Sydney Grammar School
Weigall Sports Complex

Demolition & Construction Waste Management Plan
September 2020

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1. Introduction

This Waste Management Plan for the proposed Weigall Sports Complex development has been prepared by Waste Audit & Consultancy Services (Aust) Pty Ltd for Jattca Property Solutions and Sydney Grammar School to provide guidance on environmentally sound and cost-effective management of waste and recyclable materials during the construction and demolition phases of the proposed development.

This report supports State Significant Development Application SSD-10421 submitted to the NSW Department of Planning, Infrastructure and Environment (DPIE) pursuant to Section 4.12 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and Schedule 2 of the Environmental Planning and Assessment Regulation 2000 for the proposed development located in Neild Avenue, Rushcutters Bay.

2. Background

Sydney Grammar School (SGS) has three campuses including two preparatory schools located at Edgecliff and St Ives catering for students from kindergarten to year 6 and the senior school located at the founding College Street site in Sydney catering for students from years 7 to 12. The school's student population at St Ives, Edgecliff and College Street are respectively around 400, 300 and 1,150 boys annually.

Sport is an integral part of the school's working. The School believes sporting activities, both team or individual, provide highly valuable avenues for students to be healthy, develop physical skills, develop teamwork and camaraderie, accept success and defeat intellectually and gracefully, develop defined and inadvertent leadership opportunities in the context of making new friends and having fun.

SGS has been an integral part of the Athletic Association of Great Public Schools of New South Wales (AAGPS) sports program since its inception in 1982. This organisation enables schoolboy sporting matches and contest between member schools through a summer and winter program.

Summer sports comprise basketball, cricket, rowing, tennis, water polo and swimming. Winter sports comprise athletics, volleyball, cross country, football, rugby and rifle shooting. In addition to the AAGPS program, the School offers fencing and taekwondo and personal development, health and physical education (PDHPE).

The senior school is having difficulty accommodating its current sport programs and will find it increasingly more difficult to accommodate future sport programs. Popular and dominant sports have limited offerings due to student demand and limited or no facilities.

Currently the school relies on the availability of external facilities which are limited and logistically difficult to manage. The project is proposed to address this need.

The objective of the proposal is to meet the PDHPE needs of the SGS community arising from the requirement to:

- Consolidate and minimise the locations of the current sporting programs to enable greater supervision and protection of students particularly in relation to the use of external facilities
- Relocate and rationalise current facilities
- Update current facilities to reflect the changes and demands in school sports
- Provide all weather sporting facilities for Edgecliff Preparatory School
- Accommodate an increased swimming and basketball sport program at Weigall by relocating the current tennis program.

3. SEARS Requirements

This report has been prepared with regard to the Secretary's Environmental Assessment Requirements issued for the project by DPIE on 5 February 2020.

Preparation of this Waste Management Plan has been undertaken with reference to the following SEARs requirement 20. Waste, as well as industry best practices.

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.

This report addresses the construction aspects of waste management for the proposed project, including excavation and demolition/removal of existing structures. Operational waste management is addressed in a separate report.

4. The Site

4.1 Background & Project Description

The SGS Weigall Sports Complex comprises the following development:

1. Demolition of the following existing structures and buildings (which are not heritage significant) at the southern edge of the SGS Weigall Sports Ground:

(a) Multipurpose/tennis courts and associated fencing;

(b) Barry Pavilion;

(c) The existing cricket nets off Alma Street; and

(d) Paved carpark near Neild Avenue.

2. Construction of the SGS Weigall Sports Complex comprising the following:

(a) Building 1 - Sports facilities building accommodating the following facilities:

(i) Ground floor: Main pool, programme pool, terrace/assembly facing Weigall, entry foyer, offices, change rooms, back of house, services and external car parking (5 spaces) and loading

(ii) Mezzanine floor: spectator terrace and services

(iii) First floor: Multipurpose sports hall 01 – basketball and volleyball, Multipurpose sports hall 02 – cardio, weights, taekwondo, fencing, PDHPE, change rooms, storage and services

(iv) Level 2: Multipurpose room 04; Multipurpose sports hall 03 – cardio, weights, taekwondo, fencing, PDHPE, storage and services

(v) Driveway entry from Neild Avenue (comprising relocation of the existing driveway southwards with existing driveway potential retained for maintenance access)

(b) Building 2 – Car park comprising an ancillary car park of one/two split levels accommodating 93 spaces with an additional 4 spaces on grade, accessed from an existing entry from Alma Street (located on the existing cricket nets site). The lower ground level includes the flexibility to be used as an extension of the existing playing fields.

