DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT PLAN

ST PATRICKS COLLEGE

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SUBMITTED TO:

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DOCUMENT CONTROL				
ISSUE NUMBER	DATE	AUTHOR	REVIEW	APPROVED BY
Version 1	9/04/2020	Patrick Nolan	Jo Drummond	Jo Drummond

INTRODUCTION

St Patrick's College (the College) (SPC) campus is located in the Strathfield local government area (LGA), which is situated approximately 15km west of Sydney CBD.

St Patrick's College sits within the education precinct consisting of the college building, including the grounds of the campus of the Australian Catholic University (ACU) and Marie Bashir Public School.

St Patrick's College campus is physically separated by Edgar Street (but which is owned by SPC) and is surrounded on three sides by predominantly low-density housing. The Australian Catholic University campus generally borders the subject site to the south, with Fraser Street to the west, Shortland Avenue to the north and Frances Street to the east.

Figure 1 Site Location *(Source Google Maps)*

PROJECT DESCRIPTION

The College is building a new Science and Technology Building (STEMM) located at the center of the campus and adjacent to pedestrianized, publicly accessible, Edgar Street. The proposed STEMM building involves the following:

- The demolition of the existing asphalt tennis and net ball courts located at the center of the campus;
- The construction of a new four-storied STEMM building consisting of:
  - Food tech classrooms;
  - Canteen and café;
  - College dining area, including outdoor dining area;
  - Science learning spaces, including labs;

- Flexible community and learning spaces;
- Flexible general learning areas;
- Two (2) rooftop tennis courts; and
- Re-instatement of two (2) ground level tennis courts.
- Re-instatement of covered tiered seating area overlooking sports oval
- Associated basement car park (with 59 spaces), accessed via Fraser Street; and
- New civic space associated with the college, located to the east of the new building.

There will be additional minor alterations to the adjoining forecourt and internal space within the adjoining Coghlan Building to the east in order to provide an appropriate interface and connection with this newly created space and STEMM building.

OBJECTIVES OF THE CWMP

The Objectives of Strathfield Council's Waste Not DCP are to maximize reuse and recycling of C&D materials. Requirements that the CWMP is to address construction and demolition waste and specifically include:

- details regarding how waste is to be minimised within a development;
- estimations of quantities and types of materials removed from the site;
- details regarding the types of waste and likely quantities of waste to be produced;
- details of reusing or recycling methods for waste either on-site or off-site;
- measures to reuse or recycle at least 80% of construction and demolition waste.

NSW LEGISLATIVE REQUIREMENTS AND GUIDELINES

Relevant key State Legislation and Guidelines applicable to the project include:

- Protection of the Environment Operations Act 1997
- Protection of the Environment (General) Operations Act 1998
- Waste Avoidance and Resource Recovery Act 2014
- Protection of the Environment Operations (Waste) Regulation 2014
- Strathfield Consolidated Development Control Plan 2005 (Waste Minimisation and Management Plan adopted 21st July 2015).
- State Significant Development Application (SSDA)

STATE SIGNIFICANT DEVELOPMENT

The purpose of this CWMP is to meet the requirements of the State Significant Development Application (SSDA) conditions of consent, particularly Condition B17 and will:

a) Identify, quantity and classify waste streams to be generated during construction.
b) Describe measures to be implemented to manage, reuse, and recycle and safely dispose of the waste.
c) Identify servicing arrangements including but not limited to waste management loading zones.
d) Prepare a site drawing for Construction Waste Management Loading Zones.

Condition of Approval (CoA) B12and B17

CoA Reference	CoA Detail
B12	(d) a program to monitor and report on the: (i) impacts and environmental performance of the development; (ii) effectiveness of the management measures (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; (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 (h) a protocol for periodic review of the plan.
B17	Construction Waste Management Plan (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; (b) removal of hazardous materials, particularly the method of containment and control of emission of fibers 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 any building works.

