B9- New Paper Mill

RESPONSE TO SUBMISSIONS FROM EXHIBITION OF ENVIRONMENTAL ASSESSMENT REPORT

- Modification #2 - Changes in Site Layout & Subdivision
- Final
- May 2010

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1. Introduction

1.1. Background

Project approval for Amcor Packaging (Australia) Pty Ltd ("AMCOR") New Paper Mill ("B9 Project") was granted by the Minister for Planning on 20 July 2007 (Application No: 05_120). Since then detailed design of the New Paper Mill has progressed significantly and as a result there are a number of modifications to the layout and operational characteristics which are required to ensure that the New Paper Mill operates efficiently, safely and with minimal additional environmental impact.

AMCOR is also seeking a modification to allow the subdivision of one of the lots of land at the New Paper Mill site to enable excess land to be sold to fund the further development of the New Paper Mill.

The modifications being sought to the approved project are:

- Relocation of the Engineering Store vehicle access further south along McCauley Street to opposite Raymond Avenue;
- An additional B-Double vehicle exit only access on McCauley Street for Finished Product vehicles;
- Use of the accesses on McCauley Street for the exit southbound only of heavy vehicles including B-Doubles from AMCOR's operations;
- The upgrade of McCauley Street from Botany Road to Raymond Avenue (South end) to make it suitable for B-Double use (southbound only) as well as use by other heavy vehicles;
- Changes in the site layout as a result of further development of the design;
- An increase in size of the Finished Product Store;
- Subdivision of Lot 1 DP772737 to allow the sale of excess land, to fund the development of the New Paper Mill; and
- Modification of operational noise limits.

An Environmental Assessment Report for the above modifications to the Approved Project was prepared and exhibited between 3 March and 17 March 2010. As a result of the exhibition, submissions on the proposed modification were received from the community and government stakeholders. This report provides AMCOR's response to those submissions.

2. Summary of submissions

Presented in **Table 1** is a summary of submissions received and issues raised as a result of the exhibition of Modification #2 Environmental Assessment Report. A copy of all submissions is contained in Appendix A.

- **Table 1: Summary of submissions**

ID	From	Issues Raised
1	Matraville Precinct Committee – Petition with approximately 400 signatures	Odour Traffic on McCauley Street Noise from New Paper Mill and new development precincts Monitoring
2	3 Residents – Perry St Matraville	Traffic on McCauley Street Odour
3	1 Resident – McCauley Street	Traffic on McCauley Street Odour
4	2 Residents – McCauley Street	Traffic on McCauley Street Parking Odour & Noise
5	1 Resident - McCauley Street	Odour
6	1 Resident - McCauley Street	Odour
7	Sydney Ports	None
8	Randwick City Council (RCC)	Traffic on McCauley Street McCauley Street civil works Utilities Flooding & Drainage Stormwater Waste Landscaping
9	Roads & Traffic Authority (RTA)	Traffic modelling McCauley St/ Botany Rd intersection design
10	Department of Environment, Climate Change and Water (DECCW)	Odour Operational Noise
11	Department of Planning (DoP)	McCauley St/ Botany Rd intersection design Operational Noise

3. Response to Submissions

In the following sections a response to each issue raised by the submissions is presented. Many of the submissions raised similar issues and these have been addressed under a single heading. The submission(s) that raised the specific issue has been identified.

3.1. Odour

All of the community submissions (Submission #1 to #6) raised the current odour from the Existing Paper Mill as a significant source of annoyance and a reduction of local amenity. AMCOR recognises that the performance of its current operations sometimes results in generation of odours. The New Paper Mill will result in a significant reduction in odour generated from the site and its impact on the surrounding community.

AMCOR as part of the proposed modification is not seeking a modification to any conditions relating to odour. The predicted odour levels presented in the modification Environmental Assessment Report are consistent with those presented in the 2006 Environmental Assessment and 2007 Submissions Report.

As noted in the Modification #2 Environmental Assessment Report the predicted odour levels are conservative to take into consideration a number of contributing factors, including:

- The existing Paper Machines are over 40 years old (technology has improved in the intervening years) and there are design issues in the auxiliary processes (e.g. the existing wastewater management system has many “dead zones” in the piping which allow bacterial growth which causes the odour). The replacement New Paper Mill will incorporate the latest technology and the design issues which impacted the odour performance of the Existing Paper Mill will be addressed. However a conservative approach was undertaken in odour modelling and odour generation rates based upon odour data collected from the existing Paper Mill and scaled up to account for increased production were used;
- There are no other sources of comparable odour data in the world which could be used to more accurately predict odour generation rates. This is because:
  - There are different standards for odour measurement in different countries that make data collected in other countries unsuitable,
  - Odour is not considered an issue for this type of paper production by modern Paper Mills (i.e. the same as will be installed at Botany) and therefore is not measured; or
  - The feed stock and/or paper machines are substantially different at other facilities.
- Historically the vast majority of odour complaints occur when there is a failure in the process or when non-standard operational conditions occur (e.g. starting up the paper machines after a

period of inactivity). The occurrence of failures in the process and non-standard operational conditions would decrease with the new paper machine and auxiliary infrastructure.

AMCOR would still be required to meet the relevant Minister's Condition of Approval relating to odour which is:

The Proponent shall ensure that the project complies with Section 129 of the Protection of Environment Operations Act 1997.

Note: Section 129 of the Protection of Environment Operations Act 1997 provides that the Proponent shall not cause or permit the emission of any offensive odour from the site, but provides a defence if the emissions is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with a condition of licence.

AMCOR is confident that it will be able to meet and demonstrate compliance with the above Minister's Condition of Approval with its current design and mitigation measures.

If in the unlikely event that after the New Paper Mill becomes operational, the offsite odour levels are greater than 2 OU/m^3 at the nearest residential receiver and are still considered to be offensive to the community and DECCW, AMCOR would undertake remedial measures to decrease the odour impact. There are a number of options that AMCOR would consider including increasing stack velocities and heights to reduce ground level odour levels and/or improving water treatment. An appropriate solution would be developed based upon the causes of unacceptable odours from the New Paper Mill.

3.2. Traffic

3.2.1. Traffic modelling

The RTA raised a number of issues with the traffic and intersection modelling at McCauley Street/Botany Road intersection and the Bomborah Point Road/Botany Road intersection. These issues and a response to each of the issues are presented below. Further traffic and transport assessment has been undertaken, incorporating revised Sidra intersection modelling and an updated assessment report has been prepared (See **Appendix B**).

McCauley Street/Botany Road intersection

- *Issue 1 - The traffic signal phasing used in the Sidra model for the intersection is inconsistent with the existing TCS plan for that intersection (REGN.0170.381.VV.2647).*

The latest TCS plan was obtained from the RTA and the Sidra models were updated to reflect this new information.

- *Issue 2- Existing peak hour traffic volumes used in the modelling appear to be low and inaccurate. A current traffic volume survey is recommended to obtain more accurate data for traffic impact analysis.*

Traffic counts were undertaken in the peak hour at the McCauley Street and Botany Road intersection in early May 2010. The 2007 and 2010 traffic counts are compared in **Table 2**. The traffic movements in 2010 were similar to those recorded in 2007, with a small increase in traffic movements in the PM peak. Heavy vehicles accounted for 15-30% of traffic movements. Therefore the traffic count data used in the analysis were not low or inaccurate.

- **Table 2: Traffic Counts 2007 and 2010**

		Vehicle movements	
Location	**Direction**	**Hourly AM Peak**	**Hourly PM Peak**
McCauley Street -2007	In	85	53
	Out	69	97
	Total	**154**	**150**
McCauley Street -2010	In	98	63
	Out	60	105
	Total	**158**	**168**

- *Issue 3 - The traffic volume input data used in the Sidra model for the following future cases at the intersection of Botany Road/McCauley Street is inconsistent with the additional traffic volume of the proposed development as calculated in the SKM B9 Project - New Paper Mill - Revised Modification #2 report dated 16 February 2010:*
  - *AM Peak hour 2018 subdivision*
  - *PM 2018 B9*
  - *PM 2018 subdivision*

The input data in relation to the above items was checked and found to be entirely consistent with the forecast traffic volumes. The Sidra model information has been provided to the RTA.

- *Issue 4 - A PHF(peak hour factor) has not been considered in the Sidra model for the intersection of Botany Road/McCauley Street.*

A 30/60 peak flow period has been applied to both intersections, to maintain consistency between the count data and SCATS data, which was in an hourly format. A 60/30 split is recommended in Sidra when detailed 15 minute count data for all movements is not available.

- *Issue 5 - The trip generation rates for the office block and warehouse development in the SKM B9 Project - New Paper Mill - Revised Modification #2 report dated on 16 February 2010 are inconsistent with the RTA's Guide to Traffic Generating Developments 2002. The reference of selected trip generation rates in the report is required to be provided.*

The rates used are from Table 3.4 (for industrial estates) of the *Guide to Traffic Generating Developments (RTA 2002)*. For example, for 8-9am = 318 total vehicles/hr/1000 staff, or 0.318 trips per employee. For the afternoon, the maximum generation rate 365 total vehicles/hr/1000 staff, was used.

- *Issue 6 - Details of the directional splits of the proposed future trip generation is also required.*

The percentage splits are based on the survey data and have been included in the revised traffic and transport assessment in **Appendix B of Appendix B**.

- *Issue 7 - The modelling of the intersection should include pedestrian crossings at the northern leg of the intersection (across McCauley Street) and at the southern leg (opposite McCauley Street at the entrance to Gate B1 to Port Botany) -run in parallel to the Botany Road phases; and provision for at least one future signalised pedestrian crossing across Botany Road -run in parallel to the existing McCauley Street phase.*

The Sidra models were re-run with signalised crossings on the north, south and east approaches for all 2018 scenarios. Both of the existing intersections analysed in the assessment do not currently have any pedestrian facilities due to the minimal pedestrian activity along Botany Road. Notwithstanding that pedestrian activity in the area is minimal and there are no footpaths on either side on Botany Road, 50 pedestrian movements per hour on each crossing were assumed in the revised modelling.

Botany Road/Bumborah Point Road intersection

- *The traffic volume used in the modelling was inaccurate for the intersection of Botany Road and Bumborah Point Road. SCATs traffic data indicates that total through and right movements on Bumborah Point Rd in AM peak hour and PM peak hour are 252 vph and 222 vph respectively, compared to 27 vph and 62 vph in the report. A reliable traffic count needs to be undertaken at this location and this data should be used to model the intersection*

The SCATs data was used instead of undertaking additional traffic counts. This is a conservative approach as it does not give a true indication of the split of vehicles between travelling through the intersection to AMCOR's site and those turning right into Botany Road. For the modelling it was assumed 10% of vehicles travelled through the intersection to AMCOR's site which an over-estimation.

Results of updated intersection modelling

The updated Sidra intersection models included the latest traffic light phasing, pedestrian crossings and a 30/60 peak flow factor. Even with these additional factors included in the modelling, the level of service remains at an acceptable level of B in all scenarios including the 2018 scenario (See **Table 3** and **Table 4**) for the McCauley Street/Botany Road intersection. In the 2018 scenario at the Bomborah Point Road/Botany Road intersection, a Level of Service C is estimated during the AM peak and Level of Service D during the PM peak. Given that the future traffic flows were considered and the PM peak Level of Service would have been C if the delay was only 2 seconds

shorter, the Level of Service D in the PM peak is considered satisfactory. Full details of the intersection modelling are contained in Appendix B.

- **Table 3: Future Intersection Operation, 2018 with Project B9 & MRF Traffic**

Intersection	AM Peak		PM Peak	
	LoS	Average Delay (Seconds)	LoS	Average Delay (Seconds)
Botany Road / Bumborah Point Road	B	26	C	29
Botany Road / McCauley Street	A	14	A	14

- **Table 4: Future Intersection Operation, 2018 with Project B9, MRF & Subdivision Traffic**

Intersection	AM Peak		PM Peak	
	LoS	Average Delay (Seconds)	LoS	Average Delay (Seconds)
Botany Road / Bumborah Point Road	C	33	D	44
Botany Road / McCauley Street	B	22	B	20

3.2.2. McCauley Street/Botany Road intersection design

The RTA and DoP requested further details of the McCauley Street/ Botany Road intersection design including:

- Pedestrian crossings;
- Design and location of traffic islands;
- Kerb locations in consideration of semi-trailers turning into McCauley Street from Botany Road and B-Doubles turning out of McCauley Street into Botany Road;
- Dedication of land by AMCOR on the corner of Botany Road and McCauley Street for the modified intersection;
- Stage 3 Road Safety Audit by a Certified Auditor.

Appendix D shows a more detailed concept design for McCauley Street/ Botany Road intersection. All of the RTA requirements can be achieved with revised design except for the left turn into McCauley Street from Botany Road – which would have to be undertaken from a centre lane rather than the kerb lane. As AMCOR does not own the road reserve on the western corner of Botany Road and McCauley Street (or any directly adjoining land), AMCOR cannot make the commitment to undertake significant works in this area. As AMCOR operational vehicles would not be permitted to access the site from McCauley Street, any major road works to allow a left turn from Botany Road into McCauley Street should be the responsibility of RCC and/or the developer of the

McCauley Street Precinct. Also once the type and number of traffic movements generated by the McCauley Street Precinct is known, an appropriate left turn in McCauley Street from Botany Road can be designed and constructed.

The concept design shows that AMCOR would not be required to dedicate any land at the corner of McCauley Street and Botany Road as the property boundary is a significant distance from the existing and proposed kerb lines. However, if the detailed design required additional dedication of land for the intersection, AMCOR would dedicate the required land within reason.

A road safety audit of the concept design was not undertaken, however would be completed on the detailed design.

3.2.3. Existing traffic levels in McCauley Street

Submission #2 indicated that existing traffic levels on McCauley Street are excessive and identify AMCOR as one of the main contributors. The only AMCOR operational vehicles currently using McCauley Street access the engineering store and the number of vehicles is generally low (<10 vehicles a day).

Submission #3 also indicated that McCauley Street traffic levels are excessive and the illegal use of the street by northbound traffic is a significant issue. The responsibility for enforcing traffic laws in the street lies with the Police, RTA and RCC. However, AMCOR recognises that it has a responsibility for its own traffic and has proposed a number of measures to ensure that vehicles associated with its operations turn southbound onto McCauley Street (e.g. physical traffic management measures, driver education and contractual penalties for disobedient drivers).

3.2.4. AMCOR traffic on McCauley Street

Submission #2 suggests that the Modification #2 Environmental Assessment Report is contradictory in stating that no AMCOR vehicles would enter the site from McCauley Street – while saying vehicles accessing the McCauley Street Precinct would use McCauley Street. These two statements are correct and are not contradictory.

Vehicles accessing the McCauley Street Precinct would not be AMCOR vehicles, as AMCOR would no longer own the land. Additional vehicles using northbound McCauley Street would be vehicles associated with new development in the precinct.

Vehicles associated with AMCOR operations would not be permitted to enter the site via McCauley Street. The two AMCOR accesses on McCauley Street would be controlled at the Finished Product Store or outgoing weighbridges.

Submission #4 suggested that the increase in traffic on McCauley Street due to proposed modification would be 1380 vehicles per day. This is incorrect as the actual increase due to the New Paper Mill would be on average about 238 vehicle movements per day (See **Appendix B - Table 10** Note: General Traffic would enter and exit the site via Botany Road). While the proposed Material Recycling Facility and development of the McCauley Street Precinct will further increase traffic numbers on McCauley Street, these developments are subject to further assessment and approval. Estimates of traffic movements from these proposed developments were generated for the Environmental Assessment Report at the request of government stakeholders to assess the capability of intersections to handle higher traffic levels. However, this does not mean that these levels of traffic are approved or will eventuate from future developments.

3.2.5. Traffic turning right on to McCauley St

Submission #1 commented on Figure 3 of the Modification #2 Environmental Assessment Report that shows a 5.2m vehicle turning right on to McCauley Street from the proposed access at McCauley Street/ Raymond Avenue. This traffic movement was placed on the figure at the request of one of the government stakeholders and is a legal traffic movement. However all of AMCOR's vehicles would turn left only out of the site onto McCauley Street.

AMCOR recognises that additional physical measures may be required to ensure that traffic leaving the site turns left only on to McCauley Street. It has committed to consulting with RCC and the RTA in the preparation of the detailed design of McCauley Street to ensure that appropriate physical traffic measures (e.g. signage, traffic barriers etc) are included. Also AMCOR would be prepared to commit to other non-physical measures such as driver education and penalties to ensure that their vehicles do not impact upon residential areas.

Some submissions (e.g. Submission #4) question the effectiveness of physical traffic management measures. These traffic measures are just one component of a larger strategy to ensure that AMCOR vehicles exit the site southbound only on to McCauley Street.

3.2.6. Employee, contractor and visitor vehicles

Submission #1 commented that Figure 2 of the Modification #2 Environmental Assessment Report did not show that employee, contractor and visitor vehicles would exit via Botany Road. While the figure does not explicitly show these vehicle movements, the Environmental Assessment Report clearly states that all employee, contractor and visitor vehicles would exit via Botany Road.

3.2.7. Increased use of McCauley Street by B-Doubles

Submission #4 suggested that the traffic noise assessment did not take into account the number of non-AMCOR B-Doubles that would legally be allowed to use McCauley Street.

Under the proposed modification only B-Doubles travelling southbound would be able to legally use McCauley Street and this would only be AMCOR vehicles – as no B-Doubles would be allowed to access McCauley Street northbound. A traffic noise assessment has been undertaken based upon AMCOR's predicted traffic numbers and the conclusion of the assessment is that traffic noise would be at acceptable levels for the urban environment. The development of the McCauley Street Precinct would be subject to a separate development approval and assessment of impacts where the issues of potential additional traffic noise and use of B-Doubles northbound would be addressed (if relevant).

The Council, RTA and Police are responsible for ensuring the legal use of McCauley Street by B-Doubles. AMCOR would ensure that its vehicles would only travel southbound along McCauley Street.

3.2.8. Structural damage to residences from heavy vehicles

Submission #4 suggested that the increase in heavy vehicle use on McCauley Street would result in structural damage to resident's homes.

Any vehicle movements associated with AMCOR's operations would be at least 100 metres away from the nearest residence. Over this distance any vibration from heavy vehicle movements would be rapidly attenuated and would not result in any structural damage to surrounding properties.

3.2.9. Safety risks to Purcell Park users

Submission #4 suggested that the increase in traffic on McCauley Street would result in safety risks to children using Purcell Park and surrounding areas.

Vehicles exiting the site would be 200 metres away from the boundary of Purcell Park and at least 300 metres from the main play area. This distance would provide safe separation between the park users and vehicles exiting the site. Also as there are no residential areas in the southern section of McCauley Street, park users are unlikely to need to cross any of the proposed accesses on McCauley Street.

All vehicles exiting AMCOR's operations would be required to turn south away from Purcell Park. Also AMCOR is dedicating up to 2m of land along McCauley Street to Council to provide improved pedestrian and safety features along McCauley Street (See Section 3.2.13).

3.2.10. Use of Botany Road by AMCOR

Submission #4 suggested that AMCOR vehicles should exit the site on to Botany Road.

In AMCOR's original proposal exhibited in May 2009, the vast majority of AMCOR's vehicles plus vehicles from the Botany Road Precinct would have exited directly on to Botany Road. To allow this the traffic light phasing would have needed to be changed at the Bomborah Point Road/Botany Road intersection which was rejected by the RTA. To maintain the existing traffic light phasing and projected traffic from the site, the increased use of McCauley Street is the only viable option.

3.2.11. Road safety on McCauley Street

Submission #2 raised road safety concerns due to the current level of traffic and narrow width of the road. As part of the proposed modification, McCauley Street will be upgraded to allow for the safe movement of heavy vehicles including improved parking and additional pedestrian facilities. This will include AMCOR dedicating some of its own land to provide a verge and pedestrian footpath on the east side of McCauley Street and along Botany Road. These works will improve the overall safety of McCauley Street.

3.2.12. Parking on McCauley Street

Submission #4 suggested that parking will be reduced along McCauley Street. Currently vehicles park illegally along the eastern side of McCauley Street either in the road reserve or on AMCOR's land. With the proposed upgrade of McCauley Street there would an increase in legal parking spaces on McCauley Street, however it is recognised that the current overall capacity (both illegal and legal) would be reduced.