(c) Parking for a total of 102 cars comprising:

(i) Building 1: 5 spaces

(ii) Building 2: 97 car spaces (93 within the building and four at grade)

(d) Landscaping of the site including tree removal/retention/replacement, paths, fencing and lighting

(e) Building identification signage

(f) New kiosk substation

3. Use of the completed building as an educational establishment with external/community use of the proposed facilities that coordinates with the programming of the SGS.

The proposal does not include any of the following:

- General learning areas (GLA)
- An increase in the existing student or staff population.

The State Significant Development Application (SSDA) site is part of the Weigall Playing Fields located on Neild Avenue at Rushcutters Bay.

Weigall is bordered by (see Figure 1):

- Neild Avenue to the west (Neild Avenue is classified as a collector road and also forms part of the State Road MR625 managed by Roads and Maritime Services)
- State Rail land and the Eastern Suburbs Railway viaduct to the north
- White City (Hakoah Club and Maccabi Tennis Club), SGS Edgecliff Preparatory School, Vialoux Avenue, Alma Street and residential development to the south
- Residential development to the south and north-east
- A Sydney Water stormwater channel which traverses the site
- A right of way from Alma Street, benefiting the site, which crosses the site formerly known as White City.

Figure 1 shows the overall site and location of the proposed development.

Figure 1: Site Location

Sports to be accommodated in the proposed SGS Weigall Sports Complex include:

- Aquatic program
- Basketball
- Fencing
- PDHPE
- Taekwondo
- Volleyball
- Weight and fitness training

4.2 Statutory Planning Provisions

The following Act, State Environmental Planning Policies (SEPPs), local environmental plan, development control plan and contributions plan are relevant to Weigall and the SSDA site:

- Environmental Planning and Assessment Act, 1979 (EP&A Act)
- SEPP (State and Regional Development) 2011 (SEPP SRD)
- SEPP (Educational Establishments and Child Care Facilities) 2017
- SEPP 55 - Remediation of Land (SEPP 55)
- Woollahra LEP 2014
- Woollahra DCP 2015, Chapter E5

5. Waste Management Strategy

5.1 Waste Management Principles

The waste management hierarchy below has been used to guide the waste management plan:

Avoid

Adopt sound work practices during the demolition and construction processes that avoid the creation of waste products in the first place

Reduce

Reduce the use of materials during the demolition process that require treatment or disposal

Reuse

Ensure that wherever possible, materials are reused either on site or offsite:

- Implement systems to separate and store materials that can be reused onsite
- Identify the potential applications for reuse offsite and facilitate this process

Recycle/Recover

Identify all recyclable waste products to be produced on site:

- Provide systems for separating and stockpiling of recyclables
- Provide clear signage to ensure recyclable materials are separated
- Process the material for recycling either onsite or offsite

Note: In some cases it may be more economical to send the unsorted waste to specialised waste contractors who will separate and recycle materials at an offsite location.

Treat/Dispose

Waste products which cannot be reused or recycled will be removed and treated/disposed of at appropriately licensed facilities, ensuring the following:

- Chosen waste disposal contractor complies with OEH requirements
- Bins to be monitored for fullness and collected on an efficient schedule

5.2 Record Keeping

Records will be required to be kept of all wastes and recyclables generated and either re-used on site or transported off-site. It will be a condition of appointment that all contractors provide these records and that they also contain details of the facilities that the materials are transported to. These records will be made available to relevant authorities on request.

5.3 Materials Storage

All waste and recycling materials will be stored in bins provided by the appointed contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located so as to maximise recovery of reusable/recyclable materials.

