Kyeemagh Public School (SSD 9391): Submission of Construction Waste Management Sub-Plan (CWMSP) in accordance with Condition B16

Condition	Condition requirements	Document reference
B16	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 2.3 p7
	(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 Appendix 1, p9 and p11

CONSTRUCTION WASTE MANAGEMENT SUB PLAN (CWMSP)

CEMP APPENDIX 8 SUB PLAN

Kyeemagh Public School

Jacobson Avenue & Beehag Street,
Kyeemagh NSW 2216

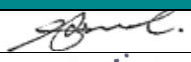
E-PLAN-01 (Rev. July 2020) | Approved by Andrew Andreou
Uncontrolled copy once printed

TAYLOR

Contents

1. INTRODUCTION

1.1 PROJECT INFORMATION TABLE

PROJECT INFORMATION TABLE			
PROJECT NAME	Kyeemagh Public School		
LOCATION	Jacobson & Beehag Streets, Kyeemagh NSW 2216		
CLIENT	NSW Department of Education		
DURATION OF CONTRACT	80 Weeks		
TAYLOR CONTACT INFORMATION			
COMPANY NAME	Taylor Construction Group Pty Ltd		
ABN	25 067 428 344		
ADDRESS	Level 13, 157 Walker Street, North Sydney 2060		
TELEPHONE & FAX	Ph.: 02 8736 9000 Fax: 02 8736 9090		
POSITION	**CONTACT NAME**		**PHONE NUMBERS**
CHIEF OPERATING OFFICER	Clive Wickham		02 8736 9000
GENERAL MANAGER	Tim Christie		02 8736 9000
CONSTRUCTION MANAGER	Ross Rooke		0438 398 895
SR PROJECT MANAGER	Steve Ziaziaris		0413 182 641
SITE MANAGER	David Pereira		0415 241 170
HSE MANAGER	Andrew Andreou		0404 492 614
SAFETY ADVISOR	TBC		TBC
QUALITY MANAGER	Stephen Player		02 8736 9000
CONTRACT MANAGER	TBC		TBC
CONTRACT ADMINISTRATOR	Scott Dobson		0414 984 567
PROJECT COORDINATOR	Shanil Prasad		0432 870 855
SITE ENGINEER	TBC		TBC
FOREMAN/ LEADING HAND	TBC		TBC
CADET	TBC		TBC
DOCUMENT CONTROL	**NAME & POSITION**		**SIGNATURE & DATE**
PREPARED BY:	Shanil Prasad – Project Coordinator		 31.07.2020
REVIEWED BY:	Steve Ziaziaris – Senior Project Manager		 31.07.2020
REVIEWED BY:			
REVIEWED BY:			
REVISED BY	**REV. No.**	**DATE**	**CHANGES MADE**
Shanil Prasad	Draft	17.07.20	Initial draft
Shanil Prasad	Final R1	29.07.20	Revised as per comments.
Shanil Prasad	Final R2	30.07.20	Revised as per additional comments.
Shanil Prasad	Final R3	31.07.20	Updated condition table

1.2 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.

1.3 DEVELOPMENT CONDITIONS CONSENT

Condition	Description	Page Number
B16 (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 2.3 Page 7
B16 (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 Appendix 1 p9 and p11

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 DECCW's Waste Classification Guidelines (April 2008) 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 COMPANY WASTER 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	Completed	Completed	Completed	Complete	Completed	
Waste Record Period (Mths)	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%**

Project	Pendle Hill High School	Willoughby Girls High School	Greenwich Public School	Knox Grammar	Yagoona Public School	All Project Average
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%**

Project	Pendle Hill High School	Willoughby Girls High School	Greenwich Public School	Knox Grammar	Yagoona Public School	All Project Average
Vegetation waste	9.14%	6.78%	5.5%	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%	1.70%	15.32%	23.33%	**13.22%**
Plastic	3.7%	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 Kyeemagh 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%.

2.3 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 (%)	Comparable Project Pendle Hill High School (T)	Recycle or Disposal Destination & EPA Licence	Recycle or Disposal Address
Total Waste Recycled (%)	98.70%	298.55		
Total Waste Landfill (%)	1.30%	3.94		
Vegetation Waste	9.14%	27.64	Cleanaway 20937	35-37 Frank St, Wetherill Park
Concrete, Brick, Tiles	30.99%	93.75	Boral 11815	38a Wildermere Rd, Wetherill Park
Fill/VENM	9.76%	29.51	Cleanaway 20937	35-37 Frank St, Wetherill Park
Asphalt	2.17%	6.58	Boral 11815	38a Wildermere Rd, Wetherill Park
Timber	18.03%	54.55	Cleanaway 20937	35-37 Frank St, Wetherill Park
Glass	0.00%	0	Dump It Centre	13 Long Street, Smithfield NSW 2164
Paper & Cupboard	5.95%	18	Grima 20648	88 Redfern St, Wetherill Park
Plastic	3.70%	11.19	Grima 20648	88 Redfern St, Wetherill Park
Plasterboard	11.03%	33.35	Grima 20648	88 Redfern St, Wetherill Park
Steel / Iron	6.51%	19.69	Sell & Parker 11556	45 Tattersall Rd, Kings Park
Non-Ferrous Metal	0.73%	2.20	Sell & Parker 11556	45 Tattersall Rd, Kings Park
Food - Organics	0.07%	0.21	Dump It Centre	13 Long Street, Smithfield NSW 2164
Other	0.29%	0.87	Dump It Centre	13 Long Street, Smithfield NSW 2164
Other - Mixed	1.63%	4.94	Dump It Centre	13 Long Street, Smithfield NSW 2164

2.4 WASTE & RECYCLING REGISTER

This below register was used to collate the information above. Taylor have ceased using dump it. Bing industries are now the preferred supplier for bins.