3.2.13. McCauley Street civil works

RCC requested that AMCOR dedicate land and widen McCauley Street from Australia Avenue to Botany Road (Submission #8 - Condition #2). As detailed in the Environmental Assessment Report, AMCOR only intends to dedicate land and widen McCauley Street from Raymond Avenue (South end) to Botany Road. Widening the road past Raymond Avenue (South end) would encourage heavy vehicle movements north of Raymond Avenue (South end) towards residential areas – which would directly conflict with other RCC requests that discourage such movements. However, kerb, guttering and a footpath would be provided on the east McCauley Street site frontage between Raymond Avenue (South end) and Australia Avenue.

Other components of the civil works requested by RCC are consistent with the Environmental Assessment Report including:

- Survey;
- Parking lanes, travel lanes and verge widths;
- Reconstruction of the southbound pavement and resheeting of the northbound pavement;
- Footpath, kerb and gutter and drainage works; and
- Signage and physical traffic management measures.

It is noted that the heritage wall would remain on AMCOR's land.

3.2.14. Additional traffic studies

RCC requested that AMCOR undertake additional operational traffic studies to assess the impact of its operations on the road network and signalised intersections (Submissions 10 - Condition #10). ACMOR does not consider that additional studies are required as:

- This Submission Report (Section 3.2.1) contains detailed assessments of the impact of AMCOR traffic movements on relevant signalised intersections including consideration of future traffic growth. Any additional modelling would produce the same outcomes as there is no new information; and
- AMCOR's overall contribution to traffic on the surrounding road network is negligible. For example Botany Road AADT is approximately 25,000 vehicles of which a maximum of 500 vehicles could be attributed to AMCOR's proposed operations (ie: about 2%). This minor contribution to traffic levels does not warrant detailed road network modelling.

The revised site layout has been designed to eliminate any queuing of AMCOR vehicles along Botany Road and any queuing of vehicles at the weighbridge would be contained entirely within AMCOR's site.

3.2.15. No heavy vehicle access from McCauley Street to McCauley Street Precinct (Lot 1)

RCC requested that there be no northbound heavy vehicle access from McCauley Street to the McCauley Street Precinct (Lot 1) (Submission #8 Condition #5, 6, 10 and 13). It has requested that all heavy vehicles accessing the McCauley Street Precinct do so via the Botany Road access. McCauley Street Precinct traffic would not be able to use AMCOR's internal road network as AMCOR would not be able to ensure the safety and security of its site and operations.

It would be possible to construct an access road around the north of the proposed MRF to the McCauley Street precinct that maintains the security of AMCOR's site and allows vehicles to use the Botany Road access. However this would be the least preferred option as:

- The Level of Service at the Botany Road access intersection may not be acceptable with increased traffic from the McCauley Street Precinct as the final land use (and traffic generation) of the McCauley Street Precinct has yet to be determined and modelling has not been undertaken to assess the impact; and
- There would be a significant reduction in the area of developable land in both the Botany Road Precinct and the McCauley Street Precinct; and
- Most importantly, residential areas would experience significantly higher heavy vehicle noise levels as heavy vehicles would be required to travel closer to residential areas. For example with the alternative access road heavy vehicles would travel within 40m of residents on Partanna Avenue to access the McCauley Street Precinct. If heavy vehicles were to use McCauley Street to access the McCauley Street Precinct as proposed by AMCOR, they would be at least 100m away from the nearest residence in Australia Street.

3.2.16. No construction vehicle access northbound on McCauley Street

RCC have requested that no heavy vehicles travel northbound on McCauley Street for any construction activities (Submission #8 Condition #21). This is inconsistent with the Approved Project and would make the construction of McCauley Street and the New Paper Mill difficult, if not impossible. It is also likely that there would be increased queuing along Botany Road due to construction traffic. The existing MCoA including the preparation of a Construction Traffic Management Plan (MCoA 21), provides sufficient scope for the assessment and management of construction traffic.

3.3. Drainage

3.3.1. Flood study

RCC requested that a detailed flood study be prepared to assess the 1 in 100 year flood levels and, based upon this study, mitigation measures be developed to ensure that flooding impacts in areas upstream and downstream of the site do not increase due to the proposed development.

A detailed flood study was prepared by AMCOR in 2009 which has been reviewed by RCC. The off-site aspects of this flood study would not change with the proposed modification. The on-site impacts of flooding would change slightly with the proposed modification due to the changes in site layout, however the changes are not expected to be significant. AMCOR would reassess on-site flooding impacts and develop appropriate mitigation measures based upon the modified site layout.

One of the key findings of the 2009 flood study was that the existing No:7 and No:8 Paper Machine buildings provided a significant barrier to overland flow in the eastern portion of the site (i.e. in the Botany Road Precinct). Demolition of the buildings and redevelopment of the area is not likely to result in the same barrier to overland flow, reducing upstream flooding risks. Therefore, covenants on land in the Botany Road Precinct for overland flow paths are not considered necessary.

Overland flow in the western portion of the site was primarily down McCauley Street. As McCauley Street would be widened and upgraded (including stormwater drainage), upstream flooding risk would also be reduced.

3.3.2. Stormwater

RCC requested that AMCOR design and construct stormwater systems for the New Paper Mill and the new development precincts before the subdivision is approved.

AMCOR will provide sufficient capacity in the New Paper Mill stormwater system to handle stormwater flows from the McCauley Street Precinct as there are no other options for the disposal of stormwater from this area. This will be via a stormwater pipeline along the southern boundary of the McCauley Street Precinct that will also receive some stormwater flows from the New Paper Mill. It is anticipated that any development of the McCauley Street Precinct would be subject to detailed stormwater investigation and management including design and installation of appropriate stormwater infrastructure in accordance with the proposed site use and layout.

For the Botany Road Precinct, there are many options for the disposal of stormwater including many existing stormwater lines, Bunnerong Creek and Botany Road stormwater system. The

developer of the Botany Road Precinct would be responsible for designing and installing stormwater infrastructure as the location and size of this infrastructure would be dependent on the site use and layout.

The design and construction of stormwater systems for the new development precincts should not be a precondition for subdivision. The existing MCoA (9(b)) dealing with stormwater issues is adequate.

3.4. Noise

3.4.1. Modification of operational noise criteria

Introduction

Submission #1 requests that AMCOR comply with DECCW operational noise criteria. The submissions from DECCW (#9) and DoP (#10) requested that the Noise Impact Assessment (NIA) be revised to:

- Identify any additional noise mitigation measures that are reasonable and feasible;
- Confirm that already proposed mitigation measures are suitable (e.g. acoustic noise wall); and
- Provide additional information on AMCOR's contribution to the noise environment in the local area.

The revised NIA is presented in **Appendix C** and is summarised below.

AMCOR recognises that noise is one of the major issues impacting upon the local amenity of the area. While AMCOR contributes to the local noise environment, there are many other sources of noise from the local area (e.g. major road and port noise).

Justification

Any modification of the operational noise limits will be undertaken in compliance with DECCW's guideline document, the *Industrial Noise Policy* (INP) and approved by DECCW and DoP. However AMCOR commits that the noise generated by the New Paper Mill will be lower than the noise currently experienced by residential receivers from its existing operations at all locations except Australia Avenue. While there will be a marginal increase in noise levels at Australia Avenue from AMCOR's operations, there would be a decrease in the noise contribution from Port Botany at this location due to shielding effects of the new buildings associated with the New Paper Mill.

The reason for the proposed modification to the operational noise limits is that:

- The location of some of the noise generating activities or plant has changed (e.g. relocation of the stock preparation facility, location and orientation of exhaust fans and blowers confirmed);
- The change in traffic movements on site as a result of the rejection of AMCOR's proposal to change the traffic light phasing at its Botany Road access (See Section 3.2.10); and
- The original modelling used to derive the operational noise limits assumed that the Paper Machine buildings #7 and #8 would be retained. These buildings provided significant noise

mitigation in the original modelling. However, with the subdivision of the AMCOR site, it is very likely that the old Paper Machine buildings would be demolished to allow for redevelopment of the area. While it is also likely that other buildings and structures would be constructed in the subdivided area and these would provide noise mitigation for the New Paper Mill, the type and location of these buildings cannot be predicted. Taking a conservative approach, the revised noise modelling has assumed that there would be no buildings or structures in this area.

Existing noise environment

Additional information on the contribution of AMCOR's existing operations to the local noise environment is presented in the revised NIA (See **Appendix C**). This information is based upon regular attended noise modelling undertaken by a noise consultant (Acoustic Group) and includes consideration of other noise sources (e.g. port noise). Generally Port Botany is the dominant noise source at Australia and Murrabin Avenue, AMCOR is the dominant noise source at Partanna Avenue and a combination of both AMCOR and the port are the dominant noise sources at Moorina Avenue. The contribution of AMCOR to the night time noise environment was estimated and is presented in **Table 5**.

- **Table 5: AMCOR contribution to night time noise environment**

Location	AMCOR contribution to night time noise environment dB(A)
Australia Avenue	39-42
Murrabin Avenue	42-45
Partanna Avenue	48-50

Noise mitigation measures

The following major noise mitigation measures were included in the revised NIA:

- High 5 m noise barriers constructed of suitable materials (e.g. aerated concrete if required) along the boundary shared with the adjoining new development precincts (i.e. subdivided land);
- Retention of the existing B7 Reel Store so that this building would be used in the future as a Material Recovery Facility and be redesigned to provide acoustic shielding;
- Very high noise barriers of concrete and "Colorbond" around the waste storage yard;
- Placement of the process and building ventilation system fans on decks located on the south side of the New Paper Mill building away from residential areas;
- Engineering controls on specific fans and blowers to achieve 85dB(A) at 1m from the outlets;

- The ground floor level wall facing residential areas would be of concrete and a double clad metal system;
- The machine level floor cladding facing residential areas would be a double steel cladding system;
- The internal roadway system and therefore the traffic flow has been designed to prevent the sleep disturbance criteria from being exceeded; and
- The finished goods store has been redesigned so that trucks will be loaded inside the building and exit the site at a location removed from the nearest residences.

Based upon modelling undertaken for the NIA, other potential noise mitigation measures for specific noise sources (e.g. more effective silencers on exhaust fans) were identified and assessed. **Table 6** demonstrates that decreasing fan noise by 3.2 dB(A) results in a reduction in 1.7 dB(A) for residences in Australia Avenue and Murrabin Avenue (Scenario 1 vs 2). AMCOR would commit to the additional noise mitigation, and the additional reduction in Project Specific Noise Limits for Australia Avenue and Murrabin Avenue residences has been included in **Table 7**. For other residential locations the ability to reduce noise levels is limited because of the relatively equal contribution of other noise sources. To effectively reduce noise levels at other residential receivers, substantial noise mitigation measures would be required for all noise sources, not just one or two noise sources. Therefore the substantial costs of additional noise mitigation only provide limited reductions in noise levels and should not be considered a reasonable imposition on the new development. The noise mitigation measures presented above are the culmination of assessing all potential mitigation measures and selecting those that are feasible to implement and are reasonable in terms of cost/benefit.

- **Table 6: Example: Reduction of Fan/blower Noise Contribution**

	Scenario 1 – As designed	Scenario 2	Scenario 3	Scenario 4
Building	37 dB(A)	37 dB(A)	37 dB(A)	37 dB(A)
Fans/blower	43.2 dB(A)	40 dB(A)	39 dB(A)	38 dB(A)
Loaders	36 dB(A)	36 dB(A)	35.5 dB(A)	35.5 dB(A)
Trucks	34.4 dB(A)	34.4 dB(A)	34.4 dB(A)	34.4 dB(A)
Combined Level	**45 dB(A)**	**43.3 dB(A)**	**42.8 dB(A)**	**42.4 dB(A)**
Reduction Achieved from Scenario 1	N/A	1.7 dB(A)	2.2 dB(A)	2.6 dB(A)

Proposed new operational noise limits

The NIA was revised and modelling of the New Paper Mill was undertaken for day, evening and night time scenarios. Based upon the revised modelling the operational noise limits in **Table 7** are proposed. The INP Acceptable Amenity Criteria for an urban environment are also presented to provide context for the proposed new operational noise limits. Generally the proposed day time operational noise limits are at least 14 dB(A) below the acceptable criteria, the evening noise limits are 5 to 9 dB(A) below the acceptable criteria and night time noise limits 0 to 6 dB(A) below the acceptable criteria. Also the noise limits are below the current noise limits for the existing Paper Mill (at least a 5 dB(A) reduction).

- **Table 7: Recommended Project Specific Noise Limits**

Residential Location	Day Time dB(A)	Evening dB(A)	Night Time dB(A)
INP Acceptable Amenity Criteria	**60**	**50**	**45**
R1 – Australia Avenue	46	45	43
R2 – Australia Avenue	45	45	43
R3- Murrabin Avenue	45.5	45	43
R4 – Partanna Avenue	42	41	41
R5- Partanna Avenue	42	42	39
R6 – Moorina Avenue	43	42.5	39

3.4.2. Operational hours of the new development precincts

Submission #1 requested that the new development precincts not be permitted to operate 24/7.

In July 2009, the whole of the Botany site (including the new development precincts) was rezoned as IN1– General Industrial under the Three Ports State Significant Sites Proposal. The objectives of the zoning are:

- To provide for a wide range of industrial and warehouse land uses;
- To encourage employment opportunities (particularly port related);
- To minimise the adverse effect of industry on other land uses;
- To encourage industrial ecology and ecologically sustainable development.
- To provide suitable areas for those industries that need to be separated from other land uses;

- To enable development for the purposes of retailing or commercial offices only where it is associated with, and ancillary to, port related activities or where it serves the daily convenience needs of the local workforce;
- To facilitate and encourage port related industries which will contribute to the growth and diversification of trade through the port;
- To encourage employment opportunities.

Any limits on operational hours of the new development precincts would conflict directly with the objectives of the zoning.

Also any development in the new precincts would be subject to further development applications and approval processes during which the operational noise and hours of operation of any new uses would be assessed in detail. Until the new uses of the development precincts are described and assessed it is not appropriate to limit their operational hours.

3.5. Monitoring

Submission #1 requested that independent monitoring of AMCOR's impacts be undertaken with results reported weekly on a web-site.

AMCOR undertakes regular monitoring of its existing operations to meet the requirements of its Environmental Protection Licence (EPL) and its Operational Environmental Management Plan. Monitoring requirements for the New Paper Mill would be identified in a new EPL, which would be issued by DECCW prior to commissioning of the new facility. Odour and noise would be monitored. However, it is likely that periodic surveys combined with modelling would be used to assess potential impacts. Detailed monitoring programs would be developed as part of the new Operational Environmental Management Plan for the New Paper Mill.

Real time monitoring of odour levels is not technically feasible as:

- Odour levels are determined by a panel of trained human "sniffers" from a sample of air manually collected; and
- Odour criteria are set at the receptor location – not at point of emission and therefore are dependent on wind direction and climate and can be influenced by other similar sources of odour (e.g. odours from the sewer system). This may limit the usefulness of any monitoring;

Similarly real time monitoring of noise would be difficult as noise criteria are set at the receptor location – not at point of emission and therefore are dependent on wind direction and climate and can be influenced by other sources of noise (e.g. from the port). Unless the monitoring is attended (i.e a technician is there the whole time), AMCOR's contribution to noise compared with other sources can not be determined.

The current Minister's Conditions of Approval contain details of reporting and independent auditing requirements that are typical for this type of facility.

AMCOR would continue to communicate with the local community regarding the environmental performance of the New Paper Mill through its existing consultation processes including the continuation of its community liaison group.

4. Summary and revised Statement of Commitments

4.1. Summary

In the previous chapters AMCOR's responses to issues raised by community and government stakeholders as a result of the exhibition of the Modification #2 Environmental Assessment Report are presented.

The main community concerns related to traffic impacts (specifically the increased use of McCauley Street) and odour. AMCOR recognises that there would be increased traffic on the upgraded McCauley Street as a result of the proposed modification. However, as the phasing of the lights at the Botany Road/Bumborah Point Road intersection cannot be changed, AMCOR has no other feasible option but to use McCauley Street for traffic from its operations. To limit impacts on the community from increased traffic AMCOR has committed to:

- Upgrading and improving McCauley Street from Botany Road to Raymond Avenue (south end) to provide a wider safer road corridor for vehicles and pedestrians;
- Limiting the movement of AMCOR vehicles to southbound only on McCauley Street;
- Constructing an additional exit location on McCauley Street for Finished Product vehicles further away from residential areas;
- Installation of physical traffic measures (eg. barriers and signage) in consultation with RCC to limit any heavy vehicle movements north of Raymond Avenue (South end);
- Implementation of other traffic management measures such as driver education and penalties.

In relation to odour, AMCOR is not seeking to have its requirements under the existing approval modified and is confident that the New Paper Mill will not emit offensive odours.

RCC requested restrictions to the use of McCauley Street by construction traffic and heavy vehicles accessing the McCauley Street Precinct. As explained in the respective responses, these restrictions have little or no justification and there are no feasible alternatives if these restrictions were implemented. RCC also requested other studies, assessments and design information on issues such as flooding, stormwater and landscaping. AMCOR believes the existing Minister's Conditions of Approval adequately address RCC's issues without further modification.

DECCW and DoP requested that the NIA be revised to ensure that reasonable and feasible noise mitigation measures were identified and assessed. The NIA has been revised based upon implementing identified reasonable and feasible mitigation measures and modified operational

noise limits have been proposed. These revised operational noise limits are below the acceptable amenity criteria contained in the Industrial Noise Policy and generally below the current operational noise limits for the existing Paper Mill.

4.2. Statement of commitments

Presented below are revised Statements of Commitments.

- AMCOR would review its current dust deposition monitoring program and potentially relocate dust gauges to better reflect potential impacts on new development areas.
- Stormwater management plans would be prepared for the new precincts as part of the development approval process for the final land use of the areas.
- Additional flooding assessments would be undertaken for the new precincts as part of the development approval process for the final land use of the areas to ensure that any new development does not impact significantly on overland flow paths.
- More detailed soil and groundwater sampling would be undertaken in accordance with relevant guidelines to confirm that the McCauley Street and Botany Roads precincts are suitable for the intended land use.
- RCC would be consulted on the design of the new shared access opposite Raymond Avenue on McCauley Street. The new access would be designed in accordance with relevant standards.
- RTA would be consulted on the design of the new shared access on Botany Road. The new access would be designed in accordance with relevant standards.
- The RTA and RCC would be consulted during the detailed design of McCauley Street and during the development of a Construction Traffic Management Plan for the upgrade of McCauley Street. Road safety audits would be undertaken on the final design.
- AMCOR would dedicate a strip of land up to 2m wide along the length of McCauley Street to allow the widening and upgrade of McCauley Street. If additional land is required to be dedicated at the corner of McCauley Street and Botany Road to cater for the revised intersection, AMCOR would be prepared to consider any reasonable requests.
- Noise monitoring would be undertaken to confirm the operational traffic noise assessment predictions.
- AMCOR would fund the cost of the upgrade of McCauley Street between Botany Road and Raymond Avenue (South end) and the upgrade of the McCauley Street/Botany Road intersection;
- AMCOR would consult with RCC and RTA to identify and implement the most appropriate physical and non-physical traffic management measures to limit heavy vehicle traffic movements into residential streets;

- 5m noise barriers of appropriate material (e.g. aerated concrete) would be installed along the boundary of AMCOR's site and the subdivided land.

Appendix A – Submissions from Exhibition

MATRAVILLE PRECINCT COMMITTEE

Matraville NSW 2036

26 March 2010

Director General NSW Planning
NSW Planning
23-33 Bridge Street, Sydney NSW 2000
GPO Box 39, Sydney NSW 2001
Tel: 02 9228 6111
Fax: 02 9228 6455

Dear Director General,

AMCOR Paper Mill, Mod 2 Site layout and subdivision

Application Number: 05_0120 MOD 2

Building the new paper mill is an opportunity to dramatically improve the lives of the residents of Matraville and surrounding suburbs, therefore it is important that all stakeholders work towards the best possible outcome.

