Transport for NSW

13 June 2025

TfNSW reference: REN25/00067/005, SF2025/024552
DPHI reference: SSD-85372970, PAE-85465959

Department of Planning, Housing and Infrastructure
Locked Bag 5022
PARRAMATTA NSW 2124

Attention: Pragya Mathema

SSD-85372970, Griffith Battery Energy Storage System, Request for Secretary's Environmental Assessment Requirements (SEARS)

Thank you for referring the request for SEARs to Transport for NSW (TfNSW), seeking comments regarding the Griffith Battery Energy Storage System located within the Griffith Local Government Area (LGA).

TfNSW has reviewed the Scoping Study prepared for Griffith BESS by Cogency dated 29 May 2025 and provides advice in **Attachment A** and **Attachment B** to assist in the preparation of the Environmental Impact Statement (EIS) and supporting documentation for the future lodgement of the application with the Department of Planning, Housing and Infrastructure.

TfNSW recommends a meeting to discuss the SEARs requirements before proceeding to EIS.

If you have any questions or wish to discuss this matter further, please contact Glen Hanchard, Development Services Case Officer, on 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours sincerely,

Alexandra Power
Team Leader Development Services – Renewables
Transport Planning
Planning, Integration and Passenger

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

Attachment A

SSD-85372970, Griffith Battery Energy Storage System, Request for Secretary's Environmental Assessment Requirements (SEARS)

TfNSW advice for SEARs

A Traffic Impact Assessment (TIA) is to be prepared for this project and accompany the EIS. The TIA is to be prepared in accordance with the methodology set out in *Guide to Traffic Impact Assessment (GTIA) 2024* and part 12 *Austroads Guide to Traffic Management,* including:

1. Hours, days and periods of construction.
2. Schedule for phasing/staging of the project (including pre-construction, accommodation and ancillary infrastructure works) and identifying the traffic volumes for each stage.
3. Traffic volumes are to include a description of:
    a. Surveyed existing background traffic at key intersections per Part 3 *Austroads Guide to Traffic Management,* with survey raw data included.
    b. Project-related traffic volumes (measured as single vehicle trips per hour, AM/PM peak hour and per day) for each stage, including pre-construction, construction, operation, and decommissioning and identifying peak period(s) for traffic volumes.
    c. Ratio of light vehicles to heavy vehicles.
    a. Differentiation of Over Size/Over Mass (OSOM) that do or do not require an NHVR permit and proposed times of operation on the State road network.
    b. Peak times for existing traffic and project-related traffic.
    c. Transportation hours.
    d. Distribution split, i.e number turning left and right at each access or intersection.
    e. Number of high-risk OSOM anticipated for the project.
4. The origin, destination and routes (including maps for all stages of the project) for:
    a. Employee and contractor light traffic.
    b. Heavy vehicle traffic.
    c. OSOM vehicle traffic.
    d. OSOM high-risk loads.
    e. A description of all non-high-risk OSOM vehicles and materials to be transported. The shortest and least trafficked route is to be given priority for the movement of materials and machinery to minimise risk and impact to other motorists, so far as is reasonably practicable.
    f. Identify the location of each new or existing intersection and access point (including GPS coordinates for new locations) that will be used for project traffic and what types of vehicles.
    g. The assessment is to identify high-level enforceable mitigation measures to manage traffic volumes, driver behaviour and site access paths for all project stages.

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

5. A turn warrant assessment for different scenarios (i.e project peak hour is different to network peak hour, for worst case scenario (i.e overlap of construction, pre-construction works and occupation of stages of workforce accommodation camp).

   The turn warrant assessments are to be prepared in accordance with section 3.25 of Part 6 of the *Austroads Guide to Traffic Management*. A turn warrant assessment will be required for each scenario identified above and for each access, access track and any other access along the project's identified routes with an interface or connection to the state road network.

   The methodology to be used for the turn warrants assessment is:

   - AM/PM peak project traffic volumes (including turn direction and traffic type ratios),
   - Applied to existing AM/PM network peak background traffic,
   - Include linear growth to the year of peak construction.
   - Including the cumulative traffic volumes for projects at EIS and approved stages that will be present in the background and turning traffic volumes at the site access or intersection.

