



**SOUTHERN SYDNEY FREIGHT LINE
(EPBC 2005/2392)**

Environmental Actions Plan
23 October 2008

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1 Introduction

1.1 Terms of Reference

On 13 August 2008, the Commonwealth Government (Commonwealth) approved the construction of the Southern Sydney Freight Line (SSFL) under Section 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The approval was authorised by the Minister for the Environment, Heritage and the Arts (the Minister) and was made subject to a number of conditions under the Instrument of Decision (the Conditions). The Conditions (attached under *Appendix B*) require Australian Rail Track Corporation (ARTC) to submit the following documents for the Minister's approval:

- an "Environmental Actions Plan" (EAP) addressing access, car parks and noise and visual character;
- a "Community Amenity Offset Plan" (CAOP) that documents works to be undertaken by ARTC to improve community amenity to offset the amenity impacts of the SSFL; and
- a "Flood Management Study" (FMS) that includes subsections describing how ARTC will include drainage works in the SSFL construction works that are planned or programmed by local Councils and/or RailCorp.

The Conditions further document processes for managing changes to the project and its impacts as well as auditing ARTC's compliance with the Conditions.

1.2 Purpose of this Document

This document is the "Environmental Actions Plan" as required in the Conditions. Consistent with the Conditions, it covers the following matters:

- provision of non-discriminatory access at six stations¹ along the route of the SSFL (*Clause 1(a)*);
- provision of access for cyclists across Sefton Railway Station (*Clause 1(b)*);
- the detail of how parking is provided at stations along the route of the SSFL to ensure that parking is not negatively impacted by the SSFL (*Clause 1(c)*);
- the detail of noise walls to be provided along the route of the SSFL, including consultation (*Clause 1(d)*); and
- works to be carried out to provide alternative access after closing of level crossings at Liverpool Hospital, Casula Station and Sefton Park Junction (*Clause 5*).

¹ The six stations contemplated in *Clause 1(a)* are Leumeah, Minto, Cabramatta, Sefton, Warwick Farm and Casula.

2 Background

The Commonwealth's Conditions were developed through a process of consultation with communities along the route of the proposed SSFL. In addition to stakeholder consultation during the planning and environmental assessment stages, communities directly communicated their concerns to both the State and Commonwealth Governments.

Details of these concerns are described below as background to the requirements of the Commonwealth Conditions.

2.1 Stakeholder Consultation

Consultation with the community and stakeholders during the Environmental Assessment (EA) provided important input into identifying and assessing social, biophysical and economic impacts of the SSFL. Community and stakeholder involvement also assisted in guiding the development of the SSFL, by responding to concerns and developing measures to mitigate impacts where possible.

A summary of the activities undertaken during the development of the EA report is provided in *Table 1*. A detailed list of the consultation activities is provided in *Appendix C*.

Table 1: Summary of Stakeholder Consultation during Environmental Assessment

Activities	Number
Community update newsletters 1 and 2 (including Vietnamese and Arabic translations)	76,000
Invitation flyer	20,000
1800 line calls (excluding RSVPs to community and stakeholder meetings)	45
Submissions (written and email)	23
Government agency meetings	8
Council meetings	16
Individual landowner discussions	9
Community meetings (including community information evenings)	8
Key stakeholder meetings	6
Local business discussion days	2

Subsequent to the publication of the EA report, further consultation was undertaken, including:

- public display of the EA report;
- distribution of newsletters in three languages;
- staffed information days;
- local business discussion day;
- advertisements in non-English speaking newspapers;
- Environmental Assessment public displays;
- poster displays at railway stations along the proposed SSFL route;
- web site information; and
- 1800 Project information line

2.2 Environmental Assessment

The potential environmental impacts of the SSFL were assessed as part of the planning process, and an Environmental Assessment Report² was submitted to the NSW Department of Planning (the Department).

The EA was placed on public exhibition for two months (May and June 2006) and 87 public submissions were received by the Department and collated in a “Submissions Report”. Issues frequently raised in submissions included:

- noise and vibration impacts during construction and operation of the SSFL, particularly in residential areas from Glenfield to Sefton;
- impacts on local amenity during construction and operation, and the importance of environmental management measures such as noise walls, particularly for those residences adjacent to the railway line;
- visual impacts of noise barriers (and the need for ongoing management of graffiti);
- air quality impacts of diesel trains;
- potential temporary and permanent impacts on traffic and parking arrangements associated with precinct plan changes to local roads and parking facilities, especially in the Fairfield and Bankstown LGA;
- provision of easy access for elderly and disabled persons;
- consideration of the cumulative social and environmental impacts of the proposed SSFL from a State and regional perspective;
- commercial viability of businesses during construction and operation; and
- social amenity of Casula Regional Arts Centre, Leacock Regional Park and Georges River Parklands.

