

Sutherland Public School - New Hall – Waste Management Plan

A Submission to NSW Department of Education

14th February 2025



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Prepared by

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In the spirit of reconciliation MRA Consulting Group acknowledges the Traditional Custodians of Country throughout Australia and their connection to land, sea and community. We pay our respects to Aboriginal and Torres Strait Islander peoples and to Elders past, present and emerging.

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Glossary

Terminology	Definition
AS	Australian Standard
C&D	Construction and Demolition
C&I	Commercial and Industrial
DA	Development Application
DCP	Development Control Plan
ENM	Excavated Natural Material
EPA	Environment Protection Authority
ILU	Independent Living Unit
LGA	Local Government Area
MGB	Mobile Garbage Bin
MRA	MRA Consulting Group
MSW	Municipal Solid Waste
SLEP	Sutherland Local Environmental Plan 2015
SDCP	Sutherland Development Control Plan 2015
VENM	Virgin Excavated Natural Material
WMP	Waste Management Plan
WSP	Waste Service Provider
WSRA	Waste Storage and Recycling Area

1 Introduction

MRA Consulting Group (MRA) was engaged by the NSW Department of Education to prepare a Waste Management Plan (WMP) related to the proposed development located at 38 – 54 Eton Street, Sutherland in NSW. The site is located within the Sutherland Shire Council Local Government Area (LGA). MRA understands that the State Environment Planning Policy (Transport and Infrastructure) 2021 defines this type of development as “complying development” and therefore that the consent authority will be the NSW Department of Education. A Review of Environmental Factors (REF) will be undertaken to understand potential impacts as a result of the proposal. The project is considered *the activity under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and State Environment Planning Policy (Transport and Infrastructure) 2021 (SEPP TI)*.

The proposed development includes the:

- Demolition of one existing building, structures and removal of five trees.
- Construction of a Hall that includes:
 - Storage areas,
 - Amenities,
 - Disabled WC and shower,
 - Out of School Hours Care office/store,
 - Canteen and associated store/office,
 - Covered walkways,
 - Associated landscaping, and
 - A Covered Outdoor Learning Area (COLA).

This WMP addresses the requirements of the Consent Authority (NSW Department of Education) and determining authority *pursuant to Section 5.1 of the Environmental Planning and Assessment Act 1979 (the Act)*, and Sutherland Shire Council, and conforms to the following environmental planning instruments and reference documents:

- Sutherland Development Control Plan 2015 (SDCP)
- Sutherland Local Environment Plan 2015 (SLEP)
- Sutherland Shire Council's *Waste Collection for New Multi-Dwelling Housing and Residential Flat Buildings – Environmental Specification 2017*
- State Environment Planning Policy (Transport and Infrastructure) 2021;
Environmental Planning and Assessment Act 1979 & Environmental Planning and Assessment Regulation 2021 (Review of Environmental Factors)

Consideration has also been given to the following supplementary documents in the preparation of the WMP:

- NSW EPA (2019) *Better Practice Guide for Resource Recovery in Residential Developments*.

A Waste and Recycling Management Plan has been prepared in accordance with the SDGP, and states the following objectives for waste management:

- To ensure appropriate waste storage and collection facilities.
- To maximise source separation and recovery of recyclables.
- To ensure waste management systems are intuitive for occupants and are readily accessible, integrated with the design of a development.
- To ensure appropriate resourcing of waste management systems, including servicing.
- To minimise risk to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene is achieved.
- To minimise adverse environmental impacts associated with waste management.
- To discourage illegal dumping by providing on site storage and removal services.

- To enable collection service providers to efficiently collect waste and recyclables with minimum disruption and impact on the community.
- To ensure bin storage areas/rooms do not dominate the streetscape.

This WMP is used to inform the building design to deliver best practice waste management and promote sustainable outcomes at the demolition, construction and operational phases of the development. The WMP addresses waste generation and storage associated with demolition and construction works through redevelopment, and ongoing occupation of the proposed use.

2 Background

2.1 Description and Location of the Proposed Development

The site accommodates the Sutherland Public School which is located at 38-54 Eton Street, Sutherland, NSW 2232. The Sutherland Public School is approximately 1.35 hectares in area and is made up of the following 16 allotments:

- Lot 1 DP6600
- Lot 2 DP6600
- Lot 3 DP6600
- Lot 4 DP6600
- Lot 5 DP6600
- Lot 6 DP6600
- Lot 7 DP6600
- Lot 8 DP6600
- Lot 9 DP6600.
- Lot 10 DP6600
- Lot 5 Section 45 DP802
- Lot 6 Section 45 DP802
- Lot 7 Section 45 DP802
- Lot 8 Section 45 DP802
- Lot 9 Section 45 DP802
- Lot 10 Section 45 DP802

The proposed school hall is located within Lot 6, 7 and 8 DP 802 and has an area of approximately 957 sqm. Refer to **Figure 1**.

Vehicular access to the site is provided from Eton Street, Flora Street, and Merton Street, with parking spaces available along the northern and western sides of the site. Service vehicles and waste collection access the site through the Merton Street gate, which is located near the existing toilet block.

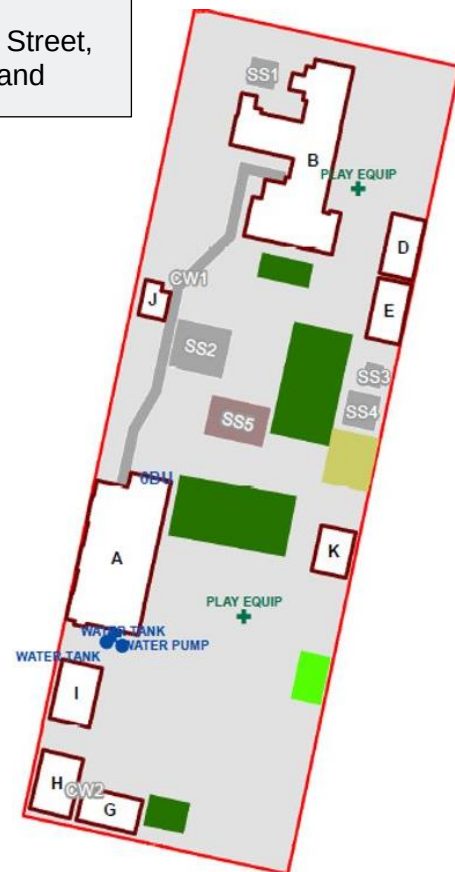
The site is currently zoned as SP2 Infrastructure (Educational Establishment) in the *Sutherland Shire Local Environmental Plan 2015 (SSLEP 2015)*. The site has a street frontage to Flora Street to the north, Merton Street to the east, President Avenue to the south and Eton Street to the west. These local roads include footpaths, street lighting and street trees along all frontages.

