NSW Department of Education

Inner Sydney High School

Waste Management Plan - State Significant Development Application (SSD 16_7610)

Revision B | 7 June 2017

Job number -

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Document Verification

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Job title		Inner Sydney High School			**Job number** -
Document title		Waste Management Plan - State Significant Development Application (SSD 16_7610)			**File reference**
Document ref					
Revision	**Date**	**Filename**	Arup_ISHS Waste Management Plan_Draft.docx		
Draft 1	5 Apr 2017	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Samantha Diamond	Elizabeth Gwilt	Joyanne Manning
		Signature			
Draft 2	19 Apr 2017	**Filename**	Arup_ISHS Waste Management Plan_Draft_EG.docx		
		Description	Second draft		
			Prepared by	Checked by	Approved by
		Name	Samantha Diamond	Elizabeth Gwilt	Joyanne Manning
		Signature			
Issue	21 Apr 2017	**Filename**	Arup_ISHS_Waste_Management_Plan_Issue.docx		
		Description	Issue to client		
			Prepared by	Checked by	Approved by
		Name	Samantha Diamond	Joyanne Manning	Joyanne Manning
		Signature			
Issue	28 Apr 2017	**Filename**	Arup_ISHS_Waste_Management_Plan_Issue.docx		
		Description	Updated arch plans		
			Prepared by	Checked by	Approved by
		Name	Samantha Diamond	Elizabeth Gwilt	Joyanne Manning
		Signature			
				Issue Document Verification with Document	✓

Document Verification

Job title		Inner Sydney High School			**Job number** -
Document title		Waste Management Plan - State Significant Development Application (SSD 16_7610)			**File reference**
Document ref					
Revision	**Date**	**Filename**	Waste Management Plan_Inner Sydney High School SSD_Rev		
Revision A	5 May 2017	**Description**	Updated construction, demolition and excavation section		
			Prepared by	Checked by	Approved by
		Name	Elizabeth Gwilt	Elizabeth Gwilt	Joyanne Manning
		Signature			
Revision B	7 Jun 2017	**Filename**	Waste Management Plan_Inner Sydney High School SSD_Rev		
		Description	Update to standard consultant text		
			Prepared by	Checked by	Approved by
		Name	Elizabeth Gwilt	Joyanne Manning	Joyanne Manning
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
				Issue Document Verification with Document	✓

Contents

1 Introduction

1.1 Overview

The NSW Department of Education (DoE) are preparing a State Significant Development Application (SSD 16_7610) for the development of a new 'inner Sydney high school' (ISHS) located at the corner of Cleveland and Chalmers Street, Surry Hills (the 'site'), identified as 244 Cleveland Street, Surry Hills.

The new inner Sydney high school is proposed to accommodate up to 1200 students to take enrolment pressure off surrounding high schools exceeding student capacity, and accommodate future population growth within City of Sydney Local Government Area (LGA). The high school will contain high quality learning, collaborative learning spaces and associated facilities.

Specifically, this proposal seeks development consent for the following works at the site:

- Internal reconfiguration and refurbishment of the existing heritage listed buildings on the site to create:
    - Collaborative learning hubs with a combination of enclosed and open spaces;
    - Amenities and support areas; and
    - Workplaces and lounge spaces for teachers and administrative staff.
- Construction of a 13 storeys plus roof level and basement (approximately 56.5m from park level), multi-purpose school building, containing:
    - Collaborative learning hubs with a combination of enclosed and open spaces;
    - Library;
    - Staff workplaces;
    - Student canteen;
    - Indoor gymnasium and other indoor recreation and performance spaces;
    - Ancillary outdoor learning and recreational areas.
- Associated site landscaping and public domain improvements; and
- Augmentation and construction of ancillary infrastructure and utilities as required.

1.2 Background

The population of Sydney is forecast to grow by over one million people in the next 10 years and a significant number will reside in or close to the Sydney CBD in new residential developments in areas such as Green Square, Central to Eveleigh precinct, Barangaroo, Central Square, the Bays Precinct and Ultimo. This growth in inner Sydney suburbs is occurring rapidly, putting significant pressure on public infrastructure, including transport, health services and education.

The DoE has a legislative responsibility to provide teaching spaces to meet demand in all areas across NSW. A new inner Sydney high school is to be built on Cleveland Street, Surry Hills to meet this demand. Cleveland Street Intensive English High School currently occupies the site. A new facility is being constructed for Cleveland Street Intensive English High School on a site already owned by the DoE at Alexandria.

The Cleveland Street site will be redeveloped to create a new future focused high-rise school with a mix of new and refurbished buildings. The heritage of the site is a major consideration for the design of the new campus. A design excellence competition has been completed with the winning architects, Francis-Jones Morehen Thorp (FJMT) continuing to progress the design for the school. The new inner Sydney high school is expected to open in 2020.

The new inner Sydney high school will offer:

- Facilities that are readily accessible and flexible to meet the demands of an evolving curriculum in line with future-focused learning principles.
- Flexible and well connected teaching and learning spaces that enable a variety of teaching and learning practices.
- Spaces that are engaging and supportive for students and teachers.
- Technology-rich settings with an emphasis on mobility and flexibility.
- A healthy and environmentally sustainable environment.
- Innovative, connected outdoor spaces that enable play and collaborative learning.
- Connected open space, creating a welcoming and accessible school with indoor and outdoor teaching and learning opportunities.

No buildings of heritage significance are proposed to be demolished as part of the redevelopment.

The new teaching spaces will incorporate principles of energy efficiency and ecologically sustainable development (ESD). This includes:

- Passive design principles
- Thermal performance and comfort.
- Natural lighting.
- Water recycling management.

Works are as illustrated in detail in the Architectural Design Statement as prepared by FJMT.

1.3 Project context

The site sits within Prince Alfred Park in Sydney's central business district (CBD). It is located at 244 Cleveland Street, Surry Hills just south of Central Station. The site is a 13-storey building plus basement and roof level, and is approximately 56.5m from Chalmers Street. Bounding the site are suburbs Redfern to the south, Surry Hills to the east, and Chippendale to the west. The site is conveniently serviced by public transport and is less than a five minute walk to trains, buses and light rail.

The building will maximise the attributes of the site and include well landscaped surrounds. The site positioning, relationship to neighbours, integration of development and adjoining properties should not impact or unduly cause detrimental effects on the neighbouring sites.

A site boundary of the inner Sydney high school can be seen below in Figure 1.

Figure 1 Site context of the inner Sydney high school

Source: Google Earth

1.4 Purpose

This document addresses aspects of waste management relating to requirements of the SSD under the *NSW Environmental Planning and Assessment* (EP&A) *Act* (1979), City of Sydney Policy for Waste Minimisation in New Developments, and the project's Green Star objectives.

This Waste Management Plan (WMP) identifies waste sources and proposes management measures for the project design, construction and operation. The format of this document can assist with the completion of a Construction Waste Management Plan (CWMP), which will be required by the contractor prior to the construction of the development. It may also assist with the development of a waste auditor report required as part of a Green Star submission.

The key purposes of the WMP are to:

- Address the waste management requirements for the proposal to a standard suitable for approval under the EP&A Act;
- Provide guidance for the project for waste minimisation from construction activities;
- Increase economic feasibility of the project through effective waste separation, recycling and re-use measures; and
- Identify, quantify and classify the likely waste streams to be generated during construction and describe the measures to be implemented to safely manage this waste.

1.5 Secretary's Environment Assessment Requirements (SEARs)

The SEARs requirements for this project have been addressed in the sections identified below in Table 1.

Table 1 SEARs requirements and relevant sections

SEARs requirement	Relevant section
Identify, quantify and classify the likely waste streams to be generated during construction and operation	See Section 4 See Section 5
Describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste	See Section 4 See Section 5
Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	See Section 7 See Section 8

2 Legislative requirements

2.1 NSW State legislation

Protection of the Environment Operations Act, 1997

The *Protection of the Environment Operations Act (POEO Act)* 1997 covers the requirements for waste generators in terms of storage and correct disposal of waste. The POEO Act establishes the waste generator as having responsibility for the correct management of waste, including final disposal.

Waste Avoidance and Resource Recovery Act, 2001

Due to concerns about waste management practices and increasing volumes of waste, the NSW government introduced the Waste Avoidance and Resource Recovery Act (WARR Act) 2001, superseding the Waste Minimisation and Management Act 1995 following its five year review.

