## State code 2: Development in a railway environment

## Table 2.2.1: Development in a railway environment

| **Performance outcomes** | **Acceptable outcomes** | **Response** |
| --- | --- | --- |
| Buildings and structures | | |
| All railways | | |
| **PO1** The location of buildings, structures, infrastructure, services and utilities does not create a safety hazard in a railway corridor or cause damage to, or obstruct, rail transport infrastructure or other rail infrastructure. | **AO1.1** Buildings, structures, infrastructure, services and utilities are not located in a railway corridor.  AND | Complies with PO# / AO#  *Use this column to indicate whether compliance is achieved with the relevant PO or AO (or if they do not apply), and explain why* |
| **AO1.2** Buildings, structures, infrastructure, services and utilities can be maintained without requiring access to a railway corridor.  AND |  |
| **AO1.3** Buildings, structures and infrastructure are set back horizontally a minimum of 3 metres from the outermost projection of overhead line equipment.  Note: Section 2.3 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome.  AND |  |
| **AO1.4** The lowest part of development in or over a railway is a minimum of:   1. 7.9 metres above the railway track where the proposed development extends along the railway for a distance of less than 40 metres 2. 9 metres above the railway track where the development extends along the railway for a distance of between 40 and 80 metres.   AND |  |
| **AO1.5** Pipe work, services and utilities:   1. are not attached to rail transport infrastructure or other rail infrastructure 2. do not penetrate through the side of any proposed building element or structure where built to boundary in, over or abutting a railway corridor. |  |
| **PO2** Buildings and structures are located to not interfere with, or impede access to, a railway bridge. | **AO2.1** Buildings and structures are set back horizontally a minimum of 3 metres from a railway bridge.  AND |  |
| **AO2.2** Permanent structures are not located below or abutting a railway bridge.  AND |  |
| **AO2.3** Temporary activities below or abutting a railway bridge do not impede access to a railway corridor.  Note: Temporary activities below or abutting a railway bridge could include, for example, car parking or outdoor storage. |  |
| **PO3** Development does not add or remove loading that will cause damage to rail transport infrastructure or a railway corridor.  Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, prepared in accordance with the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads 2015 is provided. | No acceptable outcome is prescribed. |  |
| **PO4** Development above a railway is designed to enable natural ventilation and smoke dispersion in the event of a fire emergency.  Note: To demonstrate compliance with the performance outcome it is recommended the applicant contact the Queensland Fire and Emergency Service and relevant railway manager to determine the fire scenarios to be used to inform ventilation design. Modelling of smoke dispersion should also be undertaken by a RPEQ to predict the spread of combustion products and inform the ventilation design. Section 5.1 – Development over a railway of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome. | No acceptable outcome is prescribed. |  |
| **PO5** Construction activitiesdo not cause ground movement or vibration impacts in a railway corridor.  Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 is provided. | No acceptable outcome is prescribed. |  |
| **PO6** Buildings and structures in a railway corridor are designed and constructed to remain structurally sound in the event of a derailed train. | **AO6.1** Buildings and structures, in a railway corridor including piers or supporting elements, are designed and constructed in accordance with Civil Engineering Technical Requirement – CIVIL-SR-012 Collision protection of supporting elements adjacent to railways, Queensland Rail, 2011, AS5100 Bridge design and AS1170 Structural design actions.  Note: Section 3.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome. |  |
| **PO7** Buildings and structures in high risk locations and where also located within 10 metres of the centreline of the nearest railway track are designed and constructed to remain structurally sound in the event of a derailed train. | **AO7.1** Buildings and structures, in a railway corridor including piers or supporting elements, are designed and constructed in accordance with Civil Engineering Technical Requirement CIVIL-SR-012 Collision protection of supporting elements adjacent to railways, Queensland Rail, 2011, AS5100 Bridge design and AS1170 Structural design actions.  Note: Section 3.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome. |  |
| **PO8** Buildings and structures in a railway corridor are designed and constructed to prevent projectiles from being thrown onto a railway. | **AO8.1** Buildings and structures in a railway corridor include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail.  AND |  |
