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Welded Gabion Installation Guide

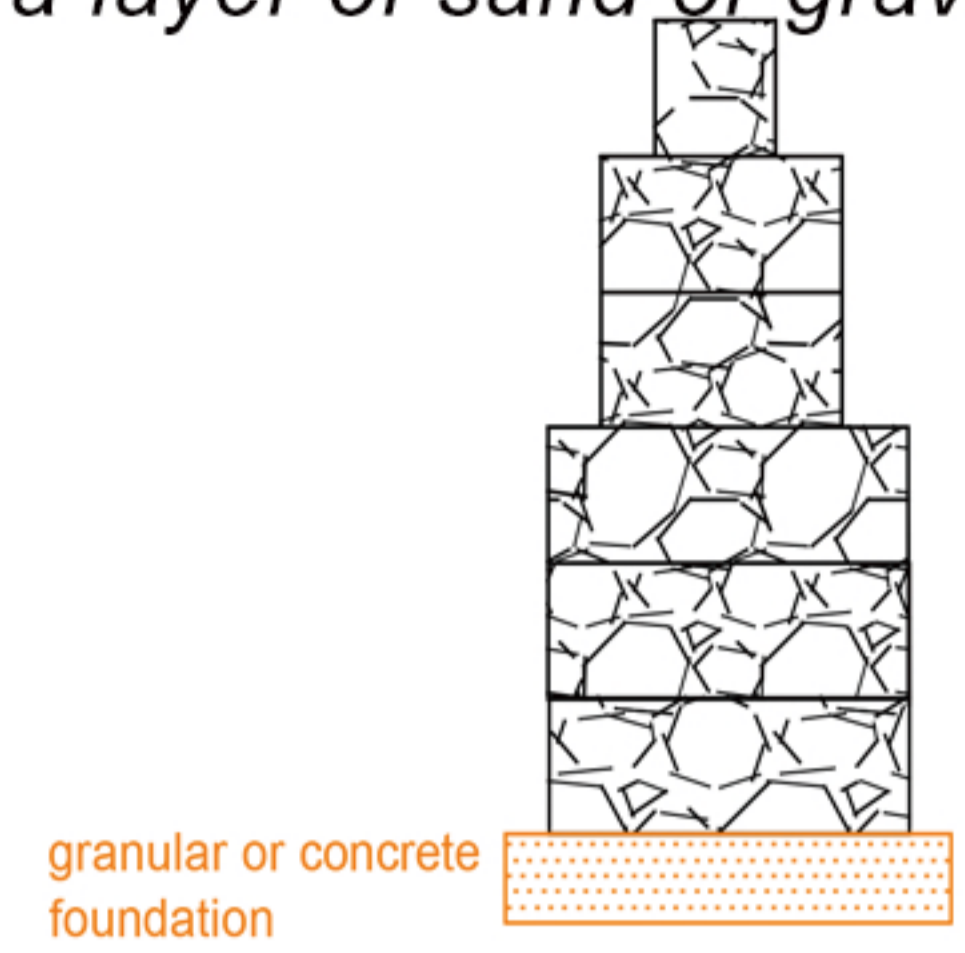