The Matraville Precinct Committee resolved at its meeting on 8 March 2010 to compile and submit a notice of objection to the modifications AMCOR are proposing to the new paper mill at 1891 Botany Road with specific reference to ensuring the development complies with the following:

1. Odour
2. Traffic
3. Noise
4. Monitoring

1 Odour

"The Odour Impact Assessment (SKM 2006) presented in the Environmental Assessment determined that due to the characteristics of the odour released by the Mill **not having an unpleasant hedonic tone**, **the appropriate site specific odour criterion for the new Mill would be 6 Odour Units**." (*B9 Project - New Paper Mill – Revised Modification #2, ENVIRONMENTAL ASSESSMENT REPORT Appendix E Odour Assessment pg.18*)

AMCOR has chosen to rebuild bordering a present, and growing, residential area, (refer to '*Shaping Matraville Town Centre, Public Domain Strategy*') therefore it has greater obligations to comply with the guidelines set out in DECCW than if it had situated itself wholly within an industrial complex.

Further, with the renovation of Purcell Park, the reshaping of the Matraville Town Centre and the current development of several new residential sites, there will be many more families who are much more environmentally aware and demanding of a cleaner lifestyle.

It should also be noted anecdotally that during the collection of petition signatures (*see Attachment A - Petition*) the most significant motivation for signing the petition regarded the odour. This is a historical concern and there have been valiant community efforts to confront AMCOR on their odour and the **community is now exhausted** from the burden of monitoring AMCOR's activities. The most recent monitoring of odour by AMCOR was conducted five years ago. Many local businesses also determined the odour to have a negative impact.

Therefore, to suggest that the odour is not unpleasant is insulting to our community and businesses and in accordance with both Planning NSW and DECCW, odour emitted from the new paper mill should not exceed 2 Odour Units per cubic metre.

In addition, while the odour directly impacts on the surrounding residents, it can be smelt from a much wider audience. The odour has been detected in Snape Park, Maroubra; Anzac Parade, Malabar; and Hale Street, Botany. These distances are much more significant than the modeled impacts.

Recommendations

AMCOR to ensure compliance with DECCW offensive odour design criteria of 2 OD/m3.

2 Traffic

It is stated in "*B9 Project - New Paper Mill – Revised Modification #2, ENVIRONMENTAL ASSESSMENT REPORT*" (the Report) that vehicles will only turn south into McCauley Street, however in *Figure 3 Upgrade of McCauley Street (pg. 22)* it clearly shows there is provision in for vehicles of 5.2m to turn right into McCauley Street and therefore into Australia Avenue and Harold Street. The Report also states all employee, visitor and contractor vehicles will exit via Botany Road, however there is no provision in *Figure 2 Modified Site Layout (pg. 21)* for vehicles to turn out of the car park and exit to Botany Road.

McCauley Street is the home of 10 families whose homes were built when McCauley Street was a much quieter, safer and less industrial place to live. McCauley Street is a feeder street providing access to the ONLY local park and recreation space frequented by local families. The demographic of this area is increasingly those with young families and it is expected that this trend will continue. Recent real estate sales suggest that Matraville is a desirable suburb and median house prices are rapidly approaching a million dollars.

Currently signage and a traffic island at the intersection of McCauley and Perry Streets are meant to stop large vehicles entering via the north end of McCauley Street, however signage and the traffic island are blatantly disregarded by very large vehicles, over 6m, on a daily basis, who thunder past homes and causing distress to residents. Given that there is already illegal use of McCauley Street by vehicles over 6m, the Report provides no comfort to residents that the south bound option will be the ONLY option for AMCOR AND the new precinct vehicles, as is stated.

Therefore, the community asks the RTA to reconsider the signaling options along Botany Road in order to permit AMCOR to use their Botany Road exits for all vehicles to make sure that there is no increased traffic noise for any resident and our streets remain safe for use by our families.

Recommendation

RTA to reconsider traffic signaling and a detailed traffic management plan that show exactly what measures would be installed on McCauley Street to ensure that vehicles from AMCOR AND the new precincts, ONLY travel south and exit the local area via Botany Road, and do not access residential streets.

3 Noise

The community is greatly concerned that noise generated from the new paper mill WILL exceed guidelines set by DECCW, with specific reference to proposed increase in traffic onto McCauley Street. Any airborne and/or ground borne noise levels related to road traffic, industrial and construction activities should not impose any further burden to surrounding residential areas and noise levels should be reduced to comply with the DECCW guidelines.

With regard to the subdivided precincts, confirmation is sought that this land not be sold with a license that permits a business to operate 24/7, which would impose further noise and traffic impacts on our community. Any business to build on these land parcels should be made aware of its obligations in regard to its environmental impacts and requirements to meet DECCW design criteria.

Recommendation

AMCOR comply with DECCW design criteria for noise and that the subdivided precincts are not licensed to operate 24/7.

4 Monitoring

In several documented instances, SKM make reference to the level of community complaint as a leading determinant of what the community as a whole finds acceptable. This is **not** an accurate measure as:

- AMCOR's impact on this community is long standing and the community are exhausted from the many years of previous complaint efforts
- It is a minority of residents that will find the appropriate number and register a complaint
- A percentage of residences will be tenanted and therefore their occupants will be more transient and have less regard for community involvement and care.

As such, while complaint hotlines and registers **should be maintained and acknowledged**, these should not form the basis of any decision regarding acceptable environmental impact levels. Instead, they should contribute to a process of regular, reliable and independent monitoring of environmental impacts.

In addition, yearly or three yearly auditing would not accurately portrait the impact of odour (or other environmental impacts) on our community as mill operations and management, wind direction and other climatic conditions influence odour levels. Monitoring needs to be conducted as part of process.

Recommendation

That independent **monitoring** of environmental impacts is integrated, routinely, into operations and the outcomes displayed on a website on a weekly basis alleviating the burden of present monitoring by the community.

Conclusion

As is evident from 400 petition signatures (collected in one week), the community and businesses of Matraville are most definitely concerned about their environment and desire assurances that:

- AMCOR will comply with the appropriate odour, noise, traffic design criteria as established by DECCW

- RTA review their signaling at Botany Road/Bumborah Point Road intersection allow AMCOR to exit all vehicles onto Botany Road
- AMCOR replace the current reliance on community monitoring with an open, transparent and accountable monitoring mechanism

As previously stated, land values are soaring, residential development is booming, and the Matraville Town Centre is undergoing a reshaping. The changing demographics, increased population and desirability of Matraville will ensure that there will be further pressure from residents to make certain that their environment meets their expectations.

Yours faithfully,

Kellie Parkin
c/- Matraville Precinct Committee
kellieparkin@gmail.com

Felicity Greenway - Online Submission from Sofia Romic of Sydney Ports Corporation (other)

From: Sofia Romic <sromic@sydneyports.com>
To: Felicity Greenway <Felicity.Greenway@planning.nsw.gov.au>
Date: 16/03/2010 11:37
Subject: Online Submission from Sofia Romic of Sydney Ports Corporation (other)
CC: <assessments@planning.nsw.gov.au>

Thankyou for referring the above AMCOR modification for Sydney Ports' review and comment.

Sydney Ports' previous submission, dated 20 October 2008, on the original application raised issues relating to Traffic and Stormwater.

Given conditions of approval imposed on the Part 3A application previously by the Department, Sydney Ports does not have any further matters to raise regarding the proposed modification.

Thanks

Name: Sofia Romic
Organisation: Sydney Ports Corporation

Address:
20 Windmill Street, Walsh Bay, Sydney 2000

IP Address: - 203.25.163.131

Submission for Job: #2628 Mod 2 Site layout and subdivision
https://majorprojects.onhiive.com/index.pl?action=view_job&id=2628

Site: #73 Amcor Paper Mill
https://majorprojects.onhiive.com/index.pl?action=view_site&id=73

Felicity Greenway

E: Felicity.Greenway@planning.nsw.gov.au

Randwick City Council
a sense of community

Randwick City Council
30 Frances Street
Randwick NSW 2031
ABN: 77 362 844 121

Phone (02) 9399 0999
Fax (02) 9319 1510
www.randwick.nsw.gov.au

F2006/00713

21 April 2010

Department of Planning
Major Development Assessment
GPO Box 39
SYDNEY NSW 2001

Attention: Felicity Greenway

Dear Ms Greenway,

Revised Environmental Assessment from AMCOR Packaging Pty Ltd
Proposed modification to project approval for new paper mill
1891 Botany Road, Matraville

Thank you for your letter of 25 February 2010 inviting our comments on the revised Environmental Assessment for AMCOR Packaging to modify the project approval for a new paper mill.

I have attached to this letter:

- A schedule of conditions of approval that deal with issues that we have previously raised, and
- A copy of a Memorandum of Advice from our Manager of Integrated Transport.
- Copies of objections that we have received from the Matraville Precinct Committee, Randwick City Councillor, Robert Bellili and local residents Mathew Penny and Sally Lambley.

We re-iterate our earlier concerns for the proposed modifications.

Heavy-vehicles from the proposed development should be physically obstructed from travelling into the residential section of McCauley St and should be confined to the industrial section south of Raymond Ave. McCauley St should only be used by B-doubles trucks to leave the AMCOR site and not for heavy vehicle access.

Stormwater overflow paths must be identified before subdivision so that easements can be created on AMCOR land if necessary. It may be difficult for the future owners of the excised land to negotiate easements from AMCOR.

Our conditions of approval are intended to deal in particular with road upgrades, haul-routes, storm-water infrastructure, easements and construction operational matters. In summary, our conditions require:

- Survey and design work for the McCauley St upgrade. Our conditions include specifications for the upgrade work and haulage routes, and a requirement to dedicate land to Council.

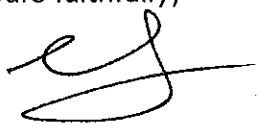
- Investigation into flooding and stormwater flows over the site. The characteristics and location for overland flow paths and minimum floor levels need to be established. Our conditions require easements to be made as part of the creation of new lots.

- Waste management, landscaping, tree protection, planning for services and a security deposit.

We would appreciate inclusion of our recommended conditions should the Department consider approving the proposed modification.

Please feel welcome to telephone David Mooney of this office on 9399 0612 if you have any questions.

Yours faithfully,



Kerry Kyriacou
Manager, Development Assessment

Attachment One – Recommended conditions of approval

Security Deposit Conditions
The following conditions are applied to provide adequate security against damage to Council's infrastructure:

1) The following damage/civil works security deposit requirement is to be complied with prior to a construction certificate being issued for the development, as security for making good any damage caused to the roadway, footway, verge or any public place; or as security for completing any public work; and for remedying any defect on such public works, in accordance with section 80A(6) of the Environmental Planning and Assessment Act 1979:

   a) $15000.00 - Damage / Civil Works Security Deposit

   The damage/civil works security deposit may be provided by way of a cash or cheque with the Council and is refundable upon:

   - A satisfactory inspection by Council that no damage has occurred to the Council assets such as roadway, kerb, guttering, drainage pits footway, or verge; and
   - Completion of the civil works as conditioned in this development consent by Council.

   The applicant is to advise Council, in writing, of the completion of all building works and/or obtaining an occupation certificate, if required.

   The applicant is to advise Council in writing and/or photographs of any signs of existing damage to the Council roadway, footway, or verge prior to the commencement of any building/demolition works.

Traffic and civil works conditions
The following conditions are applied to provide adequate provisions for access, transport and infrastructure:

2) Prior to the lodgement of a Construction Certificate for the "Amcor B9 Project (Paper Mill)" the applicant must submit to Council a detailed survey of that portion of McCauley Street fronting the development site, extending from Botany Road to Australia Avenue. Excluding the section of McCauley Street fronting the existing "heritage wall" the applicant shall dedicate to Council sufficient land to facilitate the following road carriageway and verge configuration:

   - Measured from the existing western kerb alignment the carriageway must be 2 x 2.3 metre parking lanes and 2 x 3.5 metre travel lanes, (total carriageway of 11.6 metres face of kerb to face of kerb);

   - Verge width of 3 metres measured from the face of the eastern kerb to the development site boundary.

   The dedication in the vicinity of the "heritage wall" shall be such that the "heritage wall" remains on land owned by Amcor, (i.e. the wall will not be located in the road reserve post land dedication). This condition is required because McCauley Street is not of consistent width as stated in the EAR, (the

EAR assumes a standard 20 metre road reserve and states that the western kerb alignment is 8 metres from the western boundary of McCauley Street).

3) The applicant must dedicate land to Council for road widening of McCauley Street, (maximum dedication width of 2 metres however the dedication is variable). The extent and widths of the dedication shall be determined by Council following consideration of the survey plan referenced above and shall be as required to provide a carriageway of 11.6 metres and to ensure the 'heritage wall" remains in private ownership. The Council approved land dedication must occur prior to the issuing of an occupation certificate for the "Amcor B9 Project (Paper Mill)".

4) Prior to the issuing of an Occupation Certificate for the "Amcor B9 Project (Paper Mill)" the applicant must meet the full cost for Council or a Council approved contractor to:

   a) Remove all redundant vehicular crossings and to reinstate the areas to Council's specification;

   b) Reconstruct the southbound pavement of McCauley Street, (i.e. southbound travel lane of 3.5 metres in width and the 2.3 metre parking lane adjacent to the eastern kerb alignment);

   c) Profile the existing northbound pavement and to re-sheet the northbound pavement, (i.e northbound travel lane of 3.5 metres in width and the 2.3 metre parking lane adjacent to the western/existing kerb alignment). The depth of the re-sheet will be determined by Council.

   d) Construct vehicular crossings in McCauley Street. The reconstructed vehicular crossings shall be full width industrial crossings and laybacks at kerb.

   e) Construct / install traffic facilities as required to restrict the movement of heavy vehicles exiting the site to southbound movements only. Heavy vehicles exiting the site into McCauley Street must only use the southbound pavement and travel towards Botany Road.

   f) Construct kerb and gutter for the full site frontage of McCauley Street, (Botany Road to Australia Avenue), except opposite the vehicular entry and exit points.

   g) Carry out drainage works as required across the McCauley Street site frontage.

   h) Construct a minimum 1.3 metre wide concrete footpath along the full McCauley Street site frontage, (Botany Road to Australia Avenue). Any unpaved areas on the nature strip must be turfed and landscaped to Council's specification.

   i) Carry out street tree planting along the Botany Road and McCauley Street, (Botany Road to Australia Avenue), site frontages in accordance with Council's Street Tree Masterplan.

5) The proposed McCauley Street entry / exit driveway located opposite Raymond Avenue shall be designed to enable southbound exit movements for B-Double vehicles. Heavy vehicles must not enter the site from McCauley Street.

6) The proposed McCauley Street exit driveway from the product store shall be designed to enable southbound exit movements for B-Double vehicles. Heavy vehicles must not enter the site from McCauley Street.

7) The applicant must meet the full cost for Council or a Council approved contractor to repair/replace any damaged sections of Council's footpath, kerb & gutter, nature strip etc which are due to building works being carried out at the above site. This includes the removal of cement slurry from Council's footpath and roadway.

8) A separate written approval from Council is required to be obtained in relation to all works which are located externally from the site within the road reserve/public place, in accordance with the requirements of the Roads Act 1993. Detailed plans and specifications of the proposed works are to be submitted to and approved by the Director of City Services prior to commencing any works within the road reserve/public place.

   All works within the road reserve/public place must be carried out to the satisfaction of Council and certification from a certified practicing engineer is to be provided to Council upon completion of the works.

   Relevant Council assessment and inspection fees, as specified in Council's adopted Pricing Policy, are required to be paid to Council prior to commencement of the works.

9) All new walls adjacent to vehicular crossings must be lowered to a height of 600mm above the internal driveway level for a distance of 1.50m within the site or splayed 1.5 metre by 1.5 metre to provide satisfactory sight lines. Details are to be submitted to the Certifying Authority prior to the release of the construction certificate showing compliance with this condition.

10) Prior to the issuing of a Construction Certificate for the proposed development the applicant shall submit for approval, and have approved by the Certifying Authority, a detailed traffic and transport study. The study shall include a detailed assessment of the traffic impacts from the upgraded facility (both external and within the site) together with options for mitigating these effects.

    The study should include estimates of traffic movements generated by the upgraded mill together with a **quantified assessment of the impacts on the surrounding signalised intersections and road network, (a suitable model shall be prepared to examine in detail the impact of the proposed development on signalised intersections and the overall road network).** It is noted that the traffic study should incorporate the traffic changes proposed in the Port Botany area as part of the Sydney Ports Expansion, and shall compare the total predicted traffic generation rates with existing rates. Traffic safety concerns associated with vehicles queuing adjacent to the site frontage in Botany Road should be addressed as part of this study. The traffic and transport study shall be prepared in consultation with Randwick City Council and the Roads and Traffic Authority.

11) B-Double vehicles must not use McCauley Street until such time as McCauley Street is deemed by the RTA to be a "B-Double route". The use of B-Double vehicles travelling along the northbound pavement of McCauley Street will not be supported by Council.

12) No B-Double access shall be provided for the proposed Lot 1. The use of B-

Doubles shall therefore only extend to the "Amcor B9 Project (Paper Mill)" and proposed Lot 3.

13) Heavy vehicle access to the site ("Amcor B9 Project (Paper Mill) and proposed Lots 1 and 3) shall be from Botany Road only. There must be no heavy vehicle access from McCauley Street. All heavy vehicle movements accessing the site via the main entrance in Botany Road must approach the site from the west via the State Road network.

14) Heavy vehicles routes to and from the site shall not utilise the residential streets through Matraville town centre, in particular Bunnerong Road, (between Beauchamp Road and Perry Street), and Perry Street should not be used by heavy vehicles accessing the site. Heavy vehicles routes shall include Foreshore Road, Botany Road, Beauchamp Road and Denison Street.

15) Prior to the issuing of a Construction Certificate for the subject development the applicant must arrange letters of agreement, to be signed by the applicant and its major transport carrier/s, to use agreed truck routes for the upgraded paper mill.

Prior to the issuing of an Occupation Certificate copies of the signed agreement/s between the applicant and its major transport carrier/s must be forwarded to Randwick City Council for its information and records.

16) The site access driveway, internal carpark layouts, loading area and internal circulation areas shall generally comply with AS 2890.1 (2004) and AS 2890.2-2002 for heavy vehicle usage. The Construction Certificate plans must demonstrate compliance with this requirement.

17) All trucks entering the development must be wholly contained within the site before being required to stop. All vehicles must enter and exit the site in a forward direction. All loading and unloading for the development must be undertaken wholly within the site. The Construction Certificate application must demonstrate compliance with these requirements.

18) Prior to the issuing of a Final Occupation Certificate all driveways should be clearly marked with pavement arrows/signposting, Car Entry/Exit Only, Car & Truck Entry/Exit, etc as required.

19) All costs of traffic management measures associated with the development shall be borne by the developer.

20) Prior to the issue of a construction certificate, the applicant shall submit for approval, and have approved by the Certifying Authority, a detailed construction traffic management plan. The plan shall demonstrate how construction and delivery vehicles will access the development site during the demolition and construction phase of the development. The construction management plan must be prepared in consultation with Randwick City Council and the Roads and Traffic Authority.

All traffic associated with the subject development shall comply with the terms of the approved construction traffic management plan.

21) Any vehicle access to the subject site ("Amcor B9 Project (Paper Mill)" and proposed Lot 1) via McCauley Street, including any proposed construction traffic, must be restricted to entry and exit only via the signalised intersection of Botany Road/McCauley Street. There is to be no increase in vehicle

movements entering the site via McCauley Street and **no heavy vehicles** are to use the northbound pavement of McCauley Street.

22) The provision of onsite vehicle parking must comply with Council's DCP-Parking or alternatively the applicant must demonstrate to the Certifying Authority that the proposed parking provision is satisfactory in meeting peak parking demands for the site. The Construction Certificate plans must either demonstrate compliance with Council's DCP-Parking requirements for the site or a detailed parking analysis must be undertaken and submitted for approval, and be approved by the Certifying Authority, prior to the issue of a Construction Certificate for the development.