SERVICING ARRANGMENTS

The current NSW legislation determines that the generator of waste is the owner of the waste until the waste crosses a calibrated weighbridge into a licensed facility. Waste contractors contracted to demolition and construction contractors, are the primary transporters of waste off-site, accordingly, waste contractors will be required to provide verifiable monthly reports on waste; collected, transported to cross the weighbridge of licensed facilities, if it's reused, reprocessed or recycled (diverted from landfill) or waste sent to landfill. These reports have a direct bearing on the waste generator's compliance with the relevant regulations.

The CWMP that is approved by the regulator will be the CWMP implemented on-site throughout the project's timeline, including singularly and/or collectively; the demolition, construction and fit-out phases.

A Waste Data File must be maintained on-site and all entries are to include:

- The classification of the waste
- The time and date of material removed

- A description of and the volume of waste collected
- The location and name of the waste facility that the waste is transferred to
- The vehicle registration and the name of the waste contractor's company

The on-site Waste Data File will be made available for inspection to any authorized officer at any time during the life of the site works. At the conclusion of site works, the designated person within the organization, will retain all waste documentation and make this validating documentation available for inspection.

WASTE MANAGEMENT EQUIPMENT, BIN SIZES AND COLLECTION FREQUENCY

All waste will be co-mingled and removed by a licensed waste contractor using 15-meter bins on site. The construction and demolition waste will be removed when the bins are full and within the construction site's designated hours, to minimize any disturbance to the neighbours.

WASTE MANAGEMENT STRATEGIES

The waste management strategy for the project will operate over the design, procurement and construction phases including the fit-out of the project and is detailed in Table 1., below.

Table 1 - Breakdown of Tasks and Responsibilities

Management Strategies	Responsibilities
Design:	
Use of modular components in design	Architect & Engineer
Use of prefabricated components in design	Architect, Builder,
Design for materials to standard sizes	Architect, Subcontractors
Design for operational waste minimization	Architect & Builder
Consider ways to avoid, reuse and recycle construction wastes	Subcontractors.
Procurement:	
Select recycled and reprocesses materials	Architect, Engineer, Builder & Sub-contractors
Components that can be reused after deconstruction	Architect, Engineer & Builder
Product suppliers that take back offcuts and unused product	
Encourage contractors and sub-contractors that use unneeded offcuts and unused product for use on other jobs	Sub -contractors
Plan ahead for the deconstruction of a building and infrastructure when its useable life	Demolition Contractor
Ordering the right quantities of materials (Purchasing Policy);	Sub-contractors
prefabrication of materials	
Pre-construction:	
Waste management plan to be reviewed & approved prior to construction.	Builder
Contract a Waste Contractor	Waste Contractor

Management Strategies	Responsibilities
<u>Construction on-site:</u>	
Use the avoid, reuse, reduce, recycle principles	Builder & Waste Contractor
Minimisation of recurring packaging materials	Sub-contractors
Returning packaging to the supplier	Builder & Sub-contractor
Separation of recycling of materials off site	Waste Contractor
Audit & monitor the correct usage of bins	Builder & Waste Contractor
Audit and monitor the Waste Contractor	Builder
<u>Avoiding construction waste</u>	
Reduce extraneous packaging use reusable padding and careful packing.	Builder
All packaging generated on site should be captured for reuse or recycling wherever possible.	Builder
Reuse formwork	Builder
Use modular components	Builder
Use reuse non-returnable containers on the job site to the maximum extent possible	Builder

WASTE MANAGEMENT REQUIREMENTS ON SITE FOR PERSONAL

The waste storage area will be located conveniently for demolition, excavation and construction work teams in the nearby car park for easy and safe access to the bins and will fenced off from public use.

