

4 July 2025

TfNSW reference: REN25/00073/006, SF2025/042819

Your reference: SSD- 23515853

Department of Planning, Housing and Infrastructure

Locked Bag 5022

PARRAMATTA NSW 2124

Attention: Pragya Mathema

SSD-23515853, Armidale Battery Energy Storage System; Response to addendum Traffic Impact Assessment, Request for further information

Dear Pragya,

Transport for NSW (TfNSW) is responding to the Addendum Traffic Impact Assessment (TIA) prepared by EMM dated 12 June 2025, Response to agency advice on Submissions Report and Amendment Report prepared by EMM dated 18 June for Armidale BESS, referred to TfNSW via the Major Projects Portal on 19 June 2025.

TfNSW has reviewed the Addendum Traffic Impact Assessment (TIA) prepared by EMM dated 12 June 2025 and Response to agency advice on Submissions Report and Amendment Report prepared by EMM dated 18 June, as key documents for preparing this response.

The information provided in the response to the request for further information does not adequately address all of TfNSW previous request for information and further information is requested by TfNSW as a result of the review of the updates to the Traffic Impact Assessment (TIA).

TfNSW has provided a reconciliation table within **Attachment 1** that identifies the status of the additional information raised within TfNSW Response to Submissions and Amendment Report advises what information remains outstanding and includes a request for further information that is raised by TfNSW as a result of the project amendments or revisions to the TIA.

TfNSW key rationale for requesting the information is to demonstrate that the designs comply with Austroads, establish the scope of works and mitigate the impacts of the project on the state road network from a safety, efficiency and asset management perspective.

TfNSW advises that the additional information requested below must be satisfactorily addressed in a revised TIA and EIS (where applicable) and resubmitted to TfNSW for review via the Major Projects Portal, preferably before determination. TfNSW requests that the revised TIA include track changes and a reconciliation table to identify where the changes to the TIA have been made.

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On request, TfNSW can meet with DPHI and the Applicant to discuss the information in **Attachment 1**. If you have any questions, please contact with Tim Mitchell, Development Services Case Officer, at 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours sincerely,

A handwritten signature in black ink, appearing to be "Nathan Boscaro", written over a yellow horizontal line.

Nathan Boscaro

Manager of Development Services- West
Transport Planning
Planning, Integration and Passenger

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SSD-23515853, Armidale Battery Energy Storage System; Response to addendum Traffic Impact Assessment, Request for further information

This attachment relates to TfNSW’s response dated 4 July 2025 reference REN25/00073/006.

TfNSW has provided a table below that identifies the status of the additional information raised within TfNSW response to Submissions and Amendment Report and advises what information remains outstanding or further requested information that is raised about the project because of the revisions to the TIA, as raised by TfNSW.

The advisory notes section is provided for references to any processes, policies, standards, weblinks, or general TfNSW information and is intended to assist with revising the TIA.

TfNSW comments and further information required

No.	TfNSW comments from RtS and Amendment response requiring RFI	TfNSW response to RTS, Amendment Report or RFI and request for further information for revised TIA
1	Provide a diagram of the laden dimensions, including the heights, widths, weights, and lengths of the check vehicle and load for the high-risk OSOM.	CLOSED: Diagram of high-risk vehicle provided.
2	Turn from Golden Highway onto Mount Thorley Road. The entry ramp appears close to the edge of the pavement. Provide a swept path analysis demonstrating that 0.5 m can be achieved from the wheel path to the edge of the pavement for this location.	CLOSED: Golden Highway onto Mount Thorley Road is not proposed to be used as part of the high-risk OSOM route.

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<p>3</p>	<p>Golden Highway / Denman Road. The existing kerbing is proposed to be temporarily removed. Strategic concept designs and further details are required to address the following for this pinch point:</p> <p>a) The location of the kerb and medians that are proposed to be temporarily removed,</p> <p>b) The timeframes for removal and reinstatement of the kerbs and medians,</p> <p>c) Details of what type of kerbing and medians will be reinstated after completion of the transformer high-risk OSOM movement.</p>	<p>CLOSED:</p> <p>The swept path assessment at this intersection has been updated and the right turn movement from Golden Highway onto Denman Road does not mount the kerb.</p>
<p>4</p>	<p>The New England Highway / Bell Street swept path shows that signal pedestals must be removed temporarily. Strategic concept designs and further details are required to address the following for this pinch point:</p> <p>a) The location of the proposed signal pedestals to be temporarily removed.</p> <p>b) The timeframes for the removal and reinstatement of the signal pedestals.</p> <p>c) Kerb and medians that are proposed to be temporarily removed.</p>	<p>CLOSED:</p> <p>New England Highway/Bell Street intersection will not be used as part of the high-risk OSOM routes.</p>
<p>5</p>	<p>Details of what type of pedestrian pedestal will be reinstated after the transformer high-risk OSOM movement is completed.</p>	<p>CLOSED:</p> <p>See comments for point 4 above.</p>