23) A Works Zone is to be provided in McCauley Street for the duration of the construction works. The 'Works Zone' shall be provided to the satisfaction of the Randwick Traffic Committee and shall have a minimum length of 12 metres. The prescribed fee for the Works Zone must be paid to Council at least four (4) weeks prior to the commencement of work on the site.

    It is noted that the requirement for a Works Zone may be waived if it can be demonstrated (to the satisfaction of Council's Manager Integrated Transport) that all construction related activities (including all loading and unloading operations) may be undertaken wholly within the site.

Alignment Level Conditions
The following conditions are applied to provide adequate provisions for future civil works in the road reserve:

24) The design alignment level at the property boundaries for driveways, access ramps, pathways, footings or the like, must be obtained from Council's Development Engineer prior to the lodgement of a Construction Certificate Application. An alignment level issue fee of $1000.00 will be payable at the time of requesting the alignment levels. The design alignment level at the property boundaries must be strictly adhered to.

25) The design alignment levels (concrete/paved/tiled level) issued by Council and their relationship to the roadway/kerb/footpath must be indicated on the building plans for the construction certificate.

Private Service Conditions
The following conditions are applied to provide adequate consideration for private services:

26) Prior to lodgement of a Construction Certificate for the "Amcor B9 Project (Paper Mill) and prior to and prior to the issuing of a Subdivision Certificate for the development site a detailed assessment of all easements, pipelines, services etc currently burdening the site shall be undertaken. Should any of these easements/services require relocation or removal as part of the proposal, the applicant shall provide written confirmation from the benefited authority/lot/person to the Certifying Authority that the proposed removal and/or relocation is acceptable.

Service Authority Conditions
The following conditions are applied to provide adequate consideration for service authority assets:

27) A public utility impact assessment must be carried out on all public utility services on the site, roadway, nature strip, footpath, public reserve or any

public areas associated with and/or adjacent to the development/building works and include relevant information from public utility authorities and exploratory trenching or pot-holing, if necessary, to determine the position and level of service.

28) The applicant must meet the full cost for telecommunication companies, gas providers, Energy Australia and Sydney Water to adjust/repair/relocate their services as required. The applicant must make the necessary arrangements with the service authority.

29) Documentary evidence from the relevant public utility authorities confirming that their requirements have been satisfied, must be submitted to the certifying authority prior to a construction certificate being issued for the development.

30) Any electricity substation required for the site as a consequence of this development shall be located within the site and shall be screened from view. The proposed location and elevation shall be shown on all detailed landscape drawings and specifications. The applicant must liaise with Energy Australia prior to lodging the construction certificate to determine whether or not an electricity substation is required for the development.

31) The applicant shall meet the full cost of the overhead power lines and telecommunication cables located in the vicinity of the development site to be relocated underground and all redundant power poles to be removed. The applicant shall liaise directly with the relevant service utility authorities to organise for the wires/cables to be relocated. All wires cables must be relocated underground to the satisfaction of the relevant service utility authority prior to the issuing of an occupation certificate for the development.

32) A Section 73 Compliance Certificate under the Sydney water Act 1994 must be obtained. Application must be made through an authorised Water Servicing Coordinator. Please refer to "Your Business" section of Sydney Water's web site at www.sydneywater.com.au then the "e-developer" icon or telephone 13 20 92.

Following application a "Notice of Requirements" will detail water and sewer extensions to be built and charges paid. Please make early contact with the Coordinator, since building of water/sewer extensions can be time consuming and may impact on other services and building, driveway or landscape design. The Notice must be issued to the Principal Certifying Authority prior to the construction certificate being issued.

The Section 73 Certificate must be submitted to the Principal Certifying Authority prior to **occupation of the development.**

Drainage Conditions
The following conditions are applied to provide adequate provisions for drainage and associated infrastructure:

Protection from flooding

33) Prior to lodgement of a Construction Certificate for the "Amcor B9 Project (Paper Mill)" the applicant shall prepare and submit to the Certifying Authority for approval a flood study (including plans and drainage calculations compiled by a suitably experienced and qualified Civil Engineer) which determines the 1 in 100 year flood level within and adjacent to the site.

The flood study should be undertaken using "DRAINS" Urban Drainage Simulation Model (and HECRAS for determining flow depths). Alternative flood modelling programs may be used, however, the applicant will be required to meet the full cost for an independent hydraulic consultant to review the model as Council does not have the computer software to run alternative flood modelling programs.

The following information must be submitted to Council with the flood study:

a) All "DRAINS" and "HECRAS" data files on 3 1/2" MS-DOS formatted diskettes together with a suitable index to relate data files to the various run parameters.

b) Plans showing:

- All catchments and sub-catchments areas contributing to flows in the vicinity of the development site;
- "DRAINS" sub-catchments and areas and nomenclature used to define the various piped reaches;
- Overland flow paths;
- Location and sections of all drainage lines showing pipe sizes and grades;
- Pit/gully surface levels as well as invert levels of inlet and outlet pipes;
- Proposed finished surface levels and 0.2m contours over the development site (it is noted that all levels shall be relative to the Australian Height Datum); and
- Location of all "HECRAS" cross sections.

The flood study shall be prepared in full consultation with Randwick City Council and shall include detailed consideration of the following:

- FLOOD LEVELS AND OPERATIONAL DETAILS FOR THE LONG DAM.
- McCAULEY STREET OVERLAND FLOW
- FLOOD LEVELS FOR THE WATERCOURSE/CREEK DRAINING THROUGH SITE FROM EAST OF THE SITE.

To minimise the possibility of localised floodwater entering the ground floor additions, all new floor areas, windows, vents and other openings must be located at least 300 mm above the calculated 1 in 100 year flood level. All open carpark areas must be at least 150mm above the determined 1 in 100 year ARI flood level.

The Construction Certificate plans must demonstrate compliance with the findings of the approved flood study/ies.

34) Prior to lodgement of a Construction Certificate for the "Amcor B9 Project (Paper Mill)" and prior to the issuing of a Subdivision Certificate for the development site the applicant must undertake a detailed analysis of the existing flowpath regime through/surrounding and downstream of the development site ("Amcor B9 Project (Paper Mill)" and proposed Lots 1 and 3) and compare that with proposed flowpaths post development. The applicant must provide sufficient documentation/evidence to Council to indicate that the proposed development of the "Amcor B9 Project (Paper Mill)" and the future

development of proposed Lots 1 and 3 will not increase the depth of overland flow in areas outside the development site and that no property downstream of / adjacent to the development site will be adversely affected as a result of the proposed development for storm events up to the 1 in 100 year ARI event. The applicant must liaise with Council's Development Engineer Coordinator regarding Council's requirements for the detailed analysis prior to undertaking the analysis.

35) Prior to lodgement of a Construction Certificate for the "Amcor B9 Project (Paper Mill)" and prior to the issuing of a Subdivision Certificate for the development site the applicant must undertake a detailed analysis of the existing site stormwater drainage system and the proposed stormwater drainage system, (piped and overland flow). The applicant must provide sufficient documentation/evidence to Council that the proposed site stormwater drainage system will not increase the depth of overland flow in areas outside the development site, will not adversely impact on Council's stormwater drainage infrastructure and that no property downstream of the development site will be adversely affected as a result of the proposed development for storm events up to the 1 in 100 year ARI event. The applicant must liaise with Council's Development Engineer Coordinator regarding Council's requirements for the detailed analysis prior to undertaking the analysis.

36) All structural walls on the ground floor level shall be designed to **structurally** withstand hydrostatic pressure/stormwater inundation from floodwater during the probable maximum flood (PMF) event as defined in the Floodplain Development Manual (New South Wales Government, April 2005). Structural Engineering certification confirming that this condition has been complied with shall be submitted to the certifying authority prior to the issuing of a construction certificate.

It is noted that this requirement does not necessitate the development being flood proof/water tight up to the PMF event, rather the requirement is to ensure that the development will not be structurally damaged in manner that could endanger lives during the PMF event.

Internal and External Drainage works

37) **Stormwater drainage plans have not been approved as part of this development consent.** Engineering calculations and plans with levels reduced to Australian Height Datum in relation to site drainage shall be submitted to and approved by the certifying authority prior to a construction certificate being issued for the development. A copy of the engineering calculations and plans are to be forwarded to Council, prior to a construction certificate being issued, if the Council is not the certifying authority. The drawings and details shall include the following information:

a) A detailed drainage design supported by a catchment area plan, at a scale of 1:100 or as considered acceptable to the Council or an accredited certifier, and drainage calculations prepared in accordance with the Institution of Engineers publication, Australian Rainfall and Run-off, 1987 edition.

b) A layout of the proposed drainage system including pipe sizes, type, grade, length, invert levels, etc., dimensions and types of all drainage pipes and the connection into Council's stormwater system.

c) Generally all internal pipelines must be capable of discharging a 1 in 20 year storm flow. However the minimum pipe size for pipes that accept stormwater from a surface inlet pit must be 150mm diameter. The site must be graded to direct any surplus run-off (i.e. above the 1 in 20 year storm) to the proposed drainage system.

d) The separate catchment areas within the site, draining to each collection point or surface pit are to be classified into the following categories:

i. Roof areas
ii. Paved areas
iii. Grassed areas
iv. Garden areas

e) Where buildings abut higher buildings and their roofs are "flashed in" to the higher wall, the area contributing must be taken as: the projected roof area of the lower building, plus one half of the area of the vertical wall abutting, for the purpose of determining the discharge from the lower roof.

f) Proposed finished surface levels and grades of car parks, internal driveways and access aisles which are to be related to Council's design alignment levels.

g) The details of any special features that will affect the drainage design e.g. the nature of the soil in the site and/or the presence of rock etc.

38) All stormwater run-off naturally draining to the site must be collected and discharged through this property's stormwater system. Such drainage must, if necessary, be constructed prior to the commencement of building work.

39) All site stormwater must be discharged (by gravity) to either:

a) The underground drainage system in Botany Road, via a new and/or existing kerb inlet pit; AND/OR

b) A suitably sized infiltration system (subject to geotechnical investigation confirming that the ground conditions are suitable for an infiltration system). AND/OR

c) The "LONG DAM" located to the west of the development site and over the channel that eventually drains in the Bunnerong Canal.

Notes:

a. All new kerb inlet pits shall be constructed in general accordance with Council's standard drawing SD7a.
b. With the exception of the site discharge pipe, all new pipelines constructed within council's road reserve shall be minimum 375 mm diameter, spigot and socket rubber ringed jointed, steel reinforced concrete pipeline (RRRCP). Prior to backfilling, all pipelines in council's road reserve shall be inspected and approved by the Hydraulic Engineer certifying the works and Council.

40) Any Infiltration systems/Absorption Trenches must be designed in accordance with "Section 8.5 ABSORPTION TRENCHES" as stipulated in Randwick City Council's Private Stormwater Code.

41) A childproof and corrosion resistant fastening system shall be installed on access grates over pits/trenches where water is permitted to be temporarily stored.

42) A reflux valve shall be provided (within the site) over any pipelines discharging from the site to ensure that stormwater from Council drainage system does not surcharge back into the site stormwater system.

43) Should a pump system be required to drain any portion of the site the system must be designed with a minimum of two pumps being installed, connected in parallel and connected to a control board so that each pump will operate alternatively. The pump wet well shall be sized for the 1 in 100 year, 2 hour storm assuming both pumps are not working.

The pump system must also be designed and installed strictly in accordance with "Section 8.4 PUMP SYSTEMS" as stipulated in Randwick City Council's Private Stormwater Code.

44) All site stormwater from trafficked areas must be passed through a suitably designed Gross Pollutant Trap and Oil Separator prior to discharge to the stormwater system external to the site. The design of the GPT shall be based on a 3 month ARI storm event.

All other site stormwater proposed for discharge to the stormwater system external to the site must do so via a sediment/silt arrester pit. The sediment/silt arrester pit/s must be provided:-

a) within the site at or near the street boundary prior to the site stormwater discharging by gravity to the kerb/street drainage system; and
b) prior to stormwater discharging into any absorption/infiltration system.

The sediment/silt arrester pit/s shall be constructed in accordance with the following requirements:-

- The base of the pit located a minimum 300mm under the invert level of the outlet pipe.
- The pit constructed from cast in-situ concrete, precast concrete or double brick.
- A minimum of 4 x 90 mm diameter weep holes located in the walls of the pit at the floor level with a suitable geotextile material with a high filtration rating located over the weep holes.
- A galvanised heavy-duty screen located over the outlet pipe/s (Mascot GMS multipurpose filter screen or equivalent).
- The grate being a galvanised heavy-duty grate that has a provision for a child proof fastening system.

- A child proof and corrosion resistant fastening system provided for the access grate (e.g. spring loaded j-bolts or similar).

- A sign adjacent to the pit stating:

  "This sediment/silt arrester pit shall be regularly inspected and cleaned."

Note: Sketch details of a standard sediment/silt arrester pit may be obtained from Council's Drainage Engineer.

45) Prior to the issuing of an occupation certificate, the applicant shall submit to Council, a works-as-executed drainage plan prepared by a registered surveyor and approved by a suitably qualified and experienced Hydraulic Engineer. The works-as-executed drainage plan shall be to the satisfaction of the Principal Certifying Authority (PCA) and shall include the following details:

a) Finished site contours at 0.2 metre intervals;
b) The location, diameter, gradient and material (i.e PVC, RC etc) of all stormwater pipes;
c) Details of any infiltration/absorption systems; and
d) Details of any pumping systems installed (including wet well volumes).

46) Prior to the issuing of an occupation certificate, the applicant shall submit to the Principal Certifying Authority (PCA) and Council, certification from a suitably qualified and experienced Hydraulic Engineer confirming that the design and construction of the stormwater drainage system complies with the conditions of development consent. The certification must be provided following inspection/s of the site stormwater drainage system by the certifying engineers and shall be provided to the satisfaction of the PCA.

47) With the exception of the site discharge pipe, all new pipelines constructed within council's road reserve shall be minimum 375 mm diameter, spigot and socket rubber ringed jointed, steel reinforced concrete pipeline (RRRCP). Prior to backfilling, all pipelines in council's road reserve shall be inspected and approved by the Hydraulic Engineer certifying the works and Council.

48) Site discharge pipelines shall cross the verge at an angle no less than 45 degrees to the kerb line.

49) A work-as-executed plan prepared and signed by the hydraulic engineer or a registered surveyor, must be submitted to Council prior to the issuing of an occupation certificate, detailing the as constructed details for all works within Council's road reserve (including detailed levels).

50) All drainage details (for the external drainage works) shall be prepared by a suitably qualified hydraulic consultant who shall, at the completion of the works, certify that the drainage works have been constructed in accordance with the approved drainage plans and relevant standards. The plans and specifications for all works on Council property shall be submitted to and approval by Council prior to the issuing of a construction certificate.

51) Any seepage water must be drained directly into an absorption pit within the site. Seepage water must **not** be drained from the site.

52) The waste/paper storage areas on site shall be graded and drained to the

sewer to the requirements of Sydney Water. Stormwater runoff from these areas shall not be discharged to the stormwater system.

Waste Management Conditions
The following conditions are applied to provide adequate provisions for waste management:

53) Prior to the issuing of a construction certificate for the proposed development the applicant is to submit to Council and have approved by Council's Manager of Waste Services, a Waste Management Plan detailing waste and recycling storage and disposal for the development site.

The plan shall detail the type and quantity of waste to be generated by the development; demolition waste; construction waste; materials to be re-used or recycled; facilities/procedures for the storage, collection recycling & disposal of waste and the on-going management of waste.

Subdivision Conditions
The following conditions are applied to satisfy the provisions of Council's environmental plans, policies and codes for subdivision works:

54) All the conditions of this development consent must be satisfied and their compliance verified by the Principal Certifying Authority prior to endorsement of the subdivision plans. This includes restoration of all public roads and reserves.

55) A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation.

Application must be made through an authorised Water Servicing Coordinator. Please refer to the Building Developing and Plumbing section of the website www.sydneywater.com.au then refer to "Water Servicing Coordinator" under Developing Your Land" or telephone 13 20 92 for assistance.

Following application a "Notice of Requirements" will advise of water and sewer infrastructure to be built and charges to be paid. Please make early contact with the Coordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design.

The Section 73 Certificate must be submitted to the Principal Certifying Authority prior to release of the plan of subdivision.

56) The applicant shall provide Council with a survey plan of the property prior to receiving subdivision approval.

57) The applicant shall create suitable rights of carriageway, easements for services, support and stormwater lines, as required. The applicant shall be advised that the minimum easement width for any stormwater line is 0.9 metres.

58) A formal subdivision application is required to be submitted to and approved by the Council and all conditions of this development consent are required to be satisfied prior to the release of the subdivision plans.

Landscape Conditions
The following conditions are applied to provide adequate provisions for landscaping and to maintain reasonable levels of environmental amenity:

59) Detailed landscape drawings and specifications are to be submitted to, and approved by the Certifying Authority, prior to the issue of a Construction Certificate for the "Amcor B9 Project (Paper Mill)". The landscape drawings and specifications are to be prepared by a qualified Landscape Architect who is eligible for membership with the Australian Institute of Landscape Architects (AILA). The documentation is to include:

a. A site plan at an appropriate scale showing existing site boundaries, existing trees within the property (clearly identified as being retained or removed), existing street trees (clearly identified as being retained or removed), features on adjoining sites within 6 metres of the common property boundary (buildings, trees, other structures etc), council's footway, existing and proposed ground levels shown as spot heights and/or contours over the site, at site boundaries, and at the base of the tree/s to be retained, proposed building envelope, proposed areas of pavement, and proposed landscaped areas.

   The plan shall clearly show the position, canopy spread (location of dripline), trunk diameter, height and names of all existing trees upon the site and adjoining sites within 6 metres of the common property boundary which are likely to be affected by the development.

b. A planting plan at a scale of 1:100 or 1:200 indicating the location of all proposed planting and existing trees to be retained. All plants are to be drawn at their mature size with a dense planting of shrubs, accent plants and ground covers within all garden beds so that a continuous planted cover is achieved. Plant spacings are to be clearly indicated for all accent and groundcovers.

c. A planting schedule listing all plants by botanic & common names, plant numbers, plant spacings for groundcovers and accent planting, pot sizes, the estimated size of the plant at maturity (height & spread) and proposed staking methods when applicable.

d. Additional notation showing soil and mulch details, irrigation details, edging, paving, fencing details, surface finishes, retaining wall details, and any other landscape elements in sufficient detail to fully describe the proposed landscape works.

e. Position of existing and proposed site services including water, gas, electricity, sewer, stormwater, etc.

f. Sectional elevations through the site showing the existing and proposed groundlines, building elevations, and mature height of proposed planting.

g. The plan shall respect the prevailing coastal influences and the coast's special design considerations and requirements, and shall be designed accordingly. Generally, species selection shall be restricted to local indigenous coastal species, that require minimal

watering once established or species with water needs that match rainfall and drainage conditions. There shall be no species used in the landscape plan that are likely to become a weed in the local environment.

h. Location of easements within the site and upon adjacent sites (if any).

60) The landscaping shall be installed in accordance with the approved documentation prior to the issue of a final occupation certificate and shall be maintained in accordance with those plans.

Documentary evidence is to be obtained from a suitably qualified Landscape Architect and submitted to the Principal Certifying Authority (PCA) (and the Council, if the Council is not the PCA) prior to the issuing of a final occupation certificate which confirms that the landscaping works have been completed in accordance with the approved landscaping plans and relevant conditions of development consent, to the satisfaction of the PCA.

61) To ensure satisfactory maintenance of the landscaped areas, an automatic irrigation system shall be installed throughout all the landscaped areas. Such system shall provide full coverage to all the landscaped areas with no overspray onto driveways and pathways.

Details of the automatic irrigation system shall be shown on the detailed landscape plans and specifications. The system shall comply with all Sydney Water requirements, and relevant Australian Standards.

62) Any substation required shall be screened from view. The proposed location and elevation shall be shown on all detailed landscape drawings and specifications.

63) Any detention tanks and below ground stormwater infiltration systems located within the landscaped areas shall have a minimum soil cover of 600mm to ensure sufficient soil depth to permit the establishment of landscaping on top of these services as stipulated by these conditions of development consent.

