

# State code 4: Development in a light rail environment

## Purpose statement

The purpose of this code is to protect **light rail**, future **light rail** and other infrastructure in a **light rail corridor**, from adverse impacts of development. The purpose of this code is also to protect the safety of people using, and living and working near, **light rail**.

Specifically, this code seeks to ensure:

1. development does not create a safety hazard for users of a **light rail** by increasing the likelihood or frequency of fatality or serious injury;
2. development does not compromise the structural integrity of **light rail**, **light rail transport infrastructure** or **light rail transport infrastructure works**;
3. development does not result in a worsening of the physical condition or operating performance of **light rail**;
4. development does not compromise the state's ability to construct **light rail** and future **light rail**, or significantly increase the cost to construct **light rail** and future **light rail**;
5. development does not compromise the state's ability to maintain and operate **light rail**, or significantly increase the cost to maintain and operate **light rail**;
6. the community is protected from significant adverse impacts resulting from environmental emissions generated by a **light rail**.

### Using this code

The assessment benchmarks for this code comprise:

- a purpose statement which identifies the overall intent of the code;
- performance outcomes which set benchmarks to achieve the purpose statement of the code;
- acceptable outcomes which identify one way to achieve the relevant performance outcome.

Development complies with the code where:

- it complies with the acceptable outcomes for the performance outcome; or
- it complies with all the performance outcomes, where not complying with the acceptable outcomes; or
- development does not meet relevant performance outcome(s) and SARA determines, on balance, that the development complies with the purpose statement.

This code also includes the glossary of terms for definitions relevant to this code and reference documents; including the **Guide to Development in a Transport Environment: Light Rail** which provides direction on how to address this code.

## Performance outcomes and acceptable outcomes

Development that is within in a **light rail** environment should demonstrate compliance with the relevant provisions of table 4.1 and table 4.2.

Development that is within a future **light rail** environment should demonstrate compliance with the relevant provisions of table 4.3.

**Table 4.1: All development in a light rail environment**

Performance outcomes	Acceptable outcomes
<b>Buildings and structures</b>	
<p><b>PO1</b> The location of buildings, <b>structures</b>, infrastructure, services and utilities does not create a safety hazard in a <b>light rail corridor</b> or cause damage to, or obstruct, <b>light rail transport infrastructure</b>.</p> <p>Note: The Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	<p><b>AO1.1</b> Buildings, <b>structures</b>, infrastructure services and utilities are not located in a <b>light rail corridor</b>.</p> <p>AND</p> <p><b>AO1.2</b> Buildings, <b>structures</b>, infrastructure, services and utilities can be maintained without requiring access to a <b>light rail corridor</b>.</p>

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p><b>AO1.3</b> Buildings, <b>structures</b> and infrastructure are set back horizontally a minimum of 3 metres from the outermost projection of <b>overhead line equipment</b>.</p> <p>AND</p> <p><b>AO1.4</b> Vegetation is set back horizontally a minimum of 1 metre from the <b>light rail hazard zone</b> and does not exceed 5 metres in height at maturity.</p> <p>AND</p> <p><b>AO1.5</b> Construction activities do not encroach into a <b>light rail hazard zone</b>.</p> <p>AND</p> <p><b>AO1.6</b> Construction activities do not divert vehicle, pedestrian or cycle traffic into the <b>light rail hazard zone</b>.</p>
<p><b>PO2</b> Buildings and <b>structures</b> are designed and constructed to not create a safety hazard by distracting drivers of <b>light rail vehicles</b>.</p>	<p><b>AO2.1</b> Facades of buildings and <b>structures</b> facing a <b>light rail corridor</b> are made of non-reflective materials.</p> <p>OR</p> <p><b>AO2.2</b> Facades of buildings and <b>structures</b> do not reflect point light sources into the face of oncoming <b>light rail vehicles</b>.</p> <p>AND</p> <p><b>AO2.3</b> External lighting of buildings and <b>structures</b> is not directed into the face of oncoming <b>light rail vehicles</b> and does not involve flashing or laser lights.</p>
<p><b>PO3</b> Development does not add or remove <b>loading</b> that will cause damage to <b>light rail transport infrastructure</b> or a <b>light rail corridor</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a Registered Professional Engineer of Queensland (RPEQ) certified geotechnical assessment is provided.</p>	<p>No acceptable outcome is prescribed.</p>
<p><b>PO4</b> Road, pedestrian and bikeway bridges over a <b>light rail corridor</b> are designed and constructed to prevent projectiles from being thrown onto <b>light rail</b>.</p>	<p><b>AO4.1</b> Road, pedestrian and bikeway bridges include throw protection screens in accordance with Civil Engineering Technical Requirement CIVIL-SR-008 – Protection screens, Queensland Rail.</p>
<p><b>PO5</b> Construction activities do not cause ground movement or vibration impacts in a <b>light rail corridor</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is prepared.</p>	<p>No acceptable outcome is prescribed.</p>