The area of works currently includes Block J, steel awning for existing COLA, a garden bed, trees, four car parking spaces and covered walkway structures which are proposed to be demolished to accommodate the new school hall

Figure 1: Site and surrounding area



38-54 Eton Street,
Sutherland



Source: Eagle Eye, 2023.

2.2 Activity Outline

The project will address the existing undersized hall facility at Sutherland Public School, by providing an upgrade to achieve a medium primary school core facility according to the DoE Educational Facilities Standards and Guidelines (EFSG).

This will include demolition of existing Block J, a garden bed, car parking spaces and associated structures, and construction of a new single-storey school hall, including a covered outdoor learning area (COLA) and connecting covered walkways.

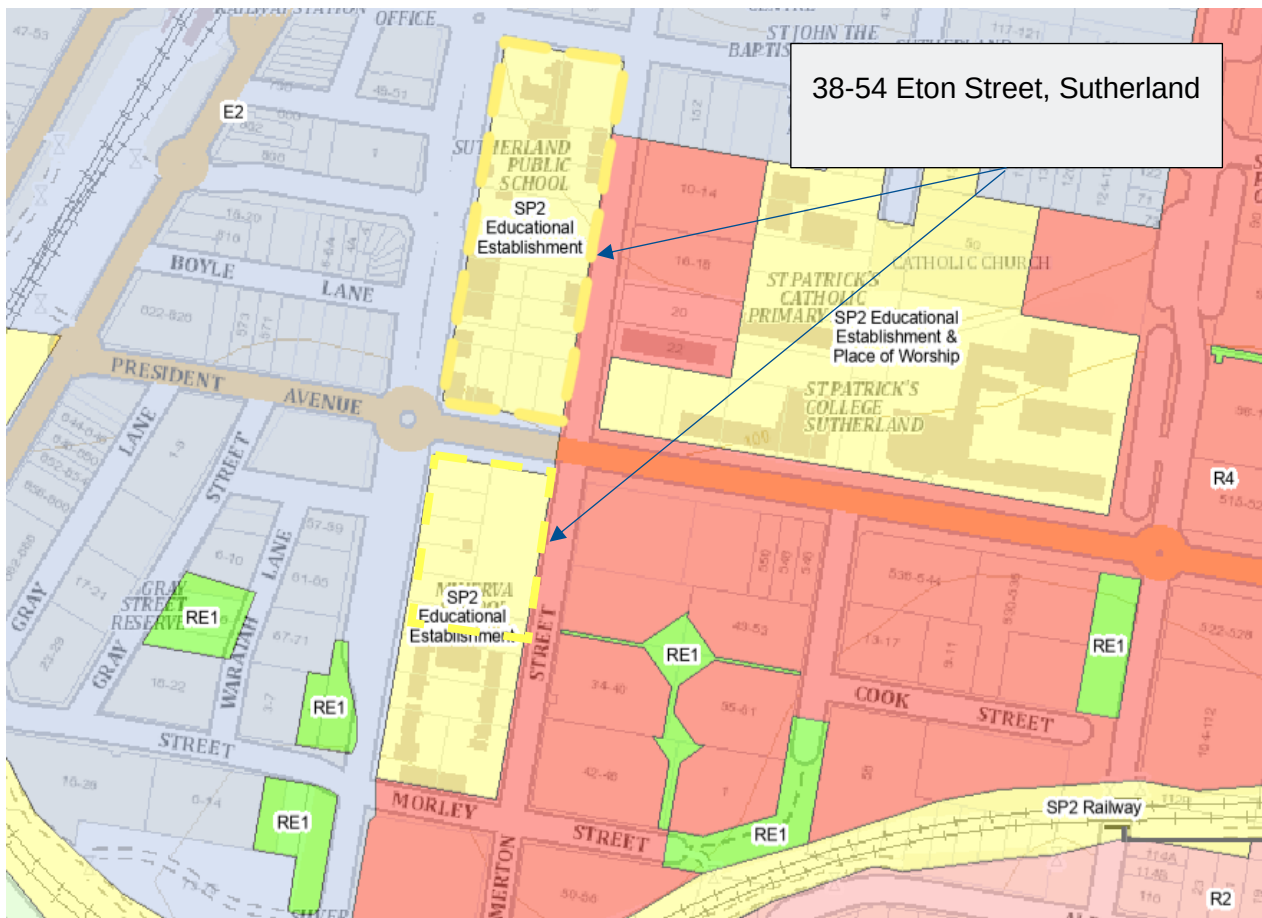
The proposal retains the existing staff and student capacity at Sutherland Public School.

2.3 Zoning and Use

The site is zoned as SP2 Infrastructure – Educational Establishment according to the Sutherland LEP (2015). The objectives of this zone are:

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

Figure 2: Land use zone map



Source: NSW ePlanning Spatial Viewer, 2024.

2.4 Strategies

Waste management for the site considers better practice, necessary equipment, and integration with other guidance documents including the NSW Waste and Sustainable Materials Strategy (NSW EPA, 2021), and National Waste Policy: Less Waste, More Resources (DAWE, 2018). The key policy aims that are considered are:

- Avoidance (to prevent the generation of waste);
- Reduce the amount of waste (including hazardous waste) for disposal;
- Manage waste as a resource; and
- Ensure that waste treatment, disposal, recovery and re-use are undertaken in a safe, scientific and environmentally sound manner.

Management of waste generated onsite according to directives of the NSW Strategy will assist in achieving the target of 80% diversion from landfill in the C&D sector.

2.5 Assumptions

This report is a Waste Management Plan (WMP), forming part of the development documentation and assumes:

- Drawings and information that have been used in waste management planning for this WMP are the final design set for the development plan from the project architect, dated 26th August, 2024;
- Waste and recycling volumes are based on information provided from the SDCP (2015); and
- This WMP is a living document and therefore, waste management equipment and systems described in this report are subject to change based on future operations and available technology.

3 Construction and Demolition

Demolition and construction activities at the site will generate a range of construction and demolition (C&D) waste. Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

Waste storage during construction operations will involve some stockpiling of reusable material, as well as placement of wheeled bins for the separation of construction materials for recycling. A bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. Bins may require alternative placement across construction operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.