   Note: In rural agricultural areas, harvest periods must be factored into the traffic analysis and turn warrant assessments.

   Note: SIDRA Analysis may be required in locations with higher populations, accesses or intersections used by other existing high traffic-generating land uses or accesses that are located close to railways lines or traffic signals.

6. TIA is to detail the required intersection treatments and scope of upgrades at each intersection and proposed access point that is required to facilitate workforce accommodation facilities, transmission lines, compounds, ancillary infrastructure access, emergency access must be designed to facilitate the traffic volumes and safe turning of project traffic for each identified access or intersection with the State Road network. All strategic concept designs must be developed to demonstrate compliance with Austroads, TfNSW supplements, and TfNSW technical directions.

   The list below (but not limited to) is provided to assist with common questions and issues that may arise with the preparation and review of strategic concept design for renewable projects, and is provided as helpful tips to assist in the preparation of the strategic concept design.

   - The 2D section of the TfNSW strategic concept design fact sheet will inform the level of detail required to be captured within the strategic concept designs for each access or intersection that is required to be upgraded.
   - An assessment of the Safe Intersection Sight Distance (SISD) at each access point or intersection to be used by the project traffic is to be included within the TIA. TfNSW adopts within the TfNSW supplement to Austroads a 2.5 second reaction time for design speeds 110km/hr. The outcome of the SISD assessments must be incorporated into the scope of the strategic concept designs (where required).
   - Strategic concept designs are to include swept path analysis for the largest heavy vehicle and high-risk OSOM configuration (design and check) required to use each intersection or access point. Must be prepared in accordance with *Austroads Design Vehicles and Turning Path Templates.*

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

- The posted speed zone +10km/hr is the design speed that is to be used to inform the strategic concept designs.
- Typical sections are to be included for the drainage and must be designed to provide a 6:1 batter and table drain.
- Sealed shoulder width requirements are informed by the Average Annual Daily Traffic volumes (AADTs), which will be obtained from the traffic count data collected within the traffic count survey.
- The strategic concept designs are to factor in any existing accesses, intersections or TfNSW planned works and will need to consider within the designs how the accesses or interaction with TfNSW will be accommodated or impacted by the design.
- Culvert extensions and clear zone requirements will need to be addressed within the strategic concept designs for each access and intersection.
- Any other geometric or infrastructure constraints (i.e railways, proximity to accesses, intersections, rest areas, stockpiles. Embankments) will need to be addressed within the strategic concept designs.
- Road train gazetted routes will need to incorporate additional widening within the design of the intersection treatments refer to the relevant intersection treatment type within *Austroads Guide to Road Design Part 4A.*
- Left in left out proposed arrangements will need to prepare in accordance with Austroads Guide to Traffic Management Part 6 for the design requirements for these arrangements any proposed U-turn location will need to be designed or provide suitable existing intersection treatments to accommodate the design heavy vehicle and proposed project traffic volumes during the peak of construction (or other relevant stage) that will use the U-turn facility.
- Acceleration lanes will be required based on the identified reasons for needing an acceleration lane within the *Austroads Guide to Traffic Management Part 6.*
- Any street lighting that requires relocation is to be designed following TfNSW Technical Direction. Required changes to street lighting must be designed in accordance with R0600 Street Lighting, AS 1158.1, and TfNSW supplements.
- Any access via TfNSW assets (i.e stockpiles and rest areas) is to be discussed with TfNSW prior to consideration of use of these locations.
- Relocation or modification to bus stops, safety barriers and rest areas etc is to be identified on the strategic concept designs and discussed with TfNSW.
- Consideration of radii and adjustment for crests and curved road geometry.
- Pavement widening for high-risk OSOM is to be consistent with the existing pavement of the state road network.
- Emergency access points are to include gates to prevent access for project traffic, designed to accommodate the storage of the largest emergency vehicle, assess SISD and provide a compliant (sealed) rural property access in accordance with the requirements of *Part 4 of Austroads Guide to Road Design.*

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

Note: It is the proponent's responsibility to acquire and dedicate land required to accommodate road infrastructure including, but not limited to, footways, structures, stormwater drainage, batters, maintenance access and utilities.