<b>Filling, excavation and retaining structures</b>	
<p><b>PO6</b> Filling, excavation and <b>retaining structures</b> do not interfere with, or result in damage to, infrastructure or services in a <b>light rail corridor</b>.</p> <p>Note: Information on the location of services and public utility plants in a <b>light rail corridor</b> can be obtained from the 'Dial Before You Dig' service.</p> <p>Where development will impact on an existing or future service or public utility plant in a <b>light rail corridor</b> such that the service or public utility plant will need to be relocated, the alternative alignment must comply with the standards and design specifications of the relevant service or public utility provider, and any costs of relocation are to be borne by the developer.</p>	No acceptable outcome is prescribed.
<p><b>PO7</b> Filling, excavation, building foundations and <b>retaining structures</b> do not undermine or cause subsidence of a <b>light rail corridor</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended an RPEQ certified geotechnical assessment is provided.</p> <p>Section 2.2 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	No acceptable outcome is prescribed.
<p><b>PO8</b> Filling and excavation, building foundations and <b>retaining structures</b> do not cause ground water disturbance in a <b>light rail corridor</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended an RPEQ certified geotechnical assessment is provided.</p>	No acceptable outcome is prescribed.
<p><b>PO9</b> Excavation, boring, piling, blasting or fill compaction during construction of a development does not result in ground movement or vibration impacts that would cause damage or nuisance to <b>light rail transport infrastructure</b> or <b>light rail transport infrastructure works</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended an RPEQ certified geotechnical assessment is provided. Section 2.2 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	No acceptable outcome is prescribed.
<p><b>PO10</b> Fill material from a development site does not result in contamination of a <b>light rail corridor</b>.</p>	<p><b>AO10.1</b> Fill material is free of contaminants including acid sulfate content.</p> <p>Note: Soil and rocks should be tested in accordance with AS 1289 – Methods of testing soils for engineering purposes and AS 4133-2005 – Methods of testing rocks for engineering purposes.</p> <p>AND</p> <p><b>AO10.2</b> Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.</p>
<p><b>PO11</b> Filling and excavation does not cause wind-blown dust nuisance in a <b>light rail corridor</b>.</p>	<p><b>AO11.1</b> Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.</p>

