

**LEGEND**

SEDIMENT AND EROSION PLAN

- PROPOSED SITE BOUNDARY
- CONSTRUCT TEMPORARY SEDIMENT FENCE
- INSTALL SANDBAG SEDIMENT TRAPS
- CONSTRUCT TEMPORARY STABILISED SITE ENTRY WITH SHAKER GRID
- TEMPORARY FLOCCULATION AND PUMP SYSTEM
- INDICATIVE LOCATION OF STOCKPILE
- TEMPORARY DISCHARGE PIPE

**NOTES**

1. CONTRACTORS TO CONFIRM PUMP-OUT FROM DEEP BASEMENT EXCAVATION.
2. UPON INSTALLATION OF NEW STORMWATER PITS, SAND BAGS ARE TO BE PLACED AROUND THE PROPOSED PITS TO PREVENT ANY SEDIMENT RUNOFF TO THE PITS.
3. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH THE PUBLICATION 'URBAN STORMWATER SOILS AND CONSTRUCTION "THE BLUE BOOK" 2004 (4TH EDITION)' PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION, EXCAVATION OR CONSTRUCTION WORKS UPON THE SITE.
4. BUILDERS SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE BOUNDARIES. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (Eg. PROFAB SILT FENCE, OR SIMILAR) STANDING MINIMUM 500mm ABOVE GROUND AND EXTENDING 200mm BELOW GROUND.
5. GRASS VERGES AND VEGETATION SHALL BE MAINTAINED AS MUCH AS PRACTICAL AND SHALL NOT BE CLEARED FROM NEIGHBORING SITES TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.
6. NO PARKING OR STOCK PILING OF MATERIALS IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.
7. VEHICLE ACCESS SHALL BE RESTRICTED TO ONE DESIGNATED POINT AS SHOWN, AND VEHICLE CROSSINGS ARE TO BE ADEQUATELY COVERED AT ALL TIMES WITH BLUE METAL OR THE LIKE.
8. TEMPORARY CONSTRUCTION ENTRY/EXIT SHALL BE AS PER DRAWING ON DRAWING 0021. BUILDER TO ENSURE ALL DROPPABLE SOIL AND SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE USING VEHICLE WHEEL WASH, CATTLE GRID, WHEEL SHAKER OR OTHER APPROPRIATE DEVICE. BUILDER SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING AND LEAVING THE SITE, DO SO, IN A FORWARD DIRECTION.
9. ALL STORMWATER INCIDENT ON THE CONSTRUCTION SITE MUST BE COLLECTED AND APPROPRIATELY DISPOSED OF IN A MANNER THAT DOES NOT INCREASE THE FLOOD RISK FOR THE CATCHMENT AREA OR DEGRADE THE QUALITY OF WATER BEING DISPOSED OF TO COUNCIL STORMWATER INFRASTRUCTURE.
10. MEASURES OUTLINED IN THE EROSION AND SEDIMENT CONTROL PLAN MUST BE IMPLEMENTED PRIOR TO AND MAINTAINED DURING AND AFTER THE CONSTRUCTION WORKS.
11. ALL DISTURBED AREAS AND STOCKPILES TO BE STABILISED WITHIN 5 DAYS.
12. TOPSOIL TO BE STRIPPED STOCKPILED AND RE-SPREAD ON COMPLETION OF EARTHWORKS. NONE TO BE REMOVED.
13. NO DISTURBANCE OF THE SITE OTHER THAN IMMEDIATE AREA OF WORKS.

**NOTE:**  
THIS PLAN IS A CONCEPT ONLY. IT IS CREATED TO HIGHLIGHT SOME OF THE SEDIMENT AND EROSION CONTROL MEASURES WHICH MAY APPEAR. THE CONTRACTOR IS RESPONSIBLE FOR THE FINAL DESIGN AND ENSURING ALL MEASURES ARE TAKEN TO PROTECT THE ENVIRONMENT.

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# Soil and Water Management Notes

## General Instructions

**SWM01** These plans present a conceptual soil and water management plan (SWMP) only and shows a possible way of managing soil and erosion. The contractor shall be responsible for the establishment and management of the site and preparing a detailed plan and obtaining approval from the relevant authority prior to the commencement of any works.

**SWM02** This plan is to be read in conjunction with the engineering plans and any other plans, written instructions, specification or documentation that may be issued and relating to development of the subject site.

