

2 MANDALA PARADE, CASTLE HILL

Construction Soil and Water Management Plan

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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DOCUMENT CONTROL

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1 Introduction

1.1 Background and Purpose

This Construction Soil and Water Management Plan (CSWMP) has been prepared for the 2 Mandala Parade, Castle Hill site where four 20-story mixed use (commercial and residential) buildings overlying a common podium structure with a stepped 6-story basement are to be constructed. This site is located immediately north of the Sydney Metro Hill Showground Station and tunnel.

The lowest basement level will require a Finished Floor Level (FFL) of RL 70.20m AHD. It is understood that a Bulk Excavation Level (BEL) of RL 69.1m will be required for the lowest basement level, which includes allowance for the construction of the basement slab. To achieve the BEL, excavation depths of 19.00m Below Existing Ground Level (BEGL) at the Doran Drive end of site to 26.60m BEGL at the Andalusian Way end of site have been estimated. Locally deeper excavations may be required for footings, service trenches, crane pads and lift overrun pits.

The purpose of the CSWMP is to prevent adverse impacts on the surrounding water quality and prevent pollution of the downslope environment during construction works. This CSWMP is applicable to employees, contractors and all personnel associated with the planning and construction of the proposed buildings.

This CSWMP has been prepared by Duncan Barnes of SLR Consulting who is a suitably qualified Principal Environmental Engineer and CPESC certified ((Cert No. 8494). A copy of Duncan's Curriculum Vitae (CV) is provided in Appendix A.

1.2 Scope and Objectives

The scope of this document is to outline the water and Erosion and Sediment Control (ESC) management protocols for construction of the mixed-use buildings and to provide the contractor with a baseline set of management strategies to assist with effectively managing water/runoff during construction. The CSWMP will be used by all personnel (including contractors) involved in project construction activities.

The objectives of this ESCP are to:

- Comply with all applicable legislation, regulations and conditions;
- Provide controls for construction activities to prevent adverse impacts to the surrounding environment and the general public;
- Prevent soil erosion from the site;
- Dewater excavations such as to ensure no discharge of untreated sediment laden or contaminated water occurs to catchment areas or stormwater drains;
- Avoid unnecessary ground disturbances; and
- Detail monitoring and maintenance requirements.

This CSWMP has been prepared to satisfy Condition 29 of the Stage Significant Development Application (SSDA 15882721). This condition and where the specific items have been addressed are provided below in Table 1.

Table 1 Condition 29 of SSDA 15882721 and Where Addressed

Item	Item Requirement	Where Addressed within this CSWMP
C29	Prior to the commencement of any earthwork or construction, the Applicant must submit to the satisfaction of the Certifier a Construction Soil and Water Management Sub-Plan which must be prepared by a suitably qualified expert, in consultation with Council and address, but not be limited to the following:	This Document
(a)	Describe all erosion and sediment controls to be implemented during construction	Sections 2 and 3
(b)	provide a plan of how all construction works will be managed in a wet-weather event (i.e. storage of equipment, stabilisation of the Site)	Section 2.2
(c)	detail all off-Site flows from the Site	Section 1.5
(d)	describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI.	Sections 2 and 3

1.3 Regulatory Framework

A review of legislation, regulations, statutory requirements, guidelines and strategies relevant to the site construction works was undertaken during the preparation of this CSWMP.

The following legislation is applicable to the building works in relation to water management during construction:

- Protection of the Environment Operations Act (1997) and associated regulations
- Catchment Management Authorities Act 2003
- Contaminated Land Management Act 1997
- Contaminated Land Management Regulation 2008
- Catchment Management Authorities Act 2003
- Noxious Weeds Act 1993
- Soil Conservation Act 1938
- Sydney Water Act 1994
- Sydney Water Catchment Management Act 1998
- Water Management Act 2000
- Environmental Planning and Assessment Act 1979 (EP&A Act)
- Environmental Planning and Assessment Regulation 2000
- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
- Protection of the Environment Operations Act (Underground Petroleum Storage Systems)

- Work Health and Safety Act 2011 (WHS)
- Work Health and Safety Regulation 2011

The following guidelines are also applicable to the proposed works:

- ANZECC Water Quality Guidelines for Fresh and Marine Waters (ANZECC, 2002)
- Managing Urban Storm water, Soils and Construction, The Blue Book (4th Edition, Landcom 2004)
- The NSW Acid Sulphate Soil Management Guidelines (ASSMAC,2009)
- Water Quality Management Guidelines 2002
- Water Quality Sampling Manual Third Edition 1999 Environment Protection Agency
- NSW Waste Classification Guidelines
- National Environmental Protection Council Schedule B: Guideline for the Investigation of Soil and Groundwater
- Australian Government Department of Sustainability, Environment, Water, Population and Communities 2009

These requirements are to be adhered to and complied with during the construction phase of works.

1.4 Construction Activities with Potential Impacts

This CSWMP specifically addresses the following activities associated with the construction of the mixed-use buildings that have the potential to cause environmental impacts unless controlled:

- Stripping of vegetation, subsoil and topsoil;
- Construction and establishment of infrastructure (including water management structures);
- Vehicle and machinery movements;
- Ground disturbances including basement excavation;
- Excavation dewatering activities;
- Liquid waste, fuel and oil spills; and
- Landscaping areas.

All works listed above will be undertaken within the construction footprint.

The Prospect/Parramatta River Acid Sulfate Soil Risk Map (1:25,000 scale; Murphy, 1997) and The Hills Local Environmental Plan 2019, indicate that the site is not situated in an Acid Sulfate Soils (ASS) classed area. As such, ASS is unlikely to be encountered during development works at the site.

1.5 Offsite Flows

The proposed construction works will be undertaken in three key stages in relation to offsite flows:

- Stage 1 – Initial site preparation prior to excavation;
- Stage 2 – Basement construction excavation; and

- Stage 3 – Mixed-use building construction.

Minor offsite flows for Stages 1 and 3 will occur to the surrounding streets but will be managed by suitable Erosion and Sediment Control (ESC) measures in accordance with Managing Urban Storm water, Soils and Construction, The Blue Book (4th Edition, Landcom 2004).

Offsite flows from Stage 2 will only occur via dewatering of the site excavation to the adjacent stormwater system in accordance with this CSWMP and the Dewatering Management Plan (DMP).

2 Summary of Control Measures to be Implemented

2.1 Soil and Water Management Principles

An Erosion and Sediment Control Plan (ESCP) was prepared for the site and is included in Appendix B. The proposed ESC measures have been designed to minimise the potential impact on soil erosion and downstream water quality. Wind and water erosion from disturbance areas cannot be eliminated completely, however the following measures will be undertaken to minimise their impact (in accordance with the Managing Urban Stormwater guidelines):

- Minimising the disturbance footprint;
- Separation / diversion of 'clean' water catchment runoff from disturbed runoff areas to minimise sediment-laden water volumes for management (where possible);
- Excavation dewatering activities, with water treatment as required (refer to the proposed water treatment system in Appendix C), to ensure that no discharge of untreated sediment laden or contaminated water occurs to catchment areas or stormwater drains. During excavation works sediment laden runoff and groundwater seepage that surfaces within the excavation shall be directed into a designated sump and managed in accordance with the Dewatering Management Plan (DMP);
- Minimising soil erosion (i.e. rehabilitation, drainage and erosion control measures) at the source, rather than trapping resultant sediment. Where this is not practicable, then all reasonable measures will be made to trap sediment by implementing sediment control measures compliant with the required treatment standards. Upslope and downslope ESC measures shall be installed prior to any ground disturbance (refer to Appendix B);
- Conducting best practice land clearing procedures for all proposed disturbance areas;
- Sediment fences will be utilised to control sheet flow from the initial disturbance areas during the construction works (refer to the ESCP drawing in Appendix B);
- SLR understands that soil will be trucked off site and disposed of in a suitable matter. If soil stockpiles are required then these stockpiles will be placed in areas away from roadways and other drainage lines. Suitable sediment control measures will be installed downslope of soil stockpiles and upslope clean water runoff diverted (where possible);
- Sealing or revegetation of external disturbed areas as soon as possible;
- Stabilised rock pads will be installed at the site entry / exit point on De Clambe Drive during the construction works (refer to the standard drawing in Appendix B);

- Visual inspections of all vehicles leaving the site will be undertaken and where it is deemed possible that sediment could be tracked onto De Clambe Drive the vehicles shall be washed down in a suitable location such that the wash down water reports to appropriate sediment controls. Street sweeping will be used as an additional contingency measure where sediment is observed on De Clambe Drive;
- Where there is potential for sediment laden runoff to enter stormwater pits suitable inlet protection measures will be installed around the pit inlets. These include straw bale filters and mesh / gravel inlet filters. Refer to the ESCP drawing in Appendix B;
- Effective dust suppression measures (where required);
- Any liquid wastes, fuels and oils stored on-site will be sufficiently banded to contain any potential spills. Accidental spillage or poor management of fuels, oils, lubricants, hydraulic fluids, solvents and other chemicals during the construction phase will be controlled through spill management actions (including the availability of spill kits) to prevent water quality impacts. Captured liquid wastes, fuels and oils should be pumped out by a liquid waste contractor and disposed of at an appropriately licenced facility;
- Barrier fencing will be installed for each stage of construction to delineate no go areas and to maintain disturbance areas and traffic movement to the designated areas; and
- Implementing an effective monitoring and maintenance program for the site.

2.2 Severe Weather Preparedness

2.2.1 Severe Weather Precautions

In the event of/or forecast of severe weather the following precautions should be implemented at a minimum:

- Severe Weather Identification – Identification of the weather system approaching and identification of potential outcome of the weather system (i.e. high winds, heavy rains, lightning etc.). This identification should be made with the support of the latest available information from the Bureau of Meteorology (BOM).
- Site specific plans will be incorporated on site when weather forecasts are reviewed to manage stormwater and flood flows for small and large sized events, including but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI. Refer to the associated storm runoff volumes in Section 2.2.2 below.
- Risk Evaluation – Based on the identification of the weather system and latest information from BOM, a risk evaluation should be completed for the site and a determination of appropriate treatments should be formulated.
- Weather Treatments – A list of weather treatments formulated in the process of the risk evaluation should include immediate measures where appropriate to ensure the stability of the site and the protection of the environment to the greatest extent practicable based upon the type of severe weather anticipated. These measures may include the following:
 - Dewatering, treatment (if required) and discharge of stored excavation water prior to the weather event in accordance with the DMP;
 - Temporary cessation of construction works;
 - Laydown areas of equipment and materials etc to positioned on high ground above flood mark;

- Additional sediment controls (e.g. sediment fencing, straw bale filters etc) to prevent surface erosion and surface runoff; and
- Temporary erosion controls such as temporarily laying geofabric over any exposed and vulnerable disturbance areas.
- Rectification and Recovery – Following a return to site, rectification of site environmental controls and a recovery of site to acceptable environmental standards shall occur prior to the commencement of works.
- Contact Personnel – A list of responsible persons for the project found in the CEMP for the project shall be available onsite in an accessible location so that all personnel on site are aware of whom to contact and able to do so.

2.2.2 Severe Storm Excavation Runoff Volumes

Runoff (excluding groundwater) excavation volumes from the 1, 5 and 100 year Average Recurrence Interval (ARI) storm events for both 24 hour (one day) and 72 hour (three days) are provided in Table 2 below for consideration during forecast wet weather risk evaluations. These volumes were calculated using:

- Rainfall was estimated for the region based on Intensity – Frequency – Duration (IFD) data for the Castle Hill area in accordance with the data presented in the Bureau of Meteorology (BOM)'s website;
- A runoff coefficient of 1 (i.e. no infiltration during the storm event) due to the likely saturated soil and heavily compacted excavation base; and
- The site area of 7969 m².

Table 2 Severe Storm Runoff Volumes

ARI Event	Duration (hrs)	Rainfall Depth (mm)	Total Runoff Volume (ML)
1	24	87	0.69
	72	127	1.01
5	24	143	1.14
	72	218	1.74
100	24	289	2.30
	72	441	3.51

2.3 ESC Program

The ESC measures detailed in the ESCP drawings (provided in Appendix B) will be installed prior to any ground disturbance works and maintained until the measures are no longer required (e.g. following excavation works). The Contractor shall remove temporary ESC measures when permanent measures are in place and / or site stabilisation has occurred.

3 Excavation Dewatering

3.1 Dewatering Management Plan

As the proposed basement construction was expected to intercept the local groundwater table a Dewatering Management Plan (DMP) was developed by EI Australia to detail dewatering activities to comply with the Hills Shire Council and NSW Office of Water (Water NSW) requirements. This DMP shall be adhered to during construction works.

The objectives of this DMP were to:

- Describe the dewatering methodology, groundwater treatment requirements, monitoring and reporting procedures to be employed during temporary dewatering activities; and
- Provide effective management and contingency procedures to ensure that the discharge of extracted groundwater does not pose unacceptable risks to the receiving environment.

3.2 Proposed Dewatering System

Runoff and water captured within the temporary construction excavations will be preferentially re-used on-site (e.g. for dust suppression). The dewatering system will comprise a sump and pump system with temporary discharge (during construction) into an existing stormwater pit located to the south of the site along Mandala Parade. If required, extracted groundwater will be treated on-site prior to discharge to the stormwater network. This water treatment system should be installed, tested and operational prior to the commencement of dewatering, to ensure that only treated water that meets the performance criteria is discharged to stormwater.

This treatment will involve the use of the following dependent on water quality testing results:

- Flocculation tanks or sumps where the water may be treated with flocculant and / or a pH adjuster. Any flocculation and dosing will be undertaken with an approved substance that is suitable for the surrounding environment;
- A water treatment train system, similar to the one proposed by Coates Hire Operations Pty Ltd (provided in Appendix C); and
- Dewatering tubes.

It is recommended that any pumped-out groundwater will be discharged into a vessel (basin, or equivalent). The preferred vessel type will require adequate capacity to accommodate the rate of groundwater seepage, estimated by the EI (2021) as approximately 4.32 ML / 365 days (assumed) for the construction phase. Continuous dewatering and operation of the pumping system will be required on a full-time basis for approximately 365 days for the duration of basement constructions.

3.3 Water Quality Management

Sediment laden runoff and groundwater migrating from the site would ultimately discharge into Cattai Creek. In accordance with NSW EPA minimum requirements for flows from site dewatering operations, extracted waters must be tested to ensure compliance with the ANZG (2018) 95% Freshwater Trigger Values (and 99% Trigger Values for bio-accumulative parameters) for the protection of the relevant receptor ecosystem.

The discharge water criteria are summarised in Table 3 and must be adhered to during the dewatering program, in compliance with the DMP and NSW Protection of the Environment Operations Act 1997. Water quality monitoring will be undertaken to determine if the water meets the requirements in Table 3 and will not pollute the downstream receiving waters. This monitoring is described in Section 4.1 below. Water that meets these requirements can then be discharged from site into the adjacent stormwater system. Water that does not meet the discharge water quality requirements will be contained on-site and treated further prior to additional testing.

Table 3 Minimum Discharge Criteria

Analyte	Discharge Water Criterion ($\mu\text{g/L}$) ¹
Physico-Chemical Parameters	
pH	6.5 – 8.0
Turbidity (NTU)	6-50
Metals	
Aluminium	55
Arsenic ^{III}	24
Arsenic ^V	13
Cadmium	0.2
Chromium ^{VI}	1 ³
Copper	1.4
Lead	3.4
Mercury (inorganic)	0.06 ²
Nickel	11
Zinc	8 ³
Light Petroleum Hydrocarbons	
Surface films (petrochemical sheen)	No visible surface films
Volatile TRH ($\text{C}^6 - <\text{C}^{10}$)	If TRH is detected analysis for BTEX and PAH is required
Semi-volatile TRH ($>\text{C}^{10} - \text{C}^{40}$)	
Monocyclic Aromatic Hydrocarbons (BTEX)	
Benzene	950
Toluene	180 ⁴
Ethylbenzene	80 ⁴
o - xylene	350
p - xylene	200 ⁴
m - xylene	75 ⁴
Polycyclic Aromatic Hydrocarbons (PAH)	
Benzo(α)pyrene	0.1
Naphthalene	16

Analyte	Discharge Water Criterion (µg/L) ¹
Chlorinated VOCs	
Tetrachloroethene (PCE)	70
Trichloroethene (TCE)	330
Chloroethene (vinyl chloride)	100
cis-1,2-Dichloroethene	60
trans-1,2-Dichloroethene	
1,1-Dichloroethane	700
1,2-Dichlorobenzene	160

1 - NEPM (2013) Groundwater Investigation Levels for fresh and marine water quality, based on ANZECC & ARMCANZ (2000).

2 - Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZG (2018) for further guidance.

3 - Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance.

4 - Low reliability toxicity data, refer to ANZECC & ARMCANZ (2000).

Refer to the DMP for additional information pertaining to the dewatering of the site excavations. If water quality exceedances are observed, then an investigation will be undertaken to identify the cause of the exceedance with rectification works then undertaken as required.

4 Monitoring and Maintenance

4.1 Monitoring

The performance of ESC devices will decline if they are not maintained. All ESC devices will be inspected regularly and following significant rainfall events as detailed in Table 4 below. The results of all inspections and monitoring activities shall be recorded.

Reference shall also be made to the Dewatering Management Plan which provides additional information of the water quality monitoring including trial-run periods and details around reducing the monitoring frequency down to fortnightly (subject to the analytical monitoring result trends).

Table 4 Monitoring Frequency

Control Parameter	Monitoring Frequency	Target Level
ESC Devices	Weekly and following significant rainfall events (i.e. >10mm in a 24hr period)	All ESC devices functioning as intended including desilting as required
Water Quality	In accordance with the Dewatering Management Plan (Weekly to Fortnightly)	As per Table 3
Sediment on Roads	Visual monitoring during working hours	No sediment / mud tracked onto roads

If water quality exceedances are observed, then an investigation will be undertaken to identify the cause of the exceedance with rectification works then undertaken as required.

4.2 Maintenance

All erosion and sediment control measures will be maintained in a functioning condition until individual areas have been deemed “successfully” sealed, rehabilitated or no longer required due to excavation works. Where controls are observed to not be functioning correctly, they will be restored to meet the required standard. Where significant erosion is observed to be occurring on a regular basis, additional controls will be implemented.

Designated sump areas within the excavation will be dewatered in accordance with the DMP and released into the adjacent stormwater system provided that the water is of a suitable water quality.

