that development on land in an urban release area occurs in a logical and cost-effective manner, in accordance with a staging plan and only after a development control plan that includes specific controls has been prepared for the land.

(2) Development consent must not be granted for development on land in an urban release area unless a development control plan that provides for the matters specified in subclause (3) has been prepared for the land.

Comment: The land is included as an Urban Release Area under part 6 of the GLEP2014. The proposal is consistent with the original approved subdivision and satisfies the provisions under clauses 6.2 & 6.3 as essential

public infrastructure will be established in accordance with the adopted Lake Wyangan Area Masterplan and Infrastructure Plans (LWR&D).

Part 7 Additional local provisions

Clause 7.1 Earthworks

(1) The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.

(2) Development consent is required for earthworks unless—

(a) the earthworks are exempt development under this Plan or another applicable environmental planning instrument, or

(b) the earthworks are ancillary to development that is permitted without consent under this Plan or to development for which development consent has been given.

Comment: The proposal includes substantial earthworks related to infrastructure installation and seeks consent for these works. As part of a Construction Environmental Management Plan, the Applicant will provide detailed measures to avoid erosion, sediment and dust impacts.

Clause 7.3 Terrestrial biodiversity

(1) The objective of this clause is to maintain terrestrial biodiversity by—

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats.

(2) This clause applies to land identified as "Biodiversity" on the Terrestrial Biodiversity Map.

Comment: The site is not identified as having significance as per the terrestrial biodiversity maps. The site does not contain any significant vegetation.

Clause 7.4 Groundwater vulnerability

(1) The objectives of this clause are as follows—

(a) to maintain the hydrological functions of key groundwater systems,

(b) to protect vulnerable groundwater resources from depletion and contamination as a result of development.

(2) This clause applies to land identified as "Groundwater vulnerable" on the Groundwater Vulnerability Map.

Comment: The site is not identified as on the Groundwater Vulnerability Map.

Clause 7.5 Riparian land and watercourses

(1) The objective of this clause is to protect and maintain the following—

(a) water quality within watercourses,

(b) the stability of the bed and banks of watercourses,

(c) aquatic and riparian habitats,

(d) ecological processes within watercourses and riparian areas.

(2) This clause applies to all of the following—

(a) land identified as "Watercourses" on the Riparian Lands and Watercourses Map,

(b) all land that is within 40 metres of the top of the bank of each watercourse on land identified as "Watercourses" on that map.

Comment: The site is not identified as a "Watercourses" on the Riparian Lands and Watercourses Map, nor land that is within 40 metres of the top of the bank of an identified watercourse.

Clause 7.6 Wetlands

(1) The objective of this clause is to ensure that wetlands are preserved and protected from the impacts of development.

(2) This clause applies to land identified as "Wetlands" on the Wetlands Map.

Comment: The site is not identified as "Wetlands" on the Wetlands Map.

Clause 7.8 Airspace operations

(1) The objectives of this clause are as follows—

(a) to provide for the effective and ongoing operation of the Griffith Airport by ensuring that such operation is not compromised by proposed development that penetrates the Limitation or Operations Surface for that airport,

(b) to protect the community from undue risk from that operation.

(2) If a development application is received and the consent authority is satisfied that the proposed development will penetrate the Limitation or Operations Surface, the consent authority must not grant development consent unless it has consulted with the relevant Commonwealth body about the application.

Comment: The development is not of a type which penetrates the Limitation or Operations Surface associated with the Griffith Aerodrome.

Clause 7.10 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required—

(a) the supply of water,

(b) the supply of electricity,

(c) the disposal and management of sewage,

(d) stormwater drainage or on-site conservation,

(e) suitable vehicular access.

Comment: The proposed modification will not affect the delivery of previously approved essential public infrastructure to be established in accordance with the adopted Lake Wyangan Area Masterplan and Infrastructure Plans (LWR&D).

7.4 State Environmental Planning Policies

7.4.1 State Environmental Planning Policy (Planning Systems) 2021

The purpose of *SEPP (Planning Systems)* is to identify development that is State Significant Development, State Significant Infrastructure, Critical State Significant Infrastructure and Regionally Significant Development. The proposed development is not categorised under Schedule 6 as Regionally Significant Development, as the value of the development does not exceed $30 million.

7.4.2 State Environmental Planning Policy (Transport & Infrastructure) 2021

The aim of this SEPP is to facilitate the effective delivery of infrastructure across the State including identifying the environmental assessment category into which different types of development fall, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure, and providing

for consultation with relevant public authorities about certain development during the assessment process. The below parts are identified as applicable to this proposal:

Clause 2.48 - Determination of development applications—other development

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following—

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,

(b) development carried out—

(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or

(ii) immediately adjacent to an electricity substation, or

(iii) within 5m of an exposed overhead electricity power line,

(c) installation of a swimming pool any part of which is—

(i) within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or

(ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,

(d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.

(2) Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must—

(a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and

(b) take into consideration any response to the notice that is received within 21 days after the notice is given.

The proposed electrical network will be installed underground. A a referral to Essential Energy is not required for this proposal.

Clause 2.121 & Schedule 3 – Traffic Generating Development

The development is not a land use type or size which is considered traffic-generating development requiring referral to Transport for NSW (TfNSW). The site is also not in close proximity to any classified roads. A referral to TfNSW is not required in this instance.

7.4.3 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 of the Resilience & Hazards SEPP aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. Clause 4.6 specifies that a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated:

4.6 Contamination and remediation to be considered in determining development application

(1) A consent authority must not consent to the carrying out of any development on land unless—

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Comment: The subject land has been used for citrus (horticultural) farming for many years. A Limited Phase 2 Site Investigation has been undertaken to assess the suitability of the site for future residential development and is summarised below.

A Limited Phase 2 investigation including soil sampling and analysis has been undertaken at the subject site and other included in the Lake Gardens Estate allotments. The subject site is referred to in the report as "Phase 5". The assessment was undertaken to determine if there are acceptable levels of residual pesticide or other chemicals unsuitable for residential uses. The investigation and assessment concluded that: Based on the data and evidence collected in the course of the site inspection, site history review and sampling and analysis program, the findings of the Limited Phase 2 Site Investigation are as follows:

- The site was previously used for citrus farming purposes.
- There have been no significant storage of fuels/oils or chemicals at the site (vacant site).
- Minor staining in existing shed (southern corner of Phase 5) revealed low concentrations of Hydrocarbons, however all results were found well below the adopted residential criteria.
- A residential subdivision is proposed for the site.
- Due to the site history the potential for significant and widespread contamination is considered low.

- The results of the sampling and analysis program showed that all samples analysed were found well below the adopted criteria (residential) for Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Benzene, Toluene, Ethylbenzene, Xylene, Organochlorine and Organophosphorus Pesticides, Polychlorinated Biphenyls, and metals. No asbestos was detected in any of the samples analysed.
- The site is therefore considered suitable for residential development.

Based on the findings above, no further investigation of the contamination of the underlying materials is considered necessary at the subject site. Any soil material requiring exportation from the site during the future development works should be classified in accordance with the Excavated Natural Material Order (2014) and if required, the Waste Classification Guidelines Part 1: Classifying Waste (2014). Council can be confident that the land is safe for residential land uses without the need for remediation.

8 Development Control Plans

8.1 Griffith Residential Development Control Plan 2020

The chapter for the Lake Wyangan Growth Area Subdivision Controls included in 12.2 of the *Griffith Residential Development Control Plan 2020* applies to this proposal. An assessment of the proposed development and the objectives, aims and design requirements of the GRDCP2020 follows. It is noted that Part *4.0 Dwellings* applies to new dwellings in the RU5 Village zone. As these are conceptual only, a legend has been provided on the concept plans that show compliance with building envelope requirements. Each individual application for the dwellings will consider the specified development standards.

2.2 Aims and Objectives

a) To provide appropriate development control principles for the development of Griffith.

b) To encourage, facilitate and promote affordable housing in accordance with the Griffith Housing Strategy 2019.

c) Ensure high standards of residential development within Griffith.

d) Provide for a diversity of housing opportunities and residential lifestyle choices.

e) Encourage new residential development that is sympathetic to the existing streetscape and neighbourhood character of a particular locality.

Precinct Statement

The proposal is for the subdivision of *RU5 Village* zoned land located in the Lake Wyangan Growth Area. The GRDCP specifies that development of the LWGA should be generally in accordance with the following plans, unless otherwise agreed to by Council:

- Lake Wyangan Master Plan (LWMP) – endorsed by Council on 9 December 2020; and
- Lake Wyangan Road & Drainage Infrastructure (LWR&DI) Plans prepared by CBR Consultants [July 2023].

Control Type	Clause	Control	Proposal	Complies?
Staging	**12.2.1**	*a) Staging of the LWGA must be in accordance with the LWGA Staging Plan. b) The staging of the LWGA should provide for the logical development of the area based on cost effective provision and availability of infrastructure and servicing arrangements. c) Development should be carried out in a sequential manner to avoid the extension of infrastructure past undeveloped land. d) Development Applications for the residential subdivision of the LWGA must: I. Consider infrastructure provision and sequencing; II. Provide proposed arrangements for essential services, including water and sewerage servicing: i. The provision of sewerage servicing must be generally in accordance with the LWGA Sewer Plan and LWGA Potable Water Plan or otherwise as agreed to by Council. ii. The release of allotments will be dependent on the satisfactory provision of reticulated water and sewerage services; and III. Incorporate road networks, stormwater conveyance systems, active and passive recreation areas consistent with the overall staging and intended development outcomes for the LWGA in the LWMP and LWR&DI Plans.*	a. The proposed development relates to land included in stage 1 of the LWGA and is consistent with this sequencing and other subdivisions approved in stage 1. b. The purpose of the staging is to ensure for the logical development of the area based on cost effective provision and availability of infrastructure and servicing arrangements. c. The development is proposed to be carried out in a sequential manner to avoid the extension of infrastructure past undeveloped land. d. I: infrastructure provision and sequencing is proposed as per the proposed staging amendments. II: arrangements for essential water and sewerage services are generally in accordance with the LWMP and Infrastructure Plan LWR&DI. III: The stages incorporate road networks, stormwater conveyance systems, active and passive recreation areas generally consistent with the overall staging and intended development outcomes for the LWGA.	Yes

Transport Movement Hierarchy	**12.2.2**	*a) The overall movement hierarchy for the LWGA must be generally in accordance with the LWMP and LWR&DI Plans. b) The overall pedestrian and cycleway network must be consistent with the LWMP and LWR&DI Plans. c) Road network upgrades must be provided in accordance with the LWR&DI Plans for the full frontage of the development site including intersection treatments (other than any intersection with Boorga Road and an existing Council road). d) All four-way intersections are to incorporate a roundabout. e) Consider alternative modes of transport in the planning for local road networks, including measures to encourage walking and cycling and access for public transport, community transport and taxis. f) Development Applications for the residential subdivision of the LWGA must: I. Include subdivision plans which are generally in accordance with the LWMP, the LWR&DI Plans and the requirements of this clause; Include an overall transport movement hierarchy. II. Showing major circulation routes and connections to achieve simple and safe movement systems for private vehicles, public transport, pedestrians and cyclists; and III. Include cross sections of each type of road proposed in the hierarchy.*	A & b: The proposed staging plans remains consistent with the overall movement hierarchy pedestrian and cycleway network as per the LWMP and LWR&DI Plans. C - E: noted F: The DA documents are generally in accordance with the LWMP, the LWR&DI Plans.	Yes
Lot Size & Layout	**12.2.3**	*Lot sizes and layout should generally be in accordance with the LWMP. However, developers or landowners are permitted to propose alternative designs should the following key aspects of the LWMP be achieved. The subdivision of land in the LWGA must adhere to the following requirements:*	a. Refer to GELP2014 assessment. b. Proposed lots are of a size, shape and dimensions to enable the siting of a dwelling and ancillary structures in accordance with the listed design	Yes

a) The size of any lot subdivided must be in accordance with the relevant clauses in the GLEP. *b) Proposed lots must be of a size and have a shape and dimensions to enable the siting of a dwelling and ancillary structures that: minimise impacts on adjoining properties including access to sunlight, privacy and views, provide usable principal private open space; provide vehicle access, protect or replace significant trees.* *c) Larger lots should be provided in response to hazards such as flooding, bushfire or adjacent agricultural operations. d) Medium density lots, where provided, should be located in areas closer to commercial uses, open space, parks, community facilities and public transport routes. e) Lot layout should enable dwelling fronts to face other dwelling fronts across a public street and backyards to face backyards. f) Lots should be oriented and configured to maximise opportunities for solar access. g) Corner lots should be designed to enable the construction of a dwelling that can comply with the prevailing setback requirements along both street frontages (dual occupancy lot). h) Building envelopes on lots adjacent to active agricultural operations outside the LWGA must be located at least 30 m from plantings or crops and include a 20 m wide vegetated buffer within the lot. Alternatively, periphery roads with a landscaped verge designed to reduce the impacts of dust and spray drift may be used. k) Solid Fences are not permitted on the rear lot boundary of lots which back onto Boorga Road.*		principles and as shown on the concept plans. c. Included in the design & purpose of staging. d. No medium density to be allocated, all lots will be developed for a single dwelling. e. Incorporated into the subdivision design. f. compiles. g. Complies. h. periphery roads with a landscaped verges included where land adjoining are agricultural lands. i. n/a j. n/a k. noted & can be enforced by restriction on the land and specified in this consent as a condition of approval prior to subdivision certificate issue.

		i. A Restriction on the use of land on all lots which back onto Boorga Road must be established under Section 88B of the Conveyancing Act 1919 which restricts the construction of solid fencing including pre-coloured metal materials facing Boorga Road.		
Street Trees and Vegetation	**12.2.4**	*a) Street Trees must be planted within the road reserves of the LWGA in accordance with the following principles: Street trees should provide shade and enhance the visual quality of the streetscape;* *b) Development Applications for the residential subdivision of the LWGA must include a landscape plan prepared in accordance with the principles set out in this clause and which includes street trees and shrub species selected in accordance with Council's Tree Policy (PG-CP-402)*	A comprehensive landscaping plan has been developed for the proposal, which includes the specified principles.	Yes
Open Space	**12.2.5**	*Community Park: The LWGA includes a Community Park located over Lot 2 DP1071622 and Lot 2 DP1068127 which is to be constructed as part of the Griffith City Council Lake Wyangan 7.11 Contribution Plan 2023. This Community Park would provide a large area for recreation and the enjoyment of residents in the LWGA.* *Other Development Land: The subdivision of other land in the LWGA must adhere to the following requirements to ensure open space is available throughout the LWGA: a) Open space must be provided at a ratio of 500 m2 / 20 lots or 25 m2 / lot. Subdivision of land for under twenty lots do not need to provide open space. The staging of the subdivision of a development lot cannot be used to avoid the provision of open space. b)*	Noted. a) An open space area of 2434 m^2 is proposed at the northeast corner of the site adjustment to the Boorga Rd and Druitt Rd intersection. While it is slightly less than the 2500 m^2 required, it forms part of the greater Lake Gardens Landscape strategy and it's interconnectivity with the	N/A

		Useable open space areas, must generally not be less than 2000 m² and must be provided within 400 m safe walking distance of 90% of the lots in the subdivision. A reduced open space area can be considered subject to the acceptance of a detailed design by council in accordance with this clause. c) An electrical connection must be provided to each open space area. d) Developers of adjacent sites can co-locate open space areas at boundaries through private cost sharing agreements subject to Council approval. e) Development applications for the residential subdivision of the LWGA are to include a preliminary design of open spaces in accordance with following principles and requirements:	adjacent open space areas creates a far more useful open space. b) The open space area is greater than 2000 m² and within 400m of 100% lots . c) Noted d) Noted. See item a) previously e) See "Lake Gardens Open Spaces concept" document for preliminary design	
Stormwater / Drainage	**12.2.6**	*The subdivision of land in the LWGA must adhere to the following requirements: a) Stormwater management for the LWGA must be generally in accordance with the LWMP and LWR&DI Plans. b) Development applications for the subdivision of land in the LWGA must include a preliminary Stormwater Management Plan which: I. Is designed in accordance with Council's Engineering Standards: Subdivision and Development , the LWMP and LWR&DI;*	The design includes these aspects. Civil design plans have prepared by JZ Management.	Yes
Water Quality	**12.2.7**	*Water quality reduction targets can be achieved through Water Sensitive Urban Design (WSUD).*	Noted and to be included with civil design plans.	Yes
Infrastructure	**12.2.8**	*Development Applications for subdivision in the LWMP area must Include draft servicing plans showing the location of all required utilities and demonstrating compliance with this section.*	Civil design plans have prepared by JZ Management.	Yes

Contamination	**12.2.9**	*a) The Statement of Environmental Effects for subdivision to which this section relates should provide a history of the use of the site indicating whether there may have been any previous or current land uses that could have resulted in contamination of the site in accordance with Council's Contaminated Land Management Policy.*	Previously addressed in this SEE.	Yes
Safety	**12.2.10**	*Development applications should demonstrate how the proposal promote the principles of Crime Prevention Through Environmental Design (CPTED).*	The lot lay out and road designs are consistent with CPTED measures such as passive surveillance.	Yes
Medium Density Lots	**11.2.11**	*a) Medium density lots permitting the development of more than one dwelling must be strategically located in close proximity to arterial roads, public transportation network and public open spaces.* *b) Should an Applicant elect to provide 25% or less lots to be utilised for medium density development within the LWGA, the following controls apply to the proposal: I. Development applications for the residential subdivision of the LWGA must identify proposed locations of medium density allotments. Medium density lots must be designed to be of an appropriate size and shape to cater for the siting of multiple dwelling development.*	a. It is not proposed to designate lots as medium density. All lots proposed as part of this subdivision have been indicated to be developed for single dwellings as per the concept plans. b. The subdivision has been designed to factor in a 25% increase to the total lot yield. Excluding roads and road reserves, the development site could allow 80 lots at 700m^2 . At a 25% MD allowance, an additional 20 lots could be provided, allowing 100 lots with a single dwelling in total, as outlined by the staging and concept components of this application.	Yes
Neighbourhood, Commercial & Retail Uses	**12.2.12**	*a) Neighbourhood Commercial and Retail uses within the LWGA must provide for the day to day needs of residents in the locality.*	Noted, but not included as part of this application.	n/a

Flooding	**12.2.13**	*a) Development in the LWGA must be designed and sited in accordance with Clause 5.21 of the GLEP 2014, the Lake Wyangan Flood Study (2012) and the Lake Wyangan Floodplain Risk Management Study and Plan (2013) as amended.* *b) No building or structure can be erected and no land filled by way of the deposition of any material within any area identified as a floodway except for minor alterations to ground levels which do not significantly alter the fundamental flow patterns for Roads; Parking; and Landscaping and open space. c) Development Applications for subdivision in the LWMP area must Include a design which consideration the flood affectation of the land and the requirements of this clause. d) Development applications for land which is impacted by a floodway or flood storage area must be in accordance with Council's Flood Liable Land Policy (CS-CP-403).*	a. Noted. b. No land identified as a floodway would be filled by any material except for allowed purposes such as roads. c. Noted and included. d. Noted.	Yes
Bushfire Prone Land	**12.2.14**	*a) A Bushfire Risk Assessment Report must be lodged together with the Statement of Environmental Effects in support of the Development Application on bushfire prone lands. b) Bushfire protection measures are to be placed wholly within the development site. c) Fire trails, if required, are not accepted on existing Council reserves proposed to be dedicated through the subdivision.*	The site is not identified as bush fire affected land.	n/a
Frost Control Fans	**12.2.15**	*Council will impose a condition of consent on the subdivision of land in the LWGA which requires a restriction on the use of each lot that habitable dwellings are constructed to achieve the required indoor noise criteria as set out in the policy.*	Noted.	Yes

9 Impact Assessment

Context & Setting

The development is compatible with the existing surrounding land uses and the intended development of the land forming the LWMP.

Visual Impacts

The proposed development is to set the standard for home design in the soon to be created Lake Garden Estate neighbourhood. As the developers are designing and developing the homes in this estate, they have taken the opportunity to go beyond what is typically seen of current residential developments, with standardised facades and floor plans to meet very specific budgets and lot sizes.

Infrastructure & Servicing

The proposal has been sequenced to align with the staging of approved infrastructure and servicing arrangements.

Access, Traffic & Transport

The proposal includes the construction of local access road and collector roads with a typical section provided. All lots except for those within stage 1 will have frontage and access to these newly constructed roads.

Cultural heritage

An AHIMS search has been conducted and no Aboriginal heritage items are located at or within a 50-metre radius of the site. However, should any artefacts be found during construction, works will cease and the correct protocols followed to notify the DPE and the Local Aboriginal Land Council.

Solar Access and Privacy

The lot orientation and design of each home is aimed to maximise the solar access and privacy of each home. Furthermore, the landscaping design aims to increase privacy whilst providing more natural light into each home.

Erosion Control Measures

Erosion and sediment control measures will be implemented during construction.

Economic and Social Impacts

The proposed development will provide new housing in a sector of the market that has a shortage, as well as employment for tradespeople during construction.

Waste Management

A construction waste management plan will be developed for during constriction. At completion, it is expected that Griffith City Council garbage collection service be made available to residents of the development. Bins will be stored behind the side gates of each home. Waste Collection will be from the front of each home and there is adequate street frontage to accommodate the garbage and recycling bins.

Traffic

The surrounding road system was designed to accommodate the proposed traffic for the precinct. The traffic created by the proposed development will be minimal and will not adversely affect the surrounding road system.

10. Conclusion

This development application seeks consent under Part 4 of the EP&A Act and has been assessed against the provisions of Section 4.15, 4.22 & 4.24 of the same Act. As demonstrated by the detailed assessed of the proposed development in this SEE, the proposal is generally consistent with the requirements of the relevant legislation including the EP&A Act, GLEP2014, SEPPs, DCPs, Council's Policies, and the Lake Wyangan Master Plan and as such, the development should be supported.

Appendix 1- Request for a Variation to a Development Standard

See separate attachment

Appendix 1 Request for a Variation to a Development Standard Pursuant to Clause 4.6 of the Griffith Local Environmental Plan 2014

Griffith Local Environmental Plan 2014, Part 4 Principal Development Standards

This application seeks a variation to *Clause 4.1 Minimum subdivision lot size* pursuant to the provisions of Clause 4.6 of the GLEP2014. Clause 4.1 specifies:

Clause 4.1 Minimum subdivision lot size

(1) The objectives of this clause are as follows—

(a) to provide a minimum lot size for the subdivision of land,

(b) to ensure that subdivision does not unreasonably impact on the natural and environmental values of the area and will not lead to fragmentation of natural areas,

(c) to protect the productive capacity of agricultural land,

(d) to prevent the fragmentation of rural lands,

(e) to encourage a diversity of lot sizes, housing forms and densities in residential zones.

(2) This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.

(3) The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

(3A) Despite subclause (3), the size of each lot resulting from the subdivision of land identified as "Area A", "Area B" or "Area C" on the Lot Size Map, if the lot is connected to a reticulated sewer or the consent authority is satisfied that it will be connected to a reticulated sewer, must not be less than the area shown in Column 2 of the Table to this subclause opposite the relevant area.

Column 1	***Column 2***
Area A	*700 square metres*
Area B	*600 square metres*
Area C	*3,000 square metres*

(4) This clause does not apply in relation to the subdivision of any land—

(a) by the registration of a strata plan or strata plan of subdivision under the Strata Schemes Development Act 2015, or

(b) by any kind of subdivision under the Community Land Development Act 2021.

Comment: The subject site is zoned *RU5 Village* and is located in Area A which allows a minimum lot size of 700m^2 where land will be connected to a reticulated sewer. The land is to be connected to sewer, however the application proposes a number of allotments which are under the 700m^2 minimum lot size.

