



Lucas Consulting Engineers
Pty Limited

SOIL AND WATER MANAGEMENT

FOR

Site 3 Sydney Olympic Park

Project No: 3579

CLIENT: SITE 3 DEVELOPMENT COMPANY PTY LTD

PROJECT DESCRIPTION:

Design and Construction of Stage 2 & 3, Site 3 Sydney Olympic Park consisting of 588 residential apartments. Stages 2 & 3 consists of two residential towers T1 and T2, above the podium and four basement levels below podium.

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CONTENTS

	Page No.
SECTION 1 Introduction.....	3
1.1 Purpose and Scope.....	3
1.2 Proposed Site Works.....	3
1.3 Site Construction Sequence	4
SECTION 2 Legislative and regulatory Requirements	6
2.1 Protection of the Environment Operations Act, 1997	6
SECTION 3 Project Impacts	7
3.1 Environmental Aspects.....	7
3.2 Potential Impacts on Hydrology, Water Quality and Soil	7
SECTION 4 Environmental Mitigation Measures	8
4.1 Soil and Water Management Strategy	8
4.2 Safe Work Method Statements (SWMS).....	8
4.3 Primary Erosion and Sediment Control Plan.....	8
4.4 Progressive Erosion and Sedimentation Control Plans (ESCP).....	8
4.5 Water Management Strategy.....	9
4.5.1 Surface Water Management.....	9
4.5.2 Wastewater Management.....	9
4.5.3 Groundwater Management	10
4.5.4 Sewage Treatment and Disposal	10
4.6 Erosion and Sediment Control and Mitigation Measures	10
4.6.1 Erosion and Sediment Controls	11
4.7 Site Drainage	11
4.8 Maintenance of Controls.....	12
4.9 Chemical & Fuel Storage.....	12
SECTION 5 Inspection, Auditing and Monitoring	15
5.1 Environmental Monitoring and Inspection	15
5.2 Quarterly Environmental Auditing	15
5.3 Environmental Inspections	15
5.4 Daily Surveillance	15
5.5 Incident Management Procedure.....	16
5.6 Water Quality Monitoring	16
SECTION 6 SEDIMENT BASIN SIZING AND TREATMENT	19
6.1 Site Description	19
6.2 Sediment Basin Sizing and Treatment.....	19

ATTACHMENTS

ATTACHEMNT 1: Site Erosion and Sediment Control Plan

SECTION 1 Introduction

1.1 Purpose and Scope

The purpose of this Soil and Water Management Plan is to describe how Site 3 Development Company Pty Limited proposes to manage and control:

- Erosion and sedimentation
- Water quality (including site wastewater)
- Groundwater

associated with the construction of the Site 3, Sydney Olympic Park Project.

A key objective of this Soil and Water Management Sub Plan is to ensure appropriate environmental controls and procedures are implemented during construction activities. The objective is to minimise soil erosion, contain sediment within the site and to minimise the impact of construction activities on surface and groundwater quality.

This Soil and Water Management Plan is applicable to all activities during the design and construction phases of the Project. In particular, this Plan has been prepared to address the requirements of:

- NSW Department of Housing (2004) Guideline *Managing Urban Stormwater - Soils & Construction* (also known as the "Blue Book") and other applicable regulation.

This plan encompasses:

- Erosion and sediment controls;
- Water pollutant controls;
- Water treatment measures and monitoring;
- Water conservation and
- Groundwater management.

1.2 Proposed Site Works

The proposed development works involve the construction of residential units including excavation of basement car parks. The excavation will be generally 8m to 11m below existing ground levels at Australia Avenue.

Geotechnical investigations carried out by Douglas Partners indicate that the excavation will be founded in Class 1 Shale. The geotechnical investigation shows that the first 1.5m to 5.5m of fill and residual clays overlying Class IV and Class V Shale with the lower 1.5m of excavation undertaken in Class I shale.

The site will be excavated to 0.3m below the final basement levels

with pads for the supporting column structure. The overburden fill, clay material and excavated rock will be taken off site to a pre-determined tip site nominated by the successful contractor.

Further works on site involving the relocation of the stormwater pipe may require the removal of pits. The details of the work associated with the relocation and provision of services will be shown on the authority drawings prepared for their approval.