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<p>6</p>	<p>Strategic concept designs are to be prepared and included within the revised TIA for the road works proposed to the centre islands of the New England Highway/Oxley Highway, which are identified within the route analysis as a requirement for the high-risk OSOM-laden vehicle configuration to navigate this pinch point</p>	<p>OPEN:</p> <p>Armidale BESS proposes to traverse median or refuge island at 6 locations on the state road network (see figures within Attachment B for locations), using a rubber mat and steel protection method to safeguard the medians. This method cannot be supported by TfNSW.</p> <p>The revised TIA is to detail the scope of the modifications to the median(s) required to ensure that the high-risk OSOM can negotiate the pinch point(s) on the state road network without damaging the state road infrastructure.</p> <p>If traversing of the medians on the state road network cannot be avoided, then strategic concept designs will be required that identify the scope of the works that would be necessary to ensure the median could be traversed and withstand the mass of the high-risk OSOM movement (i.e pavement strengthening). Strategic concept designs will need to be submitted to identify the extent of the road upgrades, or provide a strategic concept design that identifies the temporary or partial removal of the median, in accordance with Austroads and TfNSW requirements, that will allow for the high-risk OSOM to navigate through this pinch point.</p> <p>Note: Temporary removal will need to include the length of time for removal, any interim treatments (e.g., line marking), and when and what will replace the median post-completion of high-risk OSOM movement. Alternative options to avoid traversing the state road network infrastructure include changing the route or modifying the high-risk OSOM vehicle configurations.</p> <p>Note: TfNSW advises that changing the route and changing the vehicle configuration of the high-risk OSOM could potentially increase the scope of works required on the public road network.</p>
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7	<p>Strategic concept designs are to be prepared and included within the revised TIA for the road works proposed to the centre islands of the Waterfall Way/ Canambe Street, which are identified within the route analysis as a requirement for the high-risk OSOM-laden vehicle configuration to navigate this pinch point.</p>	<p>CLOSED:</p> <p>The report states that hardstands required at the Waterfall Way/Canambe Street roundabout and that the design will be to TfNSW standards. The impacted kerb, grassed road reserve and footpath at that location are Council assets so it will be for Council to determine the requirements</p>
8	<p>The project proposes to use the route via Sydney Road and under the rail underpass through Muswellbrook. The rail underpass has height and horizontal geometric limitations, such as barriers and other infrastructure, that need to be reviewed to assess whether traversing underneath the rail overpass on Sydney Road would be a viable option as a high-risk OSOM route based on the project-laden height, width, and length for the high-risk OSOM-laden vehicle configuration. TfNSW notes that the route analysis has considered the alternative route via Bell Street. TfNSW requires point 7 to be addressed and confirm whether both options will continue to form part of the project's high-risk OSOM routes through Muswellbrook.</p>	<p>CLOSED:</p> <p>The high-risk OSOM route analysis no longer includes the use of Sydney Road within Muswellbrook, as part of the route.</p>

9	<p>The revised TIA must distinguish and categorise the different types of oversized and over-mass (OSOM) vehicles required for the project, as the current TIA (reference to Table 5) does not distinguish between the different types of high-risk and lower-laden loads. TfNSW requires the distinction to ensure that the route analysis has captured the conservative assessment for the heights, widths, weights and mass of the high-risk OSOM movements within this assessment.</p>	<p>CLOSED:</p> <p>There will be 29 OSOM movements at various stages of the project. Only 1 OSOM movement is considered to meet the 'high risk' classification. The OSOM assessment has considered the 'high risk' OSOM vehicle.</p>
10	<p>Raw traffic data from the traffic count survey must be submitted within a revised TIA to validate the background traffic volume assumptions and peak hour times and volumes that have underpinned the traffic assessment within the TIA prepared by Impact dated 18 February 2025 the raw data from the traffic count survey can form part of an appendix to the revised TIA.</p>	<p>CLOSED:</p> <p>Intersection and tube count data has been included within the revised TIA.</p>
11	<p>TfNSW notes that a 1% background traffic growth rate has been included in the traffic volume projection. Justification of this 1% growth rate is required as it seems low.</p>	<p>CLOSED:</p> <p>A linear growth rate for background traffic of 1.6% per annum was agreed with TfNSW on 7 May 2025 and has been adopted in this report.</p>