Clause 4.6 Exceptions to Development Standards

(1) The objectives of this clause are as follows—

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,

(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating—

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

(4) Development consent must not be granted for development that contravenes a development standard unless—

(a) the consent authority is satisfied that—

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and

(b) the concurrence of the Planning Secretary has been obtained.

(5) In deciding whether to grant concurrence, the Planning Secretary must consider—

(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and

(b) the public benefit of maintaining the development standard, and

(c) any other matters required to be taken into consideration by the Planning Secretary before granting concurrence.

(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—

(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or

(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.

(7) After determining a development application made pursuant to this clause, the consent authority must keep a record of its assessment of the factors required to be addressed in the applicant's written request referred to in subclause (3).
(8) This clause does not allow development consent to be granted for development that would contravene any of the following—
(a) a development standard for complying development,
(b) a development standard that arises, under the regulations under the Act, in connection with a commitment set out in a BASIX certificate for a building to which State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies or for the land on which such a building is situated,
(c) clause 5.4,
(caa) clause 5.5,
(ca) clause 6.1 or 6.2.

Comment: An assessment of the relevant parts of *Clause 4.6 Exceptions to Development Standards* as relates to this proposal is provided below. The objectives of clause 4.6 state that it is:

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

- ***Is compliance with the development standard unreasonable or unnecessary in the circumstances of the case?***

Strict adherence to a minimum lot size is unreasonable and unnecessary in this instance. The objectives of the development standard are:
(a) to provide a minimum lot size for the subdivision of land,
(b) to ensure that subdivision does not unreasonably impact on the natural and environmental values of the area and will not lead to fragmentation of natural areas,
(c) to protect the productive capacity of agricultural land,
(d) to prevent the fragmentation of rural lands,
(e) to encourage a diversity of lot sizes, housing forms and densities in residential zones.

The objective of the control is achieved as the subdivision will not unreasonably impact on the natural and environmental values of the area and will not lead to fragmentation of natural areas or rural lands. The proposed development achieves the objective of clause 4.1(1)(e) *to encourage a diversity of lot sizes in residential zones.* This proposal seeks consent for the creation of a number of undersized lots ranging in area from 501m^2 to 741m^2. All lots, including those to be below the 700m^2 minimum lot size are proposed to construct a single residential dwelling, as included in the Concept component of this application. Given the circumstances of this case, compliance with 700m^2 lots is unnecessary and unreasonable.

- ***Are there sufficient environmental planning grounds to justify contravening the development standard?***

Yes, it is considered that there are sufficient environmental planning grounds to justify contravening the development standard. Recently, Council has adopted the new Griffith Housing Strategy 2025**.** The *Griffith Housing Strategy 2025* identifies that Griffith is growing, and so is the need for more homes: *The city has a strong supply of zoned and master planned land ready now for more than 2,560 new homes. This includes over 1,700 lots in the growth areas of Collina, Hanwood, Lake Wyangan, and Yenda that can be developed for either single homes or multiple dwellings per lot. There is also significant potential for higher-density. But despite this capacity, housing delivery is not keeping pace with demand. Delays in construction, high development costs, infrastructure constraints, and inefficiencies in the NSW planning system to achieve Local Environmental Plan (LEP) amendments and rezonings are slowing supply. These issues are contributing to a persistent shortage of homes, pushing up prices and rents, and making it harder for residents – particularly renters, essential workers, and low-income households to find affordable homes.*

The Griffith Local Housing Strategy 2025 specifies four key priorities, with the following two specifically supporting the case to allow lot sizes under 700m^2:

- ***Priority 1 Increase housing supply and affordability***
  - *Unlocking development-ready land, reducing barriers to delivery, and supporting medium-density and lower-cost housing to improve affordability and meet demand.*
    - *Amend Clause 4.1A of the LEP to reduce minimum lot sizes for dual occupancies and multi-dwelling housing, extending the clause to the RU5 – Village and R3 – Medium Density Zones, enabling more affordable lot sizes in existing residential areas*

It is noted that the provisions of *Clause 4.1A Exceptions to minimum subdivision lot sizes for certain residential development* specifies:
(1) The objective of this clause is to encourage housing diversity without adversely impacting on residential amenity.
(2) This clause applies to development on land in Zone R1 General Residential.
(3) Development consent may be granted to the subdivision of land to which this clause applies on which is lawfully erected multi dwelling housing or a dual occupancy if—
(a) as a result of the subdivision, only one dwelling (being a dwelling house, a semi-detached dwelling or an attached dwelling) is located on each lot resulting from the subdivision, and
(b) the size of each lot resulting from the subdivision is equal to or greater than—
(i) for a semi-detached dwelling or an attached dwelling—300 square metres, or
(ii) for a dwelling house—400 square metres.
(4) Development consent may be granted to a single development application for the erection of multi dwelling housing or a dual occupancy on land to which this clause applies and the subdivision of that land into 2 or more lots if—

(a) as a result of the subdivision, only one dwelling (being a dwelling house, a semi-detached dwelling or an attached dwelling) is located on each lot resulting from the subdivision, and
(b) the size of each lot resulting from the subdivision is equal to or greater than—
(i) for a semi-detached dwelling or an attached dwelling—300 square metres, or
(ii) for a dwelling house—400 square metres.

The purpose of the clause is stated *to encourage housing diversity without adversely impacting on residential amenity*. Should this clause apply to RU5 zoned land, an application for the construction of each proposed dwelling and the subsequent subdivision to create allotments as small as 400m^2 would be permissible.

- ***Priority 2 Expand housing choices to meet diverse needs***
  - *Encouraging a broader range of housing types – including multi-dwellings such as dual occupancies and apartments, secondary dwellings such as granny flats, and moveable dwellings such as tiny homes and manufactured homes – to reflect changing demographics and lifestyles.*
    - *Encourage different types of homes. Encouraging a variety of housing types increases choice and diversity, catering to different household lifestyles and needs. This approach helps create vibrant, inclusive communities, offering options for families, couples without children, individuals, and retirees. By diversifying housing stock, it ensures that Griffith remains adaptable to changing demands and supports sustainable, balanced growth.*
      - *Investigate the decrease of minimum lot sizes in growth areas to 500m^2 to boost housing supply, support affordability, and encourage more efficient, diverse, and liveable neighbourhoods.*

All lots proposed in this subdivision are 501m^2 or larger, with 73 lots proposed to be between 500 – 599m^2. The developers and investors in Lakes Garden Estate are of the belief that lots in these size ranges are ideal to achieve affordable and diverse housing supply. It is noted that this objective of 500m^2 lot sizes in the growth areas would require a LEP amendment, however the developers are keen to commence on this development as soon as possible and do not have the time to undertake a lengthy LEP amendment process. As such, a variation to the LEP control would allow a faster resolution and trial for the case of 500m^2 lots in the Lake Wyangan Growth Area.

- ***Will the proposed development be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out?***

The proposed development is considered to be in the public interest as it is consistent with the objectives of Clause 4.1 and the objectives for zone *RU5 Village*. The purpose of clause 4.6 is to allow an appropriate degree of flexibility in particular circumstances. The objective of Clause 4.1 *Minimum subdivision lot size* states:
(1) The objectives of this clause are as follows—
(a) to provide a minimum lot size for the subdivision of land,

(b) to ensure that subdivision does not unreasonably impact on the natural and environmental values of the area and will not lead to fragmentation of natural areas,
(c) to protect the productive capacity of agricultural land,
(d) to prevent the fragmentation of rural lands,
(e) to encourage a diversity of lot sizes, housing forms and densities in residential zones.

The proposal would not unreasonably impact on the natural and environmental values of the area, will not lead to fragmentation of natural areas, and would encourage a diversity of lot sizes, housing forms and densities in the village zones. The proposed subdivision is considered to be consistent with the objective of Zone RU5 Village, which specifies:

- *To provide for a range of land uses, services and facilities that are associated with a rural village.*
- *To enable development that will not hinder the future expansion of the village.*
- *To provide for a range of land uses, services and facilities that are associated with a rural village.*

- ***Will contravention of the development standard raise any matter of significance for State or Regional environmental planning?***

The reduced lot sizes are unlikely to raise any matters of significance for State or Regional environmental planning.

- ***The public benefit of maintaining the development standard?***

The development otherwise maintains compliance with controls relating to Village subdivisions as per the GRDCP2020 and GLEP2014. The proposal is consistent with the objectives of the development standard and the objectives for development within the RU5 Village zone.

Lot Yield Comparison Report

Residential Housing Development
Druitt Road & Boorga Road, Lake Wyangan



05 March 2026

Zep Lanza
Director
JZ Management Pty Ltd
zep@zeplan.com.au
0408 694 408

James Scremin
Director
JZ Management Pty Ltd
james@scremin.com.au
0418 623 100

JZ MANAGEMENT

1.0 INTRODUCTION

This document has been prepared to accompany the concept development application for the Subdivision & Construction of Dwellings, Boorga & Druitt Road, Lake Wyangan, Lot 1 DP 1278203 & Lot 286 DP 1196929 NSW, known as "Lake Gardens Phase 5". It compares the potential number of lots and dwellings that could be construed on the site under the LWMP with the proposed design by JZM submitted for development approval.

It should be noted that it is not proposed to designate any lot as medium density. All lots proposed as part of this subdivision have been indicated to be developed for single dwellings as per the concept plans.

2.0 Methodology

To determine the potential lot yield, JZM first determined the total number of dwellings that the site could accommodate under the current Council policies and guidelines. They then allocated 1 lot per dwelling.

The two methods considered are;

1. Minimum lot size for subdivision of a dwelling house under clause 4.1A of the GLEP 2014
2. The floor space ratio for the precinct in accordance with the Griffith Residential DCP

The minimum lot size method is preferred for this assessment, as it was the common method in place when the LWMP was adopted. However, there is no significant difference between either of the 2 calculations.

3.0 Lot Yield from LWMP

At the time that the LWMP was created, a significant portion of this site was designated as "drainage corridor & flood affected area". Further flood modelling has determined that this will no longer be the case once Council complete drainage infrastructure work in accordance with the "Lake Wyangan Road and Drainage Infrastructure Master Plan". As this drainage work is underway and scheduled for completion in the coming months, that land is now able to be developed into residential lots and has been included in the lot yield calculations.

The following table outlines potential number of dwellings in the LWMP using the two methods mentioned

Item	No of Lots	Area	Est Area per Lot	Pot Lot Yield (count)	Pot Lot Yield (@700 m2)	Pot Lot Yield (FSR)
Residential Lot 700 m2 min Area	6	4160	700	6	5	6
Residential Lot 700 m2 min Area	14	12330	700	14	17	14
Residential Lot 700 m2 min Area	14	12330	700	14	17	14
Residential Lot 700 m2 min Area	9	6850	700	9	9	9
Floodway affected lot	1	12795	700	18	18	18
Multi-unit housing lot	2	5460	450	12	12	13
Multi-unit housing lot	4	14240	450	31	31	35
Total	**50**	**68165**		**104**	**109**	**109**

Please note the following

1. The "No of lots" is a count from the LWMP
2. The "Area" is measured from a cad drawing of the LWMP (in m^2) and relates to the total area for the number of lots in the row
3. The "Est Area per Lot" is the lot size applied to calculate the potential lot yield for the lot
    a. An area of 700 m^2 has been used for the floodway affected lot as that is the minimum lot size for a residential lot in the zone under clause 4.1 of the GLEP 2014

b. An area of 450 m^2 has been used for the multi-dwelling lots. The minimum lot size for subdivision of multi-dwelling lot is 400 m^2 lot in the zone under clause 4.1A of the GLEP 2014 and an additional 50 m^2 per lot has been added to account for common areas.

4. The "Potential Lot Yield" is the number of lots that could be achieved under the LWMP, using the actual number of lots marked "Residential Lot 700 m2 min Area" on the LWMP, an average area of 700 m2 for "Flood affected lot" and an average area of 450 m2 for "Multi-Dwelling lot"
5. The "Pot Lot Yield @700m^2" is the number of lots that could be achieved from the LWMP, using the assumption that lots marked "Residential Lot 700 m2 min Area" have a minimum area of 700 m^2, an average area of 700 m2 for "Flood affected lot" and an average area of 450 m2 for "Multi-Dwelling lot"
6. The "FSR Pot Lot Yield" is the number of lots that achieved using the floor space ratio calculation for the multi-dwelling lots, the actual number of lots marked "Residential Lot 700 m2 min Area" and an average area of 700 m2 for the "Flood Affected lot". It assumes a FSR of 0.5 and an average dwelling area of 200 m^2

Based on these calculations, the LWMP the site could potentially accommodate 109 dwellings or 109 lots.



Figure 1: Extract from the Lake Wyangan Master Plan.

4.0 Lot Yield from JZM design

The subdivision has been designed to factor in a 25% increase to the total lot yield. Excluding roads and road reserves, the development site could allow 80 lots at 700m^2. At a 25% MD allowance, an additional 20 lots could be provided, allowing 100 lots in total with a single dwelling on each lot, as outlined in the following table;

Potential Lot Yield @ 25% Multiple Dwelling

Total Area of Lots	56376
Average Lot size	700
Calculated No of Primary lots	80
% of Multiple dwelling lots	25%

Allowed Additional Lots	20
Total Potential Lot Yield	**100**
Average Lot size	564

The actual lot yield is 100 lots and is in keeping with the calculated Potential Lot Yield. Refer to Appendix 1 "Lot Yield Calculations" for a summary of the lot areas and yield calculations.

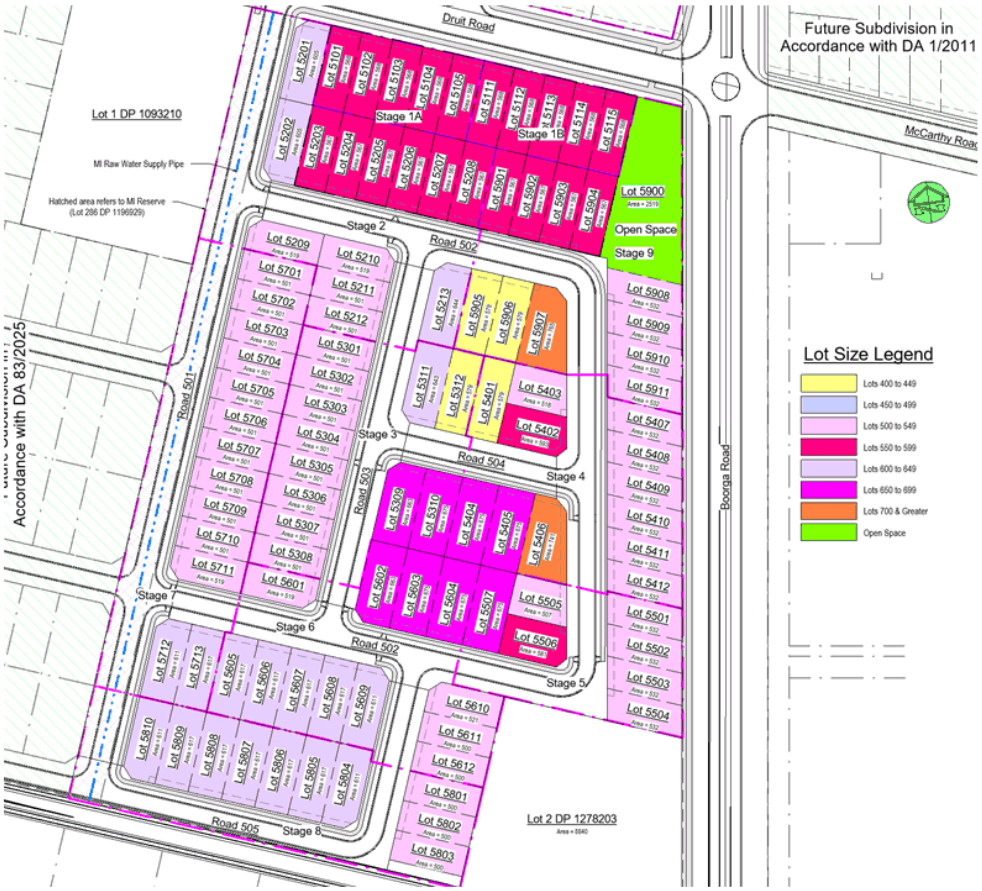


Figure 2: The subdivision of lots is proposed over 9 stages.

5.0 Conclusion

Based on the calculations undertaken in this report it is evident that the lot yield of 100 lots with a single dwelling on each lot proposed by JZM is significantly less than the potential lot yield of 109 lots from the LWMP.

JZ MANAGEMENT

6.0 Appendix 1 - Lot Yield Calculations

Lot Yield Calculations

Lake Gardens Phase 5 - Catanzariti 2 - (Boorga West) - Lot 1 DP 1278203

	Total	Stage 1A & 1B	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
Total Area of Lots	56376	5670	7258	6569	6973	3891	7132	6757	5807	6319
No. Lots	100	10	13	12	12	7	12	13	10	11
Average Lot Size	564	567	558	547	581	556	594	520	581	574

No Lots 400 to 449	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
No Lots 450 to 499	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
No Lots 500 to 549	46	0.00	4.00	8.00	7.00	5.00	4.00	11.00	3.00	4.00
No Lots 550 to 599	27	10.00	7.00	1.00	2.00	1.00	0.00	0.00	0.00	6.00
No Lots 600 to 699	25	0.00	2.00	3.00	2.00	1.00	8.00	2.00	7.00	0.00
No Lots 700 +	2	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00

Potential Lot Yield @ 25% Multiple Dwelling		Lot	Area	Lot	Area	Lot	Area	Lot	Area	Lot	Area	Lot	Area	Lot	Area	Lot	Area
Total Area of Lots	56376	Lot 5101	567	Lot 5201	605	Lot 5301	501	Lot 5401	579	Lot 5501	532	Lot 5601	519	Lot 5701	501	Lot 5801	500	Lot 5901	567
Average Lot size	700	Lot 5102	567	Lot 5202	567	Lot 5302	501	Lot 5402	593	Lot 5502	532	Lot 5602	663	Lot 5702	501	Lot 5802	500	Lot 5902	567
Calculated No of Primary lots	80	Lot 5103	567	Lot 5203	567	Lot 5303	501	Lot 5403	518	Lot 5503	532	Lot 5603	675	Lot 5703	501	Lot 5803	500	Lot 5903	567
% of Multiple dwelling lots	25%	Lot 5104	567	Lot 5204	567	Lot 5304	501	Lot 5404	675	Lot 5504	532	Lot 5604	675	Lot 5704	501	Lot 5804	611	Lot 5904	567
Allowed Additional Lots	20	Lot 5105	567	Lot 5205	567	Lot 5305	501	Lot 5405	675	Lot 5505	507	Lot 5605	617	Lot 5705	501	Lot 5805	617	Lot 5905	579
Total Potential Lot Yield	**100**			Lot 5206	567	Lot 5306	501	Lot 5406	741	Lot 5506	581	Lot 5606	617	Lot 5706	501	Lot 5806	617	Lot 5906	579
Average Lot size	564	Lot 5111	567	Lot 5207	567	Lot 5307	501	Lot 5407	532	Lot 5507	675	Lot 5607	617	Lot 5707	501	Lot 5807	617	Lot 5907	765
		Lot 5112	567	Lot 5208	567	Lot 5308	501	Lot 5408	532			Lot 5608	617	Lot 5708	501	Lot 5808	617	Lot 5908	532
Actual Designed Lot Yield		Lot 5113	567	Lot 5209	519	Lot 5309	663	Lot 5409	532			Lot 5609	611	Lot 5709	501	Lot 5809	617	Lot 5909	532
Total Area of Lots	56376	Lot 5114	567	Lot 5210	519	Lot 5310	675	Lot 5410	532			Lot 5610	521	Lot 5710	501	Lot 5810	611	Lot 5910	532
No. Lots	**100**	Lot 5115	567	Lot 5211	501	Lot 5311	644	Lot 5411	532			Lot 5611	500	Lot 5711	519			Lot 5911	532
Average Lot Size	564			Lot 5212	501	Lot 5312	579	Lot 5412	532			Lot 5612	500	Lot 5712	611				
				Lot 5213	644									Lot 5713	617				

5

Aitken Rowe
GEOTECHNICAL ENGINEERING

LIMITED PHASE 2 SITE INVESTIGATION

PROPOSED RESIDENTIAL SUBDIVISION
LOT 1, No. 122 BOORGA ROAD & No. 2 TODD ROAD
LAKE WYANGAN, NSW

JZ MANAGEMENT PTY LTD
GRIFFITH, NSW



GE26-006
10 APRIL 2026

AITKEN ROWE TESTING LABORATORIES PTY LTD

Head Office: 1/5 Dangar Place, East Wagga Wagga, NSW, 2650 P: (02) 69395555 Email: admin@artl.com.au
17b Battista Street, Griffith, NSW, 2680 P: (02) 69645551 | 1/111 Kaitlers Road, Lavington, NSW, 2641 P: (02) 60401661

REPORT DETAILS

Report Registration Number:
GE26-006

Report Type:
Limited Phase 2 Site Investigation

Report Title:
Limited Phase 2 Site Investigation – Proposed Residential Subdivision, Lot 1, No. 122 Boorga Road & No. 2 Todd Road, Lake Wyangan, NSW

Client Details:
JZ Management Pty Ltd
Griffith, NSW

Revision	Date	Description	Author	Reviewer
0	10/04/2026	Limited Phase 2 Site Investigation	PFT	PFT

	Author	Reviewer
Signature	[redacted]	[redacted]
Name	Peter Forbes-Taber	Peter Forbes-Taber
Title	Geotechnical Engineer	Geotechnical Engineer

TABLE OF CONTENTS

1 INTRODUCTION 1

1.1 Overview 1
1.2 Proposed Development 1
1.3 Objectives 1
1.4 Scope of Work 2

2 SITE IDENTIFICATION 2

2.1 Site Location 2
2.2 Site Inspection & Description 3
2.3 Surrounding Land Use 4
2.4 Site Details Summary 5

3 PHYSICAL SETTING 5

3.1 Site Topography & Hydrology 5
3.2 Local Geology & Soil 5

4 SITE HISTORY 5

4.1 Anecdotal Evidence 5
4.2 Contaminated Land Register Search 6
4.3 Previous Investigation Reports 6

5 POTENTIAL CONTAMINATION TYPES 6

6 SAMPLING & ANALYSIS 7

6.1 Analysis Criteria – Vacant Site (Phase 3, 4 and 5) 7
6.2 Analysis Criteria – Existing Shed (Southern Corner of Phase 5) 8
6.3 NATA Registration of Laboratory 9
6.4 Laboratory QA/QC Objectives 9
6.5 Review of Laboratory QA/QC 10

7 SOIL ANALYTICAL RESULTS 11

7.1 Vacant Site (Phase 3, 4 and 5) 11
7.2 Existing Shed (Southern Corner of Phase 5) 12

8 CONCLUSIONS & RECOMMENDATIONS 14

9 LIMITS OF INVESTIGATION 15

TABLES

Table 1: Site Identification & Summary 5
Table 2: Soil Health Investigation Levels (Vacant Site) 7
Table 3: Soil Health Investigation Levels (Existing Shed) 8
Table 4: Soil Analytical Results Summary (Vacant Site) 11
Table 5: Soil Analytical Results Summary (Existing Shed) 13

FIGURES

Figure 1: Site Location 3
Figure 2: Surrounding Land Use 4
Figure 3: Existing Shed Location 6

APPENDIX A – BOREHOLE LOCATION PLAN
APPENDIX B – SAMPLE GPS CO-ORDINATE TABLE
APPENDIX C – LABORATORY TEST REPORTS BY ENVIROLAB SERVICES PTY LTD

1. Introduction

1.1 Overview

Aitken Rowe Testing Laboratories (ARTL) Pty Ltd was commissioned by the client (JZ Management Pty Ltd) to undertake a Limited Phase 2 Site Investigation to assess the potential for contamination at Lot 1, No. 122 Boorga Road & No. 2 Todd Road, Lake Wyangan, NSW (the site). It is understood that citrus orchard trees have been removed from the site to allow the development of a residential subdivision. This report focuses on Phase 3, 4 and 5 of the proposed development. It is the purpose of this investigation to assess the underlying material for contaminants of concern identified by Griffith City Council during the Development Application process. A site inspection and investigative works were undertaken on the 17th and 18th February 2026. Details of the inspection and investigative works are provided in this report, together with comments on the significance of the findings.