For the purposes of sizing the sediment basin, the site soil type has been assessed as Type D, particularly where the rock is likely to be ground into fine sediment. The surface soils are fill and residual clay that could be classed as Type C however, as excavation proceeds down the hole into the Shale the soil type is more likely to be Type D.

1.3 Site Construction Sequence

Relocation of the site offices and diversion of stormwater flows from areas upstream of the site will be carried out as part of the preliminaries when the encroaching services are relocated or removed from the site.

It is proposed that the works will generally be carried out in the following stages:

Stage 1: Erect barrier fencing around the site and the site compound, construct sediment basin, stabilized construction access and installation of sediment and erosion control measures.
Stage 2: Carry out bulk excavation for the basement works.
Stage 3: Carry out permanent stormwater and building construction works.

It is expected that there will be overlaps in the timing of these activities and that the works will be undertaken in the following sequence.

Stage 1:

- a) Construct barrier fencing around the site and to prevent access to areas not to be disturbed,
- b) Adjust the existing stabilised construction access,
- c) Provide sediment retention pond,
- d) Provide all other sediment and erosion control measures that may be required to ensure that no run-off from disturbed areas is directly discharged to down slope areas or drainage lines

Stage 2:

- e) Carry out bulk excavation.
- f) Pump stormwater to sediment basin as required.

Stage 3:

- g) Ensure adequate waste bins are in place,
- h) Ensure adequate tanks/bins are in place for concrete, brickwork and paint wash up,

- i) Ensure regular emptying of bins and tanks to suitably licensed disposal sites to prevent overflows from bins or tanks,
- j) Construct required drainage lines as works progress including temporary and permanent sediment and litter arrestors as detailed on the drawings,
- k) Connect roof drainage to street drainage as soon as practical and no later than 20 days after completing the roof. Ensure that drainage pits and lines are free of sediment prior to commissioning,
- l) Progressively landscape courtyards as formation and building works are completed.

SECTION 2 Legislative and regulatory Requirements

2.1 Protection of the Environment Operations Act, 1997

Construction activities during the Project are required to be effectively managed to ensure Billbergia complies with the water quality goals and criteria outlined in the *Protection of the Environment Operations Act 1997*. The objectives of this Act include the reduction of risk and prevention of degradation of the environment through the use of measures that promote the prevention of pollution, and environmental monitoring and reporting.

SECTION 3 Project Impacts

3.1 Environmental Aspects

The aspects of the project works that could contribute to erosion, off-site sedimentation and impact on downstream water quality include the following:

- construction works in high rainfall periods;
- slow or ineffective design and/or installation of erosion and sediment control measures
- ineffective maintenance of environmental control measures
- stripping and clearing of vegetation
- stripping of topsoil
- working in waterways
- access/egress points
- disturbance of contaminated soils
- slow rehabilitation/ re-vegetation of works
- fuel and chemical storage and handling
- pollutants from plant wash down activities, including washing out concrete mixers and trucks
- areas of concentrated flows (eg batter drains, culvert construction)
- litter
- spillage/leakage of oil, grease, fuels and other chemicals from equipment operation and maintenance
- effluent from site offices and compounds.

These issues are addressed in Table 4.1 of this Plan and in SWMSs and ESCPs to be produced during construction.

3.2 Potential Impacts on Hydrology, Water Quality and Soil

The Project will not involve any significant modifications to the existing drainage systems or generation of substantial quantities of wastewater during construction. Disturbance of landform geology and soils will be minimal during the construction phase.

There is the potential for the Project sites to be contaminated as a result of existing and past activities. Any disturbance of contaminated material during construction would increase the potential for off-site transport or migration of contaminants. However a Site Contamination Assessment for the site prepared by HLA-Envirosciences Pty Ltd dated 7 June 2002 indicated that there was no evidence of contamination on the site.

Groundwater impacts during construction may occur during excavation of basements. The potential impacts include:

- groundwater contamination due to accidental spillage or leakage of materials associated with construction activities;

These issues are addressed in Section 4 of this Plan.

SECTION 4 Environmental Mitigation Measures

4.1 Soil and Water Management Strategy

This section of the Sub Plan outlines the overall strategy for managing project-wide risks related to soil and water.