**SWM03** The contractor will ensure that all soil and water management works are consistent with 'Managing Urban Stormwater - Soils and Construction' - also known as 'The Blue Book'.

**SWM04** All builders and sub-contractors shall be informed of their responsibilities in minimising the potential for soil erosion and pollution to downslope lands and waterways.

## Erosion Control

**SWM05** Water shall be prevented from entering the permanent drainage system until sediment concentration is less than or equal to 50mg/L, ie the catchment area has been permanently landscaped and / or any likely sediment has been filtered through an approved structure.

**SWM06** Any sand used in the concrete curing process (spread over the surface) will be removed as soon as possible and within 10 working days from placement.

**SWM07** Acceptable receptors will be constructed for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter.

**SWM08** 'Sediment' fencing will be installed as indicated on the plans and at the direction of site superintendent to ensure containment of sediment. The sediment fencing will outlet or overflow under stabilised conditions into the sediment basin, to safely convey water into a suitable filtering system should the pores in the fabric block.

**SWM09** Stockpiles should not be located within 5m of trees and hazard areas, including likely areas of concentrated or high velocity flows such as waterways, drainage lines, paved areas and driveways. Where they are within 5m from such areas, special sediment control measures should be taken to minimise possible pollution to downstream waters. Measures should also be applied to prevent the erosion of the stockpile.

**SWM10** All cut and fill batters are to be seeded and mulched within 14 days of completion of formation.

**SWM11** Any existing trees which form part of the final landscaping plan will be protected from construction activities by-

- Protecting them with barrier fencing or similar materials installed outside the drip line.
- Ensuring that nothing is nailed to them.
- Prohibiting paving, grading, sediment wash or placing of stockpiles within the drip line except under the following conditions,
  - Encroachment only occurs on one side and no closer to the trunk than either 1.5 metres or half the distance between the outer edge of the drip line and the trunk, whichever is the greater.
  - A drainage system that allows air and water to circulate through the root zone (e.g. a gravel bed) is placed under all fill layers of more than 300 millimetres depth
  - Care is taken.

**SWM12** During windy weather, large disturbed unprotected areas should be kept moist (not wet) by sprinkling with water to keep dust under control.

**SWM13** Temporary protection from erosive forces will be undertaken on lands where final shaping has not been completed but works are unlikely to proceed for periods of two months or more (eg. on topsoil stockpiles). This may be achieved with a vegetative cover. A recommended listing of plant species for temporary cover is -

- autumn/winter sowing
  - oats/ryecorn at 20 kg/ha
  - japanese millet at 10 kg/ha
- spring/summer sowing
  - japanese millet at 20 kg/ha
  - oats/ryecorn at 10 kg/ha

**SWM14** Diversion banks / channels will be rehabilitated as soon as possible and within 5 working days from their final shaping. Other than in the winter months, suitable materials include turf grasses such as Couch or Kikuyu. During winter, or at other times when temporary rehabilitation (more than 3 months) is required, it is suggested that hessian cloth is used but only if tacked with appropriate pegs and an anionic bitumen emulsion. Foot and vehicular traffic should be kept away from these areas.

**SWM15** Undertake site development works in accordance with the engineering plans. Where possible, phase development so that land disturbance is confined to areas of workable size.

## Construction Sequence

**SWM16** Where practical, the soil erosion hazard on the site should be kept as low as possible. To this end, works should be undertaken in the FOLLOWING SEQUENCE -

- Install inlet sediment traps to all gully pits fronting the site.
- Install a 1.8m chain wire fence around the boundaries and attach hessian cloth or similar to it on the windward side (ties at the top, centre and bottom and at 1m intervals or as instructed by the superintendent).
- Install geofabric sediment fence and sediment traps around all permanent stormwater reticulation structures as shown on the plan.
- Construct stabilised construction entrance as shown on the plan or to location as determined by superintendent.
- Install diversion banks along the boundary where required, rehabilitate disturbed lands downslope from the basins within 20 working days.
- Ensure that the sediment basin is directed onto a turfed area and drains to a suitable location. A temporary stormwater line may be necessary to convey the flows to this location. Construct diversion channels at the boundary to drain into the sediment basin as shown on plans.
- At completion stabilise site and decommission sediment basin and all erosion control devices.

**SWM17** Temporary soil and water management structures will be removed only after the lands they are protecting are rehabilitated.