| **AO8.2** Road, pedestrian and bikeway bridges over a **railway** include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – [CIVIL-SR-008](http://www.queenslandrail.com.au/business/RegulatoryFramework/Documents/ThirdPartyAccess/CIVIL-SR-008.pdf) Protection screens, Queensland Rail.  Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this outcome. |  |
| **PO9** Buildings, and structures, other than accommodation activities, are designed and constructed to prevent projectiles from being thrown onto a railway from any publicly accessible areas located within 20 metres from the centreline of the nearest railway track. | **AO9.1** Publicly accessible areas located within 20 metres from the centreline of the nearest railway track do not directly overlook a railway.  OR |  |
| **AO9.2** Buildings and structures are designed to ensure publicly accessible areas located within 20 metres of the centreline of the nearest railway track and that overlook the railway include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail.  Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this outcome. |  |
| Filling, excavation and retaining structures | | |
| **PO10** Filling, excavation and retaining structure do not interfere with, or result in damage to, infrastructure or services in a railway corridor.  Note: Information on the location of services and public utility plants railway corridor can be obtained from the railway manager. Where development will impact on an existing or future service or public utility plant in a railway corridor 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. | No acceptable outcome is prescribed. |  |
| **PO11** Filling, excavation, building foundations and retaining structures do not undermine, or cause subsidence of, a railway corridor.  Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015. | No acceptable outcome is prescribed. |  |
| **PO12** Filling and excavation, building foundations and retaining structures do not cause ground water disturbance in a railway corridor.  Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015. | No acceptable solution is prescribed. |  |
| **PO13** 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 a railway corridor, rail transport infrastructure or railway works.  Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015. | No acceptable outcome is prescribed. |  |
| **PO14** Filling and excavation material does not cause an obstruction or nuisance in a railway corridor. | **AO14.1** Development does not store fill, spoil or any other material in, or adjacent to, a railway corridor. |  |
| Stormwater and drainage | | |
| **PO15** Development does not result in an actionable nuisance or worsening of stormwater, flooding or drainage impacts in a railway corridor.  Note: Section 2.8 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome. | No acceptable outcome is prescribed. |  |
| **PO16** Run-off from the development site during construction of development does not cause siltation of stormwater infrastructure affecting a railway corridor. | **AO16.1** Run-off from the development site during construction of development is not discharged to stormwater infrastructure in a railway corridor. |  |
| Access | | |
| **PO17** Development prevents unauthorised access to a railway corridor. | **AO17.1** Where development is abutting a railway corridor fencing is provided along the property boundary with the railway corridor in accordance with the railway manager’s standards.  Note: It is recommended the applicant contact the railway manager for advice regarding applicable fencing standards.  AND |  |
| **AO17.2** A road barrier designed in accordance with Civil Engineering Technical Requirement – [CIVIL-SR-007](http://www.queenslandrail.com.au/business/RegulatoryFramework/Documents/ThirdPartyAccess/CIVIL-SR-007.pdf) Design and selection criteria for road/rail interface barriers, Queensland Rail 2011, and certified by an RPEQ, is installed along any roads abutting a railway corridor.  AND |  |
| **AO17.3** Proposed vehicle manoeuvring areas, driveways, loading areas or carparks abutting a railway corridor include rail interface barriers.  Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with acceptable outcome 16.3. |  |
| **PO18** Development does not obstruct existing access to a railway corridor. | **AO18.1** Development is sited and designed to ensure existing authorised access points and access routes for maintenance and emergency works to a railway corridor are clear from obstructions at all times. |  |
| **PO19** Access to a railway corridor does not create a safety hazard for users of a railway, or result in a worsening of operating conditions on a railway. | **AO19.1** Development does not require a new railway crossing.  AND |  |
| **AO19.2** Development does not propose new or temporary structures or works connecting to rail transport infrastructure or other rail infrastructure.  AND |  |