5 Roles and Responsibilities

All staff must comply with this CSWMP. Specific responsibilities are detailed in Table 5.

Table 5 Responsibilities relating to ESC and Water Management

Position	Responsibility
SLR	Preparation and update of this CSWMP, in consultation with the construction team, to the satisfaction of regulators
Site Manager	Establishment of best practice culture and monitoring Enforcement of the requirements of this CSWMP
HSE Manager	Monitoring and maintenance of ESC structures in accordance with this CSWMP
Dewatering Contractor	Dewater the excavation sump / tanks in accordance with the DMP
Water Treatment Specialist	Design and maintain the water treatment system as required to meet the water quality objectives detailed within this CSWMP
All Construction Personnel	Undergo appropriate inductions and training Comply with the relevant Acts, Regulations and Standards. Compliance with this CSWMP Promptly report to management on any non-conformances or breaches of the system.

6 Limitations of this report

This CSWMP is intended for the mixed-used residential and commercial construction works and sets out minimum requirements. The Principal Contractor will need to review the appropriateness of ESC measures on site at each stage of construction, and may be required to adjust measures to ensure that they are appropriate at all times to prevent harm to the environment as site conditions change over time.

APPENDIX A

Duncan Barnes CV (CSWMP Author)

Duncan has over 14 years' experience in the assessment and design of water management infrastructure using a variety of modelling programs including GoldSim, DRAINS, MUSIC, 12D, Autocad, XP-RAFTS and XP-SWMM. He has been involved with numerous surface water management projects, particularly in the design and analysis of drainage systems (both water quantity and quality), WSUD, site water balances, surface water assessments and erosion and sediment control design (for which he is CPESC certified).

Duncan has experience in water management audits, facility closure plans, detailed dam design and the preparation of various management plans used at industrial, commercial, residential, mine and quarry sites. He also has experience in water quality / channel stability and subsidence monitoring. In addition, he has worked within the environment team supervising coal seam gas drilling in SE Queensland and during secondment placement on the Ravensworth North Project.

Duncan has had experience working on the pre-tender design of the South West Rail Link as part of an alliance drainage team and worked on a Pacific Highway upgrade from Coopernook to Herons Creek.

Education

- Bachelor of Environmental Engineering (1st Class Honours), University of Newcastle (2007)
- Certified Professional in Erosion and Sediment Control

Project Experience

Erosion and Sediment Control (ESC)

Woodside Solar Facility ESCP (2022)

Involved the preparation of an ESCP (report and drawings) for the proposed Woodside Solar Facility near Karratha, Western Australia.

Mount Lindesay Highway Upgrade (2020)

Involved the preparation of an ESCP (report and drawings) for the proposed Mount Lindesay highway upgrade works in Mount Lindesay, Queensland. The works included upgrading the highway to a 110km/h design speed 4 lane highway with future provision for 6 lanes, a grade separated interchange at Chambers Flat Road / Crowson Lane, service roads linking existing roads and properties, and upgrading of the interchange ramps at Stoney Camp Road Interchange.

Nerang to Murwillumbah Road Upgrade (2020)

Involved the preparation of an ESCP (report and drawings) for the proposed road upgrade works from Nerang to Murwillumbah in southern Queensland. The road works covered a road length of 37 kms.

Colmslie Beach Reserve Upgrade (2021)

Involved the preparation of an ESCP (report and drawings) for the proposed beach reserve upgrade at Colmslie Brisbane.

Regional Rail Facility ESCP Dubbo (2020)

Involved an ESC inspection and the preparation of an ESCP (report and drawings) for the proposed rail facility in Dubbo.

Mount Owen Operations Quarterly Inspections (2016-Ongoing)

Mount Owen Operations Quarterly ESC Inspections. The outcome of the ESC inspections was a comprehensive action spreadsheet with recommended actions and risk rankings of observed issues.

Rum Jungle (2020)

The former uranium mine in the NT was closed in 1960 and initially rehabilitated through the 1970's and 1980's. The ESCP (report and drawings) was prepared for all the rehabilitation works at the site which involved a large area of ground disturbance.

Mount Owen Complex Bayswater North (2019)

Involved the conceptual and detailed design (for construction) of water management structures to convey and treat runoff from the proposed Bayswater North dump area at the Mount Owen Complex. This design involved both hydrological and hydraulic modelling in XP-RAFTS.

Mount Pleasant Mine Audit (2017-2021)

Numerous ESC audits of the Mount Pleasant Mine. The outcome of the ESC audits was a comprehensive action spreadsheet with recommended actions and risk rankings of observed issues.

Hunter Valley Operations Glider Pit (2020)

Involved the conceptual and detailed design (for construction) of water management structures to convey and treat runoff from the proposed Glider Pit dump area at the Hunter Valley Operations mine. This design involved both hydrological and hydraulic modelling in XP-RAFTS and detailed design of several dams and conveyance channels.

Camp Hill Wetland Desilting (2019)

Involved the preparation of an ESCP (report and drawings) for the proposed desilting works at the Camp Hill Wetland.

Albert Street High Rise Development (2019)

Involved the preparation of an ESCP (report and drawings) for the proposed high-rise development at Albert Street, Brisbane.

Meteor Downs Rail Loop (2019)

Involved the preparation of an ESCP (report and drawings) for the proposed rail loop construction works at the Meteor Downs mine.

Ravensworth Open Cut, Pre-Strip (2018)

Involved the design of water management structures to convey and treat runoff from the proposed pre-strip disturbance areas at the Ravensworth Open Cut mine.

Darwin Luxury Hotel (2018)

Involved the preparation of an ESCP (report and drawings) for a proposed luxury hotel in Darwin.

Moreton Bay Cycleway (2018)

Involved the preparation of an ESCP (report and drawings) for a proposed cycleway in Brisbane. The project was undertaken for Brisbane City Council.

Bulga Commonwealth Drill Pad (2018)

Involved the preparation of ESCP drawings for the rehabilitation of a number of drill pads on Commonwealth land for the Bulga Underground Coal Mine.

Bulga Underground Quarterly ESC Inspections (2013-2018)

Bulga Underground Quarterly ESC Inspections. The outcome of the ESC inspections was a comprehensive action spreadsheet with recommended actions and risk rankings of observed issues.

Erskine Park Transfer Station (2018)

Involved the preparation of an ESCP (report and drawings) for the Erskine Park Transfer Station upgrade works. The ESCP included measures for both the construction and operational phases of the works.

Mount Owen Pre-Strip (2018)

Involved the design of water management structures (concept and detailed) to convey and treat runoff from the proposed pre-strip disturbance areas at the Mount Owen Complex mine.

Mount Pleasant Rail Loop (2018)

Involved the preparation of an ESCP (report and drawings) for the proposed rail loop at the Mount Pleasant mine.

Ipswich Hospital (2017)

Involved the preparation of an ESCP (report and drawings) for Ipswich Hospital construction works.

Ensham Mine (2017)

Involved the preparation of an ESCP (report and drawings) for the Ensham mine in Queensland. The ESCP provided guidance on ongoing ESC management at the mine.

Wambo Coal Mine (2017)

Preparation of a site wide ESCP of the Wambo Coal Mine. This included catchment analysis and capacity assessment of all sediment dams at the site. Detailed site catchment plans were prepared for Wambo Coal as part of this project.

Bulga Underground Longwall 8 Drill Pad (2016)

Involved the preparation of ESCP drawings for drill pads associated with Longwall 8 at the Bulga Underground Mine.

Bulga Surface Operations (2016)

ESCP drawings and report for a Noise and Visual Bund at the Bulga Coal Mine. The Noise and Visual Bund is a large emplacement dump which extends for approximately 10kms. The ESCP involved conceptual and detailed design of water conveyance structures to safely convey runoff to the toe of the emplacement.

Origin Energy Secondment (2014)

One month Environmental Officer secondment for Origin Energy in the coal seam gas fields of SE Old (based in Roma). Whilst the role involved the management of a range of environmental factors the primary role was to ensure suitable ESC management of gas pads and the access roads.

Surface Water Assessment, Management and Design

Austar Mine Closure Surface Water Gap Analysis (2021)

Prepared a surface water gap analysis assessment for closure of the Austar Coal Mine. This project included a detailed literature review and the preparation of findings (including recommendations and risk rankings) into a Desktop Knowledge Base Report and gap analysis spreadsheet.

Liddell Mine Closure Surface Water Gap Analysis (2020)

Prepared a surface water gap analysis assessment for closure of the Liddell Coal Mine. This project included a detailed literature review and the preparation of findings (including recommendations and risk rankings) into a Desktop Knowledge Base Report and Glencore spreadsheet.

CCI701 Closure Plan, Whitehaven Coal (2017-2019)

Prepared a Surface Water Assessment (SWA) to support a Detailed Mine Closure Plan for the Consolidated Coal Lease 701 (CCL701). CCL701 is the site of the former Gunnedah Colliery which operated for over 100 years until closure in September 2000. The lease covers 5,635ha, for which 951.6ha is owned by Whitehaven Coal.

CCL701 encompasses Melville Open Cut, a Coal Preparation Plant site, a Tailings Storage Facility and a number of underground portals. This SWA included the design of water management structures to manage runoff from large disturbance areas including hydrological modelling, site water balances and the development of a monitoring / maintenance program.

Macquarie Coal Preparation Plant Discharge Water Management Strategy (2017-2018)

Investigation to address the Environment Protection Licence (EPL) 1360 notice of variation which requires a Discharge Water Management Study (DWMS) for the Macquarie Coal Preparation Plant (MCPP). This investigation specifically addressed the requirements of condition U1.2 which included a detailed catchment plan, predictions of runoff volumes and water quality over time, an assessment against water quality limits and details of practicable measures to achieve the relevant objectives and prevent pollution of the receiving environment upon mine closure.

OCAL Complex Mine Closure Plan, Surface Water Assessment (2016)

Prepared a Surface Water Assessment (SWA) to support a Detailed Mine Closure Plan for the OCAL Complex which encompasses the West Wallsend Colliery (WWC), the Macquarie Coal Preparation Plant (MCPP), the former open-cut, Westside Mine and the former Teralba Colliery (Northgate and Southgate sites). This SWA included an assessment of the Westside Final Void including a water balance, spillway design (conceptual and for construction) and a final void water quality assessment.

Tarrawonga Water Management Plan (2016)

Preparation of a Water Management Plan (WMP) to satisfy project approval conditions for the

continuation of the Tarrawonga open cut mine, near Boggabri. Furthermore, the WMP was prepared in consultation with the relevant regulators and incorporated a Water Balance, Erosion and Sediment Control Plan and Surface Water Monitoring Program.

Abbey Green Rehabilitation Drainage Design (2015)

The project involved hydrological and hydraulic modelling to undertake a detailed design of the proposed water management structures at the Abbey Green Rehab area of the MTW mine. The detailed design involved the preparation of design drawings, a report detailing the methodology, assumptions and results of the design and a construction cost estimate.

Muswellbrook Coal Mine Surface Water Management Study (2015)

Undertook a surface water study for the Muswellbrook open cut coal mining operation located in the Hunter Valley, NSW. The focus of the study was to develop a final void landform design in accordance with the approved Mining Operations Plan (MOP) focussing on assessing existing water management infrastructure and developing the design of water management structures to be implemented during each of the remaining MOP phases. The study also addressed the risks associated with adequate sizing of water storage structures and the advantages of strategic rehabilitation and water management planning.

Mount Thorley Water Management Design (2015)

Desktop review and site inspection of the existing water management structures at the MTW mine in order to recommend improvements to the water management system. The recommended improvements were then conceptually designed and documented in a report.

Pine Dale Coal Mine, Stage 2 Extension Surface Water Assessment (2014)

Preparation of a Surface Water Assessment (SWA) for a proposed extension to the Pine Dale Coal Mine in the Western Coalfields region. The key aspects addressed within the Surface Water Assessment include the identification of potential surface water impacts as a result of the Proposal, a description of the proposed mitigation and management measures to be implemented to address these potential impacts, licensing requirements, recommendations for ongoing surface water monitoring and a site water balance. The site water balance includes a discussion on water sources, water security and the potential for discharges from the Site.

West Wallsend Colliery Pit Top Dam Assessment (2013)

Included an assessment of the water management system at the West Wallsend Colliery pit top area. This included hydrological modelling of the site, dam capacity calculations and detailed design (for construction) of dam augmentation works.

Chain Valley Colliery Surface Water Assessment (2012)

The Surface Water Assessment included standard ESC and rehabilitation measures to ensure the compliance with the site's statutory requirements and minimising the risk of pollution to downstream waterways due to disturbance works. The control measures included upstream clean water diversion drains, downstream sediment fences and the revegetation of disturbed areas (including hydromulch on cut/fill batters). A gravel surface was applied to all the hardstand areas immediately following earthworks to minimise erosion at the site.

Site Water Balance

CCL701 No 5 Entry Boxcut Water Balance (2017-2019)

Site water balance of the No 5 Entry Boxcut to make an assessment of the likely annual water volumes available for water use on the property. Due to the limited soil data available, the water balance investigation was intended as a high-level assessment of the possible water volumes likely to be available for farming purposes.

Tarrawonga Coal Mine, Water Balance, Whitehaven Coal (2018)

Site water balance of the No 5 Entry Boxcut to make an assessment of the likely annual water volumes available for water use on the property. Due to the limited soil data available, the water balance investigation was intended as a high-level assessment of the possible water volumes likely to be available for farming purposes.

New Acland Final Void Water Balance (2017)

Detailed daily time-step water balance of the proposed New Acland Mine Final Void in GoldSim to assess the potential for potential overflows and offsite discharges. The project also involved a salinity balance and a report to document the methodology, assumptions and results of the water balance investigation.

Rocglen Coal Mine (2017)

Detailed technical assessment of the preferred final landform option (including the final void) at the Rocglen Coal Mine (RCM) in response to questions and issues raised by the Department of Planning and Environment (DP&E). This technical assessment included a final void water and salinity balance, an assessment of groundwater inflow rates and long-term localised groundwater levels, a final void water quality assessment, recommendations pertaining to managing potential surface water and groundwater risks, a design of water management structures and monitoring and maintenance requirements.

Westside Final Void Water Balance (2016)

Detailed daily time-step water balance of the Westside Final Void in GoldSim to assess the potential for potential overflows and offsite discharges. The project also involved a report to document the methodology, assumptions and results of the water balance investigation.

McCahills Water Balance (2016)

Preparation of a site water balance of the MaCahill's waste management facility for inclusion into a site Stormwater and Wastewater Management Plan. The objective of the water balance was to assess both water security and the volume/frequency of potential site discharges. The project also involved a report to document the methodology, assumptions and results of the water balance investigation.

Pine Dale Coal Mine, Stage 2 Extension Water Balance (2014)

Detailed daily time-step water balance of the proposed Pine Dale Coal Mine Stage 2 Extension layouts in GoldSim to assess both water security and the volume/frequency of potential site discharges. The project also involved a report to document the methodology, assumptions and results of the water balance investigation.

Chain Valley Colliery Extension Water Balance (2012)

Detailed daily time-step water balance of the proposed Chain Valley Colliery extension to assess both water security and the volume/frequency of potential site discharges. The project also involved a report to document the methodology, assumptions and results of the water balance investigation.

Stormwater / Water Quality Design

Woodlawn Bioreactor Leachate Management Audit (2019-2021)

Independent annual leachate management audits of the Woodlawn Bioreactor site. The audits include consultation with regulators, an assessment of the leachate management system (including the leachate treatment plant) and improvement recommendations.

Erskine Park Waste Facility Stormwater Design and Surface Water Design (2017)

Surface water assessment and stormwater design of the proposed waste transfer station at the Erskine Park Resource Management Facility in Sydney. The project was classed as a State Significant Development (SSD) and included the design of pits/pipes, rainwater tanks, an on-site detention system and a bioretention basin.

McCahills Stormwater and Wastewater Management Plan (2016)

Prepared Stormwater and Wastewater Management Plan for the MaCahill's waste management facility in support of an application for an amendment to their Environmental Authority (EPPR00757513). The plan included an assessment of the surface water and leachate management system, the design of additional water management structures, a site water balance, environmental management recommendations and surface water monitoring plan.

Auckland Airport Water Efficiency Plan (2016)

Prepared a water efficiency plan for Auckland Airport to identify key trends in water consumption

and identify opportunities for improved water efficiency. The plan identified that the key water consuming areas of the Airport were the International and Domestic Terminal Buildings (e.g., lavatories and passenger showers) and the sanitary waste disposal facility. Key external controlled water users were identified as maintenance facilities and in-flight catering services.

Kooragang Island Surface Water Assessment (2014-2015)

Development application surface water assessment for a proposed expansion of Boral's waste recycling facility on Kooragang Island (Newcastle). Included an assessment of water demand, supply and reuse, flooding, stormwater quality and quantity, groundwater, ESC and the monitoring/maintenance program. The project also included a site water balance and design of water management structures including a number of infiltration basins.

Kennedy Cove Stormwater Design (2014)

The project involved a catchment analysis, development of a hydraulic model of the network, development of options to address the environmental issues being experienced and a multi-criteria analysis of the proposed options. Parameters considered included constructability, maintenance, operation, security, cost, etc. Reporting on the options developed was undertaken with a view to Council implementing the preferred option.

Karuah East Hard Rock Quarry Water Management Plan (2012)

Preparation of the Environmental Management System for the Karuah East Hard Rock Quarry (Hunter Quarries). This included the preparation of various management plans including a Water Management Plan and a Pollution Incident Response Management Plan.

South West Rail Link Stormwater Design (2011)

Worked as part of a drainage team that designed all of the drainage including cross drainage (culverts), longitudinal drainage (cess drains, pit/pipe networks, diversion drains) and additional local roads and car parks for a 11km section of a new rail line to the south of Sydney from Glenfield to Leppington.

Cooperook to Herons Creek Pacific Highway Upgrade Cross Drainage Works (2010)

Cooperook to Herons Creek, Pacific Highway Upgrade, TCA – Designed longitudinal and cross drainage for the Cooperook to Herons Creek, Pacific Highway Upgrade. This primarily involved hydraulic modelling in DRAINS.

Northlakes Subdivision Drainage Design (2010)

Developed stormwater management plan for numerous stages of the large residential subdivision. 12D was used to design the pit and pipe network. Water quality modelling was undertaken in MUSIC and the DRAINS model developed for water quantity was reviewed.