The objectives of the WARR Act are as follows:

1) to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development (ESD),
2) to ensure that resource management options are considered against a hierarchy of the following order:
    i. avoidance of unnecessary resource consumption,
    ii. resource recovery (including reuse, reprocessing, recycling and energy recovery),
    iii. disposal
3) to provide for the continual reduction in waste generation
4) to minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste,
5) to ensure that industry shares with the community the responsibility for reducing and dealing with waste,
6) to ensure the efficient funding of waste and resource management planning, programs and service delivery,
7) to achieve integrated waste and resource management planning, programs and service delivery on a State-wide basis, and
8) to assist in the achievement of the objectives of the Protection of the Environment Operations Act 1997.

A WMP is a requirement for new developments in NSW and must be written with reference to the NSW Waste Avoidance and Resource Recovery Strategy 2014-21, made under the Act.

NSW Waste Reduction and Purchasing Policy, 2007 (WRAPP)

The NSW Waste Reduction and Purchasing Policy (WRAPP) requires all state government agencies and state owned corporations to develop and implement a WRAPP plan to reduce waste in four scheduled waste sources:

- Paper products;
- Office equipment and components;
- Vegetation material; and
- Construction and demolition materials.

The NSW WRAPP is not directly applicable to the project, but has been used as a guiding document for waste initiatives.

2.2 Local government requirements

Council of the City of Sydney *Policy for Waste Minimisation in New Developments*

The Council of the City of Sydney Policy for Waste Minimisation in New Developments (CoS Waste Policy) was developed in 2005 in support of the NSW Waste Avoidance and Resource Recovery Strategy (2003, now superseded by the 2014-21 Strategy). The CoS Waste Policy is the guiding document for many of the waste initiatives and requirements for the inner Sydney high school.

The specific sections pertaining to the proposed development include:

- Section A – All developments; and
- Section C – Commercial Provisions.

Key requirements of the CoS Waste Policy include:

- All commercial premises must have a dedicated and enclosed waste and recycling storage area which has adequate storage to meet generation rates;
- All businesses must have written evidence, held on site, of a valid and current contract with a licensed collector for waste and recycling collection and disposal; and,
- All businesses are encouraged to include provisions within waste contracts that allow for the collection and recycling of significant waste streams.

Numerous other requirements are specified within the CoS Waste Policy. These have been addressed throughout this WMP where applicable.

2.3 Green Star

A Green Star assessment is being sought for this development under the Green Building Council of Australia (GBCA) Green Star Design and As Built v1.1 rating tool. The waste management facilities and procedures set out in this WMP align with the requirements of Credit 8A – Operational Waste.

The performance pathway relevant to the inner Sydney high school is the Specialist Pathway.

Table 2 outlines the requirements of Credit 8A.

Table 2 Performance Pathway: Specialist Plan Green Star credit overview

Option 8A	Criteria	Requirements
Performance Pathway: **Specialist Plan**	1 point is available where a waste professional specialist prepares and implements an Operational Waste Management Plan (OWMP) for the project in accordance with best practice approaches and this is reflected in the building's design.	Identify the site boundary, the waste streams relevant to the project, and the individual roles responsible for delivering and reviewing the OWMP; Set diversion from landfill targets and/or targets for reducing total materials generation (general waste materials and recyclable/reusable materials), as well as monitoring and measurement procedures for waste and recycling streams by weight. Outline methods for encouraging the separation of waste streams, such as bins, storage areas or recycling facilities in public areas as required. Identify storage areas for all waste streams and outline best practice safety and access requirements for their collection. Identify safe methods for vehicle access and transfer of waste; and Incorporate a review process to assess the success of the OWMP and make improvements, based on operational experience.

3 Targets, monitoring and measurement

High quality waste data can improve the overall level of accuracy, transparency of, and confidence in, waste monitoring. It enables meaningful and accurate comparisons and benchmarking to be conducted both within portfolios and between waste contractors.

Good waste data informs strategic resource planning and provides insight into equipment/operational efficiency as well as ensuring accuracy of invoicing and fees. The inner Sydney high school can achieve greater resource recovery by accurately measuring current and future waste performance.

3.1 Target

The waste related targets have been set to ensure ongoing improvement of waste segregation and recycling. The inner Sydney high school will adopt a proposed landfill diversion target of 70% for operational waste, in line with the NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

This target will be calculated as follows:

$$\frac{total\ waste\ (kg) - landfill\ waste\ (kg)}{tot\square l\ waste\ (kg)} \times 100\%$$

Due to the nature of the new build, there are no historical landfill diversion rates calculated.

Given the lack of accurate diversion from landfill data, a modest target has been set until baseline data can be gathered and analysed. This target is based on the predicated separation of organic waste. The intention will be that this target will be reviewed regularly, and opportunities to increase diversion from landfill will be sought.

The baseline data for this target will be sourced from bin weight collected by the nominated waste service provider for the development. The Building Manager onsite will calculate the diversion rate based on data provided by the waste service provider.

3.2 Monitoring and measurement

Data pertaining to waste generation at the inner Sydney high school will be collected, collated and recorded by the waste service provider to ensure best practice monitoring procedures for building management to help measure their progress towards achieving their waste targets.

3.2.1 Operations

The waste service provider for the inner Sydney high school must adhere to this WMP and comply with minimum operational safety standards.

The waste service provider must be able to attribute a weight to each bin collected, and mass must be measured according to the individual waste stream with evidence regarding the integrity of any scales/meters used. Masses must be recorded in an agreed format and forwarded on to the building manager at the close of each invoicing period.

Where the waste service provider observes contamination in a recycling bin, that bin must be weighed and added to the operational waste management report as a 'contamination incident'. The contents in the contaminated bin must then be disposed of as general waste and the incident reported to the building manager.

The waste service provider must supply equipment (bins, signage/stickers etc.) colour-coded in accordance with the Australian Standard 4123 and approved by the building manager.

The waste service provider must ensure that collecting services are done periodically and only when necessary to ensure the bins are not greater than three quarters full, and to maintain a hygienic and odour free environment.

3.2.2 Contamination audit

A site specific contamination audit of each recycling stream is recommended annually. This audit is conducted internally and must be overseen by an independent and competent person.

For two consecutive collections, the contents of the sample are to be audited to determine the level of "non-acceptable" items. The sample will consist of all bins normally presented for collection and non-acceptable items must be as advised by the receiving facility.

Contamination rate is determined as the total mass of 'non-acceptable' items expressed as a percentage of the total mass of all bins in the sample.

Where contamination is deemed unacceptable, the building manager should seek to address this issue with the building tenants e.g. through educational or other means.

3.2.3 Reporting

The waste service provider is to issue periodic operational waste management reports e.g. on a monthly or quarterly basis, to the building manager, including:

- A list quantifying the amount and types of waste generated at the inner Sydney high school.
- A list of contamination incidents including the masses of contaminated bins.

- Records and evidence to substantiate data contained within reports to the nominated reporting standard.

3.3 Review of WMP

The waste service provider and cleaning contractor will annually review the WMP with the building manager as well as any other relevant parties in the inner Sydney high school to determine enhancements, sustainability initiatives and other waste management initiatives.

4 Construction and demolition

The following section provides an overarching guideline for managing waste generation during the construction, demolition and excavation phase. For a more detailed framework on the management of construction, demolition and excavation waste at the inner Sydney high school, please refer to the Construction Management Plan.

4.1 Waste streams

Construction, demolition and excavation works for this development are to take place with consideration of the project's Green Star pathway objectives, particularly in regards to use of recycled building materials and recycling of construction waste streams. The primary goal for waste management in the construction, demolition and excavation phase is to ensure the highest possible proportion of waste is recycled or reused. The target rate for construction, demolition and excavation waste diversion from landfill will be determined once the Green Star pathway for this project has been finalised.

An overview of the major waste streams resulting from demolition and construction is provided in Figure 2. Waste streams that are generally predicted to generate the greatest volume are highlighted in pink.

4.2 Management

Waste generation and management during the construction, demolition and excavation phase will be the responsibility of the Principal Contractor and is to be handled in accordance with the approved Construction Waste Management Plan as it relates to materials procurement, handling, storage, and use. Waste generated during construction, demolition and excavation will be reused and recycled as a priority, and only disposed to landfill where unavoidable.