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<p>12</p>	<p>A review of the turn warrant assessment identifies, based on the construction traffic volumes during the AM/PM peak hour, that a CHR(s)/BAL intersection is required at the Eathorpe Road/Waterfall Way intersection. This contrasts with the assessed treatment of a BAR/BAL, an outcome of the turn warrant assessment within the revised TIA prepared by Impact dated 18 February 2025. TfNSW notes that the higher-order treatment is likely due to including the traffic volumes of nearby renewable projects at the SEARs stage within the background traffic volumes of the turn, which warrants assessment as part of the accumulative traffic volume review. TfNSW highlights that the accumulative traffic assessments are only required to include the traffic volumes for projects at EIS stages or that have been approved that will have a coinciding construction timeframe.</p>	<p>CLOSED:</p> <p>The turn warrant assessment has been updated based on updated traffic counts and consideration of cumulative impacts. The required intersection upgrades are CHR(s) and BAL treatments.</p>
<p>13</p>	<p>Strategic concept designs are required for the intersection of Waterfall Way and Eathorpe Road. The current informal BAR/BAL intersection treatment does not comply with Austroads. The BAL/BAR must be upgraded to comply with Austroads requirements for the BAR/BAL treatment type (see the section of Austroads) to provide safe turning movements for project traffic and to not adversely impact the safety of the through traffic movements passing the project's intersection. TfNSW notes that the strategic concept design for this intersection will be based on the revised turn warrant assessment outcome. The reference to a BAR/BAL intersection is based on the current turn warrant assessment outcomes. Regardless, strategic concept designs will be required for the treatment based on the revised turn warrant assessment outcome at the intersection of Eathorpe Road/Waterfall Way.</p>	<p>OPEN:</p> <p>Strategic concept designs require updating for the Waterfall Way and Eathorpe Road intersection treatments to include:</p> <ul style="list-style-type: none"> a) further details on the longitudinal drainage. Typical Section A on drawing number EMM-C07 needs to include the table drain and back slope. This is to ensure the full scope is captured within the road reverse and does not present a safety or maintenance hazard. b) Eastbound on Waterfall Way the road widening shifts travelling vehicles closer to non-frangible hazards such as power poles. Since the development is exacerbating the issue with an increase in turning vehicles, the clear zone is required to be assessed and mitigation measure to any hazards found is to be addressed. This could include removal/relocation or a safety barrier to

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		<p>protect vehicles from the hazard. Example of hazard shown in Attachment B - Figure 7.</p> <p>c) The Waterfall Way widening at access to Lot 115 DP755808 appears very close to headwall of the culvert under the property access. Plans showing the upgrades to this access and culvert are required.</p>
14	<p>The swept path analysis for the Waterfall Way/Eathorpe Road intersection within Appendix A-Swept Path Analysis (drawing no. IMP21038-DG-02-01-E) needs to be revised to address the following:</p> <p>a) Does not include the swept path analysis for all turn directions. The revised swept path analysis must complete an analysis of the swept paths of the design heavy vehicle turning in all proposed turn directions.</p>	<p>CLOSED:</p> <p>Swept paths have been provided for all turn directions.</p>

<p>b) The swept path analysis does not include a swept path analysis of the design of a heavy vehicle entering the proposed gate near the throat of Waterfall Way and Eathorpe Road (substation access). The swept paths analysis has been prepared for an 8.8m service vehicle which requires crossing the centrelines of Eathorpe Road to complete the arc needed for this movement. TfNSW requests, as a part of this point, the following be addressed within the revised TIA:</p> <p>i. Clarify if this access, close to the throat of the Eathorpe Road/Golden Highway intersection, is the substation access referenced in the TIA</p> <p>ii. What will the gate be servicing for the project? How often will it be used? What time of day will it be used? How will this be managed to prevent queuing impacts of project traffic on Waterfall Way? Will it be used during construction?</p> <p>iii. It is noted in the TIA that the substation access has been designed for a 12.5 m service vehicle, while the swept paths provided are for an 8.8 m vehicle. Provide clarification as to which vehicle type and length is proposed to be used as the design vehicle for this access and update the swept paths based on this outcome. This information is required as the turn paths to access this gate require additional manoeuvring and timeframes to complete the manoeuvre. This could likely impact the queuing of the project traffic during the construction and network peak hour at the intersection of Eathorpe Road/Waterfall Way.</p>	<p>CLOSED:</p> <p>The substation access is now clarified in the strategic concept design which will be located on the eastern side of Eathorpe Road, approximately 35 m south of Waterfall Way (Appendix C). This access will be used by Transgrid for their maintenance purpose only, generally during daytime. This access may be gate controlled, subject to their requirements. The frequency of vehicles using this access will be very low, hence the likelihood of potential queuing on Waterfall Way is minimal, unless there is an emergency. This access will not be used during construction of the subject BESS facility. The swept path assessment is undertaken by 12.5 m vehicle which is the maximum size of truck accessing the substation access.</p>
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<p>c) The swept paths analysis for the right turn of the B-double design vehicle from Waterfall Way into Eathorpe Road (southbound) is required to be propped within the throat of the Waterfall Way/Eathorpe Road intersection to wait for a northbound B-double turning left out from Eathorpe Road onto Waterfall Way completes the turning movement. TfNSW requires the following information to assess the impacts of the movement on Waterfall Way: TfNSW requests, as a part of this point, the following be addressed within the revised TIA:</p> <p>i. Clarify how the concurrent movement of the left in and right out of the B-double design vehicle will be managed during the construction and operation of the project.</p> <p>ii. Is there an intention to prevent concurrent turning movements of the B-double heavy vehicle for the project?</p> <p>iii. If so, TfNSW advises that if this concurrent movement of the left out and right in occurs during the project construction peak hour or the network peak hour, there is likely to be an impact on queuing due to the timing to complete the movement, which will need to be assessed and addressed as part of the revised TIA.</p> <p>iv. Demonstrating with revised swept paths that there is adequate storage within the throat of the intersection for the right turn B-double design vehicle to store while waiting for the left turn B-double movement from Eathorpe Road onto Waterfall Way.</p>	<p>PARTIALLY ADDRESSED:</p> <p>The swept path analysis does not demonstrate that the B-double heavy vehicles can turn concurrently at the Waterfall Way/Eathorpe Road intersection.</p> <p>Traffic mitigation measures that can be implemented for all stages of the project (pre-construction minor works, construction, operation and decommissioning) to prohibit the B-double heavy vehicles from turning concurrently at the intersection of Waterfall Way/Eathorpe Road are required. This can be addressed post consent in the Traffic Management Plan.</p>
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<p>15</p>	<p>Strategic concept design has not been submitted for the Emergency Access and must be submitted as a part of the revised TIA and must address the following:</p> <p>a) Compliance with rural property access per Figure 7.4 Austroads Guide to Road Design Part 4.</p> <p>b) Identify if concurrent turning directions are required; if so, the swept path analysis will need to be revised to demonstrate that the arch of the design vehicle can turn into and onto Waterfall Way without crossing into the incorrect lane</p> <p>c) Identify if storage is required for two emergency design vehicles within the throat of the access. If so, the throat of the emergency access will need to be increased in width as the current design does not demonstrate adequate storage for two emergency access vehicles.</p> <p>d) Demonstrate the direction of the swing of the access gates. Ideally, the access gates should swing inwards.</p> <p>e) Include traffic mitigation measures and high-level protocols for managing this gate to prevent access to the project's construction, operation, and decommissioning.</p>	<p>PARTIALLY CLOSED:</p> <p>Emergency Access/Waterfall Way:</p> <p>TfNSW requires the emergency access to Waterfall Way to be sealed to the property fence line to prevent damage to edge of seal at Waterfall Way shoulder and limit tracking of gravel/debris on to Waterfall Way. The strategic concept designs are to be annotated to identify the requirement to seal the emergency access from the interface with Waterfall Way to the property fence line.</p>
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Advisory notes