All stormwater documentation submitted for the construction certificate application shall show the top of the detention tanks and stormwater infiltration devices being 600mm below the finished ground level of the landscaped areas.

64) Landscaped areas must contain a predominance of species that require minimal watering once established or species with water needs that match rainfall and drainage conditions.

Tree Management

65) Permission is granted for the removal of only those trees falling within the area occupied by the approved works. Removal of any of the remaining trees on the site shall be subject to separate application under the Tree Preservation Order.

66) The applicant shall be required to ensure the retention and long term health of all trees located on adjoining properties adjacent to the proposed development. As a general guide there shall be minimal excavation or root pruning within the dripline/s of the subject tree/s.

67) All site trees that are located within the vicinity of the proposed works, covered by Council's Tree Preservation Order and identified as being retained in conjunction with the proposed works, are to be the subject of a detailed Tree Management plan. The TMP shall detail all proposed measures for ensuring the health and stability of the subject trees and shall be submitted for approval, and approved by the Certifying Authority, prior to the issuing of a Construction Certificate for the development.

68) All existing weeds on the site shall be identified and management plans prepared for their control and eradication. This management plan shall be submitted to the certifying Authority for approval, and be approved, prior to the issue of a Construction Certificate for the development.

Advisory Conditions

The applicant is to advise Council in writing and/or photographs of any signs of existing damage to the Council roadway, footway, or verge prior to the commencement of any building/demolition works.

Memorandum

Randwick City Council
a sense of community

TO: David Mooney

FROM: Tony Lehmann
Manager, Integrated Transport

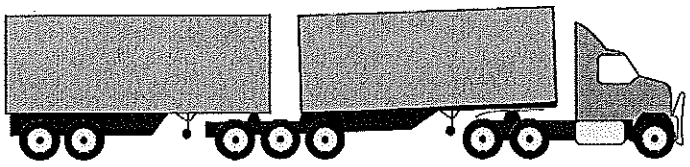
DATE: 14 April 2010 FILE: F2006/00713

SUBJECT: AMCOR's New Paper Mill proposed at 1891 Botany Road, Matraville,

I refer to the submission by AMCOR for a new Paper Mill at 1891 Botany Road, Matraville, and I provide the following comments:

a) A component of the current proposal is to allow B-double truck egress from the site via the proposed McCauley Street driveway. The proposed McCauley Street driveway is located opposite Raymond Avenue, some 108m from Australia Avenue (the nearest residential street).

b) A B-double truck combination consists of a prime mover towing two semi-trailers, where the first semi-trailer is connected to the prime mover and the second semi-trailer is connected to the first semi-trailer – see image below:



c) According to the National Transport Commission, "insurance statistics show that moving freight on a B-double is four times safer than a six-axle semi-trailer – primarily because fewer trucks are required and they are driven on better roads by better trained drivers". Because fewer trucks are needed to move the freight task (less tare weight and fewer unproductive steer axles), B-doubles reduce overall road wear. Fewer trucks means less fuel is burned and fewer exhaust gases are emitted.

d) Notwithstanding the above comments B-doubles often cause concern to local community members. The significant mass of the vehicles results in them being much more conspicuous. Often local residents consider such vehicles to be of a size inappropriate for their area.

e) The issue of B-double access on local roads is a matter for the RTA to determine in consultation with Council. B-double trucks cannot be driven on a road unless the road is deemed by the RTA to be a "B-double route". The process for nominating a local road as a B-double route is proscribed within the RTA's document entitled Route Assessment Guidelines for Restricted Access Vehicles. The process commences by the operator making an application to have a road declared a B-double route.

f) It is understood that, at this time, AMCOR has not made an application to the RTA for McCauley Street to be nominated as a B-double route.

g) As B-doubles reduce carbon emissions (fewer prime mover trips), are quieter (newer prime movers utilised), relatively safer (see NTC's comments above), result in reduced wear and tear on roads (fewer prime movers per trip), in the interests of community concerns, and as they will operate more than 100m away from any residences, it is considered that no objection be made to the proposal by AMCOR to have their McCauley Street driveway designed to allow B-double truck egress.

h) It should be noted that if and when AMCOR apply to the RTA for B-double access to McCauley Street, a strong position will be put by Council to have the route apply to only southbound trucks from the McCauley Street driveway to Botany Road.

i) With regard to the 'new site' proposed to be subdivided from the north eastern section of the AMCOR site (between the proposed McCauley Street driveway and Australia Avenue) it is considered that no support should be given to any request for B-double access. The rationale for this position is that this more northern site is even closer to Australia Avenue (indeed it has a frontage to Australia Avenue) which is primarily residential in nature, and the concerns perceived by the residential community would be exacerbated if B-double access was extended further north.

_____

Tony Lehmann
Manager
Integrated Transport Department

Attachment 3 – Submissions from Randwick City Councillor, Robert Bellili

From: Cr Robert Belleli <robertbelleli@rfts.com.au>
Date: 25 March 2010 9:05:47 PM AEDT
To: Ray Brownlee <Ray.Brownlee@randwick.nsw.gov.au>
Subject: submission for Amcor changes
Reply-To: Cr Robert Belleli <robertbelleli@rfts.com.au>

Hi Mr Ray Brownlee (General Manager of RCC)
Hope all is well?
Regarding Amcor amended development I am concerned regarding any changes that will make more trucks go into our local streets and Mc McCauley St and surrounding local streets. I would proffer Amcor use Botany Rd & Foreshore Drive entry and exits.
On grounds of safety, less traffic and trucks near our residential areas for residence peace and quite and ability to move freely in and out of their residence without being block by trucks like double B's.

The community request that monitoring of odor, pollution, noise and traffic be carried out by relevant state agencies or Amcor itself through an independent body regularly.

The community is disappointed that approval was not given to use current entrance and exits of Botany Rd from Amcor site and know as fact that Mc McCauley St will cause more problems and congestion and would have just as much if not more problems from the signaling at that location using Mc McCauley St. We ask that RTA reconsiders Amcor entrance and exits on Botany Foreshore drive signaling as this will make sure we avoid the problems already discussed.

The community is in the view that Amcor must stay in the regulatory guidelines regarding Noise, Odor, pollution emissions and traffic please.
I believe council is making a submission id like to include this in councils submission.
Regards
Cr Robert Belleli
Deputy Mayor RCC

Sima Truuvert

From: Ray Brownlee
Sent: Saturday, 27 March 2010 9:36 AM
To: Sima Truuvert
Subject: Fwd: Amcor submission from Belleli part 2

Hi Sima

Can you please consider Clr Belleli comments for a Council submission regarding this matter

Ray Brownlee
General Manager
Randwick City Council

Begin forwarded message:

> **From:** Cr Robert Belleli <robertbelleli@rfts.com.au>
> **Date:** 27 March 2010 9:16:17 AM AEDT
> **To:** ";" <;>
> **Subject: Amcor submission from Belleli part 2**
> **Reply-To:** Cr Robert Belleli <robertbelleli@rfts.com.au>
>
> Hi Ray
> Hope all is well?
> Id also like for council to add my 2nd submission as well please.
> Also it should be noted that business in Raymond St have notified me that already the street has problem with large trucks already. And that Raymond St cant handle any more truck movements. often trucks cause a bottle neck going in and out of businesses also blocking customers /staff/ owners/and deliveries gong to and from those business
>
> Allowing more trucks to use Raymond St will make the situation worst and impossible to handle.
>
> Thus allot of Amcor trucks and other trucks will follow them using Mc McCauley & Perry St. The trucks will find it almost impossible and it will become very dangerous to use Perry St and Beauchamp Rd, some will do that but i feel this is very dangerous as their are no traffic lights and RTA will have to put traffic lights there. Instead i feel Amcor and other trucks because of blockages in Raymond Avenue and no traffic lights at Beauchamp will turn Right at Mc McCauley and Perry into Matraville town centre using lights at Perry St and Bunnerong rd causing even more problems near our commercial centre and causing more problems to motorist pedestrians, and shoppers. And put more traffic on Mc McCauley St, Perry St and Bunnerong Rd.
>
> To me it does not make economic or environmental sense making large truck circle around for extra 15 minute trip to get to Foreshore drive or the Port.
>
> I t makes better sense and truck drivers would use less fuel and cause less pollution by trucks being allowed to exit using Amcor's exit from its Botany Rd foreshore drive exit it

has lights there already and the signaling of lights could be set the same as lights further up towards Botany Rd.

It seems this will cause less traffic congestion that using Mc McCauley, Raymond, Perry Beauchamp or Bunnerong Rd to do a a loop to get to the same point.

I think this is madness and RTA should reconsider.

As being on traffic committee for a number of years i am concerned for the motorist , residence, shoppers using and going through Matraville in this area.

RTA must reconsider please. I cant see how this new amendment can work regarding increase truck flows into Mc McCauley to me it can only cause disastrous consequences.

Regards
Cr Robert Belleli

Attachment 4 – Submission from Mathew Penny and Sally Lambly

Good Morning

As a resident of McCauley Street in Matraville we would like to lodge our objections to the following proposed modifications to the Amcor Paper Mill:

a. Relocation of vehicle access to the engineering store further south along McCauley Street opposite Raymond Avenue.
b. Use of the access on McCauley Street for finished product vehicles.
c. Subdivision of the main site into 3 separate lots to allow the sale of excess land.
d. Creating an additional exit-only B-double vehicle access on Mc Cauley Street.
e. Using the accesses on McCauley Street for the exit of heavy vehicles including B-doubles.

We objected to this the first time around for the following reasons:

We believe Amcor are not taking into consideration the impact on traffic noise these changes will have on McCauley Street and Australia Avenue, by excluding from their assessment, the immeasurable amount of non Amcor B-Double trucks which will legally be allowed to use the street once these changes have been made.

The increase to the constant noise and vibration would not only be detrimental to the safety, health and well being of the residents but would increase the chances of structural damage to the resident's homes.

Furthermore, the safety of the children who currently use Purcell Park and surrounding areas should not be compromised to accommodate unnecessary changes to a site which has direct access to Botany Road where no residential properties would be affected.

The heavy vehicles, including B-Double trucks which currently use McCauley Street illegally, present a real danger to the safety on the residents due to their inability to negotiate the narrow road and their total disregard for traffic laws. This ranges from driving at an unacceptable speed, driving on the wrong side of the road into oncoming traffic, turning into McCauley Street from Perry Street by driving over the top of the traffic island, to the extreme of performing u-turns at the intersection of McCauley Street and Harold Streets. To add an additional one hundred and forty four vehicles to this existing safety issue would be nothing short of criminal.

To allow the subdivision of the land into three separate lots is going to increase all of the above mentioned issues threefold.

Instead of addressing our concerns they have come back with a new proposal which will increase the traffic by approximately **fifty seven vehicles per hour (one thousand three hundred and eighty per day).** No where near the original six vehicles per hour on their original information provided to the residents in a mail drop!

We can't even begin to imagine the structural damage this will do to our homes, not to mention the increased noise levels which is expected to be 6 db over the previous limit.

Amcor claim to be able to restrict heavy vehicles from turning left onto McCauley Street through physical traffic management. We know for a fact that this *does not* work. We see heavy vehicles including B-doubles drive over the top of these barriers on a daily basis.

The proposal also suggests that by implementing parallel parking lanes it would improve safety and visual amenity. Large amounts of cars park along this section of McCauley Street which can only mean one thing if the parking is reduced. It will mean these cars are pushed further back into the residential streets to find alternative parking.

For Amcor to suggest that 'based on complaint levels' that the community is comfortable with the current odour and noise levels is outrageous. We live in the community, we speak to other members of the community, we are NOT comfortable with the odour levels or the noise levels.

We hope you will carefully consider our objections and the negative impacts this proposal will have on our community and trust you will make the right decision and reject the proposal.

Regards
Matthew Penny & Sally Lambley
5 McCauley St
Matraville NSW 2036

Ball, Jonas E (SKM)

From: Ado Zanella [Ado.Zanella@planning.nsw.gov.au]
Sent: Monday, 12 April 2010 3:00 PM
To: Felicity Greenway
Subject: Fwd: RE: Amcor Paper Mill Development - Matraville

Felicity

Comments from RTA

Regards,Ado
>>> HALL James C <James_HALL@rta.nsw.gov.au> 12/04/2010 2:57 pm >>>
Ado,

Apologies for not getting back to you earlier.

The SIDRA intersection analysis for the Botany Road/McCauley Street intersection has been reviewed and the following information is required to enable a full review and assessment to be made.

- The traffic signal phasing used in the Sidra model for the intersection is inconsistent with the existing TCS plan for that intersection (REGN.0170.381.VV.2647).
- Existing peak hour traffic volumes used in the modelling appear to be low and inaccurate. A current traffic volume survey is recommended to obtain more accurate data for traffic impact analysis.
- The traffic volume input data used in the Sidra model for the following future cases at the intersection of Botany Road/McCauley Street is inconsistent with the additional traffic volume of the proposed development as calculated in the SKM B9 Project - New Paper Mill - Revised Modification #2 report dated 16 February 2010:
    - AM Peak hour 2018 subdivision
    - PM 2018 B9
    - PM 2018 subdivision
- A PHF(peak hour factor) has not been considered in the Sidra model for the intersection of Botany Road/McCauley Street
- The trip generation rates for the office block and warehouse development in the SKM B9 Project - New Paper Mill - Revised Modification #2 report dated on 16 February 2010 are inconsistent with the RTA's Guide to Traffic Generating Developments 2002. The reference of selected trip generation rates in the report is required to be provided.
- Details of the directional splits of the proposed future trip generation is also required.

The modelling of the intersection should include pedestrian crossings at the northern leg of the intersection (across McCauley Street) and at the southern leg (opposite McCauley Street at the entrance to Gate B1 to Port Botany) -run in parallel to the Botany Road phases; and provision for at least one future signalised pedestrian crossing across Botany Road -run in parallel to the existing McCauley Street phase.

Provision should be made for pedestrian links at each of these crossings. The provision of a pedestrian crossing at the McCauley Street leg will require the dedication of land from the Amcor site to allow for pedestrian access. The concept sketch shows that the kerb on the eastern corner along with the traffic island is to be modified to allow a 26.0 metre B-double to turn left from McCauley Street into Botany Road. The footway needs to be maintained and land dedicated for this purpose. Any utilities including the signal controller will have to be relocated along with any drainage pits located in the kerb.

The traffic island can be modified but any modification to the size of the island shall incorporate future requirements for the signalised pedestrian crossing on the McCauley Street leg. The design of the island shall be in accordance with RTA requirements.

Once the above information has been submitted and referred to the RTA, the Authority will then be in a position to specify the requirements to be incorporated into the development consent.

If you wish to discuss this matter any further, please contact me on 8849-2047.

Regards,

James Hall
A/Senior Land Use Planner
Transport Planning
Sydney Region

Ph: 8849 2047
Fax: 8849 2918

James_Hall@rta.nsw.gov.au

From: Ado Zanella [mailto:Ado.Zanella@planning.nsw.gov.au]
Sent: Monday, 12 April 2010 14:20 PM
To: REES Dianne B; HALL James C
Subject: Amcor Paper Mill Development - Matraville

Hi James/Dianne

Could you please let me status of this project.

Regards,

Ado Zanella
Project Manager
Project Delivery Unit
Department of Planning
23-33 Bridge Street, Sydney 2000
Phone: 9228 6293 Mobile: 0419 496 890

Your reference S00/00481
Our reference : LICENCE 1594 – DOC10/9001
Contact : Bob Marr (02) 9995 6825

Mr Chris Ritchie
Manager – Industry
Major Development Assessment
Department of Planning
23-33 Bridge St
Sydney NSW 2001

Attention: Felicity Greenaway

Dear Mr Ritchie

Re: Amcor New Paper Mill (05_0120 Mod 2)

I refer to your letter dated 25 February 2010, seeking a submission from the Department of Environment Climate Change and Water ("DECCW") on the above proposal. I refer also to the appended Modification Report ("the Report") titled Project B9 – New Paper Mill #2 prepared by Sinclair Knight Merz ("SKM").

The most recent modification request includes a proposal by Amcor Packaging Australia ("Amcor") to:

- Relocate the engineering store vehicle access further to the south in McCaulay Street;
- Install an additional B-Double vehicle exit for finished product vehicles;
- Use a B-Double exit point on McCaulay Street - southbound only;
- Upgrade McCaulay Street to make it suitable for B-Double vehicles;
- Change the site layout;
- Increase the size of the finished product store;
- Subdivide and dispose of adjoining land to the north; and
- Modify operational noise limits.

The DECCW has considered the consent modification proposal and offers the following comments:

Odour

As flagged in DECCW's letter to the Department of Planning (DoP) dated 16 February 2007 on the original Environmental Assessment for the new mill the DECCW Guidelines *Technical Framework – Assessment and Management of Odour from Stationary Sources in NSW (November 2006) and the Associated Technical Notes* recommend an odour performance criteria for an urban population of 2.0 odour units (OU). DECCW notes that the modelling that supports the consent modification in the Odour Impact Assessment (OIA) predicts odour levels in the order

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of 6.0 OU. The OIA justifies the higher number by stating that typical odour emissions from the mill will ".....not have an unpleasant hedonic tone". DECCW does not necessarily agree with this statement as DECCW has received numerous reports of hydrogen sulphide odour from the existing mill which invariably is described as "offensive". DECCW accepts that the odour modelling is conservative and that many existing odour sources will be replaced by modern technology. However, DECCW recommends that should DoP agree to modify the existing approval and should odour emissions subsequently become problematic, the applicant should be required to take steps to ensure effective odour controls. In any event Amcor must comply with Section 129 of the Protection of the Environment Operations Act i.e. that the licensee must not cause or permit the emission of offensive odours from the premises.

Noise

The Noise Impact Assessment (NIA) indicates that noise levels from the B9 project, whilst representing a significant reduction in historical noise levels from the AMCOR premises, exceed the Industrial Noise Policy 'project specific noise levels' (PSNL). The PSNL is a goal that proponents should strive to achieve through feasible and reasonable noise mitigation measures. DECCW understands that there is some scope for additional noise reductions following advice from the proponent's noise consultant, Benbow and Associates. Therefore DECCW recommends that a revised NIA should be developed to identify the reduced noise levels that the project could achieve.

In the preparation of the revised NIA, DECCW requests that minor terminology issues be addressed to safeguard against misinterpretation. For example the NIA uses the term 'project specific noise limit' to describe both the statutory limits currently applicable in the planning consent, and the goals derived from the INP guideline. Additionally, all noise levels should be presented with the applicable descriptor and time period.

DECCW is generally satisfied with the contents of the remainder of the Environmental Assessment Report and subject to the above comments, has no objection to the consent modification.

DECCW will require Amcor to comply with all proposed licence conditions which DECCW set out in its General Terms of Approval for the original upgrade proposal sent to the DoP on 11 May 2007.

If you have any queries regarding this matter please contact Bob Marr on 9995 6825.

Yours sincerely

25/03/10

James Goodwin
Acting Manager Sydney Industry
Environment Protection and Regulation

Appendix B – Revised Traffic & Transport Assessment

New Paper Mill – Project B9 Modification No.2

TRAFFIC AND ACCESS ASSESSMENT

- Final
- May 2010

New Paper Mill – Project B9 Modification No.2

TRAFFIC AND ACCESS ASSESSMENT

- Final
- May 2010

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Contents

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Project manager:	Jonas Ball
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SINCLAIR KNIGHT MERZ

1. Introduction

1.1. Background

AMCOR Packaging (Australia) Pty Ltd's ("AMCOR") paper recycling facility at Botany currently receives and processes approximately 40% of the waste paper collected in NSW. Waste paper and cardboard is processed to make a brown paper suitable for the production of boxes and other containers. The finished product is used locally as well as exported interstate and overseas. All paper entering and leaving the site does so via road, with some transferred to rail or shipping outside the site.

1.2. Previous Approval

Project approval for AMCOR's New Paper Mill (the "B9 Project") was granted by the Minister for Planning on 20 July 2007 (Application No. 05_120). This approval covered the construction and operation of a new paper making facility, including the replacement of two existing paper machines at their Botany site. These works will result in an increase in production capacity from 250,000 to 345,000 tonnes per year.