	<p>AND</p> <p><b>AO11.2</b> Dust suppression measures are used during filling and excavation activities such as wind breaks or barriers and dampening of ground surfaces.</p>
<p><b>Stormwater and drainage</b></p>	
<p><b>PO12</b> Development does not result in an <b>actionable nuisance</b> or worsening of stormwater, flooding or drainage impacts in a <b>light rail corridor</b>.</p> <p>Note: Section 2.3 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	<p>No acceptable outcome is prescribed.</p>
<p><b>PO13</b> Run-off from the development site during construction of development does not cause siltation of stormwater infrastructure affecting a <b>light rail corridor</b>.</p>	<p><b>AO13.1</b> Run-off from the development site during construction is not discharged to stormwater infrastructure for a <b>light rail corridor</b>.</p>
<p><b>Access</b></p>	
<p><b>PO14</b> Vehicular access for a development does not create a safety hazard for <b>light rail transport infrastructure</b> or result in a worsening of operating conditions for the <b>light rail</b>.</p> <p>Note: Section 2.4 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	<p><b>AO14.1</b> Development does not involve new or changed access between the premises and the <b>light rail corridor</b>.</p> <p>Note: Where a new or changed access between the premises and a <b>light rail corridor</b> is proposed, the proposal will need to be assessed to determine if the vehicular access for the development is safe and whether the access will adversely affect public passenger transport services. Further information regarding design requirements for vehicular access can be found in the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018</p> <p>OR</p> <p><b>AO14.2</b> Where a property directly abuts a road within the <b>light rail corridor</b>, vehicular access is configured for left in and left out turning movements only.</p> <p>AND</p> <p><b>AO14.3</b> On-site vehicle circulation is designed to give priority to entering vehicles at all times to ensure movement of <b>light rail vehicles</b> is not impeded by an overflow of traffic queuing to enter the premises.</p>
<p><b>PO15</b> Development does not damage or interfere with <b>public passenger transport infrastructure, public passenger services</b> or pedestrian and cycle access to <b>public passenger transport infrastructure</b> and <b>public passenger services</b>.</p> <p>Note: Section 2.5 of the The Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	<p><b>AO15.1</b> Vehicular access and associated road access works for a development are not located within 5 metres of existing <b>public passenger transport infrastructure</b>.</p> <p>AND</p> <p><b>AO15.2</b> Development does not necessitate the relocation of existing <b>public passenger transport infrastructure</b>.</p> <p>AND</p> <p><b>AO15.3</b> On-site vehicle circulation is designed to give priority to entering vehicles at all times so vehicles using a vehicular access do not obstruct</p>

	<p><b>public passenger transport infrastructure, public passenger services</b> and pedestrian or cycle access to <b>public passenger transport infrastructure</b> and <b>public passenger services</b>.</p> <p>AND</p> <p><b>AO15.4</b> The normal operation of <b>public passenger transport infrastructure</b> or <b>public passenger services</b> is not interrupted during the construction of the development.</p>
<p><b>Planned upgrades</b></p>	
<p><b>PO16</b> Development does not impede delivery of <b>planned upgrades of light rail transport infrastructure</b>.</p>	<p><b>AO16.1</b> Development is not located on land identified by the Department of Transport and Main Roads as land required for the <b>planned upgrade of light rail transport infrastructure</b>.</p> <p>Note: Land required for the <b>planned upgrade of light rail transport infrastructure</b> is identified in the <b>DA mapping system</b>.</p> <p>OR</p> <p><b>AO16.2</b> Development is sited and designed so that permanent buildings, <b>structures</b>, infrastructure, services or utilities are not located on land identified by the Department of Transport and Main Roads as land required for the <b>planned upgrade of light rail transport infrastructure</b>.</p> <p>OR all of the following acceptable outcomes apply:</p> <p><b>AO16.3 Structures</b> and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the <b>planned upgrade of a of light rail transport infrastructure</b> are able to be readily relocated or removed without materially affecting the viability or functionality of the development.</p> <p>AND</p> <p><b>AO16.4</b> Development does not involve filling and excavation of, or material changes to, land required for a <b>planned upgrade of light rail transport infrastructure</b>.</p> <p>AND</p> <p><b>AO16.5</b> Land is able to be reinstated to the pre-development condition at the completion of the use.</p>

**Table 4.2: Environmental emissions**

Statutory note: Where a **light rail** is co-located in the same transport corridor as a state-controlled road, development should instead comply with Environmental emissions of State code 1: Development in a state-controlled road environment.

Where a **light rail** is co-located in the same transport corridor as a railway, development should instead comply with Environmental emissions of State code 2: Development in a railway environment.