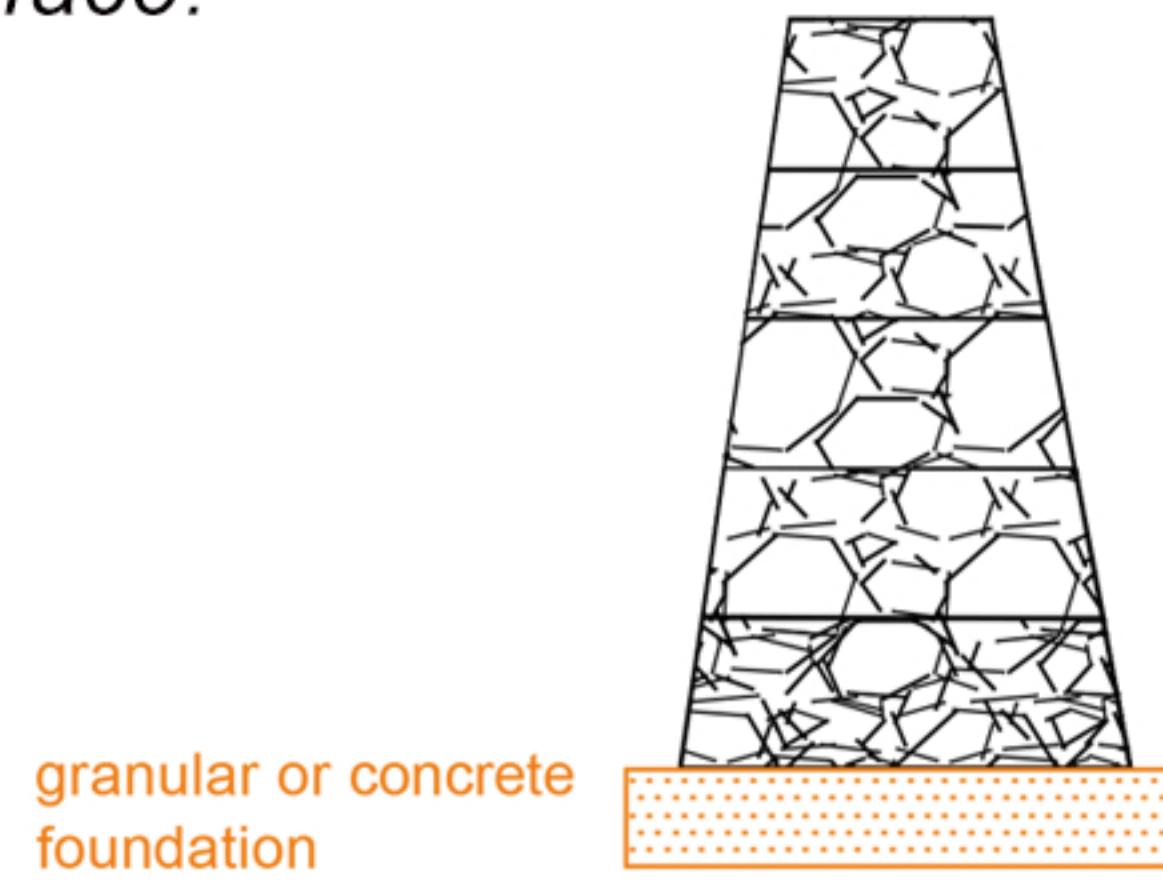
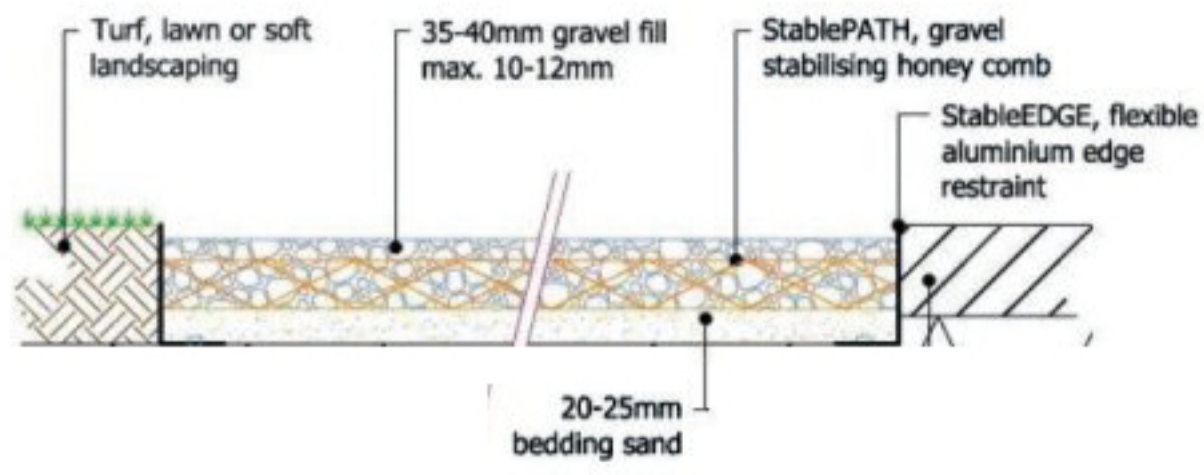
*Welded Mesh Gabions
Lacing Together
Closing Lids
Bracing*