Wyong Car Park Drainage Design (2010)

Designed stormwater drainage system for a commuter car park at Wyong (adjacent to the train station). Involved iterative detailed design using both 12D and DRAINS. The client for this project was Transport Infrastructure Development Corp (TIDC).

Ourimbah Flooding Assessment, University of Newcastle (2010)

Flooding assessment of the Ourimbah University Campus. Involved hydrological and hydraulic modelling in XP-SWMM and assessment in HEC-RAS.

Waurm Ponds Carpark (2010)

Designed water quality devices including rain gardens, bio-retention swales and gross pollutant traps at a major shopping centre car park in Geelong, Victoria. Involved MUSIC modelling and working with Council to get their approval for the design.

Structural Inspections

Hunter Economic Zone (2009)

Carried out numerous construction inspections of a strip footing for a sewer main to be placed in a mine subsidence area. Regular inspections were undertaken on average 3 times a week for several months.

Alphine Way, Thredbo (2009)

As part of the RTA's requirements for ongoing road safety, inspections of culverts for stormwater drainage were conducted to identify faults and drainage issues present which could lead to failure. Over 100 culverts were inspected as part of this project. The RTA was very pleased with the quality and timing of the inspections.

Southern Region (2009)

Over 400 culvert inspections at the, Kings Highway, Goulburn Road, Federal Highway, Crookwell Road and the Old Hume Highway through Goulburn. Many of these culverts were located in urban areas and provided differing challenges to the ones on rural roads and highways. The RTA was very pleased with the quality and timing of the inspections.

Water Monitoring

Allworth Quarry Water Monitoring (2012)

Included the preparation of the Environmental Management System for the Allworth Park Quarry (Tricon Mining Equipment). This included the preparation of a Water Management Plan and a Water Monitoring Program which included monthly monitoring over several years.

Newcastle Harbour, Theiss (2009)

Hunter River / Newcastle Harbour water quality monitoring. A small area in the harbour was found to be contaminated from previous BHP work. A sheet pile wall was required, prior to dredging works, so no contaminants could escape into the harbour. 3 rigs were used to drive the piles into the ground. In order to do this piling they required suitable water quality monitoring to ensure that they weren't having an adverse effect on the harbour. The monitoring included going out on a boat for three months (six days a week) and undertook hourly water quality monitoring and water sampling two days a week.

Environmental Management

Wambo Coal Mine Bi-Annual Subsidence Monitoring (2017-Ongoing)

Bi-annual subsidence monitoring at the Wambo Coal Mine. The monitoring included recording the type and location of subsidence, and features including maximum width, length and depth of cracking. Photographs were taken and the depth of cracking was measured using an incremental string line with a weight attached to the end.

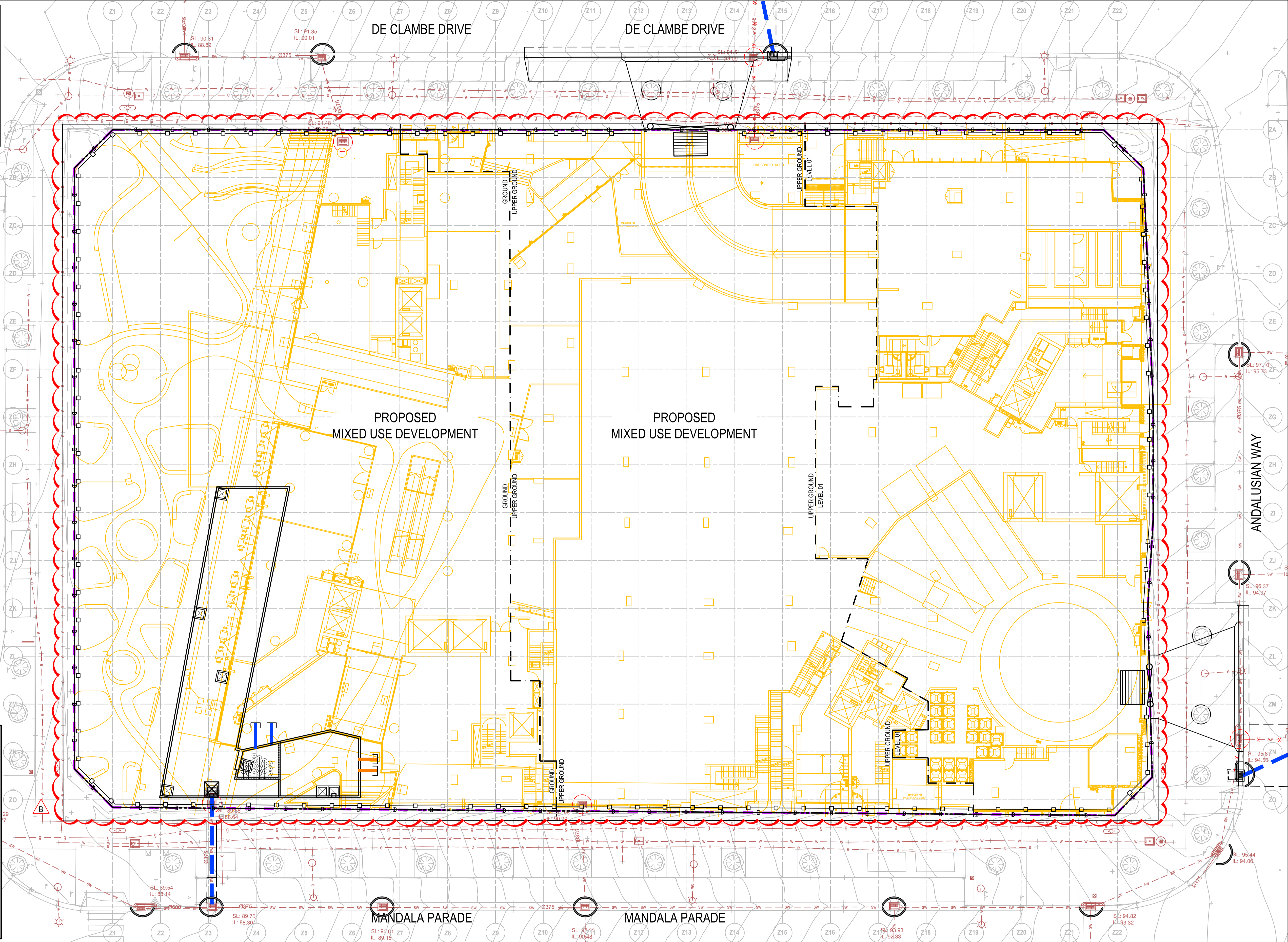
Confidential Client (2011)

Prepared a Sinkhole Rehabilitation Plan for a confidential client in the Hunter Valley.

APPENDIX B

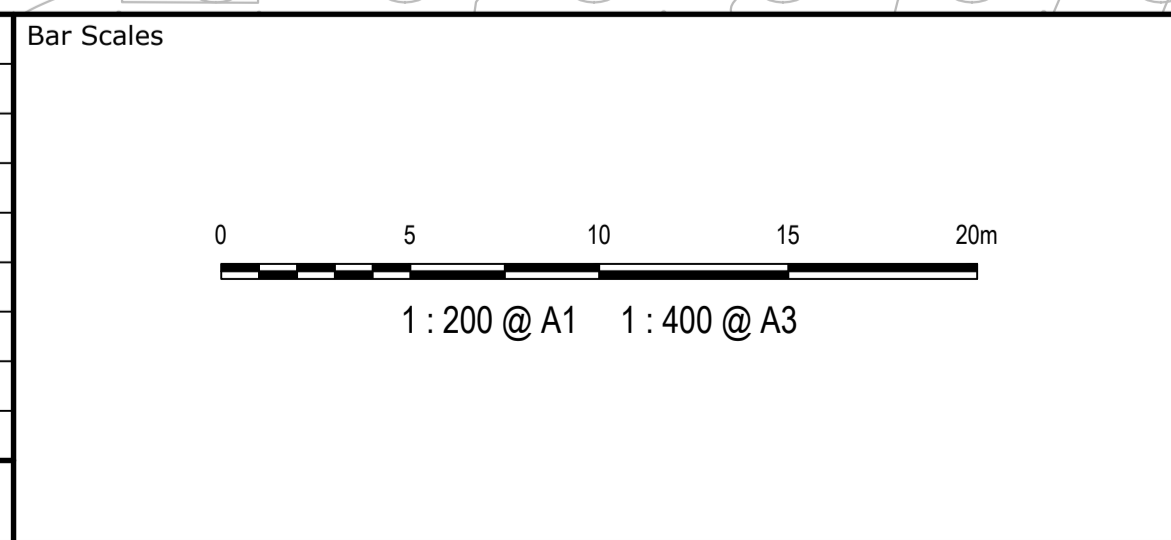
Conceptual Erosion and Sediment Control Drawings

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Project Title: DORAN DRIVE PRECINCT CASTLE HILL				
Consent No: SSD 15882721		Body Corporate Reg No: -		
Drawing Title: ESC PLAN		Drawing No: 22-999-C1601		
Rev	Date	Description	DP Full Name	Reg No



LEGEND	
	SEDIMENT FENCE (SD 6-8)
	CATCH DRAIN
	BARRIER FENCE
	STRAW BALE FILTER (SD 6-7)
	MESH AND GRAVEL INLET FILTER (SD 6-11)
	GEOTEXTILE INLET (SD 6-12)
	STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
	PROPOSED SITE ACCESS GATE

Issue	Description	Date
B	ISSUE FOR CC APPROVAL	09-01-23
A	ISSUE FOR CC APPROVAL	20-10-22



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Client

DEICORP
BUILT TO DELIVER

Scales	Drawn	HG
Grid	Checked	GJ
Height Datum	Approved	AT
SSD 15882721		

Project

DORAN DRIVE PRECINCT
CASTLE HILL

Title

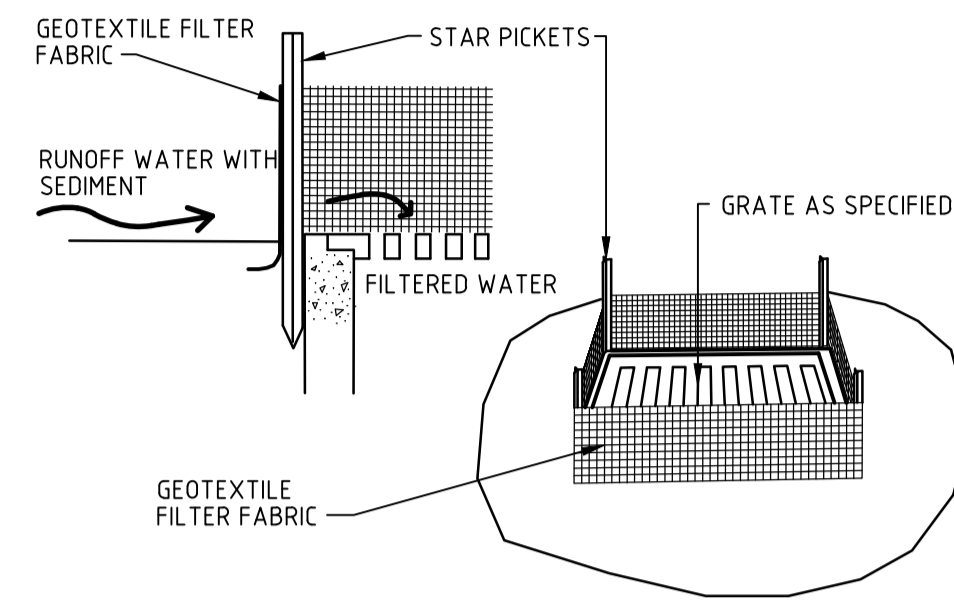
EROSION AND
SEDIMENT CONTROL
PLAN

Civil Engineers and Project Managers

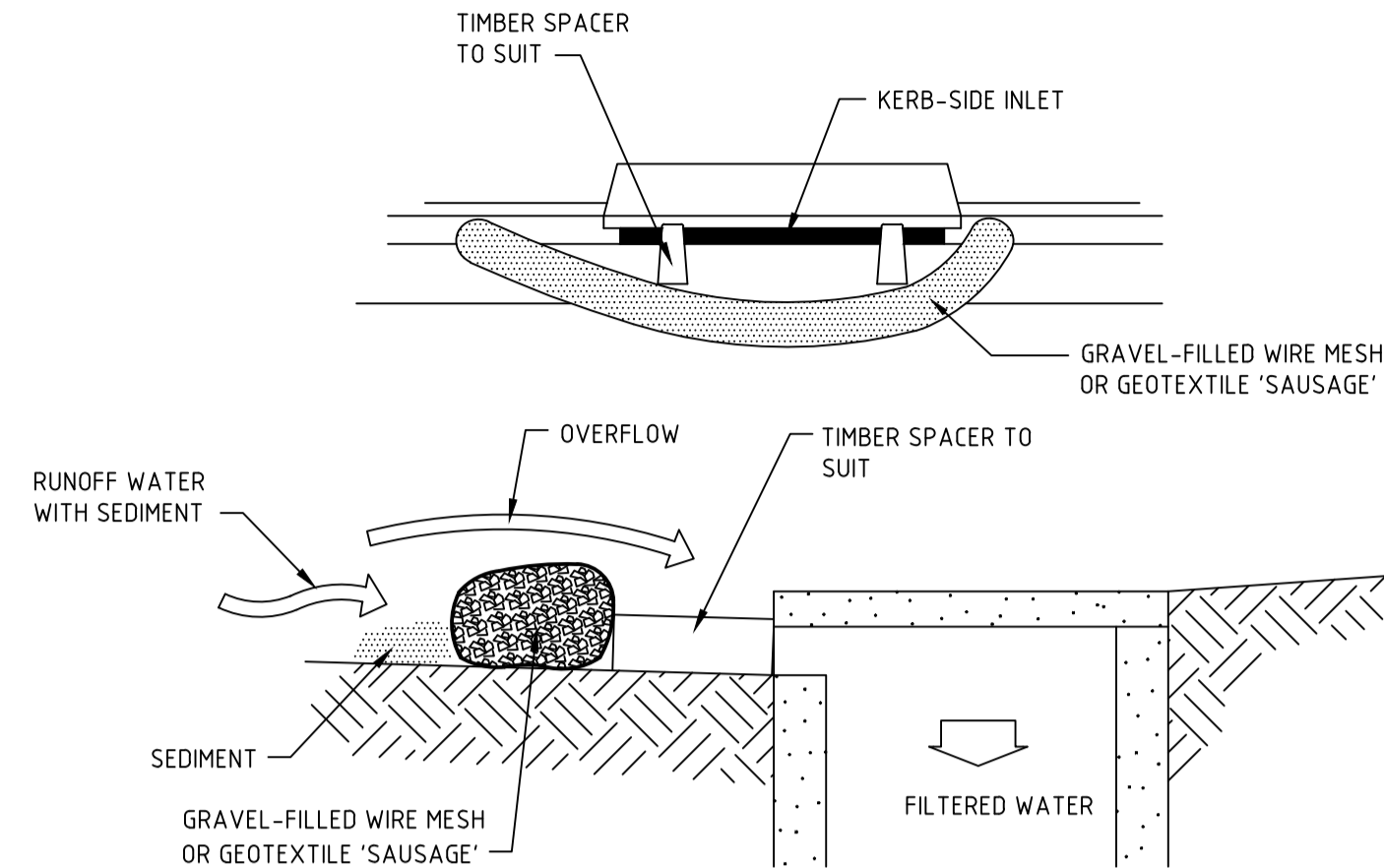
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status	FOR CC APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Project - Drawing No.	22-999-C1601	Issue
		B