The project was granted approval (Planning Approval) under Section 75J of the *Environmental Planning & Assessment Act 1979* (EPA Act) on 21 December 2006. The Planning Approval was granted subject to ARTC’s compliance with the Department’s Conditions of Approval (CoA) and a “Statement of Commitments” (SoC), both of which were aimed at addressing impacts identified during the EA process. The Planning Approval, CoA and SoC are attached as *Appendix D* to this report.

2.3 Council Representations to the NSW Department of Planning

In drafting the CoA, the Department considered representations from the four local councils (Councils) potentially affected by the SSFL:

- Bankstown City Council;
- Fairfield City Council;
- Liverpool City Council; and
- Campbelltown City Council.

² “*Southern Sydney Freight Line: Environmental Assessment*”, prepared for Parsons Brinckerhoff Australia Pty Ltd, Sydney, April 2006

The Councils had approached the Department through the Western Sydney Regional Organisation of Councils (WSROC) in September 2006, raising concerns over potential impacts on their respective communities as a result of the construction and operation of the SSFL. In its correspondence, WSROC raised the following potential impacts resulting from the SSFL:

- noise and vibration, including noise control and barriers;
- access, particularly for the disabled and cyclists;
- socio-economic impacts on communities as a result of severance, particularly in the Cabramatta town centre;
- flooding and drainage, including integration with Council and RailCorp plans for drainage works;
- integration with RailCorp planning;
- local access and transport impacts (Auburn Road) during construction of the SSFL;
- impacts on the Powerhouse Regional Arts Centre at Casula;
- safety at level crossings and alternative access in case of closure of level crossings; and
- provision of pedestrian and bicycle access.

2.4 Council Representations to the Commonwealth Department of the Environment, Water, Heritage and the Arts

In drafting the Conditions, the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) considered representations from Councils.

WSROC wrote to DEWHA in February 2007, raising concerns over the potential impacts resulting from the SSFL. Some of the issues raised overlapped with those flagged to the NSW DoP:

- noise and vibration impacts on the community;
- potential community severance and impacts on access, particularly disabled access;
- potential impacts on stations and town centres around stations;
- local access and transport impacts (Auburn Road) during construction of the SSFL; and
- impacts on the Powerhouse Regional Arts Centre at Casula.

3 Access

3.1 Station Access

As part of the SSFL works, ARTC will upgrade access at affected stations to improve access for disabled persons. These improvements, jointly funded by ARTC and RailCorp, will be provided in conjunction with RailCorp.

The proposed works will include:

- new pedestrian overbridges at Warwick Farm and Casula stations;
- new elevators and stairs at Leumeah, Minto, Cabramatta, Sefton, Warwick Farm and Casula;
- new wheelchair ramps in footpaths at Leumeah, Minto, Cabramatta, Sefton, Warwick Farm and Casula; and
- a relocated, Easy Access compliant, ticketing office at Cabramatta Station.

The details of the works at each station are provided in *Table 2* below.

3.2 Cyclist Access at Sefton

At Sefton Station, cyclists currently carry their bikes up the stairs and walk them over the footbridge in order to cross the tracks. ARTC will extend the footbridge at Sefton on the southern side of the station and install a new elevator. This will improve access for cyclists and disabled users. RailCorp has proposed to install a new elevator at the northern end of the footbridge.

In future, cyclists will be able to access the footbridge using an elevator, walk their bikes over the footbridge and then use the other lift to descend back to ground level.

