

Your ref  
Our ref 236045  
File ref

# ARUP

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3 March 2016

Dear Adam

## **St Catherine's School Response to PAC questions**

This letter provides a response to the following questions raised by the Planning Assessment Commission relating to traffic matter associated with the St. Catherine's School development application (SSD 6339).

**Provide the details of the Brisbane City Council School Travel Program Case Study? It would be particularly helpful to understand how behavioural changes have been achieved and maintained over the longer term.**

The Brisbane City Council School Travel Program was studied in June 2009 by Healthy Spaces and Places - *a national program between the Australian Local Government Association, Planning Institute of Australia and Heart Foundation*. Data was reviewed for 2008 and 2009 and included in the case study appended to the Arup Transport Strategies Report (September 2015). This program is an ongoing program run by Brisbane City Council however there is no further evidence/literature available that details how behavioural changes have been achieved and maintained over the longer term.

To find out how children currently travel to places, the established survey method used is the 'hands up' survey of a team or class, asking how they travelled there that day. Arup approached Professor Chris Rissel from the University of Sydney who is also a Director of the NSW Office of Preventive Health. He specialises in health promotion and has authored many papers dealing with school travel. He commented that the hands up survey gives quite similar results as other methods, but is very cheap and simple to do. You can take a lot of time in class to record, or try and do a parent survey, but you don't get a greatly different result and the main thing is to use a consistent approach over time so you can see change. Arup also spoke with Lea Gamble who works in the Behaviour Change unit, Transport Planning & Strategy at Brisbane City Council. They regularly use the 'hands up' survey method which is conducted on a daily basis through the survey period providing very consistent results. The NSW Healthy Kids website has a link to the survey method: <http://www.healthykids.nsw.gov.au/campaigns-programs/childrens-active-travel.aspx>

Professor Rissel commented that the earlier Sydney trial in 2007 was inconclusive overall, with some schools doing spectacularly well, but others not so well. The best performing

schools were where the whole school participated in the travel program and it changed the general norm about getting to school. In general, most of these programs were evaluated using weak study designs in which small sample size or uncontrolled pre and/or post-studies undermine the findings.

As these initiatives are reliant on a cultural shift towards the adoption of alternate modes of travel, it is imperative that the educational institution promoting these initiatives provide leadership for this behavioural change. In the case of St. Catherine's School, the School is assuming this leadership role by conducting an annual in depth online travel questionnaire and developing tailored travel programs to meet the needs of their students and staff and respond to fluctuations in travel habits over time.

A literature review undertaken by Dr Jan Garrad in July 2011 indicates that elements of a successful strategy to increase active travel and alternative travel methods to school that includes school-based programs, together with area-wide and population-wide strategies for increasing active travel in the wider community, could include:

- Setting goals and targets (e.g. an increase of 5% in the walking and cycling mode share of travel to education in a 5-year period).
- Specifying components of the strategy (e.g. incorporating the 4Es: Education, Encouragement, Engineering and Enforcement).
- Well-defined 'program logic' (e.g. are we doing the right things? Is the intervention 'dose' appropriate? Is the program reach adequate?).
- Identifying partners, responsibilities and resources (e.g. who is responsible for each component?).
- Monitoring and evaluation (e.g. including measures of travel to school in school data collection systems).

It is recommended that the school consider these elements when preparing the implementation strategy for each of the initiatives in order to provide a framework for the ongoing monitoring and evaluation of these initiatives. This process will assist the school with monitoring the uptake of each travel initiative and sustaining the behavioural change.

Reference is also made to the NSW Travelsmart Schools Program for which a before and after study was conducted in 2006-2007. Clovelly Public School was one of five schools that participated with the Year 5 and 6 students undertaking the travel survey. The summary report by Denise Fry, Health Promotion Service Sydney South West Area Health Service, provides the following results for Clovelly (School B in the report):

- 12% decrease in car use for travel to school
- 25% decrease for travel from school
- 13% increase in walk to school
- 21% increase in walk from school.
- No change for bus/train use to school
- 4% increase for bus/train from school.

These results show a considerable move away from private car for the journey to and from school.

**The Commission has been advised that garbage trucks servicing the school are currently unable to turn around and must reverse back along Leichhardt Lane to exit. The Commission understands it should be possible to resolve this issue as part of this proposal. Is there any reason why garbage trucks servicing the site would not be able to enter and leave in a forward direction?**

Correspondence from Geoff Garnsey, Manager – Traffic and Development at Waverley Council dated 9 January 2014 provided comment on waste collection (see attached):

*Council currently collects waste and recyclable materials from the college via Leichhardt Lane. Council's Waste Supervisor informs trucks are reversed along Leichhardt Lane from Leichhardt Street before 7am with bins being emptied into the truck in the vicinity of the Ausgrid substation. As the truck is too large to travel around the bend in Leichhardt Lane to access the gates at the proposed bin store, the following will be required:*

- a) The bins will need to be wheeled by persons from the college to a suitable and second bin bay area within the site near the substation and wheeled back once being emptied; or*
- b) The bin storage area needs to be deleted from the location proposed and relocated so as to be in the vicinity of the substation.*

*The latter is preferred on resident amenity grounds.*

A subsequent submission from Mr. Peter Monks Director, Waverley Futures, reiterated this advice in a letter to Mr. Peter McManus (Senior Planner at the NSW Department of Planning and Infrastructure) dated 25 November, 2014, submitted following the 30 day exhibition of the application (see attached).

