

10. Construction compound impacts

This chapter provides a review of the potential impacts associated with the establishment and operation of the proposed construction compounds for the Project. While these impacts have been addressed in chapters 8 and 9 of the Environmental Assessment, this chapter provides a specific, consolidated assessment of site compound impacts to demonstrate that such impacts, while temporary, have been adequately considered and assessed.

10.1 Overview

As discussed in Section 6.3.4, a number of site compounds would be required during the construction of the Project. Details and locations of these compounds are outlined in Table 10-1 and shown on Figure 10-1 as an overview. For more detail of the compound locations, as identified on aerial photographs, refer to Figure 8-1 in Section 8.2.

The construction compounds would typically accommodate a combination of demountable offices, meal rooms, toilets/showers, parking facilities (where possible) and construction support facilities, including equipment storage, maintenance shed, and chemical/fuel stores.

The construction of the Project would commence in 2009 for Stage 1, with this stage taking approximately 24 months to complete. Stage 2 is a future stage, occurring after the completion of Stage 1. The start-date of Stage 2 is currently unknown, however it is likely that this stage would also take in the order of 24 months to construct. Operation of the site compounds would occur during construction primarily during the following standard construction hours:

- 7 am to 6 pm Monday to Friday
- 8 am to 1 pm Saturday
- no work on Sundays or public holidays, except during possessions.

It is anticipated that between 10 and 100 staff would be working at each of the construction compounds during the initial stages of construction, with more staff working during the later stages.

The establishment and operation of the construction compounds would be staged, with compounds located between Quakers Hill and the old Schofield stations being established during Stage 1 (refer Table 10-1). Compounds located between the existing Schofields Station and Vineyard would be established during Stage 2 (refer Table 10-1).

Access to the construction sites would be provided via existing state, regional and local roads and/or reserves adjoining the rail corridor (refer Section 8.2).

Further details on the construction of the Project are provided in Chapter 6.

Table 10-1 Location and details of proposed site compounds

Site number	Compound	Location	Description	Establishment timing	Operations
1	Footbridge East	Opposite Lalor Rd, Quakers Hill	<ul style="list-style-type: none"> ▪ Six demountable buildings ▪ Parking for six light vehicles ▪ Storage containers ▪ Fencing hardstand 	Stage 1	<ul style="list-style-type: none"> ▪ 20 staff (during peak times) ▪ Light vehicles ▪ Laydown area
2	Footbridge West	Car spaces adjacent to rail corridor, between Quakers Hill Inn and Douglas Rd	<ul style="list-style-type: none"> ▪ Fenced hardstand 	Stage 1	<ul style="list-style-type: none"> ▪ Laydown area
3	QH Parkway East	Within Oddy Park, Quakers Hill	<ul style="list-style-type: none"> ▪ Six demountable buildings ▪ Parking for six light vehicles ▪ Storage containers ▪ Fenced hardstand 	Stage 1	<ul style="list-style-type: none"> ▪ 20 staff (peak) ▪ Light vehicles ▪ Laydown area ▪ Major access point to work site ▪ three to four truck movements per hour (peak)
4	QH Parkway West	North of Quakers Hill Inn	<ul style="list-style-type: none"> ▪ Storage containers ▪ Fenced hardstand 	Stage 1	<ul style="list-style-type: none"> ▪ Laydown area
5	Seldon St South	Field south of Seldon St, Quakers Hill (near RailCorp access road)	<ul style="list-style-type: none"> ▪ Four demountable buildings ▪ Parking for six light vehicles ▪ Storage containers ▪ Fenced, hardstand 	Stage 1	<ul style="list-style-type: none"> ▪ 20 staff (peak) ▪ Light Vehicles ▪ Laydown area ▪ Short-term storage

Site number	Compound	Location	Description	Establishment timing	Operations
6	RLA Project Office	Adjacent to new Schofields station site	<ul style="list-style-type: none"> 20 demountable buildings Parking for 100 light vehicles Storage containers Fenced, hardstand 	Stage 1	<ul style="list-style-type: none"> 100 staff (peak) Light Vehicles Laydown Area Storage Major access point to work site three to four truck movements per hour (peak)
7	Existing Schofields	Carpark at the existing Schofields station (once station operations have been relocated)	<ul style="list-style-type: none"> six demountable buildings Parking for 20 light vehicles Storage containers Fenced, hardstand 	Stage 1	<ul style="list-style-type: none"> 20 staff (peak) Light vehicles Laydown area
8	Westminster	Land on west side of track, adjacent to Westminster Bridge	<ul style="list-style-type: none"> five demountable buildings Parking for 10 light vehicles Storage containers Fenced, hardstand 	Stage 2	<ul style="list-style-type: none"> 10 staff (peak) Light vehicles Laydown area Major access point to work site three to four truck movements per hour (peak)
9	Riverstone	On the west side of Riverstone Station	<ul style="list-style-type: none"> 10 demountable buildings Parking for 40 light vehicles Storage containers Fenced, hardstand 	Stage 2	<ul style="list-style-type: none"> 40 staff (peak) Light vehicles Laydown area

