SILVERCRETE™ PRECAST

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GUIDE TO BUILDING A SLEEPER RETAINING WALL

DISCLAIMER:

- The information presented in this document is a GUIDE ONLY and should not be used as an alternative to professional engineering advice.
- All retaining walls exceeding 1m in height are subject to both engineering design and council approval.
- The Silvercrete Precast accepts no liability for the incorrect use, installation or handling of any concrete sleeper or retaining wall systems.
- The Silvercrete Precast does not accept any liability for any damages, losses or expenses resulting from any incorrect use, handling or installation of its products.

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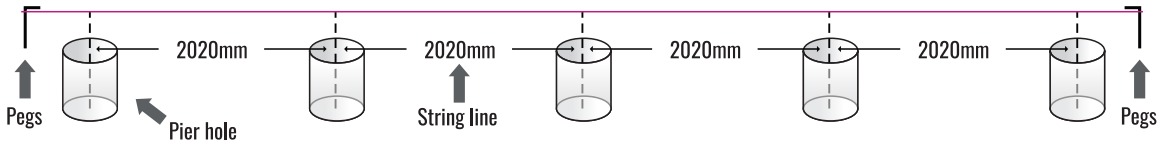
⚠ Important Information: ⚠

- → It is good practice to notify your local council prior to construction and discuss any specific rules or regulations that may apply in your district.
- → Any retaining wall that is 1 meter in height or more requires council approval and professional engineering design.
- → When retaining walls are built on or near a boundary it is important to have them clearly established and marked.
- → Silvercrete's sleepers are engineered and manufactured in accordance with AS3600-2018 Concrete Structures.

The following guide is for a standard 1m high wall.
All measurements can be adjusted for walls of less than 1m.

Step One - Marking out the Retaining Wall (Refer to Figure 1)

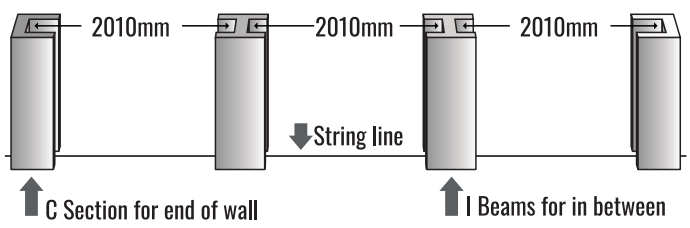
- → Set pegs at either end of the wall and connect with the a string line. This will ensure the wall is aligned correctly.
- → Pier holes are to be no less than 450mm in diameter for a 1000mm high retaining wall.
  Sizing to be confirmed with professional engineering advice.*
- → For a 2000mm sleeper mark the pier holes at 2020mm centres. For a 2400mm sleeper mark the pier holes at 2420mm and for all other sizes allow the same 20mm tolerances.



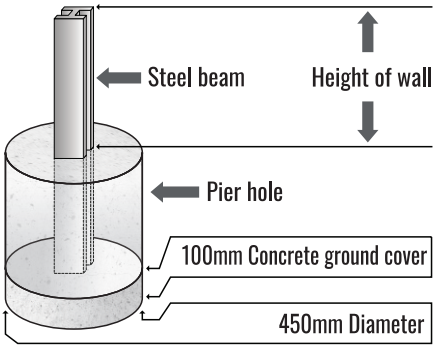
» Figure 1 - Marking Out the Retaining Wall

Step Two - Installation of Steel Beams (Refer to Figure 2 and Figure 3)

- → Excavate the holes marked out in step 1.The depth of the hole is recommended to be 1000mm plus 100mm.The extra 100mm is to ensure concrete cover on the steel beam so that it has no direct contact with the soil.
  For any piers with a depth exceeding 1000mm, seek professional engineering advice.*
- → Pour concrete into the hole and insert steel beam. Measure down from the top of the steel beam 1010mm and finish concrete to this level.
- → Ensure that the top of the beams are the same height & check that the beams are vertical using a spirit level.
- → Check the distance between the beams and make sure it measures 2010mm (for a 2000mm sleeper) and 2410mm (for a 2400mm sleeper). This can be done by using a tape measure or a wooden template cut at the required length.