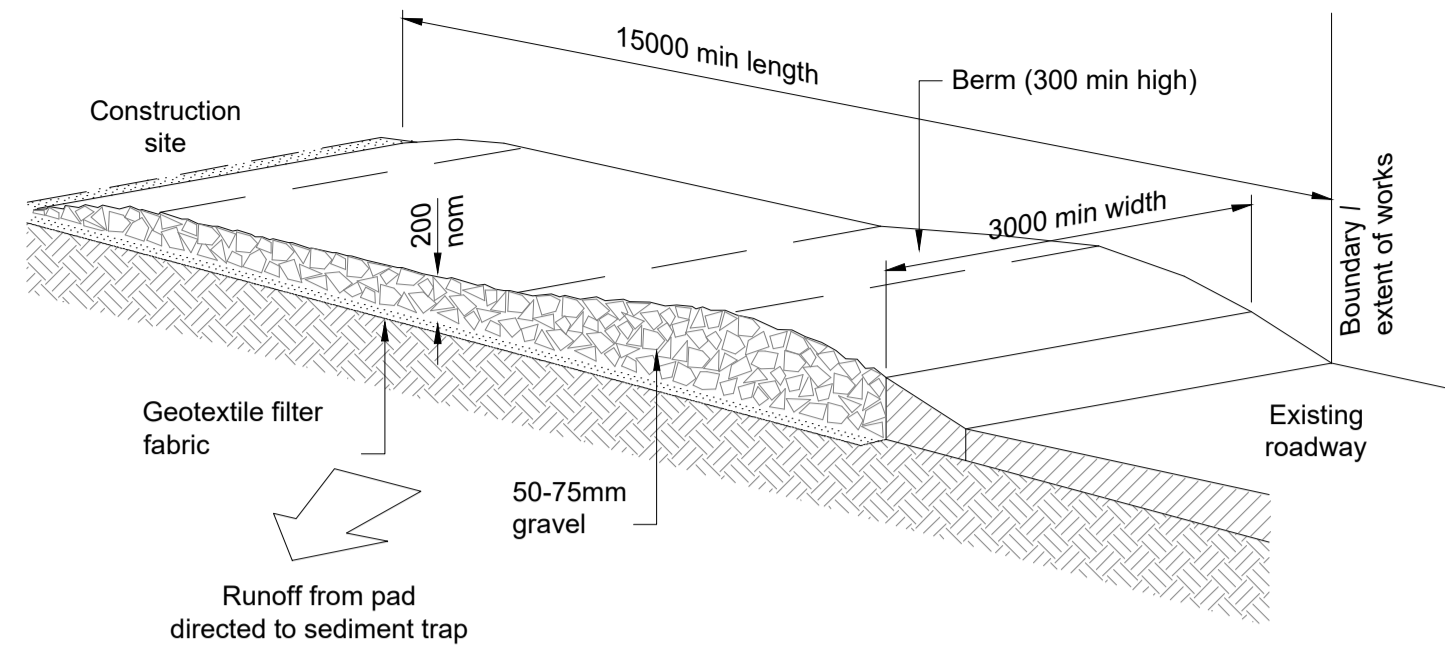
**SWM18** Final site landscaping will be undertaken as soon as possible and within 20 working days from completion of construction activities.

## Site Inspection and Maintenance

**SWM19** At least weekly and after every rain fall event, the contractor will inspect the site and ensure that -

- Drains and all sediment control devices operate effectively and initiate repair or maintenance as required.
- Receptors for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter are to be emptied as necessary. Disposal of waste shall be in a manor approved by the superintendent.
- Spilled sand (or other materials) is removed from hazard areas, including likely areas of concentrated or high velocity flows such as waterways, gutters, paved areas and driveways.
- Sediment is removed from basins and / or traps when less than 20m<sup>3</sup> of trapping capacity remain per 1000m<sup>2</sup> of disturbed lands, and / or less than 500mm depth remains in the settling zone. Any collected sediment will be disposed in areas where further pollution to down slope lands and waterways is unlikely.
- Rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate.