DUMPIT BINS DUMPIT RECYCLING CENTRE

Client	Taylor Construction Group				
Site	1906 - Pendle Hill				
Site Address	Pendle Way				
Month - Start	1/03/20	Finish	31/03/20		
Construction & Demolition Waste Material	**Total Waste Generated (Tonnes)**	**Total Recycled (Tonnes)**	**Destination**	**Total To Landfill (Tonnes)**	**Destination**
Vegetation Waste	0.05	0.05	Cleanaway 20937	0.00	
Concrete, Bricks, Tiles	15.01	15.01	Boral 11815	0.00	
FILVENM	13.55	13.55	Cleanaway 20937	0.00	
Asphalt	0.00	0.00	Boral 11815	0.00	
Timber	1.56	1.56	Cleanaway 20937	0.00	
Glass	0.00	0.00	Cleanaway 20937	0.00	
Paper & Cardboard	0.41	0.41	Visy 4100	0.00	
Plastic	0.69	0.69	Cleanaway 20937	0.00	
Plasterboard	2.38	2.38	Cleanaway 20937	0.00	
Steel / Iron	0.94	0.94	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	0.38	0.00	Suez - 12889	0.38	Suez - 12889
TOTALS	34.97	34.59		0.38	
Percentage	100.00%	98.91%		1.09%	
Office/Crib Waste Material	**Total Waste Generated (Tonnes)**	**Total Recycled (Tonnes)**		**Total To Landfill (Tonnes)**	
General Waste	0.00	0.00		0.00	
Paper & Cardboard	0.00	0.00		0.00	
Comingled	0.00	0.00		0.00	
Plastic	0.00	0.00		0.00	
Dry Waste	0.00	0.00		0.00	
Organics	0.00	0.00		0.00	
TOTALS	0.00	0.00		0.00	

Destination & EPA Licence No.	Site Address	Waste Stream
Boral Recycling Pty Ltd (Wetherill Park) - 11815	58a Widemere Rd, Wetherill Park	Concrete, Brick, Tiles
Cleanaway ResourceCo NRF 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 - 5715	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

The below 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 overall goal of 85% recycled waste.

BINGO INDUSTRIES CLEANING UP

Monthly Waste Report
Ironmark/Taylor Construction Group
Site: Sydney Opera House, SYDNEY

Waste Type (tonnes)	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Totals
Recyclable Bricks/ Tiles	0.000	2.400	1.512											3.912
Recyclable Concrete	1.380	1.500	0.945											3.825
Recyclable Soil / Sand / Rubble Fines	1.288	1.400	0.882											3.570
Recyclable Metals (ferrous)	2.300	5.000	3.150											10.450
Recyclable Metals (non-ferrous)	0.000	0.750	0.945											1.695
Recyclable Timber	3.450	5.700	2.835											11.985
Recyclable Green Waste	0.000	0.300	0.945											1.245
Recyclable Cardboard / Paper	0.782	2.200	1.260											4.242
Recyclable Plastic	0.874	2.100	0.945											3.919
Recyclable Plasterboard	0.460	0.000	0.630											1.090
General Waste (landfill)	0.920	2.000	1.260											4.180
Total Recycled Waste (tonnes)	10.534	21.350	14.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	45.933
Total Landfill Waste (tonnes)	0.920	2.000	1.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.180
Total Waste (tonnes)	11.454	23.350	15.309	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	50.113
Total Waste (cubic metres)	46	100	63											209.000
Total Recycled Waste (percentage) By Month	91.97%	91.43%	91.77%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Total Recycled Waste (percentage) To Date														91.66%

3. CONTAMINATION WASTE MANAGEMENT PLAN

3.1 CONTAMINATION WASTER MANAGEMENT PLAN

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 AND UNEXPECTED FINDINGS

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 unexpected finding of asbestos containing material out of asbestos removal working area:

In the event that asbestos containing material is identified outside of the asbestos removal work area, the following procedure is to be followed:

1. Upon discovery of a fragment(s) of asbestos cement or other asbestos containing material (or suspected asbestos containing material) all work in the immediate area is to cease.

2. The worker discovering the material is to inform his supervisor who in turn will advise the LAA.

3. The LAA will arrange for the area to be secured to prevent disturbance of the material. Where necessary, temporary fencing and warning signs are to be placed around the area.

4. The LAA will arrange, if necessary, for a sample of the material to be analysed to confirm the presence / absence of asbestos fibres.