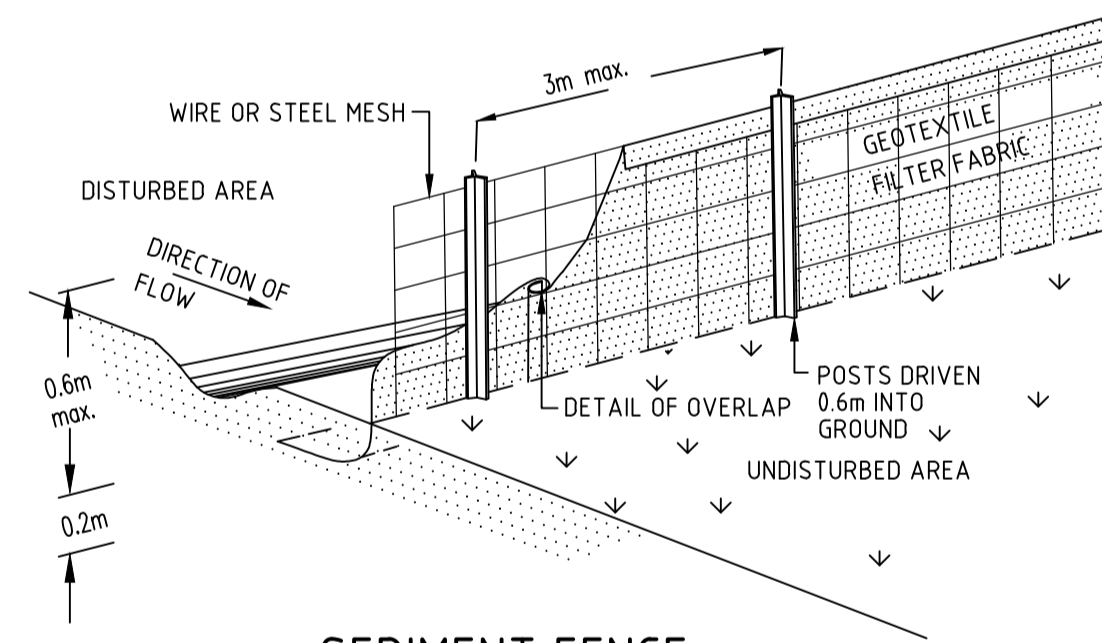
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Project Title: DORAN DRIVE PRECINCT CASTLE HILL				
Consent No: SSD 15882721		Body Corporate Reg No.:		
Drawing Title: ESC DETAILS		Drawing No: 22-999-C1602		
Rev	Date	Description	DP Full Name	Reg No
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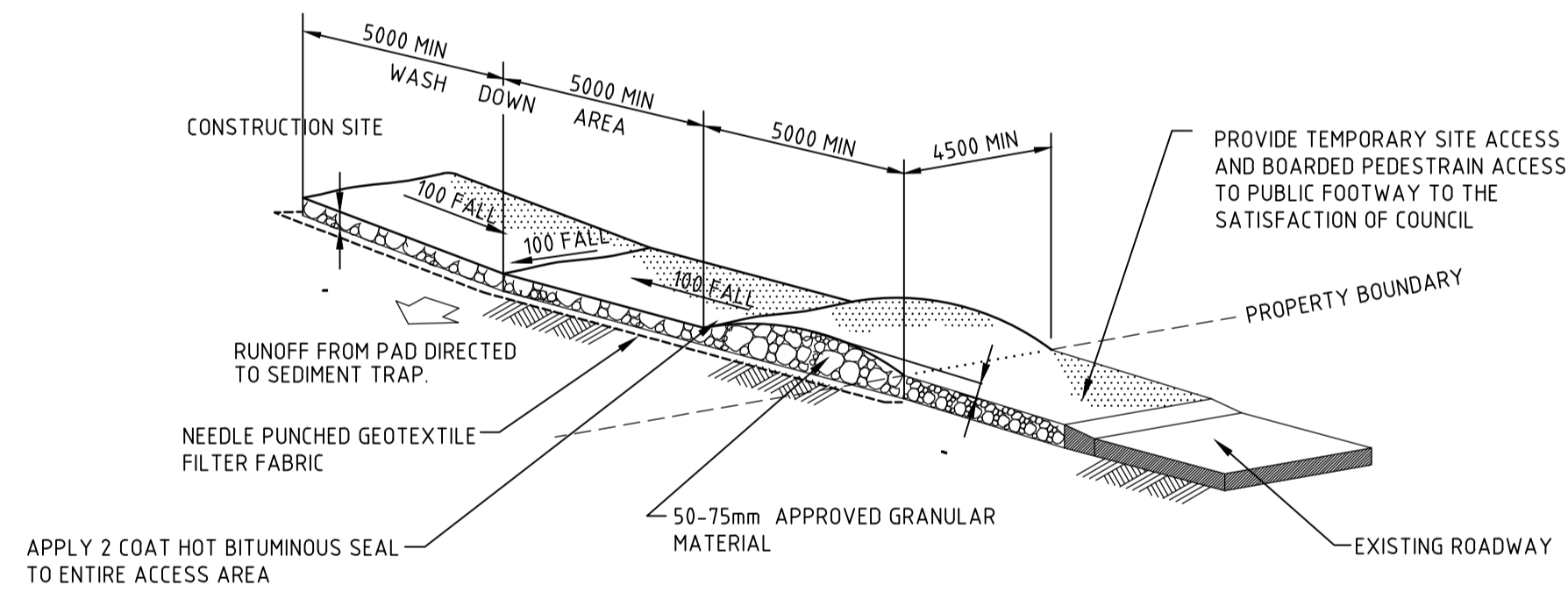
GEOTEXTILE FILTER PIT SURROUND
NTS



MESH AND GRAVEL INLET FILTER
NTS



SEDIMENT FENCE
NTS



STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA
NTS

Issue	Description	Date
A	ISSUE FOR CC APPROVAL	20-10-22

Bar Scales

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Client	SSD 15882721
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Grid	MGA
Height Datum	AHD
Drawn	HG
Designed	CK
Checked	GJ
Approved	AT

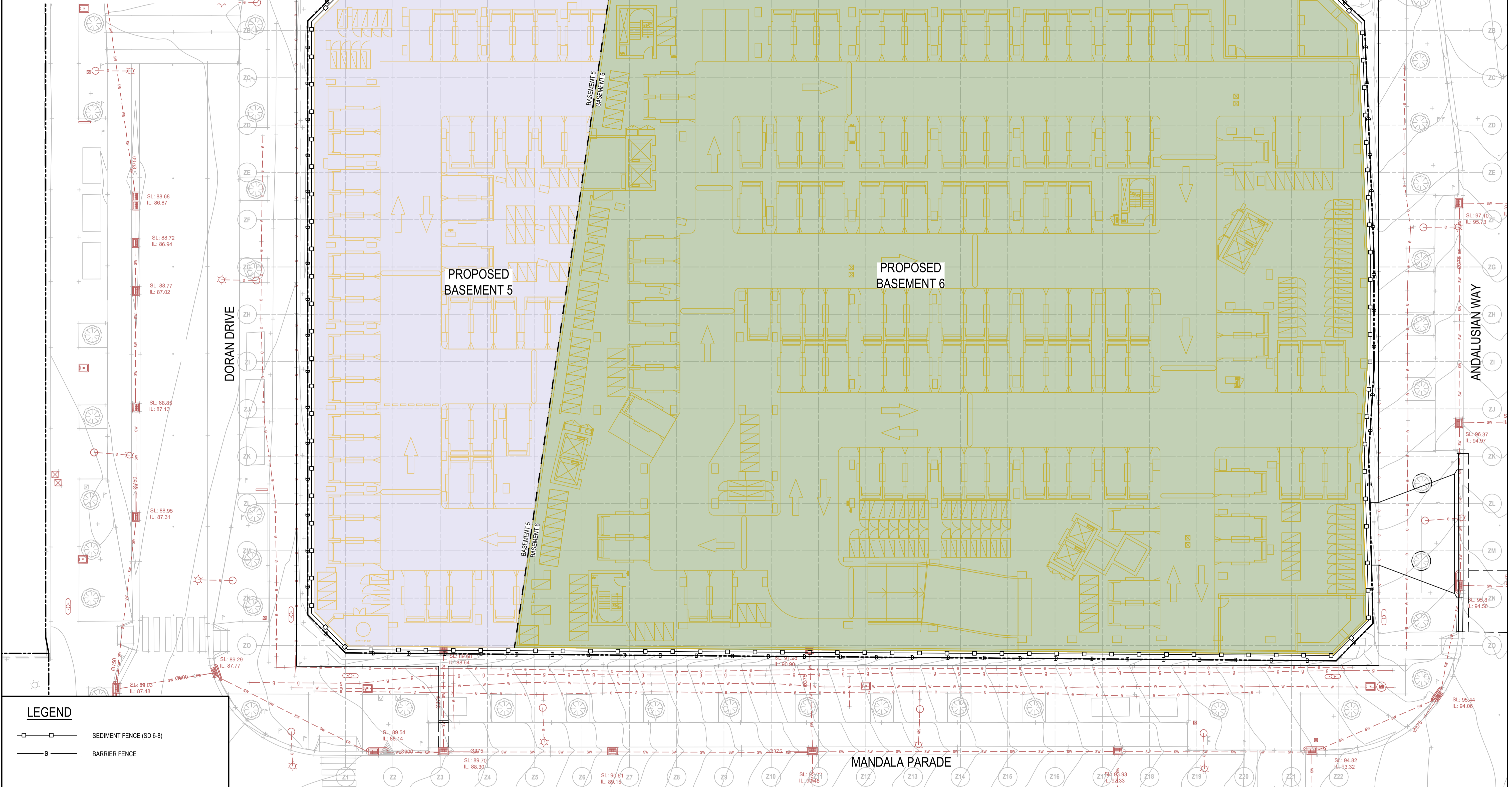
Project	DORAN DRIVE PRECINCT CASTLE HILL
Title	EROSION AND SEDIMENT CONTROL DETAILS

Civil Engineers and Project Managers

Level 7, 153 Walker Street
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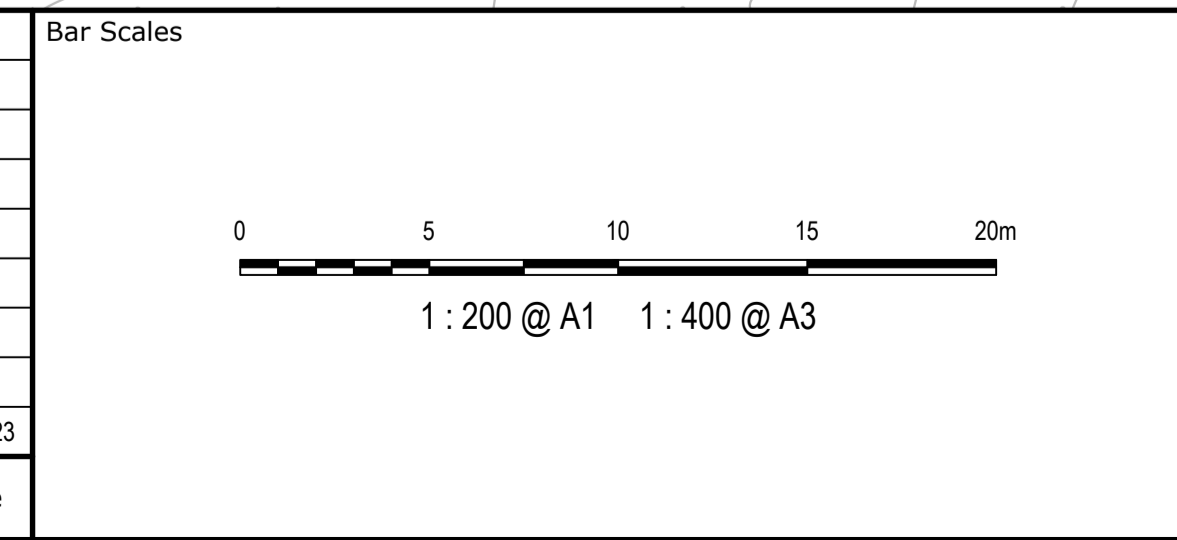
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Project - Drawing No.	22-999-C1602	Issue
		A

Regulated Design Record				
Project Address:				
Project Title:				
Consent No:		Body Corporate Reg No:		
Drawing Title:		Drawing No:		
Rev	Date	Description	DP Full Name	Reg No
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LEGEND	
	SEDIMENT FENCE (SD 6-8)
	BARRIER FENCE

Issue	Description	Date
A	ISSUE FOR CC APPROVAL	09-01-23



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Client

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BUILT TO DELIVER

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			1 : 200
Grid	MGA	Checked	GJ
Height Datum	AHD	Approved	AT
SSD 15882721			

Project

**DORAN DRIVE PRECINCT
CASTLE HILL**

Title

**EROSION AND
SEDIMENT CONTROL
EXCAVATION
PLAN**

Civil Engineers and Project Managers

Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
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www.at.net.au
info@at.net.au

Status	FOR CC APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Project - Drawing No.	22-999-C1603	Issue

APPENDIX C

PR Water & Coates Hire Operations Proposed Water Treatment System

Quote Reference:	W-11830-R
Title:	DeiCorp – Hills Showground Village apartments – Water Treatment Location –De Clambe Dr & Doran Dr, Castle Hill NSW 2154 Equipment Rental Quote
Prepared for:	DeiCorp
Prepared by:	Sal Valenzisi
Dated:	1/05/2023



Customer Name	Hatti Hammoud	Position	Cadet Engineer		
Company Name	DeiCorp				
Address	Level 2, 161 Redfern Street,				
Suburb	Redfern	State	NSW	Postcode	2016
Telephone	02 8665 4100	Fax	-		
Mobile	0450 726 064	Email	alex.albazouni@ceerose.com.au		

RE: PR Water Quote Ref – W-11830-R

Dear Hatti,

I have the pleasure in submitting PR Water's rental quotation.

PR Water provides a wide range of environmental products including automatic Skid based Chemical Dosing Systems, Containerised System, Truck wheel washes, Dust suppression and migration control system.

Our range of internationally recognised premium, reliable equipment is supported Australia wide by an experienced and knowledgeable team, providing technical and parts expertise in all areas of power generation, mobile lighting towers and water solution equipment.

Please review the attached quotation, if you require any further information or would like to discuss this offer further please feel free to contact myself.

Regards,

Sal Valenzisi

Water Treatment Specialist - NSW

PR Water – NSW

130 Toongabbie Rd Girraween NSW 2145

m. 0427 723 737

t. 1300 399 499

e. salvalenzisi@prwater.com

w. www.prwater.com.au

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1.0 QUOTE ACCEPTANCE

Purchase Order Number/Reference: _____

Authorised By (Company): _____

Authorised By (Name): _____

Date of Acceptance: _____

Requested Date of Delivery: _____

2.0 PROJECT DATA

Project:

DeiCorp have requested PR Water provide a proposal for water treatment solution.

Site location:

Site located - Hills Showground Village apartments – De Clambe Dr & Doran Dr Castle Hill NSW 2154



Site Water Quality:

DeiCorp provided a water analysis report for this site (ground water source and the water in the tank – in Basement) prepared by Trinitas Group (26/10/2023 Report Reference: 6357.2.).

Discharge criteria of 50 NTU and pH of standard discharge criteria (6.5 – 8.5) and heavy metal below discharge limits.

The results of contaminants of potential concern were Chromium, Copper, Lead, Nickel, Zinc and Turbidity (within the Tank water).*

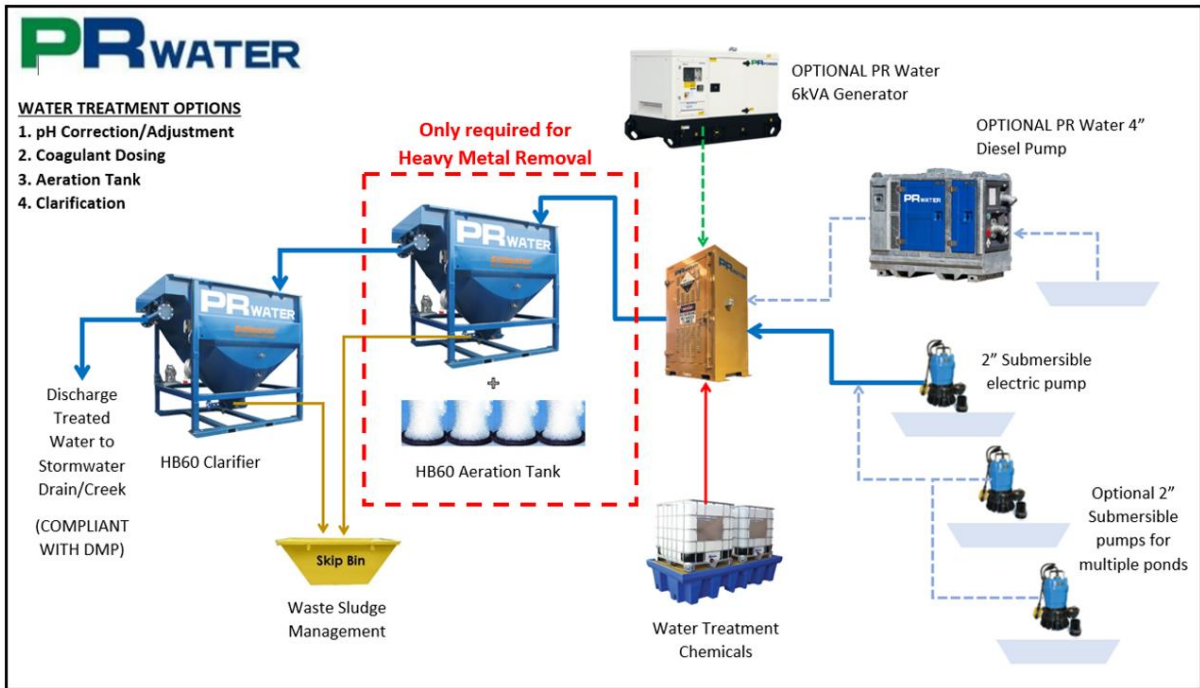
***Important Note: The equipment and services provided by PR Water in this proposal will treat the ground water and work towards achieving the discharge criteria. However results are not guaranteed. Site conditions may impede results, additional equipment maybe required to remove heavy metals.**

PR Water Proposed Solution:

1. pH correction and TSS reduction and minor heavy metal removal
 - 1x Skid Dosing System (SDS) and 1x HB60 clarifier
 - Hoses and Fittings
 - Water treatment chemicals - pH correction, Coagulant and Flocculant
 - Onsite services by PR Water Technician – Commissioning
2. pH correction and TSS reduction and heavy metal removal
 - 1x Skid Dosing System (SDS), 1x HB60 aeration tank, and 1x HB60 clarifier
 - As above

Proposed Equipment Options:

1. pH correction and TSS reduction and minor heavy metal removal
Chemical Dosing Skid and HB60 Clarifier
2. pH correction and TSS reduction with heavy metal removal
Chemical Dosing Skid and HB60 Aeration tank and HB60 Clarifier



Water Treatment Equipment Installations:

Standard Set-up
SDS + Single HB60



High Volume Setup
SDS + 2x HB60 in parallel



Heavy Metal Removal Set-up
SDS + 2x HB60 in series



3.0 HB60 LAMELLA CLARIFIER

MODEL	HB60 Lamella Clarifier Unit	
RENTAL RATE	\$890.00 + GST per unit/per week	QTY 0
RENTAL RATE (Discounted rate)	\$850.00 + GST per unit/per week (3+ months)	QTY 1
ADDITIONAL ITEM	\$350.00 per week – Auto Desludging Valve	QTY 0
ADDITIONAL ITEM	\$60.00 per week – Air Compressors (1 unit)	QTY 0
HIRE PERIOD	3 months	
MOBILISATION	TBC – PR Power to site – <i>Hirer responsible for payment</i>	
DEMOBILISATION	TBC – Site to PR Power – <i>Hirer responsible for payment</i>	
AVAILABILITY	Ex-PR Water NSW	
DELIVERY	Subject to prior sales and equipment availability	

3.1 EQUIPMENT SPECIFICATIONS: LAMELLA CLARIFIERS

HB60 LAMELLA CLARIFIER
<p>The PR Water Siltbuster HB60 Lamella Clarifier excels in water treatment and the removal of solid particles from contaminated water. As a mobile water treatment plant, the HB60 Lamella Clarifier has a large settlement area and treats water via gravity separation. PR Water's HB60 clarifier has a nominal flow rate of 40m³/hr while maintaining a minimal unit footprint, this ensures the treatment process is as efficient as possible.</p> <p>The HB60 Lamella Clarifier's are pre-assembled. Multiple units can be used parallel to each other to increase the surface area for the settlement of solid particles, accelerating the gravity separation process and flow rate. The Lamella Clarifiers have no moving parts, minimal maintenance and have high durability, complying with ISO Standards.</p> <p>To provide effective recovery of suspended particles the PR Water HB60 Settlement unit is normally operated at flow rates of up to 40 m³/hr. However, when treating rapidly settling solids or when operated in conjunction with a PR Water Chemical Dosing System the flow rate can be increased up to the hydraulic capacity of the unit (80 m³/hr). The solids (sludge) collected by the unit settle within the unit's hopper and are easily removed by the opening of a gate valve, eliminating the need for the unit to be taken offline for emptying, beneficial for applications where near continuous operation is required.</p> <p>How it works: PR Water's Lamella Clarifiers are designed to encourage laminar flow throughout the unit. Gravity forces the flocculated/settleable solids to remain below the lamella plates and settle in the sludge collection hopper at the bottom of the clarifier. The clarified water makes its way to the surface and flows under a floating objects barrier, the treated water then flows through the discharge outlet.</p> <p>Product Features:</p> <ul style="list-style-type: none"> • Nominal Flow Rate of 40m³/hr • Max Flow Rate of 80m³/hr • Dimensions – 3.2m Long x 2.2m Wide x 2.6m High, Dry weight 2400kg.