4.2 Safe Work Method Statements (SWMS)

The Contractors Environmental Officer (EO) will produce Safe Work Method Statements (SWMS) for work areas and activities requiring detailed pollution control strategies due to potential environmental impacts. The SWMS's will include detailed environmental management information such as proposed pollution controls, sequence of events and tool boxing requirements.

4.3 Primary Erosion and Sediment Control Plan

A **Primary** Erosion and Sediment Control Plan (Primary ESCP) has been developed (Attachment 1) to serve as a broad based plan to outline the intentions and fundamental principles that will be followed in the planning and implementation of control measures, for the entire Site 3, Sydney Olympic Park Project.

4.4 Progressive Erosion and Sedimentation Control Plans (ESCP)

Progressive Erosion and Sedimentation Control Plans (Progressive ESCP) shall be developed using the principles provided in the Primary ESCP for each stage of the project prior to commencement of construction at each individual stage of the project.

The ESCP's will be developed for areas identified as having possible risk and will contain detailed erosion and sediment control information for various construction stages, including location of sediment fences, drainage systems and discharge and monitoring specifications, if required. The ESCPs may also contain other pollution controls and procedures in regard to noise and air aspects of the environment.

The ESCP's will be developed prior to the commencement of site works for each stage of the work. ESCP's will be amended progressively to accommodate changed construction activities, landforms, drainage paths and other conditions. ESCP's will be construction/design drawings or aerial photographs with the following types of soil and water management aspects identified, if applicable:

- controls for different stages of construction (i.e. initial clearing to bulk earthworks to structure construction);
- heavy machinery access paths, positioning (e.g. piling platforms) and associated hardstand and clearance requirements;
- areas of high erosion hazard;
- specific activities that may occur outside the project area (e.g. compound, stockpile sites, access roads);
- site and works layout, including the extent of clearing and disturbance, controlled access routes and stockpile sites;

- proposed temporary and permanent erosion and sediment control measures and reference to procedures, including dewatering procedures if necessary;
- reference to monitoring and maintenance procedures;
- location of other pollution controls such as noise walls and dust and odour control devices
- environmental management procedures; and
- temporary site rehabilitation measures.

Mitigation measures and responsibilities for identified actions to minimise and mitigate soil and water quality impacts during construction are outlined in **Table 4.1**.

4.5 Water Management Strategy

The proposed water management strategy during the construction for the Site 3, SOP Project includes:

- surface water management;
- wastewater management
- groundwater management;
- water treatment and potential reuse; and
- sewage treatment and disposal.

Site-specific strategies for water management shall be detailed in the relevant SWMS and ESCPs.

4.5.1 Surface Water Management

The effective control of surface water quality will be achieved through the use of erosion and sediment control and mitigation measures listed in **Section 4.6**.

Erosion and sediment controls will be designed and operated to ensure they do not exacerbate existing flood conditions. Permanent drainage systems will be developed to ensure that permanent construction features do not cause an adverse flooding effect.

4.5.2 Wastewater Management

The majority of wastewater generated on-site will be produced from:

- site runoff water, especially from excavations and ponded areas;
- chemical and fuel storage compounds;
- concrete saw cutting activities;
- concrete curing;
- run off from concreting activities; and
- washdown of concrete haul trucks and agitators.

All activities that generate wastewater will, where practical, utilise controls including bunding to contain wastewater to enable its removal or treatment in an environmentally acceptable manner.

All sub-contractors, particularly those who undertake activities that generate or handle potential pollutants will be made aware of their environmental responsibilities during the induction and regular

inspections will be undertaken to ensure that they are complying with all relevant legislation. All potentially contaminated wastewater will be contained and disposed of in accordance with DEC Guidelines '*Assessment, Classification and Management of Liquid and Non-liquid Waste*' and the requirements of the POEO Act.

Concrete washout areas/pits will be adequately sized, regularly maintained and located in a position where wastewater will not enter any drainage lines/waterways.

4.5.3 Groundwater Management

Works associated with the Site 3, SOP Project are not anticipated to adversely impact groundwater quality or levels. If groundwater accumulates in construction features (e.g. excavations pits or piles) it will be directed or pumped into a sump, analysed for any potential contaminants and appropriately treated/disposed of before discharge to ensure it does not present a pollution hazard to any waterways.