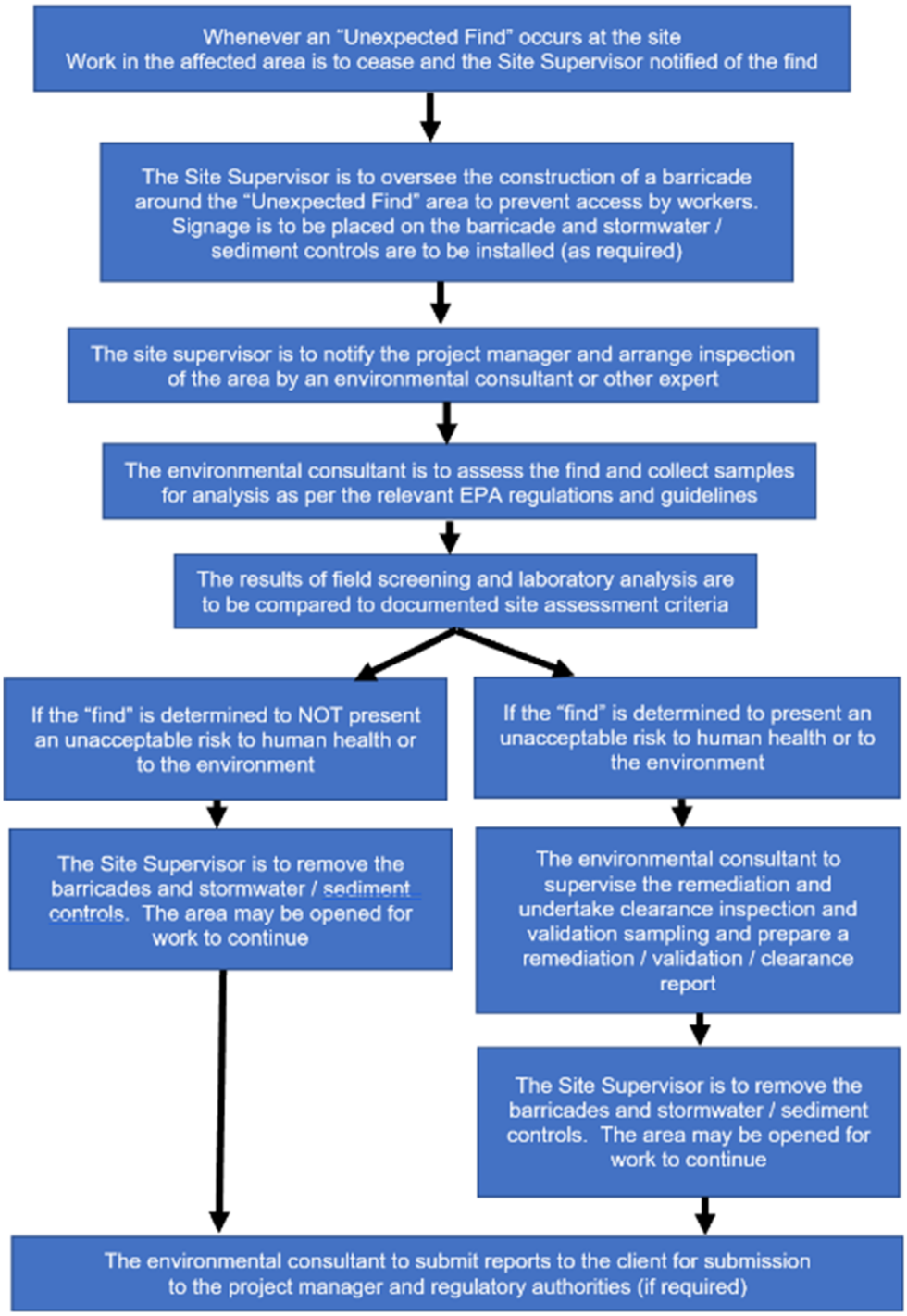
5. Where the material is confirmed as containing asbestos, the asbestos removal contractor is to remove the material for disposal asbestos contaminated waste.

6. Where the material consists of a small number of fragments of asbestos cement sheet, asbestos PPE including disposable gloves is to be worn during the collection of the material. The fragment(s) will be picked up and the glove turned inside out to 'bag' the fragment(s). The disposable glove containing the fragment(s) of asbestos cement sheet will then be placed directly into an asbestos waste bag for disposal.

7. The area is to be visually inspected by the LAA to verify that all of the asbestos containing material has been removed. A clearance report is to be compiled following the inspection.

8. Where a larger quantity of asbestos containing material is identified, the soil containing the asbestos containing material is to be excavated in accordance with the procedure detailed in Section 5 above. A visual inspection and validation sampling is to be undertaken and the details of this work are to be recorded in the validation report.

The above procedure is summarised in the following flowchart:



3.3 AIRBORNE ASBESTOS FIRBRE MONITORING

Below is an extract from the AMP regarding airborne asbestos fibre monitoring.

Monitoring for airborne asbestos fibres should be carried out at all times throughout the duration of the asbestos contaminated soil removal work by a licenced asbestos assessor (LAA) engaged by PF Civil.

Monitoring is to be carried out in accordance with the requirements of the National Occupational Health and Safety Commission (NOHSC) Code of Practice for the Safe Removal of Asbestos, particularly the 'Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres' 2nd edition [NOHSC:3003(2005)]. Analysis of the air monitoring filters is to be carried out by a NATA accredited laboratory.

Air monitors are to be placed in the decontamination / change area and on the temporary fencing or barricade surrounding the asbestos removal work area. Up to four monitors are to be placed on the perimeter of the asbestos removal work area.

The daily reports of the results of the air monitoring will be forwarded to PF Civil.

The NOHSC recommended maximum exposure level for airborne asbestos fibres, measured as a time weighted average over an 8 hour work shift, is 0.1 fibres per millilitre of air (0.1 fibres/ml).