** Custom sizes available on request*

Installation Guide

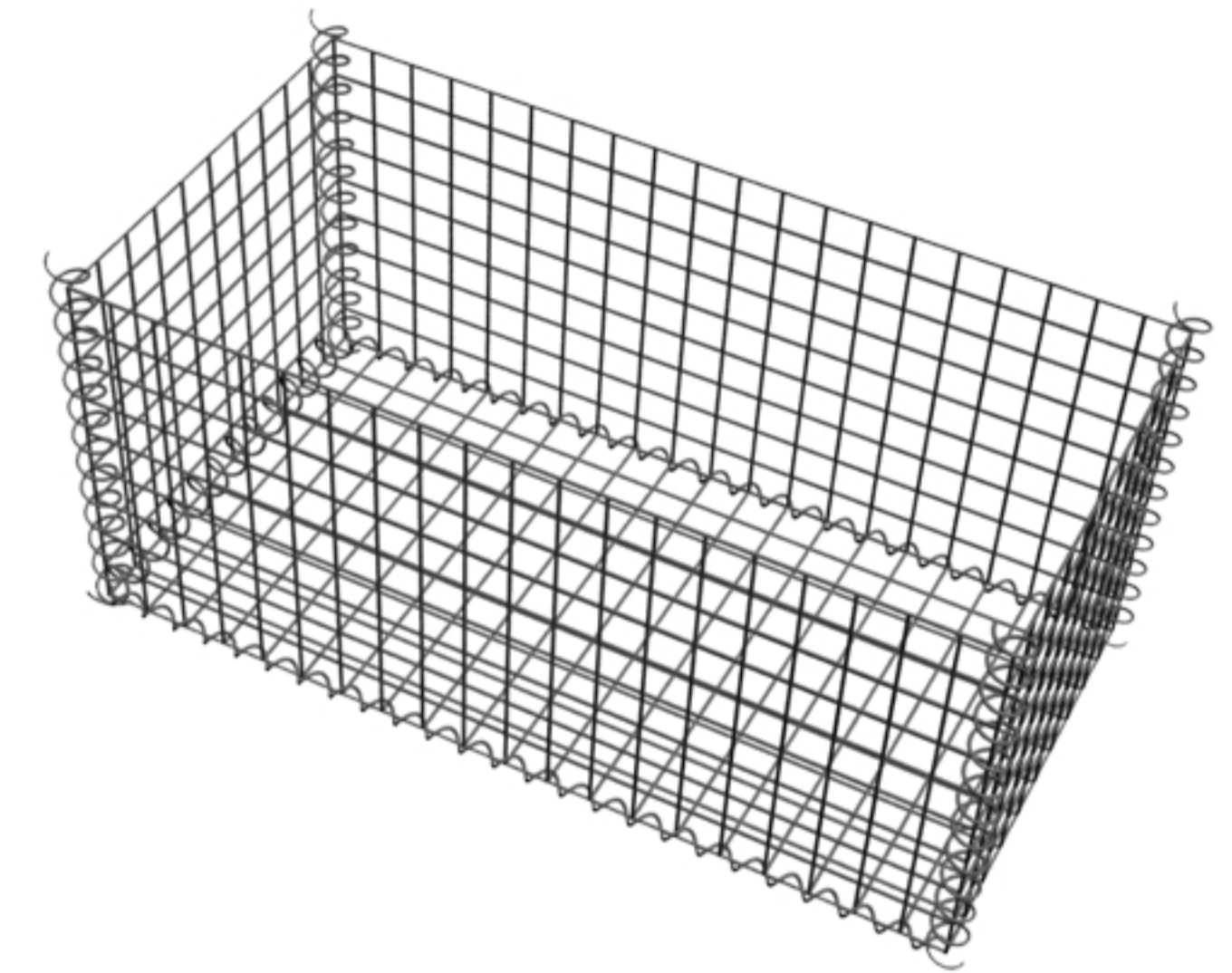
