



Concrete Washout Guideline

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Supporting Document – Applicable to Transport Projects
Delivery Office

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1. Purpose

The purpose of this document is to provide guidance on how to manage concrete washout waste material. The disposal of waste concrete and slurry poses a potential risk of environmental harm if not managed appropriately. Establishing and maintaining a designated wash-down area allows contractors to properly wash down equipment whilst minimising the risk of pollution to land or waters.

2. Scope

This guideline includes references to some of the relevant legislative and regulatory requirements but is not intended to replace them. It is not intended to replace any requirements identified as part of the environmental impact assessment process.

3. Definitions

All terminology in this document is taken to mean the generally accepted or dictionary definition with the exception of the following terms which have a specifically defined meaning:

Blue Book	Managing Urban Stormwater: Soils & Construction 2004, Landcom
CEMP	Construction Environmental Management Plan
ECM	Environment Control Map
EPA	New South Wales Environment Protection Authority
NSW	New South Wales
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
pH	The measure of the acidity or alkalinity of a solution
TfNSW	Transport for NSW
TPO	Transport Projects Delivery Office (TfNSW)
TSR	TfNSW Standard Requirement

4. Accountabilities

The Technical Director Planning and Environment Services is accountable for this Supporting Document including authorising the document, monitoring its effectiveness and performing a formal document review.

Project directors are accountable for ensuring the requirements of this document are implemented within their area of responsibility.

Project directors who are accountable for specific projects/programs are accountable for ensuring associated contractors follow this document to the extent they are required under TSR E – Environmental Management and the contract.

Contractors are accountable for following this document, where this guideline forms a part of their contract.

5. Legislative requirements

The POEO Act is the key piece of environmental protection legislation in NSW, administered by the EPA. Offences under the POEO Act are classified into three tiers, with Tier 1 offences being the most serious, attracting penalties up to \$5 million and 7 years imprisonment for

wilful or negligent harm to the environment. Under the POEO Act, any unlicensed pollution of land or waters is a Tier 2 offence attracting penalties up to \$1 million for a corporation and \$250,000 for individuals.

s. 120 Prohibition of pollution of waters

(1) A person who pollutes any waters is guilty of an offence.

(2) In this section:

pollute waters includes cause or permit any waters to be polluted.

s. 142A Pollution of land

(1) A person who pollutes land is guilty of an offence.

(2) In this section:

pollute land includes cause or permit any land to be polluted

Note: for the definition of pollution refer to the POEO Act

6. Managing concrete washout

Effective concrete washout areas are used to contain concrete slurry and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery to a site. The washout facilities are used to consolidate solids for easier disposal or reuse and to prevent runoff of contaminated liquids.

Concrete wash water is alkaline (pH of around 12) and contains high levels of chromium, with the potential to pollute land and leach into the ground and contaminate groundwater. Concrete washout material can also increase the pH of surrounding waters and has the potential to harm aquatic life and cause pollution of waters, including storm water. Solids that are improperly disposed of can clog storm water drain pipes and cause flooding.

Installing concrete washout facilities not only assists in preventing pollution but is also a matter of good housekeeping on construction sites.

6.1. Planning and design

The details of the concrete washout area should be included on the ECM and within the CEMP (or its sub plans).

The ECM and CEMP should identify:

- the location of the concrete washout facility
- how the concrete wastes are going to be stored on- or off-site
- how the concrete wastes will be collected from these storage points
- where the wastes will be taken to and/or how they will be treated and disposed.

The design aim of the concrete washout area is to securely capture and store concrete waste water and solids in an impervious bunded area. This can be achieved via a number of methods, as illustrated by the various examples provided in Appendix 1.

Site personnel, particularly those responsible for concrete delivery and pumping, should be made aware (via site induction, toolbox talks, pre-starts etc.) that a wash-down area is available on-site and when and how it is to be used.

For guidance on the removal and disposal of water from the washout and treatment area refer to TPO's [Water Discharge and Reuse Guideline – 7TP-ST-146](#).