The NOHSC Code of Practice for the Safe Removal of Asbestos details control levels for airborne asbestos fibre concentrations that are to be observed during the work. These control levels are as follows:

Airborne fibre concentration (fibres/ml)	*Control Measure*
<0.01	*Continue work using existing asbestos dust control measures*
>0.01	*Continue work and review asbestos dust control measures*
>0.02	*Stop work, identify cause of dust emissions and revise dust control measures.*

(Refer to appendix 2)

2019 (January–June)

Job Numb	Site Name	January T	January R	January L	February T	February R	February L	March T	March R	March L	April T	April R	April L1	May T1	May R1	May L1	June T1	June R1	June L1
1620	Canopy Apartments Putney													1.57	1.52	0.05	1.47	1.47	
1627	Chatswood Place	6.35	6.01	0.34	5.06	4.84	0.22	4.16	4.01	0.15				0.86	0.84	0.02			
1632	342 King St, Mascot																		
1704	John Morony				1.33	1.27	0.06												
1708	Haven Development	6.77	6.6	0.17	10.8	10.6	0.2	5.21	4.98	0.23				3.05	2.88	0.17			
1709	Cardinal Freeman Stage 3	57.9	55.9	2.02	116	114	1.64	95.8	93.4	2.36	93.08	91.73	1.35	69.3	68.3	0.99	31.6	31.4	0.2
1720	Knox Grammar	101	100	0.94	101	99.1	1.73	123	121	2.02	38.47	37.45	1.02	1.29	1.25	0.04			
1728	BMW	265	261	3.46	194	191	2.74	142	139	3.03	106.1	103.6	2.45	49.9	49.1	0.79	0.71	0.71	
1735	Boomerang	157	155	2.43	251	247	4.25	208	202	6.07	187	184	2.7	290	285	4.74	208	206	2
1737	Hammondcare Darlinghurst	36	35.3	0.67	31.4	31.1	0.34	33.8	33.4	0.34	33.6	32.9	0.68	42	41.1	0.88	55.5	54.8	0.68
1738	Hammondcare Cardiff																		
1802	Taronga Zoo Wildlife Retreat	94.2	91.9	2.36	107	105	2.37	142	138	3.71									
1804	Ingleburn 41-47 Stennett Rd				41.1	40.6	0.44	11.2	11	0.25	10.5	10.2	0.3						
1805	Homebush West Public School	67.6	66.3	1.29	33.1	32.4	0.7	1.91	1.84	0.07									
1806	Opal Aged Care Facility Winston Hills	86.2	83.4	2.78	96.9	94.6	2.24	109	107	2.5	54	52.7	1.27	2.18	2.1	0.08			
1810	SACL IBIS	73	72	1.02	75.2	74.2	1.01	53.6	53.2	0.34	40.9	40.3	0.67	31.4	31.1	0.34	5.14	5.14	
1812	Chullora Australia Post	17.3	16.3	1.01				8.6	8.27	0.33	9.74	9.4	0.34	21.4	21.3	0.13			
1816 (1825)	Uniting Mayflower	48.7	48	0.68	40.6	39.6	1.01	68.8	67.1	1.69	46.7	45.4	1.35	80.7	78.7	2.03	76.7	76	0.67
1818	GPT LOT21 Eastern Creek	67.6	65.8	1.78	19.9	19.6	0.29							2.2	2.1	0.1			
1819	King St													10.4	10	0.33	12.4	12.2	0.17
1820	Irvine Place, Bella Vista	2.36	2.19	0.17				8.27	7.93	0.34				6.44	6.1	0.34			
1821	Norwest Data Centre Modernisation																		
1823	SYD051 Stage 5 Eastern Creek	20.1	19.7	0.34	25.2	24.5	0.68	31.2	30.5	0.68	15.7	15	0.67	34	33.3	0.68			
1824	Lindfield	429	422	7.43	122	121	1.08	93	89.5	3.47				28.1	27.1	0.97			
1833	Bluett Dr - Smeaton Grange				6.42	6.26	0.16	33	31.9	1.14	27	26	1.01	23.7	23.2	0.5			
1834	NorthConnex	14.8	14.1	0.68	19.8	19.5	0.33	40.4	39.8	0.67	37.6	36.8	0.84	45.6	44.6	1.01	67.2	66.5	0.68
1902/1918	Picton High School	134	128	5.23	36.5	35.5	0.94	61.9	61.3	0.64	46.1	45.5	0.57	41.2	40.6	0.64	13.8	13.5	0.34
1903	Polair Bankstown																		
1904	Willoughby Girls High School	125	123	1.9	56.6	55.9	0.68	35.5	34.8	0.68	38.8	38	0.81				81.4	81.1	0.34
1906	Greenwich Public School	4.49	4.32	0.17	10.7	10.5	0.17	58.6	57.4	1.16	41.5	41.1	0.34	55.5	54.8	0.68	21.2	21.1	0.17
1908	Pendle Hill High School	3.67	3.56	0.11	24.9	24.8	0.11	53.5	53.1	0.38	42.3	41.9	0.45	25.7	25.3	0.4	18.2	18	0.23
1909	Yagoona Public School	3.24	3.08	0.16	10.6	10.2	0.34	9.26	8.92	0.34				16.4	16.1	0.33	30.2	30.1	0.17
1910	MPL Aldi																6.08	5.91	0.17
1913	Eastern Creek																25	24.5	0.51
1914	Smeaton Grange																9.68	9.68	
1915	Chullora Hard Stand										22.1	21.9	0.21	19.4	19.3	0.15	9.52	9.18	0.34
1916	Dee Why										3.28	3.16	0.12	8.62	8.36	0.26	37.7	37.4	0.34
1917	Chippendale																		
1920	50 Norwest Blvd																		
1922	Bowden Brae, Normanhurst																		
1923	Gowrie Village																		
2004	Stockland Yennora Resessed docks																		
		1822	1785	37.1	1437	1414	23.7	1432	1399	32.6	894	877	17.2	911	892	16.6	712	703	7.01

2019 (July–December)