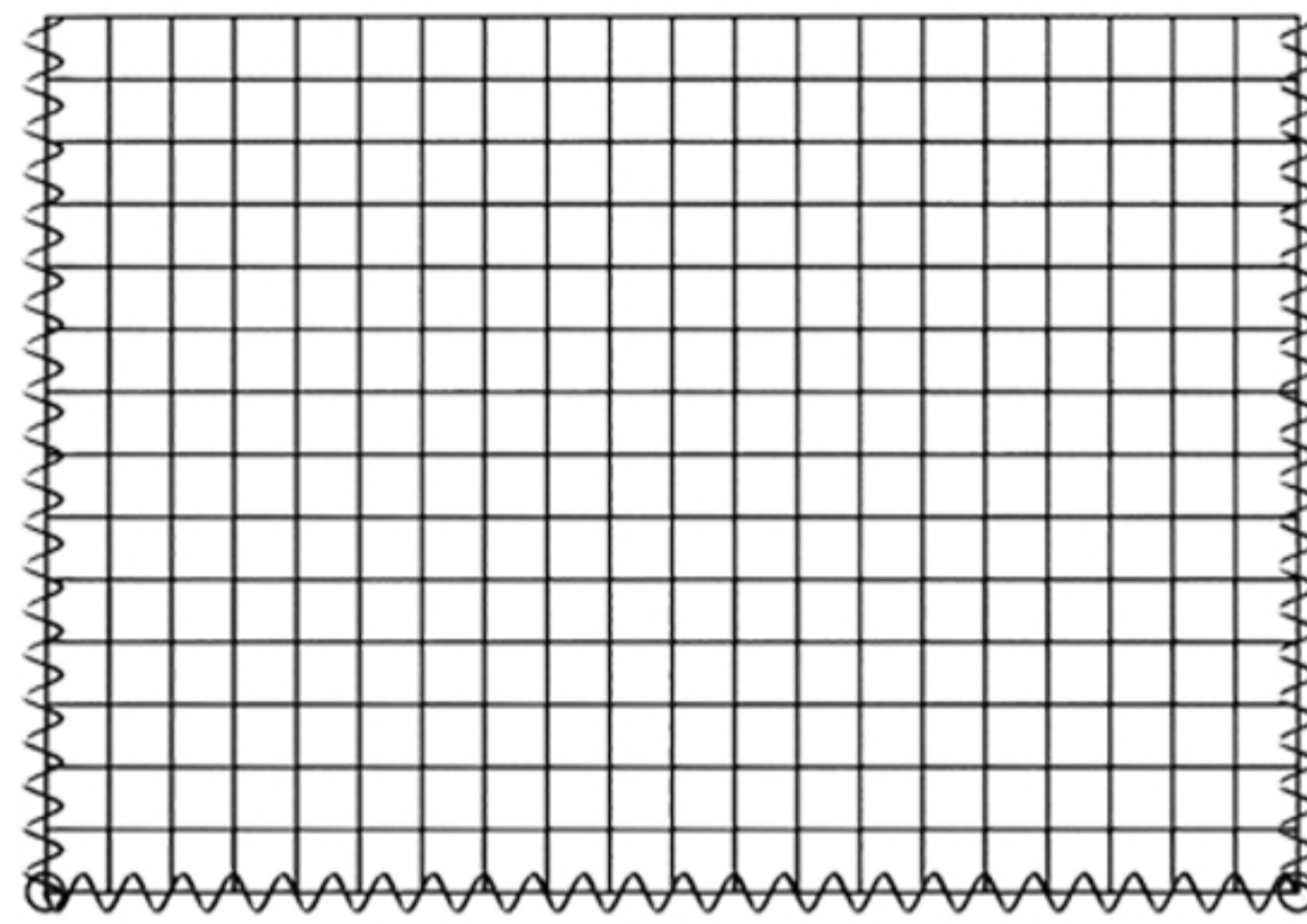
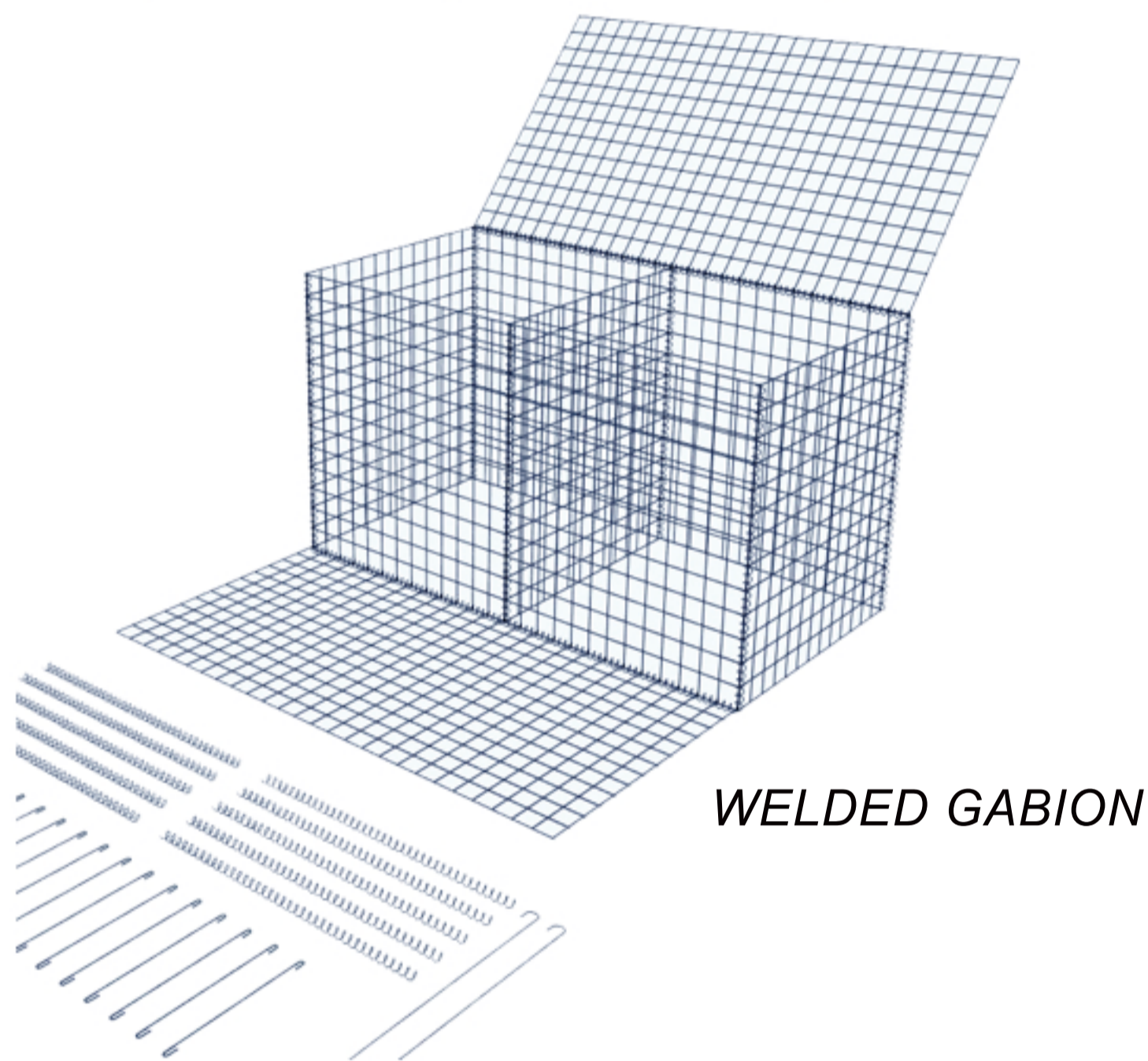
1. Preparing the Formation