Performance outcomes	Acceptable outcomes
<b>Noise</b>	
<b>Accommodation activities</b>	
<p><b>PO17</b> Development involving:</p> <ol style="list-style-type: none"> <li>1. an <b>accommodation activity</b>; or</li> <li>2. land for a future <b>accommodation activity</b> minimises noise intrusion from a <b>light rail</b> in <b>habitable rooms</b>.</li> </ol>	<p><b>AO17.1</b> A noise barrier or earth mound is provided that is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to meet the following external noise criteria at all facades of the building envelope: <ol style="list-style-type: none"> <li>a. <math>\leq 55</math> dB(A) <math>L_{eq}</math> (1 hour) façade corrected (maximum hour between 6 am and 10 pm);</li> <li>b. <math>\leq 50</math> dB(A) <math>L_{eq}</math> (1 hour) façade corrected (maximum hour between 10 pm and 6 am);</li> <li>c. <math>\leq 64</math> dB(A) <math>L_{max}</math> façade corrected (between 10pm and 6am);</li> </ol> </li> <li>2. in accordance with chapter 7 – Integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013.</li> </ol> <p>Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p> <p>If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used.</p> <p>In some instances, the design of noise barriers and mounds to achieve the noise criteria above the ground floor may not be reasonable or practicable. In these instances, any relaxation of the criteria is at the discretion of the Department of Transport and Main Roads.</p> <p>OR all of the following acceptable outcomes apply:</p> <p><b>AO17.2</b> Buildings which include a <b>habitable room</b> are setback the maximum distance possible from the <b>light rail</b>.</p> <p>AND</p> <p><b>AO17.3</b> Buildings are designed and oriented so that <b>habitable rooms</b> are located furthest from the <b>light rail</b>.</p> <p>AND</p> <p><b>AO17.4</b> Buildings are designed and constructed using materials which ensure that <b>habitable rooms</b> meet the following internal noise criteria:</p> <ol style="list-style-type: none"> <li>1. <math>\leq 35</math> dB(A) <math>L_{eq}</math> (1 hour) (maximum hour over 24 hours).</li> </ol> <p>Note: Noise levels from a <b>light rail</b> are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.</p> <p>To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with section 2.7 of the Guide to</p>

<p><b>PO18</b> Development involving an <b>accommodation activity</b> minimises noise intrusion from a <b>light rail</b> in <b>outdoor spaces for passive recreation</b>.</p>	<p>Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p> <p><b>AO18.1</b> A noise barrier or earth mound is provided which is design, sited and constructed:</p> <ol style="list-style-type: none"> <li>to meet the following external noise criteria in <b>outdoor spaces for passive recreation</b>: <ol style="list-style-type: none"> <li>≤52 dB(A) <math>L_{eq}</math> (1 hour) free field (maximum hour between 6 am and 10 pm);</li> <li>≤66 dB(A) <math>L_{max}</math> free field;</li> </ol> </li> <li>in accordance with chapter – Integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013.</li> </ol> <p>Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p> <p>OR</p> <p><b>AO18.2</b> Each dwelling has access to an <b>outdoor space for passive recreation</b> which is shielded from <b>light rail transport infrastructure</b> by a building, a solid gap-free fence, or other solid gap-free <b>structure</b>.</p> <p>AND</p> <p><b>AO18.3</b> Each dwelling with a balcony directly exposed to noise from a <b>light rail</b> has a continuous solid gap-free balustrade (other than gaps required for drainage purposes to comply with the Building Code of Australia).</p>
<p><b>Childcare centres and educational establishments</b></p>	
<p><b>PO19</b> Development involving a:</p> <ol style="list-style-type: none"> <li><b>childcare centre</b>; or</li> <li><b>educational establishment</b></li> </ol> <p>minimises noise intrusion from a <b>light rail</b> in <b>indoor education areas</b> and <b>indoor play areas</b>.</p>	<p><b>AO19.1</b> A noise barrier or earth mound is provided which is design, sited and constructed:</p> <ol style="list-style-type: none"> <li>to meet the following external noise criteria at the building envelope: <ol style="list-style-type: none"> <li>≤55 dB(A) <math>L_{eq}</math> (1 hour) façade corrected (maximum hour during normal opening hours);</li> </ol> </li> <li>in accordance with chapter 7 – Integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013.</li> </ol> <p>Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p> <p>If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used.</p> <p>OR all of the following acceptable outcomes apply:</p>