A waste storage area shall be designated by the demolition or construction contractor and shall be sufficient to store the various waste streams expected during operations. Waste storage areas will be kept clear to maintain access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons. The waste storage area will retain multiple bins to allow for source separation of waste to allow for ease of recovery and reuse of materials.

Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.

3.1 Demolition Waste

The proposed Sutherland Public School Hall Upgrade will require demolition of existing structures prior to commencement of excavation and construction operations. Demolition works will include the:

- Demolition of existing building and structures; and
- Removal of three trees.

Table 1 outlines the expected demolition waste quantities to be generated at the site, in addition to the appropriate management methods for each material type. Other materials with limited reuse potential either on or offsite will be removed in bulk bins for recycling at an appropriately licenced and capable recycling facility.

Table 1: Demolition waste generation estimates

Type of Material	Estimated volumes (m ³)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Disposal	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
Vegetation	20-50	✓	✓	✓	-	0	100	Onsite: Mulched / chipped on site and used for landscaping. Offsite: Removed landscaping contractor facility for chipping / mulching and re-use.
Concrete	10-20	✓	✓	✓	-	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Bitumen / asphalt	50-100	✓	✓	✓	-	<5%	>95%	Onsite: treat (heat or cold) and relay surface where possible. Offsite: Remove to offsite facility for recycling.
Glass	<1	✓	✓	✓	-	<10%	>90%	On site: to be separated wherever possible to enhance resource recovery. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Bricks/pavers	<1	✓	✓	✓	-	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways.

Type of Material	Estimated volumes (m ³)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Disposal	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
								The development will be able to reuse a number of existing building bricks as paving in landscaped areas. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Tiles	<1	✓	✓	✓	-	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Timber (Clean)	<10	✓	✓	✓	-	0	100	Onsite: To be separated wherever possible to enhance resource recovery. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Timber (treated)	<10	✓	✓	✓	-	50	50	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous & non-ferrous)	1-2	-	✓	✓	-	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Removed to C&D facility for recovery and recycling.

Type of Material	Estimated volumes (m ³)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Disposal	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
Floor covering	1 - 2	-	✓	✓		50%	50%	Should be removed in bulk and sent to carpet recycler or C&D facility for recovery where possible.
Residual waste	1 - 2	-	-	-	✓	100%	-	Resource recovery dependant on facility destination capability.
Total % Diversion from Landfill Estimated							>80%	

3.2 Construction Waste

The Sutherland Public School Hall Upgrade includes the following activities that are expected to result in the generation of construction related wastes:

- Construction of a Hall that includes:
 - Storage areas,
 - Amenities,
 - Disabled WC and shower,
 - Out of School Hours Care office/store,
 - Canteen and associated store/office,
 - Covered walkways,
 - Associated landscaping, and
 - A Covered Outdoor Learning Area.

Table 2 outlines indicative volume to weight conversion factors for common construction materials.

Table 2: Indicative volume to weight conversion factors for common construction materials

Building waste material	Tonnes per m ³	Waste as % of the total material ordered
Soil/aggregate	1.4 – 1.6	–
Bricks	1.2	5–10%
Concrete	1.5	3–5%
Tiles/ceramics	0.5 – 1	2–5%
Timber	0.3	5–7%
Plasterboard	0.2	5–20%
Metals	0.15 – 0.9	–

Source: Green Building Code of Australia C&D Waste Criteria.

Table 3 outlines the estimated waste generation rates for materials through construction of the proposed development, in addition to the appropriate management methods for each material type.

The information below presents multiple options for materials reuse, recycling and disposal where applicable (e.g. return to manufacturer, recycled at construction and demolition (C&D) processor, or disposed to landfill if contaminated).

Table 3: Construction waste generation estimations

Type of Material	Estimated Volumes (m³)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Excavated material	<50	✓	✓	✓	<5%	>95%	Onsite: Reuse for fill and levelling. Offsite: Removed from site for reuse as recycled fill material or soil. Disposal: Removal of any contaminated material for appropriate treatment or disposal.
Bricks/pavers	<10	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Concrete	10-20	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Tiles	<15	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.

Type of Material	Estimated Volumes (m³)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Timber (clean)	<30	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Timber (treated)	<30	-	✓	✓	50%	50%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Plasterboard	<5	-	✓	✓	<10%	90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier or removed to a C&D/plasterboard recovery facility for recovery where possible.
Glass	Minor	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous) Metals (non-ferrous)	10-20	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse or removed to C&D facility for recovery and recycling.

Type of Material	Estimated Volumes (m³)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Floor covering	<8	✓	✓	✓	<10%	>90%	On site: to be separated wherever possible to enhance resource recovery. Reuse: surplus and offcut material returned to manufacturer for reuse where possible. C&D processor: recovery and recycling.
Fixtures and fittings	<5	✓	✓	✓			On site: to be separated wherever possible to enhance resource recovery. Reuse: surplus and offcut material returned to manufacturer for reuse where possible. C&D processor: recovery and recycling.
Electronic waste	<5	-	✓	✓	<10%	>90%	Offcut wires and electronics separated where possible or returned to supplier for reuse.
Packaging materials (pallets, wrap, cardboard, etc)	<10	-	✓	✓	<10%	>90%	Returned to supplier where possible or separated by material type for resource recovery.
Residual waste	<5	-	✓	✓	100%	-	Resource recovery dependant on facility destination capability.
Total % Diversion from Landfill Estimated						>90%	

3.3 Waste Contractors and Facilities

To ensure best practice waste management, appropriate contractors and facilities have been proposed based on their location and service offerings (Table 4).

Table 4: Waste service contractors and facilities

Role	Details
Recommended Waste Collection Contractor	The following are local skip bin operators for consideration in the management of excavation and construction waste for the site: • Cheapa Waste Skips; • M Waste; • MCM Skip Bins; • Bingo Industries; Or another supplier as elected by the building contractor.
Principal Off-Site Recycler	The following are local C&D processing facilities for consideration in the management of C&D waste generated at the site: • Lucas Heights Resource Recovery Park; • Visy Recycling Materials Recovery Facility Taren Point; • Bingo Mortdale; Or another appropriate facility as elected by the waste management contractor.
Principal Licensed Landfill Site	• Cleanaway Lucas Heights Resource Recovery Park Or other appropriate facility as elected by the waste management contractor.

3.4 Site Documentation

This WMP will be retained on-site during the construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or builder.

