



Stormwater Operation and Management Plan

Smalls Road Public School
Smalls Road, Ryde

SCP Ref: 180170

Client Richard Crookes Constructions

Project Smalls Road Public School

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Revision table

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1 Introduction

As part of the detailed design process for the civil works associated with the Smalls Road Public School development, SCP Consulting have been engaged to develop management systems for the constructed stormwater network during operation. This assessment is currently required under condition B21 of the State Significant Development Application Conditions of Consent (SSD-8372).

1.1 Purpose of Report

The purpose of this report is to:

- Maintenance schedule of all stormwater quality treatment devices;
- Record and reporting details;
- Relevant contact information; and
- Work Health and Safety requirements.

1.2 Proposed Development

The site is located at 12 Smalls Road, Ryde and within the City of Ryde local government area. The site is approximately 2.46 ha and the proposed development footprint covers approximately 1.32 ha. The site is currently in use by the Department of Education.

The proposed development includes the construction of a new three level teaching facility, site car parking, footpath, ramps and retaining, along with upgrades to existing site infrastructure and landscaping.

This report details the measures to be taken at the facility to maintain system operation, manage occupant safety and to protect the surrounding properties and infrastructure.

2 Inground Tank Maintenance

The On-Site Detention Tank and Rainwater Tank located on the western side of the new school building requires on-going operational maintenance schedule to ensure that the tank continues to operate as per the intended design. The plan attached to this schedule shows the location of the tank within the site and the access chambers through which the tank can be accessed.

The OSD tank operates with a High Early Discharge chamber on the western side of the tank which will capture a large proportion of the rubbish and sediment leaving the remainder of the tank relatively clean. The trash screen, orifice plate and stormwater cartridges also need to be regularly inspected to ensure they remain free of blockages.

Since the tank is accessed through 900mm square access hatches only persons qualified to access confined spaces may enter the tank to undertake the inspection and maintenance required. The maintenance personnel must have confined spaces training and comply with AS 2865-1995 Safe Working in a Confined Space. The access hatches will have to be lifted using appropriate manual handling techniques to reduce the chance of injury and suitable confined space equipment set up over the access hatch.

INSPECTION ELEMENTS IN THE SCHEDULE BELOW CAN BE CARRIED OUT BY THE OWNER. ANY ACTIONS REQUIRING ACCESS TO THE TANK SHALL BE COMPLETED BY A SUITBLY QUALIFIED AND EXPERIENCED MAINTENANCE CONTRACTOR.

2.1 Maintenance Schedule

Soil and water management measures shall be undertaken as follows:

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE
Inspect for blockage of orifice or emergency outlet	Three monthly or after heavy rainfall	Owner	Remove access hatch over orifice and inspect for blockages, corrosion or damage. DO NOT enter tank.
Inspect trash screen	Three monthly or after heavy rainfall	Owner	Remove access hatch over trash screen and inspect for blockages, corrosion or damage. DO NOT enter tank.
Inspect overflow weirs of HED chamber and rainwater tank	Three monthly or after heavy rainfall	Owner	Remove access hatch over weirs and inspect. DO NOT enter tank.
Inspect sump at outlet	Three monthly or after heavy rainfall	Owner	Remove access hatch over orifice sump and inspect for sediment build up. DO NOT enter tank
Inspect OSD storage area	Three monthly or after heavy rainfall	Owner	Remove necessary access hatch and inspect for sediment build up, litter, etc. DO NOT enter tank
Check orifice attachment to OSD wall (<5mm gaps)	Six monthly	Maintenance Contractor	Remove access hatch, access tank and inspect orifice plate for gaps. Epoxy any gaps larger than 5mm as required.
Check trash screen fittings and fixtures	Six monthly	Maintenance Contractor	Remove access hatch, access tank and inspect trash screen for corrosion or missing fittings and fixtures and make secure. Replace elements as required.
Inspect tank base, walls and roof	Annually	Maintenance Contractor	Remove access hatch, access tank and inspect OSD structure for chips, cracks and other possible flaws. Repair as required
Inspect step irons	Six monthly	Maintenance Contractor	Remove access hatch, access tank and inspect step irons for corrosion and ensure all steps irons are secure. Repair or replace as required.
Clean tanks	Six monthly	Maintenance Contractor	Remove access hatch, access tank and suck litter, sediment and sludge from OSD tank base, orifice sump and HED chamber to reinstate operational volume

3 Unexpected Finds Protocol and Emergency Contacts

Should fly tipping be found on site during construction, Council recommends that you should not attempt to remove or touch any dumped rubbish as it may be harmful and/or hazardous. A site representative should report this to Council immediately, by calling 02 9952 8222.