The surface which the gabions or filter layer is placed on should be even and firm. Excavate any soft or unsuitable material and backfill with sound material. Fill any holes, ruts or uneven areas with good material such as granular fill or concrete. Grade and compact the formation to the correct line and level. Where the surface is very uneven or soft a layer of sand or gravel (say 200 mm thick) may be placed to provide a firm and even surface.



2. Laying out mesh boxes

Gabion boxes arrive on site partially assembled and folded flat in bundles for easy transportation. Each box should be carefully opened out, laid flat and straightened out so the mesh is not creased. The sides of the boxes are then stood up and temporarily held together with plastic cable ties or wire ties. Now lift the gabion boxes into their final position a row at a time.



INCLINED FACED WALLS

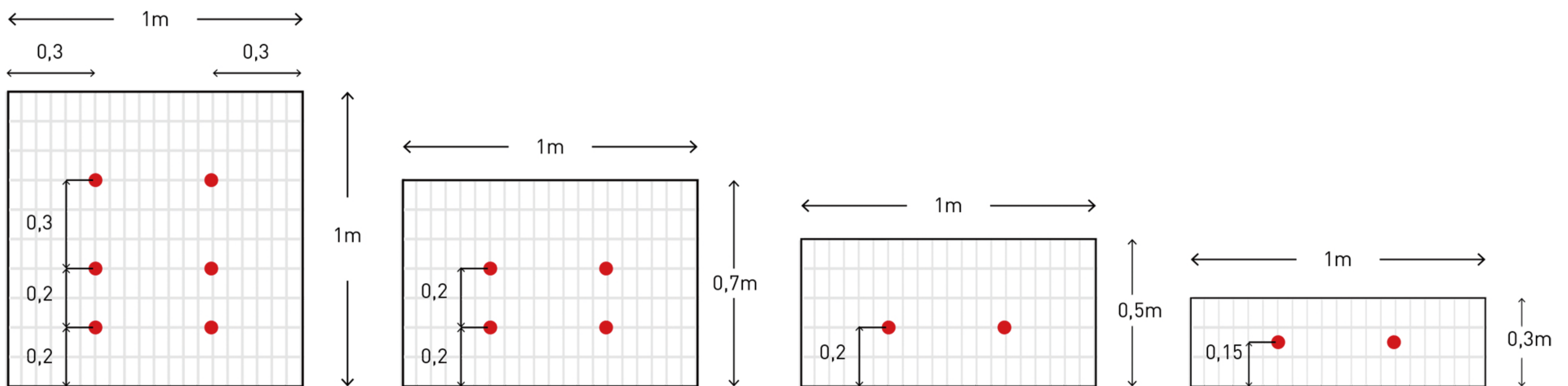
VERTICAL FACE STEPPED WALLS

3. Lacing Together

Once the boxes are in their final position, the edge wire along each edge is laced to the adjacent edge wire with lacing wire to give a continuous join. Note that adjacent boxes are also connected to each other at the same time. Lace all edges including diaphragms with single loops and double loops in turn at intervals of one mesh length. Secure the ends of the lacing wire at each corner with triple loops and turn the ends of the wire into the box.

Do not forget to also lace to boxes below and behind so that the whole structure is laced together.

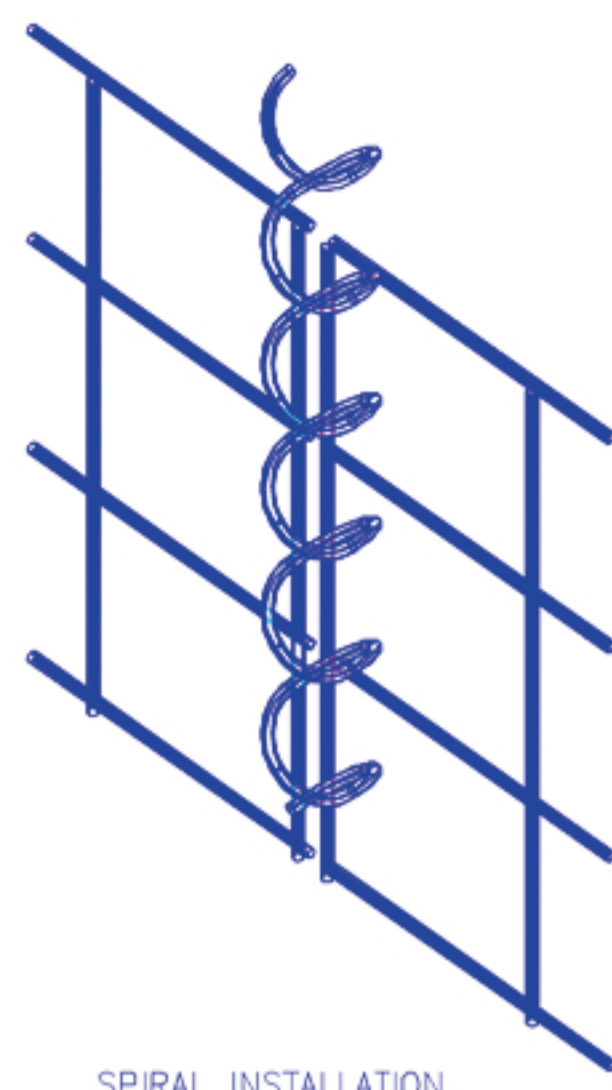
Although lacing with a wire is probably the best method, gabions can sometimes be laced using spirals and suitable CL50 clips.