Note: Works Authorisation Deeds are required for intersection upgrades on the state road network.

Note: TfNSW is not the landowner of the state road network. The relevant council is the landowner of the state road network (with the exclusion of freeways).

7. Traffic safety assessment:
    a. Local climate conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the project (eg fog, wet weather, snow etc).
    b. A review of crash data along the identified transport route/s for the most recent 5-year reporting period and an assessment of road safety along the proposed transport route(s).
    c. Measures to be employed to ensure a high level of road safety for daily staff commutes between accommodation and construction site(s), specifically addressing impacts of unsafe driver behaviour and driver fatigue for all project stages and how measures employed will be enforced.
8. Pre-construction minor works assessment (prior to construction of intersection upgrade):
    a. Identify the traffic volumes.
    b. Traffic types, inclusive of the largest design vehicle.
    c. Provide a swept path analysis of the existing intersection for the largest heavy vehicle, prepared following *Austroads Design Vehicles and Turning Path Templates.* The swept path analysis must demonstrate that the largest heavy vehicle can turn within the existing pavement and concurrently.

       If the design vehicle cannot turn, concurrently enforceable mitigation measures or additional temporary works will need to be implemented to manage and mitigate the impacts.
    d. Provide an assessment of the existing SISD and measures that will be implemented to achieve a compliant SISD, i.e prohibition of turning movements, left in left out or vegetation removal.
    e. Identify the AM/PM peak hour and proposed traffic volumes during this period.
    f. Identify measures to reduce the project traffic and impacts during this period i.e carpooling, shuttle buses, staggering of traffic.
    g. Identify mitigation measures to monitor and enforce the traffic volumes during this period.
    h. Provide a schedule of the proposed pre-construction minor works and program of works.
    i. The AM/PM peak hour must be consistent with the traffic volumes that would be generated during this period by the existing land use. Avoid network peak hours where possible.
    j. Include measures to inform the community and key stakeholders of the increased traffic during this period.
    k. Identify the hours for pre-construction minor works.
    l. 1.Identify the traffic volumes for any temporary workforce accommodation that will be occupied during this period.
    m. Identify any temporary widening or works that may be required to accommodate swept paths

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

for the design vehicle during this period within a strategic concept design.

n. Any overlap of construction and pre-construction minor works periods must be included in the traffic assessment for this stage, prior to completion of the intersection upgrade.

o. No OSOM will be permitted during this period, unless swept paths are provided that demonstrate that the intersection or access will be able to accommodate the turn of the OSOM movement within the existing pavement.

p. The sealing of the throat of the intersection (if unsealed) or access point may be required before the commencement of use of the intersection or access point for this stage.

q. Temporary traffic controls will not be permitted to be used at the intersection or access point for pre-construction minor works that is occurring before commencing the required road upgrades.

Note: Consultation should occur with the relevant roads authority (Council) for any use of local or regional roads for pre-construction minor works.

Note: The use of the intersections where the road upgrades are under construction will be dependent on the Traffic Guidance Schemes prepared per AS1742.3 and the Austroads Guide to Temporary Traffic Management. Generally, this will involve implementing reduced speed zones, installing signage, and using stop/go traffic control, among other measures. During this period, the use of the intersections will only be permitted while stop/go traffic control is in place and during daylight construction hours.

Electricity transmission lines (where applicable)

9. In relation to the EIS, TfNSW requires the identification of ancillary infrastructure, such as Electricity Transmission Lines that are crossing or near the state-classified road network or rail infrastructure within TfNSW remit. With respect to this matter the following information is required:

   a. The heights or depths (under boring) and the vertical and horizontal clearances (overhead) in accordance with Austroads.

   b. The method for construction of the transmission lines across state road network, inclusive of any proposed hurdles or other temporary infrastructure.

   c. location of infrastructure and impacts (excavation or fill) relative to the road reserve, including demarcation of local and state-classified road reserves.

   d. Distance from road reserve if the transmission line is to be constructed in parallel to the state road network.

   e. Access required to construct and maintain the infrastructure. Access points or access tracks required for ETLs or other infrastructure will require the same level of assessment as detailed above.

   f. Any trenchless excavation of the pipeline or any transmission lines near or crossing the State road network must comply with TfNSW Technical Direction-Geotechnical (GTD208-002) for Trenchless Excavation within the Road and Maritime Infrastructure.

   g. Strategic concept designs must be provided for each transmission line crossing the state-road network.