1.2 Proposed Development

ARTL has been advised that a number of citrus orchard trees were removed to allow the construction of a new residential subdivision.

1.3 Objectives

The objectives of the investigation are:

- Briefly document the site history
- Identify past and present potential contaminating activities.
- Assess the risk of these contaminant sources with respect to the contamination status of the site.
- Conclude whether the site is suitable for the proposed use without further assessment, or provide recommendations for further assessment (if required) to enable such conclusions.

1.4 Scope of Work

The scope of work undertaken by ARTL in order to meet the objectives comprised the following:

- Review of historical information including local Council information, anecdotal information and a search for previous investigations performed for the site
- Review of geology, topography and hydrology of the site
- Site inspection and investigation including:
  - Excavating 149 boreholes to the depth of 0.5m
  - Collection of 37 composite soil samples for analysis
  - Collection of 1 discrete soil sample for targeted analysis
  - Undertaking visual inspection for potential onsite contamination
- Laboratory analysis of representative soil samples (37 composite samples) for:
  - OCP – Organochlorine Pesticides
  - OPP – Organophosphorus Pesticides
  - PCB – Polychlorinated Biphenyls
  - Metals – Arsenic, Cadmium, Chromium, Copper, Lead, mercury, Nickel and Zinc
  - Asbestos
- Laboratory analysis of discrete soil sample (Sample 38/BH149) for:
  - TRH – Total Recoverable Hydrocarbons
  - PAH – Polycyclic Aromatic Hydrocarbons
  - BTEX – Benzene, Toluene, Ethylbenzene and Xylene
  - OCP – Organochlorine Pesticides
  - OPP – Organophosphorus Pesticides
  - PCB – Polychlorinated Biphenyls
  - Metals – Arsenic, Cadmium, Chromium, Copper, Lead, mercury, Nickel and Zinc
- Assessment of data collected during the investigation and sample analysis results
- The completion of a formal report presenting results, contamination assessment and conclusions

2. Site Identification

2.1 Site Location

The site comprises Phase 3, 4 and 5 of the proposed 'Lake Gardens' subdivision approximately 4.0km north of the town-centre of Griffith, NSW as shown in Figure 1 below.

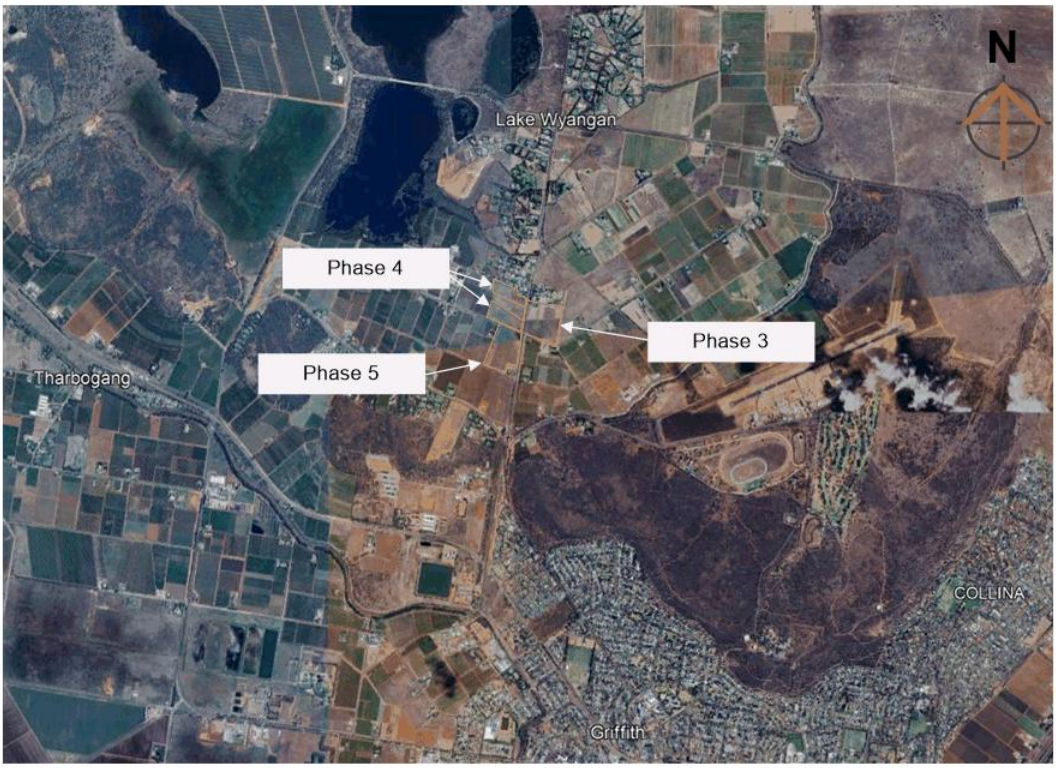


Figure 1: Site Location (© Google Earth – February 2025)

2.2 Site Inspection & Description

The site is located on the eastern and western side of Boorga Road within the Local Government Area of Griffith, NSW, as shown in the attached borehole location plans. The surrounding land is a mixture of residential and horticultural properties. The investigation area has been cleared of orchard trees, and historical aerial images show the site has previously been used for citrus horticultural farming 5-10+ years prior.

A small shed (earthen floor) was identified in the southern corner of Phase 5, with visible oil staining present across the soil. An additional discrete sample was obtained from this location (refer to Sample 38/BH149) and will be assessed separately for relevant contaminants.

The total area of the site is approximately 22.9ha. The focus of this investigation is the Phase 3, 4 and 5 areas as requested by the client. Detailed borehole location plans are attached in Appendix A.

2.3 Surrounding Land Use

The area surrounding the site consists of residential and horticultural properties. The proposed development plan is shown in Figure 2 below.

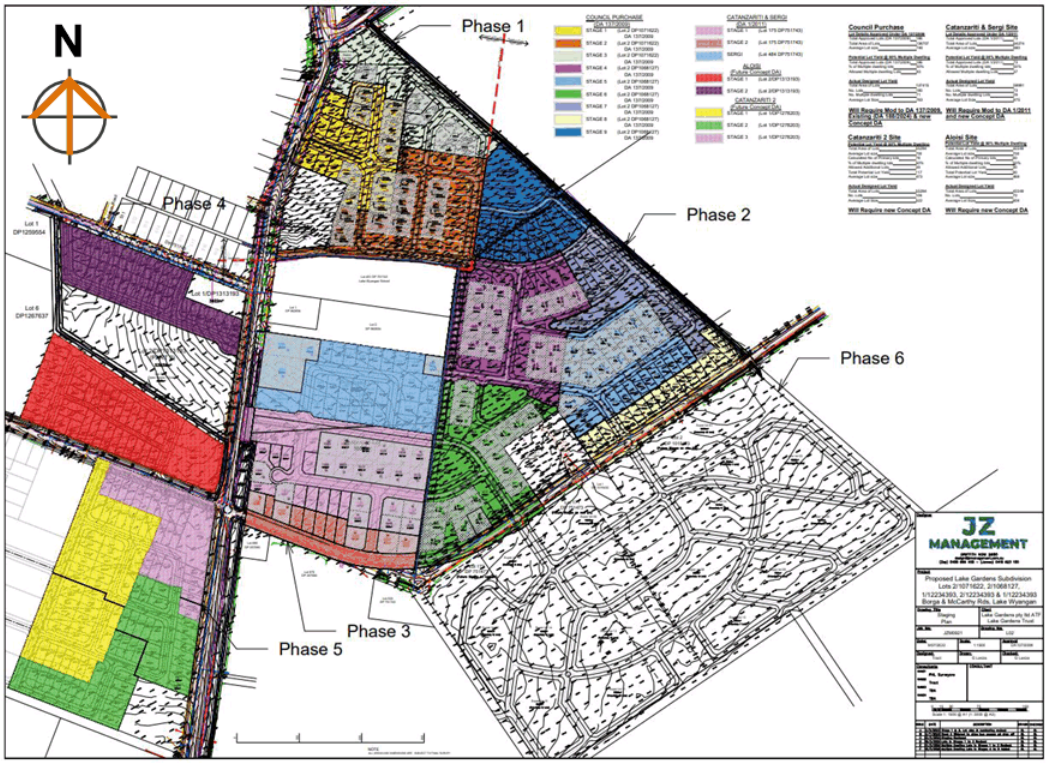


Figure 2: Surrounding Land Use (Client Provided Plan)

2.4 Site Details Summary

Table 1 provides a summary of the site details.

Table 1. Site Identification & Summary

Site Title / Identification Details	Lot 1 in DP 1278203, No. 122 Boorga Road & No. 2 Todd Road, Lake Wyangan, NSW
Current Site Use	Horticulture (Citrus)
Proposed Site Use	Residential Subdivision
Investigation Area	85,000m² (Phase 3) / 83,000m² (Phase 4) / 61,000m² (Phase 5)
Local Government Authority	Griffith City Council

3. Physical Setting

3.1 Site Topography & Hydrology

The site is generally flat, with the elevation noted to vary from approximately 113 to 119m above sea level. The local hydrology of the area consists of both constructed irrigation channels and natural drainage systems. Any runoff from the site is likely to run into the nearby drainage reserve which forms part of the local irrigation network. The local irrigation network also forms part of the natural Mirrool Creek catchment, which flows toward the Barren Box Swamp. It is likely that in times of excessive rain, water would infiltrate the underlying soil materials and percolate toward the water table.

3.2 Local Geology & Soil

The topography of the wider surrounding area is generally flat. The 1:250 000 scale Geological Series sheet for Narrandera (S1 55-10) indicates that the area is underlain by quaternary sediments of Cainozoic age consisting of alluvial deposits of clays, silts and sands.

4. Site History

4.1 Anecdotal Evidence

The site was previously used for citrus farming purposes.

4.2 Contaminated Land Register Search

A search of the sites listed by the EPA under the *Contaminated Land Management Act 1997* revealed that no records have been issued against the site.

4.3 Previous Investigation Reports

No previous contamination investigative reports for the site were made available for this investigation.

5. Potential Contamination Types

Based on the site history and site inspection the potential contaminants at the site are likely to be those associated with pesticide application. Therefore, any contamination is expected to be in the surface materials from direct application or over spray from adjacent properties which have persisted through time. It is noted that no machinery has been stored on site as well as no facilities for petrochemical storage across the site, with the exception of the small shed in the southern corner of Phase 5 (refer to Sample 38/BH149). This isolated area of the site is likely to have experienced spills from fuels and oils, therefore targeted contaminant analysis will be undertaken at this location.



Figure 3: Existing Shed Location (Southern Corner of Phase 5)

6. Sampling & Analysis

6.1 Analysis Criteria – Vacant Site (Phase 3, 4 and 5)

Analysis criteria for the vacant site across Phase 3, 4 and 5 will be based upon the Health Investigation Levels (HIL), Ecological Investigation Levels (EIL) and Ecological Screening Levels (ESL) presented in the National Environment Protection Council's (NEPC) National Environmental Protection Measure (NEPM 2013).

NEPM (2013) presents HIL's, EIL's and ESL's for different land uses including commercial/industrial, residential with minimal access to soil, residential with accessible soil, recreational etc. The proposed site use is residential, therefore HIL-A (residential) will be adopted for respective contaminants of concern. The investigation levels adopted for assessing the contamination status of the underlying material at the site are provided in Table 2. As composite samples were obtained from the site (4x sub-samples per composite), the following HIL's shall be reduced by a factor of four (4) in order to identify any potential outliers and isolated areas of contamination.

Table 2. Soil Health Investigation Levels (Vacant Site)

Analyte	Health Investigation Levels (mg/kg) HIL-A
DDT + DDD + DDE	240
Aldrin & Dieldrin	6
Endosulfan	270
Endrin	10
Heptachlor	6
Methoxychlor	300
Chlorpyrifos	160
PCB	1
Arsenic	100
Cadmium	20
Chromium	100
Copper	6,000
Lead	300
Mercury	40
Nickel	400
Zinc	7,400
Asbestos	ND*

**ND – A nil detection limit for Asbestos has been adopted for this investigation.*

6.2 Analysis Criteria – Existing Shed (Southern Corner of Phase 5)

Similarly, analysis criteria for the existing shed within the southern corner of Phase 5 will be based upon the HIL, EIL, ESL and management limits presented in the National Environment Protection Council's (NEPC) National Environmental Protection Measure (NEPM 2013). The investigation levels adopted for assessing the contamination status of the underlying material at the location of the existing shed are provided in Table 3.

Table 3. Soil Health Investigation Levels (Existing Shed)

Analyte	HIL's (mg/kg)	EIL's (mg/kg)	ESL's (mg/kg)**	Management Limits (mg/kg)
	Residential A			
F1: TRH C_6-C_{10} less BTEX	*	*	180	*
F2: TRH >C_{10}-C_{16} less naphthalene	*	*	120	*
TRH >C_6-C_{10}	*	*	*	800
TRH >C_{10}-C_{16}	*	*	*	1,000
TRH >C_{16}-C_{34}	*	*	1,300	3,500
TRH >C_{34}-C_{40}	*	*	5,600	10,000
Benzene	*	*	65	*
Toluene	*	*	105	*
Ethylbenzene	*	*	125	*
Xylene	*	*	45	*
Napthalene	*	170	*	*
DDT + DDD + DDE	240	*	*	*
Aldrin & Dieldrin	6	*	*	*
Endosulfan	270	*	*	*
Endrin	10	*	*	*
Heptachlor	6	*	*	*
Methoxychlor	300	*	*	*
Chlorpyrifos	160	*	*	*
PCB	1	*	*	*
Arsenic	100	*	*	*
Cadmium	20	*	*	*
Chromium	100	*	*	*
Copper	6,000	*	*	*
Lead	300	*	*	*
Mercury	40	*	*	*
Nickel	400	*	*	*
Zinc	7,400	*	*	*

** – no criteria available. ** - values derived using assumed values for pH, CEC and clay %*

6.3 NATA Registration of Laboratory

The analysis of samples was undertaken by EnviroLab Services Pty Ltd (Sydney). This laboratory is accredited by the National Association of Testing Authorities (NATA). The laboratory maintains extensive NATA accreditation, and methodology testing and development is performed in accordance with NATA requirements. NATA accreditation includes compliance with ISO Guide 25 "General Requirements for the Technical Competence of Testing Laboratories.".

Laboratories meeting the requirements of this guide comply, for calibration and testing activities, with the relevant requirements for the ISO 9000 series of standards, including those of the model described in ISO 9002 (AS 3902 is the Australian Standard equivalent) when they are acting as suppliers producing calibration and test results.

All analyses are performed in accordance with Australian Standards (AS), American Public Health Association (APHA), US-EPA or other standards meeting the NEPM (2013) criteria.

6.4 Laboratory QA/QC Objectives

The laboratory used in this project utilized their own QA procedures for analysis. The objective of the laboratory internal QA program is to provide data on the accuracy and precision of the analytical results. A description of the methods is listed below:

Reagent Blank: Sample free agents carried throughout the preparation/digestion procedure and analysed at the beginning of every sample batch analysis. Usually, a reagent blank is prepared and analysed at least every 20 samples.

Matric Spike Duplicates: Sample replicates spiked with identical concentrations of target analytes. The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and bias of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water may be used.

Surrogate Spike: Added to all samples requiring analysis for organics (where relevant) prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analytes in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples.

Internal Standard: Added to all samples requiring analysis for organics (where relevant) after extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run to run with the instruments.

Duplicate: A separate portion of a sample being analysed which is treated the same as the other samples in the batch. Usually, a duplicate is prepared and analysed at least every 20 samples.

Control Standards: Prepared from a source independent of the calibration standards.

Laboratory Reporting: For laboratories with appropriate QA, the reagent blank, duplicates, matrix spikes and surrogate spikes are reported along with the results. The targeted recovery range for the laboratory spikes, controls and surrogates shall be 70% to 130% of the known addition.

6.5 Review of Laboratory QA/QC

The primary laboratory used for chemical analysis of the validation samples was Envirolab Services. Envirolab Services are a NATA accredited laboratory. All laboratory QA/QC results are attached. Due to the limited nature of this assessment, no reagent blanks or duplicates were carried out, with the QA/QC based on the laboratory matrix spike % recovery. The conclusions from the results of the QA/QC data are:

- Most matrix spike % recoveries were between 70% and 130% (anomalies were Chrysene at 66-68%). The figures indicate that the laboratory analysis process was accurate and that any method bias from the sample matrix was not significant. The laboratory QA/QC data as supplied for each analysis confirm acceptable precision and accuracy of the analytical results from Envirolab.

7. Soil Analytical Results

7.1 Vacant Site (Phase 3, 4 and 5)

The field investigation was completed on 17th and 18th February 2026. A total of one-hundred and forty-eight (148) boreholes were excavated to the depth of 0.5m in a grid format across the site. Due to the homogenous nature of the underlying soils and historical use of the site, thirty-seven (37) composite samples (4x sub-samples per composite) were taken for analysis. No obvious signs of contamination (visual or olfactory) were noted during the sampling across the site (with the exception of the southern corner of Phase 5, detailed separately in Section 7.2 below). The borehole location plan is attached in Appendix A. Global Positioning System (GPS) co-ordinates were taken at the location of each borehole and are presented in Appendix B.

A total of thirty-seven (37) soil samples from depths of 0.0 to 0.5m were used to assess the contamination status of the underlying material of the site. The samples were collected using a clean disposable nitrile glove. The jars were then sealed with a teflon lid and stored and transported in temperature insulated eskies cooled with ice-bricks. The samples were sent for various contaminant analysis to EnviroLab Services Pty Ltd (Sydney). The laboratory test reports as received from EnviroLab are presented in Appendix C. Table 4 provides a summary of the results. As composite samples were obtained from the site, the HIL's have been reduced by a factor of four (4).

Table 4. Soil Analytical Results Summary (Vacant Site)

Number of Samples	Analyte	Adopted Criteria (mg/kg)	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Samples Exceeding Criteria
37 (C1-C37)	DDT + DDD + DDE	60	<0.1	<0.1	Nil
	Aldrin & Dieldrin	1.5	<0.1	<0.1	Nil
	Endosulfan	67.5	<0.1	<0.1	Nil
	Endrin	2.5	<0.1	<0.1	Nil
	Heptachlor	1.5	<0.1	<0.1	Nil
	Methoxychlor	75	<0.1	<0.1	Nil
	Chlorpyrifos	40	<0.1	<0.1	Nil
	PCB	0.25	<0.1	<0.1	Nil
	Arsenic	25	<4	4	Nil
	Cadmium	5	<0.4	<0.4	Nil
	Chromium	25	19	31	See below
	Copper	1,500	12	40	Nil
	Lead	75	7	11	Nil
	Mercury	10	<0.1	<0.1	Nil
	Nickel	100	6	13	Nil
	Zinc	1,850	15	35	Nil
	Asbestos	ND	ND	ND	Nil

As can be seen in Table 4 above, all results were found well below the adopted criteria, with the exception of Chromium. The average concentration of Chromium was found to be 23.8mg/kg, with a minimum recorded result of 19mg/kg and maximum recorded result of 31mg/kg, which is above the adopted factored criteria of 25mg/kg.

It should be noted that the HIL-A level for Chromium within NEPM 2013 is 100mg/kg (refer to Table 2), however this was reduced by a factor of four (4) in order to identify any potential outliers and isolated areas of contamination via composite sampling. However, as can be demonstrated by the consistent level of Chromium across all samples, it is assessed that no outliers are present, and therefore the average result of 23.8mg/kg shall be compared to the HIL-A level of 100mg/kg. Based on this evaluation with respect to the levels of Chromium identified; the site is considered suitable for residential development with no further investigation required.

7.2 Existing Shed (Southern Corner of Phase 5)

The field investigation was completed on 17th February 2026. A total of one borehole was excavated to the depth of 0.5m within the footprint of the existing shed. One (1) discrete sample was taken for analysis. Visual signs of isolated contamination were noted during the sampling, in the form of oil staining on the earthen floor.

One (1) soil sample from the depth of 0.0 to 0.5m was used to assess the contamination status of the underlying material at the location of the existing shed. The sample was collected using a clean disposable nitrile glove. The jar was then sealed with a teflon lid and stored and transported in temperature insulated eskies cooled with ice-bricks. The sample was sent for targeted contaminant analysis to EnviroLab Services Pty Ltd (Sydney). The laboratory test reports as received from EnviroLab are presented in Appendix C. Table 5 provides a summary of the results.

Table 5. Soil Analytical Results Summary (Existing Shed)

Number of Samples	Analyte	Adopted Criteria (mg/kg)	Concentration (mg/kg)	Sample Exceeding Criteria
1 (Sample 38)	F1: TRH C_6-C_{10} less BTEX	180	<25	Nil
	F2: TRH >C_{10}-C_{16}	120	<50	Nil
	TRH >C_6-C_{10}	800	<25	Nil
	TRH >C_{10}-C_{16}	1,000	<50	Nil
	TRH >C_{16}-C_{34}	1,300	740	Nil
	TRH >C_{34}-C_{40}	5,600	330	Nil
	Benzene	65	<0.2	Nil
	Toluene	105	<0.5	Nil
	Ethylbenzene	125	<1	Nil
	Xylene	45	<1	Nil
	Napthalene	170	<1	Nil
	DDT + DDD + DDE	240	<0.1	Nil
	Aldrin & Dieldrin	6	<0.1	Nil
	Endosulfan	270	<0.1	Nil
	Endrin	10	<0.1	Nil
	Heptachlor	6	<0.1	Nil
	Methoxychlor	300	<0.1	Nil
	Chlorpyrifos	160	<0.1	Nil
	PCB	1	<0.1	Nil
	Arsenic	100	4	Nil
	Cadmium	20	<0.4	Nil
	Chromium	100	24	Nil
	Copper	6,000	29	Nil
	Lead	300	18	Nil
	Mercury	40	<0.1	Nil
	Nickel	400	9	Nil
	Zinc	7,400	160	Nil

As can be seen in Table 5 above, there have been slight adverse impacts to the soil materials within the existing shed footprint, with trace amounts of Hydrocarbons (C_{15}-C_{40}) detected within Sample 38. However these results are well below the adopted criteria. The Hydrocarbons found in low concentration are likely due to accidental spillage or overfilling of machinery. Given that the source of contamination (shed and machinery) will be removed, the risk of significant and widespread contamination is assessed to be low. Based on this evaluation, the site is considered suitable for residential development with no further investigation required.