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date of collections;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.

4 Operational Waste Management

4.1 Overview

Waste generation for the operational phase of the Sutherland Public School Hall Upgrade will be addressed in this section. Waste storage and recycling areas were determined with reference to waste generation rates and have been addressed in Section 4.3.

Waste management strategies related to site operations have been established according to the Sutherland DCP (2015) and NSW EPA guideline documents.

The following space calculations are based off the mobile garbage bin (MGB) and bulk bin dimensions sourced from NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) and *Sutherland Shire Council's Waste Collection for New Multi-Dwelling Housing and Residential Flat Buildings – Environmental Specification 2020* (Table 5).

Table 5: Mobile Garbage Bin (MGB) and Bulk Bin capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m ²)
120	940	560	485	0.30- 0.33
240	1,080	735	580	0.41- 0.43
660	1,250	850	1,370	0.86-1.16
1,100	1,470	1,245	1370	1.33-1.74

Source: NSW EPA's *Better practice guide for resource recovery in residential developments* (2019).

4.2 Existing Waste Management Strategy

The School comprises approximately 337 students from Kindergarten to Year 6 students. Per NSW EPA's *Better practice guidelines* (2012 & 2019), student numbers are utilised as the key measure for defining waste generation expectations for proposed developments. Since there are no proposed changes to student numbers because of the proposed development, it is not expected that the operational waste generation for the site will change.

Sutherland Public School currently employs waste management practices to handle general waste and recycling. The following systems and infrastructure exist at the site:

- General Waste: collected twice weekly.
 - 3 x 1,100L Bins (38-54 Eton)
- Paper & Cardboard Recycling: collected fortnightly
 - 3 x 1,100L Bins
 - 3 x 120L Bins

Bins are placed on site as required in the waste bay area on the eastern side of the Outdoor Play Area next to the toilet block and the vehicle access gate on Merton Street (Figure 3).

Figure 3: Existing waste arrangement (38-54 Eton St via Merton Street)



Source: Google Maps, Street View – Accessed August 2024.

Onsite management of waste within the existing school, including placement of bins in classrooms, playground, canteen and other key areas, and their daily management by site cleaners is to remain largely unchanged. Classroom and common area general waste and recycling bins are located across the campus and collected by cleaning staff each day to be decanted into bulk bins.

4.3 Proposed Hall Waste Management

4.3.1 Waste Streams

The following waste streams are currently managed by Sutherland Public School:

General Waste

Most of the general waste is produced by students during recess and lunch periods. General waste bins are placed in the playground, passive activity, and canteen areas. General waste bins are also placed in various other locations such as on pathways, the library, and office spaces. Some general waste is produced by the students during classroom activities other than the waste from the consumable food and beverage products. In each classroom, there are small bins for the collection of general waste. This waste is collected by the cleaner daily and deposited in the bulky waste bin stored in the waste storage area.

Paper and Cardboard

All classrooms and offices have small cardboard and paper bins for the students to utilise and they are emptied daily into the recycling skip bin for collection.

4.3.2 Temporary Waste Storage and transfer

To facilitate waste disposal and separation, bins are stationed across the site, and their contents collected daily by cleaners. Cleaners will deposit the collected waste into respective bins in the consolidated waste storage area. Maintenance and grounds staff will use the primary waste bins directly.

Split receptacle bins will be strategically placed around the new proposed facilities in places that are easily accessible and close to potential points of waste generation.

4.3.3 Special Events Waste

Given the nature of the proposed development, special events such as sporting events and performance nights may occur from time to time, which may involve visitors to the site. In these instances, it is reasonable to suggest that there may be a temporary fluctuation of waste generation for such an event. To accommodate for these special events, temporary arrangements would be arranged by school management for the waste service provider to provide additional services or bins on a need's basis.

5 Waste Management Systems

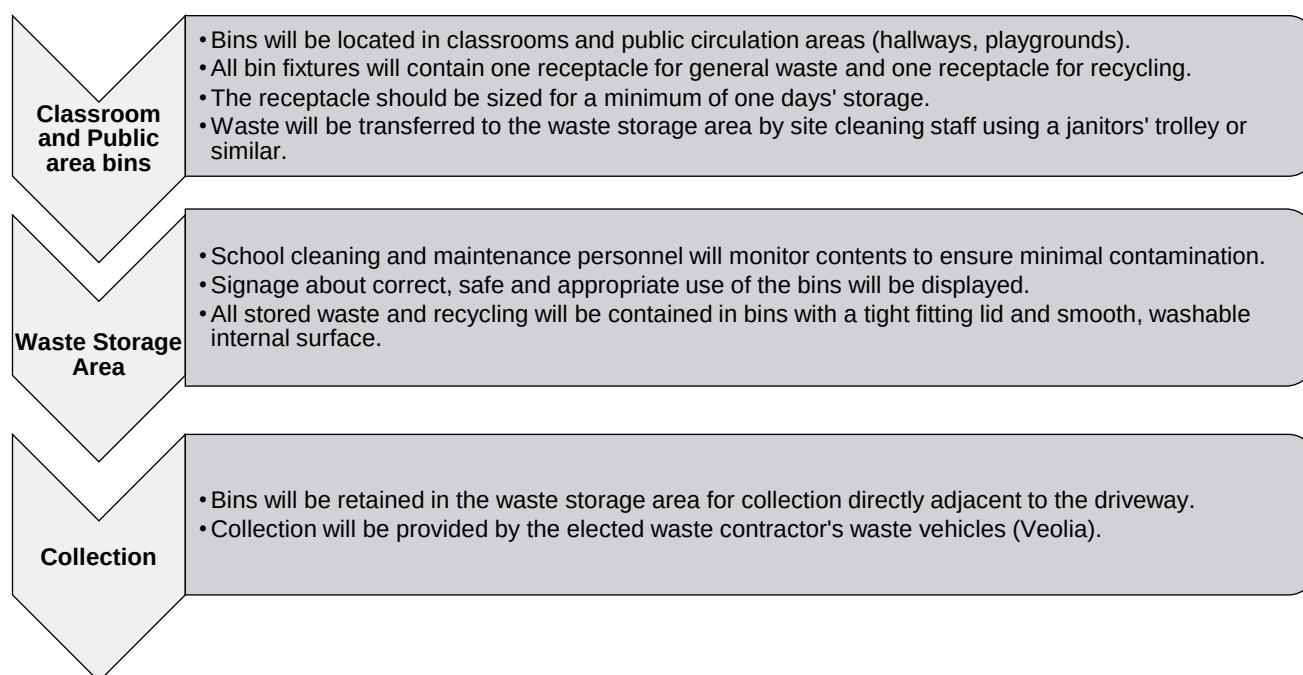
5.1 Overview

The waste management arrangement for storage and collection at the site is existing and not expected to change based on the proposed Sutherland Public School Hall Upgrade.