REINFORCEMENT INSTALLATION POINT

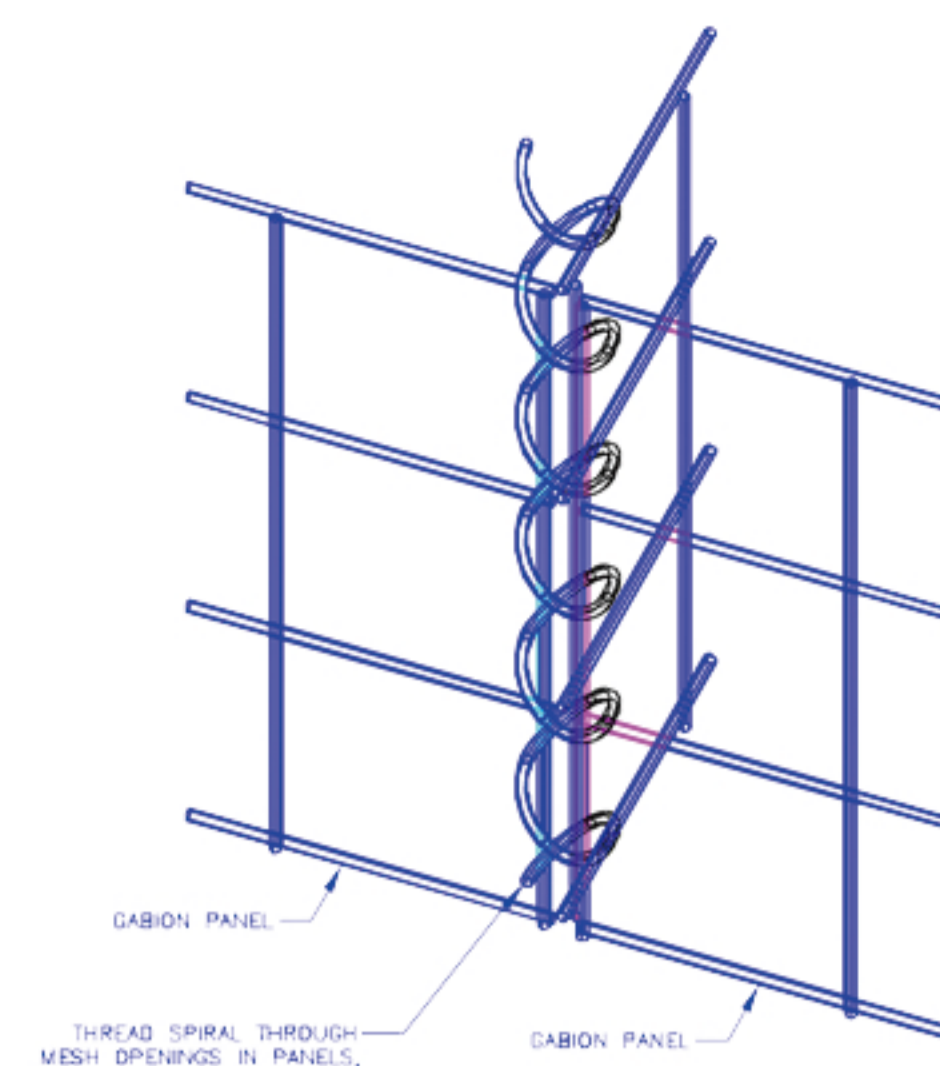
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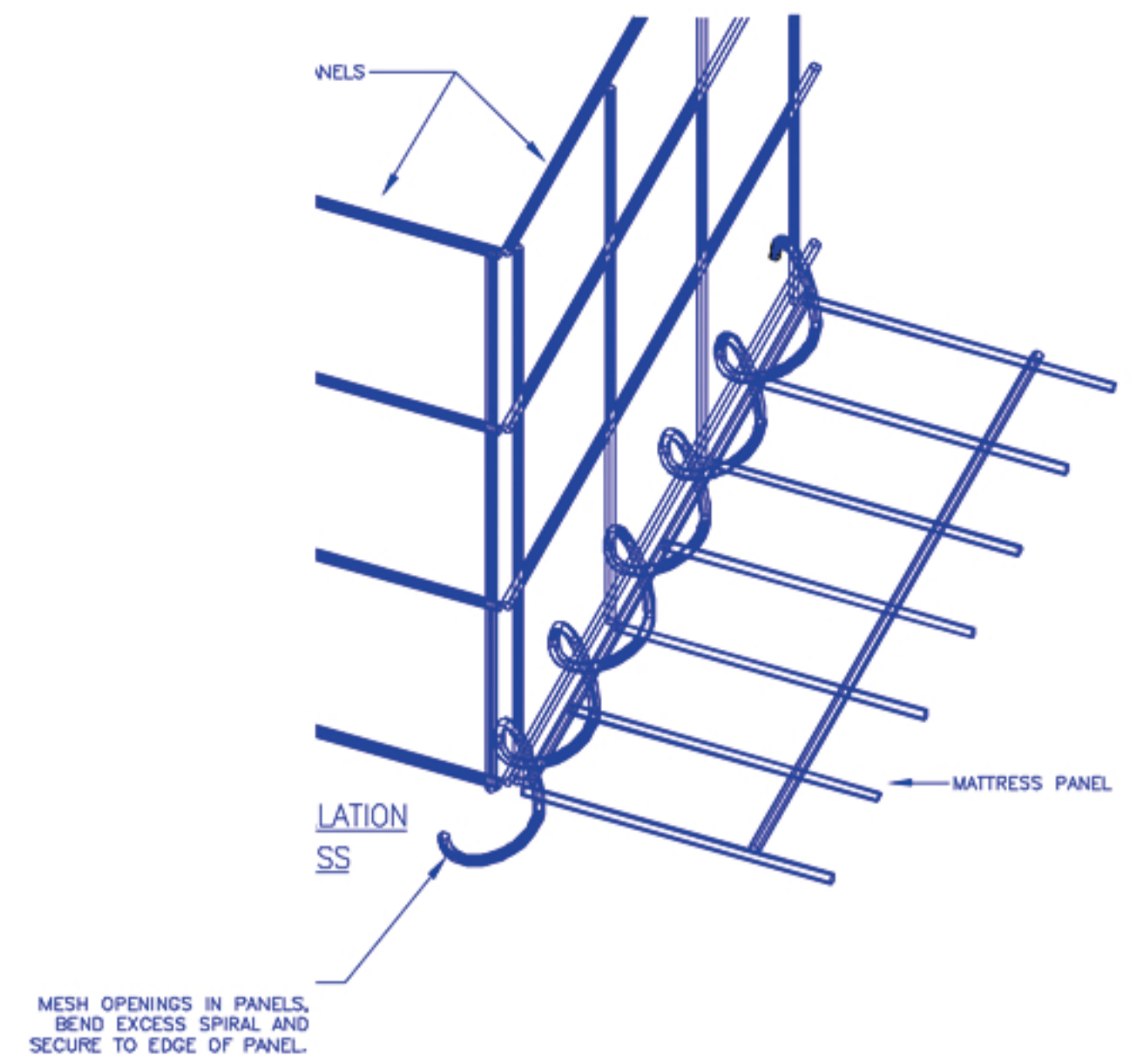