8. Conclusions & Recommendations

Based on the data and evidence collected in the course of the site inspection, site history review and sampling and analysis program, the findings of the Limited Phase 2 Site Investigation are as follows:

- The site was previously used for citrus farming purposes.
- There have been no significant storage of fuels/oils or chemicals at the site (vacant site).
- Minor staining in existing shed (southern corner of Phase 5) revealed low concentrations of Hydrocarbons, however all results were found well below the adopted residential criteria.
- A residential subdivision is proposed for the site.
- Due to the site history the potential for significant and widespread contamination is considered low.
- The results of the sampling and analysis program showed that all samples analysed were found well below the adopted criteria (residential) for Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Benzene, Toluene, Ethylbenzene, Xylene, Organochlorine and Organophosphorus Pesticides, Polychlorinated Biphenyls, and metals. No asbestos was detected in any of the samples analysed.
- The site is therefore considered suitable for residential development.

Based on the findings above, no further investigation of the contamination of the underlying materials is considered necessary at the subject site. Any soil material requiring exportation from the site during the future development works should be classified in accordance with the Excavated Natural Material Order (2014) and if required, the Waste Classification Guidelines Part 1: Classifying Waste (2014).

9. Limits of Investigation

The recommendations made in this report are based on the assumption that the test results are representative of the overall subsurface conditions. However, it should be noted that even under optimum circumstances, actual conditions in some parts of the site may differ from those said to exist, because no environmental consultant, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal all that is hidden by earth, rock and time.

The client should also be aware that our recommendations refer only to our test site locations and the ground level at the time of testing.

The recommendations in this report are based on the following:

a) The information gained from this investigation.
b) The results received from a NATA accredited environmental laboratory.
c) Historical information.
d) Information supplied by the client.

Should the client or their agent have omitted to supply us with the correct relevant information, our report may not take responsibility for any consequences, and we reserve the right to make an additional charge if more testing is necessary.

Any sketch supplied should be considered as only approximate pictorial evidence of our work.

APPENDIX A

BOREHOLE LOCATION PLAN



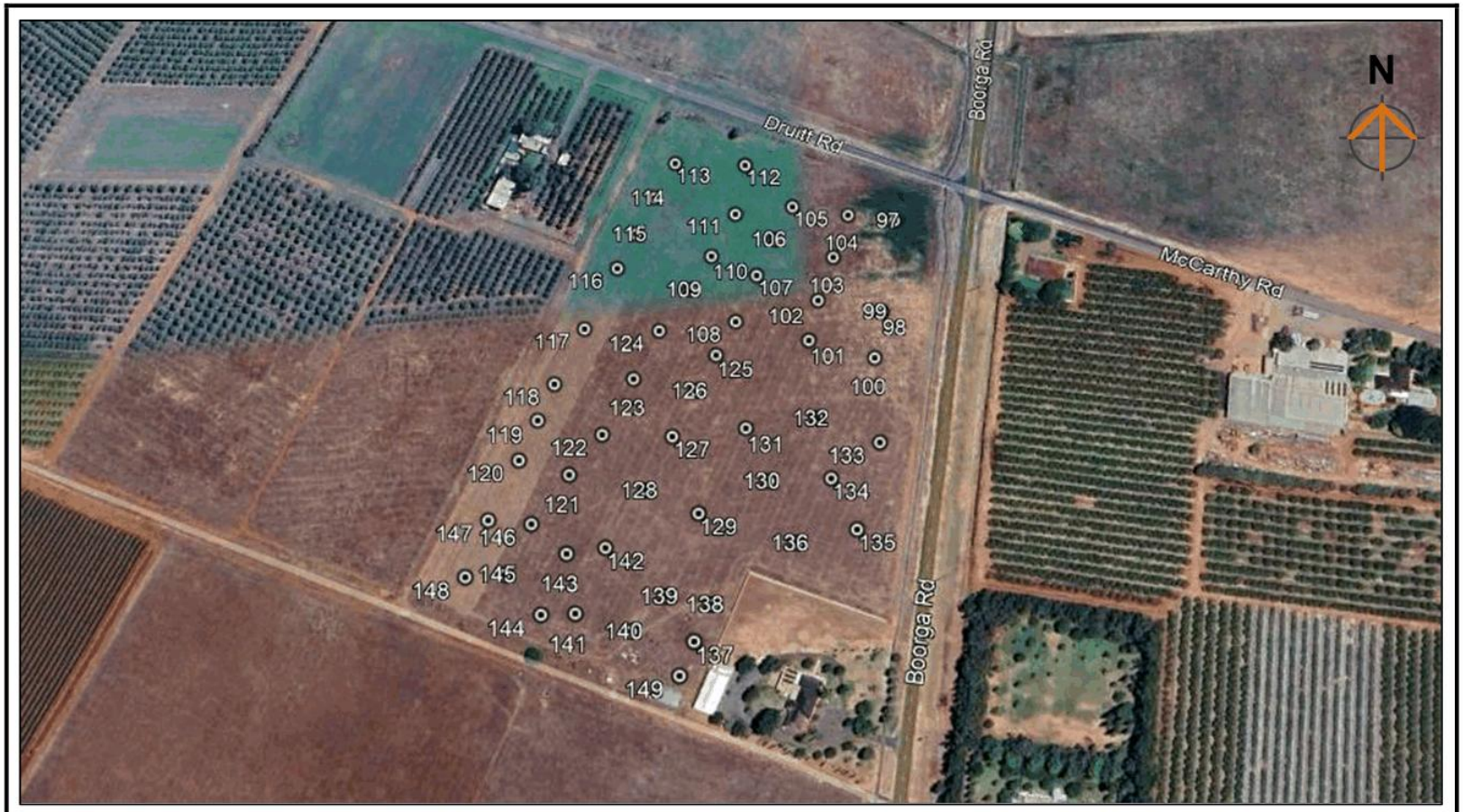
Aitken Rowe Testing Laboratories Pty Ltd

Registration Number: GE26-006

Page 1 of 2

Client: JZ MANAGEMENT PTY LTD – GRIFFITH, NSW

Project: LIMITED PHASE 2 ASSESSMENT
PROPOSED RESIDENTIAL SUBDIVISION
LOT 1, No. 122 BOORGA ROAD & No. 2 TOOD ROAD,
LAKE WYANGAN, NSW
BOREHOLE LOCATION PLAN



Aitken Rowe Testing Laboratories Pty Ltd **Registration Number: GE26-006** Page 2 of 2	**Client:** JZ MANAGEMENT PTY LTD – GRIFFITH, NSW **Project:** LIMITED PHASE 2 ASSESSMENT PROPOSED RESIDENTIAL SUBDIVISION LOT 1, No. 122 BOORGA ROAD & No. 2 TOOD ROAD, LAKE WYANGAN, NSW BOREHOLE LOCATION PLAN

APPENDIX B

SAMPLE GPS CO-ORDINATE TABLE

BOREHOLE CO-ORDINATES			
Borehole Number	**Easting**	**Northing**	**Sample Number**
1	0410915	6209771	C1
2	0410943	6209763	
3	0410912	6209720	
4	0410949	6209724	
5	0410996	6209801	C2
6	0410990	6209780	
7	0410986	6209710	
8	0410974	6209709	
9	0411033	6209717	C3
10	0411036	6209737	
11	0411039	6209769	
12	0411041	6209796	
13	0411116	6209784	C4
14	0411113	6209753	
15	0411106	6209718	
16	0411098		
17	0411132		C5
18	0411135	6209712	
19	0411142	6209748	
20	0411146	6209777	
21	0411148	6209666	C6
22	0411144	6209643	
23	0411141	6209621	
24	0411136	6209591	
25	0411105	6209595	C7
26	0411110	6209621	
27	041113	6209643	
28	0411117	6209667	

BOREHOLE CO-ORDINATES			
Borehole Number	**Easting**	**Northing**	**Sample Number**
29	0411057	6209662	C8
30	0411055	6209642	
31	0411052	6209622	
32	0411049	6209607	
33	0410965	6209608	C9
34	0410964	6209629	
35	0410968	6209664	
36	0410971	06209698	
37	0410904	6209710	C10
38	0410897	6209674	
39	0410892	6209642	
40	0410889	6209620	
41	0410899	6209554	C11
42	0410906	6209593	
43	0410957	6209584	
44	0410954	6209541	
45	0411014	6209530	C12
46	0411016	6209540	
47	0411019	6209558	
48	0411026	6209580	
49	0411077	6209583	C13
50	0411066	6209558	
51	0411058	6209537	
52	0411046	6209506	
53	0411108	6209484	C14
54	0411112	6209516	
55	0411122	6209558	
56	0411128	6209575	

BOREHOLE CO-ORDINATES			
Borehole Number	**Easting**	**Northing**	**Sample Number**
57	0410843	6209850	C15
58	0410822	6209832	
59	0410809	6209861	
60	0410772	6209844	
61	0410747	6209887	C16
62	0410758	6209912	
63	0410730	6209928	
64	0410719	6209884	
65	0410682	6209898	C17
66	0410698	6209942	
67	0410662	6209913	
68	0410664	6209958	
69	0410627	6209949	C18
70	0410614	6209916	
71	0410591	6209919	
72	0410604	6209955	
73	0410561	6209784	C19
74	0410551	6209754	
75	0410544	6209727	
76	0410536	6209700	
77	0410573	6209696	C20
78	0410599	6209703	
79	0410592	6209743	
80	0410633	6209752	
81	0410659	6209738	C21
82	0410631	6209723	
83	0410637	6209686	
84	0410610	6209669	

BOREHOLE CO-ORDINATES			
Borehole Number	**Easting**	**Northing**	**Sample Number**
85	041650	6209673	C22
86	0410680	6209686	
87	0410666	6209720	
88	0410692	6209721	
89	0410723	6209689	C23
90	0410707	6209646	
91	0410763	6209672	
92	0410749	6209630	
93	0410785	6209644	C24
94	0410777	6209602	
95	0410802	6209609	
96	0410807	6209637	
97	0410787	6209517	C25
98	0410784	6209488	
99	0410777	6209449	
100	04107725	6209416	
101	0410731	6209428	C26
102	0410737	6209457	
103	0410747	6209489	
104	0410757	6209521	
105	0410721	6209527	C27
106	0410710	6209502	
107	0410698	6209475	
108	0410685	6209441	
109	0410656	6209464	C28
110	0410568	6209493	
111	0410667	6209491	
112	0410690	6209559	

BOREHOLE CO-ORDINATES			
Borehole Number	**Easting**	**Northing**	**Sample Number**
113	0410644	6209560	C29
114	0410631	6209533	
115	0410620	6209505	
116	0410609	6209479	
117	0410590	6209435	C30
118	0410573	6209396	
119	0410564	6209371	
120	0410554	6209344	
121	0410585	6209335	C31
122	0410604	6209362	
123	0410622	6209400	
124	0410637	6209434	
125	0410673	6209417	C32
126	0410661	6209392	
127	0410647	6209361	
128	0410632	6209325	
129	0410664	6209310	C33
130	0410706	6209332	
131	0410692	6209367	
132	0410729	6209387	
133	0410774	6209358	C34
134	0410744	6209334	
135	0410759	6209300	
136	0410723	6209291	
137	0410663	6209228	C35
138	0410673	6209251	
139	0410646	6209256	
140	0410626	6209234	

BOREHOLE CO-ORDINATES			
Borehole Number	**Easting**	**Northing**	**Sample Number**
141	0410593	6209245	C36
142	0410609	6209287	
143	0410586	6209283	
144	0410573	6209244	
145	0410550	6209269	C37
146	0410564	6209302	
147	0410538	6209304	
148	0410527	6209267	
149	0410655	6209207	C38

APPENDIX C

LABORATORY TEST REPORTS AS RECEIVED FROM ENVIROLAB

Registration No: GE26-006
10 April 2026

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 402902

Client Details	
Client	Aitken Rowe Testing Laboratories Pty Ltd
Attention	Michael Scremin
Address	1/5 Dangar Pl, EAST WAGGA WAGGA, NSW, 2650

Sample Details	
Your Reference	**GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122**
Number of Samples	38 Soil
Date samples received	25/02/2026
Date completed instructions received	25/02/2026

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client unless as indicated below in the method summaries. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details	
Date results requested by	04/03/2026
Date of Issue	04/03/2026

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Analyst: Lucy Zhu
Authorised by Asbestos Approved Signatory: Stuart Chen

Results Approved By
Dragana Tomas, Senior Chemist
Larry Ye, Senior Chemist
Liam Timmins, Organics Supervisor
Stuart Chen, Asbestos Approved Identifier/Report coordinator

Authorised By
Nancy Zhang, Laboratory Manager

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		402902-38
Your Reference	UNITS	GE26-006/C38
Depth		0-500
Date Sampled		17/02/2026
Type of sample		Soil
Date extracted	-	26/02/2026
Date analysed	-	02/03/2026
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	103

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

svTRH (C10-C40) in Soil		
Our Reference		402902-38
Your Reference	UNITS	GE26-006/C38
Depth		0-500
Date Sampled		17/02/2026
Type of sample		Soil
Date extracted	-	26/02/2026
Date analysed	-	26/02/2026
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	260
TRH C_{29} - C_{36}	mg/kg	650
Total +ve TRH (C10-C36)	mg/kg	910
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	740
TRH >C_{34} -C_{40}	mg/kg	330
Total +ve TRH (>C10-C40)	mg/kg	1,100
Surrogate o-Terphenyl	%	83

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

PAHs in Soil		
Our Reference		402902-38
Your Reference	UNITS	GE26-006/C38
Depth		0-500
Date Sampled		17/02/2026
Type of sample		Soil
Date extracted	-	26/02/2026
Date analysed	-	03/03/2026
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	87

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-1	402902-2	402902-3	402902-4	402902-5
Your Reference	UNITS	GE26-006/C1	GE26-006/C2	GE26-006/C3	GE26-006/C4	GE26-006/C5
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	84	83	84	90	81

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-6	402902-7	402902-8	402902-9	402902-10
Your Reference	UNITS	GE26-006/C6	GE26-006/C7	GE26-006/C8	GE26-006/C9	GE26-006/C10
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	81	81	81	82	81

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-11	402902-12	402902-13	402902-14	402902-15
Your Reference	UNITS	GE26-006/C11	GE26-006/C12	GE26-006/C13	GE26-006/C14	GE26-006/C15
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	104	104	87	92	94

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-16	402902-17	402902-18	402902-19	402902-20
Your Reference	UNITS	GE26-006/C16	GE26-006/C17	GE26-006/C18	GE26-006/C19	GE26-006/C20
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	88	90	93	87	89

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-21	402902-22	402902-23	402902-24	402902-25
Your Reference	UNITS	GE26-006/C21	GE26-006/C22	GE26-006/C23	GE26-006/C24	GE26-006/C25
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	91	92	87	87	98

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-26	402902-27	402902-28	402902-29	402902-30
Your Reference	UNITS	GE26-006/C26	GE26-006/C27	GE26-006/C28	GE26-006/C29	GE26-006/C30
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	93	94	90	100	88

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil						
Our Reference		402902-31	402902-32	402902-33	402902-34	402902-35
Your Reference	UNITS	GE26-006/C31	GE26-006/C32	GE26-006/C33	GE26-006/C34	GE26-006/C35
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	75	87	84	87	84

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organochlorine Pesticides in soil				
Our Reference		402902-36	402902-37	402902-38
Your Reference	UNITS	GE26-006/C36	GE26-006/C37	GE26-006/C38
Depth		0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	86	91	88

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-1	402902-2	402902-3	402902-4	402902-5
Your Reference	UNITS	GE26-006/C1	GE26-006/C2	GE26-006/C3	GE26-006/C4	GE26-006/C5
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	84	83	84	90	81

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-6	402902-7	402902-8	402902-9	402902-10
Your Reference	UNITS	GE26-006/C6	GE26-006/C7	GE26-006/C8	GE26-006/C9	GE26-006/C10
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	81	81	81	82	81

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-11	402902-12	402902-13	402902-14	402902-15
Your Reference	UNITS	GE26-006/C11	GE26-006/C12	GE26-006/C13	GE26-006/C14	GE26-006/C15
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	104	104	87	92	94

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-16	402902-17	402902-18	402902-19	402902-20
Your Reference	UNITS	GE26-006/C16	GE26-006/C17	GE26-006/C18	GE26-006/C19	GE26-006/C20
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	88	90	93	87	89

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-21	402902-22	402902-23	402902-24	402902-25
Your Reference	UNITS	GE26-006/C21	GE26-006/C22	GE26-006/C23	GE26-006/C24	GE26-006/C25
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	91	92	87	87	98

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-26	402902-27	402902-28	402902-29	402902-30
Your Reference	UNITS	GE26-006/C26	GE26-006/C27	GE26-006/C28	GE26-006/C29	GE26-006/C30
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	93	94	90	100	88

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil						
Our Reference		402902-31	402902-32	402902-33	402902-34	402902-35
Your Reference	UNITS	GE26-006/C31	GE26-006/C32	GE26-006/C33	GE26-006/C34	GE26-006/C35
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	75	87	84	87	84

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Organophosphorus Pesticides in Soil				
Our Reference		402902-36	402902-37	402902-38
Your Reference	UNITS	GE26-006/C36	GE26-006/C37	GE26-006/C38
Depth		0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	86	91	88

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

PCBs in Soil						
Our Reference		402902-1	402902-2	402902-3	402902-4	402902-5
Your Reference	UNITS	GE26-006/C1	GE26-006/C2	GE26-006/C3	GE26-006/C4	GE26-006/C5
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	70	70	70	68	60

PCBs in Soil						
Our Reference		402902-6	402902-7	402902-8	402902-9	402902-10
Your Reference	UNITS	GE26-006/C6	GE26-006/C7	GE26-006/C8	GE26-006/C9	GE26-006/C10
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	60	61	61	61	60

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

PCBs in Soil						
Our Reference		402902-11	402902-12	402902-13	402902-14	402902-15
Your Reference	UNITS	GE26-006/C11	GE26-006/C12	GE26-006/C13	GE26-006/C14	GE26-006/C15
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	97	88	86	88	89

PCBs in Soil						
Our Reference		402902-16	402902-17	402902-18	402902-19	402902-20
Your Reference	UNITS	GE26-006/C16	GE26-006/C17	GE26-006/C18	GE26-006/C19	GE26-006/C20
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	87	86	86	87	86

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

PCBs in Soil						
Our Reference		402902-21	402902-22	402902-23	402902-24	402902-25
Your Reference	UNITS	GE26-006/C21	GE26-006/C22	GE26-006/C23	GE26-006/C24	GE26-006/C25
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	85	88	85	86	85

PCBs in Soil						
Our Reference		402902-26	402902-27	402902-28	402902-29	402902-30
Your Reference	UNITS	GE26-006/C26	GE26-006/C27	GE26-006/C28	GE26-006/C29	GE26-006/C30
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	84	84	84	83	86

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

PCBs in Soil						
Our Reference		402902-31	402902-32	402902-33	402902-34	402902-35
Your Reference	UNITS	GE26-006/C31	GE26-006/C32	GE26-006/C33	GE26-006/C34	GE26-006/C35
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026	03/03/2026	03/03/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	72	82	81	84	82

PCBs in Soil				
Our Reference		402902-36	402902-37	402902-38
Your Reference	UNITS	GE26-006/C36	GE26-006/C37	GE26-006/C38
Depth		0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil
Date extracted	-	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	03/03/2026	03/03/2026	03/03/2026
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	82	81	81

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Acid Extractable metals in soil						
Our Reference		402902-1	402902-2	402902-3	402902-4	402902-5
Your Reference	UNITS	GE26-006/C1	GE26-006/C2	GE26-006/C3	GE26-006/C4	GE26-006/C5
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	23	21	21	25	23
Copper	mg/kg	22	15	14	15	15
Lead	mg/kg	8	8	8	9	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	9	10	13	11
Zinc	mg/kg	21	16	18	18	17

Acid Extractable metals in soil						
Our Reference		402902-6	402902-7	402902-8	402902-9	402902-10
Your Reference	UNITS	GE26-006/C6	GE26-006/C7	GE26-006/C8	GE26-006/C9	GE26-006/C10
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	25	26	25	25	21
Copper	mg/kg	17	18	15	15	20
Lead	mg/kg	9	10	9	9	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	12	11	11	10
Zinc	mg/kg	26	21	21	18	20

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Acid Extractable metals in soil						
Our Reference		402902-11	402902-12	402902-13	402902-14	402902-15
Your Reference	UNITS	GE26-006/C11	GE26-006/C12	GE26-006/C13	GE26-006/C14	GE26-006/C15
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	<4	<4	<4	<4	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	25	26	25	24	24
Copper	mg/kg	16	16	15	14	20
Lead	mg/kg	9	9	9	9	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	13	10	10	10	13
Zinc	mg/kg	20	20	17	23	35

Acid Extractable metals in soil						
Our Reference		402902-16	402902-17	402902-18	402902-19	402902-20
Your Reference	UNITS	GE26-006/C16	GE26-006/C17	GE26-006/C18	GE26-006/C19	GE26-006/C20
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	23	21	20	22	23
Copper	mg/kg	24	20	18	23	28
Lead	mg/kg	10	9	8	9	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	9	7	7	9
Zinc	mg/kg	29	22	19	17	20

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Acid Extractable metals in soil						
Our Reference		402902-21	402902-22	402902-23	402902-24	402902-25
Your Reference	UNITS	GE26-006/C21	GE26-006/C22	GE26-006/C23	GE26-006/C24	GE26-006/C25
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	22	19	22	22	24
Copper	mg/kg	34	20	16	20	39
Lead	mg/kg	8	7	8	8	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	9	9	7	7
Zinc	mg/kg	30	18	19	22	19

Acid Extractable metals in soil						
Our Reference		402902-26	402902-27	402902-28	402902-29	402902-30
Your Reference	UNITS	GE26-006/C26	GE26-006/C27	GE26-006/C28	GE26-006/C29	GE26-006/C30
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	22	22	22	23	23
Copper	mg/kg	40	24	20	18	16
Lead	mg/kg	8	8	8	8	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	8	9	11	10
Zinc	mg/kg	20	18	22	20	19

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Acid Extractable metals in soil						
Our Reference		402902-31	402902-32	402902-33	402902-34	402902-35
Your Reference	UNITS	GE26-006/C31	GE26-006/C32	GE26-006/C33	GE26-006/C34	GE26-006/C35
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	26	26	27	27	27
Copper	mg/kg	16	20	12	14	18
Lead	mg/kg	9	9	11	10	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	9	7	8	9
Zinc	mg/kg	19	23	15	16	27

Acid Extractable metals in soil					
Our Reference		402902-36	402902-37	402902-38	402902-39
Your Reference	UNITS	GE26-006/C36	GE26-006/C37	GE26-006/C38	GE26-006/C11 - [TRIPLICATE]
Depth		0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Arsenic	mg/kg	4	<4	4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	29	31	24	21
Copper	mg/kg	17	18	29	9
Lead	mg/kg	10	10	18	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	11	9	11
Zinc	mg/kg	21	21	160	11

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Moisture						
Our Reference		402902-1	402902-2	402902-3	402902-4	402902-5
Your Reference	UNITS	GE26-006/C1	GE26-006/C2	GE26-006/C3	GE26-006/C4	GE26-006/C5
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	5.3	6.5	5.1	8.2	6.9

Moisture						
Our Reference		402902-6	402902-7	402902-8	402902-9	402902-10
Your Reference	UNITS	GE26-006/C6	GE26-006/C7	GE26-006/C8	GE26-006/C9	GE26-006/C10
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	7.6	7.2	6.9	9.9	10

Moisture						
Our Reference		402902-11	402902-12	402902-13	402902-14	402902-15
Your Reference	UNITS	GE26-006/C11	GE26-006/C12	GE26-006/C13	GE26-006/C14	GE26-006/C15
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	14	9.0	8.0	7.5	9.1

Moisture						
Our Reference		402902-16	402902-17	402902-18	402902-19	402902-20
Your Reference	UNITS	GE26-006/C16	GE26-006/C17	GE26-006/C18	GE26-006/C19	GE26-006/C20
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	10	7.6	5.0	5.2	7.0