During construction, demolition and excavation, suitable areas on site (or off site, if necessary), will be allocated which provide adequate space and access for:

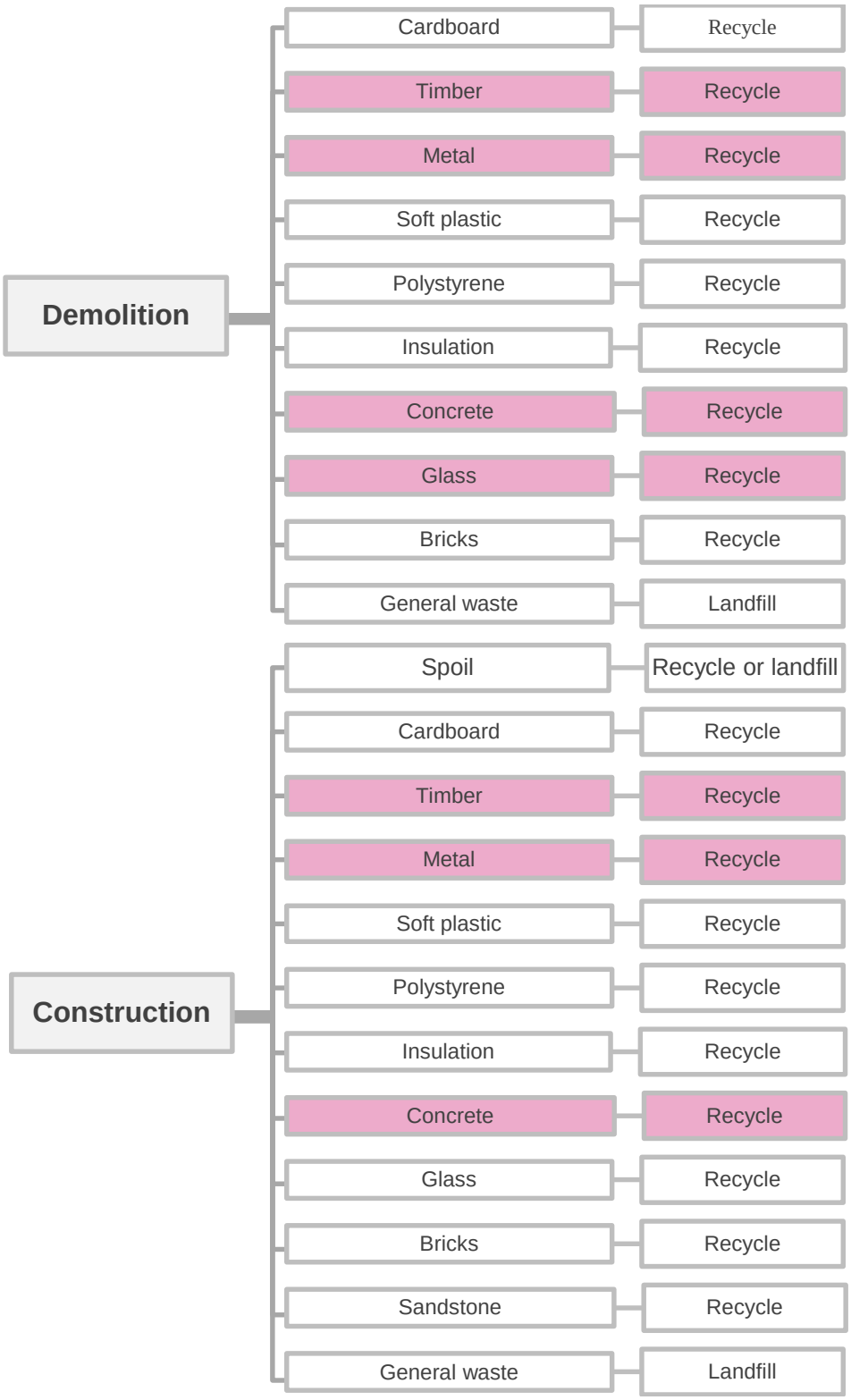
- Separated storage of building materials,
- Separated storage of construction, demolition and excavation waste,
- Separated sorting of construction, demolition and excavation waste, and
- Removal of construction, demolition and excavation waste for recycling, re-use or landfill.

Waste that is unable to be reused or recycled will be disposed of offsite at an EPA-approved waste management facility following classification. Details of waste types, volumes and destinations will be recorded in recording and tracking schedules. Prior to transporting waste materials to offsite facilities, it will be verified that the transporter and facility is licensed to handle the material it is designated to carry.

Construction and demolition waste tracking sheets are to be completed by all contractors, as provided in Appendix A.

As a requirement of Green Star, the construction contractor will develop a CWMP in order to ensure that construction waste is minimised and diverted from landfill where possible.

Figure 2 Overview of expected construction and demolition waste streams



5 Operation

This section includes an overview of waste streams that will likely to be generated during operation, details on their segregation, and their estimated volumes. Detailed area schedules for this development can be found in Appendix B.

5.1 Operational waste streams

The waste streams that will be generated during operation of the building are identified below in Table 3.

Table 3 Waste streams per operational area

Waste streams	Operational area
General waste	Entire building, public realm
Food and garden organics	Entire building, public realm
Paper and cardboard	Entire building, public realm
Co-mingled recycling	Entire building, public realm
Secure documents	Office spaces
Hard / bulky items	Specialist subject areas (woodwork, drama, metalwork etc.), refurbishment workshop
Electronic waste	Learning spaces, office spaces
Liquid waste	Canteen
Sanitary waste	Entire building
Chemical waste	Science labs, chemical storage

5.2 Waste generation

Weekly waste volumes for the inner Sydney high school have been estimated using standard City of Sydney waste generation rates and the area schedule to determine waste storage and collection requirements.

Weekly waste volumes are based on the assumption that general waste will be collected five times a week and recyclables will be collected once a week.

5.2.1 Rates

For all spaces within the inner Sydney high school, CoS Waste Policy generation rates in conjunction with the total GFAs have been used to calculate daily waste volumes. As there is no historical waste collection data available, it has not been possible to cross-reference estimated waste volumes with historical waste collection data, therefore it must be noted that actual waste generation may vary.

For waste and recycling generated in the public realm, Arup have consulted with Local Government NSW about specific guidelines and standards for allocating public bins. Currently, there are no specific guidelines for the placement of

receptacles in public spaces, however, it is recommended that bin stations are located at least every 30 metres as a benchmark footfall.

A bin station should comprise of 1 x general waste receptacle, 1 x co-mingled recycling receptacle, and 1 x food/organics receptacle. In total, there will be four bin stations comprising of general waste, co-mingled recycling, and food / garden organics.

The allocation of bin stations in the park area adjacent to the inner Sydney high school has been summarised in Table 4.

Table 4 Summary of public realm bin allocation

Stream	Number of receptacles
General waste	4
Co-mingled recycling	4
Food / garden organics	4

Table 5 identifies the appropriate generation rates for all spaces within the building.

Table 5 Applicable waste and recycling generation rates

Building space use	Applicable waste generation type	General waste generation rate	Recycling generation rate
Office / learning spaces	Offices	6 L / 100 m^2 / day	12 L / 100 m^2 / day
Canteen	Cafes	215 L / 100 m^2 / day	130 L / 100 m^2 / day
Back of house / gymnasium / outdoor learning	Showroom	10 L / 100m^2 / day	25 L / 100m^2 / day

The storage, loading and service areas of the buildings have been assumed to not generate any waste. Public realm waste currently has no generation type in the CoS Waste Policy, and there is no publicly available data in Australia on public realm waste.

5.2.2 Volumes

Estimates of the waste segregation and daily waste generation for the inner Sydney high school are summarised below in Table 6.

Table 6 Estimated waste generation (volume)

Source	ISHS GFA	Waste and recycling volumes (L/day)			
		General waste	Food and organic waste	Co-mingled recycling	Paper and card recycling
Office / learning spaces[1]	7906	474	-	88	797
Canteen / Food technology rooms	1012	637	213	644	671
Lobby / conference rooms	1359	82	60	23	204
Total	**10277 m^2**	**1193 L**	**273 L**	**755 L**	**1672 L**

Please note that waste estimates have not been provided for other waste streams (e.g. hard / bulky waste, e-waste, cooking oil, sanitary waste etc.) including public realm waste due to their anticipated small volumes or a lack of metrics available.

