CONSTRUCTION WASTE MANAGEMENT SUB PLAN (CWMSP)

CEMP APPENDIX 8 SUB PLAN

Parramatta West Public School

Parramatta, NSW, 2150

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1. INTRODUCTION

1.1 PROJECT INFORMATION TABLE

Project information table					
Project name	Parramatta West Public School				
Location	Crimea Street & Railway Street Parramatta, NSW, 2150				
Client	NSW Government Education School Infrastructure				
Duration of contract	16mnths				
Taylor contact information					
Company name	Taylor Construction Group Pty Ltd				
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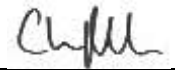
Prepared by	Chris Pullar		Project Engineer		Feb 2020
Reviewed by:	Eddie Abramian		Project Manager		Feb 2020
Reviewed by:	Maroon Jumaa - Bluevision		Superintendent PM	N/A	Jan 2020
Revised by	**Revision #**	**Date**	**Changes made**		
Chris Pullar	Draft	16/01/20	Initial Draft		
Chris Pullar	01	14/02/20	Update to satisfy Condition B21 requirements		
Chris Pullar	02	31/03/20	Updated based on SINSW comments (GN)		
Mark McBride	03	11-06-2020	Update staff changes		
Mark McBride	04	20-06-2020	Update to EPA 2014 in document		

1.1 PURPOSE OF THE CONSTRUCTION WASTE MANAGEMENT SUB PLAN

Taylor Construction Group Pty Ltd has a documented Quality, Health, Safety and Environmental (QSE) Management System. The management systems are integrated, and this management plan forms part of the Construction Environmental Management Plan (CEMP) and should be read in conjunction with the CEMP.

One of the Environmental Factors Objectives identified in the CEMP is to:

Ensure that wastes are contained and isolated from land, ground and surface water surrounds and treatment or collection does not result in long-term impacts on the natural environment.

With a requirement to:

Identify sources of solid and liquid waste and estimate the proposed amount generated. Propose measures to manage and/ or mitigate impacts.

Further to this, the CEMP details the following Objective and Target relating to Waste Management:

Objectives	Targets
Increase amount of waste being recycled, reduce waste cost.	Eighty-five per cent (85%) of waste to be recycled.

This plan will provide further details regarding satisfying these items for this project.

1.2 DEVELOPMENT CONDITIONS CONSENT

Further to the above, the project SSD provides certain conditions regarding waste management that need to be satisfied. The below table provide a reference to the SSD Clauses and the location within this plan where the clause is satisfied.

Condition	Description	Page Number
B21	EMP Requirements Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
B21	(a) detailed baseline data;	Section 2.7 Page 8
B21	(b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 2.2 Page 6 Section 1.1 Page 4
B21	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 2.3 Page 7
B21	(d) a program to monitor and report on the: (i) impacts and environmental performance of the development; (ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 2.9 Page 10
B21	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 2.4 Page 7
B21	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 2.5 Page 7
B21	(g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and	Section 2.6 Page 7
B21	(h) a protocol for periodic review / update of the plan and any updates in response to incidents or matters of non-compliance.	Section 2.5 Page 7

Condition	Description	Page Number
B25 (a)	The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following: (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and	Section 2.8 Page 9
B25 (b)	The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following: (b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of construction.	Section 3 Page 12

2. GENERAL WASTE MANAGEMENT PLAN

2.1 INTRODUCTION

TCG and Subcontractors shall adopt the hierarchy of waste – avoid, reduce, recycle/reprocess and dispose to maximise resource recovery and minimise disposal wherever possible and practical. TCG is responsible for creating and managing the waste management education process, including correct separation of garbage and recycling items. The importance of appropriate waste management practices is to be included in the site induction.

The site will be provided with suitable bins and skips for appropriate collection and separation of waste and recyclables, and these are to be collected with appropriately qualified and licensed waste contractors.

When selecting and using waste recycling and disposal centres, the following factors will be considered:

- Quantity and type of material (including its re-use and recyclability)
- Cost to dispose material
- Geographical location of waste centre
- Legal issues such as if the waste centre is able to lawfully accept the waste material

Recycling and disposal of bulk waste materials will be by excavators, forklifts & cranes to load trucks and transport to the appropriate waste or recycling facility. Excavated materials would be removed off site each day, except where removal is impeded on that day. Stockpiling of materials would involve the provision of a bund and plastic covering over the stockpile, which is secured against wind.

Prior to disposal, wastes must be classified in accordance with the EPA 2014 Guidelines prior to transporting waste off site. Waste receipts must be kept for legal requirements and details of waste separated and disposed of is to be documented in the Waste and Recycling Register.