Site number	Compound	Location	Description	Establishment timing	Operations
10	Roadmaster Property "Meatworks"	Within Roadmaster property, near level crossing	<ul style="list-style-type: none"> 20 demountable buildings Parking for 100 light vehicles Storage containers Fenced, hardstand 	Stage 2	<ul style="list-style-type: none"> 100 staff (peak) Light vehicles Laydown Area Storage Major access point to work site three to four truck movements per hour (peak)
11	Vineyard	Adjacent to new Vineyard station site	<ul style="list-style-type: none"> 10 demountable buildings Parking for 30 light vehicles Storage containers Fenced, hardstand 	Stage 2	<ul style="list-style-type: none"> 40 staff (peak) Light vehicles Laydown area Storage Major access point to work site three to four truck movements per hour (peak)

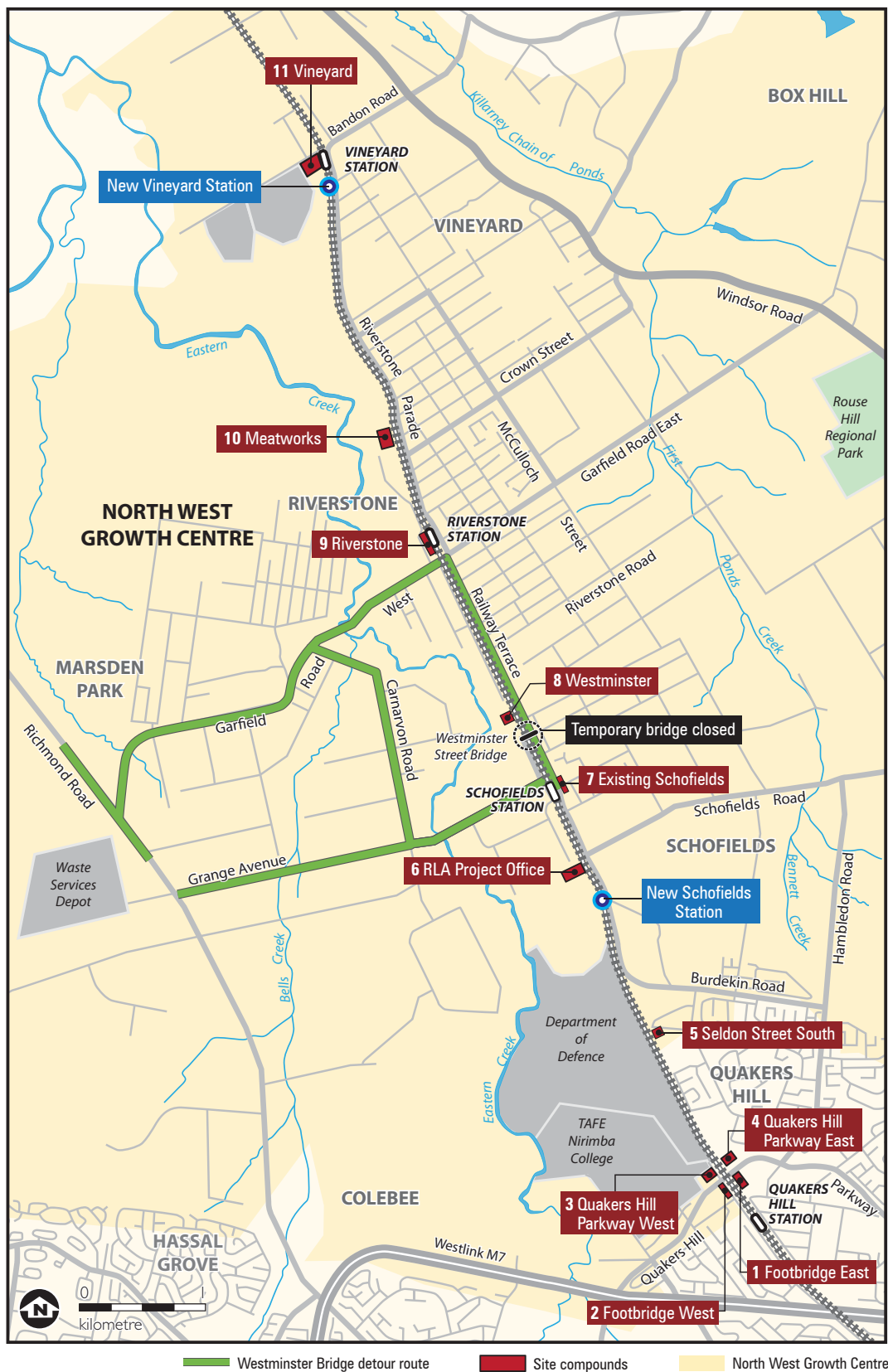


Figure 10-1 Proposed construction site compounds and detours during closure of Westminster Street overbridge

10.2 Risk analysis

In a similar methodology to that described in Chapter 7, this section of the report deals specifically with the risk assessment and analysis of the construction site compounds. The categorisation of risk is provided in Table 10-2 below.

Table 10-2 Risk category descriptions

Risk category	Description
High (H)	The location and operation of the construction compound may have a medium to high level impact. An assessment of the impacts is required to determine the level of potential impact and to identify appropriate measures to manage the effects.
Moderate (M)	The location and operation of the construction compound may have a low to medium level of impact. However, the environmental impacts can be reduced to an acceptable level through the use of standard or identified management measures.
Low (L)	The location and operation of the construction compound would have a low level impact manageable through the use of standard measures.
Nil	The location and operation of the construction compound would have no environmental impact.

