

ILLINOIS URBAN MANUAL PRACTICE STANDARD

Temporary Concrete Washout Facility

(no.)

Code 954



Source: Illinois Urban Manual Technical Committee

Definition

A device used to manage liquid and solid wastes from concrete usage on construction sites.

Purpose

The purpose of this practice is to control concrete wastes to prevent both on-site and off-site pollution.

Conditions Where Practice Applies

This practice applies on any construction site where concrete is used.

Criteria

The following steps shall be taken to effectively control concrete wastes.

1. Perform washout of concrete mixer trucks in designated areas only.
2. Each facility shall have appropriate signage to inform concrete equipment operators of the proper washout locations.

3. Each facility shall be located in an area protected from possible damage from construction traffic and have a stabilized access to prevent tracking onto streets.
4. Washout facilities shall be located on level ground a minimum of 15 m (50 ft) from storm drain inlets and all open drainage facilities. For smaller sites where the distance criteria may not be practical, washout facilities shall be located as far from drainage facilities as possible and additional inspections shall be conducted to ensure no illicit discharges have occurred.
5. Temporary concrete washout facilities shall be supplied in sufficient quantity and size to manage all liquid and solid wastes generated by washout operations.
6. Washout water from low volume facilities shall be allowed to evaporate and not be discharged into the environment.
7. Washout water from high volume facilities shall be removed with a vacuum truck and taken back to the batch plant. Washout water shall not be discharged into the environment.
8. Solidified concrete waste from washout facilities shall be considered Clean Construction or Demolition Debris (CCDD) as per the Illinois Environmental Protection Act (415 ILCS 5) and disposed of in accordance to the Act.
9. Each facility shall be inspected daily to ensure the container is not leaking or nearing two-thirds capacity of either solids, liquids or a combination of both.
10. Liquid waste from mortar mixing and dispensing areas shall be contained, and not allowed to be discharged into the environment.

PREFABRICATED CONCRETE WASHOUT FACILITIES

1. Prefabricated facilities can be any water tight unit designed to contain concrete slurry and solids.
2. Prefabricated facilities shall be of sufficient volume and quantity to contain all the liquids and concrete waste generated by washout operations.

TEMPORARY CONCRETE WASHOUT FACILITIES “ABOVE GRADE”

1. Be constructed with a minimum width of 3 m (10 ft), but of sufficient volume and quantity to contain all the liquids and co-generated by washout operations. Above grade washout facilities shall...
2. The walls of the above grade facilities may be constructed of straw bales, barrier walls or earthen berms. If straw bales are used, they shall be entrenched 3” into the earth, butted tightly end to end and staked in place using 2” x 2” x 4’ wooden stakes. If barrier walls are used, they shall be butted tightly end to end.
3. The facility shall be lined with a 30-mil polyethylene liner and secured using sand bags, 6” wire staples, or other anchors. The plastic lining material shall be free of holes and tears and must be impermeable.

TEMPORARY CONCRETE WASHOUT FACILITIES “BELOW GRADE”

1. Below grade washout facilities shall be constructed with a minimum length and minimum width of 3m (10 ft) but of sufficient volume and quantity to contain all the liquids and concrete waste generated by washout operations.
2. The soil base shall be prepared free of rocks or debris that may cause tears or holes in the plastic lining material.
3. The facility shall be lined with a 30-mil polyethylene liner and secured using sand bags, 6” wire staples or other anchors. The plastic lining material shall be free of holes and tears and must be impermeable.

REMOVAL OF TEMPORARY WASHOUT FACILITIES

1. When temporary concrete washout facilities are no longer required for the work, the facilities shall be removed from the site of the work.
2. Holes, depressions or other ground disturbances caused by removal of the temporary concrete washout facilities shall be restored to the satisfaction of the engineer.

Considerations

Concrete washout wastewater is corrosive and toxic. The pH of concrete can be over 12 which is the same as many household cleaners. These toxins can clog fish gills, reducing their oxygen and causing death. These pH levels can also be long lasting in the soil. Plants may become stunted or refuse to grow in these soils. Restoration of ground surface surrounding washout facilities may require removal and replacement of top soils, nutrients and alkaline tolerant seed mixture.

Concrete washout water may be considered to be a hazardous waste due to the high pH (characteristic hazard waste due to corrosiveness). Check with local regulatory authorities to ensure it is disposed of in accordance with local, state and Federal regulations.

If access to concrete washout facilities is off pavement, vehicle tracking control may be required.

If larger one day pours are scheduled, multiple facilities may be required or constant maintenance will be necessary throughout the day.

Above grade units shall not exceed a size in which the outside barrier chosen (straw bales, barrier walls, earthen berm) becomes structurally unsound. If the need for a larger facility arises, a below grade facility may be necessary.

If the project is located in areas with potentially high water tables, above grade or prefabricated facilities should be used to prevent leaching of wastewater into groundwater.

As with any other harmful material storage facilities (e.g. petroleum products, concrete curing compounds, etc.) a temporary cover may be necessary to deter rain water from filling the facility and allowing wash water and/or slurry to discharge into the environment.

Plans and Specifications

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use.

Standard Drawing [TEMPORARY CONCRETE WASHOUT FACILITY – STRAW BALE IUM-654SB](#), [TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL IUM-654BW](#), or [TEMPORARY CONCRETE WASHOUT FACILITY – EARTHEN TYPE IUM-654ET](#) may be used as the plan sheet.

Operation and Maintenance

1. Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 100 mm (4 in.) for above grade facilities and 300 mm (12 in.) for below grade facilities. Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete or slurry and returning the facilities to a functional condition. and ready for use once the washout is two-thirds full.
2. Existing facilities must be cleaned, or new facilities must be constructed.
3. Temporary concrete washout facilities shall be inspected for damage (e.g. tears in plastic liner, missing sand bags, etc.). Damaged facilities shall be repaired promptly.

References

California Department of Transportation, 2003. Construction Site Best Management Practice (BMP) Field Manual and Troubleshooting Guide. CA

California Stormwater Quality Association, 2003. Construction Handbook. CA

Minnesota Pollution Control Agency, Concrete, Patio, Stucco and other Washout Guidance, September 2018