5.2 Waste Disposal and Recycling Method

The flow of waste goes from generation to collection through several steps (Figure 4).

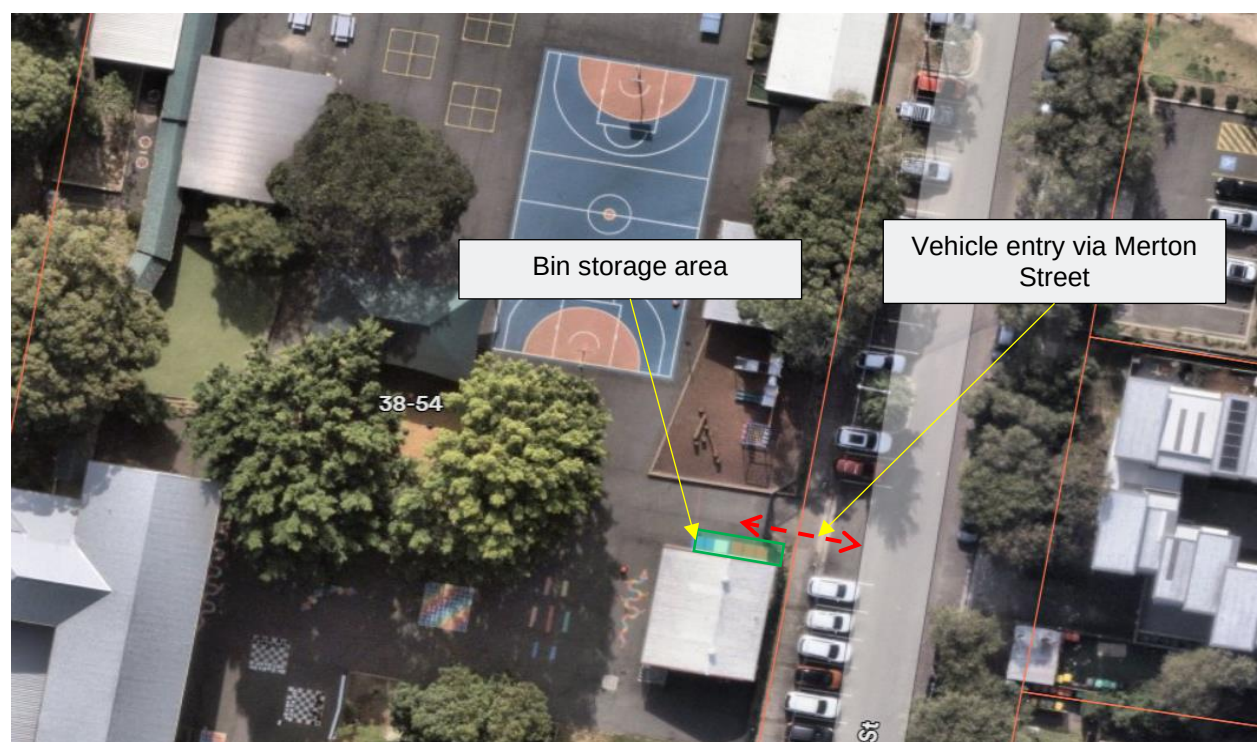
Figure 4: Waste Flow



5.3 Collection Method and Loading Areas

The main waste management and collection area for 38-54 Eton Street is an existing loading zone and vehicle access gate off Merton Street, adjacent to the toilet block of the Outdoor Play Area (Figure 5). These areas will continue to be utilised as the main consolidation point for waste management across the sites and will continue to operate as the waste collection point.

Figure 5: Existing waste collection point (38-54 Eton St via Merton Street)



The collection point for the waste service provider (WSP) and areas for handling and loading are as follows:

- Waste storage area and collection area are open to the sky and will not be impacted by any overhead obstructions for the purpose of waste collection.
- Collection and loading from the waste storage area must provide convenient access for the collection of waste.
- Waste collections will be scheduled to occur outside of peak periods, to avoid times of high pedestrian and vehicle traffic associated with student drop-off or pick-up.
- Clear, safe, accessible, and convenient space is provided for handling of bins and loading of collection vehicles; and
- Identifiable areas where visitors and workers can recognize and avoid any risk associated with moving vehicles, and bin moving and handling.

Bulk bins require collection by a rear lift collection vehicle (Table 6). The school will continue to engage a commercial contractor and agree on a suitable waste servicing solution for the site, considering waste storage requirements and accessibility.

Table 6: Collection vehicle dimensions – Rear lift vehicles

Length	Width	Travel Height	Height in Operation	Turning Circle
10.24m	2.5m	3.5m	4.5m	18m

Table 7 below outlines relevant requirements and specifications related to the use of collection points and loading areas.

Table 7: Collection points and loading areas requirements and specifications

Component	Requirements	Specification
Collection point	Collection points are to be located so that:	- Collection operations should be carried out on a level surface away from gradients and vehicle ramps - Oncoming traffic can be seen clearly as the vehicle leaves the property. - Bins must not be placed at the collection point earlier than the evening prior to the collection day
Vehicle manoeuvring and loading space	Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle	- Collection from the site (38-54 Eton St) via a vehicle access gate off Merton Street use loading area by a rear lift collection vehicle; - Adequate loading bay dimensions to not impede lift clearance; - Operational clearance for truck manoeuvring in a forward direction; and - The provision of space clear of vehicle parking spaces (level and free of obstructions).
Operating times	Appropriate collection times to limit noise and traffic disturbance	- Collection times will be arranged to ensure minimal disturbance to students, staff, pedestrians and visitors.

5.4 Waste Management System and Responsibilities

Site management will continue to engage site cleaning staff to enact and monitor day to day waste management operations. Should there be any issues that impact on the operational efficiency, safety and suitability of waste management, the site cleaning staff will inform management. Operation of the waste management system is the responsibility of building management and site cleaning staff.