A concise impact assessment of key issues for each construction compound site was undertaken and is summarised in Table 10-3.

Table 10-3 Potential key risks from the proposed construction compounds

	Compound	Noise and vibration	Traffic	Visual amenity	Soil and water	Indigenous and non-Indigenous heritage	Flora and fauna
1	Footbridge East	H	L -M	M-H	L	L	L-M
2	Footbridge West	L-M	M-H	M	L	Nil	L
3	Quakers Hill Parkway East	L	L-M	L	M	L	L-M
4	Quakers Hills Parkway West	M	L	L	L	L	L
5	Seldon St South	H	L	M-H	L	M	M
6	RLA Project office	H	H	M-H	L	M	L
7	Existing Schofields	H	M	M	L	Nil	L-M
8	Westminster	M-H	L-M	M-H	L	M	M
9	Riverstone	H	M-H	M	H	M	L
10	Roadmaster property 'Meatworks'	L	L-M	L	M	M	L
11	Vineyard	M	L-M	M-H	L	L	M

The following sections describe the potential site specific impacts associated with the construction work sites, and outlines measures proposed to manage such impacts. Impacts are only discussed below where they have a potential for moderate to high impact on the environment as identified in Table 10-3. Risks deemed to present a low impact are not discussed in detail, deferring these impacts to the discussion of risks in Section 10.4 and in relevant sections of Chapter 8 and 9 where further detail on construction impacts and general mitigation measures are provided. Chapters 8 and 9 also discuss construction impacts or issues such as light spill, disruption to utilities, energy use and, hazard and risks which are common at varying degrees to all compounds.

10.3 Compound Specific Impacts

10.3.1 Compound 1 – Footbridge East (Stage 1)

Site context

Construction compound 1 – Footbridge East is located opposite Lalor Street on the eastern side of the rail corridor, south of Quakers Hill Parkway (refer Figure 8-1). It is an existing hardstand area located within Sherwood Park, which is zoned 5(a) Special uses – General Zone (Council Purposes) and Residential A Zone.

The compound is located close to the following sensitive receivers:

- Quakers Hill Pre-school – located approximately 10 metres to the east of the compound
- Kerry Jones Childcare Centre – located approximately 35 metres to the east of the compound.

As shown in Table 10-1, this compound will include six demountable buildings, storage containers and parking for six light vehicles. Impacts resulting from construction noise and vibration, air quality impacts and visual impacts, are considered moderate to high environmental risks for this compound site.

Noise and vibration

The two sensitive receivers would potentially experience construction noise predominately associated with representative truck noise sources such as trucks operating within the compounds (including movements associated with material being stockpiled), the movement of construction machinery within the site and the movement of trucks or heavy machinery to and from this compound site, with particular association with the construction of the footbridge. The Quakers Hill Pre-school would be more sensitive to noise impacts, given its closer proximity to the compound site. Technical Paper 2 – Noise and vibration has assessed the predicted $L_{A10(15min)}$ site compound noise levels and determined that at Compound 1, receivers located at 10 metres from the compound would experience a predicted noise level of 80dBA and at 30 metres, the predicted noise level is 70dBA. The technical paper recommends that compound buildings be erected in locations that provide acoustical shielding to the surrounding non-residential receivers as far as practicable and, that hoardings be erected on site compound boundaries where they would provide acoustical shielding to surrounding receivers.

The delivery of large structures out of standard hours is unlikely to impact on preschool and childcare due to their hours of operation.

Traffic

Access to the construction compound would be via residential roads and Quakers Hill Parkway. The traffic movement of construction vehicles presents a low to medium impact to the local roads such as Pearce Road and Lalor Road. This movement of construction traffic to and from the construction compound would result in additional traffic impacts along these roads with the majority of impact occurring through the delivery of heavy machinery and plant associated with the construction of the Quakers Hill footbridge. This compound would attract more traffic related to the transport of large structures (such as girders and cranes) associated with the Quakers Hill footbridge. These movements would be short-term in frequency but are likely to occur out of nominated construction hours to avoid peak travel times where possible.

Visual amenity

Screening would be minimal between the construction compound and Quakers Hill Pre-school and Kerry Jones Childcare Centre, hence decreases in visual amenity would be experienced by both sensitive receivers. Both receivers would be subject to a reduction in air quality (dust impacts and vehicle exhausts) and changes in the visual character of the immediate surrounding landuse, which would be negatively impacted over the construction period (Stage 1). The erection of security fencing around the compound, increased artificial lighting and the storage and movement of construction vehicles would detract from the local visual amenity.

Flora and fauna

This site has been previously cleared however approximately nine trees occur between the rail corridor and car park. Vegetation may be consistent with the EEC, River-flat Eucalypt Forest on Coastal Floodplains and there is a low to medium likelihood of occurrence of threatened species (refer to Technical Paper 3 – Flora and Fauna in Volume 2). Care is to be taken during construction activities to minimise disturbance to existing vegetation. Staff working on site are to be made aware of the trees listed within the EEC and threatened species such as microbat species. Trees will not be removed and an ecologist will be consulted during the layout planning for this compound to identify 'no-go' areas. Trees would be fenced off around the drip line.