5.4 Liquid Waste

- Ensure water is used in moderation and no taps are left continuously running
- Use any grey water produced on site for irrigation or for dust suppression
- Only discharge clean water into storm water
- Manage all wastewater and runoff in accordance with Sydney Water requirements

5.5 Hazardous Materials

JBS&G Australia Pty Ltd (JBS&G) was engaged by Jattca Property Solutions on behalf of SGS to undertake a hazardous building materials survey (HBMS) of the Barry Pavilion structure associated with the proposed development.

The Barry Pavilion structure was inspected for the following hazardous building materials:

- Asbestos containing material (ACM);
- Lead based paint (LP);
- Synthetic mineral fibres (SMF); and
- Polychlorinated biphenyls (PCBs).

The findings of this survey are contained in JBS&G's report *HMS SGS Weigall Sports Complex Paddington (Rev A)* May 2020. This report also contains details of the survey methodology used and a register of hazardous and potentially hazardous materials (excerpted and attached as Appendix A) which indicates required treatment and removal actions to be undertaken for the hazardous materials identified (PCBs and SMF).

6. Demolition/Excavation Phase

Table 1 shows estimated quantities in m^3 of demolition waste to be generated, and the recommended management strategy for each type of material. Please note that this phase includes excavation for the basement area and swimming pool, which will produce a significant volume of material requiring disposal, and it is recommended that opportunities for reusing this material either at an off-site location, or locations, be further investigated.

The structures listed in Section 4.1 of this report will be demolished, including Barry Pavilion, from which materials such as wooden roofing and supports, and tiles, should be able to be recovered for reuse.

Some tree removal will also take place.

Specific disposal/recycling facilities are not shown in Tables 1 and 2, as waste contractors have not yet been appointed for the project. All contractors and sub-contractors will be required to detail all intended and actual disposal facilities used, in order to ensure the guiding principles of the waste hierarchy are upheld and maximum diversion from landfill is achieved.

Table 1: Demolition/Excavation Waste - Expected Materials Streams

Materials on Site		Destination/Treatment		
Type of Material & Source	**Estimated Volume (m^3)**	**Onsite (Reuse/Recycle)**	**Offsite (Reuse/Recycle)**	**Disposal (Landfill)**
Excavation Material (Silty Sand)	**10,000 m^3**	Due to nature of material, unlikely to be suitable for on-site reuse	For excavation materials leaving the site, soil will be collected by waste contractor for off-site reuse/recycling with notification of location and end use	Material that cannot be reused/recycled will be disposed of to landfill
Concrete, Masonry, Paving (Tennis Courts, Car Park, Pavilion)	**750 m^3**	Separate concrete on site and crush for use in pavement and/or temporary internal roadway construction	If not feasible to crush on site, materials to be collected separately by contractor and taken to recycling facility	No disposal to landfill
Vegetation	**450 m^3**	Mulched on-site and reused for landscaping	Mulched or composted off-site if onsite treatment is not feasible	No disposal to landfill
Wooden Roofing, Frames, Decorative Features (Pavilion)	**10 m^3**	No on-site reuse	Removed if still serviceable and sent for reuse/recycling to a specialist contractor	No disposal to landfill
Metal Fixtures, Fencing (Tennis Courts)	**5 m^3**	No on-site reuse	Collected by contractor and taken to recycling facility	Material that cannot be reused/recycled will be disposed of to landfill
Floor Tiles (Pavilion)	**2 m^3**	No on-site reuse	Removed if still serviceable and sent for reuse/recycling to a specialist contractor	No disposal to landfill
Electrical Wiring, Light Fittings, Electrical Board (Pavilion)	**2 m^3**	No on-site reuse	Removed if still serviceable and sent for reuse/recycling to a specialist contractor	No disposal to landfill
Misc. General Waste	**2 m^3**	No on-site reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for disposal	Disposal to landfill
Metal Fittings from Pavilion (Roller Door, Hot Water System)	**1 m^3**	No on-site reuse	Removed if still serviceable and sent for reuse/recycling to a specialist contractor	No disposal to landfill
Light Fixtures	**1 m^3**	No on-site reuse	Removed if still serviceable and sent for reuse/recycling to a specialist contractor	No disposal to landfill
TOTAL VOLUME OF MATERIALS	**11,223 m^3**			
POTENTIAL RECOVERY	**>99%**	***Note: The quantity of material recovered for reuse or recycling will depend on the extent to which excavated soil can be reused off-site***		

In total, the development's demolition/excavation phase will produce around **11,221 cubic metres** of waste materials, of which **89% by volume** will be excavated soil. It is critical that efforts be made to identify a sustainable disposal outcome for this material. Ideally this would involve reuse at a nearby site, to minimise transportation impacts and costs.