Job Numb	Site Name	July T1	July R1	July L1	August T2	August R2	August L2	September T2	September R2	September L2	October T2	October R2	October L2	November T2	November R3	November L3	December T3	December R3	December L3
1620	Canopy Apartments Putney	7.16	7.01	0.15	0.62	0.62													
1627	Chatswood Place													1.8	1.8				
1632	342 King St, Mascot				0.95	0.87	0.8												
1704	John Morony																		
1708	Haven Development										2.23	2.19	0.04						
1709	Cardinal Freeman Stage 3	4.12	3.95	0.17															
1720	Knox Grammar																		
1728	BMW																		
1735	Boomerang	286	282	3.34	265	263	2.38	317	315	2.18	241	238	2.75	72.3	69.7	2.61	22.1	20.3	1.78
1737	Hammondcare Darlinghurst	88.9	87.7	1.18	119	118	0.76	105	104	0.68	67.5	67.2	0.25	129	128	0.95	41.4	41.4	0.08
1738	Hammondcare Cardiff																		
1802	Taronga Zoo Wildlife Retreat										1.21	1.19	0.02						
1804	Ingleburn 41-47 Stennett Rd																		
1805	Homebush West Public School																		
1806	Opal Aged Care Facility Winston Hills				6.45	6.39	0.06												
1810	SACL IBIS																		
1812	Chullora Australia Post																		
1816 (1825)	Uniting Mayflower	112	110	1.52	119	118	0.68	143	142	0.68	62.3	61.3	1.01	113	112	1.18	58.6	57.6	1.01
1818	GPT LOT21 Eastern Creek																		
1819	King St	36.2	35.8	0.34	45.4	45.1	0.34	61.7	61.4	0.34	77.8	76.9	0.87	104	103	1.16	61.2	60.8	0.44
1820	Irvine Place, Bella Vista																		
1821	Norwest Data Centre Modernisation																		
1823	SYD051 Stage 5 Eastern Creek																		
1824	Lindfield	27.3	27.2	0.19															
1833	Bluett Dr - Smeaton Grange				25.9	24.5	0.4												
1834	NorthConnex				19.7	19.6	0.17												
1902/1918	Picton High School	17.9	17.7	0.17	6.41	6.41		3.18	2.84	0.34	25.2	25.1	0.17	26.3	26.3		63.9	62.7	1.2
1903	Polair Bankstown							19.4	18.9	0.44	15.2	15.1	0.17	2.21	2.21		9.81	9.17	0.65
1904	Willoughby Girls High School	65.4	65.1	0.34							86.8	85.6	1.13						
1906	Greenwich Public School	61.4	61	0.33				76	75.5	0.51	72.2	71	1.18	57.2	56.6	0.58	27.1	27.1	
1908	Pendle Hill High School	35.5	35.2	0.3	84.8	84.3	0.53	48.3	48	0.34	34.4	33.6	0.79	27.9	27.2	0.68	34	33.3	0.68
1909	Yagoona Public School										68.4	67.6	0.84						
1910	MPL Aldi																		
1913	Eastern Creek																		
1914	Smeaton Grange	19.3	19	0.23				9.15	8.85	0.3									
1915	Chullora Hard Stand	15.6	15.5	0.14	13.4	13.1	0.24	1.74	1.74		8.06	7.98	0.08						
1916	Dee Why	28.4	27.9	0.57	15.6	15.4	0.16	23.2	23	0.15	48	46.9	1.06	60.7	59.4	1.28	76.6	75.2	1.43
1917	Chippendale				4.86	4.69	0.17												
1920	50 Norwest Blvd				112	112	0.34	72.7	72.1	0.68	39.2	38.8	0.34	66.2	65	1.25	57.4	56.5	0.84
1922	Bowden Brae, Normanhurst													10.3	10.1	0.17	12.1	11.4	0.73
1923	Gowrie Village													0.35	0.35				
2004	Stockland Yennora Resessed docks													18.6	18.4	0.17			
		804	788	8.82	840	832	7.03	880	874	6.64	849	839	10.7	690	680	10	464	455	8.84

4. APPENDIX 1 WASTE MANAGEMENT PLAN:

PO Box 7, Enfield NSW 2136
PO Box 5351, Clayton South VIC 3168
T: 1300 424 646 F: 02 9737 0351
enquiries@bingoindustries.com.au
www.bingoindustries.com.au

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Waste Management & Recycling Plan (NSW)

Bingo Industries offers a complete, comprehensive solution to the management and recycling of wastes to assure compliance with clients' waste management policy.

Bingo Recycling Centre's combine bin storage, waste collection, waste recycling and waste transfer to service the building and construction industry and domestic waste management needs in New South Wales. Wastes collected by Bingo Bins are taken directly to one of these facilities where approximately 90% of wastes are converted to recovered resources.

Bingo Recycling Centre Alexandria	EPL No. 4679
Bingo Recycling Centre Artarmon	EPL No. 20763
Bingo Recycling Centre Auburn	EPL No. 10935
Bingo Recycling Centre Eastern Creek (Genesis)	EPL No. 20121
Bingo Recycling Centre Greenacre	EPL No. 20847
Bingo Recycling Centre Kembla Grange	EPL No. 20601
Bingo Recycling Centre Mortdale	EPL No. 20622
Bingo Recycling Centre Revesby	EPL No. 20607
Bingo Recycling Centre Tomago	EPL No. 20585

As can be expected waste materials inwards vary considerably and are delivered to the Recycling Centres in tipping and non-tipping vehicles or in skip bins. Of the wastes inwards approximately 90% is recovered and recycled as materials outwards and the balance 10% to landfill. Waste materials inwards are processed to achieve the maximum recovery of resources and the minimum of un-recoverable material for offsite disposal.