	<p><b>AO19.2</b> Buildings which include <b>indoor education areas</b> and <b>indoor play areas</b> are setback the maximum distance possible from a <b>light rail</b>.</p> <p>AND</p> <p><b>AO19.3</b> Buildings are designed and oriented so that <b>indoor education areas</b> and <b>indoor play areas</b> are located furthest from a <b>light rail</b>.</p> <p>AND</p> <p><b>AO19.4</b> Buildings are designed and constructed using materials which ensure <b>indoor education areas</b> and <b>indoor play areas</b> meet the following internal noise criteria:</p> <ol style="list-style-type: none"> <li>1. <math>\leq 35</math> dB(A) <math>L_{eq}</math> (1 hour) (maximum hour during opening hours).</li> </ol> <p>Note: Noise levels from a <b>light rail</b> are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.</p> <p>To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p>
<p><b>PO20</b> Development involving a:</p> <ol style="list-style-type: none"> <li>1. <b>childcare centre</b>; or</li> <li>2. <b>educational establishment</b></li> </ol> <p>minimises noise intrusion from a <b>light rail</b> in <b>outdoor education areas</b> and <b>outdoor play areas</b>.</p>	<p><b>AO20.1</b> A noise barrier or earth mound is provided which is design, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to meet the following external noise criteria in <b>outdoor education areas</b> and <b>outdoor play areas</b>: <ol style="list-style-type: none"> <li>a. <math>\leq 52</math> dB(A) <math>L_{eq}</math> (1 hour) free field (maximum hour during normal opening hours);</li> <li>b. <math>\leq 66</math> dB(A) <math>L_{max}</math> free field (during normal opening hours);</li> </ol> </li> <li>2. in accordance with chapter 7 – Integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013.</li> </ol> <p>Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p> <p>OR</p> <p><b>AO20.2</b> Each <b>outdoor education area</b> and <b>outdoor play area</b> is shielded from noise generated from a <b>light rail</b> by a building, a solid gap-free fence, or other solid gap-free <b>structure</b>.</p>
<p><b>Hospitals</b></p>	
<p><b>PO21</b> Development involving a <b>hospital</b> minimises noise intrusion from a <b>light rail</b> in <b>patient care areas</b>.</p>	<p><b>AO21.1 Hospitals</b> are designed and constructed using materials which ensure <b>patient care areas</b> meet the following internal noise criteria:</p> <ol style="list-style-type: none"> <li>1. <math>\leq 35</math> dB(A) <math>L_{eq}</math> (1 hour) (maximum hour during opening hours).</li> </ol>



	<p>Statutory note: Noise levels from a <b>light rail</b> are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.</p> <p>Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018.</p>
<b>Vibration</b>	
<b>Hospitals</b>	
<b>PO22</b> Development involving a <b>hospital</b> minimises vibration impacts from a <b>light rail</b> in <b>patient care areas</b> .	<p><b>AO22.1 Hospitals</b> are designed and constructed to ensure vibration in the treatment area of a <b>patient care area</b> does not exceed a vibration dose value of 0.1m/s<sup>1.75</sup>.</p> <p>AND</p> <p><b>AO22.2 Hospitals</b> are designed and constructed to ensure vibration in the ward area of a <b>patient care area</b> does not exceed a vibration dose value of 0.4m/s<sup>1.75</sup>.</p> <p>Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified vibration assessment report be provided.</p>
<b>Light</b>	
<b>PO23</b> Development involving an <b>accommodation activity</b> or <b>hospital</b> minimises lighting impacts from a <b>light rail</b> .	<p><b>AO23.1</b> Buildings for an <b>accommodation activity</b> or <b>hospital</b> are designed to minimise the number of windows or transparent/translucent panels facing a <b>light rail</b>.</p> <p>AND</p> <p><b>AO23.2</b> Windows facing a <b>light rail</b> include treatments to block light from a <b>light rail</b>.</p>