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Moisture						
Our Reference		402902-21	402902-22	402902-23	402902-24	402902-25
Your Reference	UNITS	GE26-006/C21	GE26-006/C22	GE26-006/C23	GE26-006/C24	GE26-006/C25
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	7.7	5.8	7.3	8.3	10

Moisture						
Our Reference		402902-26	402902-27	402902-28	402902-29	402902-30
Your Reference	UNITS	GE26-006/C26	GE26-006/C27	GE26-006/C28	GE26-006/C29	GE26-006/C30
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	6.2	7.6	7.0	9.4	7.4

Moisture						
Our Reference		402902-31	402902-32	402902-33	402902-34	402902-35
Your Reference	UNITS	GE26-006/C31	GE26-006/C32	GE26-006/C33	GE26-006/C34	GE26-006/C35
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Moisture	%	10	7.5	6.9	7.3	8.8

Moisture				
Our Reference		402902-36	402902-37	402902-38
Your Reference	UNITS	GE26-006/C36	GE26-006/C37	GE26-006/C38
Depth		0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil
Date prepared	-	26/02/2026	26/02/2026	26/02/2026
Date analysed	-	27/02/2026	27/02/2026	27/02/2026
Moisture	%	8.9	8.1	5.4

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Asbestos ID - Soils						
Our Reference		402902-1	402902-2	402902-3	402902-4	402902-5
Your Reference	UNITS	GE26-006/C1	GE26-006/C2	GE26-006/C3	GE26-006/C4	GE26-006/C5
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 40g	Approx. 45g	Approx. 45g	Approx. 40g	Approx. 45g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Asbestos ID - Soils						
Our Reference		402902-6	402902-7	402902-8	402902-9	402902-10
Your Reference	UNITS	GE26-006/C6	GE26-006/C7	GE26-006/C8	GE26-006/C9	GE26-006/C10
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 40g	Approx. 35g	Approx. 45g	Approx. 35g	Approx. 40g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Asbestos ID - Soils						
Our Reference		402902-11	402902-12	402902-13	402902-14	402902-15
Your Reference	UNITS	GE26-006/C11	GE26-006/C12	GE26-006/C13	GE26-006/C14	GE26-006/C15
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		18/02/2026	18/02/2026	18/02/2026	18/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 35g	Approx. 50g	Approx. 40g	Approx. 40g	Approx. 40g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Asbestos ID - Soils						
Our Reference		402902-16	402902-17	402902-18	402902-19	402902-20
Your Reference	UNITS	GE26-006/C16	GE26-006/C17	GE26-006/C18	GE26-006/C19	GE26-006/C20
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 40g	Approx. 40g	Approx. 45g	Approx. 45g	Approx. 40g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Asbestos ID - Soils						
Our Reference		402902-21	402902-22	402902-23	402902-24	402902-25
Your Reference	UNITS	GE26-006/C21	GE26-006/C22	GE26-006/C23	GE26-006/C24	GE26-006/C25
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 40g	Approx. 40g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Asbestos ID - Soils						
Our Reference		402902-26	402902-27	402902-28	402902-29	402902-30
Your Reference	UNITS	GE26-006/C26	GE26-006/C27	GE26-006/C28	GE26-006/C29	GE26-006/C30
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 35g	Approx. 45g	Approx. 40g	Approx. 35g	Approx. 45g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Asbestos ID - Soils						
Our Reference		402902-31	402902-32	402902-33	402902-34	402902-35
Your Reference	UNITS	GE26-006/C31	GE26-006/C32	GE26-006/C33	GE26-006/C34	GE26-006/C35
Depth		0-500	0-500	0-500	0-500	0-500
Date Sampled		17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed		04/03/2026	04/03/2026	04/03/2026	04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 35g	Approx. 40g	Approx. 40g	Approx. 40g	Approx. 45g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil	Nil	Nil	Nil

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Asbestos ID - Soils			
Our Reference		402902-36	402902-37
Your Reference	UNITS	GE26-006/C36	GE26-006/C37
Depth		0-500	0-500
Date Sampled		17/02/2026	17/02/2026
Type of sample		Soil	Soil
Date analysed		04/03/2026	04/03/2026
Sample Mass Tested	g	Approx. 40g	Approx. 40g
Sample Description	-	Red fine-grained soil & rocks	Red fine-grained soil & rocks
Asbestos ID in Soil	-	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*	No asbestos detected at reporting limit 0.01%w/w Organic fibres detected* No visible asbestos detected <0.01%w/w*
Residual Analysis	-	No asbestos detected	No asbestos detected
Additional Comments - Refer to Last Page	-	Nil	Nil

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Method ID	Methodology Summary
ASB-003	Asbestos ID –Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques as per Australian Standard 5370. When Inconclusive mineral fibres are detected by polarised light microscopy including dispersion staining, these fibres may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required. When asbestos presence is reported below the reporting limit of 0.01%w/w, the result is not covered by AS5370 and is supplied for information purposes only as required by some state jurisdictions.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals/elements by ICP-AES. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation. Where molecular anion forms are calculated from an element (e.g. SO4 from S or PO4 from P stoichiometrically), the assumption is that the element is only present in that molecular anion form. Submission of low masses of sample e.g. for dust samples, may result in raised PQLs.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Method ID	Methodology Summary
Org-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	402902-38
Date extracted	-			26/02/2026	38	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			02/03/2026	38	02/03/2026	02/03/2026		02/03/2026	02/03/2026
TRH C_6 - C_9	mg/kg	25	Org-023	<25	38	<25	<25	0	121	112
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	38	<25	<25	0	121	112
Benzene	mg/kg	0.2	Org-023	<0.2	38	<0.2	<0.2	0	113	106
Toluene	mg/kg	0.5	Org-023	<0.5	38	<0.5	<0.5	0	115	107
Ethylbenzene	mg/kg	1	Org-023	<1	38	<1	<1	0	129	121
m+p-xylene	mg/kg	2	Org-023	<2	38	<2	<2	0	123	114
o-Xylene	mg/kg	1	Org-023	<1	38	<1	<1	0	120	113
Naphthalene	mg/kg	1	Org-023	<1	38	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	105	38	103	103	0	109	99

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	402902-38
Date extracted	-			26/02/2026	38	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			26/02/2026	38	26/02/2026	26/02/2026		26/02/2026	26/02/2026
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	38	<50	<50	0	80	81
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	38	260	240	8	79	77
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	38	650	600	8	100	#
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	38	<50	<50	0	80	81
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	38	740	680	8	79	77
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	38	330	330	0	100	#
Surrogate o-Terphenyl	%		Org-020	76	38	83	72	14	77	78

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			26/02/2026	[NT]	[NT]	[NT]	[NT]	26/02/2026	[NT]
Date analysed	-			03/03/2026	[NT]	[NT]	[NT]	[NT]	03/03/2026	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	66	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	91	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	88	[NT]	[NT]	[NT]	[NT]	85	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	26/02/2026	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	03/03/2026	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	74	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	88	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	86	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	88	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	84	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	84	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	68	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	82	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	402902-2
Date extracted	-			26/02/2026	1	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			03/03/2026	1	27/02/2026	27/02/2026		03/03/2026	27/02/2026
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	68
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	82	68
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	82	72
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	72
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	82	76
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	76	70
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	76	72
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	78	72
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	72
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	79	68
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	90	1	84	81	4	91	83

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	402902-22
Date extracted	-			[NT]	11	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			[NT]	11	27/02/2026	27/02/2026		03/03/2026	03/03/2026
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	78	80
HCB	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	80	84
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	82	88
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	86	90
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	80	81
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	74	78
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	72	82
Endrin	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	76	90
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	84	86
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	75	81
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	11	104	96	8	87	97

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	21	03/03/2026	03/03/2026		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	21	91	91	0	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	31	03/03/2026	03/03/2026		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	31	75	88	16	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	402902-2
Date extracted	-			26/02/2026	1	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			03/03/2026	1	27/02/2026	27/02/2026		03/03/2026	27/02/2026
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	82	74
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	70
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	86	80
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	78	76
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	70
Fenthion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	92
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	76
Phosalone	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	90	1	84	81	4	91	83

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	402902-22
Date extracted	-			[NT]	11	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			[NT]	11	27/02/2026	27/02/2026		03/03/2026	03/03/2026
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	80	82
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	86	88
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	82	82
Malathion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	76	84
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	84	88
Fenthion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	94	98
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	78	86
Phosalone	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	11	104	96	8	87	97

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	21	03/03/2026	03/03/2026		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenthion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phosalone	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	21	91	91	0	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	31	03/03/2026	03/03/2026		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fenthion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phosalone	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	31	75	88	16	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	402902-2
Date extracted	-			26/02/2026	1	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			03/03/2026	1	27/02/2026	27/02/2026		03/03/2026	27/02/2026
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	82	120
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	89	1	70	69	1	87	69

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	402902-22
Date extracted	-			[NT]	11	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			[NT]	11	27/02/2026	27/02/2026		03/03/2026	03/03/2026
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	77	80
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	11	97	98	1	84	88

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	21	03/03/2026	03/03/2026		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	21	85	85	0	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	31	03/03/2026	03/03/2026		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	31	72	86	18	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	402902-2
Date prepared	-			26/02/2026	1	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			27/02/2026	1	27/02/2026	27/02/2026		27/02/2026	27/02/2026
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	107	87
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	100	82
Chromium	mg/kg	1	Metals-020	<1	1	23	23	0	102	91
Copper	mg/kg	1	Metals-020	<1	1	22	23	4	106	99
Lead	mg/kg	1	Metals-020	<1	1	8	9	12	106	87
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	107	125
Nickel	mg/kg	1	Metals-020	<1	1	10	10	0	103	88
Zinc	mg/kg	1	Metals-020	<1	1	21	21	0	97	80

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	402902-22
Date prepared	-			[NT]	11	26/02/2026	26/02/2026		26/02/2026	26/02/2026
Date analysed	-			[NT]	11	27/02/2026	27/02/2026		27/02/2026	27/02/2026
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	<4	0	102	93
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	95	86
Chromium	mg/kg	1	Metals-020	[NT]	11	25	21	17	97	94
Copper	mg/kg	1	Metals-020	[NT]	11	16	10	46	102	116
Lead	mg/kg	1	Metals-020	[NT]	11	9	8	12	99	91
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	109	110
Nickel	mg/kg	1	Metals-020	[NT]	11	13	14	7	98	89
Zinc	mg/kg	1	Metals-020	[NT]	11	20	13	42	92	87

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	21	27/02/2026	27/02/2026		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	21	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	21	22	21	5	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	21	34	32	6	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	21	8	8	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	21	10	9	11	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	21	30	29	3	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	31	26/02/2026	26/02/2026		[NT]	[NT]
Date analysed	-			[NT]	31	27/02/2026	27/02/2026		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	31	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	31	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	31	26	25	4	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	16	15	6	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	9	9	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	31	10	11	10	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	19	17	11	[NT]	[NT]

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions	
Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volumes) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates can be downloaded from the Envirolab Resources website or obtained directly by contacting the laboratory.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

For Dust Deposit Gauge (DDG) analysis the sampling, sampling period and funnel exposure area do not fall under Envirolab's NATA accreditation (unless the Newcastle laboratory where responsible for the sampling), hence the annotation on the DDG units of reporting.

Urine Analysis - The BEI values listed are taken from the 2022 edition of "TLVs and BEIs Threshold Limits" by ACGIH.

Client Reference: GE26-006- Limited Pase 2 Assessment, Lot 1& Lot122

Report Comments

TRH Soil C10-C40 NEPM - # Percent recovery for the matrix spike is not possible to report as the high concentration of analytes in sample 402902-38ms have caused interference.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 402902-11 for Cu and Zn. Therefore a triplicate result has been issued as laboratory sample number 402902-39.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to ASB-003 asbestos subsampling procedure. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab/MPL recommends supplying 40-60g or 500ml of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

[redacted]

3 July 2026

General Manager
admin@griffith.nsw.gov.au
Griffith City Council
PO Box 485
GRIFFITH NSW 2680

To General Manager GCC

RE: Objection to Griffith City Council to DA 91 & 93/2026 - Lot 1 DP 1278203 & Lot 286 DP 1196929 - Druitt Rd & Boorga Road, Lake Wyangan

We [redacted] strongly object to the proposed approval of these two above mentioned densely proposed subdivisions opposite and adjacent to the home [redacted] Road and [redacted] Road, [redacted]

I phoned the GCC Leah Smith on 2 July 2026 with concerns around the ability to lodge a fully scoped objection to the above mentioned Subdivisions due to the limited time given 19 June 2026 to 3 July 2026. This less than two week period to review both 2 (Two) DAs for subdivisions of over 100 homes each is not in anyway enough for experts to review the extensive documents, detailed plans, existing council plans, GCC policies and State plans which interact with these proposed DAs. I was met with agreeance from Leah who explained to me she was not aware of such high density housing plans being proposed in rural areas like this and thought it would be appropriate that adequate extension should be granted. I was told to email GCC and I also included Joe Rizzo Director of Sustainable development who replied to my email saying that GCC has no policy for extension. This is not a single home DA this is a major development which GCC should provide adequate time for residents to be able to address.

As addressed in my email we object to this approval until we are given extensive time to review these DAs due to the enormity of the impacts these will have on our lives and business'. The design of extremely densely populated lots, from my understanding not at all common in rural areas, especially not imposed predominately in a farming zoned areas and rural residential zone area in which Lake Wyangans precinct currently is.

As council has been made aware of our concerns to our [redacted] homes on numerous occasions by email and in person by myself and [redacted] 2019 regarding these proposed impending subdivisions, we have been given limited detailed information up until two weeks ago, this is not satisfactory. We have in good faith been pro active as much as we can and have extensive documentation

where GCC staff outline they will ensure we are engaged and consulted with, this continues not to be the case.

We were subjected to a court case in 2000 which cost us and the **rate payers** of Griffith City Council a lot of money. We have been operating [redacted] We don't want the viability of our horticultural undertaking put at risk by a proposal that needs time and expertise as to how the Frost Control Policy will interact with this development. GCC has an obligation to minimize land use conflict, I don't believe anywhere this has been address in these documents. Whilst individual homes are required to be attenuated under GCC Frost control policy, the intensity and the proximity of homes is cause for concern in which we need experts to advice.

As advised by Joe Rizzo I will send further information as experts are able to provide which must be considered before such DAs should be reviewed for approval.

Regards

[redacted]

[redacted]

3rd July, 2026

The General Manager
Griffith City Council
PO Box 485
Griffith NSW 2680

Development Application No.91/2026.1

We have reviewed the plans that have been submitted to Griffith City Council as part of the Development Application by JZ Management Pty Ltd for a subdivision on Lot 2 DP 1313193 off Druitt Road at Lake Wyangan.

As a developer of a nearby allotment we are concerned with various elements of the subdivision as proposed. We believe that there are elements of the proposal that do not seem to comply with Council's requirements and guidelines, which we think should be adhered to. We also note that the staging of the subdivision seems to have purposefully been configured so that the western portion of the site is development almost last, which will have a direct impact upon how [redacted]

We would ask that Council require the applicant to amend their plans so that it complies with all of Council's requirements and guidelines. We believe that any concessions that Council staff support are endorsed by Councillors because it may create a precedent for other developers of land at Lake Wyangan to use. We also ask that Council require the applicant to adjust the staging so that the land along their western boundary is developed as part of Stage 2 or 3 instead of Stage 7.

We would like the opportunity to meet with Council staff to discuss what has been proposed. We would also be provided with the opportunity to review amended plans before the application is approved.

Regards,

[redacted]

15th July 2026

Joe Rizzo
Director of Sustainable Development
Griffith City Council

Re: Response to objections received for DA 91/2026 and DA 93/2026

Hello Joe,

Following is our response to the two objections lodged for our applications 91/2026 and 93/2026. We find the objections generalised and not raising specific points which would be contrary to planning controls. However, we have tried to address the generalised points and communicate how our design and proven execution will deliver individual homes and a subdivision that achieves higher standards and a better living environment for this region.

If Council or individual Councillors would like to discuss any part of our proposed development, we would be more than happy to meet and provide as much detail as desired.

Regards,

James Scremin
Director
JZ Management Pty Ltd

Zep Lanza
Director
JZ Management Pty Ltd

Response to Objection No. 1

Essence of the objection:

The letter explains that they do not believe *"extremely densely populated lots"* are "*common in rural areas, especially not imposed predominantly in a farmingzoned areasand rural residential zoned area in which Lake Wyangans precinct currently is*".

The letter also adds "*We don't want the viability of our horticultural undertaking put at risk by a proposal that needs time and expertise as to how the Frost Control Policy will interact with this development. GCC has an obligation to minimize land use conflict, I don't believe anywhere this has been address in these documents. Whilst individual homes are required to be attenuated under GCC Frost control policy, the intensity and the proximity of homes is cause for concern in which we need experts to advice.*"

Our response:

The first issue of the objection:

It appears that the objector does not agree that the subject lots should be zoned as "RU5 Village" and we can only deduce that the objector may not want any of that land to be zoned RU5 as they believe general residential housing should not be located near their farm.

We could put forward our research as to why we believe this land is ideal for residential subdivisions and therefore why it was correctly zoned, but I know Council has spent considerable time and effort assessing the decision that culminated in the development of the MasterPlan for the Lake Wyanagan village, and anyone wanting to understand that would be better served to read through the reports and assessments performed at that time.

On this point, I think it is well past the point of questioning if Lake Wyangan should be the next phase of Griffith's growth strategy and if that land should be zoned RU5 Village.

The second issue of the objection:

Another point we might be able to ascertain from the objectors letter is the density. To state that the design has "extremely densely populated lots" is by almost all definitions simply not so.

The design works within Council's DCP controls that have been defined for that precinct. Based on current Council guidelines, we could add another 20 lots for each of the two DA's lodged. The key difference to our approach is that unlike most residential subdivisions developments, we will not only develop the subdivision, but also every house within the subdivision.

The key strategic reason why we are putting this much effort and capital to complete the subdivision to such an extensive level is to achieve a higher quality subdivision and higher quality homes for every person who is going to own and/or live in this subdivision. This very high standard can be achieved by our model as we can ensure:

- Lot design and house design work together
- That homes are designed to make the most of their aspect, their lot width and depth
- That homes are designed to work well with the adjoining homes
- That we don't have duplicate designed homes alongside each other or even near each other
- That high level design and construction of landscaping is achieved for every home, integrating with the landscaping of other homes and the subdivision to create cohesion and lower the heat load for the whole precinct
- That instead of having "duplex" lots spread throughout the subdivision, that are then subdivided at a later stage, we have every lot as its own torrens title from the outset, designed to work in that particular location
- That every external element will be designed to achieve a coherent look.

- There will not be an unsightly mix of various colour of colourbond fences, instead we will have a single colour for the side and rear fences throughout the subdivision. We will also ensure that side fences on corner blocks, the gates on each side of each house and other fence structures will not be colourbond but designed and constructed to have a much greater aesthetic appearance whilst still being robust and functional.

Most importantly for Council and the Griffith community, this is not just a promise. We have invested heavily in our business with people employed locally, to build the skills and capacity to achieve this outcome. Furthermore, our completed development projects over the last 3 years in Collina have proven what our design expertise delivers - very high design quality and high standards of construction providing actual solutions to Griffith's housing problems.

Not only are we addressing the housing problem every day by creating more housing stock, it is being addressed by:

- Local designers,
- Local engineers,
- Local managers,
- Local tradespeople,
- And Local professionals in the sales process.

Our solution to the housing problem is proving that the people of Griffith have the skills and ability to deliver the solution.

In summary to the objectors point, the development application is within the design controls put in place by Council, and we are taking those controls as the bare minimum to ensure the actual outcome will be delivered at the highest standard achieved in this region.

The third issue of the objection:
The objector is also concerned about the impact of the use of frost fans in that precinct on the proposed residential developments.

We understand there is a Council policy for that precinct whereby any development application for a new dwelling within 1Km from a frost fan will need to have an acoustic report to address the noise from that frost fan. We have already engaged an acoustic engineer to provide a report for all the homes we will be designing to ensure that each of our 600-700 homes will adhere to the policy and more importantly, so that each home is functional and loved by its homeowner for many years to come.

Response to Objection No. 2

Essence of the objection:

Following are the key paragraphs from the objection letter:

"As a developer of a nearby allotment we are concerned with various elements of the subdivision as proposed. We believe that there are elements of the proposal that do not seem to comply with Council's requirements and guidelines, which we think should be adhered to. We also note that the staging of the subdivision seems to have purposefully been configured so that the western portion of the site is development almost last, which will have a direct impact upon how REDACTED.

We would ask that Council require the applicant to amend their plans so that it complies with all of Council's requirements and guidelines. We believe that any concessions that Council staff support are endorsed by Councillors because it may create a precedent for other developers of land at Lake Wyangan to use. We also ask that Council require the applicant to adjust the staging so that the land along their western boundary is developed as part of Stage 2 or 3 instead of Stage 7."

Our response:

The first Issue of the objection:

We are not aware of any detail in our subdivision development application that is not compliant with Council's requirements and guidelines and the objector does not specify any specific area we have not met.

We can only assume that the objector may be confused because we chose the option of submitting a "Concept Plan" development application instead of a traditional "subdivision" development application. The reason we have chosen this is because of the detail provided in the previous objection - that we will not only construct the subdivision but every house on every lot of the subdivision to achieve a true "Master Planned" housing precinct where:

- Each home owner will have a carefully designed home and garden for their lot
- That each home owner will know their neighbours house will also have the same carefully designed home and garden
- That each home will be designed to work within the streetscapes and open spaces

The second Issue of the objection:

The other point the objector raises is that we have purposefully designed our staging to leave the Western portion of that particular site to almost last which will impact them.

Justin Dawson, the Principal of Lake Wyangan School is the only neighbour to contact us to discuss our plans for any of the 7 parcels of land we have in the Lake Wyangan precinct, that will deliver 600-700 homes for Griffith. We had very constructive discussions with Justin and our plans changed somewhat significantly to deliver a better outcome for the school.

We are not aware of how our staging decision could impact a neighbour of our "Phase 5" site. Our staging decision was based around the need to construct the subdivision in stages that worked with the forecasted demand for our completed homes - what configuration and style should be for each home and where that unique home should be positioned.

We cannot understand how our staging should be defined or even sympathetic to what a neighbouring development is doing when all developments are to be designed to have their own access off Druitt Rd and be able to be developed completely independent of each other. Furthermore, if someone believed they had a plan of potentially achieving a better outcome, we would expect that person to approach us with the details instead of merely complaining that it doesn't suit them.

Development Assessment Report

PART A: GENERAL ADMINSTRATION

DA No:	91/2026(1)
Property Information:	LOT: 1 DP: 1278203 Lot 286 DP 1196929 Boorga Road LAKE WYANGAN
Proposed Development:	Residential Subdivision – One hundred and one (101) allotments
Brief Description of Proposal"	Concept and Staged Development – One hundred (100) residential lots and one (1) public reserve/park
DCP Variation:	Open space controls – Part 12.2.5 of the GRDCP – Deficient 66m^2(2.6%)
Type of Development:	Local
Lodgement Date:	22 May 2026
Statutory Timeframe:	40 days
Value of Development:	$7,661,750.00
Applicant's Details:	JZ Management Pty Ltd [redacted]
Land Owner's Details:	Lake Gardens Estate Pty Ltd [redacted]
Report Author/s:	Leah Smith Development Assessment Planner

PART B: EXECUTIVE SUMMARY

- The application seeks approval for the staged Torrens title subdivision of Lot 1 DP 1278203 at Boorga Road, Lake Wyangan into 100 residential lots and one public reserve (Lot 5900) across nine stages, together with associated infrastructure works and concept approval for a single dwelling on each lot as the second phase of the Lake Gardens Estate development.
- The application has been referred to the Ordinary Meeting of Council on the basis of that the proposed development seeks a variation to the Clause 4.1 Minimum subdivision lot size pursuant to Clause 4.6 Exceptions to development standards of the Griffith Local Environmental Plan 2014
- It is noted that two submissions were received outside the submission period, raising issues of objection.
- It is recommended that the application be approved based on the details contained in report.