The waste strategy for the Master Plan was designed around the guidance of this advice provided by Waverley Council.

Additionally, prior to the submission of the development application, waste generated by the School was initially collected by Waverley Council from Albion Street. In response to noise complaints from Albion Street residents, it was agreed with Waverley Council that waste collection would be relocated to Leichhardt Lane. Further noise complaints were received by residents of Leichhardt Lane and the School subsequently requested that waste collection now occur after 9am on weekdays to eliminate early noise impact on residents as well as to avoid morning peak.

The School has maintained ongoing communication with Waverley Council's Sales and Marketing Manager Commercial Waste (Mr. Joe Torrisi) who has been helpful in providing ongoing advice and assistance in order to respond to the concerns raised by residents.

Swept paths have been prepared for a typical council garbage truck to determine whether or not there is sufficient space for a truck to enter and exit the site in a forward direction in Leichhardt Lane.

SKT101 and SKT102 show the garbage truck entering and exiting the school site in a forwards direction from Leichhardt Lane. Both directions of travel require a very wide gate opening to be provided and require the truck to traverse approximately 40m into the site. The truck also needs to cut the corner in Leichhardt Lane and traverses across private property to execute the turn. The swept paths demonstrate that the typical truck employed by Waverley Council is too large to manoeuvre through the bend on Leichhardt Lane without imposing on private property. These findings are consistent with advice provided by Geoff Garnsey.

**The Samsa report notes that the Macpherson St intersections with Albion and Leichhardt Streets are at capacity. The Commission understands that shifts in travel modes are intended to reduce vehicle traffic levels at these intersections. As noted in the Samsa Report, the successful resolution of the current traffic and parking issues all rely on the success of the Operational Travel Management Plan and associated behavioural changes. In the event that the targeted behavioural changes are not achieved the school would need to contribute to road and intersection upgrades. The Commission would be interested to understand the Applicant's proposed timeframes for achieving the necessary improvements, including how these would be measured, in order to demonstrate that it should not be responsible for funding the relevant intersection upgrades.**

The key requirement is to determine the degree to which any deterioration in intersection operation is being contributed to by school activity and/or by background traffic growth respectively. The monitoring program recommended for discussion with the Waverley Traffic Committee includes a number of components:

- Maintaining an annual questionnaire survey to be completed by staff and students to enable a travel report to be prepared for submission to Council. This is to be undertaken by the School using a consistent approach for annual comparison of results. This survey will measure the effectiveness of the travel strategies by monitoring the changes to the mode of travel used by staff and students from the baseline data illustrating private vehicle use as at the time of the application. This provides the School with meaningful data to make informed decisions to ensure the validity of their travel strategies and keep private vehicle use to a minimum over the medium term.
- Traffic surveys to monitor the flow of traffic on the school frontage roads of Macpherson Street, Albion Street and Leichhardt Street on an annual basis. Road tube counters are proposed to be installed for a full week during term and a full week during a holiday period. This will allow the school generated traffic to be determined by comparing the difference between the surveys. It should be noted that this will pick up the change in traffic flows for all schools in the precinct which utilise these roads, however allows a comparison between the road tube surveys from one year to the next which should pick up background versus school traffic changes.
- Traffic flow observations at pick-up and drop-off areas by an independent traffic consultant to monitor the level of activity specifically generated by the school.

It is also noted that the Samsa report recommends that in the event that the targeted behavioural changes are not achieved, that the applicant contribute to road and intersection upgrades, as opposed to fully fund all works. Therefore it is important to measure intersection performance, school generated traffic and non-school generated traffic changes separately, regularly and consistently over time.

It is recommended that the survey program be undertaken in Term 1 and during the Term 1 break. This will enable the effectiveness of the programs to be determined early in the year and allow opportunity for encouraging greater take up of travel initiatives.

We trust this provides additional information to assist with the assessment of the proposal.

Yours sincerely

A handwritten signature in black ink, appearing to read "Andrew Hulse". The signature is written in a cursive style with a long horizontal stroke at the end.