- The routes for movement of waste between the work site and waste collection area will be kept obstruction-free within the construction zone.
- The waste bin collection point provided will be accessible for waste collection vehicles.
- There are no obstructions to turning or reversing, pulling up and lifting bins.
- Access for waste collection vehicles will not be compromised by construction-related activities vehicles or other consequences of construction staging.
- In order to manage noise levels, collection of waste from the construction site will only occur during hours approved for construction work
- All vehicles entering or leaving the site will have their loads covered
- All vehicles, before leaving the site, to be cleaned of dirt, sand and other materials, to avoid tracking these materials onto public roads
- At the completion of the works, the work site is left clear of waste and debris.
- Erosion and Sediment Controls will be established and maintained before commencing works on site and removed upon completion.

WASTE MANAGEMENT PLAN APPLICATION

PROJECT:
St Patrick's College Science and Learning Building (STEMM)
ADDRESS:
The site is bordered by Edgar Street to the south, with Fraser Street to the west, Shortland Avenue to the north and Frances Street to the east.
OWNERS:
St Patrick's College Strathfield NSW
DOCUMENT ACCEPTANCE:
DA
DETAILS OF APPLICANT
LUCY RIMMER BVN Lucy_Rimmer@bvn.com.au
DESCRIPTION OF BUILDINGS AND OTHER STRUCTURES CURRENTLY ON THE SITE:
Combined Tennis and Net ball courts surfaced in asphalt surrounded by a steel and wire fencing
BRIEF DESCRIPTION OF PROPOSAL:
• The demolition of the existing asphalt tennis and net ball courts located at the center of the campus; • The construction of a new four-storied Science and Technology Building consisting of: o Food tech classrooms; o Canteen and café; o College dining area, including outdoor dining area; o Science learning spaces, including labs; o Flexible community and learning spaces; o Flexible general learning areas; o Two (2) rooftop tennis courts; and o Re-instatement of two (2) ground level tennis courts. o Re-instatement of covered tiered seating area overlooking sports oval o Associated basement car park (with 59 spaces), accessed via Fraser Street; and o New civic space associated with the College, located to the east of the new building. There will be additional minor alterations to the adjoining forecourt and internal space within the adjoining Coghlan Building to the east in order to provide an appropriate interface and connection with this newly created space and STEMM building.
IF MATERIALS / WASTE IS REUSED ON SITE OR OFF SITE, HOW WILL IT BE RE-USED:
o Demolition: The asphalt will be removed and reprocessed off-site and the steel and wire will also be reprocessed off-site. o Excavation: The material is to be sampled and analysed and excavators designated disposal on that basis TBA. If the fill is VENM some of it may be re-used around the footing as backfill. o Construction: Some minimal amount of materials and containers may be reused on-site and all other waste will be collected as co-mingled and recycled and reprocessed off-site by the waste contractors or their affiliated material repressors.

	Name	Signed	Contact Number	Date
Prepared by :	Jo Drummond	Jo Drummond	0412214233	9/04/2020

PROJECT PHASE WASTE ESTIMATES

DEMOLITION

Material Type on Site	Recycling	Disposal	Proposed reuse and/or recycling collection methods	Disposal / Transport Contractor	Licensed Waste Depot, Licensed Recycling Outlet or Licensed Landfill site
Existing Concrete slab under asphalt tennis courts	31 m^3		Separate on site, remove and take to recycler.	TBA	TBA
Existing Asphalt Court Slab	31 m^3		Separate on site, remove and take to recycler.	TBA	TBA
Metal: structural, steel fencing and wire mesh	38 m^3		Separate on site, remove and take to recycler.	TBA	TBA
Concrete perimeter	8 m^3		Separate on site, remove and take to recycler.	TBA	TBA
Mixed waste	8 m^3	10 m^3	Mixed bin	Landfill	TBA
Sub-total:	**116 m^3**	**10m^3**			
Total:	**126 m^3**				

Narrative: The existing tennis and basketball courts are a relatively minor demolition project and the recycling rate will be over the 80% target for recycling