| **AO19.3** Vehicle access points achieve sufficient clearance from a railway level crossing in accordance with AS1742.7:2016 – Manual of uniform traffic control devices, Part 7:  Railway crossings, by providing minimum 5 metres clearance from the edge running rail (outer rail), plus the length of the largest vehicle anticipated on-site.  Note: Section 2.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome. |  |
| **PO20** Development does not damage or interfere with public passenger transport infrastructure, public passenger services or pedestrian and cycle access to public passenger transport infrastructure and public passenger services. | **AO20.1** Development does not necessitate the relocation of existing public passenger transport infrastructure.  AND |  |
| **AO20.2** Vehicular access and associated road access works for a development is not located within 5 metres of existing public passenger transport infrastructure.  AND |  |
| **AO20.3** On-site vehicle circulation is designed give priority to entering vehicles at all times so vehicles using a vehicular access do not obstruct public passenger transport infrastructure and public passenger services or obstruct pedestrian or cyclist access to public passenger transport infrastructure and public passenger services.  AND |  |
| **AO20.4** The normal operation of public passenger transport infrastructure or public passenger services is not interrupted during construction of the development. |  |
| Planned upgrades | | |
| **PO21** Development does not impede delivery of planned upgrades of rail transport infrastructure. | **AO21.1** Development is not located on land identified by the Department of Transport and Main Roads as land required for planned upgrades to rail transport infrastructure.  Note: Land required for the planned upgrade of rail transport infrastructure is identified in the DA mapping system.  OR |  |
| **AO21.2** Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of rail transport infrastructure.  OR all of the following acceptable outcomes apply: |  |
| **AO21.3** Structures and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a of rail transport infrastructure are able to be readily relocated or removed without materially affecting the viability or functionality of the development.  AND |  |
| **AO21.4** Development does not involve filling and excavation of, or material changes to, land required for a planned upgrade of rail transport infrastructure.  AND |  |
| **AO21.5** Land is able to be reinstated to the pre-development condition at the completion of the use. |  |
| Network safety | | |
| **PO22** Development involving dangerous goods adjacent to a railway corridor does not adversely impact on the safety or operations of a railway.  Note: Development involving dangerous goods, or hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016, should demonstrate that impacts on a railway from a fire, explosion, spill, gas emission or dangerous goods incident can be appropriately mitigated.  Section 2.6 – Dangerous goods and fire safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome. | **AO22.1** Development does not involve handling or storage of hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016. |  |
| **PO23** Development does not adversely impact on the safety of a railway crossing.  Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this performance outcome. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome. | **AO23.1** Development does not require a new railway crossing.  OR |  |
| **AO23.2** A new railway crossing is grade separated.  Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this acceptable outcome. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.  OR all of the following acceptable outcomes apply: |  |
| **AO23.3** Upgrades to a level crossing are designed and constructed in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings and applicable railway manager’s standard drawings.  AND |  |
| **AO23.4** Vehicle access points achieve sufficient clearance from a level crossing in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings by providing a minimum clearance of 5 metres from the edge running rail (outer rail) plus the length of the largest vehicle anticipated on-site.  AND |  |
| **AO23.5** On-site vehicle circulation is designed to give priority to entering vehicles at all times to ensure vehicles do not queue in a railway crossing. |  |

## Table 2.2.2: Environmental emissions

| **Performance outcomes** | **Acceptable outcomes** | **Response** |
| --- | --- | --- |
| Noise | | |
| Accommodation activities | | |