TCG will ensure that all waste service providers submit monthly reports on all equipment movements and weights of any waste and recycling products removed from the development.

References:

- SE-F-23 KPI Monthly Report Form
- E-F-03 Waste and Recycling Register

2.2 WASTE REGULATIONS IN NSW

Acts and regulations govern waste management in NSW. According to EPA, those ho handle, store, transport, process, recycle and dispose of waste must follow these rules to minimize harm to human health and to the environment. The waste legislation in NSW is as follows:

Protection of the Environment Operations Act 1997. It is the principal environmental protection legislation for NSW. The act:

- Defines 'waste' for regulatory purposes;
- Establishes management and licensing requirements for waste;
- Defines offences relating to waste and sets penalties;
- Establishes the ability to set various waste management requirements via the Protection of the Environment Operations (Waste) Regulation 2014 (Waste Regulation).

Protection of the Environment Operations (Waste) Regulation 2014. The Waste Regulation allows the EPA to protect human health and the environment and provides a platform for a modern and fair waste industry. It includes strict thresholds for environment protection licenses and outlines the waste levy system.

Waste Avoidance and Resource Recovery Act 2001. The Waste Avoidance and Resource Recovery Act 2001 (WARR Act) promotes waste reduction and better use of our resources in NSW. It includes provisions for waste strategies and programs and for industry actions to reduce waste.

2.3 WAYS OF MINIMISING WASTE

Daily activities on this project will generate a wide range of residues such as general waste, obsolete infrastructure and/ or contaminated/ hazardous materials. With a view to maximizing waste management, the following waste hierarchy principles must be followed:

1. Reduce

Minimise waste production and over-consumption of materials by:

- Incorporating design and building practices that minimise waste production;
- Not over-ordering products or materials;
- Specifying project requirements and planning ahead to avoid over-consumption of products and materials;
- Minimising rework from errors and poor workmanship;
- Ensuring storage areas are safe and secure;
- Arranging deliveries to match work stages to avoid materials being stored on site longer than necessary.

2. Reuse

Wherever possible, reuse surplus or salvaged materials on site, off-site or on other projects:

- Establish a system whereby all products that can be reused (for the same purpose or for a new one) are identified and stored;
- Repair items so they can be reused or returned to the supplier.

3. Recycle

All materials that can be recycled must be separated and sent to a recycling facility.

2.4 UNEXPECTED IMPACTS

In the event of an unexpected impact on the procedures outlined in this plan, TCG will review the result in conjunction with the waste contractor to identify the root cause of the issue. TCG will then implement revised/new control measures to mitigate this impact to ensure future effects are mitigated.

2.5 ONGOING REVIEW

The Waste Register for the project is to be review progressively throughout the project to identify any shortcoming and possible improvement opportunities. Further to this, the TCG Environmental Site Inspection will address all site waste procedures to ensure shortcomings and improvement opportunities are identified.

In the event of the incident or NCR, this plan is to be review to ensure revised control measures are addressed within the plan.

2.6 INCIDENTS, COMPLAINTS & NON-CONFORMANCES

Section 12 & 14 of the Construction Environmental Management Plan details TCG's procedures relating to Incidents, Complaints and Non-conformances. For all Waste related issues, the Waste facility is to be contacted immediately, and if required provide a report addressing the incident, compliant or NCR.

All external reports/investigations provided by the waste facility, will form reference documentation in TCG's internal investigations or reports.

2.7 COMPANY WASTE PROFILE

TCG receives monthly waste statistics reports from its waste management contractor and is able to forecast waste generation estimates for other similar projects from this historical data. The table below summarises waste statistics from five current school works projects being undertaken by TCG in Sydney, having a project value between $5-30m.