Product Benefits:

- Small footprint with large unit settlement area
- Safe discharge of water meeting Australian Standards and Regulations
- Up to 20 times more efficient than conventional settlement tanks and lagoons
- Prevent contaminated wastewater harming the surrounding environment



Please view our website for further details regarding testimonials, on site photos and specifications: [Website](#)

3.2 HB60 AUTO DESLUDGING VALVE - OPTIONAL

HB20 LAMELLA CLARIFIER AUTOMATIC DESLUDGING SYSTEM

Shown below is an Automatic Desludging System that can be fitted to any PR Water Lamella Plate Clarifier (ie HB20 and HB60 models). The system comprises of an actuated knife gate and a controller that adjusts the opening frequency and how long the valve stays open. The system also has AUTO and MANUAL modes. To install this system on a HB20/60, replace the manual acting knife gate with a *pneumatic* actuated 4-inch knife gate. Note that a pneumatic actuator requires a compressor to operate.



This installation shows a pneumatically actuated knife gate valve, including an air compressor.

4.0 SKID CHEMICAL DOSING SYSTEM

MODEL	(Skid) Chemical Dosing System	
RENTAL RATE	\$1,250.00 + GST per unit/per week (Skid Dosing System)	QTY 0
RENTAL RATE	\$1,200.00 + GST per unit/per week (Skid Dosing Sys-Discounted)	QTY 1
ADDITIONAL	\$125.00 + GST per unit/per week (Chemical Bund with Cover)	QTY 1
ADDITIONAL	\$250.00 + GST per unit/per week (Turbidity Probe)	QTY 0
ADDITIONAL	\$50.00 + GST per unit/per week (pH Probe)	QTY 0
ADDITIONAL	\$35.00 + GST per unit/per week (Poly mixing pump)	QTY 1
HIRE PERIOD	3 months	
MOBILISATION	TBC – PR Water to site – <i>Hirer responsible for payment</i>	
DEMOBILISATION	TBC – Site to PR Water – <i>Hirer responsible for payment</i>	
AVAILABILITY	Ex-PR Water NSW	
DELIVERY	Subject to prior sales and equipment availability	

4.1 EQUIPMENT SPECIFICATIONS: SKID CHEMICAL DOSING SYSTEM

(SKID) CHEMICAL DOSING SYSTEM
<p>The skid-based PR Water Dosing System is a multi-stage chemical dosing system which specializes in chemical pre-treatment. The skid-base is mobile and compact, ideal for projects with limited space. After the contaminated water has been treated the chemical dosing system produces a high-quality discharge that meets Australian regulatory requirements and can be safely released into the environment.</p> <p>The Dosing System comes pre-assembled and equipped with a user-friendly control panel which provides remote access and online monitoring. The control panel is used to establish a proportional dosing of chemicals during the water treatment process. The Chemical Dosing System often aids lamella clarifiers in the treatment of contaminated water allowing for a larger range of wastewater to be treated.</p> <p>The skid-based Chemical Dosing Unit is regularly supplied as a part of PR Water’s complete dewatering and water treatment packages where the treated suspended solids are recovered in a PR Water Lamella Clarifier. PR Water’s water treatment package: Chemical Dosing System, Lamella Clarifier, Pump & Generator.</p> <p>How it works: The skid-based dosing system can measure, control and regulate pH levels as well as use a large range of chemicals to cater for the required treatment depending on the type of wastewater. PR Water’s expert team will offer ongoing support including, the sampling, analysing and treatment of specified wastewater.</p>

Product Features:

- Provides a controlled quantity of coagulants and flocculants
- 0-100m3 per hour treatment capacity
- 4" Flow Meter
- Dosing pump controlled by multi-parameter controller
- Lockable doors and Internal lighting, and an Eye Wash Station and Spill Control Kit
- Safety Data Sheets (SDS) on weatherproof bag.
- Dimensions – 1.2m Long x 1m Wide x 2m High, Dry weight 400kg.

Product Benefits:

- Adhere to all regulations and authority requirements
- Pre-plumbed, factory pre-commissioned, save on install costs
- Automated, hassle-free dosing solutions
- Accurate measured data
- Remote observation and operation
- Safe disposal of treated water
- Avoid disposal/waste fees
- Maintain a safe site



Water Treatment Equipment Installations:

Standard Set-up
SDS + Single HB60



High Volume Setup
SDS + 2x HB60 in parallel



Heavy Metal Removal Set-up
SDS + 2x HB60 in series



Real Time Data – SDS controller monitors; pH, turbidity, flow, pump duty, etc...



Please view our website for further details regarding testimonials, on site photos and specifications: [Website](#)

5.0 HOSES

HOSES – Project Requirements					
Fitting Size (Inch)	Fitting Type	Hose Type	Hose Length (m)	Qty	Total Hose Length (m)
2	Camlock	Layflat	20	0	0
3	Camlock	Layflat	20	0	0
3	Camlock	Suction/Semi-Rigid	10	0	0
4	Bauer	Suction/Semi-Rigid	3	4	12
4	Bauer	Suction/Semi-Rigid	6	0	0
4	Bauer	Layflat	10	2	20
4	Bauer	Layflat	20	0	0

MODEL	HOSES	
RENTAL RATE	\$1.00 + GST per mtr/per day – 2” to 4” Hoses	QTY 32 (m)
HIRE PERIOD	3 months	
MOBILISATION	TBC – PR Water to site – <i>Hirer responsible for payment</i>	
DEMOBILISATION	TBC – Site to PR Water – <i>Hirer responsible for payment</i>	
AVAILABILITY	Ex-PR Water NSW	
DELIVERY	Subject to prior sales and equipment availability	

6.0 FITTINGS

MODEL	FITTINGS	
RENTAL RATE	\$5.00 + GST / fitting / day – INLET MANIFOLD (2”CL/GV/4”Bauer)	QTY 0
	\$5.00 + GST / fitting / day – INLET MANIFOLD (3”CL/GV/4”Bauer)	QTY 1
	\$5.00 + GST / fitting / day – OUTLET REDUCE (6”Bauer/4”Bauer)	QTY 1
	\$5.00 + GST / fitting / day – INLET MANIFOLD (4”-2x 4”GV/Bauer)	QTY 0
	\$5.00 + GST / fitting / day – MANUAL DIVERSION VALVE (4”)	QTY 0
HIRE PERIOD	3 months	
MOBILISATION	TBC – PR Water to site – <i>Hirer responsible for payment</i>	
DEMOBILISATION	TBC – Site to PR Water – <i>Hirer responsible for payment</i>	
AVAILABILITY	Ex-PR Water NSW	
DELIVERY	Subject to prior sales and equipment availability	

7.0 CHEMICALS

MODEL	CHEMICALS	
CHEMICALS	Please see below table for details on prices.	QTY: chemical quantities will vary form site-to-site. PR Water can't provide an exact qty of chemicals that will be required to treat the water.
	All chemicals are paid for in full regardless of if they are used in full or not. Partial payment for chemicals is not accepted.	
MOBILISATION	TBC – PR Water to site – <i>Hirer responsible for payment</i>	
DEMOBILISATION	TBC – Site to PR Water – <i>Hirer responsible for payment</i>	
AVAILABILITY	Ex-PR Water NSW	
DELIVERY	<p>Subject to prior sales and equipment availability. Delivery is calculated from (PR Water QLD or PR Water NSW) All deliveries by PR Water personnel will incur a \$1.50 per/km charge. For regular chemical deliveries to site, a fixed delivery fee can be quoted separately to this quote. Additional to deliveries, a minimum \$145.00 will be charged to the Hirer for PR Water personnel to safely handle and re-fill chemical drums, inspect chemical suction lines and ensure operation in correct.</p>	

7.1 EQUIPMENT SPECIFICATIONS: CHEMICALS

CHEMICAL	Cost Per/Unit + GST
Chlorine Tablet (200g)	\$8.99
Chlorine Float	\$10.00
Optireg 1002 (20L) Sodium Hydroxide 50%	\$105.00
Optireg 1003 (20L) Sulfuric Acid 50%	\$76.00
Hybind 2002 (15L) Coagulant	\$100.00
Hybind 2002 (25L) Coagulant	\$136.00
Maxi-dry (25kg)	\$125.00
Floc-Kit (1kg) – Poly Block	\$51.15
Envirofloc 3007 (2kg) – Poly Block	\$100.00
Envirofloc 3007 (3kg)	\$160.00
Envirofloc 3002 (20L)	\$379.48
Envirofloc 3005 (20L)	\$226.55
Optireg 1002 (1000L) Sodium Hydroxide 50%	\$1783.50
Optireg 1003 (1000L) Sulfuric Acid 50%	\$2155.00
Hybind 2002 (1000L)	\$3837.60

All chemicals provided are to be paid for in its full price as listed above. Partial payment for partial use is not accepted.

Chemical prices are non-negotiable.

8.0 SLUDGE/SOLIDS MANAGEMENT

SOLIDS CONCENTRATIONS

It is important to know that rainwater and ground water generally results in large amounts of suspended solids being present in the water that is to be treated. To confirm, the system will not be able to treat water with a suspended solids concentration above 30%. At this point, the solids concentration will block the lamella plates and inlet chamber of the tanks, not allowing the system to operate as designed. When this occurs, vacuum trucks would be required to dewater the site, as the PR Water system will not work.

SOLIDS/SLUDGE REMOVAL

It is crucial that this is managed accordingly to ensure the system can continue to operate as designed. This is important as the system requires settlement time and area to remove suspended solids from the water.

This means that once the solids in the tank fill up to the 2-3rd valve, it is time to drain the solids. This process can be done in two ways:

1. Release sludge back onto site using hoses attached to bottom gate valve of each tank (allowed for in quote).
2. Engage the services of vacuum trucks to drain each tank and blast down top of tanks using pressure washer.

The Purchaser is responsible for all costs associated with solids/sludge removal from the system.

9.0 DELIVERY & COLLECTION

PR Water can organise delivery and collection of equipment to and from site. The cost of delivery and collection will be charged to the Hirer.

Delivery charges of **\$1,500.00+GST each way** (arranged by PR Water on behalf of the customer).

Delivery & collection dates and times are subject to the availability of the preferred courier. The Hirer is free to arrange their own delivery and collection.

10.0 LABOUR/OPERATIONS

Schedule of rates for a PR Water Service Technician to attend site are detailed below.

Labour Estimated Costs	QTY	Cost Per Unit	Cost Per Site Visit
Travel to & from site (12km each way)	24 km	\$ 1.50/km	\$ 36.00
Labour/Operation Service	1 hr	\$ 145.00/hr	\$ 145.00
Minimum Total Cost Per Site Visit			\$ 181.00

11.0 COMMISSIONING

Commissioning time of equipment is subject to variability and change on site and is dependent upon water conditions and the access to set up of equipment on site. Commissioning of equipment may exceed quoted or advised time. The Hirer will be responsible for payment of any additional time for commissioning of the equipment.

Commissioning Estimated Costs	QTY	Cost Per Unit	Cost Per Site Visit
Travel to & from site (12km each way) per trip	24 km	\$ 1.50/km	\$ 36.00
Commissioning Service allow 2 day 2 techs	32 hr	\$ 145.00/hr	\$ 4,640.00
Total Estimated Cost for Commissioning (2 techs 2 day on site)			\$ 4,676.00

* If less/more time is spent/required on site, technicians time is charged at the same rates.

12.0 DECOMMISSIONING

Decommission of equipment is not included in this quote. PR Water will charge labour for decommission of equipment. The purpose of PR Water decommissioning equipment is to ensure all chemicals, chemicals lines and the water treatment system is decommissioned safely and correctly, minimising any risk of damage to the equipment.

Decommissioning Estimated Costs	QTY	Cost Per Unit	Cost Per Site Visit
Travel to & from site (12km each way)	24 km	\$ 1.50/km	\$ 36.00
Labour/Operation Service allow 4 hrs 2 techs	8 hr	\$ 145.00/hr	\$ 1,160.00
Total Estimated Cost for Decommissioning (2 techs 4hrs on site)			\$ 1,196.00

* If more time is required on site, technicians time is charged at the same rates

13.0 SUMMARY OF ESTIMATED EQUIPMENT COSTS

Standard Setup for 20-40kL/h Flowrate – 1x Chem-dosing-skid, 1x HB60 clarifiers, Hoses & fittings

Estimated Equipment Cost Per Week

Equipment	QTY	Cost	Cost Per Week
HB60 Lamella Clarifier (Discounted)	1	\$ 850.00	\$ 850.00
- Auto desludging valve	0	\$ 350.00	\$ 0.00
- Air compressor	0	\$ 60.00	\$ 0.00
- Poly Mixing Pump (No charge)	1	\$ 35.00	\$ 35.00
- SLUDGE PUMP REQUIRED (TBA)	0	\$ 0.00	\$ 0.00
Chemical Skid Dosing System (Discounted)	1	\$ 1,200.00	\$ 1,200.00
- Outlet - Turbidity Probe	0	\$ 250.00	\$ 0.00
- Outlet - pH probe	0	\$ 50.00	\$ 0.00
- Chemical Bund	1	\$ 125.00	\$ 125.00
Hoses (32m @ \$1.00/m/day)	1	\$ 224.00	\$ 224.00
Fittings (2x @ \$5.00/day/fitting)	1	\$ 70.00	\$ 70.00
Estimated Total Equipment Cost Per Week			\$ 2,504.00

The above summary does not include costs for chemicals. This is because PR Water can not exactly confirm the amount of chemical that will be required on site to treat the water.

The above summary does not include PR Water labour.

The above summary does not include delivery & collection to and from site.

13.1 PROJECT COST ESTIMATED SUMMARY

EQUIPMENT COST SUMMARY

Item	Equipment	Equip Qty	Hire Period (wks)	Equip Cost/wk	Total Cost for Hire Period
1	HB60 Clarifier	1	12	\$ 850.00	\$ 10,200.00
2	- Poly mixing Pump	1	12	\$ 35.00	\$ 420.00
3	Skid Dosing System	1	12	\$ 1,200.00	\$ 14,400.00
4	- Chemical Bund	1	12	\$ 125.00	\$ 1,500.00
5	Hoses – 32m	1	12	\$ 224.00	\$ 2,688.00
6	Fittings 2x	1	12	\$ 70.00	\$ 840.00
Sub Total				\$ 2,504.00	\$ 30,048.00

CHEMICAL COST SUMMARY

Item	Treatment Chemicals	Qty	Unit Cost	Cost
1	Optireg 1002 (20L) – Caustic (for pH correction)	12	\$ 105.00	\$ 1,260.00
2	Hybind 2002 (15L) – Coagulant (reduces TSS)	24	\$ 100.00	\$ 2,400.00
3	Envirofloc 3007 (2kg) – PolyBlock (reduces TSS)	18	\$ 100.00	\$ 1,800.00
Sub Total				\$ 5,460.00

Note – Chemical Consumption rate is difficult to accurately estimate as water quality varies.

MOBILISATION & DEMOBILISATION

Item	Equipment Delivery / Pickup	Qty	Unit Cost	Cost
1	Delivery to site (unload. by DeiCorp)	1	\$ 1,500.00	\$ 1,500.00
2	Pick-up from site (load. by DeiCorp)	1	\$ 1,500.00	\$ 1,500.00
Sub Total				\$ 3,000.00

LABOUR COST SUMMARY

Item	Labour	Qty	Unit Cost/hr	Cost
Install Supervision and Commission				
1	On-site Install Supervision - 1 day (8 hrs) allowed per tech. (2x Technicians required)	16hr	\$ 145.00	\$ 2,320.00
2	On-site Commissioning - 1 day (8 hrs) allowed per tech. (2x Technicians required)	16hr	\$ 145.00	\$ 2,320.00
3	Travel (to/from site) - 12km each way 2 trips allowed	48km	\$ 1.50	\$ 72.00
Decommissioning				
4	On-site De-commissioning – 4hr allowed per tech. (2x Technicians required)	8hr	\$ 145.00	\$ 1,160.00
5	Travel (to/from site) - 12km each way 4 trips allowed	96km	\$ 1.50	\$ 144.00
Sub Total				\$ 6,016.00

TOTAL (+GST)				\$ 44,524.00
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Note 1: Labour hrs are best estimate. If less or more are required, they will be charged at above rate.

Note 2: Travel to and from site is charged at \$1.50 per km from PR Water office to site.

14.0 TERMS AND CONDITIONS

PR WATER PTY LTD TERMS & CONDITIONS

DEFINITIONS

"Account" means the credit facility provided by the Company to the Applicant.

"Agreement" means these Trading Terms & Conditions and the Terms & Conditions of Hire or Terms & Conditions of Sale (as applicable) as amended from time to time.

"Company" means PR Water Pty Ltd (ACN 67 619 606 343).

"Account Application" means the credit application between the Applicant and the Company. **"Applicant"** means the natural person or company specified in the Credit Application. **"Default"** means any one of the following events:

- (a) breach of the Agreement.
- (b) upon change in the direct or indirect ownership or control of the Applicant; or
- (c) if the Applicant:
 - (i) becomes insolvent.
 - (ii) is declared bankrupt.
 - (iii) dies.
 - (iv) is placed into receivership or if a Receiver and Manager is appointed.
 - (v) is placed into liquidation.
 - (vi) Is placed into Administration or Voluntary Administration.
 - (vii) is wound up or an application to wind up the Applicant is brought; or
 - (viii) attempts to assign its rights

under this Agreement. **"Equipment"** means items purchased or sold by the Company to the Applicant.

