

Assyrian Schools Limited
C/- PMDL

Waste Management Plan:
Lots 2320 and 2321 in DP 1223137,
17-19 Kosovich Place, Cecil Park, NSW



ENVIRONMENTAL



WATER



WASTEWATER



GEOTECHNICAL



CIVIL



PROJECT
MANAGEMENT



P1705798JR07V03
August 2018

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Document and Distribution Status							
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Revision No.	Description	Status	Release Date	Document Location			
				File Copy	Assyrian Schools Limited	PMDL	
1	State Significant Development Application	Draft	19/07/2018	1E,1P	1P	1P	
2	State Significant Development Application	Draft For Client Review	23/07/2018	1E,1P	1P	1P	
3	State Significant Development Application	Final	22/08/2018	1E,1P	1P	1P	

Distribution Types: F = Fax, H = hard copy, P = PDF document, E = Other electronic format. Digits indicate number of document copies.

All enquiries regarding this project are to be directed to the Project Manager.



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1 Introduction

1.1 Overview

This waste management plan has been prepared by Martens & Associates Pty Ltd (MA) to support a state significant development application (SSDA) for a proposed school at 17-19 Kosovich Place, Cecil Park, NSW (the 'site').

The school is proposed to be developed in several stages. The waste management plan is designed to be compatible with this staged approach.

1.2 Project Scope and Aims

The main objectives of this report are as follows:

1. Address the Secretary's Environmental Assessment Requirements (SEARs) No. 9210 as they relate to waste management;
2. Identify types of waste to be generated by the construction and operation of each stage of the development.
3. Identify relevant environmental controls for the management of generated waste streams.
4. Document procedures for handling, classification and disposal of waste of all anticipated waste streams from the site.

1.3 Relevant Planning Controls and Guidelines

The following planning controls have been consulted and, where relevant, incorporated into the design of the site's proposed waste management system:

- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017.
- Protection of the Environment Operations Act 1997.
- Fairfield Local Environmental Plan 2013.
- Fairfield Citywide Development Control Plan 2013 (Amendment 16).
- Waste Avoidance and Resource Recovery Act 2001.

1.4 Secretary's Environmental Assessment Requirements

Secretary's Environmental Assessment Requirements have been issued for this development. They cover waste management as follows:

19. Waste

Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.

2 Site Description

2.1 Background

Assyrian Schools Limited is seeking development consent to develop a new co-education primary school with library, administration and amenities buildings.

2.2 Location and existing Land-use

The site is located at 17-19 Kosovich Place, Cecil Park, NSW (Lots 2320 and 2321 DP 1223137). Site elevation is approximately 89 m near the site's north western boundary, to 102 m near the eastern boundary.

The site is currently used for rural purposes, and is predominantly open grasslands. The site is zoned RU4 – Primary Production Small Lots. The extreme north west corner of the site, presently covered by the site dam, is zoned as E2-Environmental Conservation.

The surrounding land uses are primarily rural and rural residential with a church located to the north. Westlink M7 motorway is located approximately 350 m to the east.

2.3 Proposed Development

The masterplan provided by PMDL Architecture & Design indicates that the school is proposed to be developed in several stages. Stage One of the proposed development will include:

- Nine classrooms and associated amenities to accommodate up to 210 students and 12 staff;
- A temporary outdoor play area;
- A stock piling area;
- Temporary structures including walls and fences;
- Driveway, staff carpark with minimum 35 spaces, drop off/pick-up area for 33 cars and 1 emergency service vehicle;
- Decontamination works of the western part of the site (Lot 2321 only).

Final Development will include:

- One and two storey buildings including classrooms, library, administration and amenities. The school will ultimately be a three stream school from Kindergarten to Year 6 of maximum of 630 students and 35 staff.
- A multi use central court and various forecourts and play areas.

3 Waste Management Plan – Construction

3.1 Key Activities

3.1.1 Stage 1

Key construction activities in Stage 1 are anticipated to include:

- Excavation to prepare the site for the access driveway;
- Construction of hardstand area, driveway and carpark;
- Construction of classrooms and associated building; and
- Remediation of the western portion of the site (Lot 2321 only).