Table 2: Easy Access Provisions

Station	Description	Access Works Proposed	Comment
Leumeah	Leumeah Station is already provided with facilities compliant with “Easy Access” standards. The SSFL will require the existing footbridge at Leumeah to be extended, impacting on the elevator to the platform servicing city bound trains.	<p>A new elevator and stairs compliant with “Easy Access” standards will be provided to connect the platform to the extended pedestrian overbridge.</p> <p>In addition, new wheelchair ramps will be installed in the new kerbs at all identified street and car park crossing points.</p>	No other station facilities will need to be amended as the station is compliant with “Easy Access” standards.
Minto	Minto Station is already provided with facilities compliant with “Easy Access” standards. The SSFL will require the existing footbridge to be extended. This will isolate an existing ramp which provides access to the footbridge.	<p>A new elevator and stairs compliant with “Easy Access” standards will be provided to the extended Pedestrian overbridge.</p> <p>A new elevator and stairs compliant with “Easy Access” standards will also be provided to provide access to the city-bound platform.</p> <p>New wheelchair ramps will be installed in the new kerbs at all identified street and car park crossing points.</p>	No other station facilities will need to be amended as the station is compliant with “Easy Access” standards.
Cabramatta	<p>Cabramatta Station is not currently compliant with “Easy Access” standards, but it does have elevators and (non compliant) ramps at 1:10 gradient.</p> <p>The SSFL will require the existing footbridge to be extended, requiring the installation of an additional elevator.</p> <p>The existing ticketing office on the southern side will need to be removed to facilitate the construction of the SSFL.</p>	<p>A new elevator and stairs compliant with “Easy Access” standards will be provided to the extended Pedestrian overbridge.</p> <p>The existing ramps on both the northern and southern platforms will be retained, as will the existing lifts.</p> <p>A new ticketing office will be provided above the SSFL track accessible from the footbridge level.</p> <p>New wheelchair ramps will be installed in the new kerbs at all identified street and car park crossing points.</p>	No other station facilities will need to be amended as they are not being impacted by the construction of the SSFL.

Station	Description	Access Works Proposed	Comment
Sefton	<p>Sefton Station is not currently compliant with “Easy Access” standards.</p> <p>Currently pedestrians cross the tracks <i>via</i> the existing footbridge located near the eastern end of the island platform.</p> <p>The reconfiguration necessary to facilitate the SSFL will require the extension of the existing footbridge on the southern side of the station and replacement of the existing stairs that provide access to the existing footbridge and the platform.</p>	<p>A new elevator and stairs compliant with “Easy Access” standards will be provided to the extended Pedestrian overbridge.</p> <p>New wheelchair ramps will be installed in the new kerbs at all identified street and car park crossing points.</p>	<p>The southern access to Sefton Station will be Easy Access compliant after installation of the elevator.</p> <p>RailCorp is considering upgrading other station facilities to Easy Access standard, but Sefton is not considered a high priority for Easy Access funding.</p>
Warwick Farm	<p>Warwick Farm Station is not currently compliant with “Easy Access” standards.</p> <p>Currently pedestrians cross the tracks <i>via</i> the Hume Highway overbridge located at the northern end of the platforms. The reconfiguration necessary to facilitate the SSFL will isolate the existing southbound platform from public access.</p>	<p>A new overbridge, elevators and stairs compliant with “Easy Access” standards will be constructed as part of the SSFL to provide access to the southbound platform.</p> <p>New wheelchair ramps will be installed in the new kerbs at all identified street and car park crossing points.</p>	<p>RailCorp will upgrade all station access provisions to ensure compliance with “Easy Access” standards.</p>
Casula	<p>Casula Station is not currently compliant with “Easy Access” standards.</p> <p>Currently pedestrians cross the tracks <i>via</i> the existing level crossing located at the southern end of the platforms.</p> <p>The reconfiguration necessary to facilitate the SSFL will isolate the existing southbound platform from public access and will also necessitate the closure of the level crossing (see <i>Section 5</i>).</p>	<p>A new overbridge, elevator and stairs compliant with “Easy Access” standards will be constructed as part of the SSFL.</p> <p>New wheelchair ramps will be installed in the new kerbs at all identified street and car park crossing points.</p>	<p>RailCorp has decided not to upgrade Casula Station to full compliance with Easy Access standards. Full compliance would require (amongst other things) upgrading of toilets and the ticketing office. These additional works are, in RailCorp’s opinion, not yet justified, nor are they required to facilitate the SSFL construction.</p>

4 Car Parks

4.1 No Net Loss of Parking

The construction of the SSFL will need to pass each station on the RailCorp line between Sefton and Macarthur. The impact on parking provisions at each station varies depending on factors such as the width of the corridor, the width of existing tracks and platforms and the location of existing parking.

The impacts on station parking were addressed as follows:

- station precinct plans were prepared for those stations where it was recognised by the SSFL design team that impacts were likely to be significant;
- for those stations where the impacts were not considered significant, precinct plans were not prepared, but designs were prepared to show how parking and foot paths near the station would be amended; and
- some stations are not impacted as there is currently no parking located on the SSFL side of the rail corridor, or all SSFL works will be located inside the rail corridor where no existing parking is located.