Construction sites will have above ground and bunded refueling areas and storage areas, where required, for potentially hazardous materials. Any bunded areas will have impermeable bases and a capacity of 110% of the volume of the largest container stored within the bund.

During excavation water will be prevented from collecting on or near RailCorp infrastructure. Collection of water adjacent to the infrastructure could result in service interruption. Water will not be discharged to the railway corridor unless prior approval has been obtained from RailCorp.

4.5.4 Sewage Treatment and Disposal

Site amenities will be connected directly to the sewer system. Sites not in close proximity to compound areas may be provided with a port-a-loo that will be serviced by a licensed contractor. These facilities will be located/positioned with consideration of vicinity of water courses, sensitive flora/fauna habitats and residents.

4.6 Erosion and Sediment Control and Mitigation Measures

The implementation of temporary erosion and sediment controls will be progressive and continual. Erosion control measures will be designed such that they are as close to the potential source of sediment as possible. The specifics of design, location and operation of each erosion and sediment control will be shown on the Progressive ESCPs. Key controls will be installed during site establishment and as sites evolve and change, sediment controls will be adjusted accordingly. The Project Engineer, Site Foreman and Contractors will liaise with the Environmental Officer to ensure that appropriate controls are always in place and working effectively.

Descriptions of the types of devices that will be utilised for erosion and sediment control are included in the Primary ESCP (**Attachment 1**) and in the following sections.

4.6.1 Erosion and Sediment Controls

Minimising Disturbance and Cleared Disturbed Areas

Erosion will be reduced through the minimisation of the cleared footprint, to areas immediately required and with progressive clearance of vegetation, as required.

Any cleared surface areas where construction activities are not occurring will be stabilised/covered to minimise potential for erosion. Where practicable, progressive rehabilitation will occur to minimise the area of exposed surfaces following completion of works.

Sediment Fences

Sediment fences are a temporary barrier of geotextile filter fabric, supported by stakes to retain sediment on-site by filtration and reduction of surface water flow velocity. The position of sediment fences will be identified on Progressive ESCPs and also in various locations, which will become more apparent as site conditions evolve. A typical sediment fence arrangement is shown in the Primary ESCP (Attachment 1).

When appropriate, sediment fences will be attached to the site perimeter fencing and anchored into the ground before the commencement of other site establishment works. Sediment fences will also be used to assist in the control of runoff from topsoil and other stockpiles.

Sediment fences will be inspected for undercutting, sagging and overtopping, and repaired immediately. Accumulated sediment behind the sediment fence is to be removed before the level of accumulated sediment reaches one third of the original height of the fence.

Temporary Stabilised Site Access

Stabilised site access will be installed (typically crushed concrete, road base) at site entrances/exits to minimise the tracking of soil from the site onto roads during the project.

Straw Bale Filter

Straw bale filters wrapped in geotextile fabric may be used as an alternative to a sediment fence where high surface water flows are anticipated. The straw bales are placed parallel to the contours of the site.

The bales will be placed on the ground and held in place with 1.2m star pickets. Star pickets would be angled to hold adjacent bales together, as shown in the Primary ESCP (Attachment 1).

4.7 Site Drainage

During design the contractor will endeavour to keep clean water separated from turbid run-off from exposed areas. Where possible clean water will be diverted around the exposed areas directed to stormwater. Drainage construction will obviously form an integral part

of controlling water movement on site and the early construction of permanent drainage structures will be undertaken where practicable.

4.8 Maintenance of Controls

Regular maintenance of all erosion and sediment controls will be implemented and monitored by construction personnel and the Environmental Officer (refer to Section 5). Sediment cleaned from sediment controls will be relocated to locations where further pollution will not occur.

4.9 Chemical & Fuel Storage

The storage and handling of fuels and chemicals has the potential to pollute surface waters and contaminate soils. Storage areas for fuels, oils and chemicals used during construction will be contained within an impervious bund with a volume of at least 110% of the volume of the largest container in the bunded area, to retain any spills. Any spillage will be immediately contained and absorbed with a suitable absorbent material.

Spill kits will be provided at areas of the worksite where handling and use of fuels, oils and chemicals occurs. Relevant staff will possess or be provided with appropriate training in spill response.

Materials Safety Data Sheets (MSDS) for all chemicals stored and used on-site will be available to site personnel. Site personnel will be informed of the location of the MSDS register as a part of the site induction.