EXCAVATION

Material Type on Site	Estimated Volume (m3) or Weight (t) (Most Favourable → Least)			ON-SITE TREATMENT	OFF-SITE TREATMENT	
	Reuse	Recycling	Disposal	Proposed reuse and/or recycling collection methods	Disposal / Transport Contractor	Licensed Waste Depot, Licensed Recycling Outlet or Licensed Landfill site
Excavation / Fill Material						
Fill			122 m3	Potential for reuse after soil testing for contaminants	TBA	TBA
Excavation VENM	6,250 m^3			VENM waste to be reused off site	TBA	TBA
General waste			20 m^3	General waste to landfill	TBA	TBA
SUBTOTAL:	6,250 m^3		242m^3			
TOTAL:	**6,492m^3**					

Narrative:

The existing ground levels will be excavated approximately 2.5m deep to create the basement and its supporting structure for 59 car capacities. Basement footing excavation is likely to be required for the structural footings, service trenches, lift pits etc.

Douglas Partners completed a geotechnical investigation encountered: FILL – clay, gravel and sand in varying proportions to depths of between 0.2 m and 2.8 m and a concrete slab below the120 mm asphalt, also with a thickness of 120 mm was encountered as was residual soil and bedrock.

The above calculations are indicative only and will be verified once the excavation contractor commences.

CONSTRUCTION

Material Type on Site	Estimated Volume (m3) or Weight (t) (Most Favourable → Least)			ON-SITE TREATMENT	OFF-SITE TREATMENT	
	Reuse	Re cycling	Landfill Disposal	Proposed reuse and/or recycling collection methods	Disposal / Transport Contractor	Licensed Waste Depot, Licensed Recycling Outlet or Licensed Landfill site
Brick, Block Work, Render& Tiles		124 m^3		Co-mingled Bins	TBA	Crushed for road base
Metals		80 m^3		Co-mingled Bins	TBA	Scrap Metal Dealer for smelting
Timber off-cuts		76 m^3		Co-mingled Bins	TBA	Recycled for woodchips and mulch
Cardboard		110 m^3		Co-mingled Bins	TBA	Recycled into cardboard packaging
Plasterboard		128 m^3		Co-mingled Bins	TBA	Recycled as soil conditioner
Containers, plastics, plastic packaging		10 m^3		Co-mingled Bins	TBA	Recycled into further plastic
Pallets and Reels	45 units			Co-mingled Bins	TBA	Returned to the supplier
Painters Washout treated & sediment to landfill		600 litres treated	12 m^3 sediment	Separation Container taken off and treated	TBA	Taken to paint recycler for centrifugal sediment separation and water recycle
General Waste			75 m^3	Co-mingled Bins	TBA	Transferred to licenced landfill
SUBTOTAL:		**508 m^3**	**87 m^3**			
TOTAL:	**595 m^3**			NB: An additional 45 pallets & reels (single units returned to suppliers for reuse) and 600 litres of washout for painters and plasters sent off site for centrifugal separation of waste water		

Narrative:

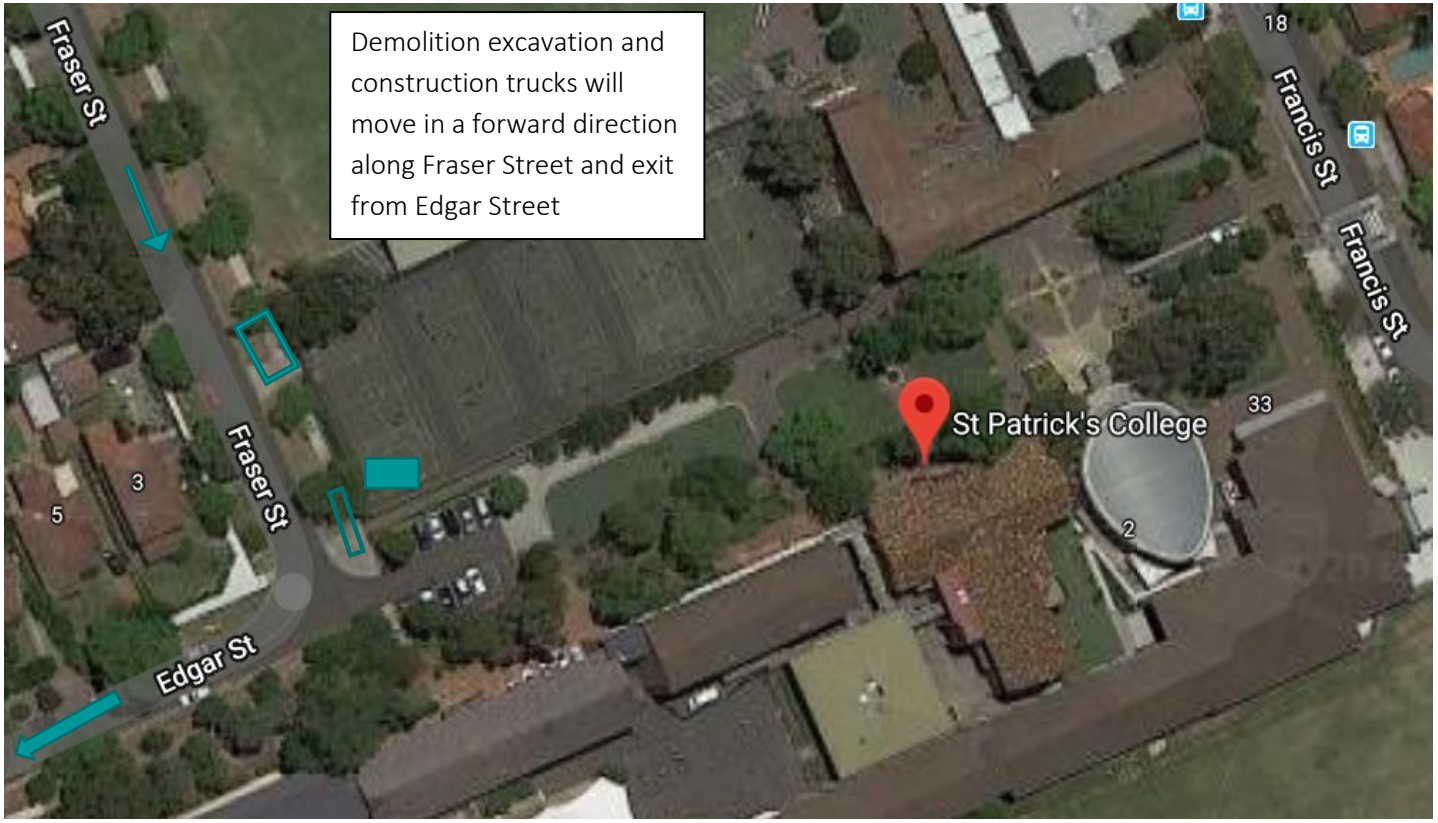
As this is a new build in two phases: structural and fitout with some outside surface improvements to access and loading areas. The building will include an in-situ concrete slab and frame with timber framed glazing, a mix of vinyl and carpet floor coverings and external timber decking. The new tennis court will include brick pavers and painted concrete surfaces.

*As the contracts for all contractors have not been let there, are still those including the waste contractor that are To Be Advised (TBA).

*All waste will be co-mingled and taken for off-site separation and reuse or recycling including returnable pallets and reels.

*Recycling and waste material volumes are an estimate and actual data will be confirmed in the Monthly Waste Reports provided by the Waste Contractor.

APPENDIX A DEMOLITION AND CONSTRUCTION WASTE PLAN DRAWING



Clear box for erosion and sediment control

Blue Box for Bin Location

Arrows for truck direction