10.3.2 Compound 2 – Footbridge West (Stage 1)

Site context

Construction compound 2 – Footbridge West is located within a commercial area and is adjacent to the western boundary of the rail corridor between Quakers Hill Inn and Douglas Road. Quakers Hill Inn is located approximately 40 metres to the north-east of the compound. The compound site would be located on this existing narrow strip of hardstand area along Railway Road, which currently is utilised as a formalised on-street car parking area. Existing telecommunication infrastructure is located directly opposite the western boundary of the site compound. The zoning is 3(a) General business Zone.

The closest sensitive receivers to the compound comprise:

- Quakers Hill Pre-school – located approximately 60 metres to the east of the compound
- Kerry Jones Childcare Centre – located approximately 65 metres to the east of the compound.

There are also commercial premises along Railway Road which would be located approximately 20 metres to the west of the compound. The impacts to these sensitive and commercial receivers are limited to noise, visual amenity and traffic and transport impacts. This compound site consists of a laydown area and is not anticipated to generate large volume of construction traffic. There are approximately 24 existing car parking spaces in the compounds immediate vicinity which may be affected by the compound operation.

Noise and vibration

Technical Paper 2 – Noise and vibration has assessed the predicted $L_{A10(15min)}$ site compound noise level and determined that at Compound 2, receivers located 20 metres from the compound would experience a predicted noise level of 74dBA. Deliveries of large structures and machinery associated with the footbridge construction will occur outside standard hours and therefore it is unlikely the noise and vibration generated from associated traffic movements will impact on the Pre-school and Childcare centre.

Traffic

This compound would attract more traffic related to the transport of large structures (such as girders and cranes) associated with the Quakers Hill footbridge. These movements would be short-term in frequency but are likely to occur out of nominated construction hours to avoid peak travel times where possible. Impacts are also likely to the existing on-street car parking facilities which the compound will be located on. The compound may displace some of these existing car parks for the duration of this compound site resulting in restricted parking when accessing commercial premises on Railway Road.

Visual amenity

Screening would be minimal between the construction compound and commercial premises. Quakers Hill Pre-school and Kerry Jones Childcare Centre would also have a view of this compound, although their relative proximity to Compound 1 would have a greater impact. For both the commercial premises on Railway Road and the sensitive receivers to the east of this compound and compound 1, there would be an immediate decrease in visual amenity. All receivers would be subject to a minor reduction in air quality (dust impacts and vehicle exhausts) and some localised visual impacts over the Project's construction period (Stage 1).

There are no specific mitigation measures warranted for this site which differs from the mitigation measures already discussed for compound 1 and examined more generally in Chapters 8 and 9 of this Environmental Assessment.

10.3.3 Compound 3 – Quakers Hill Parkway East (Stage 1)

Site context

Construction compound 3 – Quakers Hill Parkway is located north of Quakers Hill Parkway on the eastern boundary of the rail corridor within Oddy Park, Quakers Hill and is currently a greenfield site.

This compound is located away from sensitive receivers, and is buffered from residential areas and other sensitive land uses by remnant vegetation and Quakers Hill Parkway. The closest sensitive receivers comprise:

- Quakers Hill Pre-school – located approximately 170 metres to the south of the compound, but buffered from the sensitive receiver by Quakers Hill Parkway
- Kerry Jones Childcare Centre – located approximately 110 metres to the south of the compound, but buffered from the sensitive receiver by Quakers Hill Parkway

This compound will include the presence of six demountable buildings, storage containers and parking requirements for six light vehicles (refer to Table 10-1).

Residential properties are located in Foxwood Avenue, Quaker Hill, approximately 140 metres north-east of the compound. These properties are buffered from the proposed compound site by remnant vegetation. These sensitive receivers are not subject to construction noise from this compound. Whilst during peak times, there will be three to four truck movements per hour, construction traffic is also not an issue for this compound given the proximity to Quakers Hill Parkway and separation for residential areas.

Soil and water

The compound is located adjacent to two surface waterways, these being a tributary of Eastern Creek and perennial lake/water storage dam located adjacent to the eastern side of the compound boundary. The location of this compound site and associated movement of construction vehicles does present a medium risk when considering the potential for contaminated stormwater run-off from the construction compound site to enter surface waterways. Specific measures would be required at this site to manage potential water pollution sources such as installation of controls in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom 2004), referred to commonly as the Blue Book, for example sediment traps to prevent sediment and contaminants entering the creek.

Flora and fauna

The site is also regenerating and may contain Threatened species and vegetation consistent with the Ecologically Endangered Community (EEC) River-flat Eucalypt Forest on Coast Floodplains. Trees are to be protected and fenced off as 'no-go' areas and an ecologist would be used in planning the layout of structures for site compound.

10.3.4 Compound 4 – Quakers Hill Parkway West (Stage 1)

Site context

Construction compound 4 – Quakers Hill Parkway West is located north of Quakers Hill Parkway on the western boundary of the rail corridor, north of Quakers Hill Inn on a hardstand area. Construction traffic access would be directly via Quakers Hill Parkway to the south of the compound.

The closest sensitive receivers comprise:

- Quakers Hill Inn – located approximately 70 metres to the south of the compound, however this receiver is separated from the compound by Quakers Hill Parkway
- Terra Sancta College – located approximately 150 metres to the west of the compound, however this receiver is buffered from the compound by a patch of remnant vegetation.