Andrew Hulse  
Associate Principal

## Memo

**To:** Director – Planning and Environmental Services  
**From:** Manager – Traffic and Development  
**Subject:** 26 Albion Street, Waverley  
**File:** Draft DGRs  
**Date:** 9 January 2014



To Whom It May Concern:

I wish to provide the following comments in regard to the above:

### **1. New RPAC Car Park with Access off Macpherson Street**

- (a) The vehicular access ramp should be either widened to allow for full two way operation or be fitted with an electronically operated traffic control system that will allow only one vehicle on the ramp at a time. The proposed ramp is suitable only for a single vehicle and there is potential for a driver entering the site to have to reverse out onto Macpherson St to make way for an exiting vehicle. Reversing onto Macpherson St at any time is unsatisfactory on traffic and pedestrian safety grounds;
- (b) The gradients and gradient changes on the ramp will need to be amended to comply with the requirements of AS 2890.1: 2004 - Off Street Car Parking; and
- (c) Sight distances requirements for drivers of vehicles exiting the carpark onto Macpherson Street will need to be improved to comply with the requirements of AS 2890.1: 2004 - Off Street Car Parking.

### **2. Service Vehicle Area**

Service vehicles accessing the site off Albion Street will be required to enter and exit the site in a forward direction at all times. In this regard, the applicant will need to provide details of the type and size of service vehicles expected at the site and include details of their swept wheel paths and location and dimensions of the loading bay(s).

### **3. Waste Collection**

Council currently collects waste and recyclable materials from the college via Leichhardt Lane. Council's Waste Supervisor informs trucks are reversed along Leichhardt Lane from Leichhardt Street before 7am with bins being emptied into the truck in the vicinity of the Ausgrid substation. As the truck is too large to travel around the bend in Leichhardt Lane to access the gates at the proposed bin store, the following will be required:

- (a) The bins will need to be wheeled by persons from the college to a suitable and second bin bay area within the site near the substation and wheeled back once being emptied; or
- (b) The bin storage area needs to be deleted from the location proposed and relocated so as to be in the vicinity of the substation.

The latter is preferred on resident amenity grounds.

#### **4. Transport Traffic and Parking Report**

A full traffic, transport and parking report prepared by a suitably qualified and experienced traffic engineering consultant will need to accompany the master plan (Stage 1 DA).

The report will need to fully detail current and future traffic impacts and parking demand at different times of the day and include full details of current and future teacher and staff parking and the impact it has and will have on parking on the surrounding roads.

Regards,

Geoff Garnsey  
**Manager Transport and Development**



25 November 2014

Attention: Mr Peter McManus

Senior Planner  
Industry, Key Sites and Social Projects  
NSW Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Mr McManus,

**RE: ST CATHERINE'S SCHOOL MASTER PLAN (SSD 6339)  
29 ALBION STREET, WAVERLEY**

I refer to the above detailed application which is currently under assessment by the NSW Department of Planning and Environment. A review of the application information has been undertaken and a number of comments are provided in this letter and attached.

The comments below were subject to, and subsequently amended by, a Resolution of the Council at their meeting of 18 November 2014.

Should you have any questions please contact the Manager, Development Assessment (South) - Lee Kosnetter on 9369 8213 or [Lee.Kosnetter@waverley.nsw.gov.au](mailto:Lee.Kosnetter@waverley.nsw.gov.au).

Yours sincerely,

A handwritten signature in black ink that reads "Peter Monks".

Peter Monks  
**Director, Waverley Futures**

**Contact us**

Phone: 9369 8000 Fax: 9387 1820

Email: [info@waverley.nsw.gov.au](mailto:info@waverley.nsw.gov.au)

Web: [www.waverley.nsw.gov.au](http://www.waverley.nsw.gov.au)

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# Submission to Department of Planning and Environment St Catherine's School Master Plan

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The following key points are identified after reviewing the documentation and plans accompanying the application.

## **Waverley Local Environmental Plan 2012**

### Height and Floor Space Ratio (FSR)

The proposal substantially breaches site's height and FSR development standards contained in the WLEP 2012. The applicant has provided a detailed clause 4.6 Exception to development standards justifying the contravention of development standards and detailing the public benefit. However the additional height and FSR of the proposed development is likely to have considerable amenity impacts on adjacent residential uses. Accordingly, the height and gross floor area of the RPAC be reduced on MacPherson Street to align with the bulk and scale of neighbouring properties.

Furthermore, the proposal results in a significant increase to site coverage which should be reduced so as to minimise the loss of green space and minimise over-development of the site.

### Preservation of trees and vegetation

The proposal seeks the removal of a number of existing trees and vegetation from the site. In the event the application is approved by The Department the recommended conditions of consent from Council Tree Management Officer should be imposed (see Attachment A).

### Heritage

The site is heritage listed and located in a conservation area specified in Schedule 5 of the WLEP 2012. Accordingly, the proposed master plan should maintain and enhance the existing setting of heritage items and heritage conservation area. To address the provisions of clause 5.10 Heritage conservation application should address the comments provided by Councils Heritage Advisor (see Attachment B).

## **Traffic, vehicular access and car parking**

The proposal will have significant implications for traffic, vehicular access and parking on surrounding street the locality.