PART C: PROPOSAL

The proposed development seeks approval for the Torrens title subdivision of Lot 1 DP 1278203 located off Boorga Road, Lake Wyangan, for the staged development of 100 allotments and one public reserve, together with associated infrastructure works. The subdivision will be completed over 9 stages:

Stage	Number of Lots	Lot Numbers	Range of Areas
1A	5	5101-5105	556m^2 – 557m^2
1B	5	5111-5115	556m^2
2	13	5201-5213	501m^2-669m^2
3	12	5301-5312	501m^2-679m^2
4	12	5401-5412	532m^2-736m^2
5	7	5501-5507	502m^2-659m^2
6	12	5601-5612	500m^2-673m^2
7	13	5701-5713	501m^2-625m^2
8	10	5801-5810	500m^2-626m^2
9	12	5900- 5911	532m^2-2434m^2

*Drawing No A0-07

Lot 5900 is the proposed public reserve.

Concept approval is sought for construction of a single dwelling on each of the proposed subdivided allotment. No multi-dwelling development is proposed. The applicant has identified that the purpose of submitting the concept development is for Council to consider the dwelling footprint of these stage of the Lakes Garden Estate.

It is noted that this proposal is the second phase of the housing development at Lake Garden Estate.

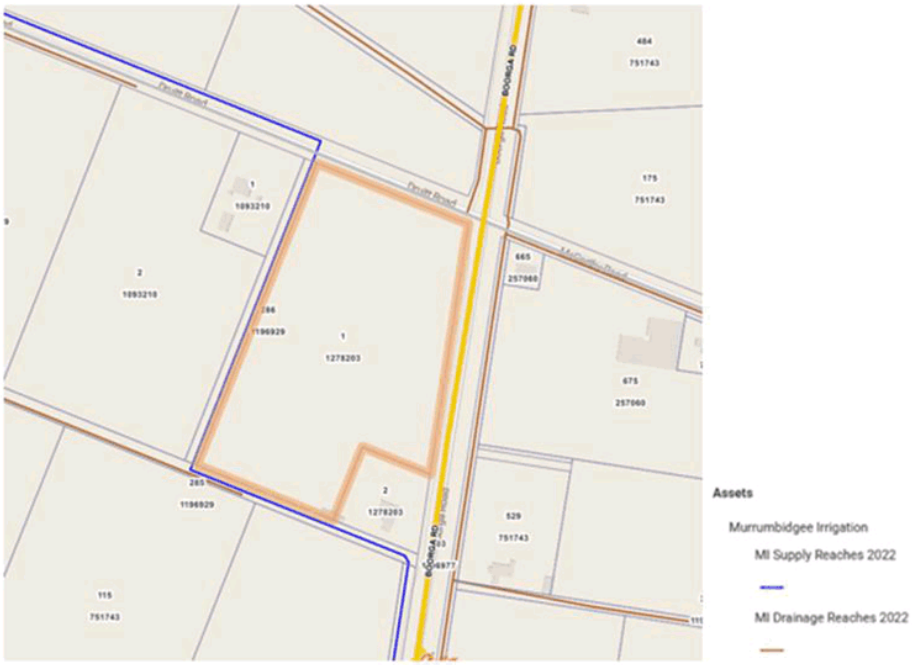
PART D: SITE DESCRIPTION AND LOCALITY

The subject property is Lot 1 DP 1278203, a vacant allotment with an area of approximately 8.087 hectares. The site is located on the south-western corner of the Druitt Road and Boorga Road intersection and was previously used for horticultural purposes.



The land slopes from south to north towards Druitt Road, with stormwater draining to the existing table drain along the southern side of Druitt Road. Murrumbidgee Irrigation's (MI) drainage network adjoins the site along its southern boundary (Lot 285 DP 1196929). The site is serviced by MI's pressurised raw water supply system via an existing connection located in the north-western corner of the property, accessed from Druitt Road.

An existing raw water pipeline within Lot 286 DP 1196929 adjoins the site's eastern boundary. Lot 286 DP 1196929, being an MI reserve, forms part of the proposed development and will be developed as an access road serving both the subject site and the adjoining residential subdivision approved under DA 83/2025.



The surrounding area is predominantly characterised by horticultural land uses, with scattered rural-residential dwellings. Existing vegetation consists mainly of residential landscaping and horticultural plantings. Residential subdivisions have recently been approved on adjoining land, including DA 83/2025 for a 75 lot Torrens title subdivision on Druitt Road and DA 73/2024 for a 20 lot Torrens title subdivision at 38 Mallinson Road.



The locality has access to essential services, including potable water, raw water, electricity, and telecommunications. Reticulated sewerage infrastructure is available within the broader area but has not yet been extended along Druitt Road.

PART E: BACKROUND INFORMATION AND HISTORY OF THE SITE

Pre-Lodgement

Prior to the application being lodged with Griffith City Council, the proponent for the development had pre-lodgement discussions with Council Officers.

Development Assessment Panel

The matter was considered at the Development Assessment Panel meeting on 26 May 2026 and the following matters were raised during the preliminary assessment of the application which are potential issues or where further information from the applicant is required:

- Any lot within the floodway is to be moved to a later stage of the development.
- Consideration of frost fan in the vicinity of the subject site.
- Submission of revised plan with correct road width (9m carriageway width)

Development History of Site

The development history of the subject site has been established following research of Council's electronic data management system and research of Council's physical archives. Based on the information available the following can be established:

DA 36/2020(4) – Boundary adjustment – Created the current lot (Lot 1 DP 1278203)

PART F: STATUTORY REFERRALS

The following statutory referrals were considered as part of the assessment of the application:

AGENCY	LEGISLATION	APPLIES
DPI	Fisheries Management Act 1994 Mines Subsidence Compensation Act 1961 Mining Act 1992 Petroleum (Onshore) Act 1991	No
EE&S	National Parks, & Wildlife Act1974 Protection of the Environment Operations Act 1997 Water Management Act 2000	No
NSW Heritage	Heritage Act 1977	No
Transport for NSW	Roads Act 1993 SEPP Infrastructure – Division 17 Roads and Traffic	No
RFS	Rural Fires Act 1997	No
Transport NSW	SEPP Infrastructure – Division 15 Railways	No
EE	SEPP Infrastructure – Transport & Infrastructure	**Yes**

PART G: EVALUATION

Environmental Planning and Assessment Act 1979 (EP&A Act)

SECTION 1.3 Objects of Act

The objects of this Act are as follows—
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,
(b) to promote the supply, delivery and maintenance of housing, including affordable housing,
(c) to promote productivity through the development and management of the State and its resources,
(d) to protect the environment, including the conservation of threatened species of native animals and plants and ecological communities and their habitats,
(e) to promote resilience to climate change and natural disasters through adaptation, mitigation, preparedness and prevention,
(f) to promote the sustainable management of built and cultural heritage, including Aboriginal cultural heritage,
(g) to promote good design, amenity and the proper construction and maintenance of built environments, including the protection of the health and safety of the occupants of buildings,
(h) to provide opportunities for participation in environmental planning and assessment,
(i) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,
(j) to promote a proportionate and risk-based approach to environmental planning and assessment,
(k) to promote the orderly and economic use and development of land.

The proposal is consistent with the objectives of the EP&A Act 1979 and represents an orderly and efficient use and development of the land.

SECTION 4.15(1)(a)(i) any environmental planning instrument.

In determining a development application, a consent authority is to take into consideration Section 4.15 of the Environmental Planning and Assessment Act 1979. The following matters as are of relevance to the development the subject of the development application.

Griffith Local Environmental Plan 2014

(a) Permissibility

The proposed development is for 101 lot Torrens Title residential subdivision and this falls under the definition of *Subdivision* in the Dictionary of Griffith Local Environmental Plan 2014, which is defined as:

2.6 Subdivision—consent requirements

(1) Land to which this Plan applies may be subdivided, but only with development consent.

Notes—

1 If a subdivision is specified as exempt development in an applicable environmental planning instrument, such as this Plan or State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, the Act enables it to be carried out without development consent.

2 Part 6 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 provides that the strata subdivision of a building in certain circumstances is complying development.

(2) Development consent must not be granted for the subdivision of land on which a secondary dwelling is situated if the subdivision would result in the principal dwelling and the secondary dwelling being situated on separate lots, unless the resulting lots are not less than the minimum size shown on the Lot Size Map in relation to that land.

Note—

The definition of secondary dwelling in the Dictionary requires the dwelling to be on the same lot of land as the principal dwelling.

The subject land is zoned RU5 Village and under Part 2 Land Use Table of Griffith Local Environmental Plan 2014 a *Subdivision* is development that can only permitted with the consent of Council. On this basis the proposed development is considered permissible.

(b) *Aims and Objectives*

The proposed development has been considered with regard to the aims of Griffith Local Environmental Plan 2014 as set down in Part 1, clause 1.2(2) which states:

(a) to prevent unnecessary urban sprawl by promoting business, industrial, rural and residential uses within and adjacent to existing precincts related to those uses,
(b) to minimise land use conflict in general by creating areas of transition between different and potentially conflicting land uses,
(c) to provide a variety of development options to meet the needs of the community with regard to housing, employment and services,
(d) to manage and protect areas of environmental significance,
(e) to recognise the historical development of the area and to preserve heritage items associated with it.

The objectives for Zone RU5 Village set down in the Land Use Table are as follows:

- *To provide for a range of land uses, services and facilities that are associated with a rural village.*
- *To enable development that will not hinder the future expansion of the village.*

- *To provide for a range of land uses, services and facilities that are associated with a rural village.*

The proposed development is consistent with the objectives of the Griffith Local Environmental Plan 2014 (GLEP 2014). It aligns with the relevant aims of the Plan by contributing to housing diversity and responding to community needs, particularly through the provision of additional residential lots in a suitably located area.

(b) Principal Development Standards & other LEP Provisions

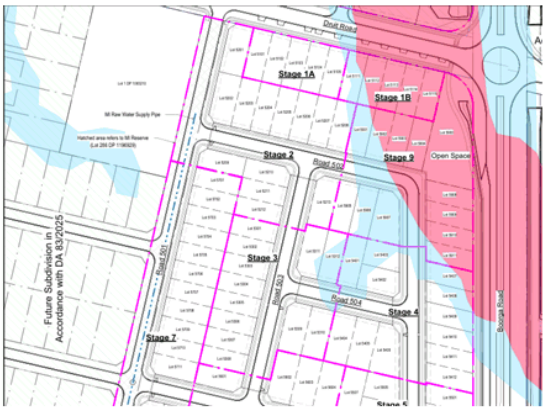
Clause	Clause Requirement & Assessment Comment
1.9A Suspension of covenants	The proposed development does not include the suspension of any covenants that may apply to the subject site.
2.4 Unzoned land	Not applicable to this development.
2.6 Subdivision	Subdivision permitted with consent.
2.7 Demolition requires consent	The demolition of a building or work may be carried out only with development consent.
2.8 Temporary use of land	Not proposed as part of this development.
4.1 Minimum Lot Size	The precinct within which the subject allotments are located has a minimum lot size restriction of 5 hectares (ha) or 700m² if connected to Council's reticulated sewerage system (see reference to 'Area A'). The proposed development does not comply with the applicable minimum lot size requirement and therefore seeks an exception to the development standard pursuant to Clause 4.6.
4.1AA Minimum lot size Community Title	Consent is not sought under these clauses.
4.1A Exceptions to minimum lot size for certain residential development	
4.1B Lot Averaging Subdivision	
4.2 Rural Subdivision	
4.2A Strata subdivision in rural & environmental protection zones	
4.2B exceptions to lot size for certain rural subdivision	
4.2C Dwellings & Dual Occupancies in rural & environmental protection zones	
4.2D Rural Workers Dwellings in RU1, RU2, RU4 & RU6 zones	
4.2E Subdivision for intensive livestock & plant agriculture	
4.2F Dwelling houses associated	

Clause	Clause Requirement & Assessment Comment
with rural use other than agriculture	
4.2G Boundary adjustments in rural & environmental protection zones	
4.6 Exceptions to development standards *(1) The objectives of this clause are as follows—* *(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,* *(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.* *(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.* *(3) Development consent must not be granted to development that contravenes a development standard unless the consent authority is satisfied the applicant has demonstrated that—* *(a) compliance with the development standard is unreasonable or unnecessary in the circumstances, and* *(b) there are sufficient environmental planning grounds to justify the contravention of the development standard.* *Note—* *The Environmental Planning and Assessment Regulation 2021 requires a development application for development that proposes to contravene a development standard to be accompanied by a document setting out the grounds on which the applicant seeks to demonstrate the matters in paragraphs (a) and (b).* *(4) The consent authority must keep a record of its assessment carried out under subclause (3).* *(5) (Repealed)* *(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—* *(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or*	The application was provided with a Clause 4.6 Exception to the abovementioned minimum lot size development standard to create Torrens Title lots of less than 700m2 as specified under Clause 4.1 Minimum Lot Size. The proposal seeks consent for the subdivision of land to create multiple residential lots, with lots ranging from 500m² to 761m² and therefore not complying with the 700m² minimum lot size requirement. The proposed development is not considered to be development that is expressly excluded from the operation of this clause and, as such, may be considered under its provisions. The applicant has lodged a written request from the application that seeks to justify the contravention of the development standard by demonstrating: (a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and (b) that there are sufficient environmental planning grounds to justify contravening the development standard. The applicant has provided that strict adherence to the minimum lot size is considered to be unreasonable and unnecessary in this instance. Noting the objectives of Clause 4.1 being: (a) to provide a minimum lot size for the subdivision of land, (b) to ensure that subdivision does not unreasonably impact on the natural and environmental values of the area and will not lead to fragmentation of natural areas, (c) to protect the productive capacity of agricultural land, (d) to prevent the fragmentation of rural lands, (e) to encourage a diversity of lot sizes, housing forms and densities in residential zones. In summary, the applicant has stated that the proposed subdivision satisfies the objective of the control because it will not adversely affect the area's natural or environmental values, nor will it result in the fragmentation of natural areas or rural land. The development also supports the objective of Clause 4.1(1)(e) by providing a variety of residential lot sizes. There will be proposed lots smaller than the 700m² minimum standard, ranging from 501m² to 741m², each lot is intended

Clause	Clause Requirement & Assessment Comment
(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard. *(7) (Repealed)* *(8) This clause does not allow development consent to be granted for development that would contravene any of the following—* *(a) a development standard for complying development,* *(b) a development standard that arises, under the regulations under the Act, in connection with a commitment set out in a BASIX certificate for a building to which State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies or for the land on which such a building is situated,* *(c) clause 5.4,* *(caa) clause 5.5,* *(ca) clause 6.2.*	to accommodate a single dwelling and demonstrates with the proposed concept residential dwellings that also forms part of this application. Further, the applicant has demonstrated sufficient planning grounds to justify contravening the minimum lot size development standard. In support of the variation, the applicant relies on the recently adopted Griffith Housing Strategy 2025, particularly Priority 1: Increase housing supply and affordability and Priority 2: Expand housing choices to meet diverse needs. The Strategy identifies a significant housing shortage and acknowledges that housing delivery is being constrained by development costs, infrastructure limitations and planning delays. It specifically supports investigating smaller lot sizes in growth areas to improve housing affordability, diversity and supply. The proposed subdivision is consistent with these strategic objectives, with all lots exceeding 500m² and 73 lots ranging between 500m² and 599m². The proposal also aligns with the intent of Clause 4.1A of the Griffith LEP, which permits lot sizes as small as 400m² for certain residential developments in the R1 General Residential Zone, demonstrating that smaller lots can provide housing diversity without adversely affecting residential amenity. While a formal reduction in minimum lot sizes would require an LEP amendment, the proposed variation provides an appropriate and timely mechanism to facilitate additional housing supply and diversity within the Lake Wyangan Growth Area. The proposed variation to the development standard is considered reasonable and justified in the circumstances of this case. The objective of the minimum lot size standard is to encourage a diversity of lot sizes, housing forms and densities within residential areas. That objective is achieved by the proposal, which provides a residential lot of sufficient size to accommodate a four bedroom dwelling while maintaining an appropriate level of residential amenity. Clause 4.6 is intended to provide flexibility in the application of development standards where strict compliance is unnecessary or unreasonable. In this instance, there are no demonstrable planning or environmental benefits that would result from enforcing the minimum lot size requirement. Furthermore, at its meeting of 27 May 2025, Council considered Report CL07 regarding the Griffith Housing Strategy 2025, which identifies a short-term amendment to the Griffith LEP to extend Clause 4.1A to the RU5 Village and R3 Medium Density Zones: *17 Amend Clause 4.1A of the LEP to reduce minimum lot sizes for dual occupancies and multi-dwelling housing,*

Clause	Clause Requirement & Assessment Comment
	extending the clause to the RU5 – Village and R3 – Medium Density Zones, enabling more affordable lot sizes in existing residential areas. This amendment would permit smaller lot sizes for dual occupancies and multi-dwelling housing, enabling more affordable residential lots in areas such as Lake Wyangan. Once gazetted, future developments of this nature are likely to proceed without the need for a Clause 4.6 variation. Accordingly, the proposed variation is consistent with the strategic direction of the Griffith Housing Strategy 2025 and the application is considered to have sufficient merit to be supported under Clause 4.6 of the Griffith Local Environmental Plan 2014.
5.3 Development near zone boundaries	Clause 5.3(2) applies to land that is within 20 metres of any zone boundary. In this instance the subject land adjoins the R5 zone and RU4 zone from the southern boundary. The proposal is likely to be compatible with the RU4 zone objectives and the R5 zone objectives as the proposed subdivision and future uses will be for residential purposes.
5.4 Permissible miscellaneous uses: B&B, Home business etc, farm stay accommodation, secondary dwellings etc.	Consent is not sought under this clause.
5.8 Conversion of fire alarms	Not applicable to this development.
5.10 Heritage Conservation	The subject site is not identified as having any heritage significance on the Heritage Map.
5.12 Infrastructure development & use of existing Crown buildings	Not applicable to this development.
5.13 Eco Tourist facilities	Not applicable to this development.
5.16 Subdivision / dwellings on certain rural, residential & environmental protection land	*Not applicable to land zoned RU5.*
5.17 Artificial water bodies in environmentally sensitive locations	Not proposed as part of this development.
5.18 Intensive livestock agriculture	Not applicable to this development.
5.19 pond based aquaculture	Not applicable to this development.

Clause	Clause Requirement & Assessment Comment
5.21 Flood Planning	**FLOOD REPORT** **LOT / DP No:** Lot 1 DP 1278203 (DA 91/2026) **STREET / ROAD** Boorga Road **SUBURB / LOCALITY** LAKE WYANGAN According to **Lake Wyangan FRMS&P 2013 (BMT WBM):** • This is **Flood Prone Land.** • This is located in a **High Hazard Floodway** • This is located within a **Flood Fringe Area** • Estimated **1% AEP** Flood Level and the associated Hazard Category is for this location varies (see 1% AEP Level on page 5): **Location / Level (m AHD) / Hazard Category** 1 / N/A / N/A 2 / 115.88 / Low 3 / 116.42 / Low 4 / N/A / N/A 5 / N/A / N/A • Estimated **PMF** Level and the associated Hazard Category for this location varies (see PMF Level on page 7): **Location / Level (m AHD) / Hazard Category** 1 / 116.15 / Low 2 / 116.15 / High 3 / 116.47 / Low 4 / 117.82 / Low 5 / 117.21 / Low **NB Floodway:** Development is discouraged from floodway area. Floodway is to be kept free to allow sufficient provision for the conveyance of floodwater up to and including the extreme flood event. All development will be required to take due consideration to the defined flood conditions as development within the floodway would cause significant redistribution of flood flow, or a significant increase in flood levels. Development layouts are to accommodate the natural flooding regimes. **NB Floor levels:** Floor levels are subject to Council's Flood Management Policy. The floor level for habitable room areas is to be **500mm** above the 1% AEP flood level or **410mm** above the existing natural ground level, whichever is higher. Council does not have sufficient accurate ground level information. A registered surveyor may be able to assist in determining the required floor height. The applicant is advised to obtain a survey plan of the allotment. Refer to Griffith Flood Liable Lands LOCAL POLICY – CS-CP-403 for further details. The Lake Wyangan Floodplain Risk Management Study and Plan 2013 (BMT WBM) indicates that the site is flood prone for the 1% AEP storm event in varying effect.

Clause	Clause Requirement & Assessment Comment
	The Engineering assessment has addressed this clause and has identified that some lots are area located with the mapped flood way area. In accordance with Council's Flood Liable Lands Local Policy (CS-CP-403), subdivision of land identified as a floodway is not supported. It is identified that proposed Stages 1B, 4 and 9 are currently located within the mapped floodway area. As a result, these stages cannot proceed to subdivision or development under the current flood mapping.  The report notes that subdivision of these stages may only be considered following the adoption of the updated Lake Wyangan Flood Study by Council, and only where the revised flood mapping demonstrates that the affected lots are no longer located within the floodway. Accordingly, conditions of consent are recommended to prohibit the subdivision of Stages 1B, 4 and 9 unless and until the floodway constraints are removed through the adopted flood study. The Engineering assessment notes that onsite stormwater detention is not required as part of the proposed development. Council has allocated funding through developer contributions for the upgrade of surrounding drainage channels and the provision of trunk stormwater infrastructure to convey runoff from the master planned area to Lake Wyangan. The broader stormwater management strategy has been designed to utilise Lake Wyangan as the primary detention basin for the catchment. The assessment further notes that Council is currently funding the installation of a pump at Lake Wyangan to regulate water levels within the lake. This infrastructure will assist in maintaining sufficient storage capacity to accommodate stormwater runoff generated by future development within the master planned area.