The existing noise environment at this location is characterised by the close proximity to Quakers Hill Parkway, which means that construction noise impacts will largely be masked by existing high noise levels. Furthermore there is separation between the compound and Terra Sancta College via the buffer of remnant vegetation.

There are no specific mitigation measures required for this compound site.

10.3.5 Compound 5 – Seldon St South (Stage 1)

Site context

Construction compound 5 – Seldon Street South is located in a greenfield area south of Seldon Street, Quakers Hill (near RailCorp access road).

The compound is located adjacent to two residential properties within Reycroft Avenue, which is located along the northern boundary of the compound. An additional seven residential properties are located between 30 and 140 metres to the north-east of the compound. The compound will be used primarily for the upgrade of the nearby culvert (as new rail being constructed on the west side of the rail at this location) and will be used for a relatively short period during Stage 1 (three to six months).

As Table 10-1 proposes, this compound will include four demountable buildings, storage containers and parking for six light vehicles.

Noise and vibration

This compound would impact upon these sensitive residential receivers and has the potential to increase background noise levels. Technical Paper 2 – Noise and vibration (refer Volume 2) has assessed the predicted $L_{A10(15min)}$ site compound noise level and determined that at Compound 5, receivers located at 30 metres from the compound would experience a predicted noise level of 70dBA. The technical paper recommends that compound buildings be erected in locations that provide acoustical shielding to the surrounding residents as far as practicable, and that hoardings are erected on site compound boundaries where they would provide acoustical shielding to surrounding residents.

Traffic

Access routes for construction traffic would be via Burdekin Road, utilising Walker Street to access Reycroft Avenue or Seldon Street. A RailCorp access road exists behind the residential properties on Reycroft Avenue that would be used to gain direct access to the construction compound and culvert. Reycroft Avenue, Seldon Street and Walker Street are residential streets and the movement of construction traffic along these local roads has the potential for creating additional heavy traffic along these access routes which may result in increased noise levels and a temporary decrease in local amenity during the construction period. The movement of construction traffic would occur within the nominated construction hours and would be infrequent (delivery of culvert sections). Residents on Reycroft Avenue would be informed of the construction compound sites operation and the potential increase in background noise and decrease in amenity during Stage 1 construction activities.

Visual Amenity

The compound site will be located behind existing residential receivers, which will have direct views of the compound site. Impacts related to light spill, construction fencing, storage containers, buildings and activities associated with laydown of machinery and equipment will negatively impact on the current visual amenity of this localised area. Whilst these impacts will be temporary in nature, mitigation measures such as screening and low light-spill lighting would be considered during the operation of this compound site where reasonable and feasible.

Indigenous Heritage

This site has been assessed for Indigenous heritage significance. This site exhibits low to moderate potential for the presence of surface artefactual material. In order to protect any potential surface artefactual material in areas of moderate heritage risk within this construction compound site, Technical Paper 4 - Indigenous Heritage Report (refer Volume 2) recommends (where reasonable and feasible) that the compound site be covered with geo-fabric, an inert material before the installation of any compound structures. At this construction compound, it has also been recommended that if soil disturbance to the existing surface is required, an Aboriginal heritage assessment in consultation with the relevant Aboriginal stakeholder groups be carried out.

Flora and fauna

Whilst the site has been previously cleared, there is potential for a native groundcover to be found in this site (*Pimelea spicata*). This site therefore may contain derived grassland of Cumberland Plain Woodland (listed as Endangered under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) and Threatened Species Conservation Act 1995 (TSC Act)). Caution should be applied when using herbicides to control environmental weeds within or near the habitat of *P. spicata* as well as the use of slash and mowing activities. It is important that in this site, all staff responsible for mowing areas adjacent to *P. spicata* habitat, or within areas supporting *P. spicata* are made aware of the potential occurrence of the species and that activities relating to weed suppression and mowing activities are managed appropriately. The dumping of grass clippings and general garden waste must also be avoided at this site.

An ecologist will be consulted with when planning the layout of compound structures. Care is required to avoid impacts to potential native groundcover with the recommendations suggested for Indigenous heritage management measures.

10.3.6 Compound 6 – RLA Project office (Stage 1/Stage 2)

Site context

Construction compound 6 - RLA Project Office is located north of the new Schofields Station site, on the western side of the railway corridor. The compound site is currently a greenfield site and is adjacent to two residential properties within Bridge Street, which are located along the northern boundary of the compound. A developed residential area extends to the north along the length of Bridge Street, with up to 27 residential properties located between 10 and 200 metres of the compound.

As Table 10-1 demonstrates, the compound site is one of the larger sites accommodating 20 demountable buildings, parking for 100 light vehicles assuming approximately 100 staff members at peak times and would act as a major access point to the work site. At peak

times, this site will experience three to four truck movements per hour. This construction compound will also have a storage area for stockpiled materials requiring spoil management measures during Stage 1 construction activities.