Typical Composition of Bingo's Wastes Inwards

Wastes Inwards	Percentage (approx.)
Heavy Recyclable Materials	45%
Light Recyclable Materials	35%
Metals	10%
Non-Recyclable Materials	10%
Total	100%

Heavy Recyclable Materials:

- Soil
- Dirt
- Sand
- Rubble
- Brick
- Concrete
- Tiles
- Stone
- Asphalt

Light Recyclable Materials:

- Timber
- Green Waste
- Cardboard/ Paper
- Plastic
- Plasterboard

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Metals:

- Ferrous (steel, black iron)
- Non-Ferrous (copper, wire, aluminium, stainless)

At the Resource Recovery Facility a simple and effective waste processing procedure is applied. See Materials Flow Diagram (below). Wastes inwards unloaded onto the sorting area where the waste is raked with a hydraulic excavator to expose the contents and where recyclable materials are hand and machine sorted. The raking process separates the waste into four streams for further processing.

Stream #1 Non-recyclable materials. These wastes pass to a holding area for off-site disposal.

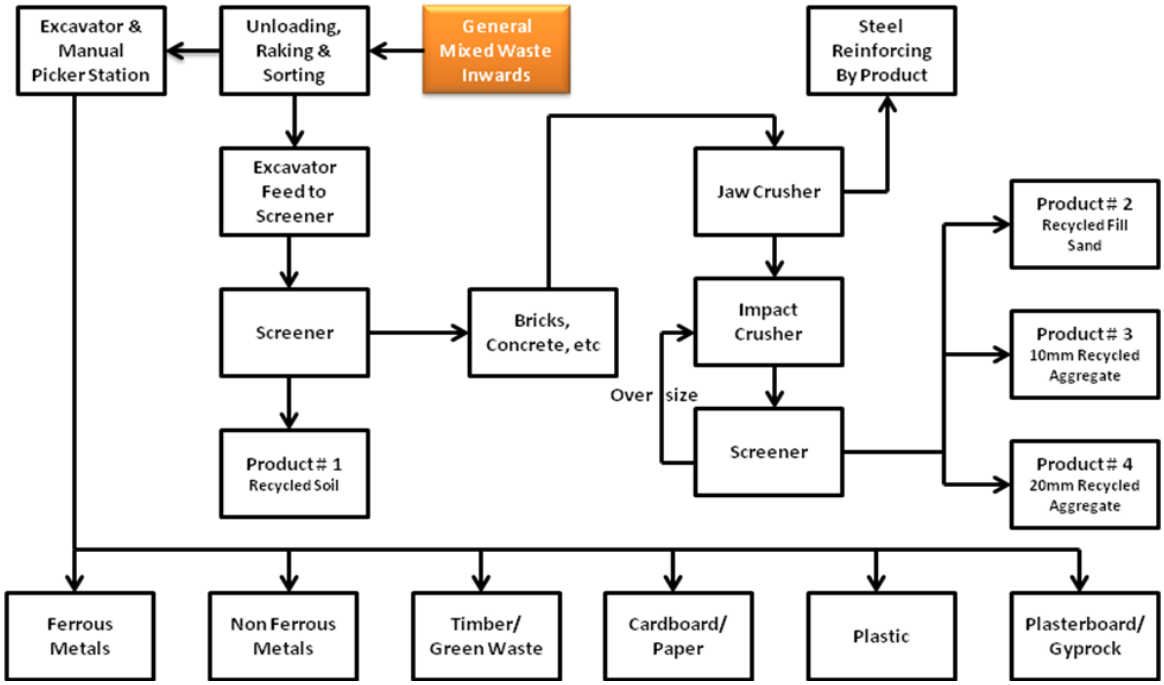
Stream #2 Metals and light recyclable materials are removed and stored for off-site recycling.

Stream #3 Large sized heavy weight brick, concrete and rubble pieces. These wastes pass to the crushers where they are crushed and re-enforcing fabric removed. The output from the crushers passes to the screener where products of different size are separated and stored in stockpiles. Re-enforcing fabric is collected and stored in the general steel bin for off-site recycling.

Stream #4 Small sized heavy weight soil, sand, brick, concrete and rubble. These wastes pass to the screener where the soil is separated form the brick, concrete and rubble. The brick, concrete and rubble then pass through Stream #3.

Stream #1 wastes are currently not recyclable and are removed from the land for off-site disposal. Stream #2 wastes, recovered metals and light recyclable materials are recycled off-site. Stream #3 and Stream #4 wastes are processed on site by crushing and screening to form saleable products such as soil, sand, and aggregates. These products are retained on site until sold.

Bingo Recycling Centre
Waste Transfer & Materials Recovery Facility
Flow Diagram



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In summary, Bingo Bins take all their mixed waste skip bins directly to EPA Licensed Recycling Centres. From there the waste is sorted and separated into the following material classes for processing and recycling.