Clause	Clause Requirement & Assessment Comment
	Additionally, the floor level for future dwellings to be located on the subdivided allotments will be governed by Council's Buildings - Floor Heights Policy (CS-CP-318) which specifies that all residential buildings with habitable rooms are to have a floor height 410mm higher than the surrounding ground level. Refer Engineering assessment for further details 25/111822.
Part 6 Urban Release Areas	The subject land is identified as an urban release area under the GLEP2014.  The proposed subdivision is generally accordance with the Lake Wyangan Master Plan and the Lake Wyangan Growth Area provisions have been adopted and included in the Residential DCP 2020, to facilitate the subdivision of the land for residential development. It is noted that the proposed road pattern differs from the approved plan. While the internal road layout has been amended, the revised design aligns with the proposed road network of the adjoining subdivision application (DA 83/2025), with the main entry and Road 1 positioned adjacent to the western boundary. Council supports this variation, as it facilitates improved road connectivity between the two developments and promotes an integrated road network.
7.1 Earthworks	The subject Development Application will require a Subdivision Works Certificate prior to the commencement of any earthworks. Refer Engineering assessment for further details 26/95703
7.3 Terrestrial Biodiversity	The subject site is note identified as "Biodiversity" on the Terrestrial Biodiversity Map.
7.4 Groundwater vulnerability	The subject site is not identified as "Groundwater vulnerable" on the Groundwater Vulnerability Map.
7.5 Riparian Lands and water courses	The subject site is not identified as "Watercourses" on the Riparian lands and Watercourses Map.
7.6 Wetlands	The subject site is not identified as "Wetlands" on the

Clause	Clause Requirement & Assessment Comment
	Wetlands Map.
7.7 Salinity	The subject site is not identified being vulnerable to salinity.
7.8 Air Space Operations	The development is not of a scale or height that would intrude into the Obstacle Limitation Surface or Operations Surface applicable to Griffith Aerodrome.
7.9 Aircraft Noise	No foreseeable negative impact to the proposed development.
7.10 Essential Services	Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required- *1. Supply of water,* All water infrastructure construction works specified within this Development Application are to be completed in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards and the Water Services Association of Australia – Water Supply Code of Australia (WSA 03—2011). Council is satisfied that through the conditions of consent, adequate arrangements can be made available for the supply of water to each allotment within the proposed subdivision. *2.Supply of electricity,* The applicant must ensure that the development is provided with power to service each of the proposed allotments. Prior to the issue of a Subdivision Certificate for each stage, documentary evidence from the service provider is to be submitted to Council confirming that satisfactory arrangements have been made for the provision of an adequate electricity supply. Notice of Arrangement conditions consent for each stage are to be included in any issued. *3. Disposal and management of sewage,* All sewerage infrastructure construction works specified within this Development Application are to be completed in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards and the Water Services Association of Australia – Gravity Sewerage Code of Australia (WSA 02—2014) and approved by Council prior to the issue of a Subdivision Certificate for each stage. *4.Stormwater drainage or on-site conservation,* The Engineering assessment identifies that the subject site is affected by flooding under the *Lake Wyangan Floodplain Risk Management Study and Plan 2013*, with portions of the land mapped as floodway and flood fringe. Council has

Clause	Clause Requirement & Assessment Comment
	undertaken significant drainage and trunk stormwater infrastructure upgrades within the Lake Wyangan master planned area, funded through developer contributions and Australian Government Housing Support Program funding. While this infrastructure is expected to reduce flooding across the site, Council must rely on the currently adopted flood mapping until the new Lake Wyangan Flood Study is formally adopted. Consequently, proposed Stages 1B, 4 and 9 remain within the mapped floodway and cannot be subdivided or developed in accordance with Council's *Flood Liable Lands Local Policy (CS-CP-403)*. Conditions of consent are recommended to prevent subdivision of these stages unless future adopted flood mapping removes the floodway constraint. The assessment further notes that the development will be required to connect to Council's existing trunk stormwater system and provide detailed stormwater design documentation prior to the issue of a Subdivision Works Certificate for each stage. Onsite detention is not required, as Council's broader stormwater strategy utilises upgraded drainage infrastructure and Lake Wyangan as the primary detention basin for the master planned area, supported by a proposed pump system to manage lake water levels and maintain storage capacity. Subject to the recommended conditions of consent, the assessment concludes that the development is capable of being serviced by appropriate stormwater infrastructure and will not adversely affect flood behaviour or increase flood impacts on surrounding properties. *5. Suitable vehicular access.* All roadworks specified within this Development Application are to be completed in accordance with Council's Engineering Guidelines – Subdivisions and Development Standards and the Austroads Guide to Road Design by Council prior to the issue of a Subdivision Certificate for each stage of the development. ***Refer Engineering assessment for further details 26/95703***

SECTION 4.22 Concept development applications

(1) For the purposes of this Act, a concept development application is a development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications.
(2) In the case of a staged development, the application may set out detailed proposals for the first stage of development.

(3) A development application is not to be treated as a concept development application unless the applicant requests it to be treated as a concept development application.
(4) If consent is granted on the determination of a concept development application, the consent does not authorise the carrying out of development on any part of the site concerned unless—
(a) consent is subsequently granted to carry out development on that part of the site following a further development application in respect of that part of the site, or
(b) the concept development application also provided the requisite details of the development on that part of the site and consent is granted for that first stage of development without the need for further consent.
The terms of a consent granted on the determination of a concept development application are to reflect the operation of this subsection.
(5) The consent authority, when considering under section 4.15 the likely impact of the development the subject of a concept development application, need only consider the likely impact of the concept proposals (and any first stage of development included in the application) and does not need to consider the likely impact of the carrying out of development that may be the subject of subsequent development applications.
Note. The proposals for detailed development of the site will require further consideration under section 4.15 when a subsequent development application is lodged (subject to subsection (2)).

This application seeks approval for both a Concept Development Application and a Staged Development Application. The concept component relates to the indicative construction of a single dwelling on each proposed lot, while the staged component pertains to the subdivision of the land as outlined in the proposal.

The staged delivery method has been adopted to enable the subdivision to be undertaken progressively in a cost-effective manner, while also obtaining Council's in-principle endorsement of the proposed dwelling types within the residential estate. Approval is sought for the subdivision layout only, with subdivision certificates to be obtained for each stage as it proceeds.

Separate development applications will be submitted for the construction of dwellings on individual lots at a later date. Any such applications will be required to be generally consistent with the approved Concept Development Application.

State Environmental Planning Policies

The following is a list of State Environmental Planning Policies that apply to the Griffith City Council area. The table also identifies the applicability of the policy with respect to the subject development proposal. Where a policy has been identified as being applicable, further assessment is provided:

SEPP TITLE	APPLIES	Comment / Assessment
Exempt and Complying Codes 2008	No	
Biodiversity and Conservation 2021	No	
Housing 2021	No	The Housing SEPP 2021 primarily applies to specific housing types and housing delivery mechanisms, including secondary dwellings, seniors housing, boarding houses, co-living housing, build-to-rent housing, affordable housing, manufactured home estates and caravan parks. In this instance, the proposal comprises only detached dwelling lots intended for future single dwellings, and therefore the

SEPP TITLE	APPLIES	Comment / Assessment
		provisions of the Housing SEPP 2021 are not considered applicable to the proposed subdivision.
Industry and Employment 2021	No	
Planning Systems 2021	No	Development value does not exceed $30 million
Primary Production	No	
Resilience and Hazards 2021	Yes	See assessment below
Resources and Energy 2021	No	
Transport and Infrastructure 2021	Yes	See assessment below.
Building Sustainability 2022 (i.e. BASIX)	No	

State Environmental Planning Policy (Housing 2021)

The proposed subdivision is consistent with the key principals of the policy.

State Environmental Planning Policy (Resilience and Hazards 2021)

Clause 4.6 specifies that a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated:

4.6 Contamination and remediation to be considered in determining development application
(1) A consent authority must not consent to the carrying out of any development on land unless—
(a) it has considered whether the land is contaminated, and
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Historically, the subject land has been used for citrus (horticultural) farming for many years. Conclusions and recommendations of Preliminary Site Investigation are as follows:
- *The site was previously used for citrus farming purposes.*
- *There have been no significant storage of fuels/oils or chemicals at the site (vacant site).*
- *Minor staining in existing shed (southern corner of Phase 5) revealed low concentrations of Hydrocarbons, however all results were found well below the adopted residential criteria.*
- *A residential subdivision is proposed for the site.*
- *Due to the site history the potential for significant and widespread contamination is considered low.*
- *The results of the sampling and analysis program showed that all samples analysed were found well below the adopted criteria (residential) for Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Benzene, Toluene, Ethylbenzene, Xylene, Organochlorine and Organophosphorus Pesticides, Polychlorinated Biphenyls, and metals. No asbestos was detected in any of the samples analysed.*
- *The site is therefore considered suitable for residential development.*

The assessment concludes that no further investigation of potential site contamination is required.

Any soil material proposed to be removed from the site during future development works should be appropriately classified in accordance with the Excavated Natural Material Order 2014 and, where necessary, the Waste Classification Guidelines Part 1: Classifying Waste 2014. Based on the findings of the assessment, the site is considered suitable for the proposed residential use and Council can be satisfied that the land does not require remediation prior to development.

Transport and Infrastructure 2021 – Clause 2.48 Electricity

The proposed development was referred to Essential Energy under Clause 2.48(1)(a) Determination of development applications—other development.

Essential Energy had no concerns and provided comments to make as to potential safety risks arising from the proposed development and two conditions and general advice which has been placed on the consent.

Essential Energy makes the following general comments:

- *As part of the subdivision, an easement is created for any existing electrical infrastructure. The easement is to be created using Essential Energy's standard easement terms current at the time of registration of the plan of subdivision;*
- *If the proposed development changes, there may be potential safety risks and it is recommended that Essential Energy is consulted for further comment;*
- *Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with;*
- *All Torrens lots must have access and frontage to a public road as per Service and Installation rules this is to allow for the provision of power/services to the new development, a right of carriageway can not to be used for the provision of power/services to any part of the new development.*
- *Council should ensure that a Notification of Arrangement (confirming satisfactory arrangements have been made for the provision of power) is issued by Essential Energy with respect to all proposed lots which will form part of the subdivision, prior to Council releasing the Subdivision Certificate. It is the Applicant's responsibility to make the appropriate application with Essential Energy for the supply of electricity to the subdivision, which may include the payment of fees and contributions;*
- *In addition, Essential Energy's records indicate there is electricity infrastructure located within the property. Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure;*
- *Prior to carrying out any works, a "Dial Before You Dig" enquiry should be undertaken in accordance with the requirements of Part 5E (Protection of Underground Electricity Power Lines) of the Electricity Supply Act 1995 (NSW);*

Transport and Infrastructure 2021 – Clause 2.121 & Schedule 3 Traffic Generating Development

The proposed development is not of a scale or nature that would generate significant traffic volumes and therefore does not constitute traffic-generating development requiring referral to Transport for NSW (TfNSW). In addition, the site is not located adjacent to, nor in close proximity to, a classified road. Accordingly, referral to TfNSW is not required for this application.

SECTION 4.15(1)(a)(ii) any draft environmental planning instrument.

There are no draft EPI's which apply to the proposal.

SECTION 4.15(1)(a)(iii) any development control plan.

The following is a list of development control plans that apply to the Griffith City Council area. The table also identifies the applicability of the policy with respect to the subject development proposal. Where a policy has been identified as being applicable, further assessment is provided.

DCP No.	DCP TITLE	APPLIES
DCP No. 1	Non-Urban Development	No
DCP No. 3	Industrial Development	No
DCP No. 11	Urban Subdivision	No
DCP No. 19	Mixed Development	No
DCP No. 20	Off Street Parking Policy	No
DCP 2020	Residential Development Control Plan	Yes

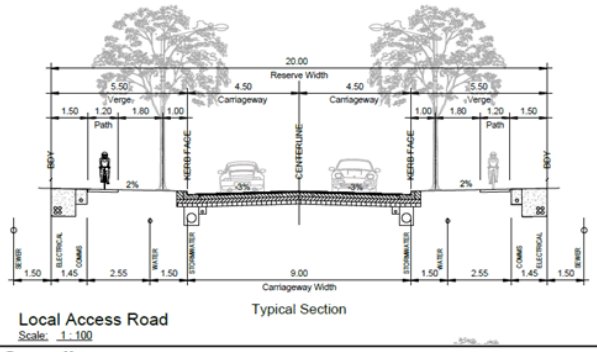
Griffith Residential Development Control Plan

Proposed Subdivision

The Lake Wyangan Growth Area (LWGA) was master planned in 2020 by Council to expand the Lake Wyangan Village and provide land for an additional 1660 dwellings to support the needs of Griffith's growing population. The controls in this section relate to the initial subdivision of each of the land holdings in the LWGA. Any other development within the LWGA is controlled under Section's 4-10 of this DCP and Appendix 1 and 2. Development on lands with frontage to Mallinson Road must adhere to the Large Lot Residential Subdivision controls in Section 4 of Appendix 2 – Griffith Subdivision Code.

The development of the LWGA should be generally in accordance with the following plans, unless otherwise agreed to by Council:
• Lake Wyangan Master Plan (LWMP) – endorsed by Council on 9 December 2020; and
• Lake Wyangan Road & Drainage Infrastructure (LWR&DI) Plans prepared by CBR Consultants and dated [July 2023]

Appendix 2 - Residential subdivision – Greenfield Subdivision		
Control	**Control**	**Proposal / Compliance**
3.0 Greenfield Subdivision	Greenfield Subdivision	**Complies** The proposed development involves a Torrens Title subdivision to create 100 allotments, to be delivered across multiple stages within the RU5 zone. As the total lot yield exceeds ten (10) lots, the proposal is classified as a Greenfield subdivision.
3.1 a) - f)	Objectives	**Complies** The proposed subdivision complies with the objectives by providing serviced lots of an appropriate size, facilitating good solar access, integrating with existing infrastructure and pedestrian networks, maintaining the character of the area, and promoting a safe and walkable environment for future residents.
3.2 a)-b)	Lot Size And Layout	**Does not comply – See Clause 4.6 of the GLEP 2014** The proposed lot sizes are smaller than the minimum lot size specified under the Griffith Local Environmental Plan 2014. However, the variation has been assessed under Clause 4.6 and is considered to be consistent with the objectives of the development standard and the relevant provisions of the GLEP. The GLEP therefore takes precedence as the statutory environmental planning instrument.
3.2 c) -j)	Lot Design	**See Clause 12.2.3** According to the table within this clause, a minimum frontage width of 18 metres applies to lots with a minimum area of 700 m². Notwithstanding the reduced lot frontages, Clause 12.2.3 of the DCP provides flexibility in the application of lot design standards. The proposed variation is supported by the concept

Appendix 2 - Residential subdivision – Greenfield Subdivision		
Control	**Control**	**Proposal / Compliance**
		plans, which demonstrate that the resultant lots are capable of accommodating suitable future development outcomes.
3.3 a) – c)	Connectivity And Movement Networks	**Satisfactory.** The proposed staging is integrated to ensure multi-modal connectivity.
3.3 d) – e)	Design Of Roads	**Satisfactory** Footpaths and cycleways must be provided in accordance with the Griffith Pedestrian and Bicycle Strategy – 2018. Roads must be designed in accordance with Council's Engineering Standards: Subdivision and Development (as amended.  Typical Section Local Access Road Scale: 1 : 100
3.4 a) – i)	Essential Services Public Utility Services Sewer	**Complies** Adequate provision provided for essential services and drainage. Refer to the assessment under Clause 7.10 of the Griffith Local Environmental Plan 2014, as discussed earlier in this report.
3.5 a) – f)	Stormwater	**Complies** Refer to the assessment under Clause 7.10 of the Griffith Local Environmental Plan 2014, as discussed earlier in this report.
3.6 a)	Safety	**Complies** The design of the proposal is relatively open, allowing for effective passive surveillance of public and communal areas.
3.7 a) – f)	Open Space	**See Clause 12.2.5** While the clause requires the dedication of 1,000m² of public open space for every 20 lots created, this requirement is superseded by Clause 12.2.5 of the DCP, which requires the provision of 500m² of open space for every 20 allotments created. The proposal does not alter existing public open space, connectivity, or public infrastructure, and will not adversely affect public safety, passive surveillance, or the function of public open space areas. Therefore, the proposal is consistent with the intent of this clause.
3.8 a)	Landscaping	The development does not include retention of any existing trees. Street tree planting is proposed within the nature strips on both sides of the new public road carriageways. The species selection, planting locations, and spacing of street trees will be detailed within a Landscape Plan.

Appendix 2 - Residential subdivision – Greenfield Subdivision		
Control	**Control**	**Proposal / Compliance**
		The landscaping plan will specify that street trees are to be installed in accordance with Council's Tree Policy (PG-CP-402) and the Engineering Guidelines – Subdivisions and Development Standards 2008.
3.9 a) – b)	Contamination	**Complies** A Land Contamination Assessment report has been submitted to Council. Please refer to the SEPP section of the report for relevant details.

Part 12.2 - Lake Wyangan Growth Area Subdivision Controls		
Control Type/Clause	**Control**	**Proposal / Compliance**
12.2.1	Staging	**Complies** The proposed development is located within Stage 1 of the LWGA Staging Plan and is consistent with the planned sequencing of development.
12.2.2	Transport Movement Hierarchy	**Satisfactory** All other proposed lots will be accessed via new public roads from Druitt Road. Road 502 will connect with new public roads on the adjoining west (future subdivision in accordance with DA 83/2025). Subdivision plans have been prepared in accordance with the LWMP, the LWR&DI Plans, and the relevant clause requirements, including an overall transport movement hierarchy.
12.2.3	Lot Size And Layout	**Complies** Lot dimensions and the overall subdivision layout generally align with the provisions outlined in Part 12.2.3 of the LWMP. The proposal is considered satisfactory with regard to these requirements. The proposed lots are of sufficient size, shape and dimensions to accommodate a dwelling and associated ancillary structures in accordance with the relevant design principles. All lots are intended for single dwelling development, with no medium-density housing proposed. This is also complimented by the concept plan design. Lots adjoining agricultural land incorporate bordering roads with landscaped verges, which will assist in reducing potential impacts associated with nearby agricultural activities, consistent with the intent of the buffer requirements. In relation to Boorga Road, a restriction on the use of land can be imposed pursuant to Section 88B of the *Conveyancing Act 1919* to prohibit the construction of solid fencing, including pre-coloured metal fencing, facing Boorga Road. This can be secured as a condition of consent prior to the issue of a Subdivision Certificate.
12.2.4	Street Trees And Vegetation	**Satisfactory** Street tree planting is proposed within the nature

Part 12.2 - Lake Wyangan Growth Area Subdivision Controls		
Control Type/Clause	**Control**	**Proposal / Compliance**
	A landscape plan prepared in accordance with the principles set out in this clause and which includes street trees and shrub species selected in accordance with Council's Tree Policy (PG-CP-402)	strips on both sides of the new public road carriageways. The species selection, planting locations, and spacing of street trees will be detailed within a Landscape Plan. The proposed landscaping treatment within the park will be defined is a detailed Landscape Plan.
12.2.5	Open Space Other Development Land a) Open space must be provided at a ratio of 500 m2 / 20 lots or 25 m2 / lot. Subdivision of land for under twenty lots do not need to provide open space. The staging of the subdivision of a development lot cannot be used to avoid the provision of open space.	**Variation** The proposed development includes the establishment of a public open space area within proposed Lot 5900. The park will have an initial area of approximately 2434m^2. Area of the park: 2434m^2 Min. requirement: 25m^{2}x100 = 2500m^2 Difference: 2434m^2- 2500m^2 = -66m^2 Variation:66m^2/2500m^2 x100 = 2.6% The applicant has identified that open space is slightly smaller than the 2,500 m² requirement, it forms an integral part of the broader Lake Gardens landscape strategy. Its connectivity with adjoining open space areas enhances its overall functionality and usability. The area exceeds 2,000 m² and is located within 400 metres of all residential lots, ensuring convenient access for the entire development. The variation is considered minor and unlikely to have any appreciable impact on the recreational amenity or functionality of the open space provided to future residents. The proposed park remains of sufficient size to serve the needs of the subdivision and achieve the objective of providing accessible public open space within the development. Given the minimal nature of the variation and the satisfactory provision of open space, the variation is considered acceptable and consistent with Clause 12.2.5(a) of the Griffith Development Control Plan.
12.2.6	Stormwater/Drainage	Stormwater management for the LWGA must be generally in accordance with the LWMP and LWR&DI Plans in accordance with Council's Engineering Standards: Subdivision and Development (as amended), the LWMP and LWR&DI
12.2.7	Water Quality	Water quality reduction targets can be achieved through the following Water Sensitive Urban Design (WSUD) method.
12.2.8	Infrastructure	The design and installation of sewerage, water and stormwater must be provided in accordance with Council's Engineering Standards: Subdivision and Development (as amended), the LWMP and the LWR&DI Plans

Part 12.2 - Lake Wyangan Growth Area Subdivision Controls		
Control Type/Clause	**Control**	**Proposal / Compliance**
12.2.9	Contamination	A Land Contamination Assessment report has been submitted to Council. Refer SEPP part of the report.
12.2.10	Safety	The road layout and lot configuration facilitate casual surveillance of public areas, including streets, footpaths and open space areas, by maximising opportunities for overlooking from future dwellings. Public streets, pathways and communal spaces will be provided with appropriate street lighting in accordance with Council and relevant Australian Standards, enhancing visibility and pedestrian safety.
12.2.11	Medium Density Lots	No medium density lots are proposed as part of the development. Instead, the subdivision layout has been designed to incorporate an equivalent 25% increase in lot yield through the creation of smaller residential lots. Excluding roads and road reserves, the site could accommodate approximately 80 lots based on the 700m² minimum lot size standard. Applying a 25% medium density allowance would result in an additional 20 dwellings, equating to a total yield of 100 dwellings. The proposed subdivision achieves this outcome through the creation of 100 residential lots, each containing a single dwelling, as demonstrated in the staging plan and concept proposal submitted with the application.
12.2.12	Neighbourhood Commercial And Retail Uses	The Griffith Local Environmental Plan 2014 permits commercial and retail uses within the RU5 – Village zone. No commercial or retail uses are proposed.
12.2.13	Flooding	Refer to assessment of Clause 5.21 of the GLEP2014 of this report
12.2.14	Bushfire Prone Land	The site is not bushfire prone land and therefore this section does not apply to the proposal.
12.2.15	Frost Control Fans	To lessen the impact of frost control fans on sensitive receivers and to ensure new development is designed to mitigate potential noise impacts, Griffith City Council has developed a Frost Control Fan Policy (CS-CP-309). Conditions are to be imposed relating to restrictions on title of each lot that is within 1000m of the closest frost control fan.

Proposed Concept Housing

The applicant has provided concept housing plans to demonstrate the development potential of the proposed subdivision. While the plans are indicative only and will be subject to future detailed development applications, they demonstrate that the relevant DCP requirements, including building articulation within the building line zone, have been considered in the design process.

The concept plans include four dwelling designs tailored to different lot configurations, based on a minimum lot size of 400m² and varying frontage widths of 11 metres and wider, 13 metres and

wider, 16 metres and wider, and 25 metres and wider. The concepts demonstrate that the proposed lots are capable of accommodating a range of detached dwelling outcomes while achieving the desired built form and streetscape objectives for the development. It is noted that no multi dwelling housing is proposed as part of the development.

Part 4 – Dwellings		
Control Type/Clause	**Control**	**Proposal/Compliance**
3.16 Villages	Floor Space Ratio (FSR)	The proposed concept dwellings have floor areas ranging from 179.08m² to 198.09m². Given the minimum proposed lot size of 400m², the concepts are capable of achieving compliance with the maximum floor space ratio requirements of 0.5:1 for standard lots and 0.7:1 for corner lots.
	Maximum Height	The identified maximum height is 9m. The proposed concept dwellings vary from 3.8m to 5m in height. Complies.
	Parking	All four concept floor plans are four bedrooms. The minimum parking control is 2 spaces. Each design incorporates a double garage.
4.2	Site Analysis	Shown on submitted plans.
4.3	Streetscape Controls	The concept dwellings have been designed to address street frontages, including corner lots, and incorporate design elements such as entry porches, recesses and projecting architectural features to provide visual interest. Habitable room windows are oriented towards the street, contributing to passive surveillance and streetscape activation. While the garage widths for the 11.5m and 13m frontage lots exceed 50% of the lot width, the garages are recessed behind the front building line and complemented by articulated entry features. Sufficient landscaping can also be provided within the front setback to enhance the appearance of the dwellings and soften the visual impact of the garages.
4.4	Building Design	The concept dwelling designs demonstrate compliance with the building design provisions, achieving appropriate building articulation, balanced façade treatments, suitable material selection, and consideration of daylight access and overshadowing.
4.6	Height	The concept dwelling designs comply with the height controls, well below the 9.0m limit.
4.6	Solar Access and Energy Efficiency	The concept dwelling designs demonstrate compliance with the Solar Access controls, providing appropriate solar access, orientation and shading outcomes.