Noise and vibration

Sensitive receivers include the surrounding residences on Bridge Street. Noise and vibration from the compound and associated construction traffic travelling along Bridge Street would have an impact on adjacent sensitive receivers due to the small offset distance between the residential properties and the compound. Technical Paper 2 – Noise and vibration has assessed the predicted $L_{A10(15min)}$ site compound noise level and determined that at Compound 6, receivers located at 10 metres from the compound would experience a predicted noise level of 83dBA, ranging to 69dBA at 50 metres. The technical paper recommends that compound buildings be erected in locations that provide acoustical shielding to the surrounding residents as far as practicable, and that hoardings be erected on site compound boundaries where they would provide acoustical shielding to surrounding residents.

Construction works would be limited to the nominated construction hours. Residents on Bridge Street are to be informed of the construction compound site and the potential increase in background noise and decrease in amenity during Stage 1 construction activities.

Traffic

Bridge Street would also function as the access road to this compound. From Bridge Street, construction traffic would access the compound via Argowan Road and Grange Avenue. Grange Avenue has a 5 tonne limit west of Westminster Street overbridge. An alternative access route exists for this compound with the use of a new track extending west to Vernon Road, Argowan Road and Grange Avenue. If this alternative route used, the traffic impacts will be significantly reduced in the local residential streets (e.g. Bridge Street).

Visual Amenity

The compound will be situated a rural-residential area with the nearest residents located in Bridge Street. These residents located at the boundary of the compound site (within 10 metres) would experience some detracting from the existing visual amenity of this area specific to light-spill from construction lighting and the existence of construction fencing, storage and buildings associated with the compound. Whilst these impacts will be temporary in nature, mitigation measures such as screening and low light-spill lighting would be considered during the operation of this compound site where reasonable and feasible.

Indigenous Heritage

This site has been identified as demonstrating a moderate potential for the presence of surface artefactual material. As recommended in Technical Paper 4 - Indigenous Heritage Report (refer Volume 2), in order to protect any potential surface artefactual material at this site, this site should be covered with geo-fabric and then covered with an inert material before the installation of any compound structures. At this construction compound, it has also been recommended that if soil disturbance to the existing surface is required, that an Aboriginal heritage assessment in consultation with the relevant Aboriginal stakeholder groups be carried out.

10.3.7 Compound 7 – Existing Schofields (Stage 1)

Site context

Construction compound 7 - Existing Schofields is to be located in the existing hardstand car park of the existing Schofields Station (once station has been decommissioned).

Closest sensitive receivers comprise:

- Up to four residential properties located approximately 15 metres from the eastern boundary of the compound (closest point). These properties are buffered from the compound by Railway Terrace.
- Seven commercial premises located approximately 15 metres from the eastern boundary of the compound (closest point), however these properties are buffered from the compound by Railway Terrace.
- Eight residential properties on the western side of the rail line located between 45 and 60 metres from the compound. (Majority buffered by strip of vegetation between properties and rail).

The compound will accommodate six demountable buildings, parking for 20 light vehicles and storage. This site would ensure no commuter parking would be lost as existing station will be in operation. There will be a relatively small impact from this compound as this site would be serviced by the main compound site (Compound 6).

Noise and vibration

The sensitive receivers would be subject to construction noise and vibration from the compound and associated construction traffic travelling along Railway Terrace. These receivers would have some tolerance to elevated noise levels due to the existing Schofields Station, train movements and other railway activities. These residents would also be subject to construction noise and vibration associated with the demolition of the existing Schofields Station during Stage 1 construction activities. Technical Paper 2 – Noise and vibration (refer Volume 2) has assessed the predicted $L_{A10(15min)}$ site compound noise level and determined that at Compound 7, receivers located at 10 metres from the compound would experience a predicted noise level of 80dBA and at 20 metres, the predicted noise level is 74dBA. The technical paper recommends that compound buildings be erected in locations that provide acoustical shielding to the surrounding residents as far as practicable and, that hoardings be erected on site compound boundaries where they would provide acoustical shielding to surrounding residents.

Traffic

Railway Terrace would be the main north-south transport route used by construction vehicles for hauling construction material and travelling to and from the compound. Schofields Road would be used as part of the access route for this compound site, however an alternative route exists via Burdekin Road.

Construction works would be limited to the nominated construction hours. Residents and commercial premises located on Railway Terrace are to be informed of the construction compound site and the potential increase in background noise and decrease in amenity during Stage 1 and 2 construction activities. Commuter car parking would be impacted minimally by this compound as the existing Schofields Station would not be operational at the time of establishment of this construction compound. Rail services would operate from the new Schofields Station prior to the closure of the existing Schofields Station. Any existing

commuter car parks lost prior to the commissioning of the new Schofields Station would be offset at a ratio of 1:1 to ensure that the net number of parking spaces at the existing Schofields Station is maintained.

10.3.8 Compound 8 – Westminster (Stage 2)

Site context

Construction compound 8 - Westminster is to be located on cleared land on the western side of the rail track, north of Westminster Street overbridge. This compound is adjacent to two residential properties located along Bridge Street, with an additional 10 residential properties located within 100 metres south of the compound and residential properties to the east of the compound. These properties located to the east of the compound are buffered from Railway Terrace and the rail corridor.

The closest sensitive receivers comprise two residential properties on Bridge Street located approximately 15 metres from the western boundary of the compound (closest point).

As shown in Table 10-1, this compound site will include five demountable buildings, storage and parking for five light vehicles. At peak times, there will be approximately three to four truck movements per hour and this compound provides for a major access point to the work site.