Project	Pendle Hill High School	Willoughby Girls High School	Greenwich Public School	Knox Grammar	Yagoona Public School	All Project Average
Status	Handover Stage	Handover Stage	64% Complete	Complete	Handover Stage	
Waste Record Period (Months)	12	11	12	7	6	
Total Waste Collected (T)	302.49	281.84	294.6	495.62	21.26	**279.16**
Total Waste Recycled (T)	298.54	278.12	291.84	486.59	20.54	**275.13**
Total Waste Recycled (%)	98.70%	98.68%	99.07%	98.18%	96.65%	**98.25%**
Total Waste Landfill (T)	3.94	3.71	2.75	9.0261	0.7162	**4.03**
Total Waste Landfill (%)	1.30%	1.32%	0.93%	1.82%	3.37%	**1.75%**
Vegetation Waste	9.14%	6.78%	5.50%	0.11%	13.33%	**6.97%**
Concrete, Brick, Tiles	30.99%	36.91%	41.41%	20.87%	23.33%	**30.70%**
Fill/VENM	9.76%	0.92%	3.76%	0.00%	0.00%	**2.89%**
Asphalt	2.17%	1.37%	1.69%	0.00%	0.00%	**1.05%**
Timber	18.03%	19.13%	19.40%	37.22%	20.00%	**22.76%**
Glass	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
Paper & Cupboard	5.95%	10.79%	10.70%	15.32%	23.33%	**13.22%**
Plastic	3.70%	2.39%	2.49%	0.00%	0.00%	**1.72%**
Plasterboard	11.03%	6.36%	4.28%	15.23%	0.00%	**7.38%**
Steel / Iron	6.51%	11.24%	8.93%	7.82%	13.33%	**9.57%**
Non-Ferrous Metal	0.73%	0.00%	0.00%	0.00%	0.00%	**0.15%**
Food - Organics	0.07%	0.15%	0.18%	0.00%	0.00%	**0.08%**
Other	0.29%	0.33%	0.27%	0.00%	0.00%	**0.18%**
Other - Mixed	1.63%	3.63%	1.38%	3.44%	6.67%	**3.35%**

This data indicates that the Parramatta West Public School project could generate a greater than 85% recyclable waste by volume of total construction waste generated, and less than 15% landfill waste. This estimated amount of recyclable waste is above TCG's corporate target of 85%.

2.8 ESTIMATED PROJECT WASTE SCHEDULE

The following schedule provides a breakdown of the expected waste for the project based on a comparable project with actual waste records.

Project	Comparable Project Pendle Hill High School	Recycle or Disposal Destination & EPA Licence	Recycle or Disposal Address
Total Waste Recycled (%)	98.70%		
Total Waste Landfill (%)	1.30%		
Vegetation Waste	9.14%	Cleanaway 20937	35-37 Frank St, Wetherill Park
Concrete, Brick, Tiles	30.99%	Boral 11815	38a Wildermere Rd, Wetherill Park
Fill/VENM	9.76%	Cleanaway 20937	35-37 Frank St, Wetherill Park
Asphalt	2.17%	Boral 11815	38a Wildermere Rd, Wetherill Park
Timber	18.03%	Cleanaway 20937	35-37 Frank St, Wetherill Park
Glass	0.00%	Dump It Centre	13 Long Street, Smithfield NSW 2164
Paper & Cupboard	5.95%	Grima 20648	88 Redfern St, Wetherill Park
Plastic	3.70%	Grima 20648	88 Redfern St, Wetherill Park
Plasterboard	11.03%	Grima 20648	88 Redfern St, Wetherill Park
Steel / Iron	6.51%	Sell & Parker 11556	45 Tattersall Rd, Kings Park
Non-Ferrous Metal	0.73%	Sell & Parker 11556	45 Tattersall Rd, Kings Park
Food - Organics	0.07%	Dump It Centre	13 Long Street, Smithfield NSW 2164
Other	0.29%	Dump It Centre	13 Long Street, Smithfield NSW 2164
Other - Mixed	1.63%	Dump It Centre	13 Long Street, Smithfield NSW 2164

2.9 WASTE & RECYCLING REGISTER

The following register will be utilised through the project in order to track the waste produced on the project and provide a progressive benchmark score in order to track against to overall goal of 85% recycled waste.

DUMPIT BINS

DUMPIT RECYCLING CENTRE

Client	Taylor Construction Group				
Site	Parramatta				
Site Address	Young St, Parramatta				
Month - Start	1/04/20	Finish	30/04/20		
Construction & Demolition Waste Material	**Total Waste Generated (Tonnes)**	**Total Recycled (Tonnes)**	**Destination**	**Total To Landfill (Tonnes)**	**Destination**
Vegetation Waste	0.13	0.13	Cleanaway 20937	0.00	
Concrete, Bricks, Tiles	0.00	0.00	Boral 11815	0.00	
Fill/VENM	0.72	0.72	Cleanaway 20937	0.00	
Asphalt	0.00	0.00	Boral 11815	0.00	
Timber	0.18	0.18	Cleanaway 20937	0.00	
Glass	0.00	0.00	Cleanaway 20937	0.00	
Paper & Cardboard	0.00	0.00	Visy 4100	0.00	
Plastic	0.00	0.00	Cleanaway 20937	0.00	
Plasterboard	0.00	0.00	Cleanaway 20937	0.00	
Steel / Iron	0.18	0.18	Sell & Parker 11556	0.00	
Non-ferrous metal	0.00	0.00	Sell & Parker 11557	0.00	
Food - Organics	0.00	0.00	Suez 5065	0.00	Suez - 5065
Other - mixed	0.03	0.00	Suez 12889	0.03	Suez - 12889
TOTALS	1.24	1.21		0.03	
Percentage	100.00%	97.58%		2.42%	