**Table 4.3: Development in a future light rail environment**

<b>Performance outcomes</b>	<b>Acceptable outcomes</b>
<b>PO24</b> Development does not impede delivery of <b>light rail infrastructure</b> in a <b>future light rail corridor</b> .	<p><b>AO24.1</b> Development is not located in a <b>future light rail corridor</b>.</p> <p>OR</p> <p><b>AO24.2</b> Development is sited and designed so that permanent buildings, <b>structures</b>, infrastructure, services or utilities are not located in a <b>future light rail corridor</b>.</p> <p>OR all of the following acceptable outcomes apply:</p> <p><b>AO24.3 Structures</b> and infrastructure located in a <b>future light rail corridor</b> are able to be readily relocated or removed without materially affecting the viability or functionality of the development.</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p><b>AO24.4</b> Development does not involve filling and excavation of, or material changes to, a <b>future light rail corridor</b>.</p> <p>AND</p> <p><b>AO24.5</b> Land is able to be reinstated to the pre-development condition at the completion of the use.</p>
<p><b>PO25</b> Filling, excavation, building foundations and <b>retaining structures</b> do not undermine, cause subsidence of, or groundwater seepage into, a <b>future light rail corridor</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended that an RPEQ certified geotechnical assessment is provided, prepared in accordance with Volume 3 of the Road Planning and Design Manual, 2<sup>nd</sup> edition, Department of Transport and Main Roads, 2016.</p> <p>Section 2.2 of the: Guide to Development in a Transport Environment: Light Rail, Department of Transport and Main Roads, 2018 provides guidance on how to comply with this performance outcome.</p>	<p>No acceptable outcome is prescribed.</p>
<p><b>PO26</b> Fill material from a development site does not result in contamination of land for a <b>future light rail corridor</b>.</p>	<p><b>AO26.1</b> Fill material is free of contaminants including acid sulfate content.</p> <p>Note: Soil and rocks should be tested in accordance with AS1289 – Methods of testing soils for engineering purposes and AS4133 2005 – Methods of testing rocks for engineering purposes.</p> <p>AND</p> <p><b>AO26.2</b> Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.</p>
<p><b>PO27</b> Development does not result in an <b>actionable nuisance</b>, or worsening of stormwater, flooding or drainage impacts in a <b>future light rail corridor</b>.</p>	<p>No acceptable outcome is prescribed.</p>

## Reference documents

Department of Transport and Main Roads 2013, [Transport Noise Management Code of Practice: Volume 1 \(Road Traffic Noise\)](#)

Department of Transport and Main Roads 2016, [Transport Noise Management Code of Practice volume 2: Construction Noise and Vibration](#)

Department of Transport and Main Roads 2015, [Road drainage manual](#)

Department of Transport and Main Roads 2016, [Road Planning and Design Manual 2<sup>nd</sup> edition: Volume 3](#)

Department of Transport and Main Roads, [Guide to Development in a Transport Environment: Light Rail](#)

Department of Transport and Main Roads 2018, [Design criteria for bridges and other structures manual](#)

Institute of Public Works Engineering Australasia (Queensland Division), [Queensland Urban Drainage Manual, Fourth edition, 2016](#)

International Erosion Control Association Australasia, [Best Practice Erosion and Sediment Control document](#)

State Development Assessment Provisions v3.0

State code 4: Development in a light rail environment

Queensland Rail, Civil Engineering Technical Requirements and standard drawings: Civil-SR-008 – Protection screens

Standards Australia 1997, AS1055.1–1997 Acoustics – Description and measurement of environmental noise

Standards Australia 2000, AS1289.0-2000 – Methods of testing soils for engineering purposes

Standards Australia 2005, AS4133.0–2005 – Methods of testing rocks for engineering purposes

## Glossary of terms

**Accommodation activity** means any of the following:

1. caretaker's accommodation
2. community residence
3. dual occupancy
4. dwelling house
5. dwelling unit
6. multiple dwelling
7. relocatable home park
8. residential care facility
9. resort complex
10. retirement facility
11. rooming accommodation
12. short-term accommodation
13. tourist park
14. a development with a combination of uses 1 to 13.

**Actionable nuisance** means where stormwater or surface water drainage to a downstream property causes a loss of enjoyment of property or physical damage to property (termed 'nuisance') such that the nuisance is actionable in law.

Note: See the Queensland Urban Drainage Manual, Institute of Public Works Engineering Australasia (Queensland Division), Fourth edition, 2016, for further information.

**Childcare centre** see schedule 24 of the Planning Regulation 2017.

Note: **Childcare centre** means the premises used for care, education and minding, but not residence, of children.

**DA mapping system** means the mapping system containing the Geographic Information System mapping layers kept, prepared or sourced by the state that relate to development assessment and matters of interest to the state in assessing development applications.

Note: The **DA mapping system** is available on the department's website.

