

# Inner West Busway along Victoria Road

BTBA-EN-PLN-01-a-PLN-G-a


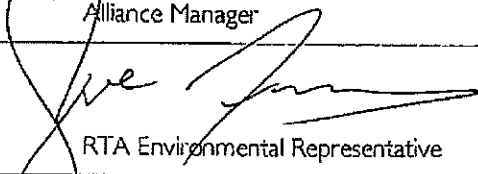
AP-02 Installation of mitigation measures action plan

## Construction environmental management plan

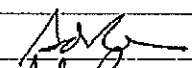
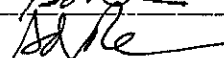
### (Appendix G)

## AP-02 Installation of mitigation measures action plan

#### Approvals

	Signature	Date
Approved by	 Alliance Manager	8/5/09
Approved by	 RTA Environmental Representative	8/5/09.

#### Revisions

Rev	Date	Description	Prepared	Reviewed	Approved
1	17/03/09	First draft	M Thomas	Alliance	
2	16/04/09	Draft	M Thomas	Alliance / RTA	
a	05/05/09	Initial issue	M Thomas		
B	28/05/09	Amended Fig. 2	M THOMAS		

Note: This document becomes uncontrolled once printed

## 1.1 Approval requirement

This management action plan must be approved by the Alliance Manager and the RTA Environmental Representative prior to the described works commencing.

## 1.2 Scope

This management action plan forms part of the Victoria Road upgrade project construction environmental management plan (CEMP) and is subject to all the systems and processes described in that document.

This action plan describes the environmental controls and management measures that will be implemented during the installation of features that will mitigate impacts of the construction of the project. These include:

- The compensatory car park on the corner of Henley Marine Drive and Formosa Street, Drummoyne.
- Installation of a temporary children's playground in King George Park.
- Installation of the temporary staircase under Iron Cove Bridge in Rozelle to provide redirected access to Victoria Road from the Bay Run.

The sites subject to this action plan are shown in the sensitive area map (see Figures 1 and 2).

Refer to Section 1.2 of the CEMP for a description of activities.

## 1.3 Key issues

Key environmental issues during the installation of these features are:

- Excessive noise and vibration generation.
- Potential water pollution from the release of pollutants from construction equipment/vehicles, suspended solids, or the disturbance of contaminated soils and sediments.
- Impacts on recreational activities including cyclists and pedestrians.
- Impacts on visual amenity.

Figure 1 Brett Park sensitive area map



Figure 2 Playground and temporary staircase sensitive area map



## 1.4 Environmental management actions

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
<b>Communications</b>							
1.	Notify relevant stakeholder and community members prior to commencing works in accordance with Community Communications Strategy. In particular inform affected residents of the time type and duration of noise generating works and communicate changes to pedestrian and cyclist access and pathways to all users.	✓	✓	✓	EA MCoA 2.30 SoC CCI	Prior to commencing works	Communications Manager
2.	Consult the relevant local council regarding the use of local roads by construction vehicles prior to commencing works.	✓	✓	✓	EA	Prior to commencing works	Communications Manager
3.	Consult Leichhardt Municipal Council and the community regarding an appropriate location for the children's playground.		✓		MCoA 2.30	Prior to commencing works	Communications Manager
<b>Traffic and transport</b>							
4.	Implement and maintain a traffic management plan, sub-plans and traffic control plans.	✓	✓	✓	EA MCoA 6.4c)	Ongoing	Construction Traffic Manager Roadworks Manager
5.	Avoid or minimise traffic impacts and vehicle movements during peak periods, long weekends and holiday periods.	✓	✓	✓	EA SoC TI	Ongoing	Construction Traffic Manager Roadworks

