



# TRAFFIC IMPACT STATEMENT: GREAT SOUTHERN HIGHWAY AT ALLAWUNA LANDFILL

Summary of the traffic impacts of a proposal to develop a Class III landfill in the Shire of York.

26<sup>th</sup> June 2013


Prepared By



## DISCLAIMER

The content contained herewith has been compiled in good faith using normal industry practices employed by Environmental Engineers and Environmental Scientists. Bowman & Associates Pty Ltd accepts no liability for loss or damages incurred by any individual or organisation due to reliance on the included content. This document and its contents cannot be used for any other purpose or reasons other than those agreed between the Client and Bowman & Associates Pty Ltd without first obtaining written consent from Bowman & Associates Pty Ltd.

## DOCUMENT CONTROL

VERSION	DATE RELEASED	PREPARED BY	APPROVED BY	AUTHORISED SIGNATURE
1.1	26.06.2012	Adam Davies	Bruce Bowman	

## DOCUMENT DISTRIBUTION

VERSION	TYPE	FORMAT	ISSUED TO	ORGANISATION
1.1	Electronic	.pdf	Nial Stock	SITA

## FILE NAME

130626 AD Allawuna Traffic Impact Assessment.docx

## TABLE OF CONTENTS

1	Background Details .....	1
2	Traffic Routes Affected by the Development .....	1
3	Number of Vehicle Movements .....	2
4	Potential for Stacking and Conflict.....	3
5	Proposed Upgrades.....	3
6	References .....	3

## 1 Background Details

SITA Australia Pty Limited proposes to develop Allawuna Landfill, a Class II or Class III putrescible landfill at the site of:

Lots 9926, 26934, 4869 and 5931

Volume 285/78A Great Southern Highway, St Ronans, Shire of York.

The Allawuna Landfill will receive between 150,000 and 250,000 tonnes of Municipal Solid Waste (MSW) and Commercial and Industrial (C&I) waste per annum.

The initial design is focused towards a tentative lifespan of 40 years, for a total volume of approximately 13,000,000 m<sup>3</sup>.

Due Diligence, Conceptual Design, Site Investigation and Regulatory Approvals submissions are currently in development with a view to beginning works at the site in 2014.

## 2 Traffic Routes Affected by the Development

The development of the Allawuna landfill will generate new road train vehicle movements between SITA's waste transfer station on Kurnall Road in Welshpool and the landfill site. The development will also eliminate the current transfer vehicle movement to the Shale Road Landfill on South Western Highway.

The transfer road trains will be Restricted Access Vehicles (RAV) Class 2, Category 3 in a pocket road train configuration, with a maximum length of 27.5 m. The pocket road trains will travel along the existing RAV Network 4 road system. Road trains will depart the Welshpool industrial area via Orrong Road (eastbound) and Roe Highway (northbound) before turning east onto Great Eastern Highway. At The Lakes intersection road trains will turn east onto Great Southern Highway and continue to the Allawuna site. Road trains will turn right (south) to access the landfill site.

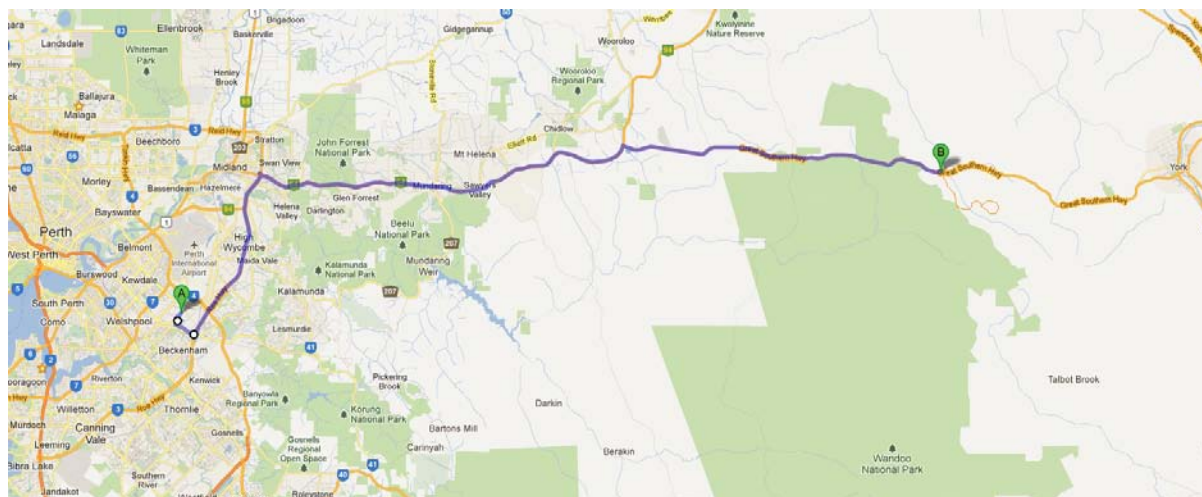


Figure 1: RAV Network 4 Road Train Route

The existing RAV Network 4 intersections along the route are all sufficiently developed to accommodate the small increase in road train volume associated with the landfill development.

### 3 Number of Vehicle Movements

A comprehensive review of the available traffic data from the Main Roads WA *Traffic Digest* compared with the proposed increase in vehicle movements is shown in Table 1.