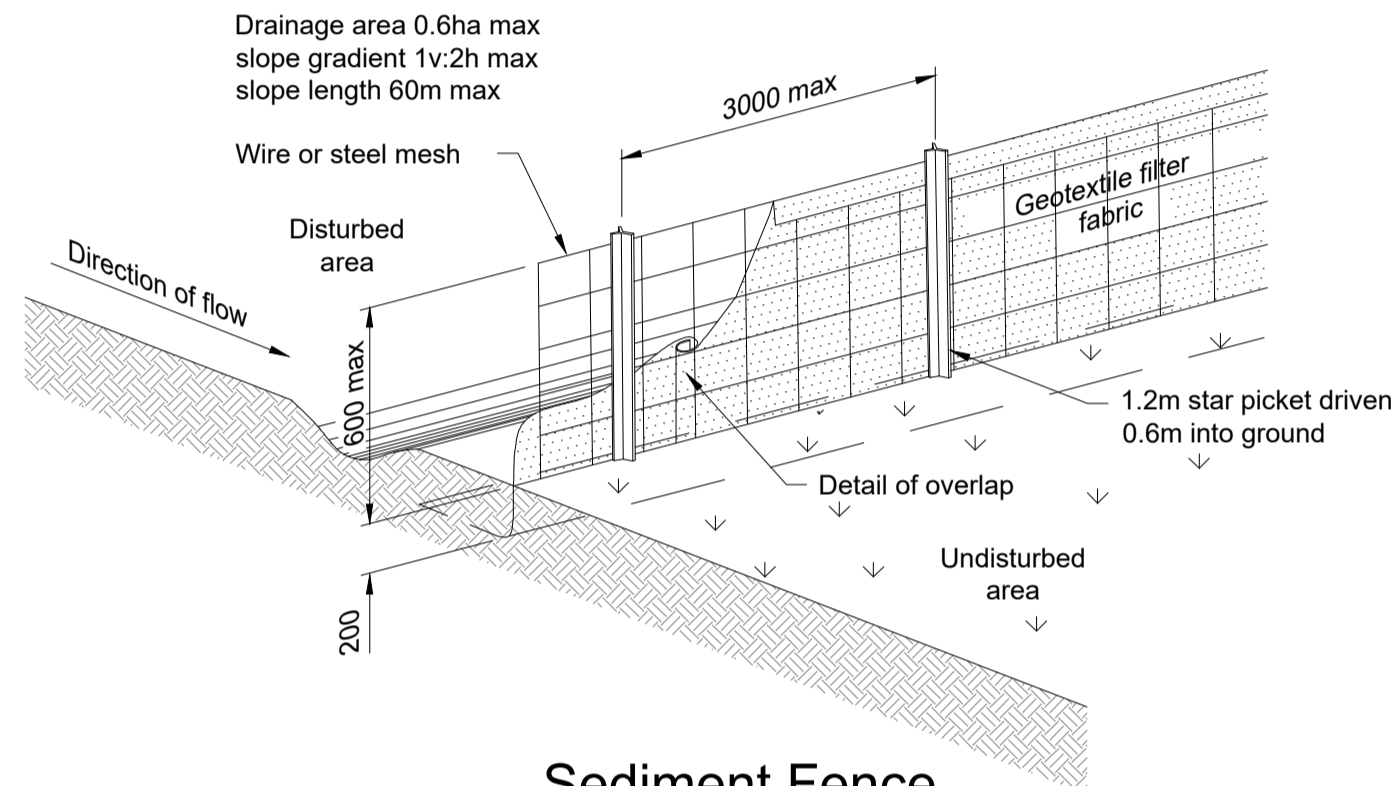
**SWM20** The contractor shall provide all monitoring control and testing.