To account for the significant impacts on traffic and parking within the vicinity of the site, Master Plan should be amended to provide a substantial amount of additional on-site parking, for example a minimum of 200 car spaces – currently only 19 extra car spaces are proposed in addition to the existing 56 car spaces. This is essential due to, but not limited by, the:

- i. existing over-subscribed on-street parking available in the area,
- ii. proposed increase in capacity of the school, including students, teachers, staff, and visitors, and
- iii. proposed intensification of school functions associated with the new buildings, including the 500 seat theatre and larger aquatic centre.

The development of the RPAC should be dependent on providing the additional parking, that is, the parking should be physically provided with the first stage of development.

A drive through drop off/pick up area be integrated into the proposal to:

- i. mitigate the compounding traffic congestion impacts around the school due to an increase in parent numbers as a result of the increase to student numbers,
- ii. improve community safety,
- iii. reduce illegal and unsafe parking, and
- iv. improve residential amenity.
- v. The applicant should also be amended to incorporate bicycle parking for students and staff (preferable near entry points).

A condition of consent should also be incorporated to include a requirement that the school development a mode shift policy with specific performance indicators aimed at minimising traffic volumes and parking capacity issues.

The DoPE should also have regard to the comments and recommendations provided by Council's Technical Services sub Program (see Attachment C).

### **Built form and urban design**

The proposed multipurpose hall, theatre, fly tower and research centre will significantly alter the schools presentation to MacPherson Street and may have amenity impacts on surrounding residential properties and the public domain. Where unreasonable amenity impacts are identified the bulk, scale and building footprints should be reduced to minimise amenity impacts on surrounding properties and the public domain. In particular, the scale of the building at its eastern edge has been designed to accommodate plantings and a varied materials palette to break down its mass. This is an important aspect that should be retained and thoroughly investigated on site.

The proposed alterations and additions to existing buildings and reconstruction of the JB Hall are generally consistent with the built form of existing buildings. The proposal appears to ensure that it enhances the setting of existing heritage items and provides a positive streetscape presentation to Albion Street.

### **Landscaping and open space**

The proposal substantially increases the built upon areas within the site and drastically reduces the amount of landscaping and open space. Analysis should be undertaken to determine if the remaining open space and landscaping is adequate to accommodate the increased number of students. In addition, the proposal seeks to remove high value boundary planting and both brick and stone walls also considered to be high value, given the positive interface with the street frontages and ability to maintain privacy and limit amenity impacts on surrounding residential properties.

It is recommended that the boundary planting and stone walls be generally retained and enhanced. Particular attention needs to be given to the adjacency issues with the adjoining residential flat building to the site's east at 4 MacPherson Street. The Council's PreDA flagged this issue but it is not apparent in the plans that it has been resolved. The residential flat building's land is undulating and it is appropriate that the proposed side fencing and

landscaping within the school carefully consider the boundary treatment along this length of the site to ensure there is consistent fencing/landscaping, rather than some high points and some low points in the fence.

### **Increase to student and staff numbers**

The proposal will increase student and staff numbers over a 15 year period. Detailed assessment of the vehicular access, traffic surveys and parking reports should be undertaken to determine the impacts of increasing student and staff numbers.

Any consent from the DoPE should clearly outline the staging of increases to student numbers on a 'stage by stage' basis as each stage of this project is completed.

### **Public/private use of school facilities**

Section 4.5 Events and hours of operation and Appendix H of the Environmental Impact Statement outlines the proposed school, community and private use/events including use of the aquatic centre and performing arts and social events. The events are appropriately limited to school events and/or generally ancillary events commonly associated with schools. Any significant change to the makeup of events should be subject to some form of review and approval process. In this respect, Council recommends a facilitating condition of consent that allows the school to seek Council's endorsement of any major timetabling change on an as needs basis.

### **Visual and acoustic privacy**

The proposal must not unreasonably impact on the amenity of surrounding residential properties and the public domain. The proposal must assess solar access, overshadowing, view loss on surrounding properties and the public domain. In addition acoustic impacts should be determined and mitigated to a reasonable level.

#### Light spill from RPAC building

The proposed RPAC building incorporates considerable glazing to the south elevation fronting MacPherson Street and east elevation adjacent to the residential flat building at 4 MacPherson Street. As the RPAC building is surrounded by low and medium density residential uses, consideration should be given to the amount of light spill from the proposed building into adjacent low and medium density residential areas. Of particular concern is the east elevation windows to the aquatic centre, which may have considerable light spill impacts that will undermine the residential amenity of adjacent units, particularly during early morning and evening hours.

#### Acoustic spill from RPAC building

Detailed acoustic conditions that are transparent, enforceable and reasonable should be imposed to protect the acoustic amenity of adjoining properties. Noise generated by any events in the Hall would likely not be an issue, as the space will be internally acoustically treated to keep road noise out – and therefore event noise in. However there is a likelihood that swimming events (which often include blowing whistles) may transmit noise to adjoining properties. Given the early starts associated with swimming classes and the weekend events associated with water polo and carnival activities, these are time sensitive issues when adjoining properties expect, reasonably, to enjoy a high level of acoustic

privacy. Conditions of consent to mitigated noise transmission (closed windows, acoustic treatments, hours of use) should be considered.