[1] Waste generation figures for office / learning spaces includes the foyer and back of house areas.

6 Systems

The proposed Waste Management System (WMS) is summarised in Table 7. This summary identifies the reticulation from the point of disposal to the central waste room and collection point.

In addition, the responsibilities associated with waste management system are outlined below. All contracts with building managers, tenants and cleaners should clearly outline the waste management and collection system for allocating waste management responsibilities.

Table 7 Proposed operational waste management system

Space use	Local disposal	Transfer to central waste storage room	Central waste room(s)	Transfer to collection point	Collection point
Office / learning	Bins / receptacles as needed in shared spaces	Cleaners (using trolleys)	Central waste storage rooms (general waste and recycling) on Lower Ground level.	Nominated cleaning staff/facilities management transfer waste receptacles from central waste rooms on Lower Ground level, to the loading zone adjacent to the recycling storage room.	Waste contractors collect waste from loading zone in waste collection vehicles. Loading zone is located on Lower Ground level, accessed via the driveway entrance on Cleveland Street. Collection vehicles will use the car park area to drive in facing forward and reverse into the loading zone.
Canteen / food technology	Bins / receptacles as needed in shared spaces	Cleaners (using trolleys)			
Back of house / foyer	Bins / receptacles as needed in shared spaces	Cleaners (using trolleys)			
Public realm	Bins / receptacles as needed in public spaces	Facilities management / groundskeeper (using automated grounds vehicles)			

7 Storage

7.1 Central room

Waste storage area requirements are calculated from the total volume of daily waste generation, collection frequencies, and Australian Standard mobile garbage bin sizes. If waste collection will not occur on a daily basis a larger waste storage area will be required.

All waste storage rooms will be designed according to the provisions stipulated by the CoS Waste Guidelines (Section A, General and Reference B: Bin Bay/Bin Room Construction). All waste storage areas and bins will be provided with clear labels and directions for use in order to maximise appropriate separation of waste streams.

The recommended waste storage room requirements are outlined in Table 8 below.

Table 8 Recommended area requirements for central waste and recycling storage

Component	Waste stream	Bin Requirements	Area
General waste storage	General waste	4 x 660L general waste receptacles	13 m^2
	Food and garden organics	4 x 240L recycling receptacle	
	Wash down area	-	
Recycling storage	Co-mingled	3 x 660L recycling receptacles	18 m^2
	Paper/card	4 x 1100L recycling receptacles	
Hard waste storage	Bulky items	Caged section	12 m^2
	E-waste	Small receptacle	
Bin scaling factor			1.5
Total			**43 m^2**

The general waste storage room will host general waste and food / garden organic waste, and the recycling storage room will host co-mingled recycling, paper / cardboard recycling, hard / bulky waste, and e-waste.

A bin scaling factor of 1.5 has been applied to account for compliance in receptacle manoeuvrability and accessibility.

The proposed waste storage rooms on Lower Ground level require a total floor area of **13 m^2** for general waste storage and **30 m^2** for recycling and hard / bulky waste storage, which will be adequate for storing all waste generated by the inner Sydney high school. These areas are compatible with the space allowances provided by FJMT for waste generated within the inner Sydney high school.

There will be no local waste storage rooms on each level.

Please refer to Appendix C for a scale layout of the central storage area.

7.2 Location

The central waste storage room will be located away from public access to minimise visual, odour, and safety impacts. The proposed central waste storage room will be located on Lower Ground level, as illustrated below in Figure 3.

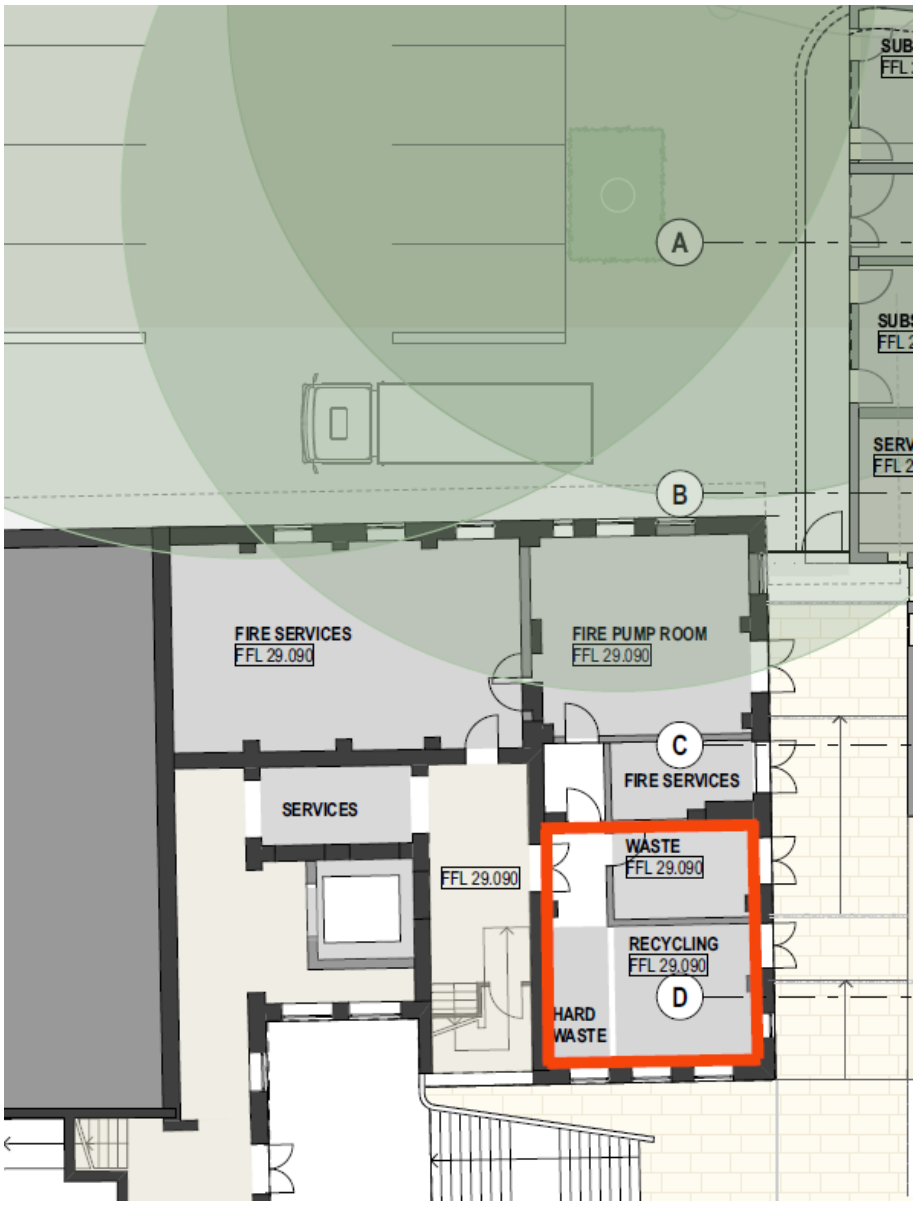


Figure 3 Location of central waste storage room

7.3 Signage

Signage will be provided in all waste disposal, storage and collection areas demonstrating how to use the waste management system, including what materials are acceptable in each recycling bins. All waste streams will be stored in clearly labelled, colour coded bins as appropriate to ensure that waste streams are not inadvertently mixed.

The standard colours of each bin are outlined in Table 9 as per the CoS Waste Guidelines. These measures are necessary in order to encourage the appropriate separation of waste streams and the recovery of resources.

Table 9 Standard bin colours

Bin	Colour
General waste	Red lid and dark green body
Co-mingled recycling	Yellow lid and dark green body
Paper / card recycling	Blue lid and blue body
Food organics	Maroon lid and dark green body

In addition, clear Occupational Health and Safety (OHS) signage must be provided as appropriate. In particular, appropriate OHS must be provided within each waste and recycling room.

7.4 Design

The central waste storage room will be designed according to the provisions stipulated by the CoS Waste Guidelines (Section A, General and Section C, Commercial).

The central waste storage room must be located in a position that is convenient for both users and waste contractors. The access pathway for wheeling bins between a central waste storage point and a collection point must be free of steps or kerbs. The distance between the central waste storage room and its respective collection points will not exceed 20 m and must not exceed grade of 1 in 12.