Below are the details of potentially relevant contacts in the case of finding various materials or services on-site:

- **Dial Before You Dig:** **1100**
- **City of Ryde Council** **02 9952 8222**
- **Jemena:** **131 909**
- **Telstra:** **13 22 03**
- **All About Asbestos:** **0411 650 980**
- **Endeavour Energy:** **13 10 81**
- **Sydney Water:** **13 20 90**

In the event of emergencies involving stormwater, such as large flooding events, the below details of contacts should be utilised:

- **Emergency Contact (Police/ Ambulance/ Fire):** **000**
- **SES** **13 25 00**
- **Local Police** **(02) 9808 7401**
- **Local Fire and Rescue** **(02) 9808 2798**

4 Work Health and Safety Matrix

Ref No	ACTIVITY AND HAZARD	LOCATION	RISK	CONSEQ	PROB.	RANKING	RISK MITIGATION PROCESS	RESPONSIBILITY	RESIDUAL CONSEQ	RESIDUAL PROBABILITY	RESIDUAL RANKING
1.1	Maintenance works on boundary adjacent to existing footpaths and public roads	Boundary	Incidents during construction works	4	2	Moderate	Fence off the site and areas of works adjacent to the site boundary/within public footpath. Post vehicle spotters on public roads to safely guide vehicles. Provide safe pathways for pedestrians around the proposed works areas. Site induction to include construction area safety and movement procedures, and respective pedestrian procedures.	Maintenance Contractor	3	2	Moderate
1.2	Maintenance staff may need to enter OSD tank and stormwater pits to perform maintenance, checks or repairs. Hazards include manual handling of heavy covers, contaminated air, vehicle hazards, fall potential, slips & trips, fall from ladders, drowning.	Drainage pits and OSD Tank	Confined space access and ease of maintenance requirements. Incidents with vehicles if in roadway, risks of injury/damage associated with falls/collision with open pits.	4	1	Low	Place high-vis traffic cones to redirect vehicles away from any pits in use. Place temporary fencing around pits. Ensure service provider is appropriately qualified, with a safety management strategy in place for such works in roadways.	Contractor and Operator	2	1	Low
1.3	Customer access in and out of the carpark	External carpark	Incidents during operation of the School	2	2	Low	Delineate pedestrian pathways, and provide signage for the drivers to inform them of the	Maintenance Contractor	2	2	Low

							location of the pedestrian pathways crossings				
1.4	Hazards associated with external works, connection of stormwater drainage to street drainage system, construction of kerbs, footpaths, external pavement	External works	Incidents during construction works	4	2	Moderate	Fence off the areas of works . Prepare traffic management plan for the external works. The plan must be approved by Council/RMS and implemented. Provide safe pathways for pedestrians around the proposed works areas. Site induction to include construction area safety and movement procedures, and respective pedestrian procedures.	Maintenance Contractor	2	2	Low
1.5	Confined space	Hydraulic Pits	High Risk of asphyxiation, low oxygen or exposure to concentrated hazardous gases.	4	2	Moderate	Use proper tools and working platforms, wear PPE. Follow appropriate maintenance methodology by trained personnel.	Operator	2	1	Low

Risk Hazard Matrix

Prob	Consequence				
	Negligible 1	Minor 2	Medium 3	Major 4	Severe 5
Almost Certain 5	Moderate	High	High	Extreme	Extreme
Likely 4	Low	Moderate	High	High	Extreme
Moderate 3	Low	Moderate	Moderate	High	High
Unlikely 2	Low	Low	Moderate	Moderate	High
Rare 1	Low	Low	Low	Low	Moderate

RANKING

Extreme	Immediate attention required, cease activity
High	Immediate attention required, to reduce the risk to moderate or below
Moderate	Maximum acceptable level of risk. Additional controls may be implemented to improve.
Low	Risks managed by routine procedures.

5 Stormwater Quality Compliance

Within the Condition 22 of the State Significant Development Application Conditions of Consent (SSD-8372), the proposed stormwater design is required to comply with the following:

- Designed by a suitably qualified and experienced person(s);
- Generally in accordance with the conceptual design in the EIS;
- In accordance with applicable Australian Standards;
- Ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff and Managing Urban Stormwater: Council Handbook guideline.

The proposed stormwater network within SCP Consulting civil documentation is in accordance with the concept design and stormwater water management report prepared in the EIS by MYD Consulting Engineers. Within MYD Consulting Engineer's report, water sensitive urban design was managed via the following:

- Rainwater tank with first flush device capturing all roof runoff.
- Silt trap and trash screen integrated into the proposed OSD tank.

The above elements are included within the constructed stormwater design.

6 Conclusion

The strategies within this report need to be adopted to ensure that the safety and welfare of occupants at the newly constructed school development, in relation to civil and stormwater infrastructure supporting the development. The stormwater network has been designed in accordance with the Educational Facilities Standards and Guidelines (EFSG) and Australian Standards. However, continual review and maintenance needs to be developed into the school management plan to maintain occupant safety.