"Guarantee" refers to the Guarantee and Indemnity between the Company and the Guarantor(s).

"Guarantor(s)" means the person(s) specified in the Guarantee and Indemnity.

"National Credit Code" means Schedule 1 to the *National Consumer Credit Protection Act 2009*

(Cth) as amended from time to time.

"Notice" means notice from the Company in accordance with clause 2 of this Agreement. **"PPSA"** means the *Personal Property Securities Act 2009* (Cth) as amended from time to time. **"Privacy Act"** means the *Privacy Act 1988* (Cth) as amended from time to time.

OPERATIVE PROVISIONS

1. All Accounts are due and payable on the terms set out in the invoice issued by the Company or as arranged and confirmed in writing by the Company. No Account shall be deemed to be paid unless paid by cash or until the Applicant's cheque or any bank cheque has been paid by the Applicant's bank. Where the Applicant pays the Account or any part thereof by a cheque, payment of the Account shall not have been affected until the Applicant's cheque has been honoured. Disputes and/or claims do not constitute grounds for non-payment of amounts other than those in dispute.
2. The Applicant agrees that the Applicant is not entitled to use the Account until it receives notice in writing from the Company stating that the facility has been granted. Until the Applicant receives such notice in writing from the Company any goods or services that are supplied by the Company to the Applicant shall be on a cash basis.
3. Unless the Company agrees in writing to the postponement of payment of any monies owing to the Company by the Applicant, interest shall be payable by the Applicant on the highest debit balance of each calendar month on monies owing by the Applicant to the Company calculated daily from the date the monies become due until the actual date

of payment at a rate of 12% per annum.

Company may recover possession of the Equipment at any site owned, possessed or controlled by the Applicant and the Applicant agrees that the Company (or any agent or representative of the Company) has an irrevocable license to do so.

4. Payments received by the Company will be applied as follows:

- (a) first in reduction of interest payable and accruing from month to month; and
- (b) secondly in reduction of all other monies owing to the Company until such a time as all monies owing to the Company have been paid in full.

(d) take such steps as it may deem necessary to mitigate the damages suffered including, but not limited to, the putting to use, hiring out, sale or disposal of any Equipment supplied or to be supplied under the Agreement and in its possession.

5. If at any time monies are overdue and owing upon any Account then outstanding, the whole of the amount of all Accounts then outstanding may, at the option of the Company, become immediately payable.

(e) The Company has a general lien on the Equipment or any other Equipment of the Applicant that the Company has in its possession for any monies due or which become due on any account under this Agreement, whether for the repair, storage or transportation of the Equipment or any other Equipment or any other service the Company may provide; and

6. The Company may, at its absolute discretion, withdraw the Account at any time without notice or the Company may from time to time or at any time increase or decrease the limit (if any) of the facility provided without notice to the Applicant or the Guarantor (if any). The Company shall not be liable in damages to the Applicant for the non-supply of Equipment or the non-provision of services as a result of the facility being withdrawn or the limit being altered.

(f) The Company may deduct or set off any monies due to the Applicant under any contract or agreement against any debt and monies due from the Applicant under this Agreement or any other agreement.

7. Any legal costs (on a full indemnity basis), stamp duties or any other expenses whatsoever incurred by the Company in respect of this Application, agreements, guarantees, securities or other documentation required by the Company or other costs reasonably incurred by the Company in consequence of this Application and any other expenses incurred in respect of opening and maintaining any account in the name of the Applicant together with any collection costs, dishonored cheques, fees and legal costs (on a full indemnity basis) shall be paid by the Applicant on demand.

9. Should there be any variation to any of the information supplied by the Applicant in this Agreement on other documentation provided to the Company or in the structure of the Applicant (such as a conversion to or from a company or trust), the Applicant must immediately notify the Company in writing. Unless notification of such variation or change is given and accepted in writing by the Company, the Applicant and Guarantors shall remain liable to the Company as though any Equipment supplied by the Company were supplied to the original Applicant.

8. If there is a Default by the Applicant, then the Company, without prejudice to any rights or remedies open to it, may:

- (a) treat as discharged all or any obligation arising from this Agreement or any other agreement with the Applicant.
- (b) retain any security given or monies paid by the Applicant or available through the enforcement of any guarantee, security or bond and apply this in reduction of any sum which may be lawfully recovered by the Applicant.
- (c) if the Applicant fails to pay for the goods within the period specified in clause 1 of these Trading Terms & Conditions, the

10. The Company shall not be deemed to have waived any of the terms or conditions contained in Agreement or agreed to any variation to them unless the Company has done so expressly in writing. Failure by the Company to insist upon strict performance of any of term or condition in the Agreement shall not be deemed a waiver of such term or condition and shall not be deemed a waiver of any subsequent breach of any term or condition.

11. Where there is any inconsistency between the terms and conditions of these Trading Terms & Conditions and any subsequent agreement for the supply of Equipment incorporating (as applicable) the Terms and Conditions of Sale or the Terms and Conditions of Hire, any such subsequent agreement shall be read down to the extent necessary to give full force and effect to these Trading Terms & Conditions.

12. This Agreement constitutes a Security Agreement

as defined under the PPSA. The Applicant agrees that the Company may register its security interest in goods supplied and the proceeds thereof on the Personal Properties Security Register in accordance with the PPSA.

13. In accordance with section 157 of the PPSA, the Applicant waives the right to receive a Notice Verification Statement.

14. In these Trading Terms & Conditions words in the singular shall be construed so as to include the plural and words in the masculine gender shall be construed so as to include every other gender.

15. Where the Applicant is a trustee:

(a) the Applicant agrees to produce a stamped copy of the trust deed (with all amendments) if and when requested by the Company.

(b) the Applicant warrants that it has full power and authority for the benefit purposes and objects of the trust to make this Application on behalf of the trust and that it shall be bound by the terms of this Application both personally and as a trustee; and

(c) the Applicant confirms that the trustees shall be liable for the Account and that in addition the assets of the trust shall be available to meet payment of the Account.

16. The Applicant agrees that the facility hereby applied for does not extend to any transaction and the Applicant will not use the facility for any transaction which is or may be a "credit contract" as defined in the National Credit Code.

17. The Applicant and the Guarantor (if any) agree that the certificate of the Company or any person authorised by the Company, shall be conclusive evidence as to the amount owing to the Company by the Applicant and Guarantor.

18. The Applicant and the Guarantor(s) agree that this Application is governed by the laws of Western Australia. Each party to this Application submits to the non-exclusive jurisdiction of the courts of Western Australia and any courts that may hear appeals from those courts in respect of any proceedings in connection with this Application.

19. The Applicant and Guarantor(s) hereby acknowledge that the Company recommends that independent legal advice be obtained regarding their rights and obligations under this Agreement prior to signing thereof.

PR WATER PTY LTD TERMS & CONDITIONS OF SALE

1. Definitions

1.1. In this document unless the contrary intention appears:

"Agreement" means this agreement for the sale of Equipment from the Company to the Buyer.

"Company" means PR Water Pty Ltd (ACN 619 606 343), its subcontractors, employees and agents. **"Equipment"** means the equipment offered for sale or sold by the Company to the Buyer.

"Buyer" means any person or entity who requests the Company to sell Equipment to it, its successors, permitted, assigns, employees, agents and any person claiming through, under or in trust for such person.

"Account Application" has the meaning given in the Trading Terms & Conditions.

"Register" means the Personal Property Securities Register established pursuant to section 147 of the PPSA.

"PPSA" means the *Personal Property Securities Act 2009*

(Cth). **"Sale Terms"** means these Terms and Conditions of Sale.

2. Orders

2.1. Any order placed by the Buyer with the Company is deemed to be an order incorporating these Sale Terms and Trading Terms & Conditions. If there is any inconsistency between these Sale Terms, the terms and conditions stipulated or referred to by the Buyer or the Buyer's order, these Sale Terms shall prevail.

2.2. Any order placed by the Buyer with the Company constitutes an offer on the part of the Buyer which may be accepted by the Company. The receipt of an order by the Company does not constitute acceptance of such order by the Company.

2.3. The Company will make all reasonable efforts to have the Equipment delivered, or made available, to the Buyer on or before the date as agreed between the Buyer and Company, however any such date is an estimate only and is not binding on the Company. The Company will not be liable for any failure to deliver or make available at the time agreed by the Buyer and the Company, or delay in delivery or availability, of the Equipment for any reason.

3. Price

- 3.1. Unless otherwise agreed in writing, the Total Sale price charged for the Equipment shall be the listed price plus any applicable Goods and Services Tax as defined in the *A New Tax System (Goods and Services Tax) Act 1999* ("GST"), which must be paid to the Company by the Buyer when payment for the Equipment is due.
- 3.2. Where applicable, any credit account charge will be calculated as a percentage of the total invoice including GST.

4. Delivery

- 4.1. If the Company, at the Buyer's request, agrees to arrange for the dispatch of the Equipment to the Buyer, all costs of delivery will be payable by the Buyer. The Equipment dispatched by the Company will be at the Buyer's risk and the Company is under no obligation to insure the Equipment while in transit.

5. Personal Properties Securities Act

- 5.1. The Buyer consents to the Company creating and maintaining a registration on the Register (in any required form) in relation to any security interest contemplated or created by the Agreement.
- 5.2. The Buyer agrees to sign any necessary documents and provide all reasonable assistance and information to facilitate the registration and maintenance of a security interest on the Register. The Company reserves the right to register a financial statement or financial charge statement in respect of any security interest and you waive the right to receive notice of a verification statement in relation to any registration of a security interest on the Register, by way of clause 5.1 or 5.2, in respect of the Equipment.
- 5.3. The Buyer undertakes to do any and all acts that are reasonably required by the Company so as to:
 - (a) allow the Company to create and maintain a perfected security interest pursuant to the PPSA in respect of the Equipment and its proceeds;
 - (b) allow the Company to register a financing statement or financing change statement;
 - (c) ensure that the Company maintains its secured position under the PPSA;
 - (d) not register a financing charge statement without the Company's prior written consent; and
 - (e) not register or commit to the register of a financial statement or financing change statement in respect of the Equipment, in favour of third party, without the Company's prior written consent.
- 5.4. The Company and Buyer agree that no information (as defined in section 275(1) of the PPSA) will be provided to an interested person or person requested by an interested person. This clause may be waived by providing written notice to the Company authorising the disclosure of the above information to a specified party.
- 5.5. In the event that this agreement is subject to Chapter 4 of the PPSA, the Company and Buyer agree that, pursuant to section 115(1) of the PPSA, the Buyer waives sections 95, 96, 118, 121(4), 125, 130, 132(3)(d), 134, 135, 142 and 143.
- 5.6. Additionally, in the event that chapter 4 of the PPSA applies to the Agreement, the Company and Buyer

agree that, pursuant to section 115(7) of the PPSA, the following provisions do not apply to the Agreement, sections 127, 129(2), 129(3), 130(1), 132, 134(2), 135 and 136(3), 136(4), 136(5) and 137.

- 5.7. This Agreement is a security agreement for the purposes of the PPSA. For the avoidance of any doubt, collateral, for the purposes of section 20(2) of the PPSA includes, but is not limited to, Equipment (as described in this Agreement) or Equipment provided at any subsequent time.
- 5.8. The Company may apply amounts received in connection with the sale of the Equipment to satisfy obligations secured by security interests contemplated or constituted by this Agreement at its absolute discretion.
- 5.9. The Buyer agrees to notify the owner in writing of any change to its details as set out in this Agreement or the Credit Application within 7 days of the date of any such change.

6. Risk and Property

- 6.1. The risk of loss of, or damage to, the Equipment will pass to the Buyer on dispatch of the Equipment from the Company's dispatch locations.
- 6.2. Title to, and ownership of, the Equipment will not pass from the Company to the Buyer until the whole amount payable to the Company for all Equipment supplied and/or anything else due under these Sales Term or under the Company's Trading Terms & Conditions has been satisfied paid in full.
- 6.3. Until title to and ownership of the Equipment passes to the Buyer, the Buyer is a bailee of the Equipment and:
 - (a) the Buyer must not on-sell the Equipment;
 - (b) the Buyer must insure the Equipment for its full insurable or replacement value (whichever is higher) with an insurer licensed to carry on the business of insurance;
 - (c) the Buyer must store the Equipment separately from its own Equipment or those of any other person so they are clearly identifiable as the property of the Company;
 - (d) the Buyer must properly store and maintain the Equipment (including keeping the Equipment safe from heat, moisture, compression and impact damage) in accordance with any storage requirements provided by the Company; and
 - (e) grants the Company an irrevocable license to enter any site owned, possessed or controlled by the Buyer between 9.00am and 5.00pm on any business day to inspect the Equipment.
- 6.4. If the Buyer on-sells the Equipment to any person before all monies payable by the Buyer have been paid to the Company in breach of clause 6.3 above, the Buyer agrees that it holds the proceeds of the on-sale of the Equipment on trust for and as agent for the Company immediately when they are receivable or are received.
- 6.5. If the Equipment is damaged or destroyed before title passes to the Buyer, the Company may (in addition to any other right or remedy under these terms and conditions) receive all insurance

proceeds payable for the damaged or destroyed Equipment, whether or not the price of the Equipment has become payable under these Sale Terms or under any other contract for supply. The Buyer consents that these Sale Terms are sufficient evidence of the Company's right (as against the Buyer) to receive payment of the insurance proceeds for damaged Equipment without the need or further inquiry by any person dealing with the Company.

- 6.6. If payment is not made by the Buyer on the due date, the Buyer must deliver the Equipment to the Company on demand. If the Buyer does not comply with such a demand:
- (a) The Buyer grants the Company an irrevocable licence to enter any site owned, possessed or controlled by the Buyer, at any time to do all things necessary in order to take possession of the Equipment, and the Buyer must procure the consent of all other persons having any interest in the premises where the Equipment is situated to entry of those premises by the Company, its employees or agents; and
 - (b) Credit the Buyer's account with the lower of:
 - (i) the price for the Equipment;
 - (ii) the net realisable value of the Equipment;
 - (iii) re-sell the Equipment and apply the proceeds of sale in reduction of the outstanding balance due to the Company under these terms and conditions; or
 - (iv) the Buyer must pay the Company any expense of repossession, transportation, storage or re-sale incurred by the Company under this clause
- 6.6. If the Company re-sells the Equipment, it must account to the Buyer for any balance remaining after deduction of any costs and payment of all amounts due to the Company under these terms and conditions.

7. Set-Off

- 7.1. The Company in its sole and unfettered discretion may at any time set-off any amount owing by the Company to the Buyer on any account whatsoever, including any monies held by the Company for or on account of the Buyer, against any amount owing by the Buyer to the Company in respect of the Equipment supplied by the Company whether or not that amount has become due and payable

8. Compliance and Fitness of Equipment

- 8.1. The Buyer must comply with all laws, by-laws and statutory and regulatory requirements of any regulatory authority applicable to the Buyer, including, without limitation, all licensing requirements for the Equipment.
- 8.2. The Buyer must not use or re-sell the Equipment for any purpose other than those applications or purposes specified by the Company.
- 8.3. The Buyer acknowledges that it alone is responsible for determining the fitness of the Equipment for the

purpose for which the Buyer intends them and that it has not relied upon any representation of statements by the Company in entering this Agreement.

9. Conditions, Warranties and Liability

- 9.1. All conditions, warranties, undertakings and representations expressed or implied by statute, the common law, equity, trade, custom or usage or otherwise are expressly excluded to the maximum extent permitted by law.
- 9.2. So far as the law permits, the liability of the Company for a breach of a condition, warranty, undertaking or representation that cannot be excluded is limited, at the Company's option, to:
- (a) the replacement or repair of the Equipment;
 - (b) the supply of equivalent Equipment; or
 - (c) the cost of replacing or repairing the Equipment or of acquiring equivalent Equipment.
- 9.3. The Buyer agrees to release and indemnify the Company to the maximum extent permitted by law from and against any liability whatsoever and howsoever arising (including, without limitation, from negligence or willful misconduct on the part of the Company or others) in connection with the sale of Equipment by the Company.
- 9.4. So far as the law permits, the Company is not liable in any way for any indirect or consequential loss or loss of actual or prospective revenue or profit of the Buyer or any other person including, without limitation, any loss by reason of delay, defective or faulty Equipment, negligence or any act or matter or thing done, permitted or omitted by the Company.

10. Miscellaneous

- 10.1. These Sale Terms replace and supersede all other terms and conditions of sale, if any, previously in force between the Company and the Buyer and no variation of these Sale Terms will bind either party unless confirmed by the Company in writing.
- 10.2. If this agreement or any part of it becomes void or unenforceable for any reason then that part will be severed from this agreement to the extent that all parts that do not become void or unenforceable will remain in full force and effect and be unaffected by any severance of other parts.
- 10.3. Termination of this Agreement will be without prejudice to any right of action already given to the Buyer or Company in respect of any breach of this Agreement by the other party.
- 10.4. The parties acknowledge that these Sale Terms and the Company's Trading Terms & Conditions contain the entire agreement concluded between the parties notwithstanding any prior or subsequent negotiations or representations. Any such conditions, warranties or representations are hereby expressly excluded.
- 10.5. Time is to be the essence of all obligations of the Buyer in this agreement.
- 10.6. Failure by the Company to insist upon strict performance of any terms contained herein, or to exercise in whole or in part any right that it may have under this agreement at law shall not be deemed to be a waiver of any rights that the Company may

have and shall not be deemed a waiver of any subsequent breach of any term in this Agreement.