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

Attachment B

Concept Level Route Analysis required for High Risk OSOM

1. The route assessment is required for high risk OSOM (as defined on TfNSW website) delivering components to the project. The concept level route analysis must include:
   a. Port or point of origin for the entire route to the site access and intersections required to facilitate high risk OSOM movements required for the project.
   b. The high-risk OSOM laden loads, class and vehicle configuration must include the following information regarding the dimensions, weight and length:
      - NHVR route ID,
      - Overall dimensions (width, height and length) of the laden load (laden load is the vehicle combination and the load to be transported),
      - Total weight of laden load,
      - GSM,
      - Payload,
      - deck height,
      - axle configuration,
      - axle spacing, including from the prime mover, and
      - axle masses (including split axle and group axle masses).
   d. The TIA is required to include details of all high risk OSOM loads and vehicle configurations for the project.
   e. The location of pull-over bays / rest areas along high risk OSOM routes (including GPS coordinates) and demonstrate through swept paths that high risk OSOMs can be physically accommodated for the project (in terms of size, width and accessibility).
   f. Bridge Assessments for any at risk bridges on classified roads due to dimensions and weight of OSOM vehicles, contact spu@transport.nsw.gov.au to request a bridge assessment of TfNSW assets.
   g. The design vehicle templates used in the swept path analysis software are also requested in order for TfNSW to review the performance within the software (e.g. Autodesk Vehicle Tracking or Transoft AutoTURN) or alternatively include within the swept paths the wheel track, body of the OSOM component, offset, the start and completion of the movement around to manoeuvre a pinch point, the speed, steering arrangement and demonstrate compliance with with *Austroads Design Vehicles and Turning Path Templates.*
   h. Highlighting each at-risk road structures that the haulage route crosses including bridges, traffic signals, medians, pedestrian refugees, signage, major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads or could be impacted by the high-risk OSOM movements.
   i. Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) associated with the project.

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

j. Potential high level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high risk OSOM route (i.e school bus routes, mining shift changes, TSRs, harvest periods and events).

k. Include any surveys or pavement investigations as part of the high-risk route analysis.

l. Identify and assess implications of any road and rail projects under construction during the indicative schedule for project related OSOM movements.

m. Identify any rail level crossing along the route.

n. Consider the time frames to complete manoeuvres of pinch points or to travel through rural areas with narrow travel lanes and minimal overtaking opportunities. Traffic modelling may be required to understand the optimal timing for high-risk OSOM movements to occur.

Note: Narrow travel lanes, minimal existing overtaking lanes or pull over bays, high proportion of background traffic or heavy vehicles and constrained road geometry may warrant the requirement for additional pull over or rest area locations to manage the impacts to through traffic.

o. The Hexham Straight is a notable project impacting Route 2. The route assessment must assess the alternative route via Newcastle Inner City Bypass to Newcastle Road for high-risk OSOM loads that do not exceed the vertical clearance limitations of 5.25m.

p. Where the EnergyCo P2R road upgrades are relied on to facilitate the project's high-risk OSOM movements, the pavement extents, scope of work, and bridge assessments for the P2R project are to be reviewed and assessed concerning the project's proposed high-risk OSOM vehicle configuration and loads, to confirm that the loads will be able to move within the design envelope that this project will deliver. Evidence of the consistency check with the EnergyCo P2R project is to form part of the high-risk route assessment.

Note: It is the responsibility of the project to include any further road upgrades if the high-risk OSOM cannot be delivered within the design envelope for the Port to REZ project.

Note: NHVR permits do not cover road works or upgrades and environmental approvals requiredNote: NHVR permits do not cover road works or upgrades and environmental approvals required

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au