Table 10 below provides a summary of design requirements relating to the waste storage facilities.

Table 10 Waste storage design

Design aspect	Design provision
General	All waste management facilities will be compliant with the Building Code of Australia (BCA) and all relevant Australian Standards. The waste management system and storage areas will not be visible from the exterior of the building.
Surfaces	The floors of the waste storage rooms will be constructed of concrete of at least 75mm thickness and graded and drained to the sewerage system.

	The floors will be finished to a smooth, even surface, and covered at their intersection with walls and plinths. A ramp to the doorway will be provided if necessary.
Structure	The walls, ceilings and floors of the storage rooms will be finished with a light colour. The walls of the waste storage rooms will be constructed of approved solid impervious material and will be cement rendered internally[2] to a smooth even surface coved at all intersections. The storage area will be constructed and finished to prevent absorption of liquids and odours, and will be easily cleanable.
Doors	A close-fitting and self-closing door or gate operable from within the room must be fitted to all waste and recycling storage areas (rooms or bin bays). Doors/gates to the waste storage rooms must provide a minimum clearance of 1,200mm. At least one door or gate to the waste and recycling storage area must have sufficient dimensions to allow the entry and exit of waste containers of a capacity nominated for the development. Lightweight roller shutter-type doors or grilles should be considered for access to waste and recycling storage areas, as these do not impact on the available storage space. If these types of doors or grilles are used, the requirement for a close-fitting and self-closing door remains, so that waste collectors can access the waste storage area other than through the roller door or grille.
Water	Hot and cold water will be provided to the waste storage rooms. Water will be mixed through a centralised mixing valve with hose cock[3].
Lighting	Adequate lighting will be provided for all rooms, controllable from a switch located both outside and inside the room. Lighting will ensure safe access to the area at night. Automatic light sensors may be installed for ease of manual handling during transfer of bins.
Pest control	The waste storage rooms, areas and containers will be constructed in a manner as to prevent the entry of vermin.
Ventilation	The waste storage rooms will be supplied with an approved system of mechanical exhaust ventilation, exhausting at a rate of 5L/s.m^2 floor area, with a minimum rate of 100L/s minimum or permanent, unobstructed natural ventilation openings direct to the external air, not less than one-twentieth (1/20th) of the floor area. Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise or odour problem.
Safety	Smoke detectors will be fitted in accordance with AS1670 Automatic Fire Detection and Alarm Systems and connected to the fire prevention system of the building. The waste compactors will be fully fire proofed and child proofed. Only trained building management and waste contracting staff will have access to compactor equipment. All equipment will be protected from theft and vandalism.
Signage	Signs will be provided to demonstrate how to use the waste management system (including segregation of wastes for recycling, use of waste compactor), as well as appropriate safety signage. The different recycling and waste bins will be clearly identified and signed appropriately.

[2] Use of other equivalent surfacing such as off form concrete to be confirmed with Council during consultation

[3] It is expected that separate hot and cold water controls will be required. Detail to be developed with selected cleaning method and system.

Refrigeration	Council may require waste storage to be refrigerated if sufficiently large quantities of food waste are generated on site and waste removal from this site is difficult due to location or long trading hours. Where a waste room is refrigerated the temperature must be maintained at or below at or below 50°C with all refrigeration equipment installed with sufficient space for cleaning.

7.5 Amenity

The management systems and constructed elements of this development will be designed and installed so as to enhance outcomes for building amenity. Any potential for noise and odour to arise will be minimised. Specifically:

- **Visual aspects:** Any facet of the waste management system that is visible from outside the building must be in keeping with the dominant design of the remainder of the development.
- **Noise:** The potential for noise must be minimised. Significant noise-generating waste management equipment will not be utilised in this development. However, Council may require waste storage to be refrigerated if sufficiently large quantities of food waste are generated on site and waste removal from this site is difficult due to location or long trading hours. Production of offensive noise will be avoided.
- **Odour:** The potential for odour must be minimised. Any putrescible waste awaiting collection will be stored in a Council approved container with permanently tight fitting lids and smooth, washable internal surfaces. All waste storage areas will be fitted with mechanical vertical ventilation systems. Adequate mechanical ventilation and regular collection of waste will eliminate the risk of odour to building inhabitants and neighbours.

8 Collection

8.1 Location and access

The central room for storing waste and recycling will be located on Lower Ground Level. This position is convenient for school staff, facilities management and waste collection staff.

Collection vehicles will be able to access the loading zone by driving forwards into the zone from Cleveland Street. The waste receptacles will be located within 10 metres from the loading zone.

The nominated collection point where the waste loading operations occur will be on a level surface away from slopes or vehicle ramps. In addition to this, the path where the waste contractor will transport the bins from the central waste storage room to the collection vehicle will be free of steps, kerbs and other uneven surfaces. The maximum distance for the waste contractor to transport mobile garbage bins larger than 660L is 20 metres.

8.2 Frequency

Waste collection services for each waste stream are yet to be confirmed. Written evidence will be provided and held on site at all times of the contractor's valid and current licence for waste and recycling collection and disposal.

Collection frequency assumptions are as follows:

- Collection of general waste, co-mingled recycling, paper/cardboard recycling, and food and garden organics is to occur 5 x per week (every working day).
- Collection of other waste streams (e.g. hard / bulky waste, e-waste, cooking oil etc.) would be less frequent, and arranged as required.

Collection frequency of hazardous waste and sanitary waste will be at the discretion of the separate waste service providers collecting and treating these waste streams, and can be arranged with facilities management as required.

Note: Waste collection frequencies can be adjusted once the building is in operation and actual waste generation rates can be observed.

8.3 Collection vehicles

The route for waste contractor access to the internal loading zone is via the driveway, which can be accessed from Cleveland Street. Access will at no time cause the flow of traffic on Cleveland Street to be blocked.

The loading zone of the inner Sydney high school must cater for the size of the waste service provider collection vehicles. Vehicle access to the basement will be designed according to a waste collection vehicle specifications outlined in the CoS Waste Policy, included in Table 11 below.

Table 11 Rear loading collection vehicle for MGBs

Vehicle Specification	Measurement
Length overall	9.54 m
Width overall	2.6 m
Operational height	4 m
Travel height	3.8 m
Weight (payload)	26 tonnes

9 Opportunities

9.1 Workshop

An opportunity exists to include a workshop space at the inner Sydney high school for restoring and potentially selling used items such as furniture, craft supplies and electronic goods. Classes such as Art and Craft and Woodwork could be run from this workshop space and the restoration of used goods could be incorporated into subject coursework. This would maximise the lifespan of resources and provide an educational opportunity for students, encouraging resourcefulness and waste minimisation.

The selling of restored goods to the community could provide a revenue stream for the school. The workshop could be managed by students and/or volunteers, and would encourage a circular economy interface between the school and local community.

9.2 Solar compactor bins

Solar Compactor bins are an innovative solution to maximise the economic efficiency of waste management on site. In addition to compacting all waste using energy derived from the sun, solar compactor bins inform management when they are 85% full to minimise human resources and to better inform collection routines. This would allow the school to rationalise its collection system and reduce the waste collection traffic movements into and out of the school.

9.3 Smart bins

There is an opportunity to develop smart bins that use image recognition software to identify waste / recyclables and automatically open the correct bin. The bins would have a user interface illustrating why the item can or cannot be recycled and potentially outline where the item will end up – an urban farm, landfill, or recycled into another version of itself. These bins would double as an educational tool for students, staff and visitors.

9.4 Composting

Composting food organics onsite will reduce the amount of waste going to landfill resulting in reduced methane emissions. Composting onsite provides an opportunity for students to learn about composting and its benefits. If there is a school garden, the composted soil could be used in the garden, otherwise it could be donated to local community groups, such as community gardens.

Beyond the capacity of the onsite composting, excess food waste can be transported to the Camperdown Farm for further reuse and to foster a sense of community partnership between the high school and local initiatives.

9.5 Reverse vending machines

With the roll out of the Container Deposit Scheme in NSW commencing in July 2017 having reverse vending machines on site provides the inner Sydney high school with the opportunity to generate revenue from recyclable cans and bottles. This revenue could be invested into the school or donated to charity.