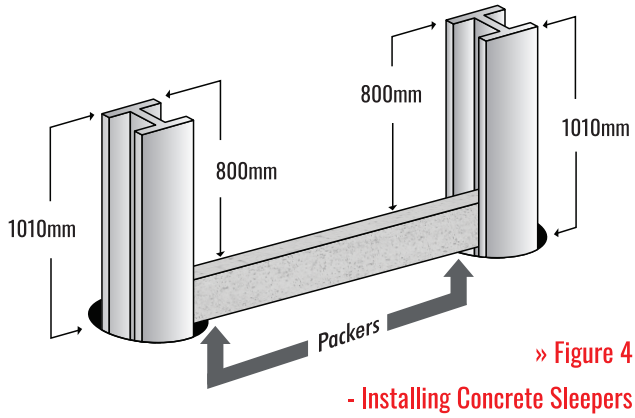
» Figure 2 - Installation of Steel Beams



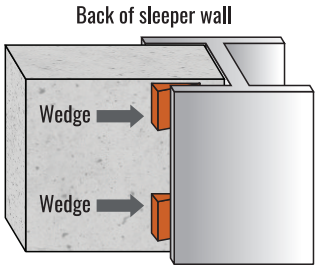
» Figure 3

Step Three - Installing Concrete Sleepers (Refer to Figure 4 and Figure 5)

- Place the first concrete sleeper into the steel beams and pack it as required to a distance of 800mm from the top of the means as in figure 4.
- Cut wedges out of timber and insert them between the steel beam and the back of the sleeper. This ensures that the sleeper is flush with the steel beam as seen in figure 5.
- Install the remaining sleepers to the top of the steel beam repeating the above process for each sleeper.



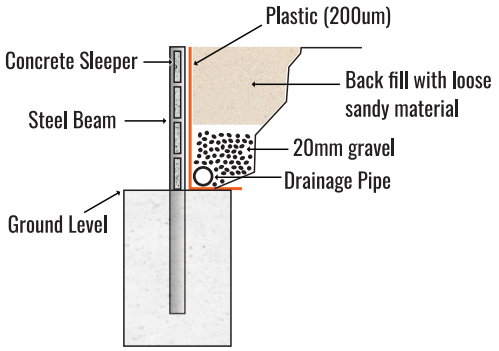
» Figure 4 - Installing Concrete Sleepers



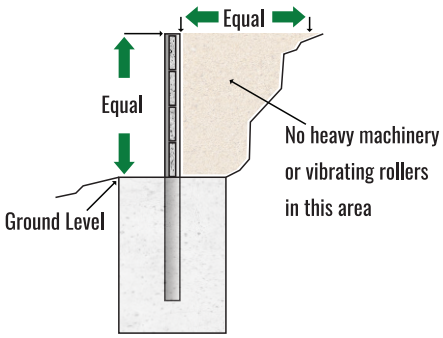
» Figure 5 - Packing the Sleeper

Step Four - Drainage and Compaction (Refer to Figure 6 and Figure 7)

- Place a 200um plastic sheeting to cover the back of the retaining wall. Leave approximately 300mm of extra plastic at the base. See figure 6 below.
- Install Ag pipe at the base of the wall (on top of the extra plastic allowed in previous point) along its entire length.
- Cover the Ag pipe with 20mm gravel to a height of no less than 300-400mm. See figure 6 below.
- Allow 7 days before back filling the wall. The back fill should only be loose sandy material to allow free drainage.
- NOTE:
  Unless certified by a professional engineer, there is to be no mechanical compaction or heavy machinery operated within a distance equal to that of the wall height. Please refer to Figure 7 below.



» Figure 6 - Retaining Wall Cross- Section



» Figure 7 - Retaining Wall Backfilling

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For more information or support,
please contact one of our helpful staff on:

(08) 8280 9055

or visit:

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