Three categories of parking were considered:

- **general commuter parking:** it was endeavoured to replace all affected general commuter car parking spaces. In most cases this was possible. Where no net loss of general commuter car parking was possible, ARTC has consulted with the relevant Council to achieve an acceptable solution;
- **disabled commuter parking:** disabled commuter parking spaces are always being replaced in terms of number, and in many cases the number of disabled spaces is being increased; and
- **staff parking:** in some instances staff parking will be impacted by the construction of the SSFL. It is proposed to reinstate a like number (or an increase where possible) of spaces at some locations. At no station will staff parking be removed and not replaced.

Table 3 on the following page details the impacts for each station, broken down into commuter spaces, disabled spaces and staff spaces. Overall, the net impact on parking is the gain of one parking space. However, this result is achieved by a net gain of 9 disabled car spaces and 4 staff car spaces, offset by the net loss of 12 commuter car spaces. The locations where commuter car spaces can not be replaced are:

- at Leumeah Station the loss of 18 spaces can not be replaced close to the station. Council has already built replacement parking in advance of the project in the new parking areas north of the station. ARTC will provide funding for 30 of these new spaces (please refer to the CAOP); and
- at Carramar it is not possible to replace 6 commuter car spaces close to the station as there is no land available for parking. The affected car park has never been seen to be more than 40 percent utilised (the location is geographically isolated due to the proximity of the creek and layout of local streets, hence the carpark does not serve a wide area), so the loss of 6 spaces is not expected to be a problem. Council has agreed to the loss of 6 commuter car spaces.

Table 3: Summary of Changes in Car Parking Provision at Stations

Station	Existing Commuter Parking ³	Proposed Commuter Parking	Net Commuter Change	Existing Disabled Parking	Proposed Disabled Parking	Net Change in Disabled	Existing Staff parking	Proposed Staff Parking	Net Staff Parking Change	Total Net Change in Parking
Sefton	36	36	0	1	1	0	No impact	No change	No change	Nil
Chester Hill	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Leightonfield	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Villawood	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Carramar	54	48	- 6	N/A	N/A	N/A	No impact	No Change	No Change	-6
Cabramatta	237	241	+4	2	4	+ 2	No impact	No Change	No change	+6
Warwick Farm	72	72	0	0	2	+ 2	No impact	No Change	No change	+2
Liverpool	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Casula	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Glenfield	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Macquarie Fields	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Ingleburn	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Minto	84	92	+ 8	1	2	+1	4	8	+ 4	+13
Leumeah	261	243	- 18	3	7	+ 4	3	3	0	-14
Campbelltown	Not affected	No change	No change	Not effected	No change	No change	38	38	0	Nil
Macarthur	N/A	N/A	N/A	N/A	N/A	N/A	No impact	No Change	No Change	Nil
Totals	744	732	- 12	7	16	+ 9	45	49	+ 4	+1

³ Refers only to those car parks potentially affected by the SSFL. Other car parks within the station precincts but outside the area affected by the SSFL were not included in this count.

4.2 Consultation with NSW Physical Disability Council

On 1 August 2008, ARTC met with the NSW Physical Disability Council (PDC) to discuss the SSFL project and the scope and standard of works to be undertaken to access infrastructure.

It was explained to the PDC representatives that ARTC will only perform access works where the SSFL project affected existing access arrangements, or where new points of access are required as a result of the construction of the SSFL. In these locations, ARTC will re-instate (or provide new) access in compliance with AS 1428, or DSAPT, 2002. It was further explained that, where existing station configurations preclude accessible design solutions in compliance with the standards, RailCorp will be responsible for modifications to render the stations (at least partly) compliant.

Each of the stations that require upgrade works were discussed. Station precinct maps, showing access changes, were presented and the parking arrangements were described for each of the stations.

It was explained that, at some locations, the walking distance to parking spaces for those with a disability is necessarily further than the codes may prefer. However, the members of the Council understood the limitations within which the designs were developed and concurred with the strategies outlined in the designs.

The PDC representatives concurred that the proposed changes to the stations were in keeping with DDA policy and they were satisfied with the accessibility improvements at these stations.

Members of the PDC were provided with copies of the station drawings for further study/consultation, and additional response if appropriate.

4.3 Disabled Parking Standards

The standard for disabled parking⁴ spaces indicates the following minimum requirements:

- Width = 3.5m
- Length = 5.5m, or 7m if end to end

The spaces should be located as close to the destination as possible, and, more specifically, as close as possible to the disabled access point of the destination. They should preferably be within 50 metres of that access point if possible. If this is physically unachievable, then the next nearest location for parking, closest to the disabled access point, should be used for the disabled parking spaces.