1. Strategic Concept Designs must be provided for any works required along the state road network route. Strategic-Design-requirements-for-DA-Factsheet.pdf.
2. Bridge and culvert assessments are required for TfNSW assets and can be obtained by contacting spu@transport.nsw.gov.au. The result of bridge assessments may require a change to the route which must be accounted for in the updated route assessment.
3. The Bengalla Road and Wybong Road section of the OSOM route are under the control of Muswellbrook Shire Council and will require assessment by Council.

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Figures examples that are referenced in Attachment A

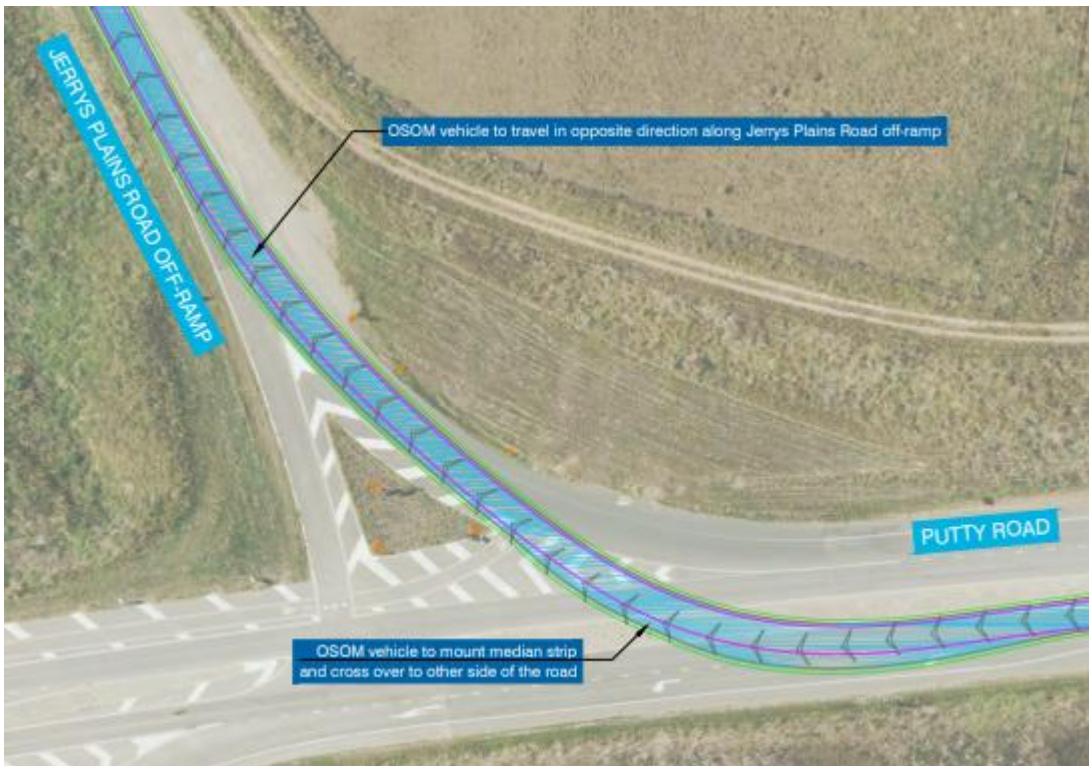


Figure 1: Pinch Point – OSOM vehicle traversing over median island at Jerry Plains Road off-ramp and Putty Road. Source: Drawing No. EMM-009 – Armidale Battery Energy Storage System OSOM assessment - Appendix A swept path assessments