**Educational establishment** see schedule 24 of the Planning Regulation 2017.

Note: **Educational establishment** means the use of premises for:

1. training and instruction to impart knowledge and develop skills; or
2. student accommodation, before or after school care, or vacation care, if the use is ancillary to the use in paragraph 1.

**Future light rail corridor** means land identified in a guideline made under section 8E of the *Transport Planning and Coordination Act 1994*, for **light rail transport infrastructure** or **light rail transport infrastructure works**.

**Habitable room** see the Building Code of Australia.

Note: **Habitable room** means a room used for normal domestic activities, and includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom but excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

**Hospital** see schedule 24 of the Planning Regulation 2017.

Note: **Hospital** means the use of premises for:

1. the medical or surgical care or treatment of patients, whether or not the care or treatment requires overnight accommodation; or
2. providing accommodation for patients; or
3. providing accommodation for employees, or any other use, if the use is ancillary to the use in paragraphs 1 or 2.

**Indoor education area** means an enclosed area within a **childcare centre** or **educational establishment** intended for use for the training or teaching of people including a classroom, lecture hall/theatre and library.

**Indoor play area** means an enclosed area within a **childcare centre** or **educational establishment** intended for use for children's play. This term excludes functional areas such as bathrooms, food preparation areas, washing facilities and other spaces of a specialised nature.

**Light rail** see schedule 6 of the *Transport Infrastructure Act 1994*.

Note: **Light rail** means:

1. a route wholly or partly dedicated to the priority movement of **light rail vehicles** for passenger transport purposes, whether or not the route was designed and constructed for those purposes as well as other purposes; and
2. places for the taking on and letting off of **light rail vehicle** passengers using the route.

**Light rail corridor** see schedule 24 of the Planning Regulation 2017.

Note: **Light rail corridor** means:

1. land on which **light rail transport infrastructure** is situated; or
2. land on which **light rail transport infrastructure works** are carried out; or
3. land on which services are provided for the maintenance or operation of **light rail transport infrastructure** are situated.

**Light rail hazard zone** means the area extending:

1. 1.75 metres either side of the nearest rail below ground and up to 3 metres above ground
2. 3 metres either side of the nearest rail higher than 3 metres above ground.

Note: Refer to the Guide to Development in a Transport Environment: Light rail, Department of Transport and Main Roads, 2017 for a visual representation of the **light rail hazard zone**.

**Light rail transport infrastructure** see schedule 6 of the *Transport Infrastructure Act 1994*.

Note: **Light rail transport infrastructure** means each of the following:

1. the rails on which **light rail vehicles** run for a **light rail** and pavement incorporating the rails
2. the stations for operating a **light rail**
3. other facilities necessary for managing or operating a **light rail**, including, for example:
  - a. works built for the **light rail**, including the following:
    - i. cuttings
    - ii. drainage works
    - iii. excavations
    - iv. land fill
    - v. track support earthworks; and
  - b. **light rail vehicles** that operate on a **light rail**; and
  - c. the following things if they are associated with the **light rail's** operation:
    - i. access or service lanes
    - ii. bridges, including bridges over water
    - iii. communication systems
    - iv. **light rail** operation control facilities
    - v. machinery and other equipment
    - vi. maintenance depots
    - vii. marshalling yards
    - viii. monitoring and security systems
    - ix. noise barriers
    - x. notice boards, notice markers and signs
    - xi. office buildings
    - xii. overhead wiring
    - xiii. over-track **structures**
    - xiv. passenger interchange facilities between **light rail** and other modes of transport
    - xv. platforms
    - xvi. positioning systems
    - xvii. power and communication cables
    - xviii. power supply substations and equipment
    - xix. signalling facilities and equipment
    - xx. survey stations, pegs and marks
    - xxi. ticketing equipment and systems
    - xxii. timetabling systems
    - xxiii. tunnels
    - xxiv. under-track **structures**
    - xxv. workshops
4. vehicle parking and set down facilities for intending passengers for a **light rail**
5. pedestrian facilities, including paving of footpaths, for a **light rail**
6. other facilities, or commercial or retail outlets or works, for the convenience of passengers and others who may use a **light rail**, including, for example, automatic teller machines, lockers or showers for cyclists and others, newsagents and wheelchair hire or exchange centres
7. landscaping or associated works for a **light rail**.