3.1.2 Stage 2

Key construction activities as part of completion of the Masterplan (Stage 2) are anticipated to include:

- Filling and levelling the site to above the Probable Maximum Flood level;
- Construction of the hall, library, canteen and remaining classrooms;
- Construction of the sports facilities and play areas; and
- Construction of landscaped areas.

3.2 Waste Management System

A Project Manager (PM) will have responsibility for safety, quality, environmental, record management, time and cost as well as overseeing site staff and reporting to management. The PM will administer a number of general waste management procedures including:

- At the time of contract negotiation and tendering, all sub-contractors and suppliers will be advised of the requirement to minimise waste. Bulk handling and use of reusable and returnable containers will be encouraged.
- Sub-contractors will be informed that their waste generation will be monitored and that the generation of excessive quantities will be considered non-conforming.

- The waste disposal sub-contractor and the waste processing and disposal facilities will be licensed to receive the waste expected to be generated on site.
- Removal will be done to comply with legal requirements and records will be kept.
- Contaminated waste from Lot 2321 will be managed in accordance with MA Remedial Action Plan (P1705798JR06) in accordance with all legal requirements and an independent audit upon completion.

The Site Supervisor will be responsible for on-site supervision during construction. The Site Supervisor's responsibilities include reporting to Project Manager, control of site labour and plant and communicating all necessary information to site personnel. A number of general waste management procedures that are administered by the Site Supervisor include:

- Establishing areas for recycling and waste storage area;
- Discussing the site's waste management and recycling policy with employees and subcontractors during site inductions;
- Receiving and holding waste disposal licenses and records;
- Recording quantities and types of waste and forwarding the information each month to the PM;
- Recording details of any soil leaving the site including quantities, truck details and disposal locations;
- Monitoring the stockpile level and the condition of erosion control measures.

3.3 Waste Streams and Classifications

The construction stages of the proposed development are anticipated to generate waste in excavation stream and construction stream. In the absence of waste generation rates for the proposed development type from the Fairfield City Council, we have adopted the waste types and quantities for construction of an office block provided in *The Hills Development Control Plan 2012*. Table 1 summarises types and volumes of waste that is likely to be generated during construction, along with their waste classifications according to EPA NSW (2014).

Table 1: Potential waste types, classifications and quantity – construction

Waste Types	NSW EPA Classification	Estimated Volume (m ³)		
		Stage 1	Stage 2	Total
Excavation spoil	Non-putrescible waste. Waste classification depends on the concentration of contaminants.	15872	-4846	11026
Timber	General solid waste (non-putrescible)	6	11	17
Concrete	General solid waste (non-putrescible)	22	40	61
Bricks	General solid waste (non-putrescible)	10	18	28
Gyprock	General solid waste (non-putrescible)	10	18	28
Steel (structural and reinforcing) and other metal	General solid waste (non-putrescible)	4	6	9
Other construction waste (Glass, metal wire, etc.)	General solid waste (non-putrescible)	6	11	16

3.4 Waste Handling

3.4.1 Excavation Waste

MA Detailed Site Investigation (DSI) identified asbestos in fill material in the western portion of the site (Lot 2321). Remediation works shall be carried out by a suitability qualified environmental / earthworks contractor. Formal waste classification in accordance with NSW EPA (2014) Waste Classification Guidelines is required with samples to be collected at a rate determined by the supervising engineer to adequately assess the material, and in accordance with NSW EPA (2014). Refer to MA Remedial Action Plan (P1705798JR06V02) for details.

Proposed earthworks and landscaping have been designed to minimise the amount of waste generated. For excavated material that is free from contamination, it shall be kept in the designated stock piling area. Storage piles are to be grass seeded with Hydromulch (or similar products) between stages to protect the spoil from water and wind erosion. Excess excavation material to be disposed at the end of the project is estimated to be 11026 m³.

Part of this spoil surplus can be used for replacing contaminated soil removed in the remediation programme, provided the Imported Material Protocol in MA Remedial Action Plan (P1705798JR06V02) is

satisfied. The rest will be loaded into trucks for transport to licenced processing facilities.

3.4.2 *Other Construction Waste*

The approximate volume of other construction waste that will be generated during construction is provided in Table 1. The Site Supervisor will establish storage area for this waste and record quantities. Each type of waste will be collected by a licenced waste contractor and transported to a licenced recycling facility or disposal facility, depending on its quality and suitability for recycling.