1.3. Modification Submission

Since the approval of the B9 Project in 2007, detailed design of the New Paper Mill has progressed significantly. As a result, a number of modifications are required to ensure the New Paper Mill will operate safely, efficiently and with minimal environmental impact.

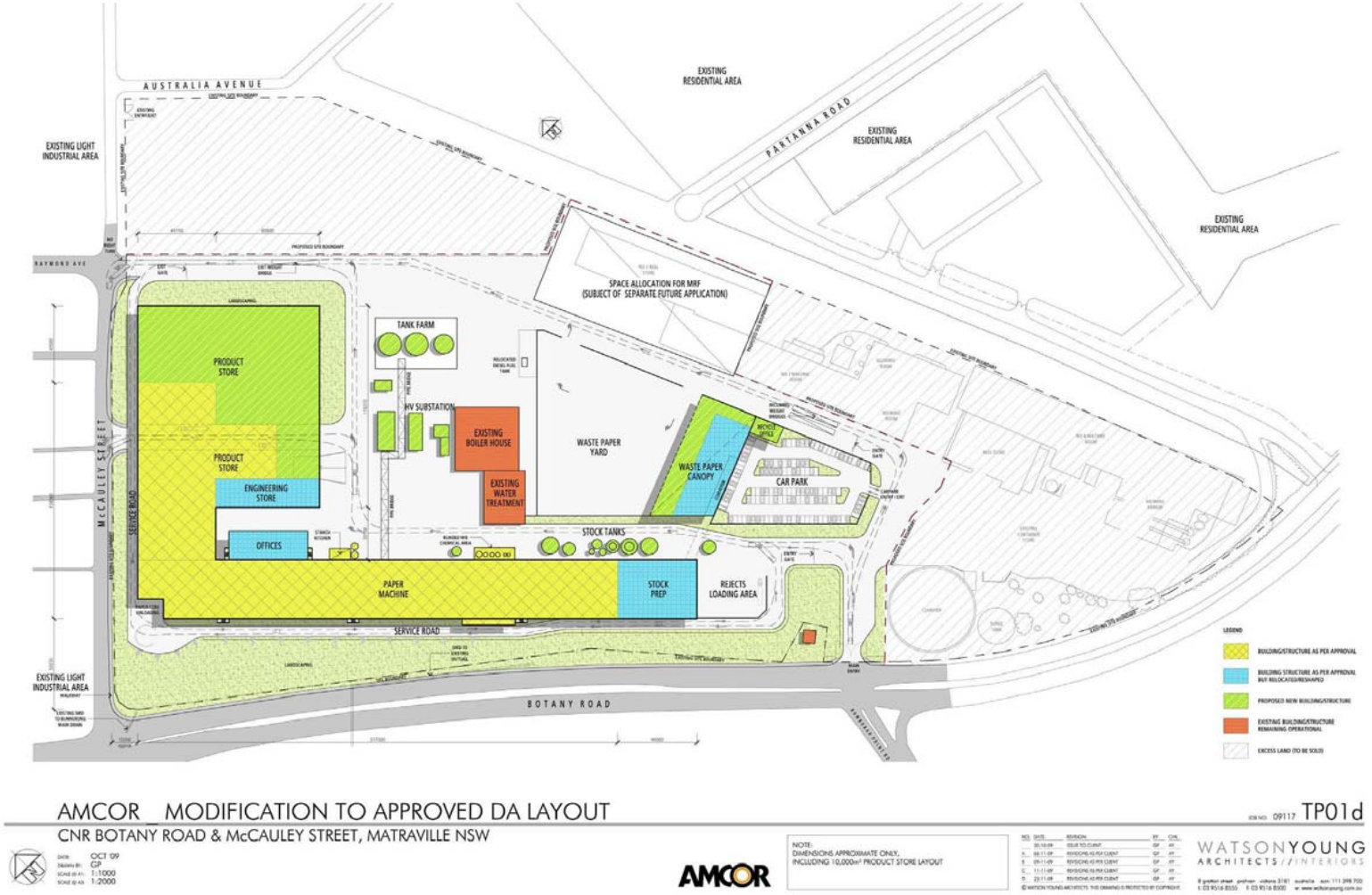
An initial Modification Report was lodged with the Department of Planning in May 2009. The proposed modifications to the Approved Project in May 2009 were similar to those described below including subdivision and limited use of McCauley Street for AMCOR vehicles. Submissions from Randwick City Council and the RTA on the proposed changes were received and many of the issues raised in the submissions related to traffic management and impacts of the modifications on external roads to the New Paper Mill. The major issue raised in the submissions was that RTA was not prepared to support the proposed changes to the phasing of the traffic lights at the Botany Road/Bumborah Point intersection to facilitate vehicles exiting the AMCOR site at Botany Road. Without this change in phasing of the traffic lights, the level of service at the intersection would be unacceptable to RTA, AMCOR and other road users. This as well as other issues required AMCOR to reconsider it's proposed traffic arrangements for the site. This report contains information on the proposed revised traffic arrangements and assesses their impact.

The modifications to the approved project (relevant to traffic) being sought are:

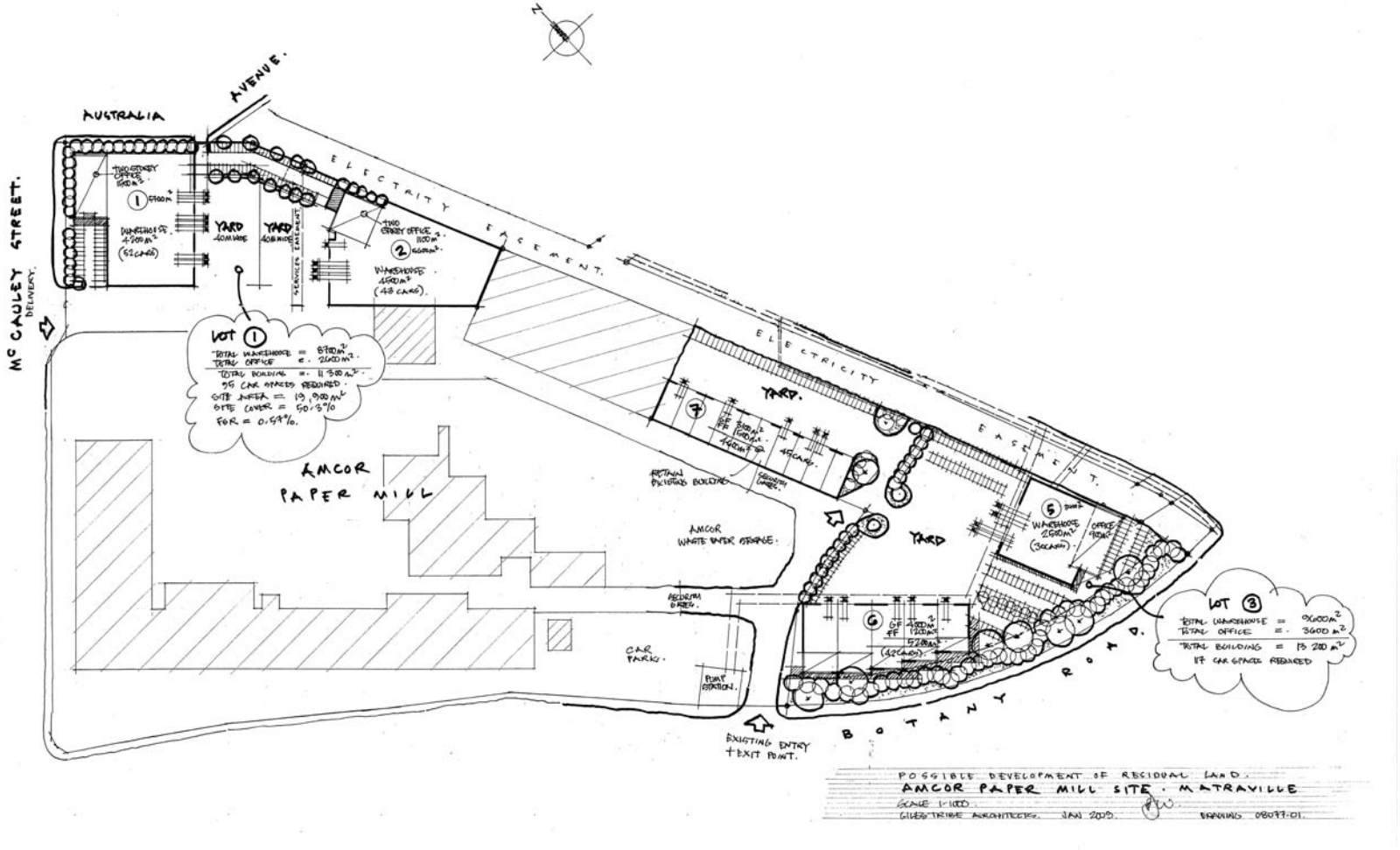
- Relocation of the existing Engineering Store vehicle access further south along McCauley Street to opposite Raymond Avenue;
- An additional vehicle exit only access on McCauley Street for Finished Product vehicles (including B-Doubles);
- Use of the accesses on McCauley Street for the exit of heavy vehicles from AMCOR's operations (including B-Doubles);
- The upgrade of McCauley Street from Botany Road to Raymond Avenue to make it suitable for B-Double use as well as use by other heavy vehicles;
- Changes in the site layout as a result of further development of the design;
- An increase in the size of the Finished Product store; and
- Subdivision of Lot 1 DP772737 to allow the sale of excess land, to fund the development of the New Paper Mill.

The overall concept design for the changes in site layout and traffic movements is shown in **Figure 1-1**, while a proposed potential concept plan showing how the subdivided land is likely to be developed is shown in **Figure 1-2**.

- **Figure 1-1 Proposed Modification**



- **Figure 1-2 Concept Plan for Subdivided Land**



1.4. Director General's requirements

In response to the requested modification to the approved application, the Director General outlined Conditions of Approval for the proposed modification. Those conditions relevant to this traffic and access assessment are outlined below:

- A detailed description of transport issues, including:
  - A description of the existing environment, using sufficient baseline data;
  - An assessment of the potential impacts of the modification, including any cumulative impacts, taking into consideration any relevant guidelines, policies, plans and statutory provisions;
  - A description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the impacts of the modification; and
- Key Issues: Transport – including details of new and revised site access to service the existing project and new subdivision, internal roads and parking; details of traffic types and volumes to be generated; predicted impacts on road safety and capacity of the road network.

In addition, the RTA and Randwick City Council required additional information, as summarised below:

- The amount of traffic to be generated by the development;
- Details of parking and access (for both AMCOR and the subdivided lots), and compliance with relevant codes and standards;
- Details of service vehicle movements;
- Intersection analysis;
- Identification of any road network infrastructure requirements required to maintain existing levels of service; and
- Swept path analysis of the longest vehicle exiting and entering AMCOR and the subdivided lots.

This Traffic and Transport Assessment addresses the Director General's requirements, and addresses the concerns raised by the RTA and Randwick City Council from the exhibition of the original modification report.

2. Existing Situation

The AMCOR paper mill site (the site) is conveniently located adjacent to main road, rail and port transportation networks. The site's main access on Botany Road provides direct access to the regional main road network., The site is bounded to the south and east by Botany Road and the electricity easement, to the north by Australian Avenue and to the west by McCauley Street.

Offices and warehouses are located opposite the site on the north-west side of McCauley Street between Botany Road and Raymond Avenue. Port Botany is opposite the site on the southern side, with two direct accesses onto Botany Road (Gate B1 & Gate B2). North of the site are predominantly residential properties and a small recreational park (Purcell Park). A location map is presented in **Figure 2-1.**

2.1. Surrounding Road Network Conditions

The main traffic access to the AMCOR site is via a signal controlled intersection on Botany Road at Bumborah Point Road.

Botany Road is a major arterial road serving the Port Botany area and industrial land uses. It connects to Foreshore Road and thence to General Holmes Drive, Southern Cross Drive and the M5 Motorway, an important link in the local, regional and state road network. These roads are RTA approved B-double routes. In the vicinity of the site, Botany Road is a six-lane two-way road with slip lanes and right-turn bays provided at major intersections. A median island is also provided, dividing Botany Road into two carriageways.

McCauley Street, which adjoins the western boundary of the site, is a local road, providing access to commercial and residential areas. McCauley Street carries a low amount of traffic, although a report by Masson and Wilson (1997) indicated that there was a through traffic movement from the north to the south with drivers wishing to access Botany Road. The intersection of McCauley Street and Botany Road is controlled by traffic signals. There are two site access points on McCauley Street; the northernmost being the car park access and the southernmost connecting to the internal access road on site. This access is currently not in use.

Beauchamp Road is a local collector road and carries a significant proportion of heavy vehicle traffic. However, Randwick City Council has indicated that they are attempting to discourage further heavy vehicle use of Beauchamp Road. Bunnerong Road intersects with Botany Road and provides main road access to the site from the eastern suburbs.

A summary of existing traffic volumes along the surrounding road network is provided in **Table 2-1**.

- **Figure 2-1 Site**

- **Table 2-1 Existing Daily Traffic Volumes**

Road	Location	AADT	Source (Year)
Botany Road	West of Beauchamp Rd	35,826	RTA (2002)
	East of Beauchamp Rd	20,331	RTA (2002)
	South of Mill Pond Rd	27,237	RTA (2002)
Bunnerong Road	North Beauchamp	19,582	RTA (2002)
Beauchamp Road	North of Botany Rd	17,164	RTA (2002)
	West of Bunnerong Rd	8,759	RTA (1999)
Foreshore Road	East of General Holmes Dr	29,851	RTA (2002)
Southern Cross Drive	West of Wentworth Ave	85,163	RTA (2002)
General Holmes Drive	At runway tunnel	133,393	RTA (2002)
McCauley Street	-	1,700	Randwick Council (1997)

Intersection counts were undertaken at the McCauley Street / Botany Road intersection in May 2007 as part of the *Project B9 Construction Traffic Management Plan* (SKM 2007). The surveys revealed that approximately 150 vehicles utilise McCauley Street during both the AM and PM peak periods. Additional traffic counts at the Botany Road /McCauley Street intersection were undertaken in May 2010. The 2010 traffic count was very similar the 2007 results.

2.2. Public Transport

A designated bus zone is provided on the northern side of Botany Road between the site's main access and McCauley Street. The bus zone location is shown on **Figure 2-1**, while the bus stop is shown in **Figure 2-2**. Buses are operated by the State Transit Authority. Bus routes L09 and 309 travel on Botany Road in an eastbound direction. Botany Road is one of the major bus routes to the bus depot in Bumborah Point Road.

Currently, only bus route 309 provides a full day service on this route. The bus service L09 (an express service) only operates during the PM peak on weekdays and does not operate on weekends. The bus frequency during the AM and PM peak period is approximately 15 minutes, with a 1 hour frequency during off-peak periods[1].

No patrons were observed at the bus stop during visits to site. Currently, no footpath or bus shelter is provided at the bus stop.

No passenger train service is provided near the site.

[1] The AM peak period of the bus service is 5:00 – 6:00am and the PM peak period is 3:00 – 6:00pm. Source: Sydney Buses Timetable - Port Botany / Eastgardens to City.

- **Figure 2-2: Bus Stop on Botany Road (Eastbound)**

2.3. Parking

2.3.1. On-street Parking

Site observations indicate that there is a demand for on-street parking in McCauley Street due to local residential and commercial activities. Unregulated parking occurs on vacant land adjoining the site. Site observations also indicate that the highest demand for on street parking spaces in McCauley Street is close to Botany Road. This demand gradually decreases towards the north into the residential area. **Figure 2-3** shows on street parking on the southern end of McCauley Street.

Parking is prohibited along Botany Road near the site due to the operation of “No Stopping” restrictions.

On-street parking spaces are also available in Australia Avenue and other local streets such as Moorina Avenue and Partanna Avenue. They are typical local residential streets with average to low demand for on street parking.

- **Figure 2-3: On-street parking on McCauley Street, looking south towards Botany Road.**

2.3.2. Off-street Parking

The AMCOR paper mill site has one internal car park providing approximately 100 parking spaces on site. The car park is located next to the existing office building, and is accessed from the main access on Botany Road.

2.4. Cyclist

There is no designated cycle route near the site and no cyclists were observed during site observations.

2.5. Pedestrians

Site observations indicate that pedestrian movements surrounding the site are low. There is no footpath provided on either side of Botany Road in the vicinity of the site. All three surveyed signalised intersections along Botany Road had no designated signal phasing for pedestrians. No waiting patrons were observed at the bus stop during site visits. Based on these observations, it is anticipated that pedestrian movement on Botany Road is low.

McCauley Street has relatively higher pedestrian movements due to the adjoining commercial and residential activities. A footpath is provided on the north-western side of McCauley Street to provide access for pedestrians. There is no footpath on the south-eastern side of McCauley Street.

It is proposed, as part of the approval for the New Paper Mill, that footpaths would be constructed along the south eastern side of McCauley Street and along the Botany Road frontage of the site.

3. Proposed Access Arrangements

The proposed access arrangements are summarised in the table below.

- **Table 3-1: Proposed access arrangements**

Location/Activity	Vehicle Type	Enter Site	Exit Site
Botany Road Precinct	All vehicles	Botany Rd/ Bumborah Point Rd	Botany Rd/ Bumborah Point Rd
New Paper Mill & Materials Recycling Facility	Employee and visitor light vehicles	Botany Rd/ Bumborah Point Rd	Botany Rd/ Bumborah Point Rd
New Paper Mill & Materials Recycling Facility	Heavy vehicles and commercial vehicles	Botany Rd/ Bumborah Point Rd	McCauley St
McCauley Street Precinct	All vehicles	McCauley St	McCauley St

Apart from vehicles accessing the McCauley Street Precinct all other vehicles would enter the site through the Botany Road/Bumborah Point Road intersection. While there would be one left turn lane into the site from Botany Road a section of 4-lane internal road (2 in and 2 out) would be constructed between the existing Botany Road intersection and the proposed subdivision site access. Access to the AMCOR site will be via the left lane of this new road, while access to the Botany Road Precinct will be via the right lane. The existing incoming weighbridge will be removed and replaced by two new weighbridges located inside the AMCOR site, at a position approximately 170m from the intersection of Bumborah Point Road and Botany Road. All light and heavy vehicles from the Botany Road Precinct and all AMCOR's employee and visitor light vehicles would exit the site via the Botany Road/Bumborah Point Road intersection. All heavy and commercial vehicles would exit the site via the proposed McCauley Street accesses.

Access to the McCauley Street Precinct would be via a new access on McCauley Street directly opposite Raymond Avenue, forming a four legged intersection. Apart from Finished Product vehicles, all of AMCOR's heavy and commercial vehicles would also use this intersection to exit the site, with all vehicles required to exit the site to the south. Finished Product vehicles would use another proposed exit further south along McCauley Street. The proposed shared access arrangements are shown in **Figure 1-1**. Emergency vehicles would access the site through both the Botany Road and McCauley Street accesses. Both accesses would be designed in accordance with Austroads requirements for B-Doubles to ensure that larger vehicles can safely access the site should the need arise.

McCauley Street, south of Raymond Avenue will comprise two 3.5 metre lanes in order to safely accommodate the turning movements of B-Doubles, as discussed in detail in **Section 7.1**.

4. Trip Generation and Distribution

Trip generation and distributions were determined for the following:

- The Existing Paper Mill;
- The New Paper Mill;
- The Materials Recycling Facility ("MRF"), which will be the subject of a separate Part 3A Environmental Assessment; and
- The new development precincts (based upon a likely land use).

4.1. Existing Paper Mill

Surveys were undertaken in May 2007 as part of the *Project B9 Construction Traffic Management Plan* (SKM 2007) at the intersection of Botany Road / Bumborah Point Road and the main AMCOR access and the intersection of Botany Road / McCauley Street. This survey information was used to identify the times in the AM and PM periods when peak traffic movements occurred. At the Botany Road / Bumborah Point Road intersection, the AM peak period was between 8 and 9AM, while at the Botany Road / McCauley Street intersection the AM peak period was earlier, between 7 and 8AM. The PM peak period at both intersections was between 3 and 4pm.