Waste Audit will provide assistance with this initiative, one the timing of commencement of excavation works has been confirmed.

7. Construction Phase

Table 2 shows estimated quantities in m^3 of construction waste expected to be generated, and the recommended management strategy for each type of material.

Table 2: Construction Waste - Expected Materials Streams

Materials on Site		Destination		
Type of Material	**Estimated Volume (m^3)**	**Onsite (Reuse or Recycle)**	**Offsite (Reuse or Recycle)**	**Disposal (Landfill)**
Used Pallets	**10 m^3**	Reused on site for storage if possible	Collected by contractor and disposed of at recycling facility	No disposal to landfill
Soft Plastics	**10 m^3**	No on-site reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
Cardboard Recycling	**8 m^3**	Reuse cardboard boxes for storage where possible	Separated onsite into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
Mixed Recyclables	**5 m^3**	No on-site reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for recycling	No disposal to landfill
General Waste (All Other Materials)	**5 m^3**	No on-site reuse or recycling	Separated onsite into dedicated receptacles and collected by the waste contractor for disposal	Disposal to landfill
Concrete (Excess)	**4 m^3**	Separate on site and crush for use in pavement and/or temporary internal roadway construction	Collected by contractor and taken to concrete recycling facility	No disposal to landfill
Glass (Excess)	**3 m^3**	No on-site reuse	Separated onsite into dedicated receptacles and collected by the waste contractor for disposal	No disposal to landfill
Timber Offcuts	**2 m^3**	Reuse for formwork where possible	Untreated recyclable timber will be collected and recycled at appropriate timber yard. Unrecyclable (treated) timber will be disposed of at landfill	Material that cannot be reused/recycled will be disposed of to landfill
Plasterboard Offcuts	**2 m^3**	No on-site reuse	Material to be separated and stockpiled onsite and collected by the waste contractor for recycling for use as soil improver with gypsum etc. removed by recycler	Material that cannot be reused/recycled will be disposed of to landfill
Floor Coverings	**2 m^3**	No on-site reuse	Collected in designated bin and sent for recycling if of required quality; otherwise sent to landfill	Material that cannot be reused/recycled will be disposed of to landfill
Metal Offcuts, Roof Sheeting, Wiring, etc.	**2 m^3**	No on-site reuse	Collected by specialist metal subcontractor for separation into different metal types for recycling	No disposal to landfill
TOTAL VOLUME OF MATERIALS	**53 m^3**			
POTENTIAL RECOVERY	**>90%**			

In total, the development's construction phase will produce around **53 cubic metres** of waste materials, of which **over 90%** should be able to be diverted from landfill disposal, either by being reused on or off site, or recycled off-site at a specialised facility.

8. Construction Plan

Please refer to the Construction Management Plan produced by ADCO for the Weigall Sports Complex fore descriptions of general construction management standards and practices.

9. Contractor Management

Each subcontractor working on the site will be required to adhere to this Waste Management Plan. The Head Contractor will ensure each subcontractor:

- Takes practical measures to prevent waste being generated from their work
- Implements procedures to ensure any waste that is created will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately
- Ensures that the right quantities of materials are ordered, minimally packaged and where practical pre-fabricated, and any oversupplied materials are returned to the supplier
- Implements source separation of off-cuts to facilitate reuse, resale or recycling

The Site Manager will be responsible for:

- Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separated materials for recycling off site
- Engaging qualified contractors to remove waste and recycling materials from the site
- Coordinating subcontractors to maximise on site reuse of materials
- Regular monitoring of bins by site supervisors to detect any contamination or leakage
- Ensuring the site has clear signs directing staff to the correct location for recycling and stockpiling, and that each bin/skip/stockpile is clearly signposted
- Providing training to all site employees and subcontractors as detailed in Section 10