Destination & EPA Licence No.	Site Address	Waste Stream
Boral Recycling Pty Ltd (Wetherill Park) - 11815	38a Widemere Rd, Wetherill Park	Concrete, Brick, Tiles
Cleanaway ResourceCo RRF Pty Ltd - 20937	35-37 Frank St, Wetherill Park	Vegetation, Fill/ VENM / Timber/ Plastics
Suez Resources and Recovery Centre Auburn - 5065	Old Hill Link Olympic Park	Organics / Landfill
Fairfield City Council – Sustainable Resource Centre - 5713	Cnr Hassall St & Widemere Rd, Wetherill Park	Concrete
Visy Paper Pty Ltd - 4100	6 Herbert Place, Smithfield	Cardboard, Paper
Sell and Parker Pty Ltd - 11555	45 Tattersall Rd, Kings Park	Metals
Suez Recycling & Recovery Pty Ltd - 12889	725 Elizabeth Dr, Kemps Creek	Hazardous Asbestos Waste

3. CONTAMINATION WASTE MANAGEMENT PLAN

3.1 INTRODUCTION

The project has a Remediation Action Plan (RAP) and Asbestos Management Plan (AMP) completed for the Earthworks required for the project. A Validation Plan and Environmental Management Plan are intended to be completed when required and all form part of the Construction Environmental Management Plan for the Project.

3.2 ASBESTOS REMOVAL

All Asbestos removal will fall under the Project RAP & AMP. Any procedures, requirements and reporting will be stipulated within these documents or the Validation Report completed for the remediation works. Below is an extract from the AMP regarding procedures around Asbestos Waste:

6.8 Waste Management

6.8.1 Asbestos Waste (consumables and ACM fragments)

Controlled wetting of the waste should be used to reduce asbestos dust emissions. Where possible, the drums or bins should be placed in the asbestos work area before asbestos work begins. Break

If the volume or size of the asbestos waste cannot be contained in asbestos waste bags, drums or bins, a waste skip, vehicle tray or similar container that is in good condition can be utilised. The asbestos should be sealed in double-lined, heavy duty polyethylene sheeting (minimum 200µm thickness) or double bagged before it is placed in the skip, tray or similar container. Non-friable asbestos waste may be placed directly into a skip or vehicle tray that has been double-lined with polyethylene sheeting, provided it is kept damp to minimise the generation of airborne asbestos.

Once the skip, tray or similar container is full, its contents should be completely sealed with the polythene sheeting. If the skip is emptied at a waste disposal site, waste disposal procedures which prevent the tearing of the polythene lining should be developed. If asbestos waste cannot be disposed of immediately, the skip may be used for storing the asbestos waste on site over a period of time, provided that the contents are secured (i.e. using a lockable lid or locating the skip in a secure area) to prevent unauthorised access.

6.8.2 Loading, Transport and Disposal of Asbestos Waste (consumables and ACM/soil)

A waste classification is required for any waste soil containing asbestos, in accordance with the Waste Classification Guidelines 2014. Once the waste classification is complete, a waste classification report is to be prepared. Asbestos waste can only be disposed of to a waste facility licensed to receive asbestos waste. The nominated landfill should be contacted to obtain the required approvals prior to commencement of excavation and or loading of asbestos waste.

Part 7 of the POEO Waste Regulation set outs the requirements for the transportation and management of asbestos waste and Clause 79 of the POEO Waste Regulation requires waste transporters to provide information to the NSW EPA regarding the movement of any load in NSW of more than 10m2 of asbestos sheeting, or 100 kilograms of asbestos waste. To fulfil these legal obligations, asbestos waste transporters must use WasteLocate.

Clause 78 of the POEO Waste Regulation requires that a person who transport asbestos waste must ensure that:

- *Any part of any vehicle in which the person transports the waste is covered, and leak-proof, during the transportation; and*
- *If the waste consists of bonded asbestos material—it is securely packaged during the transportation; and*
- *If the waste consists of friable asbestos material—it is kept in a sealed container during transportation; and*
- *If the waste consists of asbestos-contaminated soils—it is wetted down.*

Clause 81 of the POEO Waste Regulation stipulates that a person must not cause or permit asbestos waste in any form to be re-used or recycled.

As a part of the RAP & Validation Report, JK Environments will attend site on multiple occasions to review the disposal process and validate the remediations. This Project Auditing will also be accompanied by an External EPA Site Auditor who will complete a further audit of the remediation works. For further details please refer to the Project RAP, AMP or Validation Reports.

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