Part 4 – Dwellings		
4.7.1	Front Setbacks Front Setbacks – 4.5 m or average of two nearest dwellings (whichever is greater) Front Setbacks – Corner Lots – Primary (narrowest frontage): dwelling – 4 m and garages 5.5, Secondary: dwelling 2.5 m and garages 3.5	The applicant has demonstrated compliance with the setback controls for the proposed concept dwelling designs.
4.7.2	Building articulation zone	The applicant has demonstrated compliance with the building articulation controls for the proposed concept dwelling designs.
4.7.3	Side Setbacks Side Setbacks – single storey = 0.9 m with an eaves setback of 450mm Side Setbacks – two storey = 1.5 m with an eaves setback of 900mm	The applicant has demonstrated compliance with the side setback controls for the proposed concept dwelling designs.
4.7.4	Rear Setbacks Rear Setbacks – ground level = 2m and upper storeys = 3 m	The applicant has demonstrated compliance with the rear setback controls for the proposed concept dwelling designs.
4.9	Visual and Acoustic Privacy	Direct views between dwellings can be minimised through appropriate window placement and offsets. Any noise-generating plant and equipment can be located and screened to minimise impacts on adjoining properties, particularly bedrooms and other sensitive living areas.
4.10	Private Open Space Principal Private Open Space (PPOS) must incorporate an envelope with a width of a minimum of 3 m and a minimum area of 15 m2 which is directly accessible from a communal living area. 50% of this envelope should receive direct sunlight for three hours between 9am and 5pm on 22nd June.	The concept dwelling designs demonstrate that each lot is capable of accommodating compliant principal private open space that is directly accessible from a living area and achieves appropriate solar access. Accordingly, the proposal is considered capable of satisfying the objectives of the private open space controls.
4.11	Landscaping	The concept dwelling designs demonstrate that each lot is capable of providing the minimum landscaped area required by the DCP. The proposed lot sizes and dwelling footprints allow sufficient opportunity for landscaping, including tree planting and garden areas, to enhance the

Part 4 – Dwellings		
		streetscape, provide shade and privacy, and contribute to the visual amenity of the development. Principal Private Open Space areas are also capable of contributing to the overall landscaped area.
4.12	Street Trees	To be provided in accordance with the approved Lake Wyangan Masterplan.
4.13	Vehicle access and parking	The concept dwelling designs demonstrate compliance with the vehicle access and parking controls. Each dwelling is capable of providing the required off street parking, with driveways and access arrangements designed in accordance with Council's engineering standards. The proposed layouts also provide satisfactory vehicle manoeuvring and driveway widths, ensuring safe and efficient access to each lot.
4.14	Site Facilities	The concept dwelling designs demonstrate that each lot is capable of accommodating waste and recycling bin storage, an open air clothes drying area, and a mailbox. Sufficient space is available within the proposed lots to provide these facilities in a practical and functional manner, consistent with the requirements of the DCP.
4.15	Rainwater tanks	Not applicable at this stage.
4.16	Fencing	Any future fencing will be required to comply with the relevant DCP controls relating to location, height and design, including the requirements for corner lots.
4.17	Outbuildings, garages and carports checklist	The concept dwelling designs demonstrate compliance with the garage controls, including maximum garage width and minimum setback requirements. No outbuildings or carports are proposed as part of the concept plans. Accordingly, the proposal is considered capable of meeting the objectives of the outbuilding and garage provisions.
4.18	Stormwater	Stormwater management is addressed under the subdivision approval and will be undertaken in accordance with the relevant engineering requirements.
4.20	Essential Services	The concept dwelling designs demonstrate that essential services, including electricity, telecommunications, water and sewer, can be provided to each lot. Service connections will be delivered in accordance with the approved subdivision design and the requirements of the relevant service authorities. Accordingly, the proposal is capable of meeting the objectives of the essential services provisions.
4.21	Bushfire Risk	Not identified as being bushfire prone land.
4.22	Frost Control Fans	The subject land is located within the area affected by a frost control fan. Accordingly, conditions of consent are recommended requiring the registration of a restriction on title to notify future owners of the

Part 4 – Dwellings		
		potential noise impacts associated with the operation of frost protection equipment.

SECTION 4.15(1)(a)(iiia) any planning agreement.

There are no planning agreements relative to this property

SECTION 4.15(1)(a) (iv) the regulations.

Section 4.15(1)(a)(iv) requires Council to take into consideration the provisions of clauses 61-64 of the Environmental Planning and Assessment Regulation 2021.

Clause 61(1)(b) of the Environmental Planning & Assessment Regulation 2021 requires the consent authority to consider the provisions of Australian Standard AS 2601-1991: The demolition of Structures. Where demolition is proposed, it is recommended that a condition of consent be imposed which sets out the requirements for demolition to be carried out in accordance with a construction/demolition management plan and this will be required to be submitted prior to the issue of a Construction Certificate.

Clauses 62 and 64 of the Environmental Planning and Assessment Regulation 2021 require that Council take into consideration to fire safety provisions. Where applicable, it is recommended that a condition of consent be imposed that requires the installation of a smoke alarm, if one is not already present, in the building as without a smoke alarm the measures in the building are considered inadequate to protect persons using the building or to facilitate their egress from the building in the event of fire.

SECTION 4.15(1)(b) the likely impacts of the development.

In taking into consideration section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979 Council must evaluate the likely impacts of the development on both the natural and built environments, and the social and economic impacts in the locality.

a) Impact on Built Environment

In terms of assessing and evaluating the impact on the built environment, the following matters have been taken into consideration:

Context and Setting

The subject site is situated within the Lake Wyangan Growth Area, a precinct that is presently characterised by predominately horticultural land uses interspersed with a limited number of rural and residential dwellings. While the surrounding area retains a largely rural character, the site forms part of a strategically planned urban expansion area identified by Council for future residential growth.

The proposed subdivision is consistent with the adopted Lake Wyangan Growth Area Masterplan and supports the orderly and planned transition of the locality from rural production land to residential neighbourhoods. The development will contribute to the delivery of additional housing within a designated growth area and aligns with Council's long-term strategic planning objectives by facilitating residential development in a location identified for urban expansion, infrastructure provision and population growth.

Access, Transport and Traffic

The proposed internal road network has been designed to accommodate the anticipated traffic volumes generated by future residential development within the subdivision. The road layout includes a minor variation from the indicative road network identified in the original Lake Wyangan Growth Area Master Plan; however, it continues to provide an efficient and functional road hierarchy for the site.

The proposed road network and lot configuration generally accord with the adopted Lake Wyangan Master Plan 2020 and the Griffith Residential Development Control Plan 2020. The Lake Wyangan growth area has been strategically planned to ensure that traffic generated by the development of individual land parcels does not adversely impact the surrounding road network. This outcome will be achieved through the construction of the internal road network, the upgrading of Druitt Road, and the coordinated delivery of supporting infrastructure.

In addition, the developer will be required to pay development contributions in accordance with the Section 7.11 Development Contributions Plan for Lake Wyangan (July 2023). A portion of these contributions will be allocated towards the upgrade of Boorga Road to ensure it has sufficient capacity to accommodate traffic generated by development within the master planned area.

Public Domain

The proposal is not anticipated to result in any adverse impacts on the public domain. Rather, the subdivision and subsequent development of residential dwellings will enhance the character, functionality and amenity of the locality by facilitating the orderly development of land identified for future urban growth and contributing to the establishment of a cohesive residential neighbourhood.

The development is compatible with the surrounding and emerging land use pattern, particularly the approved residential subdivisions located to the east along Boorga Road. The proposal will integrate with existing and planned residential development and is consistent with Council's strategic vision for the progressive, coordinated and orderly expansion of the Lake Wyangan Growth Area. As such, the development is expected to make a positive contribution to the area's transition from a predominantly rural landscape to a well-planned residential community.

b) Impact on Natural Environment

In terms of assessing and evaluating the impact on the natural environment, the following matters have been taken into consideration:

Flora and Fauna

No significant vegetation removal is proposed as part of this development. Accordingly, the proposal is not expected to have any notable impact on local flora or fauna species.

The development is unlikely to affect the ecological value or environmental significance of the surrounding area, as the site has been previously disturbed and is not identified as containing habitat of conservation importance.

Soil and Site Conditions

Soil testing undertaken for the site has confirmed that it is suitable for future residential development, subject to the implementation of appropriate site management measures. These measures include the removal of existing building materials and waste to ensure the site's suitability and stability for construction purposes.

c) Social Impact in the Locality

In addressing the potential social impacts that the development may have, the locality has been identified as follows:

It is anticipated that the proposed development will not result in any adverse social impacts. The subdivision will provide additional residential land and contribute positively to housing supply within the locality.

The proposed design promotes connectivity, active and passive surveillance of streets and public areas, and avoids the creation of isolated corridors or residual parcels that may lead to social issues, poor amenity outcomes or impractical maintenance requirements.

As a result, the development is expected to provide a safe, functional and well-integrated residential environment for future residents.

d) Economic Impact in the Locality

In addressing the potential social impacts that the development may have, the locality has been identified as follows:

The proposed development is expected to deliver positive economic benefits to the local community through the provision of additional residential land within a designated growth area. By increasing the supply of housing lots available to the market, the development will assist in meeting current and future housing demand and support the continued growth of the Griffith community.

e) Cumulative Effects

The likely impacts on the built and natural environments, and the social and economic impacts of the development in the locality, cannot be looked at in isolation and in this regard the cumulative effects have also been considered.

SECTION 4.15(1)(c) the suitability of the site.

The subject site is zoned RU5 Village and the permissibility of the development under Griffith Local Environmental Plan 2014 provides a broad indication that the site is suitable for the proposed development.

Based on the assessment under this and other sections within this report it is considered that the site is suitable for the proposed development.

SECTION 4.15 (1) (d) any submissions made in accordance with the Act or the Regulation

The provisions of the Environmental Planning and Assessment Act 1979 the Environmental Planning and Assessment Regulation 2021 and Community Participation Plan set down consultation, concurrence and advertising requirements for specific types of development applications and taking into consideration any submissions received in response to the notification process.

In addition to the statutory referral process identified in Part F of this report, the notification of the development included the following:

Notification Description	Required	Submission Period
Publication in Council Catchup and on Facebook	Yes	19 June 2026 – 3 July 2026
Letters to Neighbours	Yes	17 June 2026 – 3 July 2026

Following the close of the notification period at 4:00 pm on 3 July 2026, Council had not received any submissions and the public participation process was considered complete.

However, two submissions were received after the exhibition period had closed. The submissions raised a number of concerns, which are addressed below. It is also noted that the applicant was provided with an opportunity to respond to the issues raised.

There is nothing within the Environmental Planning and Assessment Act 1979 that prevents a consent authority from considering submissions received after the prescribed exhibition period. While Council's Community Participation Plan generally does not support the acceptance of late submissions, it allows Council to consider the merits of submissions received prior to the determination of an application.

The matters raised in the submission received by Council:

Submission 1

Issue Raised:

The submitter requested an extension of the public notification period to allow additional time to review the application and prepare a submission.

Council Response:

Council's Community Participation Plan (CPP) does not provide for extensions to the public exhibition period. The CPP specifies that submissions must be received by 4:00pm on the final day of the advertised notification period. Accordingly, Council is unable to extend the exhibition period beyond the advertised closing date. Notwithstanding this, Council has considered the merits of the late submission received prior to the determination of the application.

Issue Raised:

The submitter is concerned that the proposed residential development may create land use conflicts with nearby horticultural operations, particularly in relation to the use of frost fans. They consider that further expert assessment is required to determine how the development will interact with Council's Frost Control Policy and whether the viability of existing horticultural activities could be adversely affected by the proximity and density of future residential development.

Council Response:

The proposal has been assessed having regard to Council's Frost Control Policy and the potential for land use conflict with surrounding horticultural activities. Conditions of consent will require the creation of appropriate restrictions on title through a Section 88B Instrument to notify future landowners of the potential impacts associated with nearby frost fan operations.

The subdivision is also consistent with the strategic planning framework established for the Lake Wyangan Growth Area, which considered the interface between future residential development and existing agricultural land uses. Accordingly, it is considered that appropriate measures are in place to minimise potential land use conflicts.

Submission 2

Issue Raised:

The submitter is concerned that the proposed road infrastructure may adversely impact the future development potential of adjoining land on Druitt Road. Specifically, concerns were raised that development of the adjoining land would be dependent on the applicant constructing the proposed road connection, potentially resulting in delays to future development, financial burdens associated with holding undeveloped land, and a lack of certainty regarding the timing and delivery of infrastructure.

Council Response:

The proposed road network has been designed in accordance with the adopted Lake Wyangan Master Plan 2020 and is intended to facilitate the orderly development of land within the Lake Wyangan growth area. The subdivision does not prevent the future development of adjoining land, which will be subject to its own development application and assessment process.

The timing and staging of development within the master planned area will be determined by individual landowners and developers. While Council acknowledges the submitter's concerns regarding the delivery of future road infrastructure, it is not considered reasonable or necessary to impose conditions requiring the construction of roads to service land outside the subject site. Any future subdivision proposal affecting adjoining land will be assessed on its merits, including consideration of appropriate access and infrastructure requirements at that time.

SECTION 4.15 (1) (e) the public interest

The provisions of section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979 provides an overarching requirement to take into account the public interest. It is considered that the public interest is best served by the consistent application of the requirements of the relevant Commonwealth and State government legislation, environmental planning instruments, development control plan, Council policy, and by Council ensuring that any adverse effects on the surrounding area and the environmental are avoided.

Griffith Housing Strategy 2025

The Griffith Local Housing Strategy 2025 provides Council's strategic framework for addressing current and future housing needs across the Griffith Local Government Area. Prepared in accordance with the Department of Planning, Housing and Infrastructure's guidelines, the Strategy responds to identified housing supply, affordability and diversity challenges through a series of strategic priorities and actions.

The proposed development is consistent with the objectives and actions of the Griffith Housing Strategy 2025, particularly Priority 1: Increase housing supply and affordability, Priority 2: Expand housing choices to meet diverse needs, and Priority 4: Encourage well-located, well-designed, and locally appropriate housing.

Under Priority 1, the Strategy seeks to unlock development-ready land, reduce barriers to housing delivery and support medium-density and lower-cost housing options to improve affordability and meet demand. In this regard, the Strategy specifically identifies Action 17, which proposes an amendment to Clause 4.1A of the Griffith Local Environmental Plan 2014 to reduce minimum lot sizes for dual occupancies and multi-dwelling housing and extend the clause to the RU5 Village and R3 Medium Density Residential zones. This action reflects Council's strategic commitment to facilitating more affordable housing outcomes in existing residential areas. The proposed development is consistent with this direction by enabling an outcome that increases housing supply and contributes to a more efficient use of serviced residential land.

The proposal also aligns with Priority 2, which seeks to expand housing choices to meet the needs of a growing and changing population. The Strategy recognises the importance of encouraging a

broader range of housing types, to respond to differing household sizes, lifestyles and housing needs. Objective 2.1 – Encourage different types of homes acknowledges that a diverse housing stock supports vibrant and inclusive communities by providing ready housing options for families, couples, single-person households and retirees.

The Strategy further identifies the investigation of reduced minimum lot sizes in growth areas to increase housing supply, improve affordability and support more efficient and diverse neighbourhoods. The proposal is consistent with this objective by facilitating additional housing within an existing residential area without requiring the expansion of the urban footprint or significant new infrastructure investment.

The proposal is also consistent with Priority 4, which seeks to encourage housing that is well located, well designed and locally appropriate. Objective 4.1 – Concentrate housing development in identified growth areas identifies Lake Wyangan as one of Griffith's key growth areas, with significant capacity to accommodate future housing. The Strategy notes that focusing development within identified growth areas enables the efficient delivery of infrastructure and services while supporting the creation of liveable and sustainable communities. As the subject site is located within Lake Wyangan, the proposal directly supports Council's strategic objective of directing housing growth to areas that have been identified as suitable for future residential development.

Overall, the proposed development is consistent with the strategic directions contained within the Griffith Housing Strategy 2025. The development will contribute to housing supply, increase housing diversity and support the efficient use of residential land within Lake Wyangan, a designated growth area, thereby assisting in the achievement of Council's long-term housing objectives.

Contaminated Land Management Policy (EH-CP-203)

This policy has been addressed under the section of SEPP (Resilience and Hazards 2021).

Griffith Flood Liable Lands Policy (CS-CP-403)

Council's Development Engineers have reviewed the proposal against Council's Flood Liable Lands Local Policy (CS-CP-403).

In accordance with the policy, the subdivision of land identified as flood-prone and categorised as a floodway is not supported. As shown in Figure 4 above, Stages 1B, 4 and 9 are currently located within the mapped floodway and, as such, cannot be further developed or subdivided at this time.

Development of these stages may only be considered following the adoption of the new Lake Wyangan Flood Study by Council, and where the updated flood mapping demonstrates that the affected lots are no longer located within the floodway. Accordingly, conditions of consent will be imposed to prohibit the subdivision of Stages 1B, 4 and 9 until these requirements have been satisfied.

Frost Fan Policy (CS-CP-309)

Due to the presence of frost fans within a 1 km radius of the subject site, conditions of consent have been imposed requiring the incorporation of the restrictions contained within the relevant Section 88B Instrument.

On the basis that the proposed development is considered to be consistent with the aims and objectives of Griffith Land Use Strategy: Beyond 2030; Griffith Local Environmental Plan 2014 and other relevant environmental planning instruments, development control plans or policies; and

Land and Environment Court Planning Principles, it is therefore unlikely to raise any issues that are contrary to the public interest.

PART H: MONETARY CONTRIBUTIONS

Section 7.11 – Lake Wyangan 7.11 Contribution Plan

In accordance with Section 7.11 of the *Environmental Planning and Assessment Act 1979* and Council's Lake Wyangan Section 7.11 Development Contribution Plan 2023, this development requires the payment of a Section 7.11 contribution. The Section 7.11 Contribution is required towards the provision of public amenities and services in accordance with Council's adopted plan. A copy of this policy is publicly available from Council's website www.griffith.nsw.gov.au.

The calculation of additional development is based on the creation of 100 residential lots, excluding Lot 5900 (Open Space), less one credit for the existing lot, being Lot 1 DP1278203.

Total payment shall be **$1,538,856.00** for the creation of 99 additional lots at **$15,544.00** per lot (as at September 2026).

The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of the Subdivision Certificate for each stage,** unless other arrangements acceptable to Council are made, including 'in-kind' contributions permitted under section 3.16 of the Contributions Plan. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

The stages will be:

Stage	Number of Lots	Lot Numbers	7.11 Contribution
1A	4 *	5101-5105	$ 62,176.00
1B	5	5111-5115	$ 77,720.00
2	13	5201-5213	$ 202,072.00
3	12	5301-5312	$ 186,528.00
4	12	5401-5412	$ 186,528.00
5	7	5501-5507	$ 108,808.00
6	12	5601-5612	$ 186,528.00
7	13	5701-5713	$ 202,072.00
8	10	5801-5810	$ 155,440.00
9	11 **	5901- 5911	$170, 984.00

* The credit of 1 ET has been applied to Stage 1A
** Lot 5900 is excluded as it is the dedicated Open Space lot

Section 64 Contributions (Local Government Act, 1993)

The effect of section 64 of the Local Government Act 1993 is to give the functions of the Water Management Act 2000 to Council in the same way it applies to a water supply authority. Section 306(2) of the Water Management Act 2000 enables a water supply authority to require the applicant to do either or both of the following:

(a) to pay a specified amount to the water supply authority by way of contribution towards the cost of such water management works as are specified in the notice, being existing works or projected works, or both,

(b) to construct water management works to serve the development.

In calculating an amount for the purposes of subsection (2)(a) Council has adopted Development Servicing Plans. The proposed development involves (described the development in terms of Water Directorate & DSP triggers) and is within the (insert details) precinct. On this basis the following DSPs adopted by Griffith City Council apply:

As considered under the assessment of the Section 7.11 Contributions, the calculation of additional development is based on the creation of 100 residential lots, excluding Lot 5900 (Open Space), less one credit for the existing lot, being Lot 1 DP1278203.

Total payment shall be **$1,654,983.00** for the creation of 99 additional lots at **$16,717.00** per lot (as at September 2026).

The total payment amount will be indexed by the Consumer Price Index (All Groups Index for Sydney as published by the Australian Bureau of Statistics), applicable at the date of payment as per the provisions of the Contribution Plan.

The contribution is to be paid **prior to the issue of the Subdivision Certificate for each stage,** unless other arrangements acceptable to Council are made. Payment is to be in the form of cash or bank cheque. Where bonding is accepted a bank guarantee is required.

Stage	Number of Lots	Lot Numbers	S64 Water	S64 Sewer	Total
1A	4 *	5101-5105	$ 39,312.00	$ 27,556.00	$ 66,868.00
1B	5	5111-5115	$ 49,140.00	$ 34,445.00	$ 83,585.00
2	13	5201-5213	$ 127,764.00	$ 89,557.00	$ 217,321.00
3	12	5301-5312	$ 117,936.00	$ 82,668.00	$ 200,604.00
4	12	5401-5412	$ 117,936.00	$ 82,668.00	$ 200,604.00
5	7	5501-5507	$ 68,796.00	$ 48,223.00	$ 117,019.00
6	12	5601-5612	$ 117,936.00	$ 82,668.00	$ 200,604.00
7	13	5701-5713	$ 127,764.00	$ 89,557.00	$ 217,321.00
8	10	5801-5810	$ 98,280.00	$ 68,890.00	$ 167,170.00
9	11 **	5901- 5911	$ 108,108.00	$ 75,779.00	$ 183,887.00

* The credit of 1 ET has been applied to Stage 1A
** Lot 5900 is excluded as it is the dedicated Open Space lot

PART I: INTERNAL REFERRALS

As part of the assessment process, the following internal referrals were also undertaken.

DISCIPLINE	ADVICE, COMMENTS & CONDITIONS	DATE
Building	No comments	
Engineering	See Engineering assessment (CM 26/95703)	5 August 2026
Environment	See memorandum (CM 26/61819)	16 June 2026
Health	No comments	
Heritage	No comments	
Urban Design	No comments	
Street/Rural No	No comments	

The comments received in response to the internal referral place have been addressed in the assessment of the application and where applicable incorporated into the recommendation.

PART J: CONCLUSION AND RECOMMENDATION

Conclusion

The development application has been analysed and evaluated with regard to the matters for consideration listed in Section 4.15 of the Environmental Planning and Assessment Act 1979. The assessment has identified that:

- The proposed development is permissible within the zone under GLEP 2014 and is consistent with the aims, objectives and special provisions of that environmental planning instrument.
- The proposed development is consistent with the provision the relevant SEPP that apply.
- The proposed development is considered satisfactory with regard to the objectives and controls set down in the relevant development control plans.
- That where non-compliance with a development control has been identified, the proposed variation can be supported in the circumstances of the case, or has been addressed by way of a condition of consent.
- The proposed development is unlikely to have any unreasonable impact on the environment, and where an adverse impact has been identified appropriate conditions have been imposed to mitigate the effects.
- The subject site is suitable for the proposed development
- Where submissions were received they have been taken into consideration and where appropriate have been addressed by way of amended plans or conditions of consent.
- The proposed development does not raise any matter contrary to the public interest.

On this basis it is considered that the proposal has merit and can be supported.

ASSESSING / DELEGATED OFFICER		Date
Name:	Mrs L R Smith	14 August 2026
Position:	Development Assessment Planner	
Signature:		
REVIEWING / DELEGATED OFFICER		
Name:		
Position:		
Signature:	.....	