| **PO24** Development involving:   1. an accommodation activity; or 2. land for a future accommodation activity   minimises noise intrusion from a railway or type 2 multi-modal corridor in habitable rooms. | **AO24.1** A noise barrier or earth mound is provided which is designed, sited and constructed:   1. to meet the following external noise criteria at all facades of the building envelope: 2. ≤65 dB(A) Leq (24 hour) façade corrected 3. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 4. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011.   Note: To demonstrate compliance with the acceptable outcome, it is recommended a RPEQ certified noise assessment report be provided.  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.  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.  OR all of the following acceptable outcomes apply: | Complies with PO# / AO#  *Use this column to indicate whether compliance is achieved with the relevant PO or AO (or if they do not apply), and explain why* |
| **AO24.2** Buildings which include a habitable room are setback the maximum distance possible from a railway or type 2 multi-modal corridor.  AND |  |
| **AO24.3** Buildings are designed and oriented so that habitable rooms are located furthest from a railway or type 2 multi-modal corridor.  AND |  |
| **AO24.4** Buildings (other than a relevant residential building or relocated building) are designed and constructed using materials which ensure that habitable rooms meet the following internal noise criteria:   1. ≤45 dB(A) single event maximum sound pressure level.   Note: Noise levels from railways or type 2 multi-modal corridors are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.  To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided.  Habitable rooms of relevant residential buildings located within a transport noise corridor must comply with the Queensland Development Code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2015. Transport noise corridors are mapped on the State Planning Policy Interactive Mapping System. |  |
| **PO25** Development involving an accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor spaces for passive recreation. | **AO25.1** A noise barrier or earth mound is provided which is designed, sited and constructed:   1. to meet the following external noise criteria in **outdoor spaces** for passive recreation: 2. ≤62 dB(A) Leq (24 hour) free field 3. ≤84 dB(A) (single event maximum sound pressure level) free field 4. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011.   OR |  |
| **AO25.2** Each dwelling has access to an outdoor space for passive recreation which is shielded from a railway or type 2 multi-modal corridor by a building, a solid gap-free fence, or other solid gap-free structure.  AND |  |
| **AO25.3** Each dwelling with a balcony directly exposed to noise from a railway or type 2 multi-modal corridor has a continuous solid gap-free balustrade (other than gaps required for drainage purposes to comply with the Building Code of Australia). |  |
| Childcare centres and educational establishments | | |
| **PO26** Development involving a:   1. childcare centre; or 2. educational establishment   minimises noise intrusion from a railway or type 2 multi-modal corridor in indoor education areas and indoor play areas. | **AO26.1** A noise barrier or earth mound is provided which is designed, sited and constructed:   1. to meet the following external noise criteria at all facades of the building envelope: 2. ≤65 dB(A) Leq (1 hour) façade corrected (maximum hour during opening hours) 3. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 4. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011.   Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided.  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.  OR all of the following apply: |  |
| **AO26.2** Buildings which include an indoor education area, indoor play area or sleeping room are setback furthest from a railway or type 2 multi-modal corridor as possible.  AND |  |
| **AO26.3** Buildings are designed and oriented so that indoor education areas, indoor play areas or sleeping rooms are located furthest from a railway or type 2 multi-modal corridor.  AND |  |
| **AO26.4** Buildings are designed and constructed using materials which ensure indoor education areas and indoor play areas meet the following internal noise criteria:   1. ≤50 dB(A) single event maximum sound pressure level.   AND |  |
| **AO26.5** Buildings are designed and constructed using material which ensure sleeping rooms in a childcare centre meet the following internal noise criteria:   1. ≤45 dB(A) single event maximum sound pressure level.   Note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.  To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. |  |
| **PO27** Development involving a:   1. childcare centre; or 2. educational establishment   minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor education areas and outdoor play areas. | **AO27.1** A noise barrier or earth mound is provided which is designed, sited and constructed:   1. to meet the following external noise criteria in each outdoor education area or outdoor play area: 2. ≤62 dB(A) Leq (24 hour) free field (between 6am and 6pm) 3. ≤84 dB(A) (single event maximum sound pressure level) free field 4. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011.   Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided.  OR |  |