In the event water is polluted by chemicals, fuels, oil, and/or fire fighting materials (e.g. foams) the water will be collected, and disposed at an approved Liquid Waste Treatment Facility in accordance with DECC (EPA) guidelines.

Table 4.1 Soil and Water Mitigation Measures

Management and Mitigation Measures	Responsibility	Timing
General Construction		
All personnel are to be inducted, and receive ongoing training via toolbox talks, regarding their responsibilities related to soil conservation issues, erosion and sediment control systems and the need for ongoing maintenance to prevent land degradation and water pollution.	PM/EO	Ongoing
All sediment control measures (i.e. sediment fences, diversion drainage structures and bunding, where slope warrants significant energy dissipation etc) are to be designed and installed as per relevant ESCP prior to the commencement of construction works. Controls will be used in conjunction with one another to form the "treatment train approach" to managing erosion and sediment on site.	PM/EO/SF	Ongoing
The area of surface soil disturbed will be kept to the minimum area necessary to complete the works. Disturbed areas will be stabilised and restored as soon as practicable.	PM/SF	At all times
Any vegetation or trees identified to remain on site shall be protected (e.g. marked or fenced off using safety mesh).	PM/SF	At all times
All site access points will be constructed using road base or 40/70 mm material to create a shake down area	PM/SF	Pre-construction
Measures to be taken to prevent tracking of soils/sediments from the work site onto roadways and footpaths.	PM/SF	Ongoing
Any sediment/soil transferred from the work site to adjacent roadways/footpaths is to be swept up progressively at the end of each work day.	PM/SF	Ongoing
Chemicals, fuels and liquid wastes would be stored in accordance with AS 1940 Guidelines and in sealed vessels of appropriate volumes and kept in bunded areas away from stormwater drainage lines. However, as the quantities of chemicals on site are likely to be very low it is unlikely that this type of storage facility will be required.	PM/SF	Ongoing
Specific training will be provided to engineers and labour teams responsible for construction and maintenance of, temporary controls including sediment fences and batter drains on fill batters etc.	PM/SF/EO	Ongoing
Any fuel, lubricant or hydraulic fluid spills would be cleaned-up immediately using absorbent material and the contaminated material disposed of at a licensed waste depot.	PM/SF	At all times
Topsoil and chipped vegetation is to be stockpiled for later use in revegetation where major earth works occur	PM/SF	Pre-construction
Spoil Management		
Erosion and sediment control measures that secure the stockpile areas (eg diversions and sediment fence) must be in place prior to the commencement of any spoil stockpiling activities.	PM/SF	Pre-construction
Stockpiles of erodible material (including spoil and fill) are to be located as far away as practical from any storm-water system inlets and protected with appropriate erosion and sediment controls.	PM/SF	Ongoing
Any soils contaminated from fuel, oil or chemical spills are to be excavated and transported by an appropriate licensed contractor to an appropriate licensed waste facility.	PM/SF/EO	Ongoing
Excess soil that cannot be used on site will be tested and classified, in accordance with the procedures provided in the Waste and Resource Management Sub Plan (Figure 1.1), before removal from the site for reuse or disposal at a licensed waste facility.	PM/SF/EO	Ongoing
Stockpiles are to be checked for stability, and erosion controls maintained as required.	SF	Daily
Surface Runoff Management		
Sandbags or other suitable sediment traps would be placed around stormwater system inlets at risk of receiving surface runoff from the work area.	PM/SF	Ongoing