A total of 58 vehicles were observed accessing the site from the Botany Road entrance during the AM peak, with a total of 42 observed during the PM peak (See **Table 4-1**). A total of 154 and 150 vehicles were observed accessing McCauley Street from Botany Road during the AM and PM peaks respectively.

Traffic counts were also undertaken in May 2010 at the McCauley Street/Botany Road intersection at the request of the RTA. The May 2010 traffic counts were very similar to the 2007 traffic counts and confirmed that the 2007 data was appropriate for the assessment. SCATS data revealed that in 2010 a total of 252 vehicles were utilising the shared right turn / through lane on the Bumborah Point Road approach to the Botany Road intersection during the AM peak hour, with 222 utilising it during the PM peak hour. The proportion of heavy vehicles utilising the lane was assumed to reflect that measured in the left turn lane in the 2007 surveys (73 percent). It was assumed that 10 percent of vehicles in this lane would travel through the intersection and into AMCOR, with the remaining 90 percent turning right, towards the east. These volumes were used in the analysis.

The 2007 traffic counts were used to forecast future (2018) traffic volumes at the McCauley Street/ Botany Road intersection (See **Table 4-2**). At the request of the Roads and Traffic Authority and Council, a growth rate of 3.5% was used, being the growth rate generally adopted for the Port Botany precinct. This rate is similar to the 4% growth rate derived by comparing the 2007 counts

and counts collected at the same intersections in 2005 for the *Project B9 EIS* (SKM, 2005). It should be noted that when the new Paper Mill (Project B9) is operational the existing Paper Mill will be decommissioned. The number of vehicles accessing the site once the B9 Project is operational is based on the maximum capacity of the New Paper Mill and therefore a zero growth rate factor has been applied as no additional traffic will be generated in the future.

- **Table 4-1 2007 traffic volumes**

		2007 Survey	
Location	**Direction**	**Hourly AM Peak**	**Hourly PM Peak**
Botany Road Entrance	In	34	6
	Out	24	36
	Total	**58**	**42**
McCauley Street	In	85	53
	Out	69	97
	Total	**154**	**150**

- **Table 4-2 Predicted 2018 traffic volumes**

		Predicted 2018	
Location	**Direction**	**Hourly AM Peak**	**Hourly PM Peak**
McCauley Street	In	118	73
	Out	96	134
	Total	**213**	**208**

4.2. Project B9 / Materials Recycling Facility

4.2.1. General Traffic Movements

Presented in the following tables is general information on the average total number of AMCOR vehicles predicted to be accessing the site (See **Table 4-3**) and predicted peak traffic movements (number and time period) for specific types of vehicles associated with Project B9 and the MRF (See **Table 4-4 and 4-5**).

- **Table 4-3: Total average weekday vehicles[1]**

Type of Vehicle	AAWDT[2]		
	B9	**MRF**	**B9 + MRF**
Waste Paper Deliveries:			
B-Doubles	4		4
Semi Trailers	31		31
Rigids (Compactors, Tippers, Tray Trucks - 2 to 15 tonne load).	147	85	232
Starch / Chemicals Deliveries:			
Semi Trailers	2		2
Finished Product Despatch:			
B-Doubles	16		16
Semi Trailers	31		31
Solid Waste Removal:			
Truck and Dog Trailer	6		6
Recyclables:			
Semi Trailers		8	8
General Waste:			
Rigids (Front loading hook bins etc.)	1		1
General Traffic (Staff, Contractors, Visitors, Couriers, Deliveries).			
Light Vehicles (Cars, Vans, Utilities etc)	150	25	175
Total	**388**	**118**	**506**

[1] The numbers in this table represent the number of vehicles accessing the site. Each vehicle generates 1 in movement and 1 out movement.

[2] Annual Average Week Day Traffic - i.e. the number of vehicles that access the site during an average week day.

- **Table 4-4 Project B9 vehicles – Peak Hourly traffic**

Predicted B9 traffic movements (i.e. in and out)	Peak Traffic (Hourly)	Peak Traffic Hours
Compactors, Self tippers, etc.	34	Between 7am and10am
Semi trailers	16	Between 6am and 8am Between 2 pm and 3 pm
B-Doubles	8	Between 2 pm and 3 pm
General traffic (cars, utes etc)	40 40	Between 6.30am and 7.30am Between3pm and 4 pm
Other semi trailers (starch and chemicals)	6	These deliveries will be planned to occur outside of peak periods

Table 4-5 Material Recycling Facility vehicles - Peak Hourly traffic

Material Recycling Facility traffic movements (i.e. in and out)	Peak Traffic (Hourly)	Timing of peak
Compactor trucks, tippers and semi-trailers	36 36 36	Between 8:30am -9:30am Between 11:00am -12:00pm Between 1:30pm- 2:30pm
General traffic (staff cars)	20	Between 1.30pm and 2.30pm

4.2.2. Traffic movements during peak periods

As discussed in Section 4.1, at the Botany Road / Bumborah Point Road intersection the AM peak period was between 8 and 9AM, while at the Botany Road / McCauley Street intersection the AM peak period was earlier, between 7 and 8AM. The PM peak period at both intersections was between 3 and 4pm. AMCOR vehicles using McCauley Street and the Botany Road access during these peak periods was estimated. The anticipated traffic, as advised by AMCOR, from Project B9 is shown in **Table 4-6**, for the MRF in **Table 4-7** and for employee traffic in **Table 4-8**.

- **Table 4-6 Split of peak hour Project B9 traffic**

Access	Peak	In	Out
Botany Road	AM	62	0
	PM	32	0
McCauley Street	AM	0	62
	PM	0	32

- **Table 4-7: Split of peak hour MRF traffic**

Access	Peak	In	Out
Botany Road	AM	18	0
	PM	3	0
McCauley Street	AM	0	18
	PM	0	3

- **Table 4-8: Split of peak hour Employee traffic**

Access	Peak	In	Out
Botany Road	AM	6	6
	PM	6	41
McCauley Street	AM	0	0
	PM	0	0

The total number of AMCOR vehicles utilising the Botany Road access and accessing Botany Road via McCauley Street in the AM and PM peaks is shown in **Table 4-9**. Approximately 92 and 82 vehicles are estimated to access the site via the Botany Road access during the AM and PM peaks respectively.

- **Table 4-9: Total vehicles in 2018 associated with Project B9 and MRF**

Location	Direction	AM	PM
Botany Road Entrance	In	86	41
	Out	6	41
	Total	**92**	**82**
McCauley Street	In	0	0
	Out	80	35
	Total	**80**	**35**

The total number of vehicles utilising both McCauley Street and the Botany Road entrance in 2018 (including background and MRF) are shown in **Table 4-10**. In total, approximately 92 vehicles are expected to utilise the Botany Road entrance in the AM peak, while 293 vehicles would utilise McCauley Street. In the PM peak, approximately 82 vehicles would utilise the Botany Road entrance, with 243 utilising McCauley Street.

- **Table 4-10: Total vehicles in 2018, including background and Project B9 and MRF traffic**

Location	Direction	AM	PM
Botany Road Entrance	In	86	41
	Out	6	41
	Total	**92**	**82**
McCauley Street	In	118	73
	Out	176	169
	Total	**293**	**243**

4.3. Subdivided Lots

The gross area of the proposed subdivision sites is approximately 50,000 m^2. As indicated by **Figure 1-2**, it is likely that gross 6,200 m^2 will be developed as office buildings and gross 18,800 m^2 will be developed as warehouse space. Indicative land uses are shown in

Table 4-11 for each area of subdivided land.

- **Table 4-11: Subdivided Land Distribution**

Land Parcel	Area (m^2)	Site coverage	Warehouse area (m^2)	Office area (m^2)
McCauley Street Precinct	23,600	50%	9,200	2,600
Botany Road Precinct	26,400	50%	9,600	3,600
Total	**50,000**	**-**	**18,800**	**6,200**

Based upon typical employment rates for the likely land use in the new precincts, employment generation will be approximately 1 person per 15 m^2 of the office area and 1 person per 100 m^2 of warehouse space. Based on trip rates identified in the RTA Guide to Traffic Generating Developments (0.318 AM peak vehicle trips and 0.365 PM peak vehicle trips per employee for Employment land uses (Table 3.4, Guide to Traffic Generating Developments v2.2, NSW RTA, 2002), the number of trips the subdivided sites would be expected to generate were estimated. These estimates include both employee vehicles movements as well as heavy and commercial vehicle movements associated with the subdivision. The resulting employee distribution and AM and PM trip numbers are shown in **Table 4-12**. In total, the subdivisions are expected to generate approximately 601 additional employees, resulting in an additional 191 trips in the AM peak and 219 trips in the PM peak.

- **Table 4-12 Subdivision Trip Generation**

Land Parcel	Jobs			AM Peak Vehicle Trips	PM Peak Vehicle Trips
	Office	Warehouse	Total		
McCauley Street Precinct	173	92	265	84	97
Botany Road Precinct	240	96	336	107	123
Total	**413**	**188**	**601**	**191**	**219**

Traffic from the McCauley Street Precinct was assumed to access the site via McCauley Street, while traffic from the Botany Road Precinct was assumed to access the site via the Botany Road/ Bumborah Point Road intersection. It was assumed that directional splits would not differ from those of the existing AMCOR facility. As such, existing directional splits at the intersection were utilised to determine future movement volumes. The splits used are shown in Appendix B. The additional traffic resulting from the subdivision is shown in **Table 4-13**.

- **Table 4-13 Additional traffic volumes in 2018 associated with the subdivision**

Location	Direction	AM	PM
Botany Road Entrance	In	67	20
	Out	40	102
	Total	**107**	**122**
McCauley Street	In	53	16
	Out	32	80
	Total	**84**	**96**

The total number of vehicles utilising both McCauley Street and the Botany Road entrance (including background, B9, MRF and subdivision traffic) are shown in **Table 4-14**. In total, approximately 199 vehicles are expected to utilise the Botany Road entrance in the AM peak, while 378 vehicles would utilise McCauley Street. In the PM peak, approximately 204 vehicles would utilise the Botany Road entrance, with 339 utilising McCauley Street.

- **Table 4-14 Total traffic volumes in 2018, including background, Project B9, MRF and subdivision traffic**

Location	Direction	AM	PM
Botany Road Entrance	In	153	61
	Out	46	143
	Total	**199**	**204**
McCauley Street	In	171	89
	Out	207	250
	Total	**378**	**339**

4.4. Scenario Comparison

As can be seen in **Table 4-15**, in the 2018 scenario with the additional vehicles associated with the subdivision, substantially more vehicles will be accessing the site, with the majority of additional vehicles utilising the Botany Road access.

- **Table 4-15 Scenario Comparison – Traffic Generation**

		2018 base		2018 with B9 & MRF		2018 with B9 & MRF & subdivision	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**
Botany Road Entrance	In	34	6	86	41	153	61
	Out	24	36	6	41	46	143
	Total	**58**	**42**	**92**	**82**	**199**	**204**
McCauley Street	In	118	73	118	73	171	89
	Out	96	134	176	169	207	250
	Total	**213**	**208**	**293**	**243**	**378**	**339**

4.5. Trip Allocation

Turning movements for these trips at the two analysed intersections were allocated according to current patterns, as it was assumed that these patterns would not change substantially.

5. Traffic Impacts

The cumulative impacts of existing traffic, Project B9 traffic, MRF traffic and the proposed subdivision traffic were assessed, focusing on the impacts of the additional traffic on the nearby intersections of Botany Road / Bumborah Point Road and Botany Road / McCauley Street.

Vehicle turning movement counts were undertaken at both these intersections in 2007 as part of the Project B9 Construction Traffic Management Plan. These counts have been taken as the base case scenario. As noted previously, traffic counts were also undertaken in May 2010 and these were very similar to those recorded in 2007. The anticipated traffic growth rates were estimated by comparing the survey results from July 2005 and May 2007, collected as part of project B9 EIS and project B9 CTMP respectively. A traffic growth rate of 3.5% per annum has been estimated in Botany Road west of Bumborah Point Road. This growth rate has been used to project traffic volumes at the intersections in 2018.

5.1. Intersection Analysis

The intersections were analysed using the Sidra Intersection modelling software. It calculates the amount of delay experienced by vehicles using an intersection, and gives a Level of Service (LoS) rating which indicates the relative performance of that intersection with regard to the average delay (in seconds per vehicle) experienced by vehicles at the intersection. At signalised intersections, overall intersection delay and Level of Service is taken as the average delay reported for all movements. The Sidra Intersection analysis of the operating conditions can be compared to the performance criteria set out in **Table 5-1**.

- **Table 5-1: Level of Service Criteria**

Level of Service	Average Delay per Vehicle (sec/veh)	Traffic Signals and Roundabouts	Give Way and Stop Signs
A	Less than 15	Good Operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause delays. Roundabouts require other control mode	At capacity, requires other control mode
F	Over 70	Extra capacity required	Extreme delay, traffic signal or other major treatment required.

Source: RTA *Guide to Traffic Generating Developments*, version 2.2-2002

An intersection operating at Level of Service E or F is operating at or above capacity, with vehicles at these intersections experiencing substantial delays. Level of Service of C or better is generally considered acceptable in peak periods when future traffic is not taken into account, while Level of Service D is considered acceptable for future designs. As future background traffic has been taken into account in this analysis and if the delay had been 2 seconds shorter the Level of Service would have been C, Level of Service D in the PM peak is considered acceptable. This Level of Service may improve with more detailed traffic counts for the intersection. For example, based on previous surveys it was assumed that 10% of all traffic exiting Bumborah Point Road to the right or straight ahead entered the AMCOR site. This high percentage of through traffic is likely to be an overestimation and the percentage may be considerably lower.

The intersections of Botany Road with Bumborah Point Road and McCauley Street were analysed using SIDRA Intersection for both the base case (existing AMCOR) and for future conditions (2018) with B9 and MRF (See **Table 5-2** and **Table 5-3** respectively). The latest traffic light phasing data from the RTA was used to undertake the analysis. A peak flow factor of 30min/60min was assumed. Signalised pedestrian crossings were included on the northern, southern and eastern approaches of the Botany Road / McCauley Street intersection for both 2018 scenarios. Fifty pedestrians per hour were assumed on each crossing.

- **Table 5-2 Existing Intersection Operation, Base Case 2007 (as surveyed)**

Intersection	AM Peak		PM Peak	
	LoS	Average Delay (Seconds)	LoS	Average Delay (Seconds)
Botany Road / Bumborah Point Road	B	26	C	29
Botany Road / McCauley Street	A	14	A	14

- **Table 5-3 Future Intersection Operation, 2018 with Project B9 & MRF Traffic**

Intersection	AM Peak		PM Peak	
	LoS	Average Delay (Seconds)	LoS	Average Delay (Seconds)
Botany Road / Bumborah Point Road	C	30	C	33
Botany Road / McCauley Street	B	19	B	17

The intersections were also analysed for future conditions (2018) with B9, MRF and and Precinct traffic included (See **Table 5-4**).

- **Table 5-4 Future Intersection Operation, 2018 with Project B9, MRF & Subdivision Traffic**

Intersection	AM Peak		PM Peak	
	LoS	Average Delay (Seconds)	LoS	Average Delay (Seconds)

Botany Road / Bumborah Point Road	C	33	D	44
Botany Road / McCauley Street	B	22	B	20

The results of the Sidra Intersection analysis show that the existing intersections in the vicinity of the proposed development would continue to accommodate traffic volumes from future network traffic growth and the additional traffic generated by the proposed development.

A detailed review of the Botany Road / Bumborah Point Road intersection analysis results for the eastbound shared left turn and through lane was undertaken in order to ascertain whether a dedicated left turn lane would be required to reduce the impact of left turning traffic on through traffic. The delay for this lane was found to be 20.9 seconds in the AM peak and 17.3 seconds in the PM peak with the subdivision in place. The anticipated arrival rate of left turning vehicles is 104 vehicles in the AM (including 67 heavy vehicles) and 12 vehicles in the PM (0 heavy vehicles), resulting in an arrival rate of 1.7 vehicles per minute during the AM peak and 0.2 vehicles per minute during the PM peak. Given the anticipated low impact of the left turn on through traffic in the lane, a dedicated turn lane is not warranted.

5.2. Weighbridge Queuing

Incoming weighbridges would be located near the Waste Paper Yard. Based on preliminary analyses, off-site queuing of vehicles on Botany Road would not occur.

6. Parking Impacts

6.1. Parking

Parking requirements were assessed for both the proposed AMCOR operations and new precinicts

Currently there are approximately 100 parking spaces on site, located in the main car park at the Botany Road entrance.

Due to efficiencies in production associated with the new paper mill, the overall demand for parking at the AMCOR site will decrease. However, the number of spaces within the AMCOR site is not expected to change as a result of the B9 Project.

Under the proposed modification, the number of spaces provided will not change, with the car park layout altering slightly from the existing in association with the relocation of the office building. Of the 100 spaces provided, two will be dedicated to use by persons with a disability. These two spaces will be conveniently located.

The proposed car park layout will likely consist of 2 aisles with 90^{o} parking on both sides. The spaces and aisles will be designed in accordance with AS/NZS 2980.2:2004 *Parking Facilities Part 1: Off-Street Car Parking*, which require the following minimum dimensions for 90^{0} angled employee (User type 1 parking):

- Parking space dimensions: 2.4m width x 5.4m length;
- Aisle width: 6.2m (plus 300mm where spaces are provided on one side only);
- Driveway width (Access Class 1): 3.0 to 5.5m (combined); and
- Disabled space dimensions (from *AS2890.1-1993*, Figure 2.2, page 10): 3.2m width x 5.4m length.

The preliminary designs for the car park layout meet these requirements.

6.2. Subdivided Lots

As the nature of the usage of those lots which are to be redeveloped cannot be confirmed until after their sale, comment cannot be made on the adequacy of parking provision at these sites. Despite this, indicative estimates of parking requirements can be provided based on similar land uses within the area and estimated warehouse and office space to be developed.

Estimated parking requirements at the three lots are shown in **Table 6-1**, based on the land being used for both office and warehousing purposes. In total, approximately 218 spaces will be required across the various lots.

- **Table 6-1 Estimated Parking Requirements for Excess Land**

Land Parcel	Estimated number of spaces required			
	Office	**Warehouse**	**Total**	**Rounded Total**
PARKING RATE[1]	1 space per 40m^2 GFA	1 space per 300m^2 GFA	-	-
McCauley Street Precinct	65	31	96	**96**
Botany Road Precinct	90	32	122	122
TOTAL	155	63	217.7	**218**

[1] RTA *Guide to Traffic Generating Developments* (2002), and Randwick City Council *Development Control Plan* (1998).

6.3. Summary

The number of spaces provided for use by AMCOR staff and visitors (100 spaces) will not change under the modification, although overall parking demand is expected to decrease. The layout of the car park is likely to change as a result of the relocation of the office building. The redesigned car park facility would comply with Council and RTA requirements.

Based on estimates of land uses for the excess land, it is likely that approximately 96 spaces will be required for the McCauley Street Precinct and 122 spaces for the Botany Road precinct.

7. McCauley Street and Botany Road Access

7.1. Upgrade of McCauley Street

It is likely that an upgrade of McCauley Street would be required to accommodate the additional traffic from AMCOR's operations and the McCauley Street Precinct. Consultation with Randwick Council has been undertaken to establish their requirements for the upgrade of McCauley Street and they have confirmed the following:

- Parallel parking on both sides of McCauley St with a parking lane width of 2.3m;
- Traffic lane width of 3.5m; and
- Verge width between the eastern kerb of McCauley Street and AMCOR's fence of 3m.

A concept layout has been prepared for McCauley Street including parking and consideration of sweep paths from the two new accesses on McCauley Street. This is attached in Appendix A. It has been assumed that McCauley Street will require rebuilding to the centre line of the existing road.