SPIRAL INSTALLATION

Let loose spiral
through mesh
openings in panels
bend excess spiral
and secure to edge
of panel.



THREAD SPIRAL THROUGH
MESH OPENINGS IN PANELS,
BEND EXCESS SPIRAL AND
SECURE TO EDGE OF PANEL.



MESH OPENINGS IN PANELS,
BEND EXCESS SPIRAL AND
SECURE TO EDGE OF PANEL.

Spiral wire installation diagram

4. Filling

Filling can be by hand or machine. The stone used should be hard and durable, with a minimum size no less than 100mm and a maximum size no greater than 200mm. Stones should be tightly packed. Care should be taken not to damage the mesh particularly where sharp or crushed quarry stone is used.

Fill in stages so that the difference in fill level between adjacent gabions does not exceed half a metre.

If filled by machine greater care must be taken to ensure that the stone is tightly packed and that the mesh is not damaged during filling, particularly if the wire is PVC coated.

For mattresses on a slope start filling from the bottom of the slope upwards. Also peg the mattresses at the top of the slope at 2 metre centres to hold the mattresses in place during filling.

If pre-filled mattresses placed by crane are required please

5. Bracing

All exposed faces should be braced. Metre high boxes should be braced when filled to a third and two thirds of a metre height. Partially fill to a third of a metre height and then brace by forming a 'Figure of 8' using tie wire, twist to tighten and so tension the faces. Repeat at two thirds of a metre height. Two braces should be made at each height. The loop of the brace should pass through the face of the gabion for at least two mesh lengths.

For greater rigidity and where more than one face will be exposed bracing can be fixed to all four vertical faces.

For 0.5 m high boxes brace when half full. Mattresses 0.23 and 0.30 m high do not need bracing.