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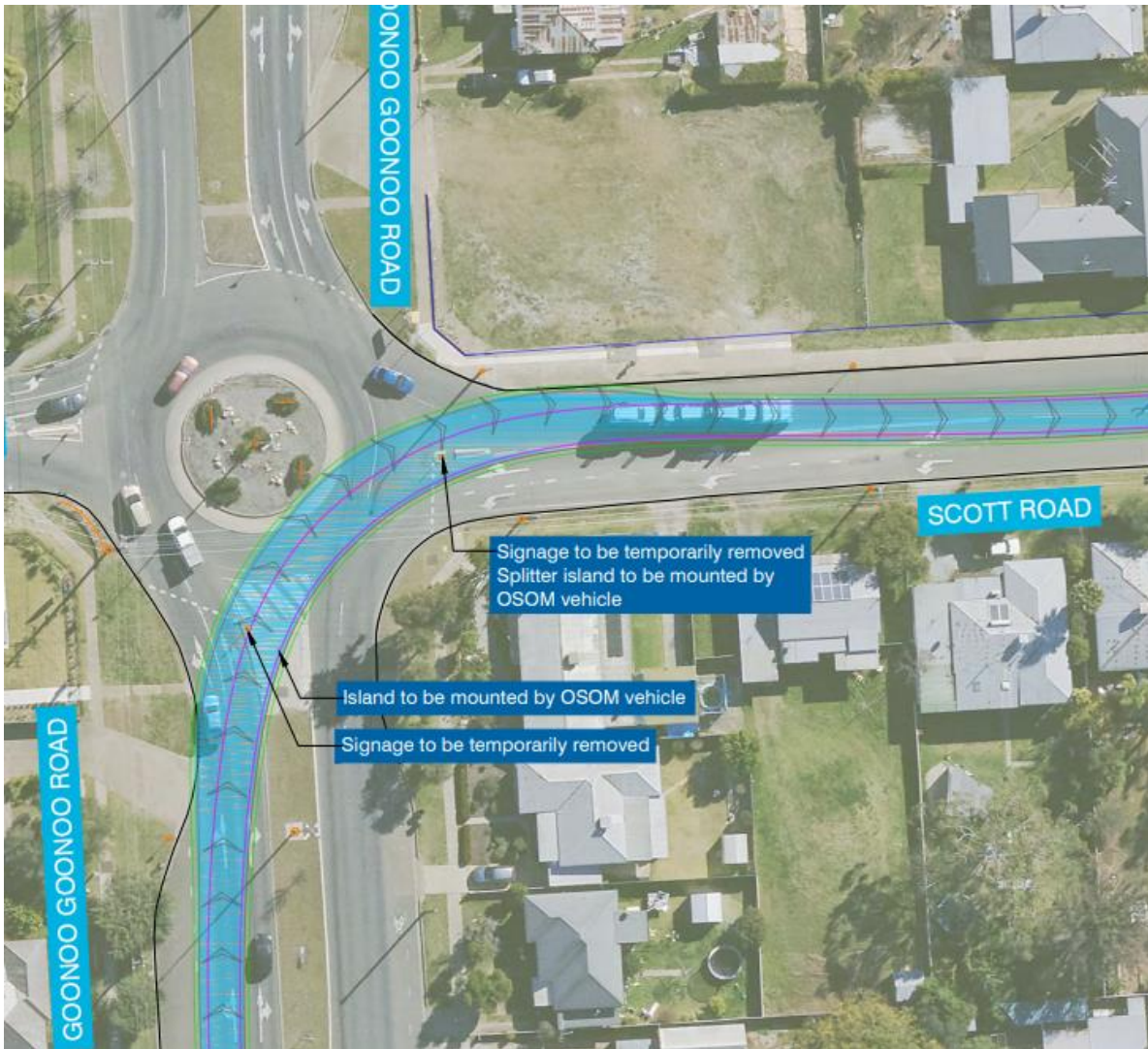


Figure 2: Pinch Point – OSOM vehicle traversing over median island at New England Highway/ Scott Road, Tamworth. Source: Drawing No. EMM-023 – Armidale Battery Energy Storage System OSOM assessment - Appendix A swept path assessments