3.5 Waste Management and Minimisation

Construction is anticipated to produce materials that will be stockpiled for either reuse on-site or wastes for disposal off-site. Specific site stockpiles shall be required for construction materials (including access materials, concrete, fencing, prefabricated structural elements, erosion protection materials, etc.), construction wastes and spoil. Location of stockpiles shall be determined on-site to allow ease of access; to ensure stockpiles are clear of overland flow paths and to minimise the impact on site amenity. Stockpiles shall require appropriately designed sediment and erosion controls.

During construction works skip bins shall be utilised to manage generated solid waste. These bins shall be covered overnight and during windy conditions to prevent material being lost and spread over the site. Access for waste management service vehicles is proposed to be via existing and construction entrances from Kosovich Place. Removal of waste is anticipated to be carried out during approved hours.

4 Waste Management Plan – Operation

4.1 Waste Streams and Classifications

Based on the information provided and benchmark data from similar developments, operation of the proposed school is anticipated to generate the following waste streams:

- Cardboard and paper recycling
- Comingled recycling
- Food and organics
- General waste

Additional smaller waste streams may include toner cartridge and e-waste recycling, light tube/globe recycling and battery recycling. Table 2 summarises types of waste that is likely to be generated during the operation, along with their waste classifications according to EPA NSW (2014). The quantities are estimated based on average teaching and office use assuming weekdays with the projected student and staff numbers for each stage.

Table 2: Potential waste types, classifications and quantity – operation

Waste Types	NSW EPA Classification	Estimated Volume (L/day)	
		Stage 1	Stage 2
Cardboard and paper	General solid waste (non-putrescible)	177	556
Comingled recycling	General solid waste (non-putrescible)	49	155
Food and organics ¹	General solid waste (non-putrescible)	N/A ²	386
General waste	General solid waste (non-putrescible)	108	341

Notes

1. On-site composting facilities will be created as part of completion of the Masterplan (Stage 2), in accordance with the landscape architect's design.
2. The canteen will be constructed in Stage 2.

4.2 Waste Management Systems

4.2.1 Waste Collection

Estimated waste management facility requirements for each stage are summarised in Table 3.

Table 3: Recommended waste management facility requirements – Stage 1

Waste Types	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly) (L)	Estimated waste per week (L)	Footprint per bin (m ²)	Total Footprint (m ²)
Cardboard and paper	240L	5	1	1200	883	0.43	2.15
Comingled recycling	240L	2	1	480	246	0.43	0.86
General waste	240L	3	1	720	541	0.43	1.29
Total				2400	1670		4.3
Recommended Storage Area (including circulation space)							6.5

Table 4: Recommended waste management facility requirements – Stage 2

Waste Types	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly) (L)	Estimated waste per week (L)	Footprint per bin (m ²)	Total Footprint (m ²)
Cardboard and paper	1100L	1	1	1100	2780	1.37	1.37
	240L	8	1	1920		0.43	3.44
Comingled recycling	240L	4	1	960	776	0.43	1.72
Food, organics and general waste	1100L	1	2	2200	3634	1.37	1.37
	240L	4	2	1920		0.43	1.72
Total				8100	7190		9.62
Recommended Storage Area (including circulation space)							14.0

4.2.2 Waste Diversion Opportunities

On-site composting facilities will be created as part of Stage 2, in accordance with the landscape architect's design. Such effort contributes to best practice waste management and reduces the total waste generation.

4.2.3 Other Waste

The following waste stream will be collected on call as needed:

- Green Waste/Vegetation – vegetation generated from onsite maintenance activities will be managed by grounds staff. A bulk 3 m³ front lift bin is recommended for the management of this stream which can be located adjacent to the waste storage area. This bin should be collected on request as required.

- Battery Recycling – Battery recycling boxes will be present where deemed necessary e.g. copy rooms, office/study common areas. These boxes will be collected when full by a dedicated contractor.
- E-waste, Toner and Cartridge Recycling – Used toners and other E-waste will be collected by administration staff and consolidated for collection by specialty recyclers.

4.2.4 Waste Storage Area

Waste storage area is located in the staff carpark area (Figure 1) with recommended area indicated in Table 3 and Table 4.