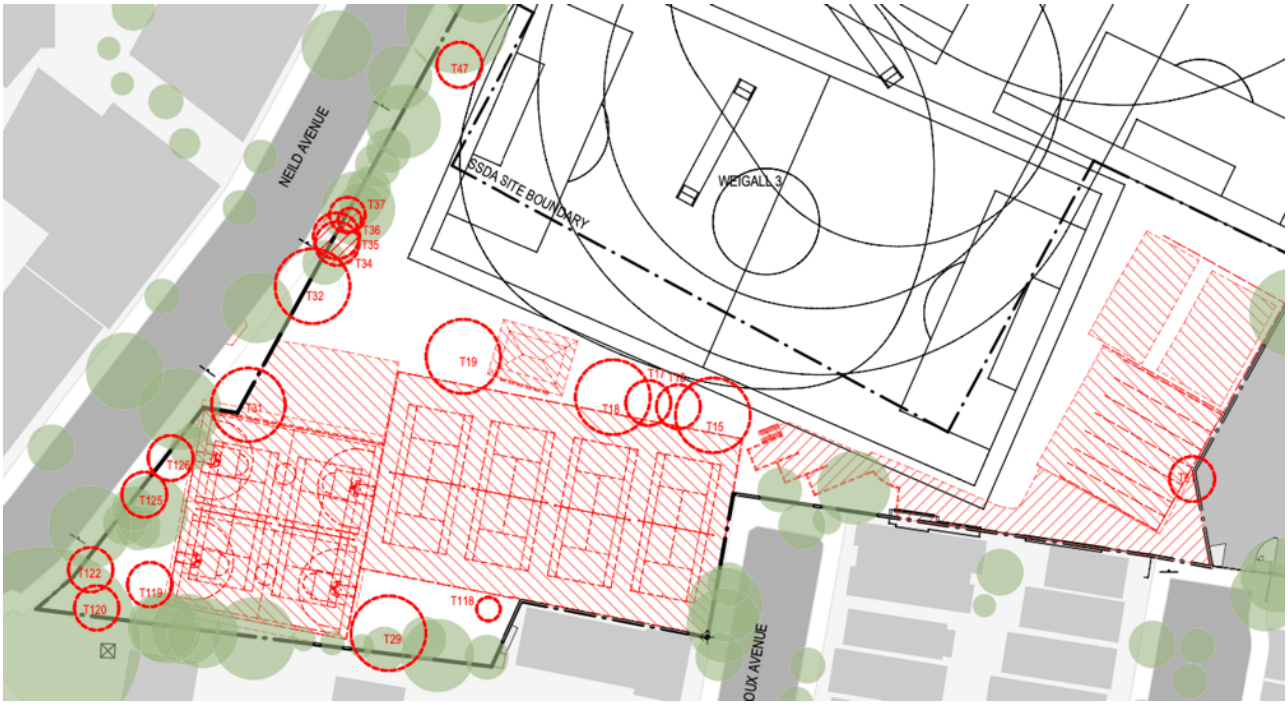
Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised through a non-conformance report and the offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the Head Contractor's Quality Management System.

10. Training and Education

All site employees and sub-contractors will be required to attend an induction that will outline the components of the WMP and explain the site-specific practicalities of the waste reduction and recycling strategies outlined in the WMP.

All employees are to have a clear understanding of which products are being reused/recycled on site, and where they are stockpiled, and are also to be made aware of waste reduction efforts in regard to packaging.