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
							Manager
6.	Plan construction activities with consideration of potential cumulative effects associated with vehicle movements from other construction sites in the area.	✓	✓	✓	EA	Ongoing	Roadworks Manager
7.	Maintain safe pedestrian and cyclist and other users access at all times or provide alternative arrangements in accordance with the Traffic Management Plan.	✓	✓	✓	EA MCoA 2.4	Ongoing	Roadworks Manager
8.	Park construction vehicles within project construction sites where possible, or in accordance with relevant parking strategy.		✓		EA MCoA 2.1	Ongoing	Roadworks Manager
Contamination							
9.	Carry out the installation of the relocation of the playground in accordance with the design approved in the interim audit advice received from the accredited site auditor. Ensure the specified cover is in accordance with this advice and the cover is maintained.		✓		Interim audit advice (site auditor)	Installation	Designer Project Engineer / Site Engineer
10.	Provide validation documentation to the nominated Auditor prior to opening the playground, demonstrating that the chosen capping designs have been successfully implemented.		✓		Interim audit advice (site auditor)	Prior to opening	Project Engineer / Site Engineer
11.	Visually inspect the integrity of the cover of the playground on a monthly basis to ensure the mulch and other surface treatments are intact. Reinstate if found to be defective or deficient.		✓		Interim audit advice (site auditor)	Monthly during construction	Project Engineer / Site Engineer

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
12.	Following heavy rainfall events inspect the cover of the playground to ensure the mulch and other surface treatments are intact. Reinstate if found to be defective or deficient.		✓		Interim audit advice (site auditor)	As required during construction	Project Engineer / Site Engineer
<b>Noise and vibration</b>							
13.	All staff and sub-contractors will undergo noise and vibration awareness training (eg as part of general site induction and/or tool-box talks).	✓	✓	✓	Noise and vibration management plan	Prior to commencing works	Roadworks Manager Environment Manager
14.	Show all noise-sensitive receivers (see sensitive area plan) on the EWMS.	✓	✓	✓	EA	Prior to commencing works	Environment Manager
15.	Works to be undertaken during daytime hours Monday to Friday 7am to 6pm Saturday's and 8am to 1pm unless otherwise agreed with the Environment Manager and as necessary the project's Environmental Representative.	✓	✓	✓	EA Noise and vibration management plan	Ongoing	Roadworks Manager
16.	The duration of noise-intensive works will be minimised, where possible.	✓	✓	✓	Noise and vibration management plan	Ongoing	Roadworks Manager
17.	Where possible non-tonal reversing beepers (eg squawker types or equivalent) will be fitted and used on all construction vehicles and mobile plant used for any out-of-hours work.	✓	✓	✓	Noise and vibration management plan	Ongoing	Superintendent

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
18.	Machines that are used intermittently such as dump trucks, cranes, rollers, excavators, bobcats etc. will be shut down in the intervening periods between works, or throttled down to a minimum.	✓	✓	✓	Noise and vibration management plan	Ongoing	Foreman
19.	Machinery not in use will be turned off.	✓	✓	✓	Noise and vibration management plan	Ongoing	Foreman
20.	Where potential or actual noise exceedences (of the criteria) are identified, all feasible and reasonable best practice noise management measurements will be investigated. These may include temporary attenuation (eg barriers), squawker type reversing alarms on plant, respite periods, modifying work activities, and negotiating temporary arrangements with affected residents.	✓	✓	✓	Noise and vibration management plan	Ongoing	Operations Manager
21.	Works will be scheduled, where possible, to avoid the coincidence of noisy plant items operating simultaneously.	✓	✓	✓	Noise and vibration management plan	Ongoing	Roadworks Manager
22.	Care will be taken not to drop materials from a height either into or out of trucks.	✓	✓	✓	Noise and vibration management plan	Ongoing	Foreman
23.	Regular and effective maintenance of stationary and mobile equipment will be conducted.	✓	✓	✓	Noise and vibration management plan	Ongoing	Superintendent

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
24.	Where possible plant will be located / orientated to direct noise away from sensitive receivers.	✓	✓	✓	Noise and vibration management plan	Ongoing	Superintendent
25.	Conduct vibration testing and monitoring to identify minimum working distances to residential buildings (refer to dilapidation risk assessment) and if preferred values for vibration at affected buildings are likely to be exceeded review construction methodology and if necessary implement additional mitigation measures.	✓			EA MCoA 2.13 SoC H I	Ongoing	Environment Manager
26.	Noise levels of equipment will be measured to ensure general compliance with typical levels presented in Table 6 of the Noise and Vibration Management Plan.	✓	✓	✓	Noise and Vibration Management Plan	Prior to commencing works Ongoing	Environment Manager
<b>Visual amenity</b>							
27.	Contain work areas in a defined area occupying the minimum area practicable.	✓	✓	✓	EA SoC S2	Ongoing	Project Engineer / Site Engineer
28.	Restore and maintain any areas immediately after completion of works (including landscaping) unless not feasible, in which case the area is to be made safe, appropriate environmental controls left in place and restored as soon as possible	✓	✓	✓	EA	Ongoing	Roadworks Manager
<b>Social and economic</b>							