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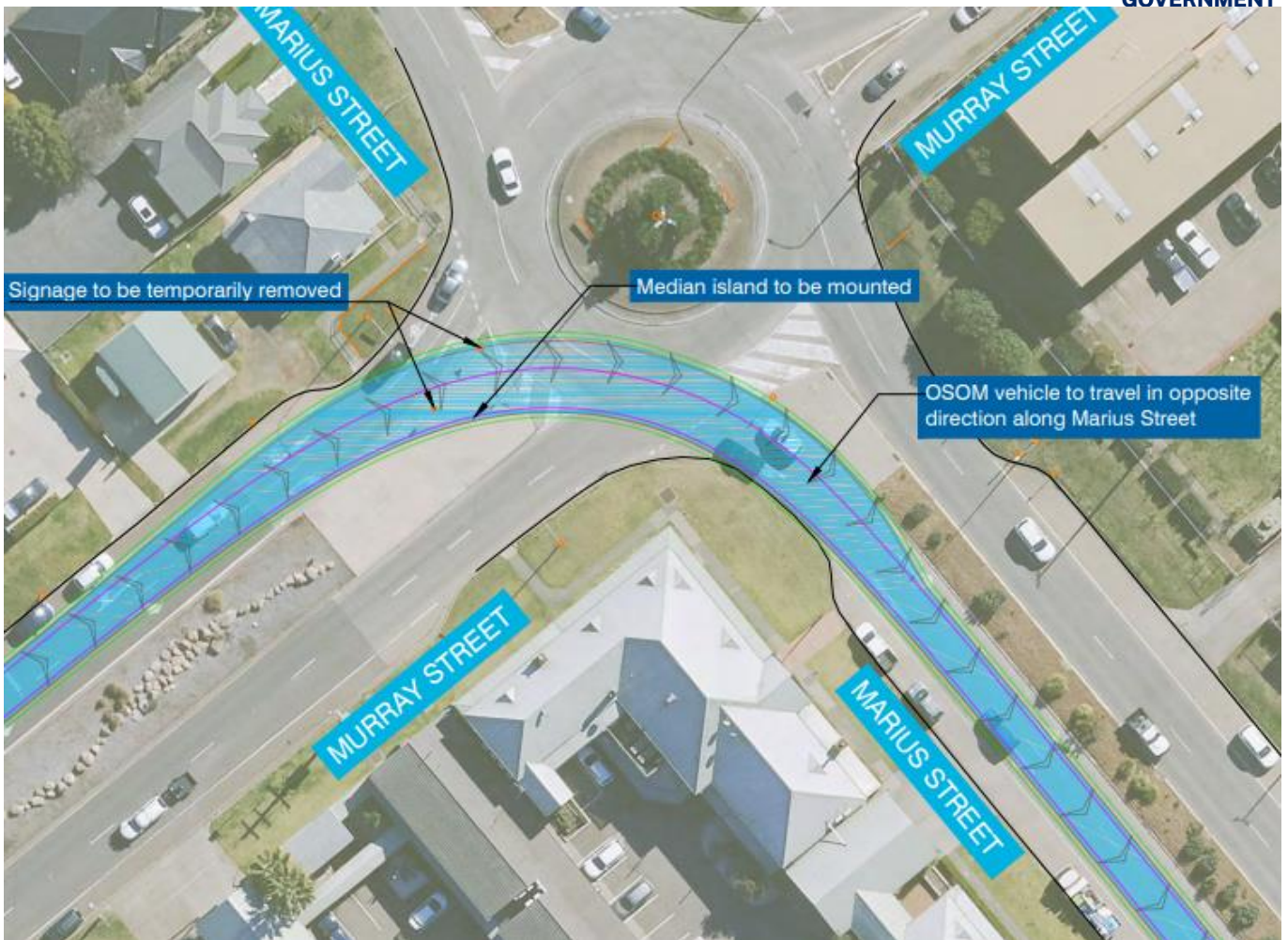


Figure 3: Pinch Point – OSOM vehicle traversing over median island at Murray Street/ Marius Street, Tamworth. Source: Drawing No. EMM-025 – Armidale Battery Energy Storage System OSOM assessment - Appendix A swept path assessments

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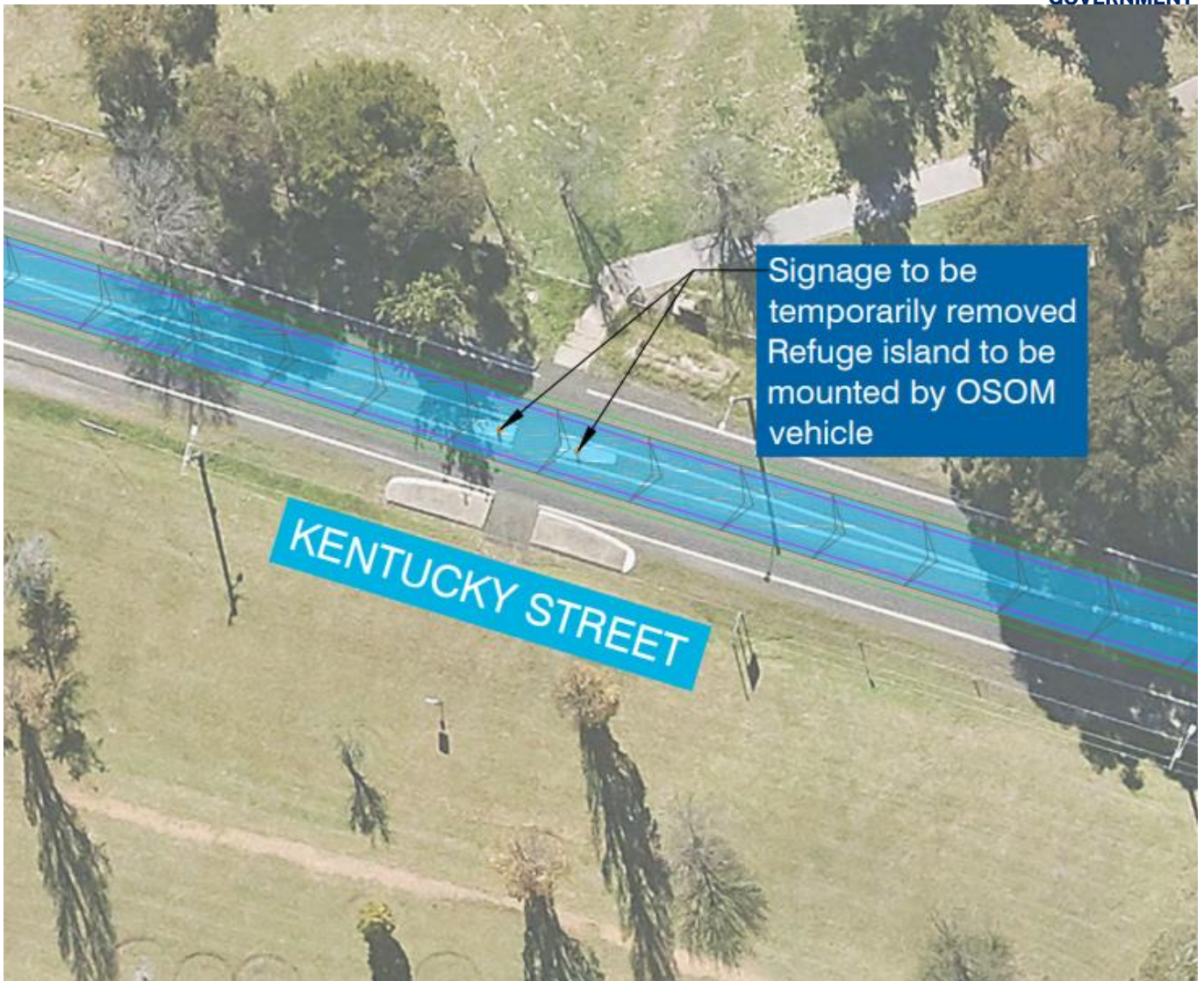