Type of Material	Where Processed/ Recycled	How Processed/ Recycled
Heavy Recyclable Materials (soil, dirt, sand, rubble, concrete, brick, tiles, asphalt, stone)	Bingo Recycling Centres	Re-processed into recycled products (such as recycled soil, fill sand, aggregates, roadbase) by crushing and screening.
Timber/ Green Waste	Clean & Green Organics/ Genesis	Re-processed into woodchip and mulch by shredding.
Metal/ Steel	Sell & Parker/ CMI/ SIMS/ Sydney Copper Scraps	Re-processed into new metal and steel products by shearing, baling and re-smeltering.
Brick/ Concrete	Boral/ Genesis	Re-processed into recycled products (such as fill sand, aggregates, roadbase) by crushing and screening.
Cardboard/ Paper/ Plastic	Polytrade Recycling/ J.J. Richards/ Orora	Re-processed into new cardboard, paper and plastic products by breaking down the material into a form for re-use.
Plasterboard	ReGyp	Re-processed into gypsum products by shredding and screening.
General Waste	SUEZ Landfill/ Horsley Park Landfill/ Genesis Landfill	n/a

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- **Bingo Recycling Centres**
  76-82 Burrows Road, Alexandria NSW 2015
  10 Mclachlan Ave, Artarmon NSW 2064
  3-5 Duck Street, Auburn NSW 2144
  Honeycomb Drive, Eastern Creek NSW 2766
  35 Wentworth St, Greenacre NSW 2190
  50 Wyllie Road, Kembla Grange NSW 2526
  20 Hearne Street, Mortdale NSW 2223
  37-51 Violet Street, Revesby NSW 2212
  29 Laverick Avenue, Tomago NSW 2322
- **Clean & Green Organics**
  769 The Northern Rd, Bringelly NSW 2566
- **Sell & Parker**
  45 Tattersall Road, Blacktown NSW 2148
- **CMI**
  38 York Road, Ingleburn NSW 2565
- **SIMS**
  43 Ashford Ave, Milperra NSW 2214
  76 Christie St, St Marys NSW 2760
- **Sydney Copper Scraps**
  130 Adderley St, Auburn NSW 2760
- **Boral**
  6-10 Burrows Road South, St Peters NSW 2044
- **Polytrade Recycling**
  32 South St, Rydalmere NSW 2116
  40 Madeline St, South Strathfield NSW 2136
- **J.J. Richards**
  12 Heald Rd, Ingleburn NSW 1890
  8 Kommer Pl, St Marys NSW 2760
- **Orora**
  1891 Botany Rd, Matraville NSW 2036
- **ReGyp**
  330 Captain Cook Drive, Kurnell NSW 2231
- **SUEZ Landfill**
  Elizabeth Drive, Kemps Creek NSW 2178
- **Horsley Park Landfill**
  Wallgrove Road, Horsley Park NSW 2164
- **Genesis Landfill**
  Honeycomb Drive, Eastern Creek NSW 2766