Quote Specific Terms & Conditions of Sale

- 1.1 Quoted pricing may vary depending on site conditions. Any additional equipment, labour, transport, or any other service required due to site requirements will be charged at the quoted rates.
- 1.2 Reference to a week or one week covers a full 7day period.
- 1.3 Reference to a day or one day covers a full 24-hour period.
- 1.4 For avoidance of doubt, these conditions cannot be voided by any other terms and conditions submitted by the Buyer, including those on the Purchase Order.
- 1.5 The Company is not liable for and will not be held responsible for any consequential loss suffered or incurred as a direct or indirect result of information provided. The Company is not liable for any direct or indirect, consequential, or economic loss or damage, including liquidated damages, loss or liability as a result of the purchased equipment.
- 1.6 The Buyer is responsible for any site-specific operational permits, authorisations, consents required, and Health and Safety requirements relating to the storage and use of chemicals and equipment on site.
- 1.7 The Buyer is responsible for all environmental permits, authorisations, consents required, to perform required activities onsite.
- 1.8 The Buyer is responsible for all workplace health and safety standards to be maintained as required.
- 1.9 Any reference to 'standard Company office or branch' in this quote refers to the following addresses. 41 Production Avenue, Molendinar QLD 4214, Unit 1/50 Meskos Road, Rockbank VIC 3335, 20 Niche Parade, Wangara WA 6065 and Gate 2, 126-130 Toongabbie Road, Girraween NSW 2145.
- 1.10 Any reference to 'extensive travel' in this document refers to any travel from a standard Company branch or office location, excess of 150km.
- 1.11 The buyer is fully responsible for the operation/maintenance of the equipment and ensuring the water is used for the Truck Wheel Wash is in accordance with the relevant legislation.
- 1.12 The Truck Wheel Wash is required to be serviced according to state electrical test & tag regulations.
- 1.13 The PR200 is not to be lifted while ramps are still attached. Ramps must be removed before lifting.
- 1.14 The Truck Wheel Wash must be completely empty of all water and mud/dirt before lifting.
- 1.15 It is the Buyers responsibility to ensure that all earthworks, concrete foundations and any other foundations or ground that a truck wash will be placed in or on, is within Australian standards and has been approved by a qualified engineer to ensure it is suitable and can hold the unit safely.
- 1.16 The Truck Wheel Wash is to be used with potable water only as other forms of water may block the nozzles on the unit. If the Buyer uses water other than potable water and the unit requires maintenance due to this reason, the Buyer be charged for all costs involved in the maintenance of the unit on hire.
- 1.17 The Buyer is fully responsible for ensuring all in-ground earthworks and concrete foundations are completed and approved with the supervision of a qualified professional.
- 1.18 It is the Buyer's responsibility for carrying out a regular service schedule for the equipment for the duration of the rental period.
- 1.19 All Generators provided in this quote require servicing every 250 hours run time. It is the Buyer's responsibility to ensure the Company is made aware of any services required. Should the Generator exceed this service period while on hire, without 48hour written notice to the Company, before the service period is due, the Buyer will be charged for the service, labour and any additional repairs and or maintenance required to the Generator.
- 1.20 Any variations to this quote must be authorised by the Company. Any variations must be submitted to the Company at least 10-bussines days prior to the variation start date.
- 1.21 Any variations to the equipment provided must be authorised by the Company in writing. No variations to the cost/price of equipment, chemicals, or labour, will be accepted, unless authorised by the Company in writing.
- 1.22 Availability of PR Water branded equipment is subject to prior orders.
- 1.23 The Buyer is financially liable for all damage to the equipment incurred whilst on hire and on site. This includes any damage incurred by means of; theft, graffiti, any weather events, any flood events, any breach of site property and access, any damage incurred outside of the Company's control and any other damage that results in the equipment appearing differently from when delivered to site and any damage that's occurs and prevents the equipment from operating as designed and proposed.
- 1.24 All vacuum trucks required to clean sludge/solids from units for any reasons deemed necessary by the Company will be charged to the Buyer.
- 1.25 The Company will be using transport trucks from other companies. PR water does not own or operate trucks of any sort. PR water does not provide a guarantee that these companies can

provide the required transport means on the required dates and times for the quote rates. The prices in this quote of transport provided by outsourced companies are subject to change at any time. PR Water will not be held responsible or liable for any change in price to supplied transport and the Buyer will be liable for payment of the rates at the time of service. PR Water does not guarantee that the transport from outsourced companies will be available on the required dates and times. PR Water will not be held responsible or liable for any consequential economic and financial loss, or liquidator damages due to availability of transport. For avoidance of doubt, if the equipment required from the outsourced company is not available, PR Water will not and is not responsible and PR Water is not and will not be held responsible and liable for any consequential economic and financial loss. PR Water is not and will not be held liable for any delays in meeting the projects deadlines outlined in the Scope of Works and any other documents relating to the project. PR Water is not responsible for the truck, crane or transport operator in any way or any matter. This includes inductions, licenses, tickets maintenance, service and safety whilst on site.

- 1.26 The Buyer is responsible for all traffic management and traffic management plans required for any transport of equipment and for personnel to drive light vehicles on site.
- 1.27 Any damage to the Company's vehicles whilst on site will be charged to the Buyer.
- 1.28 PR water will cease all operations on site at 1700 and resume the following workday. Any water not treated before this time will be held off until the following workday. Workday meaning Monday to Friday.
- 1.29 The Buyer must provide safe and sufficient space on site for PR Water to install, commission, decommission and work with all required equipment, trucks, and personnel.
- 1.30 The Company is not responsible or liable for any delays, disruptions or any other matter that results in extended work length or extend deadlines of any kind. Any delays or disruptions that results in any PR Water or any other contractors supplied equipment, labours, materials or service of any kind staying on site longer than quoted is fully chargeable to the Buyer and PR Water is not and will not be held responsible or liable for.
- 1.31 These specific conditions in this quote are non-negotiable.

Commercial Conditions of Sale

- 1.1 **GST:** All prices quoted herein are GST exclusive. An additional 10% will be charged for GST.
- 1.2 **Validity:** 30 days from date of quotation.
- 1.3 **Terms and Conditions:** This quotation is subject to all the Company's Terms and Conditions within this quote.
- 1.4 **Terms of Payment:** (a) 30% deposit of full order value at time of order is required. Balance payable prior to dispatch of equipment. (b) 25% re-stocking fee is applicable to the full order value should the order be changed or cancelled.
- 1.5 **Exchange Rate Variation:** Quoted prices are based on the current exchange rate of the Australian Dollar. Any variation to this exchange rate may require PR Water to review and adjust the pricing as quoted.
- 1.6 **Service:** PR Water Pty Ltd is committed in supporting our products with a high level of service and spare parts support Australia wide. The Purchaser is responsible for carrying out a regular Service Schedule for the equipment.
- 1.7 **Quality Assurance:** The Company partners with manufacturers, who provide a quality assurance plan in accordance with ISO9001 and CE Certification.
- 1.8 **Warranty:** 12 months from date of purchase. All warranty is subject to the manufacturer's Standard Terms and Condition of Warranty. These can be provided upon request. Warranty not provided on damages caused by the Purchaser.
- 1.9 **Covid 19:** Our offer is subject to any Local, National or International restrictions that are in respect to Covid 19. Any variation to these current Local, National or International restrictions publicly known may require the Company to review and adjust the pricing and/or delivery as quoted. Should delivery of any item quoted by the Company be adversely impacted due to any Covid 19 restrictions, the Company will not be held accountable for any consequential costs or claims.
- 1.10 **Acceptance:** By providing a Purchase Order number or written reference of any sort, the Purchaser is bound by and accepts the provided quotation, and all PR Water Pty Ltd equipment prices, labour prices, exclusions, conditions of hire, quote specific terms and conditions, commercial conditions of hire and all terms and conditions outlined in the Purchasers Account Application form and within this quote.
- 1.11 **External Suppliers:** All equipment, services and labour provided by outside companies (not PR Water), will be charged to the Purchaser at cost +20% +GST. The Purchaser is liable and responsible for all payment of external suppliers providing the required materials, labour, transportation, service maintenance and equipment for the project. Quoted rates of external/outsourced companies for all fixed rates and hourly rates of all provided materials, labour, transportation, service maintenance and equipment is charged at the total invoice(GST incl.) +20%. Quote rates may vary from actual cost. The Purchaser is fully responsible and liable for payment.
- 1.12 **Labour:** Labour provided by the Company's staff is charged at \$145+GST per hour per person. Labour duties include, general labour, service maintenance, operation, installation, commission and decommission on PR Water equipment. The Purchaser will be charged for all hours spent on site and all hours spent producing reports and supporting evidence for the purpose of this project.
- 1.13 **Travel:** All travel to and from site is charged at \$1.40 per km per vehicle. This charge on applies to PR Water staff and their vehicles. Travel rates are calculated from the PR Water office to site and back.
- 1.14 **Additional Equipment & Services:** Any and all additional equipment, labour, maintenance, materials and/or services of any kind will be charged to the Purchaser. A Purchase Order is required for all additional items requested that are specified in this quote.
- 1.15 **Chemicals:** All chemicals are paid for in full regardless of if they are used in full or not. Partial payment for chemicals is not accepted. All chemicals are invoiced out separately to equipment and labour. Chemical prices are subject to change from quoted prices. Client is responsible for all payment of chemicals. Additional chemicals may be required from what is quoted. Purchaser will be responsible for payment. Chemical lead times and availability is subject to change. The Purchaser is responsible for ensuring all chemicals meet the environmental requirements and regulations for the project.
- 1.16 **Hoses:** Rubber hoses will need to be laid on site. The Purchaser is responsible for all safety flagging and bunting required to meet workplace health and safety requirements.

Exclusions

- 1.1 Transport, cranes and lifting equipment required on site for unloading or loading of equipment that is not quoted by the Company. This includes any transport, cranes and lifting equipment required to move, relocate or re-position equipment for any reason not specified agreed upon by the Company.
- 1.2 Any additional equipment required should the provided equipment be insufficient to perform due to unforeseen circumstances and circumstances outside of the Company's control.
- 1.3 Process guarantees of treated water meeting the quality requirements of The Purchasers Dewatering Management Plan and/or City, State, Council and environmental regulations.
- 1.4 Process guarantees of any kind are excluded.
- 1.5 Refuelling equipment with Diesel or Petrol to keep system operational.
- 1.6 Weekend working. The Company does not provide labour or personnel for any weekend operating hours. For avoidance of doubt, 'weekend' refers to Saturday and Sunday. If weekend operating was required, the Company must be informed of this in writing at least 10-business days prior to the date of weekend work required. Any weekend working within regular day hours (0700-1700), will be charged at double the standard hour rate. For avoidance of doubt this would be \$290+GST per hour.
- 1.7 Night working. The Company does not provide labour or personnel for any night operating hours. For avoidance of doubt, 'night hours' refers to any hours outside of the Scope of Works standard day hours of 0700-1700. If night operating was required, the Company must be informed of this in writing at least 10-business days prior to the date of night works required. Any night working within regular night hours (2000-0500), will be charged at double the standard hour rate. For avoidance of doubt this would be \$290+GST per hour. Any night works required on a weekend, will be charged at 2.5 times the standard hour rate. For avoidance of doubt, this would be \$362.50+GST per hour.
- 1.8 Any hard pipe, PVC pipe or poly piping.
- 1.9 Any power or gas supply required that is not quoted.
- 1.10 Any lighting the Company would require operating the equipment and perform duties safely outside of daylight hours.
- 1.11 Any laboratory testing of treated and untreated water samples required.
- 1.12 Any specific license or ticket of operator not required to complete proposed work. This includes but is not limited to; dogman, rigger, working from heights, working in confined spaces, high risk works.
- 1.13 Any PFAS/PFOS treatment is not included in this quote and is not the responsibility of PR water to treat.

Coates Hire Operations Pty Ltd

Level 6/241 O'Riordan St Mascot NSW 2020

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ABN 99 074 126 971 | ACN (074 126 971)

Deicorp Construction Pty Ltd

2 Mandala Parade, Castle Hill, NSW - Water Treatment

Project Proposal

Prepare for: Deicorp Construction Pty Ltd
Jacob Wells
0286 654 100
Jwells@deicorp.com.au

Site Location: 2 Mandala Parade Castle Hill, NSW 2037

Prepared by: Mark Somers
0459 844 261
Mark.somers@coates.com.au

Document Number: 2467713-T-W-01

Rev	Date	Comments	Created	Checked
A	1/05/2023	Initial proposal submission	AT	YL

IMPORTANT NOTE:

The supply of any services and products referred to in this document is subject to the attached "Client Agreement – Design and Installation" ("Client Agreement"). A copy is also available by [clicking here](#). If you cannot access the Client Agreement on our webpage, please contact Coates Hire and a member of our team will provide you with a copy of the Client Agreement. Any terms and conditions provided by you in connection with the services or products to be supplied by Coates Hire will be of no legal effect and will not constitute part of the agreement to provide services or products by Coates Hire (even if any representative of Coates Hire signs those terms and conditions or annexes the terms and conditions to any purchase order). By issuing a purchase order, or directing us to proceed, you are deemed to have accepted and agree to be bound by the Client Agreement.

1. Solution Summary

1.1. Objective

The objective is to specify, supply, install, commission, and periodically maintain a Water Treatment System to treat site water. The Treatment System is designed to treat pH and Total Suspended Solids (TSS). The proposed system can also reduce turbidity if the turbidity is caused by TSS. It also has the capability to reduce the levels of Dissolved Heavy Metals (Aluminium, Copper, and Zinc).

If the reduction of these contaminants is not enough to meet the adopted Discharge Water Quality Performance (DWQP) criteria or any other additional contaminants are found in the influent water or if the raw water quality changes from the report provided, additional equipment may be required at an extra cost.

1.2. Supplied information

The following information has been supplied by client via Email to Mark Somers at 11:26am on 27 April 2023:

- Geotechnical Investigation (GI) for 2 Mandala Parade, Castle Hill NSW by EI Australia dated 9 July 2021.
- Dewatering Management Plan (DMP) for 2 Mandala Parade, Castle Hill NSW by EI Australia dated 18 November 2021.
- Geotechnical Opinion Letter for Condition C37 for 2 Mandala Parade, Castle Hill NSW by EI Australia dated 8 December 2022.
- Analytical Results (AR) for 2 Mandala Parade, Castle Hill NSW by SGS Alexandria Environmental dated 1 March 2023.

The “Geotechnical Opinion Letter for Condition C37” provides the total volume to be treated per year during construction and operational phases. “Analytical Results” document and “Dewatering Management Plan” report provide raw water quality analysis as well as the adopted Discharge Water Quality Performance (DWQP) criteria and mentioned below:

- ANZG (2018) 95% Freshwater Trigger Values (and 99% Trigger Values for bio-accumulative parameters)
- ANZECC/ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality

Based on the adopted Discharge Water Quality Performance (DWQP) criteria (Table 1) and water quality analysis (Table 2) presented below, it was found that:

1. pH of raw water is 4.7 and requires correction prior to discharge.
2. Turbidity (5.2NTU) of raw water sample is within the adopted DWQP criteria, thus requires no treatment prior to the discharge. However, if higher turbidity will be found on site, then treatment is required.
3. TSS of raw water is 6mg/L. For TSS, discharge criteria mentioned in Section 3 will be adopted. Client should inform Coates if different discharge criteria will be adopted for TSS.
4. Aluminium, Copper, and Zinc are exceeding the adopted DWQP criteria.

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- All other contaminants including Heavy Metals (As, Cd, Cr, Pb, Ni and Hg), BTEX, PAHs, TRHs, Total Cyanide, Total Phenols, Electrical conductivity, TDS, and Hardness were detected either below the adopted DWQP or limit of reporting.

There are two different values were found for the estimated flow rate.

According to “DMP” report (dated 18 November 2021), estimated flow rate will be 4.32ML/365days or 11,750.4L/day, or 0.136L/s.

The “Geotechnical Opinion Letter for Condition C37” states that groundwater volume per year during construction phase is 1.09ML and groundwater volume during operational phase is 1.63ML. Therefore, according to “Geotechnical Opinion Letter for Condition C37” document (dated 8 December 2022), estimated flow rate will be 2.72ML/365days or 7,452L/day or 0.086L/s .

During drafting of this proposal, the latest estimated flow rate mentioned in “Geotechnical Opinion Letter for Condition C37” document has been considered.

A sample of site water (minimum 120L) will be required to confirm and verify that the treatment system and proposed methodology is suitable to treat for its application. Please note that this proposal is founded on previous site experiences only, the final design can only be confirmed once the raw water is received, bench test is completed and the results of the “simulated” treated water are received. If found that the reduction of these contaminants is not enough to meet the discharge criteria, additional equipment may be required at extra cost.

Analyte	Discharge Water Criterion (µg/L) ¹
Physico-Chemical Parameters	
pH	6.5 to 8.0
Turbidity (NTU)	6-50
Metals	
Aluminium	55
Arsenic ^{III}	24
Arsenic ^V	13
Cadmium	0.2
Chromium ^{VI}	1 ³
Copper	1.4
Lead	3.4
Mercury (inorganic)	0.06 ²
Nickel	11
Zinc	8 ³
Light Petroleum Hydrocarbons	
Surface films (petrochemical sheen)	No visible surface films
Volatile TRH (C ₆ – C ₁₀)	If TRH is detected analysis for BTEX and PAH is required
Semi-volatile TRH (>C ₁₀ – C ₄₀)	
Monocyclic Aromatic Hydrocarbons (BTEX)	
Benzene	950
Toluene	180 ⁴
Ethylbenzene	80 ⁴
o - xylene	350
p - xylene	200 ⁴
m - xylene	75 ⁴

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Polycyclic Aromatic Hydrocarbons (PAH)	
Benzo(a)pyrene	0.1
Naphthalene	16
Chlorinated VOCs	
Tetrachloroethene (PCE)	70
Trichloroethene (TCE)	330
Chloroethene (vinyl chloride)	100
cis-1,2-Dichloroethene	
trans-1,2-Dichloroethene	60
1,1-Dichloroethane	700
1,2-Dichlorobenzene	160

Table 1. Adopted Discharge Water Quality Performance (DWQP) criteria from Dewatering Management Plan report.

Sample Identification	Date	Metals											
		Al	As	Cd	Cr ³⁺	Cu	Pb	Ni	Zn	Hg			
DW1	1/03/2023	2200	<1	<0.1	<1	4	<1	1	110	<0.1			
Guidelines													
ANZG (2018) ¹	Fresh Water	55 ⁷	24 (As III) 13 (As V)	0.2	3.3 (CrIII) ⁶ 1.0 (CrVI)	1.4	3.4	11	8	0.06 ⁵			
NHMRC (2011) ²	Recreational Water ^{2a}	200*	100	20		1,000 *	100	200	3,000*	10			
BTEX		PAHs			TRHs				Total Cyanide	Total Phenols			
Benzene	Toluene	Ethylbenzene	m + p-xylene	o-xylene	Benzo(a)pyrene	Naphthalene	Total PAH	F1			F2	F3	F4
<0.5	<0.5	<0.5	<1	<0.5	<0.1	<0.1	<1	<50	<60	<500	<500	<4	<50
950	180	80	275	350	0.1	16	2 ⁴	50 ⁴	60 ⁴	500 ⁴	500 ⁴	7	320
10	25*	3*	20 *	20 *	0.1							800	
Physicochemical Properties													
Sample Identification	Date Sampled	Electrical Conductivity (µS/cm)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	pH	Turbidity NTU	Hardness (mg/CaCO ₃ /L)						
DW1	1/03/2023	330	190	6	4.7	5.2	61						
Guidelines													
ANZG (2018) ¹	Fresh Water			40 ⁵	6.5-8.0 ⁴	1-50 ³							
NMHCRC (2011) ^{2,2a}	Recreational Water		1200		6.5-8.5	5	500						

Table 2. Raw Water Quality from Analytical Analysis document.