Site management is responsible for:

- Use of this waste management plan to inform waste management operations, design and infrastructure;
- The provision of educational materials and information to visitors and staff on sorting methods for recycled waste, awareness of waste management procedures for minimisation and recovery;
- The provision of information to visitors and workers about waste management procedures;
- Maintaining appropriate signage in waste service areas and all waste management areas;
- Use of contracts to define the allocation of responsibilities with cleaners and building;
- Holding a valid and current contract with licensed collector(s) for waste and recycling collection and disposal;
- Encouraging waste avoidance and achievement of resource recovery targets;
- Providing operational management for delivery of waste objectives;
- Ensuring regular reinforcement of source separation and effective use of waste facilities; and
- Organising waste, recycling and bulky pick-ups by elected contractor for the site/building.

Site cleaning staff duties include:

- Electric cleaner vehicles will access the proposed development site via surrounding roadways and connections through the hockey field via ramp networks as proposed;
- Pick up of waste from public bins around the school and bulk cardboard in 240L bins for transfer to waste compactus in the main waste loading area;
- Organising, maintaining and cleaning the waste storage areas;
- Arranging access to bins on collection days and to liaise with the WSP for operational issues;

- Cleaning and exchanging all bins; and
- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry.

The building management and site cleaning staff are also responsible for ensuring that workplace safety requirements according to WorkCover NSW Occupational Health and Safety are upheld.

5.5 Waste Storage Areas Specifications

The waste areas will provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. The proposed waste storage area is an open space with suitable access for disposal and collection purposes, and storage space to accommodate the bins required to service the site. The waste storage area is developed with the following considerations:

- Signage for safety and waste bin identification;
- Safety precautions, staff training and signage for plant;
- Floor made of concrete or other approved solid, impervious material that can be cleaned easily;
- Grading and draining to an approved drainage fitting located in the room to facilitate bin washing;
- Adequate supply of water with hose cock as close as practicable; and
- Suitable construction including limited entry to prevent vermin and vandalism.

5.6 Signage and Education

Signage that promotes resource recovery, waste minimisation, safety and amenity follows the Australian Standard for safety signs for the occupational environment (Standards Australia, 1994).

Signage will be designed to consider language and non-English speaking backgrounds, vision impairment and accessibility. Illustrative graphics must form a minimum 50% of the area of the signage. Signage is to be prominently posted in the waste room indicating:

- Details regarding acceptable recyclables;
- Recyclables are to be decanted loose (not bagged)
- *No standing* and *danger* warnings apply to the area surrounding the waste storage area;
- Contact details for arranging the disposal of bulky items;
- The area is to be kept tidy.

Standard signage requirements and guidance for application apply (see Appendix B).

5.7 Prevention of Pollution and Litter Reduction

To minimise dispersion of litter and prevent pollution (to water and land via contamination of runoff, dust and hazardous materials), building management and the site cleaning staff will also be responsible for:

- Maintenance of open and common site areas;
- Ensuring waste room is well maintained and kept clean;
- Securing the waste storage area from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, e-waste, fluorescent tubes);
- Taking action to prevent dumping and unauthorised use of waste areas; and
- Requiring contractors to clean up any spillage that may occur during waste servicing or other work.

6 Recommendations

6.1 Additional Waste Management Strategy Overview

The NSW Department of Education has released an Education Facilities Standards and Guidelines (EFSG) which provide assistance to those planning, managing, designing, constructing, and maintaining new and refurbished school facilities. The EFSG provides a best-practice standard for waste management and guides the preparation and implementation of this Waste Management Plan.

The EFSG provides a minimum for waste streams for onsite source separation.

Waste streams to be serviced include:

- General Waste (red lid);
- Commingled Containers (yellow lid);
- Food and Garden Organics (FOGO) (lime green lid);
- Paper and Cardboard (blue lid);
- Container Deposit Scheme (CDS) materials (white lid); and
- Soft Plastics (any colour lid not listed above).

It is noted that the EFSG is a best-practice guideline and should be implemented throughout the site for the best practice of waste management. Sutherland Public School can initially opt for a two-bin system (being general waste and commingled recycling) and over time introduce greater separation of waste streams (paper and cardboard, FOGO, soft plastics, and CDS-eligible containers).

6.2 Food Waste

Food waste will be generated around kitchen and canteen areas, as well as by students and staff. Food waste can be managed with a separate food bin and collection service provided by the contracted waste service provider.

Alternatively, compost bins can be retained in garden areas filled with suitable food scraps and soft garden debris and applied to vegetable gardens when mature. Food waste, when not separated from the general (residual) waste stream, represents between 30-40% of waste produced, most of which can be diverted from landfill, therefore reducing disposal costs.

Compost produced onsite presents a free alternative to expensive fertilisers and assist in the retention of water and nutrients in the soil. It is also an excellent opportunity for student education. Table 8 below outlines a list of compostable materials that may be generated through regular operations at the school.

Table 8: Compostable and Non-Compostable materials list

Compostable	Not Compostable
✓ Vegetable and food scraps ✓ Fallen leaves (in layers) ✓ Tea leaves and tea bags ✓ Coffee grounds ✓ Vacuum cleaner dust ✓ Soft stems ✓ Dead flowers ✓ Old potting mix ✓ Used vegetable cooking oil ✓ Egg shells	✗ Meat and dairy products ✗ Diseased plant material ✗ Metals, plastic, glass ✗ Animal manures (especially the droppings of cats and dogs) ✗ Fat ✗ Magazines ✗ Large branches ✗ Weeds that have seeds or underground stems

Compostable	Not Compostable
✓ Old newspapers (wet) ✓ Grass cuttings in layers ✓ Weeds ✓ Sawdust (from non-treated timber) ✓ Wood ash ✓ Human and animal hair	✗ Bread or cake (may attract mice) ✗ Bones ✗ Sawdust from treated timber

6.3 Sustainable ordering of food and materials

A significant amount of waste is produced through unsustainable ordering of food and other school related supplies. It may be possible to reduce the waste generation footprint of the school or prevent large increases to waste generation, through the sustainable procurement of food at the canteen, use of recyclable and recycled material products, and reduction in the use of physical mediums of teaching (test papers, worksheets, etc).

6.4 Bulky Waste Storage

Some bulky wastes will be generated because of typical school activities. Sufficient space will be provided for the temporary storage of these wastes prior to scheduled collection. Bulky waste is proposed to be managed similarly to current operations and be disposed of via skip bin or collected by the commercial waste contractor at the end of each term during school break, or whenever the quantity of such waste is generated in a sufficient quantity. Management and access of the bulky storage area will be the responsibility of school management and cleaning personnel.