Conditions of consent should be imposed to mitigate noise transmissions (closed windows, acoustic treatments, hours of use) and ensure that appropriate hours of use are stipulated minimums amenity impacts on adjacent residential uses and the surrounding community.

### **Pedestrian access**

The proposed changes to pedestrian access and management should be detailed and assessed. Changes to existing pedestrian access arrangement will have flow on impacts for traffic, vehicular access and parking at all of the sites frontages. The changes to pedestrian access arrangements should be detailed and incorporated into traffic, vehicular access and parking reports and assessments.

### **Construction management plan and construction vehicle plan of management**

In the event the application is approved a condition of consent should be imposed requiring a detailed construction management plans for all stages of building works, and a construction vehicle plan of management which is to be forwarded to the Waverley Council Traffic Committee for review and input.

### **Waste minimisation and management**

It is noted that the school has existing waste collection arrangements with Council and any changes to those arrangements should be identified and discussed with Council's waste management services. A condition of consent to this effect would suffice.

### **Building Code of Australia (BCA) and disabled access**

All standard conditions of consent regarding compliance with the BCA, relevant disabled access legislation and standards should be included in the event the application is approved by The Department.

### **Conditions generally**

Given that the remaining stages of after the RPAC building will likely return to Waverley Council as the consent authority for future Development Applications, it would be useful to have Council's standardised conditions of consent incorporated into any approval that is granted. A full copy of these will be made available to the DoPE and sent separately.

## Attachment A - Tree referral

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### Impacts on Existing Trees and Vegetation

Approval is supported for the following tree works to be undertaken to trees within the subject property:

Based on a formal assessment, the following proposal can be approved in its current format.

- **Trees to be removed**

Species	Location	Action
4X Cinnamomum camphora	T8,T9,T10,T11	Remove
1x Archontophoenix cunninghamiana	T12	Remove

- **Trees to be retained and protected**

Species	Location	Action
Magnolia bullbay	T6	Protect & retain TPZ of 3 m on all sides.
Port Jackson Fig	T1	Protect & retain TPZ of 3 m on all sides.

\*TPZ- Tree Protection Zone

TPZ – A 1.8m chain link wire fence or the like shall be erected around the above trees to be retained to protect them from damage during construction. Fencing is not to be removed until all building work has been completed. Fencing to be installed to the dimensions outlined in the table above.

Soil levels are not to be changed around any trees.

To prevent compaction within the root zone, excavation undertaken within the specified radius of the trunks of the following trees must be hand dug. Beyond this radius, mechanical excavation is permitted, when root pruning by hand along the perimeter line of such works is completed. Any hand excavation must be carried out in the presence of experienced Arborist/Horticulturist (with a minimum of the Horticulture Certificate or Tree Surgery Certificate).

If any tree roots are exposed during any approved works then roots smaller than 30mm are to be pruned as per the specifications below. Any roots greater than 30mm are to be assessed by a qualified arborist before any pruning is undertaken.

If tree roots are required to be removed for the purposes of constructing the approved works they shall be cut cleanly by hand, by an experienced Arborist/Horticulturist (with a minimum of the Horticulture Certificate or Tree Surgery Certificate).

It is the arborist's responsibility to determine if such root pruning is suitable. If there are any concerns regarding this process then Waverley Council's Tree Management Officer is to be contacted to make final determination.

If any trees on neighbouring properties require pruning then permission must be gained from the owner of the tree(s) and an Application to Prune or Remove Trees on Private Property is then to be presented to Council for processing.

- **Street Trees to be protected T22 to T 30**

### **Tree Protection**

Precautions shall be taken when working near trees to ensure their retention, including the following:

- (a) Do not store harmful or bulk materials or spoil under or near trees;
- (b) Prevent damage to bark and root system;
- (c) Do not use mechanical methods to excavate within root zones;
- (d) Do not add or remove topsoil from under the drip line;
- (e) Do not compact ground under the drip line;
- (f) Do not mix or dispose of liquids within the drip line of the tree; and
- (g) All trees marked for retention must have a protective fence/guard placed around a nominated perimeter.

## Attachment B - Heritage referral

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### **Current Status**

The existing campus is listed as an item of heritage significance in Waverley LEP 1996 – Schedule 6.

### **Proposed Development**

Proposed works comprise master planning allowing for demolition of an existing hall, construction of additional accommodation, recreational facilities, car parking and disability compliant access together with amended landscaping. The Pre DA also covers the construction of Stages 1A and 1B of the master plan.

### **Comments**

The need for a master plan has been demonstrated by recent repeat applications for expansion of the Campus and reconfiguration of existing structures.