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
29.	Maintain access to properties, where possible, with any temporary alterations accompanied by appropriate signage or similar. Complete works in the shortest time possible.	✓			EA MCoA 2.29 SoC T2	Ongoing	Project Engineer / Site Engineer
<b>Non-Aboriginal heritage</b>							
30.	Show all non-Aboriginal heritage items and areas of potential archaeological significance to be protected (see sensitive area plan) and document practical methods to avoid or minimise impacts on these items on the EWMS.	✓	✓	✓	SoC HI MCoA 2.16 and 2.18	Prior to commencing works	Environment Manager
31.	Remove the railing on the existing walkway beneath the Iron Cove Bridge and store safely (off site if preferred). Reinstate the railing at completion of the bridge works.			✓	-	Prior to commencing works	Roadworks Manager
32.	If archaeological relics are identified cease activities in the immediate area of the identified archaeological relics and contact the on call archaeologist as soon as practicable, in accordance with the archaeological management strategy.	✓	✓	✓	-	Ongoing	Roadworks Manager  Bridge Manager
33.	Inform workers of their legal obligations in relation to heritage and potential archaeological items. Carry out site specific training for workers when working in close proximity to identified heritage items.	✓	✓	✓	EA	Ongoing	Environment Manager
<b>Air quality</b>							
34.	Provide hardstands or similar in work sites or retain existing ground cover where possible to minimise dust generation, and	✓	✓	✓	EA	Ongoing	Project Engineer /

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
	restore disturbed areas progressively where possible.				MCoA 2.40		Site Engineer
35.	Maintain roads, disturbed areas, stockpiles and handling areas in a condition that minimises windblown, traffic generated or equipment generated dust. This could be done by activities such as watering, road sweeping and removal or accumulated materials from environmental controls.	✓	✓	✓	EA MCoA 2.40 SoC Q1	Ongoing	Superintendent
36.	Restore disturbed areas progressively where possible (subject to other project construction works in the vicinity). Monitor all restored sites until stable.	✓	✓	✓	EA MCoA 2.40	Ongoing	Superintendent
37.	Cease dust generating activities where wind speeds reach a velocity that visually mobilises dust particulates and implement appropriate measures to control dispersion.	✓	✓	✓	EA MCoA 2.40 SoC Q2	Ongoing	Superintendent Environment Manager
38.	Maintain equipment and plant in good working order and turn off equipment, plant and construction vehicles when not in use.	✓	✓	✓	EA MCoA 2.40	Ongoing	Superintendent
<b>Soils</b>							
39.	Implement erosion and sediment control measures as marked on the appropriate EWMS prior to the commencement of site preparation and construction works. Controls will be used in conjunction with one another to form the “treatment train approach” (a sequence of controls) to managing erosion and	✓	✓	✓	EA MCoA 2.35 SoC G1 Soil and water management plan	Prior to commencing works	Foreman

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
	sediment on site.						
40.	The area or soil exposed during the works will be minimised wherever reasonable and feasible. Areas disturbed during the works will be restored progressively, where possible, as activities are completed. Restoration will be monitored until sites are stable.	✓	✓	✓	Soil and water management plan	Ongoing	Project Engineer / Site Engineer
41.	Construction planning will seek to maintain water quality in Iron Cove throughout the construction phase. Ground surfaces will be protected from disturbance where possible. Where this is not possible, suitable management controls, which may include installation of sediment control devices, dust suppression and temporary ground stabilisation measures (eg hardstands or mulching) will be implemented to protect unconsolidated surfaces. This will be described on the relevant EWMS.	✓	✓	✓	Soil and water management plan	Ongoing	Superintendent
42.	Stockpiles will be designed, established, operated and decommissioned to ensure all materials are adequately contained and not mobilised through wind or water. Stockpiling must only occur in designated areas away from drainage lines, steep slopes, flood prone areas and heavily trafficked areas.	✓	✓		Soil and water management plan	Ongoing	Project Engineer / Site Engineer
43.	Stockpiles will be protected from water and wind erosion through the use of covers, sediment fences and diversion drains around the stockpile area.	✓	✓		Soil and water management plan	Ongoing	Superintendent Foreman