Table 4 summarises the location of the disabled parking spaces at each station.

⁴ Australian Standard 2890.1: 2004 – Parking facilities – Off-street Car Parking

Table 4: Summary of Disabled Parking Allocation

Station	# of Disabled Spaces	Have the closest relocated spaces to the Disabled Point of Access been used?	Reason for non-compliance	Distance of Disabled Spaces from Station access point
Sefton	1	Yes	Compliant	30m
Carramar	N/A	No changes	Existing arrangement	N/A
Cabramatta	4	No	Nearest spaces are too narrow due to road width requirements, the next nearest area for spaces has been used instead	112m
Warwick Farm	2	Yes	Compliant	10m
Casula	N/A	No changes	Existing arrangement	N/A
Minto	2	Yes	Compliant	115m
Leumeah	7	No	Nearest spaces have been allocated for staff parking, the next nearest spaces have been used instead	25m
Campbelltown	N/A	No changes to Commuter parking	Existing arrangement	N/A

4.4 Walking Distances to Car Parks

The construction of the SSFL will result in the need to relocate a number of existing car parking spaces. It is a condition of approval that any relocated car parking be located within 400 metres of the nearest station entry point.

Table 5 provides a summary of the furthest distances of the relocated parking from the nearest station entry point for each station that has relocated parking.

Table 5: Distance to Replacement Car Parks

Station	Distance of Furthest Relocated Car Parking	Compliant with 400m Limit from Station Entrance?
Sefton	130m	Yes
Cabramatta	400m	Yes
Warwick Farm	190m	Yes
Minto	135m	Yes
Leumeah	220m	Yes
Campbelltown	No relocated commuter parking, staff only and all inside 100m	Yes

4.5 Safety Equipment at Car Parks

4.5.1 CCTV Replacement Car Parks

Currently only Cabramatta Station has CCTV coverage of its commuter car parks. An agreement has been reached between Fairfield City Council and ARTC (in accordance with NSW CoA 28) that provides for:

- replacing any loss of CCTV coverage that would result from the construction of the SSFL; and
- provision of additional CCTV coverage for those relocated parking spaces that would otherwise be without CCTV coverage.

None of the other stations along the line currently have CCTV coverage of their car parks. It is not intended to install any additional CCTV systems at any of these other station car parks for the following reasons:

- currently they do not exist at the other stations - hence ARTC is not obliged to replace them; and
- CCTV systems require central control facilities, 24 hour monitoring and ongoing maintenance. Neither the Councils nor RailCorp have expressed an interest in this responsibility.

4.5.2 Drainage, Lighting and Walkways

Lighting for all relocated car parking will be installed by ARTC and would become a Council asset once the car parks become operational. Lighting will comply with the appropriate standard for public car parks. At Cabramatta, higher-intensity lighting will be installed to allow the CCTV cameras to operate effectively at night.

Drainage and walkways, constructed to the applicable standards, will be provided at all relocated car parking. Walkways and kerbs will be compliant with access standards as described in *Section 3.1* above. These new assets will be vested to Council once the construction is complete.

5 Noise and Visual Character

5.1 Noise Wall Locations

The proposed noise wall locations are shown in *Figure 1* below.



Figure 1: Proposed Noise Wall Locations

These noise wall locations were developed based on acoustic modelling. The final and specific locations and length of the noise walls will be determined by site specific modelling, which is currently being completed. Specific treatments are the subject of ongoing consultation with local stakeholders.

5.2 Noise Wall Design

The acoustic design of the noise walls will meet the requirements of noise abatement set by the acoustic specialist. For the purpose of this EAP, the focus is on the physical and aesthetic design of the walls to minimise impacts.

Several design measures have been undertaken in order to soften the visual impact of the noise walls, these include:

- colouring and texturing treatment;
- application of patterns applied to the concrete noise walls;
- use of panel staggering to create shadow lines; and
- use of trellises to add landscaping.

Retaining walls may also be visually prominent in several locations and will be visually treated to mitigate the effect.

5.2.1 Noise Walls Colouring Options & Texture

The proposed noise walls are to be coloured with an oxide, although a decision on the colour is yet to be determined.

The noise wall panels will have a texture embedded into the wall (at 20mm depth). This texture is produced through a rubber mould, which can be applied to each panel and then re-used (approximately 100 times).