- It is considered important that the master plan retain and enhance the original 1857 building at the core of the campus.
- As the existing campus contains a wide variety of structures, several by noted architectural practises, it is recommended that an inventory of buildings including age and designer together with photographic archival records of each be incorporated in the master planning and DA process. A detailed archival record of Jane Barker Hall should be provided prior to demolition.
- The sports precinct and particularly the pool are likely to have extended hours of use including possible use by swim groups such as those operating at The Cranbrook School. These are generally of low impact but consideration should be given to access, parking, signage and change facilities for such groups.
- The use of corner cross over points between buildings is noted in the master plan and considered a positive response to access and the avoidance of visually disruptive covered ways.
- Visual links between the open courts should be maintained as pocket glimpses enhancing the continuity of the campus and adding to the value of landscaping.
- High value boundary planting and walling both stone and brick should be maintained and extended to provide an interface with the street of notable quality to maintain privacy and limit impact of new works upon the setting.
- New Construction should be of a scale responding to surrounding structures with height limited at boundaries and buildings screened and setback to maintain neighbours amenity.
- New and existing entries should be clearly defined whilst maintaining the human scale and amenity of the existing entry.
- Where new works and alterations affect existing buildings by known architectural practises reference to these practises should be made for comment by the original designer.
- Management of traffic and waiting areas about each entry should be clarified in the design approach. This should include limitation of any proposed shelters and design of such in a manner cohesive to the existing campus.

## Attachment C - Technical Services referral

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### **New RPAC Car Park with Access off Macpherson Street**

- (a) The vehicular access ramp should be either widened to allow for full two way operation or be fitted with an electronically operated traffic control system that will allow only one vehicle on the ramp at a time. The proposed ramp is suitable only for a single vehicle and there is potential for a driver entering the site to have to reverse out onto Macpherson St to make way for an exiting vehicle. Reversing onto Macpherson St at any time is unsatisfactory on traffic and pedestrian safety grounds;
- (b) The gradients and gradient changes on the ramp will need to be amended to comply with the requirements of AS 2890.1: 2004 - Off Street Car Parking; and
- (c) Sight distances requirements for drivers of vehicles exiting the carpark onto Macpherson Street will need to be improved to comply with the requirements of AS 2890.1: 2004 - Off Street Car Parking.

### **Service Vehicle Area**

Service vehicles accessing the site off Albion Street will be required to enter and exit the site in a forward direction at all times. In this regard, the applicant will need to provide details of the type and size of service vehicles expected at the site and include details of their swept wheel paths and location and dimensions of the loading bay(s).

### **Waste Collection**

Council currently collects waste and recyclable materials from the college via Leichhardt Lane. Council's Waste Supervisor informs trucks are reversed along Leichhardt Lane from Leichhardt Street before 7am with bins being emptied into the truck in the vicinity of the Ausgrid substation. As the truck is too large to travel around the bend in Leichhardt Lane to access the gates at the proposed bin store, the following will be required:

- (a) The bins will need to be wheeled by persons from the college to a suitable and second bin bay area within the site near the substation and wheeled back once being emptied; or
- (b) The bin storage area needs to be deleted from the location proposed and relocated so as to be in the vicinity of the substation.

The latter is preferred on resident amenity grounds.

## Attachment D - Environmental Health referral

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### **Hazardous materials audit**

Prior to any demolition, assess the presence of structural and residual building materials that may be of environmental concern and hazardous materials that may have been used within the structural components of all buildings are adequately addressed to protect site personnel & surrounding properties from risk of exposure.

### **Asbestos removal**

All demolition works involving the removal and disposal of asbestos cement must be undertaken by contractors who hold a current WorkCover Asbestos or "Demolition Licence" and a current WorkCover Class 2 (Restricted) Asbestos licence and removal must be carried out in accordance with National OH & S Commission Code of Practice for the Safe Removal of Asbestos.

### **Noise**

There should be an acoustic report for proposed use of the whole site, including but not limited to the Performing Arts & Aquatic Centre, sporting facilities, food preparation areas, music rooms. All plant and equipment is to be in an acoustically treated plant room not on the roof. Noise management plan should be required for the construction site conditions and is to include mitigation measures for all aspects of works (demolition, excavation and construction).

### **Odours**

Ensure no nuisance will arise from the proposal and complies with the Protection of the Environment Operations Act, 1997.

### **Mechanical Ventilation**

Comply with BCA and Relevant Australian Standards including but not limited to, AS1668 1991

### **Microbial control**

Any cooling towers and warm water systems must be installed, commissioned, operated and maintained in accordance with AS 3666 2002, the Public Health Act 2010 and the Public Health Regulation 2012.