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
44.	Maintain and inspect erosion and sediment control measures regularly to ensure their ongoing effectiveness.	✓	✓	✓	EA	Ongoing	Superintendent Foreman
45.	Design, establish, operate and decommission any stockpiles to ensure all materials are adequately contained and not mobilised through wind or water.	✓	✓	✓	EA	Ongoing	Roadworks Manager Superintendent
<b>Water</b>							
46.	Procedures to respond to spills and incidents will be prepared and implemented to protect water quality in Iron Cove. The procedures will detail measures to contain, clean up and dispose of materials that may have a detrimental effect on water quality. All construction personnel will be trained in their obligations with respect to any legal requirements and site procedures.	✓	✓	✓	Soil and water management plan	Ongoing	Environment Manager
47.	Sealed roads are to be kept free of excess accumulated sediment / spoil and where required swept on a regular basis.	✓	✓	✓	Soil and water management plan	Ongoing	Superintendent Foreman
48.	Undertake activities with the potential to reduce or contaminate local water quality (including refuelling, vehicle servicing, concrete washout, storage fuels and hazardous materials, and washing of plant) within appropriately bundled/contained areas.	✓	✓	✓	EA SoC WI	Ongoing	Foreman
<b>Biodiversity</b>							

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
49.	Retain and protect from damage all vegetation immediately adjacent to work sites, access roads and compounds. Any vegetation or trees identified to remain on site shall be protected (eg fenced off) in accordance with the specifics of the EWMS.	✓	✓	✓	EA SoC BI	Ongoing	Roadworks Manager
50.	Remove or treat all weeds in areas to be disturbed prior to commencing works.	✓	✓	✓	EA	Ongoing	Roadworks Manager
<b>Aboriginal heritage</b>							
51.	Inform workers of their legal obligations to protect Aboriginal cultural materials.	✓	✓	✓	EA	Ongoing	Environment Manager
52.	Cease work immediately should any unknown Aboriginal objects or items be located during works and obtain specialist Aboriginal heritage advice.	✓	✓	✓	EA SoC AI	Ongoing	Superintendent Foreman
<b>Waste and resource use</b>							
53.	Apply the waste hierarchy (avoidance, resource recovery, disposal) by incorporating measures into work programs and site inductions. Reuse secondary waste materials on-site where feasible and reasonable	✓	✓	✓	EA SoC WMI	Ongoing	Roadworks Manager
54.	Record all waste avoidance, resource recovery and disposal and provide dockets/receipts to the environment team.	✓	✓	✓	EA	Ongoing	Superintendent Foreman
55.	Re-use 100% of material classified as Virgin Excavated Natural	✓	✓	✓	EA	Ongoing	Roadworks

Ref #	Action	Brett Park car park	Temporary playground	Temporary staircase	Reference	Timing	Responsibility
	Material (VENM). Store any spoil suitable for stockpiling where immediate reuse is not possible and document the location, quality and quantity of spoil.						Manager
56.	Classify, handle, store and dispose of all waste (including contaminated material) in accordance with relevant DECC Waste Guidelines, 2008.	✓	✓	✓	EA MCoA 2.39	Ongoing	Roadworks Manager
<b>Greenhouse gas emissions</b>							
57.	Train all personnel in energy and fuel-efficient measures and work practices. Educate operators that maintaining (especially diesel engines) to manufacturers specifications will save fuel, emit less particulates, and not raise unnecessary attention from the public.	✓	✓	✓	EA	Ongoing	Environment Manager
58.	Maintain all equipment to retain optimum levels of energy efficiency.	✓	✓	✓	EA	Ongoing	Roadworks Manager
59.	Where feasible, use natural gas or biofuels to reduce greenhouse gas emissions from construction plant and equipment.	✓	✓	✓	EA SoC EI	Ongoing	Roadworks Manager
60.	Source material locally where possible to reduce transport related emissions.	✓	✓	✓	EA	Ongoing	Roadworks Manager
61.	Use recycled materials (eg fly ash to replace cement, recycled aggregate and recycled content in steel) where feasible and reasonable.	✓	✓	✓	EA	Ongoing	Roadworks Manager