5.2.2 Noise Wall Themes and Types

As the areas along the 30km line are essentially very different from each other, a single pattern or motif is insufficient. Three different themes have been considered, which will be reflected through the use of a pattern representing these themes.

The three themes are:

- plants from the local surroundings;
- the Georges River and feeding creeks ecology; and
- the more urban precincts, such as around Cabramatta, with an emphasis on the people and activity generated around the station.

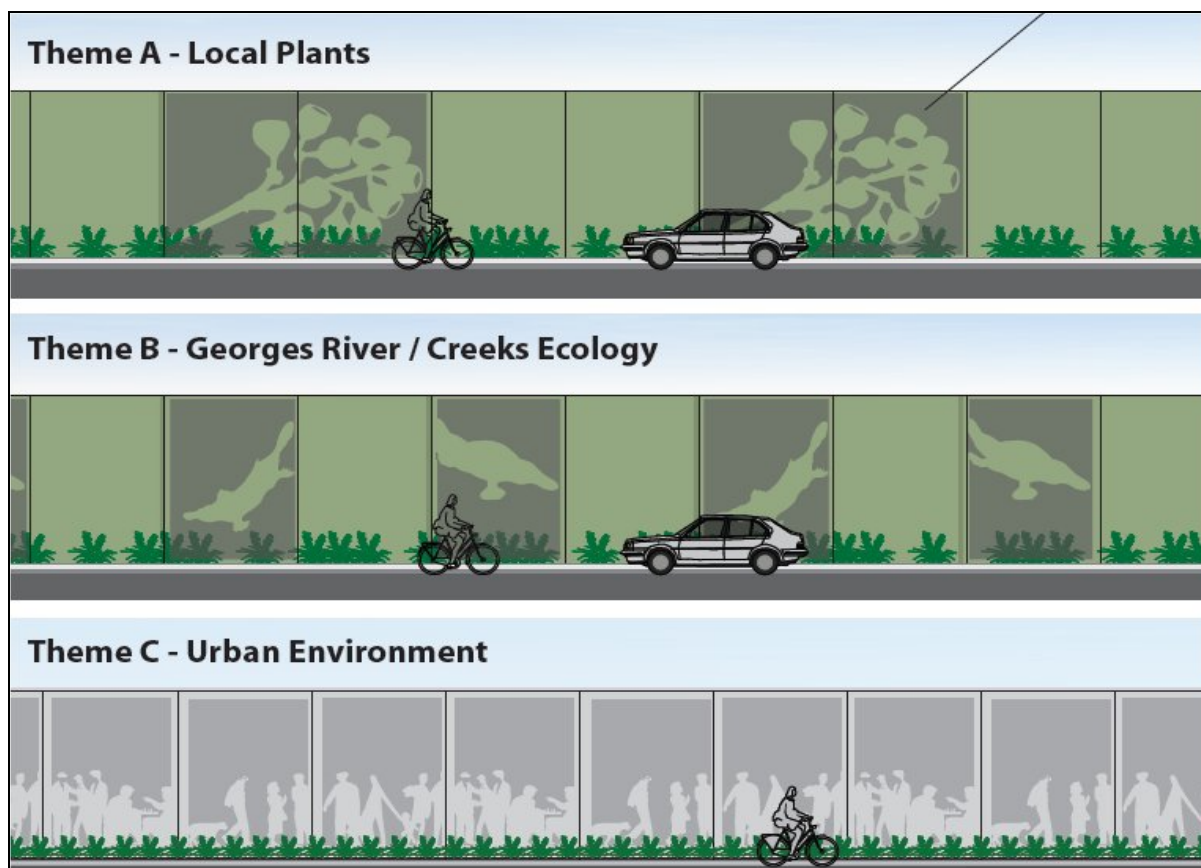


Figure 2: Noise Wall Themes

5.2.3 Staggering

To achieve additional depth, variation and to emphasise the panels, which have patterns on them, different staggering effects are used which create a shadow line along the patterned panels.

5.3 Community Consultation

Consultation with stakeholders and residents for noise barriers has commenced as part of the pre-construction phase to ensure that input and feedback is reflected in the design and to minimise any impact on procurement. Stakeholders and affected residents will be given the opportunity to comment on the noise walls prior to the finalisation of the plan.

The development of the noise walls is a three step process:

- develop proposals in accordance with the technical criteria, CoA and EA;
- consultation with stakeholders to obtain feedback on ARTC's proposals; and
- consider the consultation outcomes in the final design of the noise walls and incorporate stakeholder input where feasible and reasonable.