Table 4.1 Soil and Water Mitigation Measures

Management and Mitigation Measures	Responsibility	Timing
Sediment fences/traps would be cleaned out before 30% capacity is reached. The resultant sediment material would either be stored for re-use on site or disposed of to an approved facility.	SF	Ongoing
Any water treatment chemicals (flocculants) used on the project will be appropriately selected to ensure minimal impact on waterways.	EO/PM/SF	Ongoing
All stormwater pits that lie within disturbed areas shall be protected or isolated to prevent run-off from disturbed areas entering the drainage system.	AM/SF	As required
Any dewatering or water collected in excavation areas and sediment control structures will only be discharged to receiving waters when confirmed through recorded field tests/observations to comply with the requirements of the <i>Protection of the Environment Operations Act, 1997</i> . Where required, waters will be treated and then tested to confirm compliance.	PM/SF/EO	Prior to discharge
Groundwater Management Measures		
Management of any excess groundwater will involve collection, analysis, and treatment to ensure the water is compliant with the requirements of the <i>Protection of the Environment Operations Act 1997</i> .	PM/SF/EO	As required
Contaminated Water Management		
Concrete washout areas / pits will be adequately sized, regularly maintained and located in a position where wastewater will not enter any drainage lines / waterways.	PM/SF	Ongoing
All potentially contaminated wastewater will be contained and disposed of in accordance with DEC Guidelines <i>Assessment, Classification and Management of Liquid and Non-liquid Waste</i> .	PM/SF/EO	Ongoing
Working in or near Waterways		
Not Applicable		
Monitoring, Auditing and Reporting		
The EO or delegate shall inspect erosion control devices following major rainfall events or on a weekly basis. Where controls deemed as inadequate additional controls will be installed e.g. sandbags additional sed-fences, channels. Sediment removed from controls will be assessed and if suitable combined with stockpiled project spoil for reuse/disposal.	EO/SF	Weekly
In the event of a film, oil/grease stain or other indicator of pollution within site run-off being observed, the EO or delegate will inspect the work site to determine the source. Appropriate remedial measures to control the source will be determined for implementation by the Site Foreman in consultation with EO.	EO/SF	As required

SECTION 5 Inspection, Auditing and Monitoring

5.1 Environmental Monitoring and Inspection

Monitoring and auditing will be organised and undertaken by the Environmental Officer. The reporting program for the Project is:

5.2 Quarterly Environmental Auditing

- a) Quarterly Environmental Audits to assess compliance with Sub Plans.

5.3 Environmental Inspections

An inspection of active work sites will take place after heavy rainfall, or at least weekly, to ensure compliance with all environmental requirements. The Weekly Inspection Form Rec 56 shall be used

5.4 Daily Surveillance

The Site Foreman/Engineer will be responsible for ensuring day to day maintenance of environmental management measures and shall liaise with the EO on environmental matters as required.

The Site Foreman/Engineer shall inspect the site daily and shall;

- 1) ensure that all drains are operating effectively and shall make any necessary repairs,
- 2) remove any spilled material from area subject to runoff or concentrated flow,
- 3) remove trapped sediment where the capacity of the trapping device falls below 60%,
- 4) inspect the sediment basin after each rainfall event and/or weekly. Ensure that all sediment is removed once the sediment storage zone is full - refer to indicator pegs placed in accordance with construction sequence. Ensure that outlet works are maintained in fully operational condition at all times.
- 5) inspect discharge from proposed treatment system at regular intervals for any visible change in discharge quality. The frequency of the discharge checks will be determined based on the adopted treatment system.
- 6) maintain proprietary treatment systems in accordance with manufacturers/suppliers standards and specifications.
- 7) ensure rehabilitated lands have effectively reduced the erosion

hazard and initiate upgrading or repair as appropriate,

8) construct additional erosion or sediment control works as may be appropriate to ensure the protection of down slope lands and waterways.

9) maintain erosion and sediment control measures in a fully functioning condition until all earthwork activities are completed and the site is rehabilitated,

10) ensure that the re-vegetation scheme is adhered to and that the all grass covers are kept healthy, including watering and mowing, during the maintenance period.

11) remove temporary soil conservation structures as the last activity in the rehabilitation program.

5.5 Incident Management Procedure

In the event of an occurrence:

- Action is taken commensurate to the incident or problem
- An Incident Report or Non conformance is raised
- Personnel and authorities are advised, as required
- Remedies and/or corrective action is determined and instigated.

Examples of “Incidents” include fuel, oil and chemical spills, discharge of polluted waters, damage to protected flora and damage to archaeological sites, etc.

5.6 Water Quality Monitoring

Water quality monitoring shall be required for groundwater and surface water.

If deemed necessary, water quality monitoring will be used in the event of an uncontrolled sediment or chemical discharge to ensure compliance with regulations and also to assess the water quality discharged from site works.

A summary of the water quality parameters that may be tested are outlined in **Table 5.1** below.