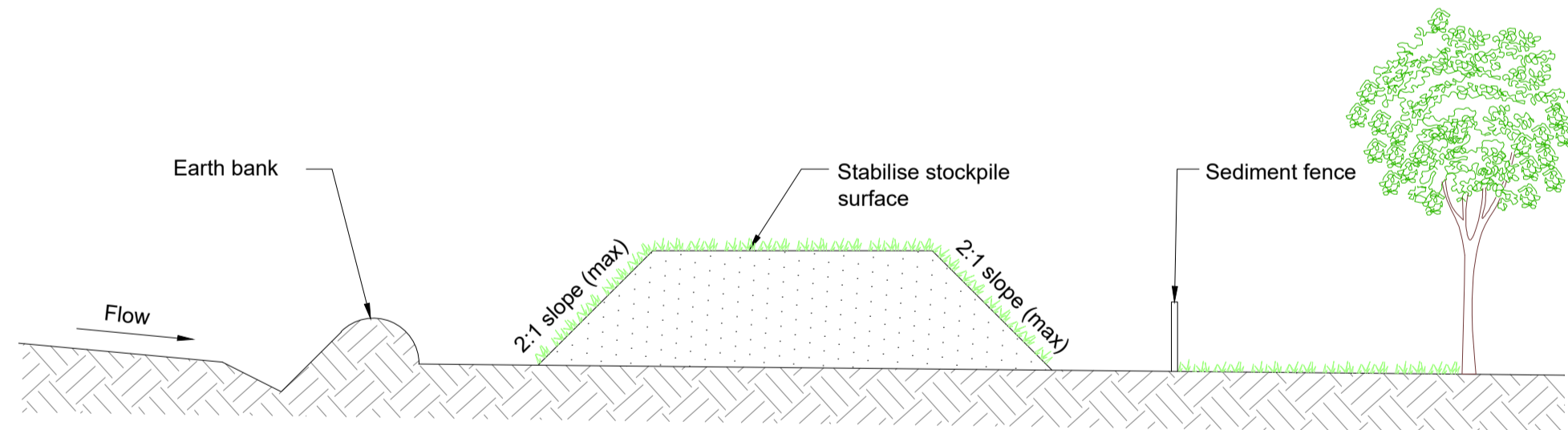
**Temporary Site Entrance**  
NTS

## Maintenance

- The temporary access shall be maintained in a condition that prevents tracking or flowing of sediment onto public rights of way.
- This may require periodic top dressing with additional gravel as conditions demand and repair and/or cleanout of any measures used to trap sediment.
- All sediment spilled, dropped, washed or tracked onto public rights of way must be removed immediately.



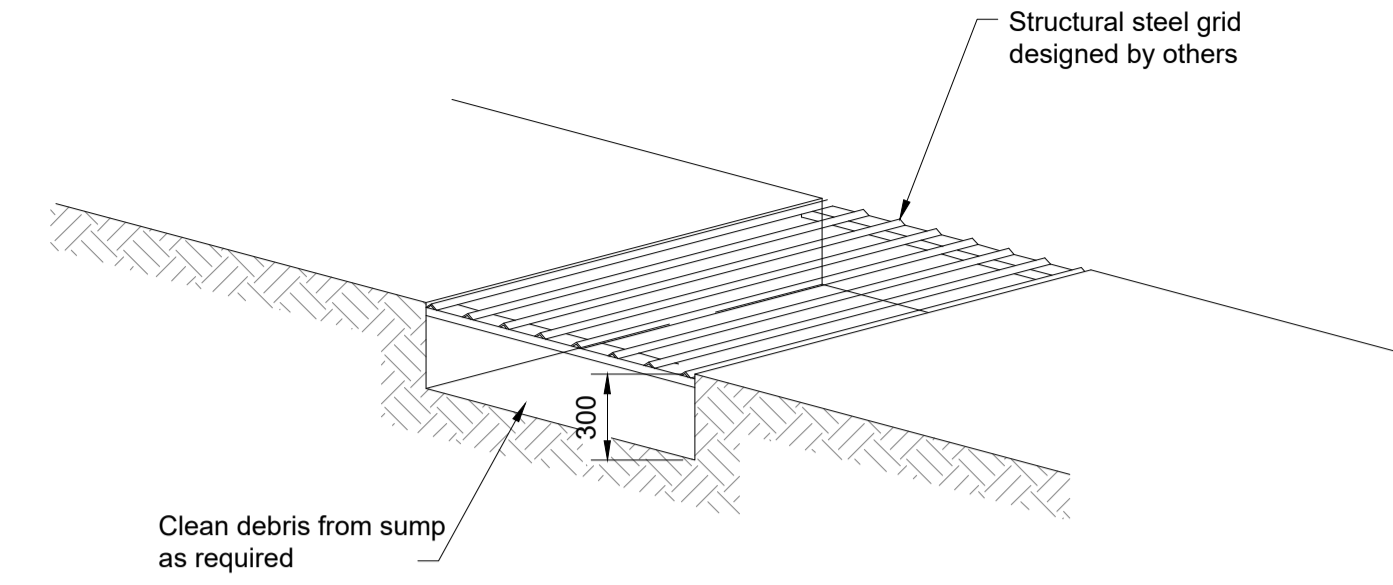
**Sediment Fence (Geotextile Filter Fabric)**  
NTS