**Light rail transport infrastructure works** see schedule 6 of the *Transport Infrastructure Act 1994*.

Note: **Light rail transport infrastructure works** means works done for:

1. constructing **light rail transport infrastructure** or things associated with **light rail transport infrastructure**
2. the maintenance of **light rail transport infrastructure** or of things associated with **light rail transport infrastructure**
3. facilitating the operation of **light rail transport infrastructure** or things associated with **light rail transport infrastructure**
4. establishing, constructing or maintaining transport infrastructure, other than **light rail transport infrastructure**, if the works are:
  - a. directly related to an activity mentioned in paragraph 1, 2 or 3; and
  - b. necessary for the safety, efficiency and operational integrity of transport infrastructure
5. other works declared under a regulation to be **light rail transport infrastructure works**.

**Light rail vehicle** see schedule 6 of the *Transport Infrastructure Act 1994*.

Note: **Light rail vehicle** means a type of transport that:

1. is intended wholly or mainly for the carriage of passengers or for track maintenance
2. travels on flanged wheels on parallel rails
3. is designed to operate in line of sight on road-like areas.

**Loading** means pressure or force exerted on land or infrastructure.

**Outdoor education area** means outdoor areas intended for use for the training or teaching of persons. This term does not include playgrounds or outdoor sport and recreational areas.

**Outdoor play area** see the Queensland Development Code.

Note: **Outdoor play area** means an unenclosed area located outside the external walls of the building. This term only includes playgrounds/play areas in a **childcare centre** or **educational establishment**.

**Outdoor spaces for passive recreation** means **private open space**, communal open space or public open space associated with the development.

**Overhead line equipment** means overhead lines, cabling and associated **structures** used to provide power to electric **light rail vehicles**.

**Patient care area** see the Building Code of Australia.

Note: **Patient care area** means a part of a health-care building normally used for the treatment, care, accommodation, recreation, dining and holding of patients including a ward area and treatment area. A ward area means that part of a **patient care area** for resident patients and may contain areas for accommodation, sleeping, associated living and nursing facilities. A treatment area means an area within a **patient care area** such as an operating theatre and rooms used for recovery, minor procedures, resuscitation, intensive care and coronary care from which a patient may not be readily moved.

**Planned upgrade** means an extension, upgrade, or duplication of state transport infrastructure or transport networks for which affected land has been identified:

1. in a publicly available government document; or
2. in written advice to affected land owners.

Note: Government documents are Commonwealth, state or local government documents that include a statement of intent for, or a commitment to, a planning outcome or infrastructure provision.

See the **DA mapping system**.

**Public passenger service** see schedule 3 of the *Transport Operations (Passenger Transport) Act 1994*.

Note: **Public passenger service** means a service for the carriage of passengers if:

1. the service is provided for fare or other consideration; or
2. the service is provided in the course of a trade or business (but not if it is provided by an employer solely for employees); or
3. the service is a courtesy or community transport service; and
4. includes a driver service and a service for the administration of taxi services, but does not include a service excluded from the *Transport Operations (Passenger Transport) Act 1994* by a regulation.

**Public passenger transport infrastructure** see schedule 1 of the *Transport Planning and Coordination Act 1994*.

Note: **Public passenger transport infrastructure** means infrastructure for, or associated with, the provision of public passenger transport, including, but not limited to:

1. a transit terminal for public passengers services (for example, an airport terminal, a coach terminal, a cruise ship terminal)
2. a ferry terminal, jetty, pontoon or landing for ferry services
3. a bus stop, bus shelter, bus station or bus lay-by
4. a busway station
5. a **light rail** station
6. a taxi rank, limousine rank or limousine standing area
7. a railway station
8. vehicle parking and set-down facilities
9. pedestrian and bicycle paths and bicycle facilities
10. a road on which a public passenger transport service operates.

**Private open space** means an outdoor space for the exclusive use of occupants of a building.

**Retaining structures** means retention **structures** and systems such as walls, anchors, bolts, soil nails, shoring, piles, piers, beams.

**Structure** means any built structure as well as **retaining structures**.

## Abbreviations

**RPEQ** – Registered Professional Engineer of Queensland