Table 5.1 Water Quality Parameters

Parameter (and EPA limits)	Sampling Method	Analytical Method
Colour (no visible)	Inspection and Grab Sample	Field Analysis and confirmed as required with lab assessment
pH (6.5 –8.5)	Grab Sample	Field Analysis and confirmed as required with lab assessment
Turbidity (NTU)	Grab Sample	Field Analysis
TSS (50mg/L)	Grab Sample	Laboratory Analysis (as required to calibrate field analyses)
Conductivity (200-300 μ Scm ⁻¹)	Probe or Grab Sample	Field Analysis or Laboratory Analysis (testing to occur when required)
Oil and Grease (no visible)	Grab Sample	Field Analysis and confirmed as required with lab assessment

If necessary monitoring will be conducted by the EO or appropriately qualified personnel who have training and expertise in water sampling techniques. Monitoring criteria will be in accordance with the Environment Protection Licence requirements and laboratory analysis will occur as required.

SECTION 6 SEDIMENT BASIN SIZING AND TREATMENT

6.1 Site Description

The majority of the site is vacant other than the presence of a large fig tree, the access road and various temporary construction administration buildings. These will be removed as part of the preliminaries immediately prior to commencing bulk excavation of the site.

The estimated construction period for proposed construction works is approximately 24 months to 30 months. During this time frame, it is expected that construction of the structure on Stage 1 will continue whilst the excavation of the site for Stages 2 & 3 is being completed. It is proposed to commence excavation adjacent to Stage 1 and then commence construction of the footings for Towers T1 & T2 component as the hole becomes ready. Excavation will progress toward the South of the site.

Therefore, the sediment retention basin to be constructed as part of Stage 2 works has been sized to match the surface area of the Stage 2 excavation being approximately 6000 sq.m. We have allowed for the total excavation of the basement area plus the site area for the sheds.

It is proposed to allow rainfall that enters the excavated hole to collect in a temporary sump, to be always located at the lowest point of the excavation, and to be pumped to a second retention basin at the south-eastern end of the site where the water will be allowed to settle and discharge to the existing stormwater system.

6.2 Sediment Basin Sizing and Treatment

The sediment basin sizing calculations are listed as follows:

Sediment Basin Sizing Calculation for Type D Soil :

Volumetric Runoff coefficient :	0.5
5 day 75 th percentile total rainfall depth (mm) :	23.4
Catchment Area (ha) : 0.600ha	0.600ha
Settling Zone Volume (m³) :	70.2
Erosion Hazard of Soil :	very low
Basis for Storage Zone Calculation :	50% settling zone volume
Storage Zone Volume (m³) :	35.1
Total Sediment Basin Volume Required (m³) :	105.3

* (NSW Department of Housing Managing Urban Stormwater Manual Reference)

The preferred treatment method will be subject to field trials of suitable treatment systems. Initial indications from the client indicate that a proprietary sand filtration system will be trialled. The adopted treatment system shall be confirmed to achieve discharge with Total Suspended Solids (TSS) of less than 50 mg/L by laboratory testing of discharge samples at a NATA registered laboratory.