Noise and vibration

The sensitive receivers would be subject to construction noise and vibration from the compound and associated movement of construction traffic to and from the compound. Technical Paper 2 – Noise and vibration (refer Volume 2) has assessed the predicted $L_{A10(15min)}$ site compound noise level and determined that at Compound 8, receivers located at 10 metres from the compound would experience a predicted noise level of 80dBA and at 20 metres, the predicted noise level is 74dBA. The technical paper recommends that compound buildings be erected in locations that provide acoustical shielding to the surrounding residents as far as practicable and, that hoardings be erected on site compound boundaries where they would provide acoustical shielding to surrounding residents.

Traffic

The access route for construction vehicles entering and exiting this compound would include Bridge Street, Grange Avenue, Carnarvon Road and Garfield Road West. Grange Avenue has a 5 tonne limit west of Westminster Street overbridge. Movement of heavy traffic will generate most frequent movements during peak times. There will also be a number of heavy vehicle movements associated with the transport of Westminster bridge sections.

Visual Amenity

Two receivers have views of the rail corridor to the east. Existing trees on the eastern boundary of these properties do provide some partial screening however it is anticipated that the location of this construction compound and associated light spill, construction fencing and buildings within the site will decrease the current visual amenity for these receivers. Whilst these impacts will be temporary in nature, mitigation measures such as further screening and low light-spill lighting would be considered during the operation of this compound site where reasonable and feasible.

Indigenous Heritage

This site has been identified as demonstrating a low to moderate potential for the presence of surface artefactual material. As recommended in Technical Paper 4 - Indigenous Heritage Report (refer Volume 2), to protect any potential surface artefactual material at this construction compound site, this compound site should be covered with geo-fabric and then covered with an inert material before the installation of any compound structures. At this construction compound, it has also been recommended that if soil disturbance to the existing surface is required, that an Aboriginal heritage assessment in consultation with the relevant Aboriginal stakeholder groups be carried out.

Flora and fauna

Although the site has been previously cleared and no remnant trees are present, there is potential for a native groundcover to be found in this site (*Pimelea spicata*). This site therefore may contain derived grassland of Cumberland Plain Woodland (listed as Endangered under the EPBC Act and TSC Act). Caution should be applied when using herbicides to control environmental weeds within or near the habitat of *P. spicata* as well as the use of slash and mowing activities. It is important that in this site, all staff responsible for mowing areas adjacent to *P. spicata* habitat, or within areas supporting *P. spicata* are made aware of the potential occurrence of the species and that activities relating to weed suppression and mowing activities are to be managed appropriately. The dumping of grass clippings and general garden waste must also be avoided in this site.

An ecologist will be consulted during the course of compound layout planning. The ecologist will identify 'no-go' areas and fence these off where possible.

10.3.9 Compound 9 – Riverstone (Stage 2)

Site context

Construction compound 9 - Riverstone is to be located on the western side of Riverstone Station. This compound is located directly adjacent to five residential properties, the Riverstone Veterinary Clinic and Riverstone Station. These residential and commercial premises (Riverstone Veterinary Clinic) would be the closest sensitive receivers, located approximately 15 metres at the closest point on the western boundary of the compound. On the northern boundary of the compound, this distance between the closest residences and the compound is approximately 40 metres.

This compound site is planned to contain 10 demountable buildings with parking for 40 light vehicles. This site also contains storage and laydown areas.

Noise and vibration

Noise and vibration from the compound would have an impact on these sensitive receivers due to the small offset distance between residential properties and the compound. Technical Paper 2 – Noise and vibration (refer Volume 2) has assessed the predicted $L_{A10(15min)}$ site compound noise level and determined that at Compound 9, receivers located at 10 metres from the compound would experience a predicted noise level of 81dBA and at 40 metres, the predicted noise level is 69dBA. The technical paper recommends where reasonable and feasible that compound buildings be erected in locations that provide acoustical shielding to the surrounding residents as far as practicable and, that hoardings be erected on site compound boundaries where they would provide acoustical shielding to surrounding residents.

Traffic

Construction traffic associated with this compound is likely to contribute to construction noise received by properties to the western boundary of the compound. These impacts however would be influenced by the existing road noise generated by Garfield Road West. Construction traffic would access Garfield Road West directly from the compound and travel across the rail corridor to access Garfield Road East in the Riverstone town centre. Vehicles carrying construction equipment, materials and trucks carrying spoil would travel along Riverstone Parade and Railway Terrace on the eastern side of the rail corridor. This movement of construction traffic may result in some additional traffic impacts on Garfield Road East, particularly the Railway Terrace intersection.

Non-Indigenous heritage

This compound would have indirect impacts on the Riverstone Station Yard Group. These indirect impacts would comprise adverse amenity impacts, including noise, visual and air quality. These impacts would temporarily impact on the aesthetic qualities and integrity of the Riverstone Railway Station and yard group however these impacts are considered to be manageable through the application of standard mitigation measures, such as the erection of visual screens to screen views of the construction compound from the Riverstone Station.

10.3.10 Compound 10 – Roadmaster Property “Meatworks” (Stage 2)**Site context**

Construction compound 10 – Roadmaster property, commonly referred to as the Meatworks site is to be located on the western side of the rail corridor within a commercial trucking logistics premises near the level crossing which accesses Railway Parade.