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1.3. Solution Description

Influent water will enter a sediment tank where heavy suspended solids will settle. The partially clarified water will then be pumped into a chemically enhanced primary treatment unit (CEPT) whereby a pH correction chemical will be added to correct pH, a coagulant and flocculant chemical enhance the settling of solid particles. The water from the CEPT system will overflow into an intermediate holding tank (IBC), where it will be pumped to the media filtration system. The media filtration system utilises a specialised media to reduce the levels of Dissolved Heavy Metals (Aluminium, Copper, and Zinc). The treated water will overflow to the client's nominated discharge location.

The CEPT unit has an automatic desludge valves that will operate every 15-30 minutes, and requires an area to desludge into, such as a pit dug next to the unit. The sludge accumulated in the sediment tank, CEPT unit and filter media from MF unit shall be managed on site by the client, if left in the unit for an extended period the clarification process will be affected.

This treatment system has a typical maximum treatment capacity of up to 0.5L/s. However, the actual treatment flowrate will be dependent on the influent water quality received onsite and may vary. If any other contaminant/s were found and will need treatment, additional treatment methodology and equipment may be required at an extra cost.

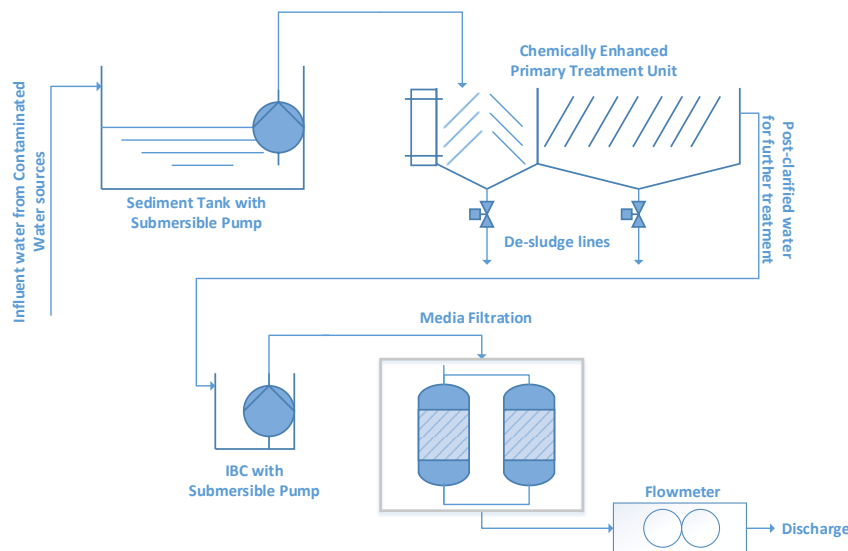


Figure 1. Proposed Water Treatment System

1.4. Site Layout

Please reference the below equipment footprints and suggested site layout when planning. Also note that a minimum of 1m space is required between all units to provide access for personnel, hoses, and pumps.

Footprint			
4m Sediment Tank	L: 4.1m	W: 2.2m	H: 2.0m
CEPT30	L: 3.0m	W: 1.8m	H: 2.5m
MF15	L: 3.2m	W: 2.5m	H: 2.5m
IBC	L: 1.0m	W: 1.0m	H: 1.0m
Flowmeter	L: 0.44m	W: 0.55m	H: 0.75m

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2. Quotation

2.1. Transport, Hire & Operational Costs – Water Treatment

Equipment Description (refer scope of works for further detail)	Weekly Rate ¹	Fixed Charge (per item)
Water Treatment System (Weekly Hire Rate) <ul style="list-style-type: none"> 1 x 4m Sediment Tank 1 x CEPT30 Unit 2 x 75mm Submersible pump 1 x IBC 1 x Media Filtration Unit (MF15) 1 x Flowmeter Unit 	\$ 5,985.00	-
Media fill of the Filtration Unit (MF15) ³	-	\$ 4,950.00
Delivery	-	\$ 1,800.00
Installation/On-Site Commissioning	-	\$ 3,040.00
Site Maintenance Fee ⁴	\$ 950.00	-
On-Site Decommissioning	-	\$ 1,900.00
Collection	-	\$ 1,800.00
Total	\$ 6,935.00	\$ 13,490.00
75 mm Lay Flat Hose (per meter) ⁵	\$ 3.50	-
75 mm Suction Hose (per meter) ⁵	\$ 4.20	-

Note 1: All Rates are Exclusive of GST

Note 2: All Hire Rates are exclusive of following if applicable

Damage Waiver @ 12.5% of Hire rates

Environmental Levy @ 1.3% of hire rates

Note 3: The media filters are required to be filled prior to delivery. The media has a treatment capacity and may exhaust at any time during the project. Should the media exhaust, replacement media will be required at the cost listed above. The client will manage the removal and disposal of the used media.

Note 4: Site Maintenance Fee consists of 5 x Water Treatment Technician visits per week (2 x hours on site, weekdays only) to monitor equipment and refill chemicals (if required). Additional time requested or required to be spent on site will be charged.

Note 5: Actual quantity and cost of hoses will be determined onsite upon commissioning of the system.

Note 6: The client will manage the removal and disposal of the unconsumed chemical in the tanks of the water treatment system prior to collection or when there is modification in the chemical requirement due to change in influent water quality. Coates Hire can handle the disposal of left-over chemicals at \$11.5/ litre, \$110 for the pallet plus transport cost.

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2.2. Consumables

Equipment Description	Unit	Unit Rate (ex GST)
Coagulant Concentrate (15L drum)	Each	\$72.00
Flocculant Concentrate (1L bottle)	Each	\$24.00
Sodium Hydroxide	Litre	\$4.20
Sulphuric Acid	Litre	\$4.00

Note 1: Chemical usage rates are subject to the influent water quality/contamination levels and may vary. Fees to supply treatment chemicals will be charged based on actual usage rate

2.3. Water Sample Analysis

Item Description	Unit	5-7 Day Turnaround Time (ex GST)	2-3 Day Turn Around Time (ex GST)
NATA Accredited Water Sample Analysis	Each	\$ 850.00	\$ 1,050.00

Note 1: Coates Hire can organise NATA Accredited water sample analysis upon request. Price of this analysis includes the testing of pH, Total Suspended Solids, Turbidity, Heavy Metals, BTEX, TRHs and PAHs Contaminants for each sample.

3. Design Notes & Assumptions

The design of the Water Treatment System specified in this proposal is based on information provided by the client. Any variations to the reported site conditions, raw water quality and discharge criteria may affect the scope of works and result in changes to the treatment measures required. The proposed system has been designed to treat the reported influent water to the following objectives:

Contaminant	Unit	Discharge Objectives
pH	-	6.5 - 8.0
Total Suspended Solids	mg/L	50

The proposed system can reduce turbidity if the turbidity is caused by TSS. The system is also designed to reduce the levels of Dissolved Heavy Metals (Aluminium, Copper and Zinc). However, if the reduction of these contaminants is not enough to meet the provided discharge criteria, additional equipment may be required at an extra cost.

The designed system has a typical maximum treatment flowrate of 0.5L/s but the actual treatment flowrate is dependent on the influent water quality received onsite and may vary.

Please note that a sample of site water (minimum 120L) will be required to confirm and verify that the treatment system and methodology proposed is suitable to treat for its application. Please note that this proposal is founded on previous site experiences only, the final design can only be confirmed once the raw water is received, bench test is completed and the results of the “simulated” treated water are received. If any other contaminant/s were found and will need treatment, additional treatment methodology and equipment may be required at an extra cost.

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4. Site Conditions Notes & Assumptions

The client must provide the following on site:

- 4.1 All necessary permits for works obtained prior to Us performing any Site Works
- 4.2 All water discharge is responsibility of license holder
- 4.3 Suitable traffic management, lane closures and permits, to be provided as required
- 4.4 Site access to loading / unloading area by appropriately sized truck/s
- 4.5 Power supply as required to operate water treatment and water management equipment (240V, 415V, 10A & 15A)
- 4.6 Clean water supply and connections as required to make up chemicals (0.25L/s - 0.5L/s)
- 4.7 Local authority approved discharge point for disposal of waters from dewater (written approval Shall be provided by You)
- 4.8 Clear & safe access to be provided to all areas of the site requiring site works
- 4.9 Suitable terrain for excavator / crane / lifting plant to be operated in during site works
- 4.10 Suitable crane / excavator / lifting plant, operator, dogman, lifting plans, lifting chains and all associated materials to be provided as required for all Site Works
- 4.11 Clear level & compact laydown area provided for storage and assembly of components
- 4.12 Suitable level pad area for installation of system (Requirements confirmed prior to supply)
- 4.13 Necessary Approvals & Licences for Operation of System as designed
- 4.14 Underground & overhead surveys performed to locate all existing services and obstructions
- 4.15 Site prepared to allow site works to be performed of in one continuous work period over consecutive days
- 4.16 Survey and set out point provided to us as required to perform site works
- 4.17 Access to site facilities / amenities etc. to be provided
- 4.18 Client to provide a de-sludge pit or bin for sludge removal from the system (Approx. 2m x 2m x 1m). Client will manage the sludge on site.
- 4.19 Parking and lighting on site.
- 4.20 Safe chemical storage and chemical spill kits on site
- 4.21 Sucker truck and forklift for media replacement loading.
- 4.22 Sufficient space and access for Coates to replace the media.

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5. Scope of Works Included

- 5.1. Engineering
 - 5.1.1. Specification of Water Treatment System
- 5.2. Equipment Hire
 - 5.2.1. As specified in Section 2.
- 5.3. Mobilisation of all equipment to site
- 5.4. Site Services
 - 5.4.1. Water treatment installation and commissioning
 - 5.4.2. Provide site inspections per week as specified in Section 2.1(Additional site visits will be charged)
 - 5.4.3. De-commission and dismantle water treatment system
- 5.5. De-mobilise equipment from site

6. Scope of Works Excluded

- 6.1. Engineering
 - 6.1.1. Verification of any data provided to us for Water Treatment Specification purposes
 - 6.1.2. Water quality testing (unless requested to test at NATA laboratory) for discharge purposes
- 6.2. Equipment Hire
 - 6.2.1. Any Dewatering System
 - 6.2.2. Pump(s) for De-watering system
 - 6.2.3. Temporary plumbing network (Suction, Lay flat hose)
 - 6.2.4. Any telemetry system
 - 6.2.5. Power generation for Coates Hire plant / equipment
- 6.3. Site Services
 - 6.3.1. Decontamination of Water treatment plant
 - 6.3.2. Removal, Handling, and classification of any contaminated material on or from site
 - 6.3.3. Disposal and handling of unused chemicals during chemical changeover or at end of project
- 6.4. Other:
 - 6.4.1. Time for Coates Hire personnel to complete any inductions, drug tests, Verification of Competency (VOC), etc. required to work on site
 - 6.4.2. Approved effluent discharge point
 - 6.4.3. Clean water supply and connections (0.25L/s-0.5L/s)
 - 6.4.4. Fuel for generator and pumping equipment
 - 6.4.5. Removal of any waste materials from site (including sludge generated by WT plant). Client to provide suitable sludge pit on site to dump sludge into.
 - 6.4.6. Supply / installation of plumbing from effluent discharge point in WTS to the discharge location
 - 6.4.7. Supply and or Installation of Scaffolding for working at heights (if necessary)
 - 6.4.8. Crane (including operator, dogman, lifting plans, etc.)
 - 6.4.9. Site specific risk assessment
 - 6.4.10. Liquidated damages (LD) and any other indirect costs resulting from site delays

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7 Conditions

7.1 Definitions:

- 7.1.1 **"We/Us/Our/Coates Hire"** means Coates Hire Operations Pty Limited (ACN 074 126 971) of Level 6, 241 O'Riordan Street, Mascot in the state of New South Wales.
- 7.1.2 **"The Client/You/Your"** means the person, firm, organisation, partnership, corporation, trust or other entity hiring Equipment from Us, as named in the Credit Application or the Hire Schedule (where You do not hold a Credit Account). The reference to "You" includes any employees, agents and contractors.
- 7.1.3 **"Shall"** means a term which indicates a provision is a requirement
- 7.1.4 **"Design"** means the design conducted by Coates Hire to determine and specify all components forming The Structure
- 7.1.5 **"Others"** means any person, firm, organisation, partnership, corporation, trust or other entity other than Coates Hire.
- 7.1.6 **"Project"** means 2 Mandala Parade, Castle Hill, NSW - Water Treatment
- 7.1.7 **"Proposal"** means this proposal document inclusive of all drawings and appendices
- 7.1.8 **"Site"** means the project location at 2 Mandala Parade Castle Hill, NSW 2037
- 7.1.9 **"Site Works"** means Installation of temporary works as specified in Temporary Works Proposal Document and associated Design Drawings to be performed by Coates Hire The supply of any services and products referred to in this document is subject to the attached "Client Agreement – Design and Installation" ("Client Agreement"). A copy is also available by [clicking here](#). If you cannot access the Client Agreement on our webpage, please contact Coates Hire and a member of our team will provide you with a copy of the Client Agreement. Any terms and conditions provided by you in connection with the services or products to be supplied by Coates Hire will be of no legal effect and will not constitute part of the agreement to provide services or products by Coates Hire (even if any representative of Coates Hire signs those terms and conditions or annexes the terms and conditions to any purchase order). By issuing a purchase order, or directing us to proceed, you are deemed to have accepted and agree to be bound by the Client Agreement.

7.2 This Proposal has been generated based on information supplied by You. It is Your responsibility to ensure that all supplied information is correct and to notify Us if there is any information shown that is found to be incorrect.

7.3 All rates detailed in the Quotation exclude GST.

7.4 The fees/ rates detailed in the Quotation are valid for a period of 30 days.

7.5 Transport costs were valid at the time of developing the Proposal and are based on weekday rates in normal business hours. This cost may be subject to change

7.6 Installation Services are based on weekday rates in normal business hours. Additional charges will apply where after hours or weekend services are required.

7.7 Equipment supply is subject to availability.

7.8 Minimum hire durations are as follows:

Equipment Type	Minimum Hire Duration
Water Management Equipment	12 Week(s)
Ancillary Items & All Other Items	12 Week(s)

7.9 Additional costs apply for site inspections, engineering services, variations to scope, cleaning, decontamination and disposal of contaminated waste, etc. Any applicable fee will be discussed with You prior to being applied. The fees are as follows:

7.10 The design variation rate structure as follows:

Item Description	Rate (ex. GST)
Installation Labourer	\$65.00
Installation Supervisor/ Field Technician	\$95.00
Site Engineer	\$170.00
Install crew stand-down rate	\$300.00 / hr
Auger drilling	\$25.00 / m drilled + 1off mobilisation fee
Vacuum Truck	Cost + 20%

7.10.1 All quoted rates assume work during normal business hours. Work required outside of normal business hours are subject to the following loading factors:

Description	Loading Factor
Saturdays & Nights (5:00PM – 7:00AM)	1.5
Sundays	2.0

Public Holidays	2.5
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- 7.10.2 A minimum site attendance time of 4 hours for Field Technician (inclusive of travel)
- 7.10.3 A minimum site attendance time of 2 hours for site engineering
- 7.10.4 Time requirements are based on application and determined at the discretion of Us
- 7.10.5 These fees & rates do not include flights & accommodation if required
- 7.11 The quotation amount for Site Works includes an allowance for site inductions, testing, & other requirements to enable Us to work on the Site, up to a total duration of 1 hour. Any additional time required on site for such requirements will be subject to an hourly charge.
- 7.12 The Quotation does not include any site remediation works or extra works required to be performed before, during or after installation / removal. Remediation works are the responsibility of You. If dewatering cannot be installed due to any obstruction, restricted or unsafe access, or any other reason identified by Us, this would constitute a requirement for remedial works.
- 7.13 Any delay or intermittency of operations due to restricted access, plant or personnel availability, or any other reason outside of Our control will be subject to an hourly stand-down rate. Refer Additional Rates Schedule for detail.
- 7.14 Data
 - 7.14.1 It is **Your** responsibility to ensure that all records, documentation, information and data ("Data") required to be retained with respect to the services being provided under this Proposal are retained in compliance with:
 - 7.14.1.1. All laws, legislation and regulations; and
 - 7.14.1.2. The requirements for any authority, department of government or agency
 - 7.14.2. You acknowledge that we are not responsible to retain any Data the subject of this Proposal and that such Data may not be available for retrieval once the services, the subject of this Proposal, are complete. You indemnify and release us from all liability with respect to any losses or claims we sustain arising with respect to this condition
- 7.15. We will not be liable for liquidated damages (LD) and any other indirect costs, losses or damages resulting from site delays of any kind.
- 7.16. All works area(s) to be located directly adjacent to the load / un-load area, or suitable materials transport between load / un-load area and the works area(s) to be provided by You.
- 7.17. Due to the variable nature of groundwater & surface water, the system that is proposed may have to be modified to achieve the specific draw down requirements. In the event that the dewatering system installed at site is not sufficient, Coates Hire may be forced to make modifications to the system as necessary to achieve the desired results.
- 7.18. You are to provide access to site facilities / amenities, trade waste, rubbish and spoil disposal facilities as required.
- 7.19. Coates Hire provides no guarantee on ability to install dewatering components to the design depth. If site conditions prevent installation from being completed, the design may need to be changed, or the project abandoned. We will not be liable for any costs or delay resulting from this.
- 7.20. By issuing a PO, accepting this proposal, or instructing us to proceed, you are acknowledging that:
 - 7.20.1. You have read and understand the Proposal in its entirety
 - 7.20.2. You are aware of the requirements for the safe handling, installation, use & de-installation of all equipment detailed in the Proposal
 - 7.20.3. You agree to the rate/ fee structure
 - 7.20.4. Physical preparation of equipment may be commenced immediately

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