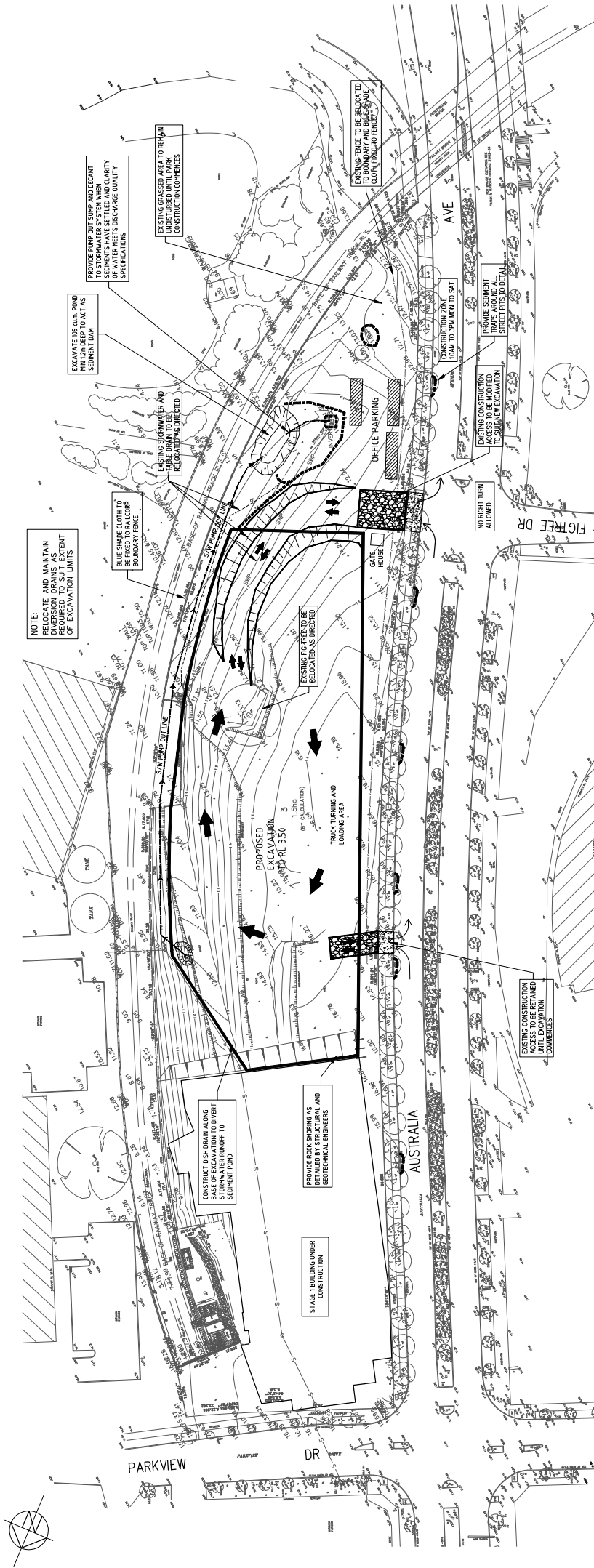
ATTACHMENT 1

TO THE

**SOIL AND WATER MANAGEMENT
PLAN**

Project No. 3579

**PRIMARY EROSION AND
SEDIMENT CONTROL PLAN**



GENERAL SITE PLAN

EROSION AND SEDIMENT CONTROL

- GENERAL MEASURES
 - 1.1. GENERAL MEASURES
 - 1.1.1. GENERAL MEASURES
2. STABILISATION OF DISTURBED AREAS.

3. MAINTENANCE
4. SEDIMENT CONTROL DEVICES (S.C.D.)

5. DUST CONTROL NOTE

PROJECT		CLIENT		DRAWN		DATE		SCALE		SHEET NO.		FILE NO.		COMPUTER REF.	
PROPOSED MULTI STORY RESIDENTIAL TOWERS		SITE 3 DEVELOPMENT CO. P/L		LUCAS CONSULTING ENGINEERS		17/3/21		1:500 @ A1		3579 SWMP		3579 SWMP		3579 SWMP	
STAGES 2 AND 3 - SITE 3 SYDNEY OLYMPIC PARK		No. 5 BAY DRIVE		PTY. LIMITED		DATE		1:1000 @ A3		REVISION		3579 SWMP		3579 SWMP	
HOMEBUSH NSW		MEADOWBANK NSW 2114		CIVIL & STRUCTURAL ENGINEERS		DATE		NOT BE USED FOR ANY OTHER PURPOSE THAN THAT SPECIFIED		SHEET 1 OF 1		3579 SWMP		3579 SWMP	
DRAWING TITLE		SYDNEY OLYMPIC PARK AUTH.		CONSTRUCTION & PROJECT MANAGEMENT		DATE		ALL DIMENSIONS IN MM		A		3579 SWMP		3579 SWMP	
LOCAL GOVT. AREA		SYDNEY OLYMPIC PARK AUTH.		P.O. BOX 7708, NARRABURRA NSW 2516		DATE		UNLESS OTHERWISE STATED		A		3579 SWMP		3579 SWMP	
DRAWING NO.		3579-DA-001		P.O. BOX 7708, NARRABURRA NSW 2516		DATE		UNLESS OTHERWISE STATED		A		3579 SWMP		3579 SWMP	
DRAWING NO.		3579-DA-001		P.O. BOX 7708, NARRABURRA NSW 2516		DATE		UNLESS OTHERWISE STATED		A		3579 SWMP		3579 SWMP	