Figure 4: Pinch Point – OSOM vehicle traversing over refuge island at Kentucky Street, Armidale. Source: Drawing No. EMM-031 – Armidale Battery Energy Storage System OSOM assessment - Appendix A swept path assessments

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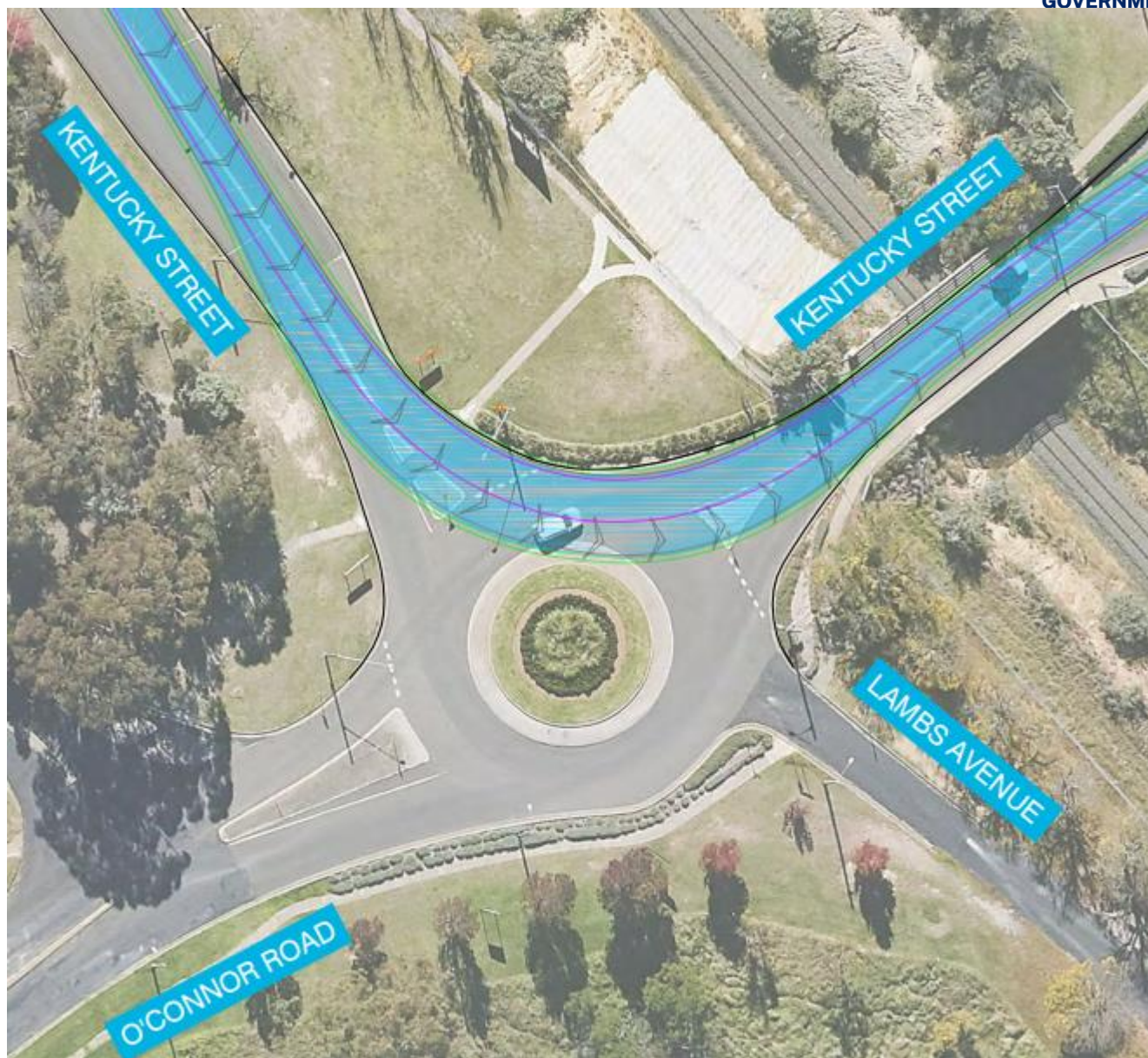