9.6 Waste education

Arup recommends hosting regular waste seminars to inform and motivate students and staff about waste management onsite and the importance this has on a local, national and global level. Student involvement will be invaluable to driving sustainable waste management onsite and can even extend to research, data analysis, and procurement.

9.7 Nude food

Nude food is food without excess packaging. Holding nude food days is a great way to raise awareness and educate about waste, encourage waste minimisation behaviours among students, parents and staff and ultimately reduce waste. Schools all over Australia are holding nude food days to tackle single-use food packaging waste.

9.8 Annual audit

Once operational, Arup suggests an annual audit and monitoring process of waste management at the high school to collect data around the composition of waste, whether or not the bin infrastructure is adequate, and measure and track the progress of targets for carbon emissions and diversion from landfill. This process allows waste management to be meaningful and valuable, both environmentally and economically, and can be reported as part of the Schools annual reporting.

9.9 Waste art

Creating art with waste items provides an opportunity for teachers to educate students about waste and the related environmental and ecological impacts. There are economic benefits associated with making waste from art including reduced art supply expenses and waste disposal costs.

The inner Sydney high school could hold a Waste to Art competition to encourage student participation and showcase the school’s commitment to waste reuse.

10 Conclusion

This WMP forms a framework to implement waste management measures across all design and planning stages. The waste management approach supports the Green Star requirement for the project to enhance outcomes for waste minimisation, reuse and recycling.

Modelling has been undertaken to determine the optimum waste storage areas required to meet both the waste storage requirements based on the school population and the school aspired waste management strategy. Segregated storage areas of 13m^2 and 30m^2 as well as a separate hard waste area will be provided onsite, which will provide sufficient onsite storage based on the daily collection service.

Once planning approval is granted for the proposed development, this WMP will:

1. Inform the development of a detailed Waste Policy Design Compliance Certificate for the Construction Certificate application, which is to include details regarding disposal and recycling of different materials expected from construction, and the transport and destinations of these materials.
2. Inform the development of the relevant Green Star credit requirements
3. Ensure that detailed design and fit-out of the building is consistent with best practice standards and plans for waste management, and
4. Inform all plans and procedures for operational waste management

Appendix A

Tracking forms

Details of waste management – construction phase

MATERIALS ON-SITE			DESTINATION		
			REUSE AND RECYCLING		DISPOSAL
Type of materials	**Est. Vol. (m^3)**	**Est. Wt. (t)**	**ON-SITE** **- specify proposed reuse or on-site recycling methods**	**OFF-SITE** **- specify contractor and recycling outlet**	**- specify contractor and landfill site**
Excavated Materials					
Garden Organics					
Bricks					
Tiles					
Concrete					
Timber – please specify					
Plasterboard					
Metals					
Other waste eg. ceramic tiles, paints, PVC tubing, cardboard, fittings					

Details of waste management – demolition phase

MATERIALS ON-SITE			DESTINATION		
			REUSE AND RECYCLING		DISPOSAL
Type of materials	**Est. Vol. (m^3)**	**Est. Wt. (t)**	**ON-SITE** **- specify proposed reuse or on-site recycling methods**	**OFF-SITE** **- specify contractor and recycling outlet**	**- specify contractor and landfill site**
Excavated Materials					
Garden Organics					
Bricks					
Tiles					
Concrete					
Timber – please specify					
Plasterboard					
Metals					
Asbestos					
Other waste eg. ceramic tiles, paints, PVC tubing, cardboard, fittings					

Appendix B

Area schedule

Accommodation Scheudle

Initial Areas				EFSG Departures				
	FUNCTIONAL UNIT NAME	FJMT CONCEPT DESIGN	Level	EFSG	ROOM NAME	EFSG AREA	DEPARTURE	COMMENT
Welcome Hub		**317.6**						
	Foyer	83		HS601.05	Student Waiting	5		Shared with Administration Hub
	Reception	13.8		HS601.01	Public Reception - Size 1	15	-1.2	
	Café kitchen	50.2	1	HS604.01	Canteen - Size 1	54	-3.8	
		10		HS604.04	Office / Store - Size 1	13	-3.0	
	Café seating	167.8	1	HS606.03	Covered Outdoor Space - Size 3	200	-32.2	
		2.8	1	HS604.07	Vending Machines	2	0.8	
Administration		**582.4**				**199**		
	Administration Area - offices							
		20.6		HS601.06	Principal	20	0.6	
		13.05		HS601.07	Deputy Principal	13	0.1	
		13.05		HS601.07	Deputy Principal	13	0.1	
	Administrative Support	44.8		HS601.11	Administration - Clerical - Size 1	46	-1.2	
		28.9					28.9	
		17.3		HS601.14	Administration - Executive - Size 1	24	-6.7	
	Meeting Room (large)	45.8		HS601.10	Interview / Meeting	13	32.8	
	Meeting Room (medium)	16.2		HS601.10	Interview / Meeting	13	3.2	
	Interview Room (staff/visitors)	9.3		HS601.21	Visitor's Office	13	-3.7	
				HS601.08	Interview / Office - Type 1	13		Not accommodated
				HS601.08	Interview / Office - Type 1	13		Not accommodated
				HS601.09	Interview / Office - Type 2	13		Not accommodated
	Utility space (Printing, etc)	15		HS601.23	Utility Space - Size 1	15	0.0	
	Store Room	16.1		HS601.17	Store	13	3.1	
		3.6					3.6	
	Tea Point	9.7		HS601.22	Tea Room	5	4.7	
	Staff Toilet	5		HS602.11	Staff Toilet	5	0.0	
				HS602.11	Staff Toilet	5	-5.0	Not accommodated
	Accessible Toilet	6.4		HS602.12	Access Shower / Toilet	6	0.4	
Staff Hub		**346**						
	Staff Study	73.1		HS602.01	Staff Study - Size 2	140		*Located in Learning Hubs*
		73		HS602.01	Staff Study - Size 2	140		*Located in Learning Hubs*
				HS602.01	*Staff Study - Size 1*	200		
	Staff Lounge	157.8		HS602.04	Staff Lounge - Size 1	108	49.8	
	Meeting Room (large)							
	Meeting Room (medium)	31.3		HS601.10	Interview / Meeting	13	18.3	
				HS601.10	Interview / Meeting	13	-13.0	
	Interview Room	10.8		HS601.10	Interview / Meeting	13	-2.2	
				HS601.10	Interview / Meeting	13	-13.0	
	Utility space (Printing, etc)			HS602.08	Preparation / Printing - Size 1	35		Shared with Administration Hub
	Staff Toilet							
	Accessible Toilet							
Student and Community Hub		**621.4**						
	Student Reception	12		HS601.03	Student Reception - Size 1	15	-3.0	
	Student Services	33.1						
	Health	16		HS601.18	Clinic - Boys	13	3.0	
				HS601.19	Clinic - Girls	13	-13.0	
	Interview Room (students)	9.65						
		9.65						
	Meeting Room (medium)	9.3						
	Foyer/Entry	83		HS501.01	Main Entry - Size 1	25	58.0	
	Vending Machines							
	Library stacks							
	Library informal learning: booths, collaborative tables, soft furnishing, window benches, etc)	247.8		HS501.03	Main Area - Size 1	420	-172.2	Area located within Learning Hubs
	Presentation Room						0.0	
	Seminar rooms	12.7		HS501.08	Seminar - Type 3	13	-0.3	
		12.7		HS501.08	Seminar - Type 3	13	-0.3	
				HS501.08	Seminar - Type 3	0	0.0	
	Printing/Photocopying	5.1		HS501.07	Printing / Photocopying	5	0.1	
	Library Administration & workroom	31.1		HS501.09	Library Administration - Size 1	75	-43.9	
	Store Room						0.0	
	Careers Adviser's Office	18.1		HS501.17	Careers Adviser's Office	13	5.1	
	Counselling's Office	10					10.0	
	Systems Admin Office						0.0	
	Staff Toilet						0.0	
	Access Shower/Toilet						0.0	
	Toilets						0.0	
	Communications Room	6.8		HS501.19	Communications Room	10	-3.2	
	Outdoor learning areas	104.4		HS504.01	Outdoor Learning Space - Type 1		104.4	Relocated from Outdoor Learning