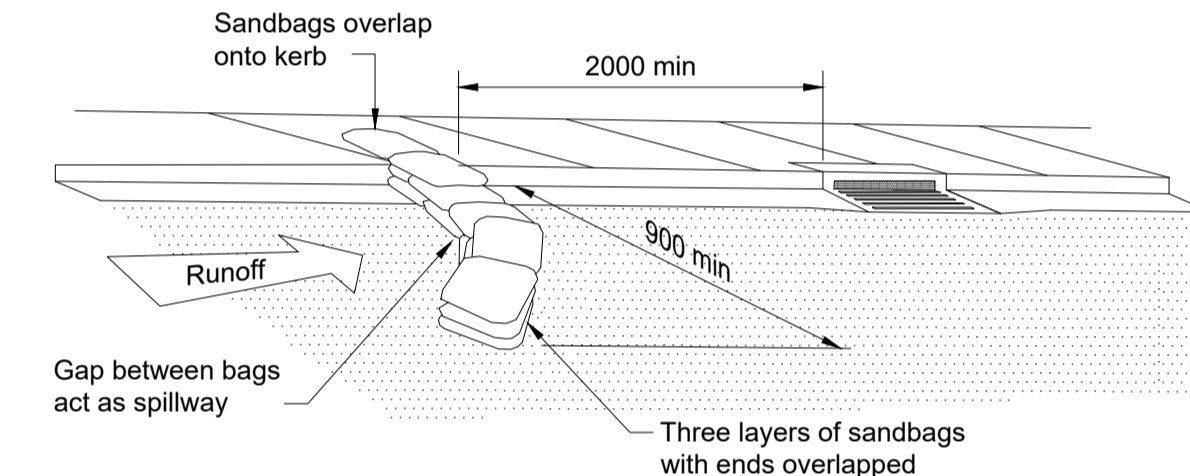
**Stockpiles**  
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## Construction Notes

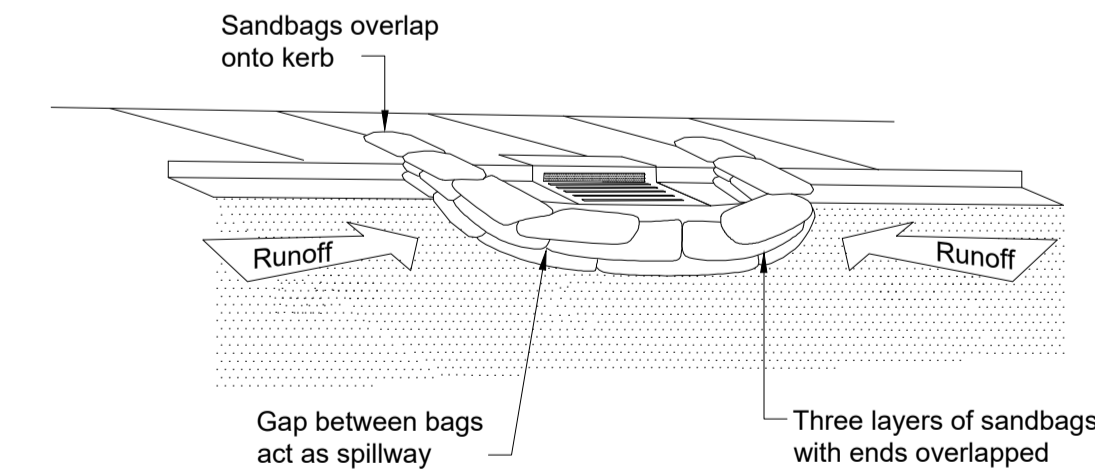
- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds
- Where there is sufficient area, topsoil stockpiles shall be less than 2m in height
- Where there are to be in place for more than 10 days, stabilise following the approved escp or swmp to reduce the c-factor to less than 0.10
- Construct earth banks (standard drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (standard drawing 6-8) 1m to 2m downslope



**Shaker Pad**  
NTS



**Sediment Trap for Kerb Inlet (On Grade - Sandbag)**  
NTS



**Sediment Trap for Kerb Inlet (at Low Point - Sandbag)**  
NTS

**Note:**  
This plan is a concept only. It is created to highlight some of the sediment and erosion control measures which may appear. The contractor is responsible for the final design and ensuring all measures are taken to protect the environment.

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ISO A1 594 x 841mm