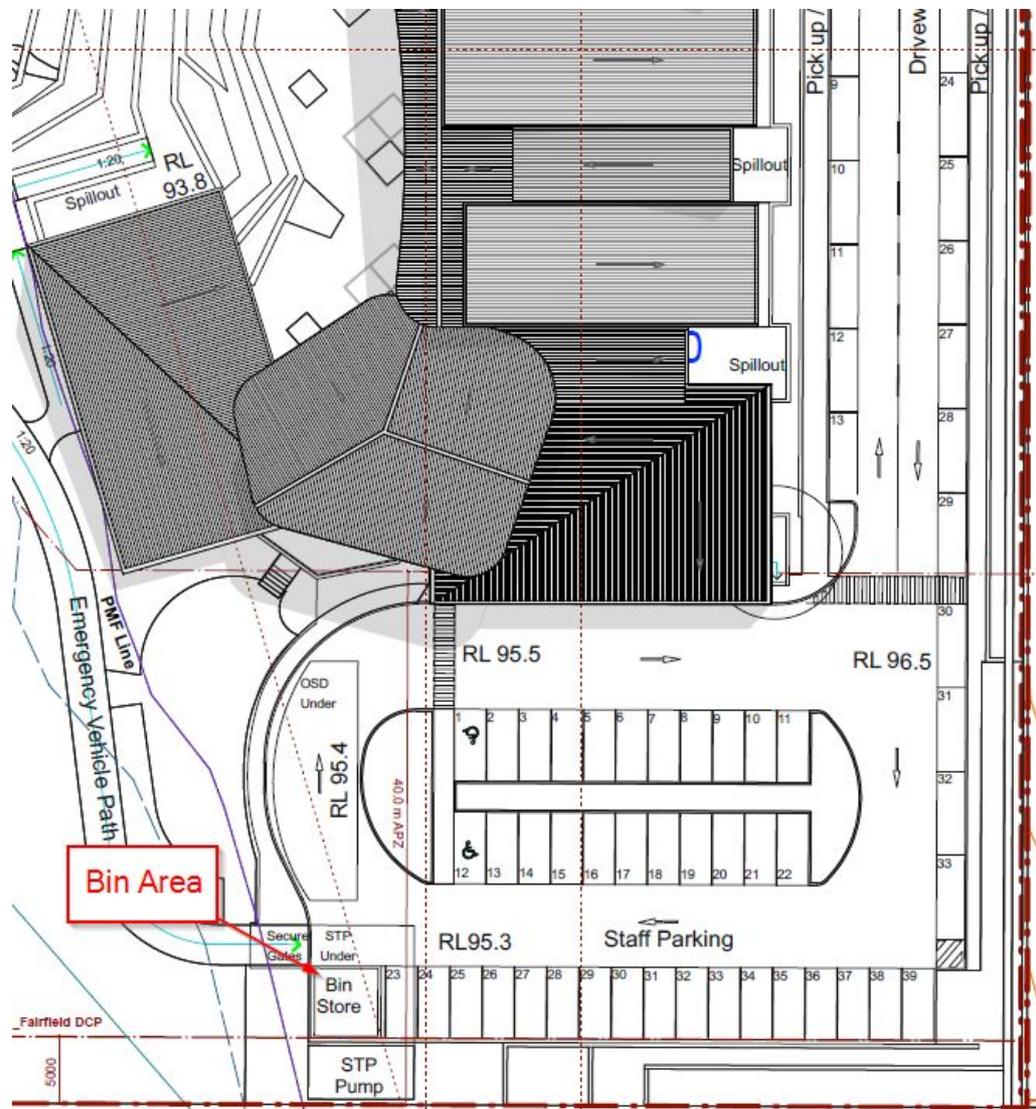


Figure 1: Location of waste storage area.

5 References

EPA NSW (2014), *Waste Classification Guidelines Part 1: Classifying waste*, Sydney.

Fairfield City Council (2013a), *Fairfield Local Environmental Plan*.

Fairfield City Council (2013b), *Fairfield Citywide Development Control Plan 2013 (Amendment 16)*.

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Protection of the Environment Operations Act 1997.

SSD 9210 (2018), *Secretary's Environmental Assessment Requirements*.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017.

The Hills Shire Council (2012), *The Hills Development Control Plan*.

Waste Avoidance and Resource Recovery Act 2001.