5. APPENDIX 2 RECYCLING RESULTS:

2019

		January			February			March			April			May			June			July			August			September			October			November			December		
Job Number	Site Name	T	R	L	T2	R3	L4	T5	R6	L7	T8	R9	L10	T11	R12	L13	T14	R15	L16	T17	R18	L19	T20	R21	L22	T23	R24	L25	T26	R27	L28	T29	R30	L31	T32	R33	L34
1620	Canopy Apartments Putney													1.57	1.52	0.05	1.47	1.47		7.16	7.01	0.15	0.62	0.62													
1627	Chatswood Place	6.35	6.01	0.34	5.06	4.84	0.22	4.16	4.01	0.15				0.86	0.84	0.02																1.8	1.8				
1632	342 King St, Mascot																						0.95	0.87	0.8												
1704	John Morony				1.33	1.27	0.06																														
1708	Haven Development	6.77	6.6	0.17	10.75	10.55	0.2	5.21	4.98	0.23				3.05	2.88	0.17													2.23	2.19	0.04						
1709	Cardinal Freeman Stage 3	57.89	55.87	2.02	115.6	113.9	1.64	95.77	93.41	2.36	93.08	91.73	1.35	69.32	68.33	0.99	31.63	31.43	0.2	4.12	3.95	0.17															
1720	Knox Grammar	101.2	100.2	0.94	100.9	99.12	1.73	123.4	121	2.02	38.47	37.45	1.02	1.29	1.25	0.04																					
1728	BMW	264.9	261.2	3.46	194	191.3	2.74	142.4	139.4	3.03	106.1	103.6	2.45	49.93	49.14	0.79	0.71	0.71																			
1735	Boomerang	157.4	155	2.43	251.4	247.4	4.25	207.8	201.8	6.07	187.1	184.4	2.7	289.7	284.9	4.74	208.2	206.2	2	285.7	282.4	3.34	265.4	263	2.38	316.8	314.6	2.18	241	238.3	2.75	72.29	69.68	2.61	22.1	20.32	1.78
1737	Hammondcare Darlinghurst	35.98	35.31	0.67	31.39	31.05	0.34	33.75	33.41	0.34	33.6	32.92	0.68	41.95	41.07	0.88	55.46	54.78	0.68	88.89	87.71	1.18	119.1	118.4	0.76	105	104.3	0.68	67.46	67.21	0.25	128.9	127.9	0.95	41.43	41.36	0.08
1738	Hammondcare Cardiff																																				
1802	Taronga Zoo Wildlife Retreat	94.23	91.87	2.36	107.2	104.8	2.37	141.6	137.9	3.71																			1.21	1.19	0.02						
1804	Ingleburn 41-47 Stennett Rd				41.08	40.64	0.44	11.2	10.95	0.25	10.46	10.16	0.3																								
1805	Homebush West Public School	67.55	66.26	1.29	33.14	32.44	0.7	1.91	1.84	0.07																											
1806	Opal Aged Care Facility Winston Hills	86.16	83.38	2.78	96.86	94.62	2.24	109.2	106.7	2.5	53.98	52.71	1.27	2.18	2.1	0.08							6.45	6.39	0.06												
1810	SACL IBIS	72.99	71.97	1.02	75.24	74.23	1.01	53.56	53.22	0.34	40.93	40.26	0.67	31.41	31.07	0.34	5.14	5.14																			
1812	Chullora Australia Post	17.31	16.3	1.01				8.6	8.27	0.33	9.74	9.4	0.34	21.43	21.3	0.13																					
1816 (1825)	Uniting Mayflower	48.65	47.97	0.68	40.6	39.59	1.01	68.8	67.11	1.69	46.72	45.37	1.35	80.74	78.71	2.03	76.66	75.99	0.67	111.5	110	1.52	119.1	118.4	0.68	143	142.3	0.68	62.3	61.29	1.01	113.1	111.9	1.18	58.61	57.6	1.01
1818	GPT LOT21 Eastern Creek	67.57	65.79	1.78	19.88	19.59	0.29							2.2	2.1	0.1																					
1819	King St													10.37	10.04	0.33	12.37	12.2	0.17	36.16	35.82	0.34	45.43	45.09	0.34	61.73	61.39	0.34	77.8	76.93	0.87	104	102.9	1.16	61.2	60.76	0.44
1820	Irvine Place, Bella Vista	2.36	2.19	0.17				8.27	7.93	0.34				6.44	6.1	0.34																					
1821	Norwest Data Centre Modernisation																																				
1823	SYD051 Stage 5 Eastern Creek	20.08	19.74	0.34	25.18	24.5	0.68	31.18	30.5	0.68	15.71	15.04	0.67	34.01	33.33	0.68																					
1824	Lindfield	429.5	422	7.43	122.2	121.1	1.08	93.01	89.54	3.47				28.08	27.11	0.97				27.34	27.15	0.19															
1833	Bluett Dr - Smeaton Grange				6.42	6.26	0.16	33.01	31.87	1.14	26.98	25.97	1.01	23.66	23.16	0.5							25.87	24.47	0.4												
1834	NorthConnex	14.77	14.09	0.68	19.83	19.5	0.33	40.42	39.75	0.67	37.62	36.78	0.84	45.56	44.55	1.01	67.16	66.48	0.68				19.74	19.57	0.17												
1902/1918	Picton High School	133.8	128.4	5.23	36.48	35.54	0.94	61.9	61.26	0.64	46.08	45.51	0.57	41.2	40.56	0.64	13.83	13.49	0.34	17.88	17.71	0.17	6.41	6.41		3.18	2.84	0.34	25.24	25.07	0.17	26.34	26.34		63.87	62.67	1.2
1903	Polair Bankstown																									19.38	18.93	0.44	15.23	15.06	0.17	2.21	2.21		9.81	9.17	0.65
1904	Willoughby Girls High School	125.4	123.5	1.9	56.61	55.93	0.68	35.49	34.81	0.68	38.79	37.98	0.81				81.41	81.07	0.34	65.42	65.08	0.34							86.76	85.62	1.13						
1906	Greenwich Public School	4.49	4.32	0.17	10.69	10.52	0.17	58.58	57.42	1.16	41.47	41.13	0.34	55.45	54.77	0.68	21.24	21.07	0.17	61.37	61.04	0.33				75.98	75.47	0.51	72.19	71.01	1.18	57.18	56.61	0.58	27.13	27.13	
1908	Pendle Hill High School	3.67	3.56	0.11	24.88	24.77	0.11	53.48	53.1	0.38	42.32	41.87	0.45	25.71	25.31	0.4	18.18	17.95	0.23	35.53	35.23	0.3	84.82	84.29	0.53	48.31	47.97	0.34	34.43	33.64	0.79	27.91	27.24	0.68	34	33.32	0.68
1909	Yagoona Public School	3.24	3.08	0.16	10.56	10.22	0.34	9.26	8.92	0.34				16.43	16.1	0.33	30.22	30.05	0.17										68.4	67.56	0.84						
1910	MPL Aldi																6.08	5.91	0.17																	
1913	Eastern Creek																25.03	24.52	0.51																	
1914	Smeaton Grange																9.68	9.68		19.26	19.03	0.23				9.15	8.85	0.3								
1915	Chullora Hard Stand										22.07	21.86	0.21	19.41	19.26	0.15	9.52	9.18	0.34	15.63	15.49	0.14	13.35	13.11	0.24	1.74	1.74		8.06	7.98	0.08						
1916	Dee Why										3.28	3.16	0.12	8.62	8.36	0.26	37.74	37.4	0.34	28.43	27.86	0.57	15.57	15.41	0.16	23.17	23.02	0.15	47.99	46.93	1.06	60.67	59.39	1.28	76.64	75.2	1.43
1917	Chippendale																						4.86	4.69	0.17												
1920	50 Norwest Blvd																						112.4	112	0.34	72.73	72.05	0.68	39.15	38.81	0.34	66.2	64.95	1.25	57.39	56.54	0.84
1922	Bowden Brae, Normanhurst																															10.31	10.14	0.17	12.1	11.37	0.73
1923	Gowrie Village																															0.35	0.35				
2004	Stockland Yennora Resessed docks																															18.59	18.43	0.17			
		1822	1785	37.14	1437	1414	23.73	1432	1399	32.59	894.5	877.3	17.15	910.5	892.4	16.6	711.7	703.2	7.01	804.4	788.4	8.82	840	832.1	7.03	880.2	873.6	6.64	849.5	838.8	10.7	689.8	679.8	10.03	464.3	455.4	8.84

Taylor Construction Group Pty Ltd
ABN 25 067 428 344

Level 13, 157 Walker St, North Sydney NSW 2060
T 02 8736 9000 *F* 02 8736 9090

taylorau.com.au