| **AO27.2** Each outdoor education area and outdoor play area is shielded from noise generated from a railway or type 2 multi-modal corridor by a building, a solid gap-free fence, or other solid gap-free structure. |  |
| Hospitals | | |
| **PO28** Development involving a hospital minimises noise intrusion from a railway or a type 2 multi-modal corridor in patient care areas. | **AO28.1** Hospitals are designed and constructed using materials which ensure ward areas meet the following internal noise criteria:   1. ≤45 dB(A) single event maximum sound pressure level.   AND |  |
| **AO28.2** Hospitals are designed and constructed using  materials which ensure patient care areas (other than ward areas) meet the following internal noise criteria:   1. ≤50 dB(A) single event maximum sound pressure level.   Note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.  To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. |  |
| Vibration | | |
| Hospitals | | |
| **PO29** Development involving a hospital located within 25 metres of the centreline of the nearest railway track minimises vibration impacts from a railway or type 2 multi-modal corridor in patient care areas. | **AO29.1** Hospitals are designed and constructed to ensure vibration in the treatment area of a patient care area does not exceed a vibration dose value of 0.1m/s1.75.  AND |  |
| **AO29.2** Hospitals are designed and constructed to ensure vibration in the ward area of a patient care area does not exceed a vibration dose value of 0.4m/s1.75.  Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified vibration assessment report be provided. |  |
| Air and light | | |
| **PO30** Development involving an accommodation activity minimises air quality impacts from a railway in outdoor spaces for passive recreation. | **AO30.1** Each dwelling has access to an outdoor space for passive recreation that is shielded from a railway by a building, a solid gap-free fence, or other solid gap-free structure. |  |
| **PO31** Development involving a:   1. childcare centre; or 2. educational establishment   minimises air quality impacts from a railway in outdoor education areas and outdoor play areas. | **AO31.1** Each outdoor education area and outdoor play area is shielded from a railway by a building, a solid gap-free fence, or other solid gap-free structure. |  |
| **PO32** Development involving an accommodation activity or hospital minimises lighting impacts from a railway. | **AO32.1** Buildings for an accommodation activity or hospital are designed to minimise the number of windows or transparent/translucent panels facing a railway.  OR |  |
| **AO32.2** Windows facing a railway include treatments to block light from a railway. |  |

## Table 2.2.3: Development in a future railway environment

| **Performance outcomes** | **Acceptable outcomes** | **Response** |
| --- | --- | --- |
| **PO33** Development does not impede delivery of rail transport infrastructure in a future railway corridor. | **AO33.1** Development is not located in a future railway corridor.  OR | Complies with PO# / AO#  *Use this column to indicate whether compliance is achieved with the relevant PO or AO (or if they do not apply), and explain why* |
| **AO33.2** Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located in a future railway corridor.  OR all of the following acceptable outcomes apply: |  |
| **AO33.3** Structures and infrastructure located in a future railway corridor are able to be readily relocated or removed without materially affecting the viability or functionality of the development.  AND |  |
| **AO33.4** Development does not involve filling and excavation of, or material changes to, a future railway corridor.  AND |  |
| **AO33.5** Land is able to be reinstated to the pre-development condition at the completion of the use. |  |
| **PO34** Filling and excavation, building foundations and retaining structures do not undermine or cause subsidence of, a future railway corridor.  Note: To demonstrate compliance with this performance outcome, it is recommended that a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015. | No acceptable outcome is prescribed. |  |
| **PO35** Fill material from a development site does not result in contamination of land for a future railway corridor. | **AO35.1** Fill material is free of contaminants including acid sulfate content.  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.  AND |  |
| **AO35.2** Compaction of fill is carried out in accordance with the requirements of AS1289.0 2000 – Methods of testing soils for engineering purposes. |
| **PO36** Development does not result in an actionable nuisance or worsening of stormwater, flooding or drainage impacts in a future railway corridor. | No acceptable outcome is prescribed. |  |