The final consultation activity would be to communicate the outcomes of the consultation activities and final decisions.

5.3.1 *Develop Proposals*

The first step is for ARTC to develop proposals in accordance with the technical criteria, CoA and Environmental Assessment.

The technical criteria (DECC Noise Goals for Rail Traffic Noise) were applied by the acoustic specialists during modelling of rail noise and had a direct bearing on the location and height of the proposed noise walls as well as the material to be used in the walls.

The urban design team has developed treatments for the proposed walls to suit the different locations as described in *Section 5.2* above.

5.3.2 *Obtain Stakeholder Input*

The second step is to obtain stakeholder feedback on the proposals. ARTC has already commenced this process via the Community Liaison Groups (CLG's).

Stakeholders have been given information on:

- noise criteria and how these were derived;
- how calculations of noise level (present future) were done and what this means in practice for communities close to the rail line;
- how noise mitigation (the barriers) is designed to reduce the perceived noise and vibration; and
- the extent and physical appearance of the proposed noise walls.

5.3.3 *Finalise Design of Walls*

The third step is to consider stakeholder input in the final designs, within the boundaries of what is feasible and reasonable:

- a barrier over 4 meters high is generally not considered feasible; and
- in all cases the provision of barriers is subject to urban design considerations and to community consultation

Noise barriers are required to be considered as part of this project to help achieve DECC's noise goals. Barriers beyond four metres high are not considered "feasible" and so DECC's goals may only be partially achieved. Nevertheless, these barriers would provide a significant reduction in noise compared with both the existing and the future noise situation without barriers. Whether the barriers are "reasonable" depends, among other things, on input from the community.

6 Flood Management Study

Connell Wagner was commissioned by ARTC to prepare a Flood Management Study (FMS). The draft Flood Management Study has been prepared and will be submitted to the Minister separately.

7 Level Crossings

The route of the SSFL crosses three existing level crossings. These are located at:

- Sefton Park Junction;
- Liverpool Hospital; and
- Casula (Powerhouse Regional Art Centre).

All three Level Crossings are proposed to be closed and alternative arrangements will be installed as follows:

7.1 Sefton Park Junction (RailCorp) Level Crossing:

The Sefton Park Junction Level Crossing is a private RailCorp crossing with no public access and no signal interlocking or booms (gates).

The level crossing will be closed and replaced with a new private RailCorp level crossing. The new level crossing will be located on the north chord of the triangle (the current crossing is located on the west chord). The north chord will have the least number of train movements in future as RailCorp plans a new timetable that involves running more trains on the west chord.

The new level crossing will have boom gates and signal interlocking linked to the nearest existing signals that control train movements through the junction⁵.

7.2 Liverpool Hospital Level Crossing:

This level crossing is considered private by the Liverpool Hospital, but it does provide public access when the hospital gates are open. It does have signal interlocking and booms.

This level crossing will be closed and replaced with a traffic bridge on a new alignment and a foot bridge on a similar alignment to the level crossing. The new bridges, which will be incorporated in the redevelopment of Liverpool Hospital, have been designed by the hospital with input from ARTC, RailCorp and TIDC. The NSW Health Department has agreed to fund the construction of the new bridges with assistance from ARTC and RailCorp. The bridges will be constructed under contract by ARTC and its contractors. The new bridge will also be linked to a new access road that Liverpool Hospital has planned for some time and which will link the hospital directly to the Hume Highway. This new access road will be the new front gateway for the hospital and will provide access to both halves of the hospital, the eastern side being directly accessible via the new road bridge. The bridge will also provide direct access into the upper levels of the hospital's new multi-story car park being built on the eastern side of the railway line.

Overall, the new rail bridge at Liverpool Hospital, which will provide uninterrupted access, will provide significant improvements for access between either half of the hospital as well as significantly better access to the eastern side than is afforded by the existing level crossing.

⁵ Connell Wagner, 2008, "Sefton Park Junction Level Crossing Relocation", prepared by Connell Wagner for ARTC, Sydney, August 2008

7.3 Casula Level Crossing:

The Casula level crossing provides public access to the Powerhouse Regional Arts Centre and has signal interlocking and booms.

The level crossing will be closed and replaced by a new access road from the north. The new access road will have potentially two points of connection to the existing street network. The first will be via Woodbrook Road underpass, an existing low underpass under the railway tracks about 1km north of the Powerhouse. This connection used to provide access to the old Liverpool Golf Course. However, due to its low clearance under the railway, it poses a constraint for larger vehicles, including fire engines.