6.5 Problem Waste Management

Sutherland Public School is encouraged to engage with problem waste management contractors where possible to recover wastes such as E-waste, printer cartridges, batteries, furniture, etc. These systems should be reviewed and increased as necessary with any student population increases resulting from the proposed expansion.

The following management practices could be incorporated for a range of different problem waste materials:

- **Batteries and Printer Cartridges** – A company called “Close the Loop” (among others) provides bins and collection for batteries and printer cartridges. Bins are collected on an as needed basis, at the request of the user, when the provided bins become full. Bins for this purpose can be retained in the main photocopy room, administrative office or computer labs;
- **E-Waste** – A waste or specialist E-waste management contractor may be engaged to provide bins for the collection on E-waste generated at WGS. E-waste bins can be serviced on a regular basis or as needed when bins become full, by the engaged contractor; and
- **Light Globes and Fluorescent Tubes** – Light globes and fluorescent tubes are typically managed by the electrical contractor, with old and damaged units being taken away upon their replacement.

6.6 CDS containers and soft plastics

It is difficult to predict the generation of soft plastics and CDS-eligible containers, but a bin may be provided for each stream to be managed on an as needs basis. Site management will be responsible for transfer of CDS materials to a Return and Earn depot, and soft plastics to a RecycleSmart collection point.

Sutherland Public School may like to install a Reverse Vending Machine (RVM) to allow students to directly deposit eligible containers. The school can decide whether students directly receive the refund vouchers or can choose to have the refund amount donated to the school for fund raising or an elected charity.

6.7 Waste Avoidance

Employing purchasing strategies to avoid the generation of waste: purchasing products with recyclable, compostable, minimal, or no packaging.

7 Mitigation Measures

7.1 Construction and Demolition mitigation measures

Construction and demolition waste mitigation measures for the Sutherland Public School Hall Upgrade will prioritise waste minimisation, recycling, and regulatory compliance as explained below:

- **Waste Minimisation & Recycling:** All reusable and recyclable materials will be recovered where possible to reduce landfill disposal.
- **Designated Waste Storage Areas:** Separate storage areas will be allocated to facilitate source separation of construction and demolition (C&D) waste.
- **Stockpiling & Waste Sorting:** Reusable materials will be stockpiled on-site, and wheeled bins will be placed for sorted waste collection.
- **Contaminated Waste Management:** A dedicated bin for contaminated or non-recyclable materials will be provided to ensure proper disposal.
- **Demolition Waste Recovery:** Materials from demolished structures, including the removal of three trees, will be recovered where possible, with non-reusable waste sent to licensed recycling facilities.
- **Site Maintenance & Safety:** Waste storage areas will be kept accessible and tidy to encourage waste separation and maintain workplace health and safety (WHS) standards.
- **Pollution Prevention:** Waste storage areas will be secured to prevent litter dispersion and unauthorised dumping, reducing environmental impact.

7.2 Operational mitigation measures

Mitigation measures for waste management during the operational phase of the Sutherland Public School Hall Upgrade will maintain existing waste arrangements while introducing improvements for efficiency and sustainability. Key measures include:

- **Maintenance of Existing Waste Storage & Collection Points:** The loading zone and vehicle access gate off Merton Street will remain unchanged, ensuring compliance with Sutherland DCP (2015) and NSW EPA guidelines.
- **Enhanced Waste Segregation:** Split receptacle bins will be strategically placed in high use areas to reinforce recycling and proper waste disposal.
- **Daily Collection & Transfer:** Cleaning staff will collect and transfer waste daily to the designated waste storage area for efficient management.
- **Bulk Waste Collection Scheduling:** Rear-lift collection vehicles will continue servicing the site, with pickups scheduled outside peak student drop-off and pick-up times to minimize disruptions.
- **Signage & Educational Initiatives:** Clear signage and awareness programs will promote waste minimization, recycling, and correct disposal practices among students, staff, and visitors.
- **Special Event Waste Management:** Temporary waste collection arrangements, including additional bins and services, will be organised to accommodate increased waste volumes during events.
- **Safety & Accessibility Standards:** The waste storage area will be maintained with clear signage, adequate drainage, and pest control measures to ensure a clean and safe environment.
- **Oversight & Compliance:** Building management and site cleaning staff will oversee waste operations, ensuring adherence to workplace safety regulations, regular maintenance, and pollution prevention strategies.

These measures will support a clean, organised, and environmentally responsible waste management system for the Sutherland Public School Hall Upgrade.

8 Conclusions

The proposed Sutherland Public School Hall Upgrade is not expected to result in any changes to the overall student capacity of the site. Given the standard measure of waste generation for education facilities is on the basis of student numbers, it is not expected that waste generation for the site will change as a result of the proposed development. Additionally, C&D waste will be managed in line with this WMP to minimise environmental impacts.

Sutherland Public School currently employs waste management practices to handle general waste, recycling and other specific waste streams, as described in Section 4.2 of this WMP. The above core services provided for current school operations are expected to continue to remain sufficient for the effective management of waste, following completion of the proposed expansion elements. This WMP provides potential additions to the waste management service for the site in Section 6 of this WMP, however these are not essential to the management of waste for the school.