6.2. Location and management of washout areas

The following management measures should be considered to minimise the potential impacts of concrete washout areas on the environment:

- The washout area should be located away from drainage lines, storm water drains and water bodies.
- The concrete washout area should be conveniently located for washing out equipment and clearly signposted.
- All wash down water is to be contained within the designated impervious bund.
- Concrete washout areas are generally not designed for the collection of excess concrete. Excess concrete waste should be returned to the local batching plant for treatment and re-use, or placed in a site receptacle designated for concrete and masonry, and allowed to set.
- To minimise the amount of washout water generated, excess concrete should be scraped off the equipment before it is washed and placed in a site receptacle designated for concrete and masonry.
- A high pressure, low volume water spray nozzle reduces water use.
- Water discharge can only be undertaken in accordance with [Water Discharge and Reuse Guideline – 7TP-ST-146](#).

6.3. Monitoring

All concrete washout areas should be monitored and maintained to ensure that they are functioning correctly and have adequate storage capacity. Monitoring should be undertaken as a minimum:

- weekly during dry weather
- prior to forecast rainfall events
- during rainfall events
- as soon as practical following the rainfall event.

Set concrete should be removed to restore capacity to the washout area and prevent overflows.

6.4. Reporting

An environmental incident occurs if:

- concrete is washed out in an area other than the designated concrete washout area
- mismanagement of the concrete washout leads to a release of concrete washout to land or waters.

If an environmental incident occurs, the process documented in the [Environmental Incident Classification and Reporting – 9TP-PR-105](#) should be used to report the environmental incident.

7. Related documents and references

Related documents and references

[Water Discharge and Reuse Guideline – 7TP-ST-146](#)

Managing Urban Stormwater: Soils and Construction Volume 1, Landcom 2004 (“Blue Book”).

[Environmental Incident Classification and Reporting – 9TP-PR-105](#)

[Guide to Environmental Control Map – 3TP-SD-015](#)

[Minnesota Department of Transportation, Best Management Practices for Concrete Washout, May 2009, v5](#)

Appendix 1: Examples of concrete washouts

1. Larger site/volume options

a) Sealed skip container



A skip washout system is capable of holding liquid and solid concrete washout materials until final treatment and disposal. Prevent commingling of other solid wastes with concrete washout materials.

b) Lined trap



A lined trap system is excavated in an area with storm water overflow protection consisting of impervious plastic sheeting. The goal is to retain the liquids.

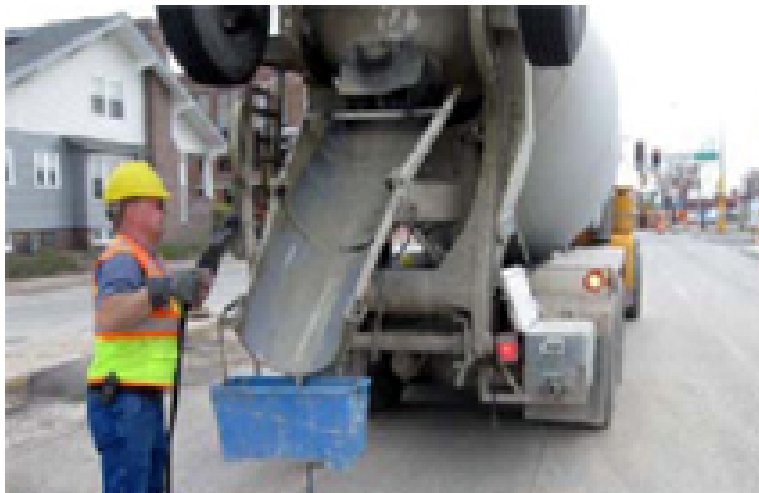
c) Berm trap



A berm trap system may consist of raised walls constructed from wood, straw bales, compost filter logs, sand bags, soil, lined concrete barriers, or any suitable strength materials to contain concrete washout liquids and solids until evaporation, curing, or extraction and final removal.

2. Concrete truck/pumper options

a) Chute washout:



If there is very little concrete being used on site and the only washout required is the concrete chute then devices capable of containing all concrete liquids and solids can be used.

b) Plastic



As a secondary containment method to avoid land and or water pollution, a Plastic drop sheet with weighed down edges can be used. This method is especially useful at connectors of the concrete pumper or under the chute of the concrete truck.

To be used in conjunction with other washout methods

c) Pallet



A sealed container that fits on a pallet for ease of removal can be used for small volumes. One benefit of this method is ease of moving the washout area to locations where concrete is being used. Do not completely fill the container, and beware of spillages when moving the pallet.

d) Rinse bucket



A rinse bucket separates concrete aggregate from washout water, and needs to be cleared of waste each day.

All photos from [Minnesota Department of Transportation, Best Management Practices for Concrete Washout, May 2009, version 5](#)