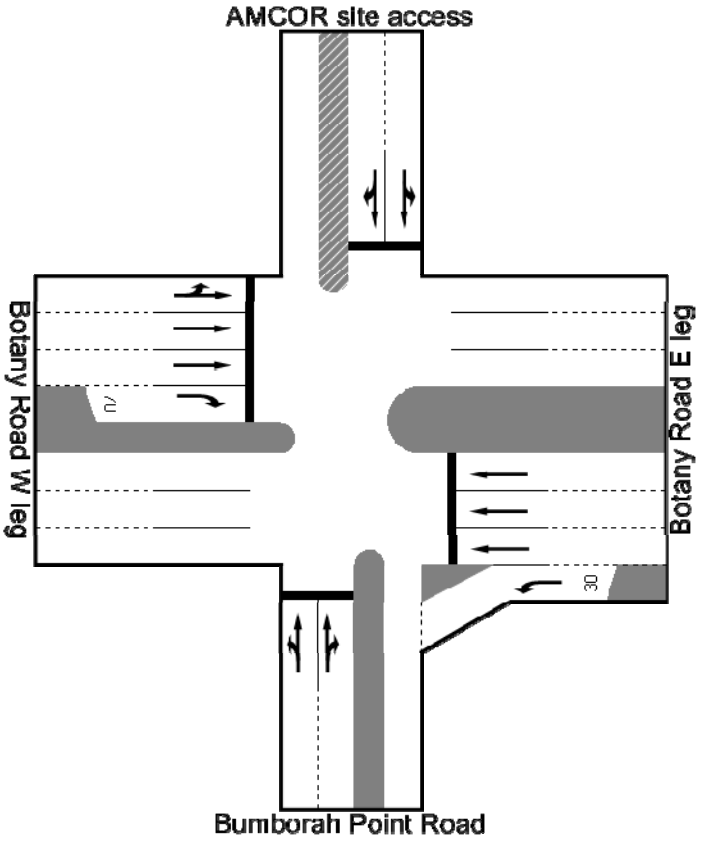
It should be noted that AMCOR is only applying for approval for B-Doubles to use the southbound lane of McCauley Street.

Minor modifications of the kerb and traffic islands at the McCauley Street/ Botany Road intersection would be required.

7.2. Botany Road Access

Presented in **Figure 7-1** is the proposed lane arrangement at the Botany Road access. As noted in previous sections the road would increase to four lanes within the site to separate AMCOR and Botany Road Precinct vehicles.

- **Figures 7-1 Botany Road Access**



8. Summary and Conclusion

8.1. Potential Impacts

It is expected that the subdivision of the excess land at AMCOR's site would generate additional traffic at the McCauley Street / Botany Road and Bumborah Point Road / Botany Road intersections. The impact of the additional vehicles on the operation of these intersections is not sufficient to cause undue delay to other road users, with both intersections expected to continue operating at an acceptable level of service in 2018.

8.2. Proposed Mitigation Measures

The proposal includes the provision of an upgrade access on McCauley Street directly opposite Raymond Avenue, forming a four legged intersection and the provision of an additional exit only access for Finished Product vehicles south of Raymond Avenue on McCauley Street.

All parking and access facilities for both the AMCOR site and the subdivided lots would be designed in accordance with the appropriate codes and standards.

Additional mitigation measures to ensure that vehicles exiting the site into McCauley Street turn left (ie southbound) away from residential areas include:

- Appropriate signage – including no left turn signs if required;
- Kerbs, traffic islands and other physical measures developed in consultation with Randwick City Council;
- Driver education for all vehicles utilising the site; and
- Visual monitoring of traffic leaving the site.

8.3. Conclusion

The additional vehicles anticipated to utilise the McCauley Street intersection are not sufficient to cause undue delay to other vehicles at the intersection, as the additional vehicle volume is within the design constraints of the McCauley Street intersection.

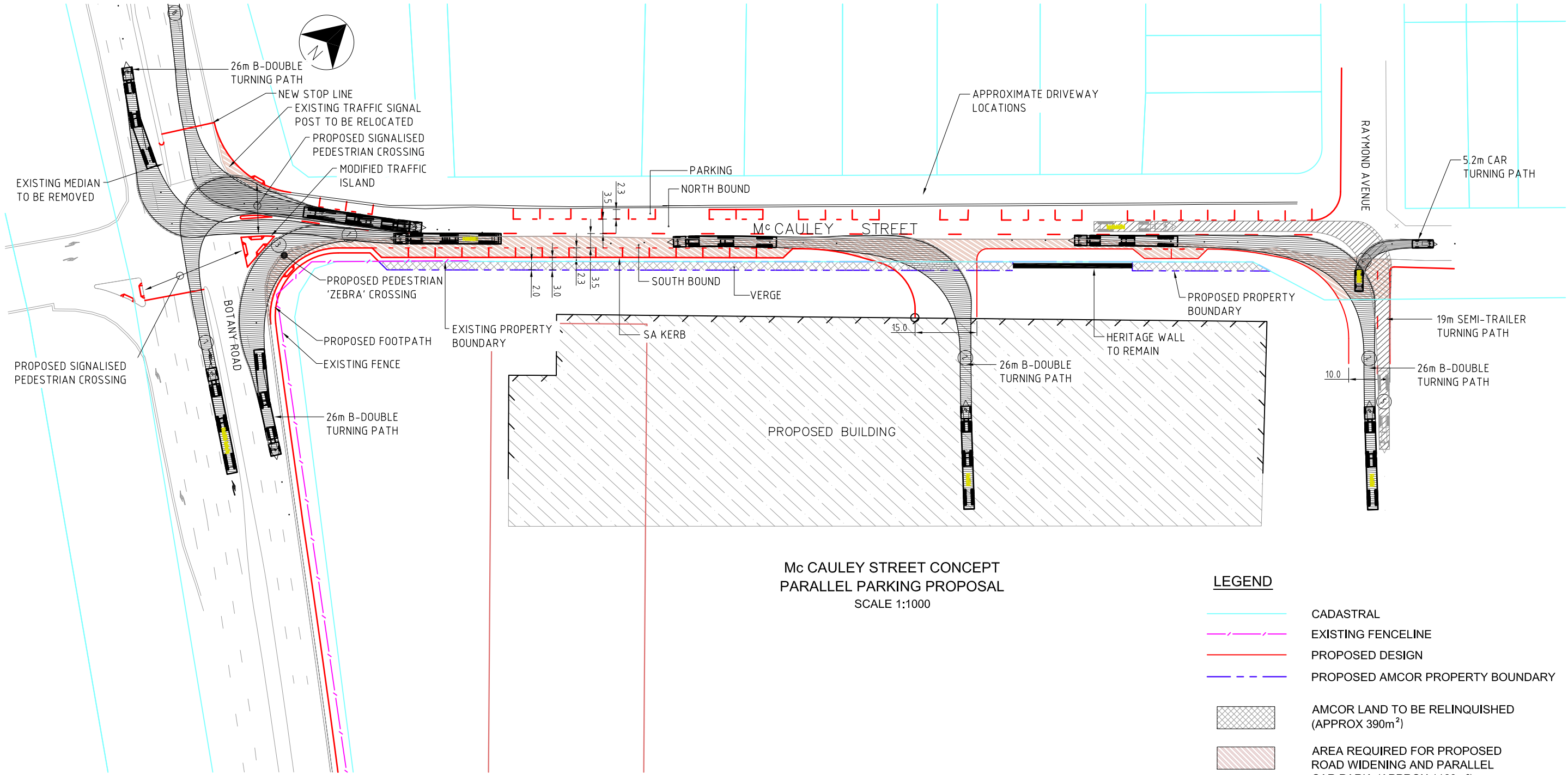
The Level of service of operation at the Botany Road / Bumborah Point Road and the Botany Road / McCauley Street intersections are acceptable with the proposed development traffic and background growth.

The additional vehicles generated by the proposed modification will not have a detrimental effect on road safety at either intersection.

All parking and access facilities for both the AMCOR site and the subdivided lots would be designed in accordance with the appropriate codes and standards.

This assessment has found that the proposed modification has a minimal impact on road network operations, and its approval is recommended on traffic grounds.

Appendix A – Concept Design McCauley Street



Mc CAULEY STREET CONCEPT
PARALLEL PARKING PROPOSAL
SCALE 1:1000

LEGEND

- CADASTRAL
- EXISTING FENCELINE
- PROPOSED DESIGN
- PROPOSED AMCOR PROPERTY BOUNDARY
- AMCOR LAND TO BE RELINQUISHED (APPROX 390m^2)
- AREA REQUIRED FOR PROPOSED ROAD WIDENING AND PARALLEL CAR PARK (APPROX 1160m^2)
- PROPOSED BUILDING

SCALE 1:1000 10 0 10 20 AT A3

PRELIMINARY

No	DATE	DRAFTING CHECK	DESIGN REVIEW	REV'D P.MGR	APP'D P.DIR	AMENDMENT
E	13.05.10	B.S.	B.S.	J.B.	J.M.	PRELIMINARY INTERSECTION LAYOUT ADDED
D	18.12.09	C.T.	C.T.	J.B.	J.M.	19.0m VEHICLE ACCESS PATH ADDED
C	04.12.09	C.T.	C.T.	J.B.	J.M.	PAVEMENT WIDTH REVISED
B	20.11.09	E.W.	D.H.	J.B.	J.M.	LAYOUT REVISED
A	11.11.09	E.W.	D.H.	J.B.	J.M.	CONCEPT ISSUE

No	DRAWING NUMBER	REFERENCE DRAWING TITLE

SKM A.C.N 001 024 098
Sinclair Knight Merz Pty. Ltd
100 Christie Street
St Leonards
NSW 2065 Australia
Telephone: 02 9928 2100
Facsimile: 02 9928 2500

CLIENT: AMCOR
PROJECT: BOTANY MILL B9 PROJECT

DRAFTER	DRAFTING CHECK	REVIEWED PROJECT MANAGER	APPROVED PROJECT DIRECTOR
S.T.	E.W.	J.B.	J.M.
DESIGNED	DESIGN REVIEW		
E.W.	D.H.		

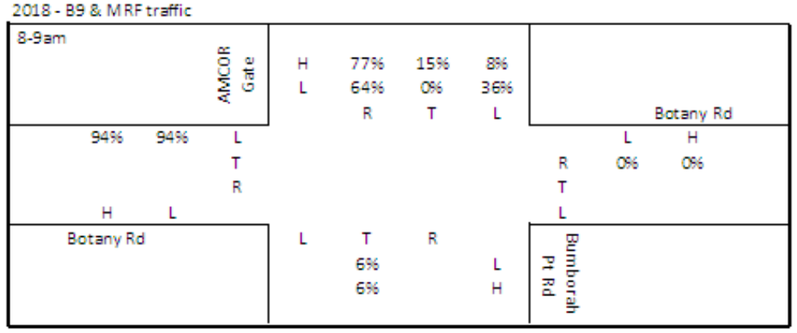
TITLE: Mc CAULEY STREET PROPOSED UPGRADE PLAN

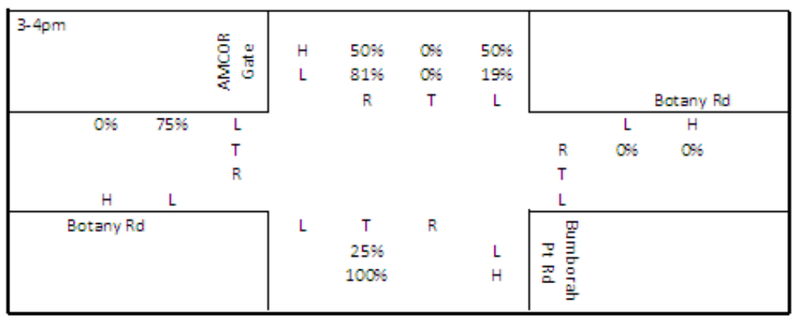
SCALE	SKM PROJECT No	DRAWING No	AMDT
1:1000	EN02732	EN02732-SK007	E

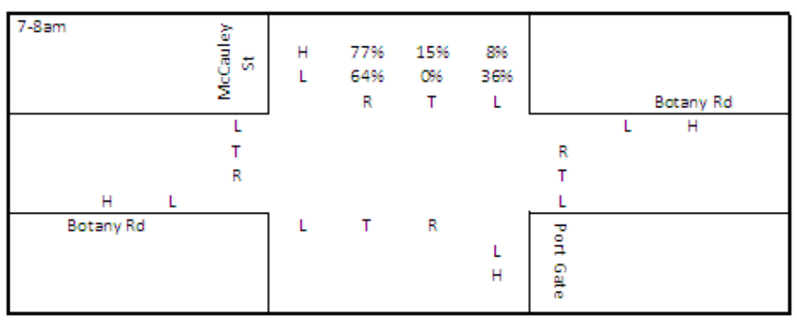
Plot Date: 13 May 2010 @ 10:29:10 Login Name: bsoo Cad File: I:\NBIF\Projects\NB11000\Deliverables\Drawings\Civil\Sketches\IN90491-C-SK007.dwg

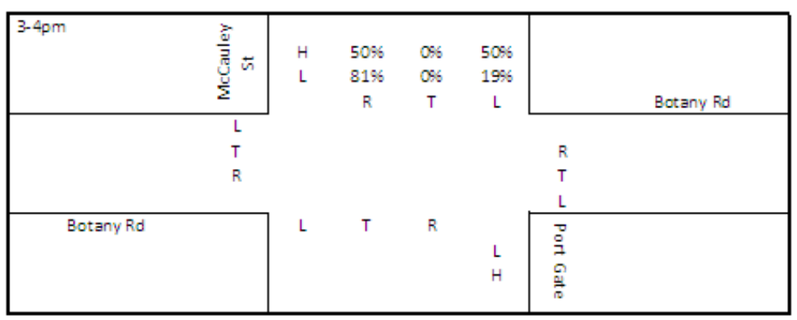
Appendix B – Directional Turning Movement Splits

2018 - B9 & MRF traffic

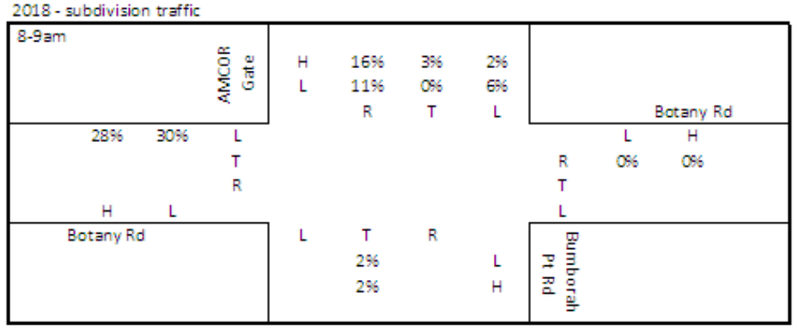


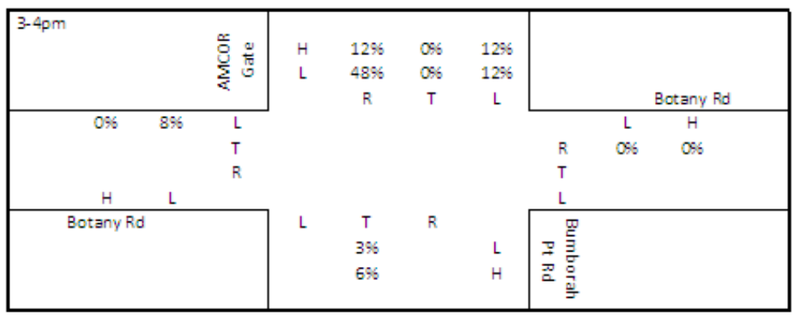


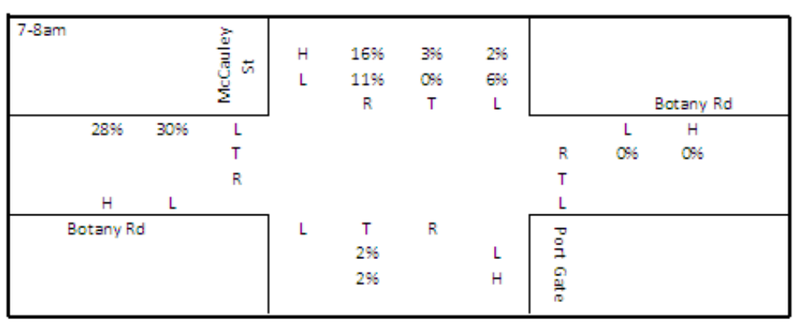


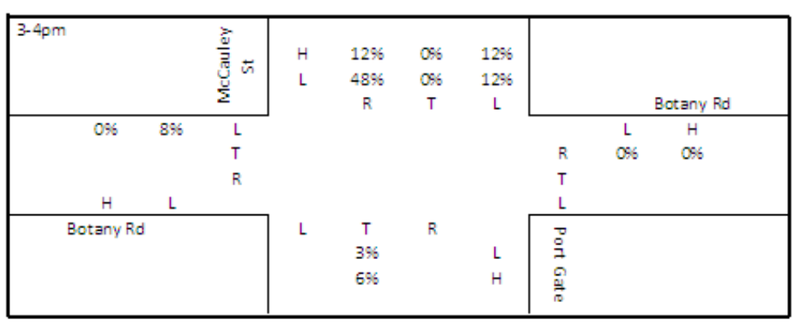


2018 - subdivision traffic









Appendix C – Revised Noise Impact Assessment

Appendix D – Revised Concept Design McCauley Street

LEGEND

- CADASTRAL
- PROPOSED DESIGN
- PROPOSED AMCOR PROPERTY BOUNDARY
- EXISTING SIGNAL POST

NOTE

1. THE TOTAL ADDITIONAL AREAS TO BE DEDICATED FOR ROADS ARE INDICATIVE AND SUBJECT TO FINAL CIVIL DESIGN.
2. ALL SERVICES ADJUSTMENT AROUND THE INTERSECTION HAS BEEN EXCLUDED.

PROPOSED PEDESTRIAN 'ZEBRA' CROSSING

PROPOSED PEDESTRIAN CROSSING

EXISTING TRAFFIC SIGNAL POST TO BE RELOCATED

EXISTING MEDIAN ISLAND TO BE REMOVED

PROPOSED EXTENT OF MEDIAN ISLAND

PROPOSED RELOCATED SIGNAL POST

BOTANY ROAD

BOTANY ROAD

BOTANY ROAD

BOTANY ROAD

3.25

3.25

3.25

NEW STOP LINE

PROPOSED RELOCATED SIGNAL POST

EXISTING TRAFFIC SIGNAL POST TO BE RELOCATED

ADDITIONAL AREA TO DEDICATED FOR ROAD AND PAVEMENT= 22 m2

PROPOSED PEDESTRIAN CROSSING

26m B-BOUBLE TURNING PATHS

NEW RELOCATED FENCE

EXISTING FENCE IMPACTED BY PROPOSED WORKS TO BE RELOCATED

PROPOSED PEDESTRIAN 'ZEBRA' CROSSING

PROPOSED FOOTPATH

0.60

1.20

McCAULEY STREET

PROPOSED Mc CAULEY STREET AND BOTANY ROAD INTERSECTION UPGRADE

SCALE 1:200 (A1)
1:400 (A3)

CONCEPT

SCALE 1:200 (A1)
SCALE 1:400 (A3)
2 0 2 4 6 8 10

No	DATE	DRAFTING CHECK	DESIGN REVIEW	REV'D P.MGR	APP'D P.DIR	AMENDMENT
A	28.05.10	B.S	F.N	J.B	J.M	CONCEPT ISSUE

No	DRAWING NUMBER	REFERENCE DRAWING TITLE

SKM A.C.N 001 024 098
Sinclair Knight Merz Pty. Ltd
100 Christie Street
St Leonards
NSW 2065 Australia
Telephone: 02 9928 2100
Facsimile: 02 9928 2500

CLIENT			
AMCOR			
PROJECT			
BOTANY MILL B9 PROJECT			
DRAFTER C.H.C	DRAFTING CHECK B.S	REVIEWED PROJECT MANAGER J.B.	APPROVED PROJECT DIRECTOR J.M.
DESIGNED P.D	DESIGN REVIEW F.N		

TITLE
Mc CAULEY STREET
PROPOSED UPGRADE
INTERSECTION PLAN

SCALE	SKM PROJECT No	DRAWING No	AMDT
1:200	EN02732	EN02732-SK010	A

Plot Date: 31 May 2010 @ 11:58:18 Login Name: bsoo Cad File: I:\NB\F\Projects\NB11000\Deliverables\Drawings\Civil\Sketches\EN90491-C-SK010.dwg