### **Toilet Facilities and BCA**

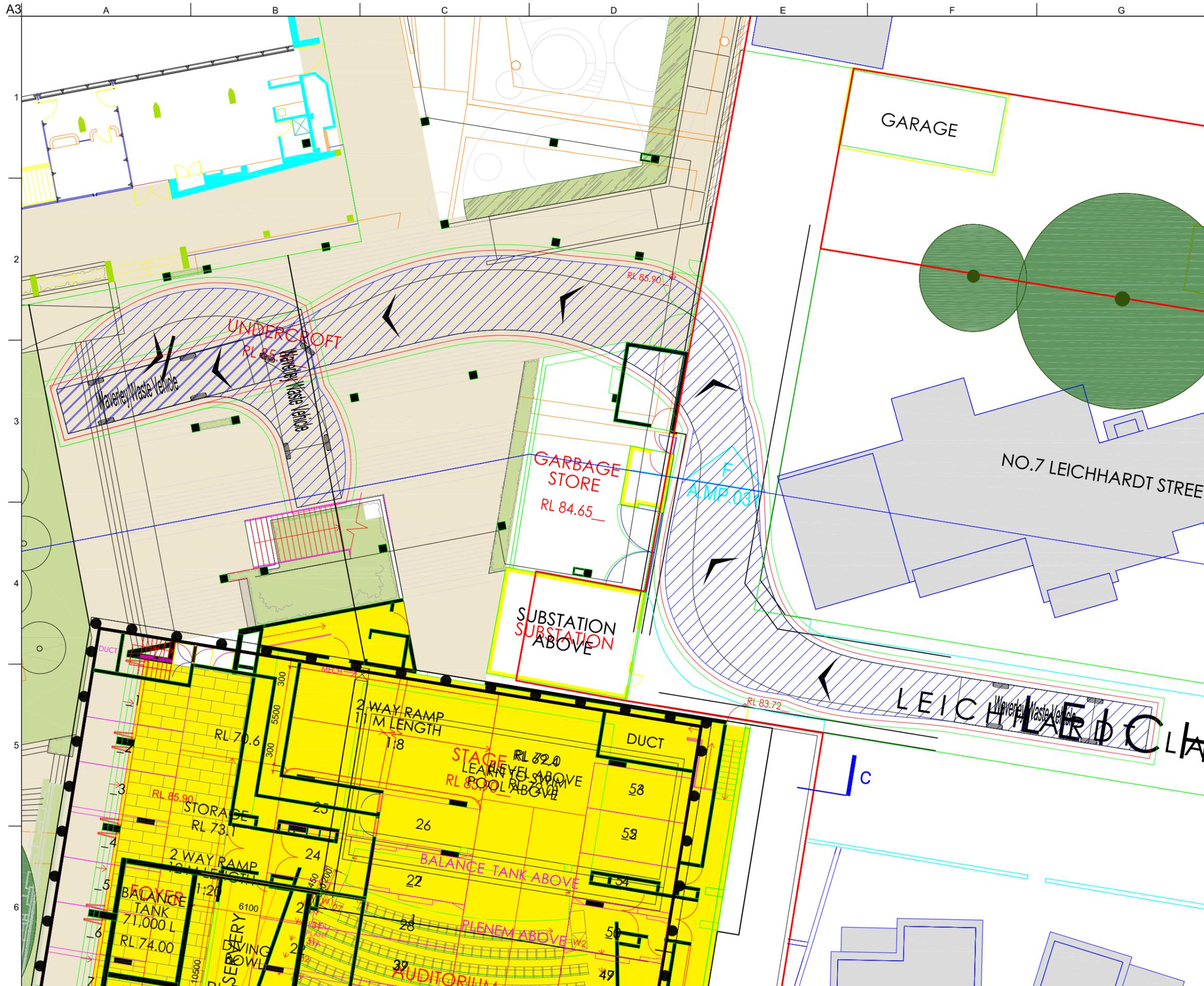
Complies with the BCA for sanitary facilities

### **Hot water scalding, mixer valves & warm water systems**

Consideration needs to be made for the above

### **Soil & Water Management Plan**

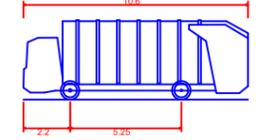
Also known as a Erosion and Sediment Control Plan shall be prepared according to SSROC'S Soil & Water Management Brochure and the NSW EPA Managing Urban Stormwater: Soils and Construction.



**Legend**

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

**Design Vehicle(s)**



Waverley Waste Vehicle  
 Overall Length 10.600m  
 Overall Width 2.500m  
 Overall Body Height 3.752m  
 Min Body Ground Clearance 0.304m  
 Track Width 2.500m  
 Lock-to-lock time 4.00s  
 Curb to Curb Turning Radius 8.250m

A	26/02/16	JRT	JRT	AMH
For Information				
Issue	Date	By	Chkd	Appd

**ARUP**

Arup, Level 10, 201 Kent St  
 Sydney, NSW, 2000  
 Tel +61(02)9320 9320 Fax +61(02)9320 9321  
 www.arup.com.au