Accommodation Scheudle

Initial Areas				EFSG Departures				
	FUNCTIONAL UNIT NAME	FJMT CONCEPT DESIGN	Level	EFSG	ROOM NAME	EFSG AREA	DEPARTURE	COMMENT
Learning Community - General		**850.9**						
	Open Learning Spaces	147.5	G	HS401.01	General Learning Space - Type 1	60		
			G	HS401.01	General Learning Space - Type 1	60		
		149.3	1	HS401.01	General Learning Space - Type 1	60		
			1	HS401.01	General Learning Space - Type 1	60		
	Practical Activities Area	73.1	G	HS401.02	General Learning Space - Type 2	65		
		73.4	1	HS401.02	General Learning Space - Type 2	65		
	Outdoor Learning							
	Learning Studio/Presentation Space	45.2	G	HS401.01	General Learning Space - Type 1	60		
		45.2	G	HS401.01	General Learning Space - Type 1	60		
		44.7	1	HS401.01	General Learning Space - Type 1	60		
		44.7	1	HS401.01	General Learning Space - Type 1	60		
	Seminar Room	38.9	1	HS401.04	Seminar - Type 1	25		
	Interview Room	8.25	G					
		8.25	G					
		6.45	1					
		6.45	1					
	Store Room - General	10.6	G	HS401.05	GLS Store	20		
		10.6	1					
	Resource Node	22.8		HS501.03	Main Area - Size 1			Allocated part of Main Library
	Informal Learning/Social Space	47.8	G					
		12.9	1					
	Recreational space - gym, wifit							
	Staff study	15.6	1	HS602.01	Staff Study - Size 1			
		39.2	G	HS602.01	Staff Study - Size 1			
	Staff toilet							
	Lockers							
	Toilets							
Learning Community - Senior		**744.1**						
	Open Learning Spaces	200.5	8	HS401.01	General Learning Space - Type 1	60		
				HS401.01	General Learning Space - Type 1	60		
				HS401.01	General Learning Space - Type 1	60		
				HS401.01	General Learning Space - Type 1	60		
	Practical Activities Area	61.2	8	HS401.02	General Learning Space - Type 2	65		
				HS401.06	Practical Activity Area	7		
	Outdoor Learning	32.1	8					
		25.2						
	Learning Studio/Presentation Space	60	8	HS401.01	General Learning Space - Type 1	60		
		60	8	HS401.01	General Learning Space - Type 1	60		
	Seminar Room	24	8	HS401.04	Seminar - Type 1	25		
	Seminar Room	24	8	HS401.04	Seminar - Type 1	25		Relocated from General learning Unit
	Interview Room	9.35	8					
	Interview Room	9.35	8					
	Store Room - General	10	8	HS401.05	GLS Store	20		
		10	8					
	Resource Node	15.3	8	HS501.03	Main Area - Size 1			
	Informal Learning/Social Space	148.1	9					
	Senior Study			**HS402.01**	**Shared Study Space**			
	Recreational space - gym, wifit							
	Staff study	28.1	8	HS602.01	Staff Study - Size 1			
	Staff toilet							
	Lockers							
	Toilets	26.9	8					
Learning Community - General STE(a)M		**928.3**				**116**		
	Open Learning Spaces	141.8	6	HS404.01	General Learning Space - Type 3			
				HS404.01	General Learning Space - Type 3			
	Open Learning Spaces	141.7	7	HS404.01	General Learning Space - Type 3			
				HS404.01	General Learning Space - Type 3			
	Practical Activities Area							
	General Science Laboratory	99.8		HS404.02	Science Laboratory - Size 1	100		
	Outdoor Learning	38		HS504.01	Outdoor Learning Space - Type 1			Relocated from Outdoor Learning
	Learning Studio/Presentation Space	60	6	HS404.01	General Learning Space - Type 3			
		60	6	HS404.01	General Learning Space - Type 3			
		60	7					

Accommodation Scheudle

Initial Areas				EFSG Departures				
	FUNCTIONAL UNIT NAME	FJMT CONCEPT DESIGN	Level	EFSG	ROOM NAME	EFSG AREA	DEPARTURE	COMMENT
		60	7					
	Seminar Room	23.2	6	HS401.04	Seminar - Type 1	25		Relocated from General learning Unit
		23.2	7	HS401.04	Seminar - Type 1	25		Relocated from General learning Unit
	Interview Room	12.8	6					
		12.8	7					
	Store Room - General	20.2	6					
		20	7					
	Store Room - Science	9.2	7					
	Botany/Zoology Room	17.8		HS404.09	Botany / Zoology (One per site)	16		
	Resource Node	24.6						
		22.6						
	Informal Learning/Social Space	25.8	7					
	Staff study	27.4		HS602.01	Staff Study - Size 1			
		27.4		HS602.01	Staff Study - Size 1			
	Lockers							
	Toilets							
Learning Community - Specialist STE(a)M		**1248.4**				**667**		
	Open Learning Spaces	68	10	HS404.01	General Learning Space - Type 3	60		Relocated from General Learning Unit
	Open Learning Spaces	67.3		HS404.01	General Learning Space - Type 3	60		Relocated from General learning Unit
	Practical Activities Area	71.2		HS404.01	General Learning Space - Type 3	60		Relocated from General learning Unit
		71.2						
	Computer learning space							
	Specialist Science Laboratories	99.8	10	HS404.02	Science Laboratory - Size 1	100		
		99.8	11	HS404.02	Science Laboratory - Size 1	100		
	Outdoor Learning	176.7		HS504.01	Outdoor Learning Space - Type 1			Relocated from Outdoor Learning
		63.3						
	Learning Studio/Presentation Space	60	10	HS404.01	General Learning Space - Type 3	60		Relocated from General learning Unit
		60	10	HS404.01	General Learning Space - Type 3	60		Relocated from General learning Unit
		60	11	HS404.01	General Learning Space - Type 3	60		Relocated from General learning Unit
	Seminar Room	23.4	10	HS404.03	Seminar - Type 2	20		
		23.4	10					
	Interview Room	13						
		13						
	Store Room - General	18.5	10	HS404.07	Apparatus Storage (One per site)	10		
	Store Room - Science	14.5	11	HS404.06	Apparatus Store (One per site)	15		
	Science Preparation	51.8		HS404.04	Preparation - Science - Size 1 (One per site)	50		
	Chemical Storage	12	10	HS404.08	Chemical Store (One per site)	12		
	Resource Node	25.4						
	Informal Learning/Social Space	28.9	11					
	Staff study	33.6		HS602.01	Staff Study - Size 1			
		33.6		HS602.01	Staff Study - Size 1			
	Lockers							
	Toilets							
	Computer Learning Space	**60**	**11**					
Learning Community - General & Fitness -		**680.9**						
	Open Learning Spaces	87.4		HS401.01	General Learning Space - Type 1	60		
	Practical Activities Area	47.3		HS401.02	General Learning Space - Type 2	60		Relocated from General learning Unit
	PE Fitness Laboratory with wet area	112.6	LG	HS408.01	Fitness Laboratory	100		
	Outdoor Learning	58		HS504.01	Outdoor Learning Space - Type 1			Relocated from Outdoor Learning
	Learning Studio/Presentation Space	92.5	LG	HS401.01	General Learning Space - Type 1	60		
	Seminar Room	31.2		HS404.03	Seminar - Type 2	20		
		34.6						