**Table 1: Road Train Vehicle Movement Comparison**

Road	Location	Current Movements	% Heavy Vehicles	Maximum Movement Increase with Development	Total movement increase (%)	Heavy Vehicle % Increase with Development
Orrong Rd	N of McDowell St	29250		48	0.16%	
Orrong Rd	W of Roe Why Ramps H633 And H636	45370		48	0.11%	
Orrong Rd East on to Roe Hwy NB	NB On Ramp from Orrong Rd	5100		48	0.94%	
Roe Hwy	S of Tonkin Hwy	46150	12%	48	0.10%	1%
Roe Hwy	At Bridge Over Tonkin Hwy	50340		48	0.10%	
Roe Hwy	S of Berkshire Rd	41050		48	0.12%	
Roe Hwy	N of Berkshire Rd	40510		48	0.12%	
Roe Hwy	S of Kalamunda Rd	37300		48	0.13%	
Roe Hwy	N of Great Eastern Hwy Bypass	53080		48	0.09%	
Great Eastern Highway	E of Farrall Rd	30210	6.5%	48	0.16%	2%
Great Eastern Highway	W of Darlington Rd	35190		48	0.14%	
Great Eastern Highway	E of Bilgoman Rd	24340	10.6%	48	0.20%	2%
Great Eastern Highway	W of Hodgson St	19350		48	0.25%	
Great Eastern Highway	E of Hodgson St	17540		48	0.27%	
Great Eastern Highway	E of Sawyers Rd	16580		48	0.29%	
Great Eastern Highway	W of Great Southern Hwy	7620	18.5%	48	0.63%	3%
Great Southern Hwy	E of Great Eastern Hwy	2880	12.3%	48	1.67%	14%
Great Southern Hwy	W of Inkpen Rd	1710	13.2%	48	2.81%	21%
Great Southern Hwy	E of Inkpen Rd	1830	9.8%	48	2.62%	27%

The development of the site will have a negligible effect on the road network in the metropolitan area and a minimal impact (< 3%) on Great Southern Highway vehicle volumes.

As road train loads are evenly distributed across the day, the impact on peak traffic times is also considered to be negligible.

During harvest season an additional 2 road trains a day laden with grain will depart the site.

A small number of light vehicle movements for Landfill staff entering and departing the site in the morning and evening will also occur. The expectation is that most employees will be residents of the York area, with an expected 30-40 vehicle movements a day between York and the site. This volume represents a 2-3% increase in traffic between York and Allawuna.

## 4 Potential for Stacking and Conflict

The nature of the transfer operation is such that road trains will depart the transfer station at regular intervals of approximately 20 minutes when the landfill is receiving waste at full capacity. The staggered departure limits the potential for convoy stacking on the road train route to the site.

The potential for road train stacking is understood to be a significant issue for the residents of the Shire of Mundaring, with community concern over the road-use impacts of multiple laden road trains travelling in convoy along Great Eastern Highway towards Perth. The SITA operation of staggered waste delivery limits the potential for stacking. Unladen return journeys to Welshpool have the benefit of improved handling and response, increasing hill descent safety along Great Eastern Highway.

It is considered that the existing RAV Network 4 intersections along the road train route are sufficient for the proposed development.

## 5 Proposed Upgrades

SITA proposes an upgrade of the Great Southern Highway at the entrance to the site. The proposed design incorporates a standard Austroads Auxiliary Right Turn (AUR) treatment and an acceleration lane for westbound road trains. The design incorporates a 110 m taper out to a 4 m wide, 88 m long overtaking lane. The road then tapers back in over a further 110 m to rejoin the existing road form.

The acceleration lane length required is determined by the minimum acceptable merge speed of the departing road trains and may be up to 320 m for a fully laden vehicle. As the transfer road trains are departing empty, a 200 m acceleration lane is deemed to be appropriate for the Allawuna site.

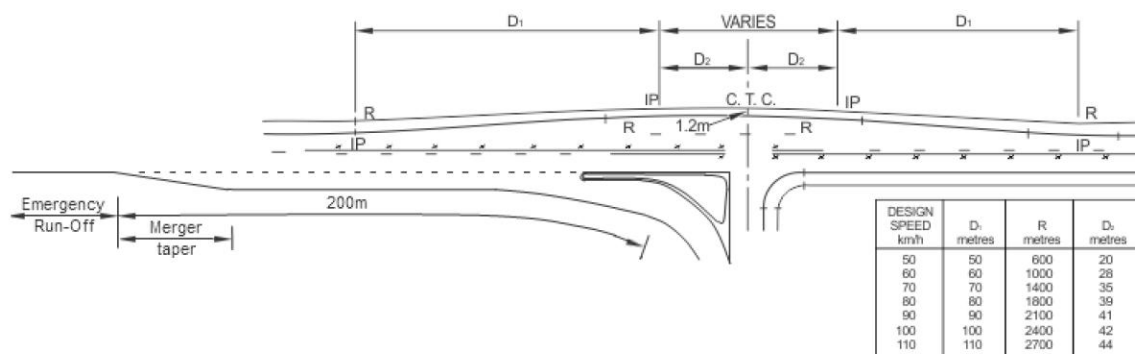


Figure 2: Proposed Great Southern Highway Intersection Upgrade

## 6 References

Austroads 2010, *Part 4A: Unsignalised and Signalised Intersections*, Guide to Road Design, Austroads Ltd. Sydney, Australia.

Main Roads WA 2009, *Statewide Traffic Digest 2003/04 – 2008/09*, Main Roads Western Australia.