The closest sensitive receivers comprise residential properties located approximately 95 metres to the south of the compound (closest residential property), however these properties are partly buffered from the compound by a small patch of remnant vegetation.

As Table 10-1 demonstrates, the compound site is one of the larger sites accommodating 20 demountable buildings, parking for 100 light vehicles assuming approximately 100 staff members at peak times and would act as a major access point to the work site. At peak times, this site will experience three to four truck movements per hour. This construction compound will also have storage area for stockpiled materials requiring spoil management measures during Stage 2 construction activities.

Noise and vibration

The noise and vibration generated from this compound site through construction activities and movement of construction vehicles is influenced by the trucking logistics operation and Meatworks facility that generate the frequent movement of large trucks and vehicles. As such, the cumulative impact on noise and amenity would increase, however the existing environment has a lower amenity value and elevated background noise attributed to these existing operations.

Soil and water

This construction compound is located adjacent to a creek tributary, within land demonstrating a high flood risk. As such there would be a high risk for contaminated stormwater run-off to enter surface waterways during storm events. Measures would be implemented at this site to manage potential water pollution sources and to prevent sediment and contaminants entering the creek in accordance with the Blue Book. Activities

such as the storage and handling of chemicals and refuelling activities would be required to occur away from this compound site where possible. General rubbish would be disposed of correctly and avoidance of stockpiles in this locations with regard to the high flood risk and location of nearby tributary.

Indigenous Heritage

This compound is located on cleared pasture land, and has been identified as demonstrating a low to moderate potential for the presence of surface artefactual material. As recommended in Technical Paper 4 - Indigenous Heritage Report (refer Volume 2), the protection of any potential surface artefactual material at this construction compound site is required. It is recommended that this compound site be covered with geo-fabric and then covered with an inert material before the installation of any compound structures. It is also a recommendation that if soil disturbance to the existing surface is required, that an Aboriginal heritage assessment in consultation with the relevant Aboriginal stakeholder groups be carried out.

10.3.11 Compound 11 – Vineyard (Stage 2)

Site context

Construction compound 11 - Vineyard is to be located adjacent to the new Vineyard Station. This compound is situated within a predominantly undeveloped rural area which is away from residential properties and other sensitive land uses. The closest residential property located approximately 120 metres to the north west of the site. The existing Vineyard Station is located close to the eastern boundary of the compound. This site has parking for approximately 30 light vehicles, 10 demountable buildings and will accommodate 40 staff at peak times. This compound will be a major access point to the work site and will generate three to four movements per hour at peak times. This construction compound will also have a storage area for stockpiled materials requiring spoil management measures during Stage 2 construction activities.

Visual amenity

The general area where this compound would be located is undeveloped and rural in nature, exhibiting a high quality visual landscape based on the availability of bushland and rural views from both sides of the rail corridor. Light spill from the site is likely to generate a medium to high impact given the undeveloped, rural nature of this area. Construction fencing and presence of buildings and stockpiles associated with the compound site will also detract from the existing visual landscape. The views of the compound from the closest residential receivers would be screened by existing trees along Bandon Road. Views of the compound for motorists travelling north or south along Railway Parade or south west along Bandon Road from Railway Parade would be screened by Vineyard station and existing trees along both roads. The visual impact of the compound site is therefore considered moderate with vegetation creating a visual screen from the compound.

Flora and fauna

The site for this construction compound has been previously cleared with no remnant trees on site. However, adjacent native vegetation to the compound site is currently regenerating. This vegetation is likely to be consistent with Shale Gravel Transition Forest, listed as Endangered under the TSC Act. This regenerating vegetation may contain threatened flora species including *Pulltenaea parviflora*, *Grevillea juniperina* and *Dillwynia tenuifolia*. For all of these threatened species that have the potential to be located in close proximity to the compound site, management measures such as ensuring chemicals or other mechanisms

used to eradicate weeds do not have a significant adverse impact, the potential location of these species are made aware to all construction workers accessing the site and the compound site is to be managed to prevent introduction of invasive weeds, which could become a threat to these species. An ecologist will be consulted with when planning the layout of compound structures.

10.4 Management measures for compounds

All compounds share common construction impacts which have been dealt with in Chapter 8 and 9. These impacts will be dealt with adequately in the Project's construction environmental management plan (CEMP) and associated documents.

The CEMP would identify appropriate mitigation and management measures for the Project as a whole and any specific measures associated with each compound site would be addressed in the CEMP.

Further details of the CEMP framework are contained in Chapter 6 and 8.

10.5 Conclusion

While a number of potential impacts have been identified with respect to the proposed construction sites for the Quakers Hill to Vineyard Duplication, these impacts are not expected to be significant or long term. As the majority of the works would be undertaken outside of the construction compounds, it is expected that the construction compounds, on their own, would not result in long term significant biophysical or social impacts, provided that appropriate mitigation is adopted. While a number of site constraints were identified with the proposed construction compounds, there is generally limited opportunity to identify suitable alternative sites close to the proposed Project. The construction sites proposed for this Project were selected based on a balance between the suitability of their location (i.e. close to construction works) and environmental impacts. Where environmental impacts have been identified the mitigation measures proposed will act to minimise those impacts.