Accommodation Scheudle

Initial Areas				EFSG Departures				
	FUNCTIONAL UNIT NAME	FJMT CONCEPT DESIGN	Level	EFSG	ROOM NAME	EFSG AREA	DEPARTURE	COMMENT
	Interview Room	16.9						
	Store Room - General	20						
	Store Room - Fitness	20		HS408.02	Fitness Store - Size 1	20		
	Resource Node	17.3		HS501.03	Main Area - Size 1			Relocated from Library
	Informal Learning/Social Space	54.6		HS401.02	General Learning Space - Type 2	65	18.4	
		28.8						
	Recreational space - gym, wifit							
	Staff study	15.7		HS602.01	Staff Study - Size 1			
	Lockers							
	Change Room	44		HS408.03	Change	44*		Shared with Movement Complex (included in Movement Complex Area)
	Toilets							
Learning Community - General & Visual Art		**926.4**						
	Open Learning Spaces	58.8	3	HS405.01	General Learning Space - Type 4	60		
	Practical Activities Area - fabrics, sewing	58.8	3	HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
	Senior Studio	59.2						
	Shared visual art workshop	100.8	3	HS405.03	Visual Arts Workshop	100		
	Digital media art	58.7						
	Sewing Machines room	40						
	3D studio (pottery and other soft materials)	40						
	Outdoor Learning	106.4		HS504.01				
	Learning Studio/Presentation Space	62.9	3	HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
		62.9	3	HS405.02	General Learning Space - Type 5	60		
	Seminar Room	30.2						
	Interview Room	10.7						
	Interview Room	10.7						
	Store Room - General	18.3						
	Store Room - Textiles	20						
	Store Room - Visual arts	24		HS405.04	Visual Arts Store	20		
	Store Room - Projects	23.4	3	HS405.05	Project Store - Type 3	25		
	Store Room - Pottery	10						
	Resource Node	17		HS501.03				
	Informal Learning/Social Space	41.7						
		12.6						
	Staff study	35		HS602.01	Staff Study - Size 1			
	Lockers							
	Toilets	24.3		HS603				
				HS405.06	Dark Room (One per site)	28		
Learning Community - Media & Performing		**689.3**				**260**		
	Open Learning Spaces	84.3		HS401.01	General Learning Space - Type 1	60	24.3	Relocated from General Learning Unit
		46.1	1				46.1	
	Shared Health/PE& Performing arts Workshop	101		HS406.01	Performance Workshop	100	1.0	
	Practical Activities Area - Media, sound and video editing, etc.	62.5	1	HS401.01	General Learning Space - Type 1	60	2.5	
	Shared TV/Photography Studio/Band room	54						
	Band Room	55.2						
	Music Practice Rooms	15						
		15						
		18.3						
	Recording Booth	27.5	LG					
	Outdoor Learning	22.5		HS504.01	Outdoor Learning Space - Type 1			Relocated from Outdoor Learning
	Learning Studio/Presentation Space	96.6		HS401.01	General Learning Space - Type 1	60	36.6	
	Seminar Room							
	Store Room - PA	13.8		HS406.02	Performance Store - Size 1	20	-6.2	
	Resource Node	18.3		HS501.03	Main Area - Size 1			Relocated from Library
		19		HS501.03	Main Area - Size 1			Relocated from Library
	Informal Learning/Social Space	17.1		HS406.03	Practice/Seminar - Size 1	20	-2.9	
	Staff study	23.1		HS602.01	Staff Study - Size 1			
	Lockers							
	Toilets							
Learning Community - Design and Technol		**1038.8**						
	Open Learning Spaces - production and process	76.1		HS410.01	General Learning Space - Type 8	60		

Accommodation Scheudle

Initial Areas				EFSG Departures				
	FUNCTIONAL UNIT NAME	FJMT CONCEPT DESIGN	Level	EFSG	ROOM NAME	EFSG AREA	DEPARTURE	COMMENT
		145.4		HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
			1	HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
	Practical Activities Area - CAD	58.9		HS410.02	General Learning Space - Type 9	60		
	Practical Activities Area - Soft materials, 3D printers etc	59.6		HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
	Hard Materials Workshop	120		HS410.03	Materials Workshop - Type 2	120		
	Outdoor Workshop	90.7	2	HS503.01	Outdoor Workshop - Size 1	88		
	Welding/hot metals (outdoor workshop)	12	2	HS503.02	Welding/Hot Metals Area - Size 1	12		
	Outdoor Learning	143		HS504.01	Outdoor Learning Space - Type 1			Relocated from Outdoor Learning
	Learning Studio/Presentation Space	62		HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
		62		HS410.01	General Learning Space - Type 8	60		Relocated from General Learning Unit
	Seminar Room	25.2						
	Store Room - Materials	34		HS410.04	Materials Store - Type 2 - Size 1 (One per site)	35	-1.0	
	Store Room - Projects	36.1		HS410.05	Project Store - Type 1	45	12.4	
		21.3						
	Resource Node	**17.6**						
	LPG Store	1		HS503.04	LPG Store	1	0.0	
	Staff study	29.4		HS602.01	Staff Study - Size 1			
	Lockers							
	Toilets							
	Informal Social Space	44.5						
Learning Community - Food Technology		**840.8**						
	Open Learning Spaces - with access to sinks	85		HS409.02	General Learning Space - Type 7	60		
		85		HS409.01	General Learning Space - Type 6	60		
	Practical Activities Area	59		HS401.01	General Learning Space - Type 1	60		Relocated from General Learning Unit
	Combination Domestic/Semi-commercial kitchen	101		HS409.03	Kitchen - Type 1	100		
		101		HS414.01	Kitchen - Type 2	100		
		101						
	Store Room - Kitchen	25.1		HS409.04	Materials Store - Type 1	15		
	Kitchen Preparation	20.4		HS409.05	Preparation - Materials - Size 1 (One per site)	20		
	Kitchen Preparation	15.6						
	Pantry semi-commercial	25.6		HS409.07	Pantry - Size 1 (One per site)	5		
	Learning Studio/Presentation Space	60.2		HS409.01	General Learning Space - Type 6	60		
	Seminar Room	23.4		HS404.03	Seminar - Type 2	20		
	Laundry	24.9		HS409.08	Laundry (One per site)	9		
	Dining	85.1						
	Bar/coffee							
	Outdoor Learning							
	Staff study	28.5		HS602.01	Staff Study - Size 1			
	Lockers							
	Toilets							
Learning Community - Movement complex		**1461**				**1121**	**340.0**	
	Gymnasium - Type 1	624		HS502.01	Gymnasium - Size 1	620	4.0	
	Gymnasium - Type 2							Not required
	Gymnasium - Extension - Type 3	102.6		HS502.03	Gymnasium - Size 3	120*		Additional area - not required
	Gymnasium - Half Court - Type 4							Not required
	Movement Studio	162		HS502.04	Movement Studio	160	2.0	

Accommodation Scheudle

Initial Areas				EFSG Departures				
	FUNCTIONAL UNIT NAME	FJMT CONCEPT DESIGN	Level	EFSG	ROOM NAME	EFSG AREA	DEPARTURE	COMMENT
	Sport Equipment Store Room	38.2		HS502.05	Sport Equipment Store	25	13.2	
	Large Equipment Store Room	35.9		HS502.06	Large Equipment Store	25	10.9	
	Outdoor Equipment Store Room	86.5		HS502.07	Outdoor Equipment Store	20	66.5	
	Chair Store Room - Type 1	76.4		HS502.08	Chair Store - Size 1	33	43.4	
	First Aid	13		HS502.12	First Aid	13	0.0	
	Shower	229.5		HS502.13	Shower	36		
	Change Room			HS408.03	Change	132	61.5	(Include 44m2 for Fitness Change)
	Staff study	36.3		HS602.01	Staff Study - Size 1			
	Staff Toilet			HS602.11	Staff Toilet	5		Part of General Shower/Change allowance
	Staff Shower			HS502.15	Staff Shower	3		Part of General Shower/Change allowance
	Access Shower / Toilet			HS602.12	Access Shower / Toilet	6		Part of General Shower/Change allowance
	Lockers							
		30		HS502.10	Movement Studio Store	33	-3.0	
		26.6		HS502.11	Control Room	10	16.6	
				HS502.16	Stage			Seperate area for stage not provided. Note this is over 'points" allowance.
				HS502.17	Demountable Platform			Seperate area for demountable platform not provided. Note this is over 'points" allowance.
STORAGE								
	Archive Store Room - Type 1							
	Garden Store Room							
	Bulk Store Room							
	Cleaning Supplies Store Room							
	Cleaning Distributed Store Room							
ASSEMBLY								
COVERED OUTDOOR SPACE		**460.7**						
	Covered Outdoor Space - Type 1	460.7	1	HS606.01	Covered Outdoor Space - Size 1	150		
			1	HS606.02	Covered Outdoor Space - Size 2	125	185.7	
SERVICES								
	Dust Extraction Space							
	Main Switchroom							
	Distribution Board Cupboard							
GAMES								

Appendix C

Architectural drawings

0 2 5 10m

GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

legend

rev	date	name	by	chk

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project
Inner Sydney High School
200 Chalmers Street
Surry Hills, Sydney NSW 2010

title
General Arrangement Plans
Lower Ground Floor Plan

scale	1:200 @ A1	first issued	28/03/2017
project code		sheet no.	revision
ICHS		2002	

For Information