Client  
**St Catherine's School**

Job Title  
**St Catherine's School  
 Master Plan**

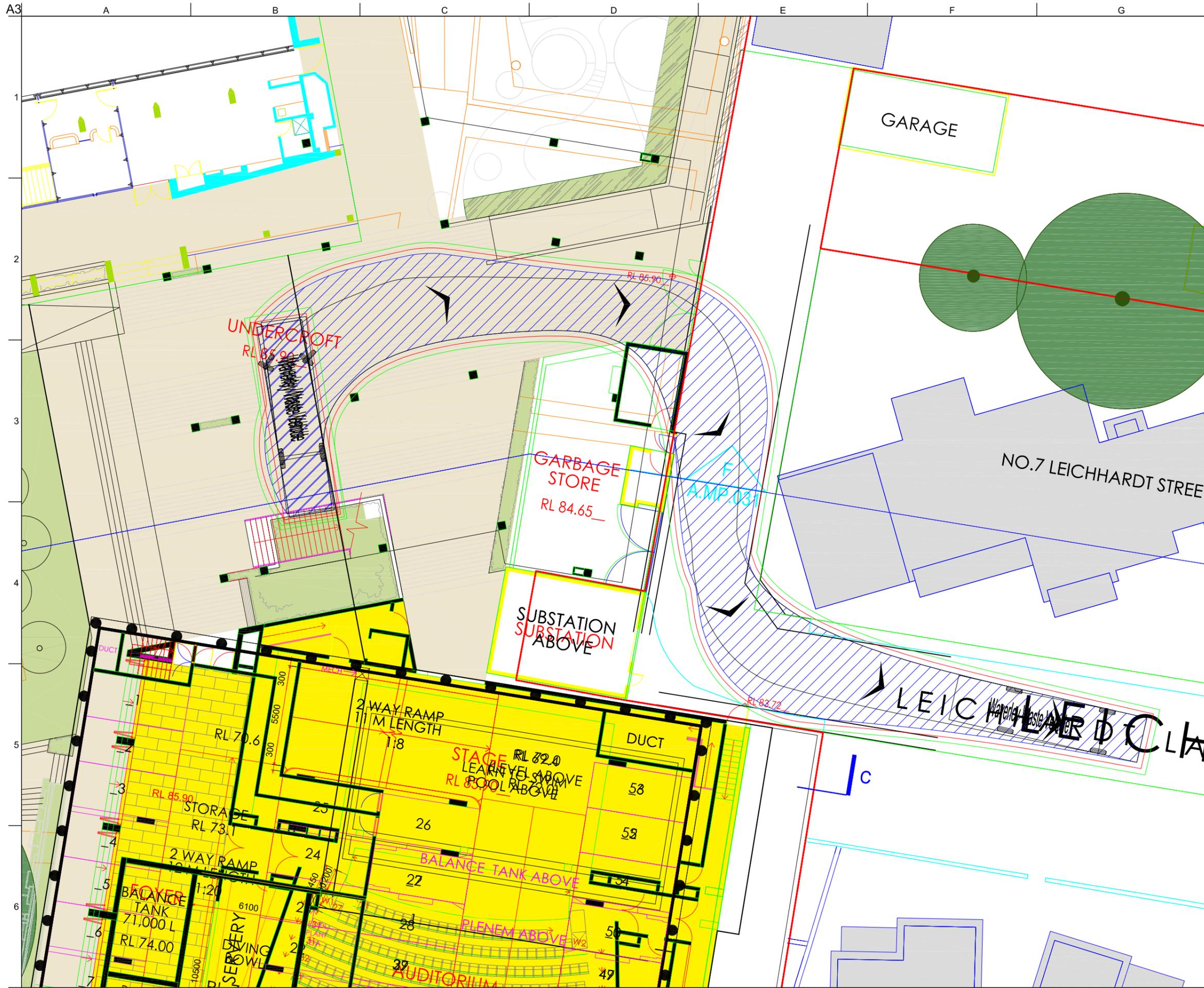
Drawing Title  
**Turning paths  
 Garbage vehicle  
 Entry**

Scale at A3  
 1:200

Discipline  
 Transport

Drawing Status  
**Draft**

Job No <b>236045-00</b>	Drawing No <b>SKT101</b>	Issue <b>A</b>
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- Legend**
- Body Envelope
  - 300mm Envelope
  - 600mm Envelope
  - Wheel Envelope

**Design Vehicle(s)**

**Waverley Waste Vehicle**

Overall Length	10.600m
Overall Width	2.500m
Overall Body Height	3.752m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	8.250m

A	26/02/16	JRT	JRT	AMH
For Information				
Issue	Date	By	Chkd	Appd

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Client  
**St Catherine's School**

Job Title  
**St Catherine's School Master Plan**

Drawing Title  
**Turning paths  
 Garbage vehicle  
 Exit**

Scale at A3 **1:200**

Discipline **Transport**

Drawing Status  
**Draft**

Job No <b>236045-00</b>	Drawing No <b>SKT102</b>	Issue <b>A</b>
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