Figure 5: Pinch Point - OSOM vehicle traversing over splitter island at Kentucky Street/ O'Conner Road roundabout, Armidale. Source: Drawing No. EMM-032- Armidale Battery Energy Storage System OSOM assessment - Appendix A swept path assessments

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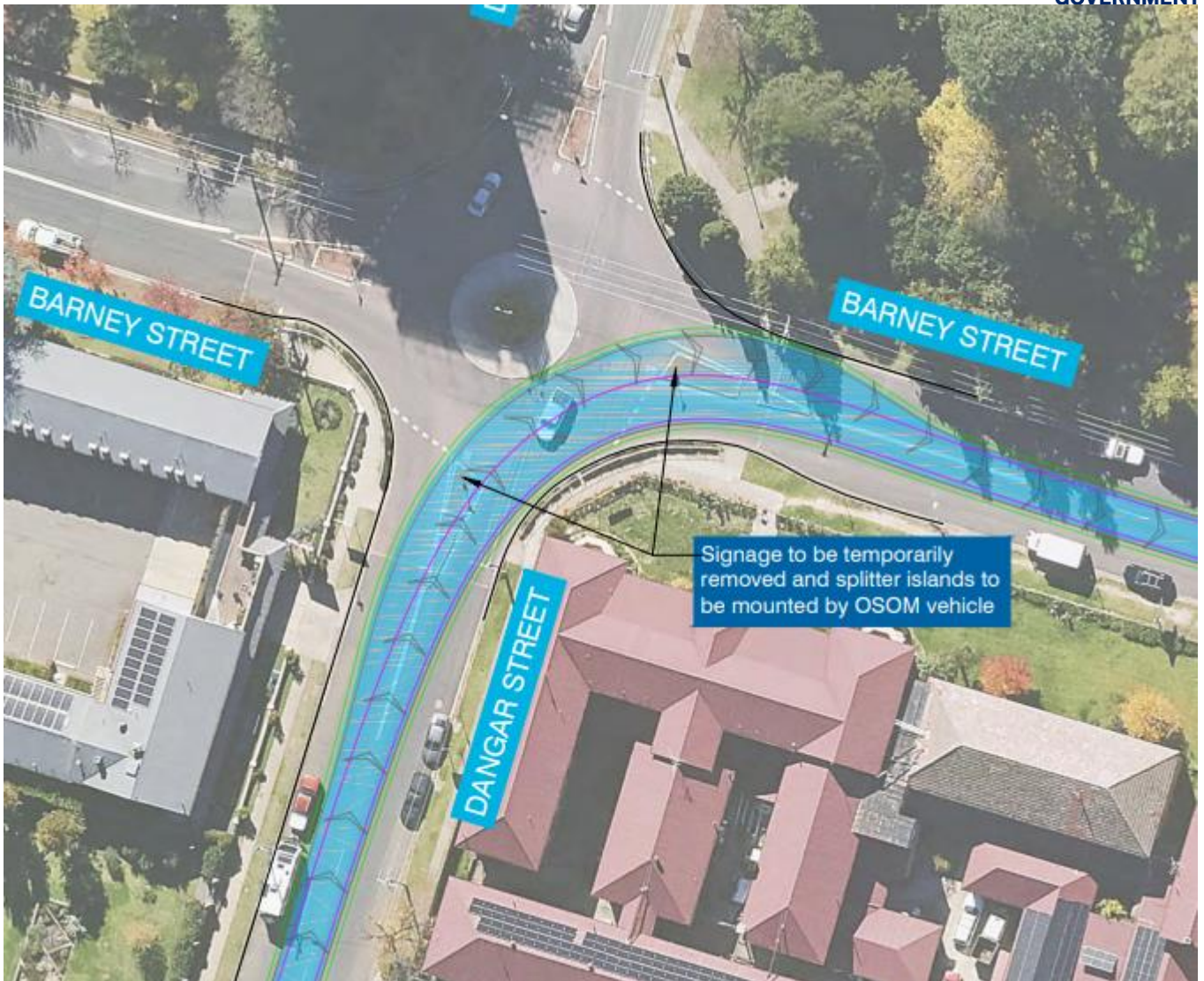


Figure 6: Pinch Point – OSOM vehicle traversing over splitter island at Dangar Street/ Barney Street roundabout, Armidale. Source: Drawing No. EMM-033 – Armidale Battery Energy Storage System OSOM assessment - Appendix A swept path assessments

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Figure 7: Example of power pole hazard on northern side of Waterfall Way at its intersection with Eathorpe Road.

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