Appendix 1: Demolition Plan



Appendix 2: Hazardous Materials Register

Hazardous Materials Register (Rev A)
Neild Avenue, Paddington NSW
Date of Production – 01/04/2020

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No ACM was observed at the time of the inspection.											
Lead Containing Dust											
No dust was observed at the time of the inspection.											
Lead Based Paints											
Representative external and internal paint systems were screened with handheld XRF. No paints were deemed to comprise lead based paint.											
Non Lead Based Paints											
-	Top floor/External black metal poles	Metal poles	1 to 4	Yes	-	XRF: 0.00 mg/cm²	Good	15 m²	No further action required	30/03/2020 JBS&G MN	-
-	Top floor/Cream roof timber	Timber	3 and 4	Yes	-	XRF: 0.00 mg/cm²	Good	20 m²	No further action required	30/03/2020 JBS&G MN	-
-	Ground floor/External cream walls	Concrete	2	Yes	-	XRF: 0.00 mg/cm²	Good	100 m²	No further action required	30/03/2020 JBS&G MN	-
-	Ground floor/Internal white ceiling walls	Concrete	6,11 and 12	Yes	-	XRF: 0.00 mg/cm²	Good	50 m²	No further action required	30/03/2020 JBS&G MN	-
-	Ground floor/Internal cream walls	Concrete	5,6,7 and 9 to 12	Yes	-	XRF: 0.00 mg/cm²	Good	50 m²	No further action required	30/03/2020 JBS&G MN	-
-	Ground floor/Internal doors	Wood	10	Yes	-	XRF: 0.00 mg/cm²	Good	10 m²	No further action required	30/03/2020 JBS&G MN	-

Hazardous Materials Register (Rev A)
Neild Avenue, Paddington NSW
Date of Production – 01/04/2020

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Polychlorinated Biphenyls (PCBs)											
Detailed inspection of light fittings could not be undertaken due to active electricity supply. All light fittings should be assumed to contain PCBs.									Undertake detailed inspection following isolation of electricity supply, OR Handle in accordance with ANZECC 1997	30/03/2020 JBS&G MN	-
Synthetic Mineral Fibres (SMF)											
-	Ground floor	Internal insulation		No	-	**Assumed SMF**	Good	1 m²	Remove in accordance with NOHSC:2006 (1990)	30/03/2020 JBS&G MN	-
Inaccessible Areas											
All areas were accessible at the time of the inspection											

Appendix 3: List of Drawings

Sydney Grammar School - Weigall Sports Complex - Drawing List

Drawing Number	Description	Name	Issue
SITE PLANS			
A1000	WEIGALL SPORTS COMPLEX [BUILDING 01 AND BUILDING 02]	LOCALITY PLAN	A
A1001	WEIGALL SPORTS COMPLEX [BUILDING 01 AND BUILDING 02]	SITE PLAN	A
DEMOLITION PLAN			
A1100	WEIGALL SPORTS COMPLEX [BUILDING 01 AND BUILDING 02]	DEMOLITION PLAN	A
GENERAL ARRANGEMENT PLANS			
A2100	BUILDING 01 SPORTS FACILITIES BUILDING	BASEMENT	A
A2101	BUILDING 01 SPORTS FACILITIES BUILDING	GROUND	A
A2102	BUILDING 01 SPORTS FACILITIES BUILDING	MEZZANINE	A
A2103	BUILDING 01 SPORTS FACILITIES BUILDING	FIRST	A
A2104	BUILDING 01 SPORTS FACILITIES BUILDING	SECOND	A
A2105	BUILDING 01 SPORTS FACILITIES BUILDING	ROOF	A
A2110	BUILDING 02 CAR PARK	LOWER/UPPER GROUND	A
A2111	BUILDING 02 CAR PARK	LOWER/UPPER FIRST	A
ELEVATIONS			
A3100	BUILDING 01 SPORTS FACILITIES BUILDING	NORTH AND SOUTH	A
A3101	BUILDING 01 SPORTS FACILITIES BUILDING	EAST AND WEST	A
A3110	BUILDING 02 CAR PARK	NORTH AND SOUTH	A
A3111	BUILDING 02 CAR PARK	EAST AND WEST	A
SECTIONS			
A3200	BUILDING 01 SPORTS FACILITIES BUILDING	01 AND 02	A
A3201	BUILDING 01 SPORTS FACILITIES BUILDING	03 AND 04	A
A3210	BUILDING 02 CAR PARK	01 AND 02	A
A3211	BUILDING 02 CAR PARK	03 AND 04	A

This report has been prepared by:

Peter Hosking

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September 17, 2020