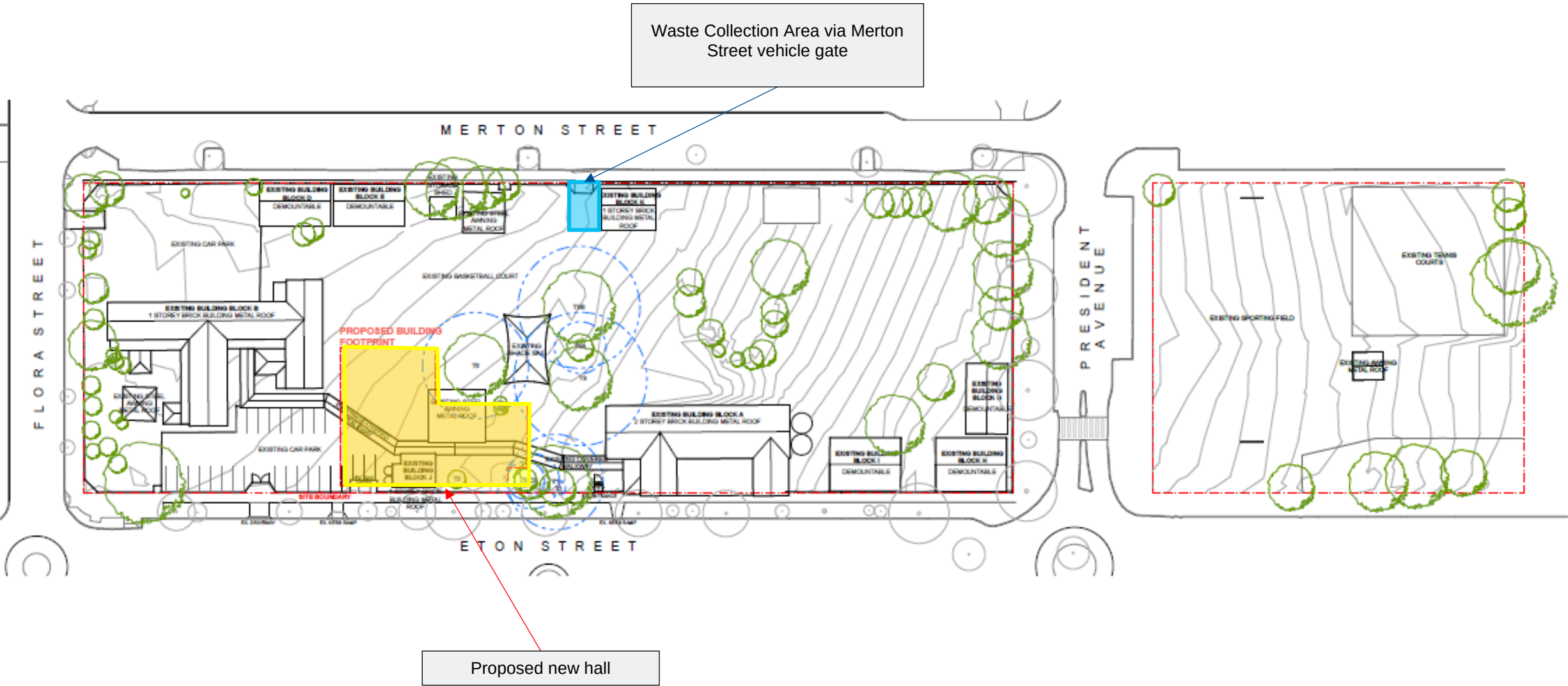
Further to the above, special events such as sporting events or performance nights that may occur from time to time, resultant of the proposed expansion facilities, can be easily managed from a waste perspective with ad hoc arrangements between school management and the contracted waste service provider as required.

On balance, the intensity of waste management requirements for Sutherland Public School is not expected to change as a result of the proposed development, and existing waste management strategies are sufficient to accommodate effective waste management post completion of the proposed Sutherland Public School Hall Upgrade.

9 References

- Australian Department of Sustainability, Environment Water, Population and Communities (2011) Construction and Demolition Waste Guide - Recycling and Re-use Across the Supply Chain.
- Australian Standards 4123.7 Mobile Waste Containers.
- NSW EPA (2012) Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities.
- NSW EPA (2014) Waste Classification Guidelines.
- NSW EPA (2016) Recycling Signs, Posters and Symbols. Available at: <http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm>.
- NSW EPA (2019) Better Practice Guide for Resource Recovery in Residential Developments.
- NSW EPA (2021) NSW Waste and Sustainable Materials Strategy 2041.
- NSW Government (1979) Environmental Planning and Assessment Act.
- NSW Government (1997) Protection of the Environment Operations Act.
- NSW Government (2000) Environmental Planning and Assessment Regulation.
- NSW Government (2001) The Waste Avoidance and Resource Recovery Act
- Sutherland Development Control Plan 2015
- Sutherland Local Environmental Plan 2015

Appendix A Proposed New Hall Plan



General Notes DO NOT SCALE FROM DRAWINGS. USE DIMENSIONS DIMENSIONS ONLY CHECK ALL DIMENSIONS ON SITE BEFORE ANY MANUFACTURE OR CONSTRUCTION All dimensions are in millimetres unless stated otherwise. All architectural drawings are to be read in conjunction with the relevant standard documents. All dimensions and levels are to be checked and verified on site prior to construction. All dimensions and levels are to be checked and verified on site prior to construction. All dimensions and levels are to be checked and verified on site prior to construction. Do not scale dimensions. This drawing is copyright and must not be altered, copied or used without the permission of BKA Architecture. This document has been prepared for and on behalf of the client and the drawing, BKA Architecture's responsibility for the design shall only extend to any third party who relies on these documents. Issued: 18/09/2024 - John Nasser 2022	<table><tr><th>Rev</th><th>Date</th><th>Issue</th></tr><tr><td>01</td><td>13/05/2024</td><td>Revised Concept Draft</td></tr><tr><td>02</td><td>18/09/2024</td><td>For TSO Review</td></tr></table>	Rev	Date	Issue	01	13/05/2024	Revised Concept Draft	02	18/09/2024	For TSO Review	Client SINSW Architect BKA Architecture 177 Cowling Ave, Sydney NSW 2000 177
Rev	Date	Issue									
01	13/05/2024	Revised Concept Draft									
02	18/09/2024	For TSO Review									

Source: NSW Department of Education, 2024

Appendix B Standard Signage

Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW EPA.

Standard symbols for use in signage, bin facade and educational materials are promoted through the NSW Environment Protection Authority. They are available for download from the NSW EPA website (NSW EPA 2016b), in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia 2008).

Figure 6: Examples of standard signage for bin uses



Safety Signs

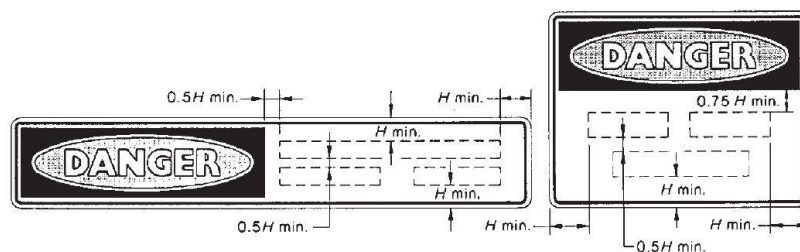
The design and use of safety signs for waste and recycling rooms and enclosures should comply with AS 1319 (Standards Australia 1994). Safety signs should be used to regulate, and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Clear and easy to read 'NO STANDING' and 'DANGER' warning signs must be fixed to the external face of each waste and recycling room where appropriate.

Figure 7: Example and layout of safety signage



(d) Horizontal

FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS



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