An alternative connection point is to Shepherd Street, a kilometre further north again. This connection to Shepherd Street has necessitated the purchase of a private factory property to allow the road to be constructed from the end of the street. This property has already been acquired by Liverpool City Council in anticipation of the need to make the connection. With this second option, the new access road will have two points of connection to the road network and will be about 2 kilometres long once completed.

An agreement has been reached with Liverpool City Council that involves ARTC providing the formation for the roadway, which will serve as a construction access way during the railway construction phase of the project. This access way will subsequently be handed over to the Council who can then pave it as a sealed roadway, providing access to the Powerhouse Centre. Once this has been completed, and before freight trains become operational on the SSFL, the existing level crossing can then be closed to the public. The new access road will be the sole public access for the Powerhouse Centre.

In the event of an emergency, gates either side of the rail corridor aligned with the old level crossing would provide emergency and/or maintenance access.

References

- Connell Wagner, 2008,** “*Sefton Park Junction Level Crossing Relocation*”, prepared by Connell Wagner for ARTC, Sydney, August 2008
- PB, 2006[1]** “*Southern Sydney Freight Line: Environmental Assessment*”, prepared for Parsons Brinckerhoff Australia Pty Ltd, Sydney, April 2006
- Standards Australia** “*Australian Standard 2890.1: 2004 – Parking facilities: Off-street Car Parking*” 2004

Appendix A: Abbreviations and Definitions

Abbreviation	Description
ARTC	Australian Rail Track Corporation
CAOP	Community Amenity Offset Plan
CoA	Conditions of Approval
DECC	NSW Department of Environment and Climate Change
DEHWA	Department of the Environment, Water, Heritage and the Arts
DoP	Department of Planning
EA	Environmental Assessment
EAP	Environmental Actions Plan
EPA Act	Environmental Planning & Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FMS	Flood Management Study
PDC	NSW Physical Disability Council
SoC	Statement of Commitments
SSFL	Southern Sydney Freight Line
UDLP	Urban Design and Landscape Plan
WSROC	Western Sydney Regional Organisation of Councils

Appendix B: Commonwealth Approval Decision

**Appendix C: Stakeholder Consultation Activities
during Environmental Assessment**

Table 1.3 Consultation activities

Stakeholder group	Consultation activity
Commonwealth, State and local government authorities	<ul style="list-style-type: none"> • Introductory correspondence regarding the project • Planning focus meeting at study commencement • Separate discussions with authorities on specific issues as required • Environmental Assessment display notification and information
Commonwealth, State and local elected representatives	<ul style="list-style-type: none"> • Briefing session at the study commencement • Council discussion/information sessions • PB and ARTC attendance at Council meetings • PB and ARTC discussions as required • Receiving and responding to written submissions • Environmental Assessment display notification
Utilities and services	<ul style="list-style-type: none"> • ARTC discussions as appropriate
Non-government transport groups and companies, businesses and schools	<ul style="list-style-type: none"> • Registration on the project database • Mail box drop of community update newsletter 1 and 2 • Stakeholder issues identification meetings (3 meetings) • Stakeholder concept design/Precinct Plan information sessions (3 meetings) • Local business discussion days with translator (2 days) • Receiving and responding to written submissions • Environmental Assessment display notification • Project website • 1800 project information line
Local community groups and progress associations, interested regional groups and local individuals	<ul style="list-style-type: none"> • Registration on the project database • Mail box drop of community update newsletter 1 and 2 • Mail box drop of community meetings invitation flyer • Community issues identification meetings (4 meetings, 1 meeting per local government area) • Community information evenings (4 meetings, 1 meeting per local government area) • Receiving and responding to written submissions • Environmental Assessment display notification • Project website • 1800 project information line
Directly affected residents adjacent to the rail corridor	<ul style="list-style-type: none"> • Property search using information provided by Council to identify directly affected residents • Individual landowner discussions • Mail box drop of community update newsletters (2) and flyer • Receiving and responding to written submissions • Community information evenings (4 meetings, 1 meeting per local government area) • Environmental Assessment display notification and direct notification to adjacent residents • Project website • 1800 project information line
Wider community	<ul style="list-style-type: none"> • Mail box drop of community update newsletter 1 and 2 • Mail box drop of community meetings invitation flyer • Community issues identification meetings (4 meetings, 1 meeting per local government area) • Community information evenings (4 meetings, 1 meeting per local government area) • Receiving and responding to written submissions • Environmental Assessment display activities • Project website • 1800 project information line

Appendix D: State Planning Approval