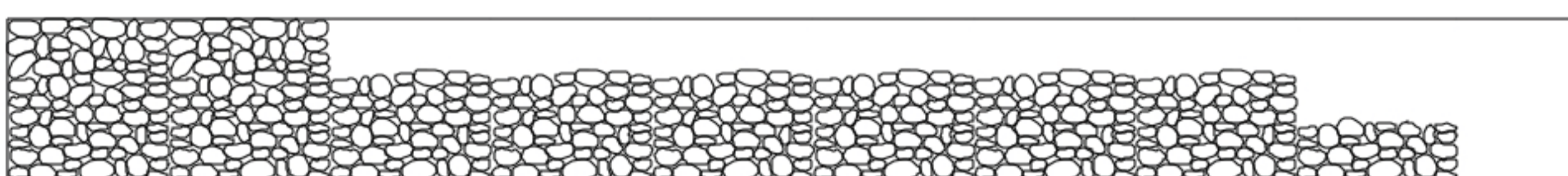
7. Phase

Stone fill for gabions shall be produced by any suitable quarrying method and by the use of any device that yields the required sizes within the gradation limits chosen. Stone fill shall be hard, angular to round, durable and of such quality that they shall not disintegrate on exposure to water or weathering during the life of the structure. Gabion stone fill shall range between 100 mm and 200 mm. The range in sizes may allow for a variation of 5% oversize and/or 5% undersize rock, provided it is not placed on the gabion exposed surface. In all cases, the oversize rock shall not be larger than 250 mm, and the undersize rock shall not be smaller than 50 mm.

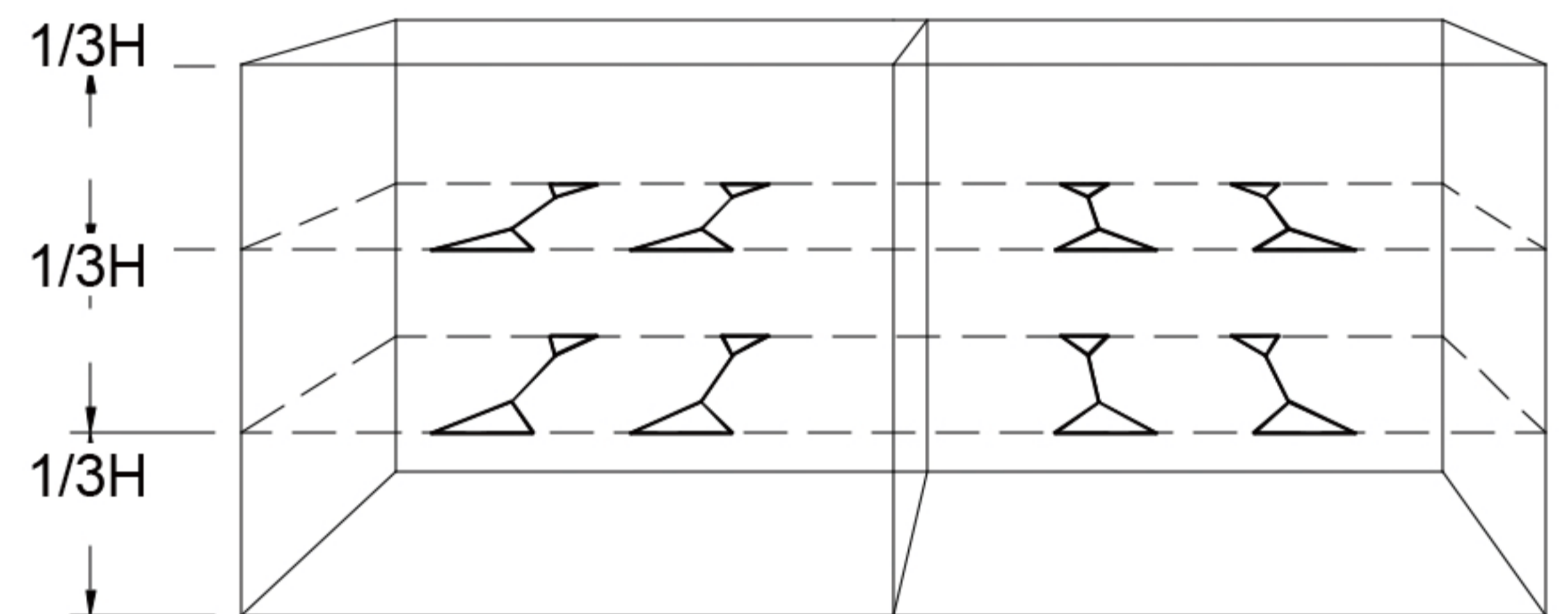
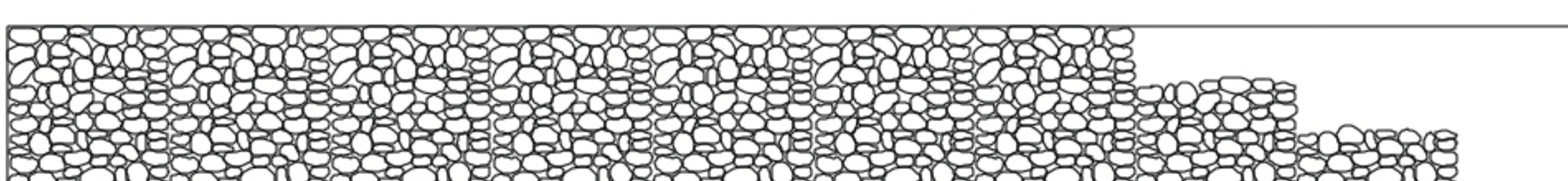
Phase 1



Phase 2



Phase 3



8. Cross ties with lacing wire

Stone fill for gabions shall be produced by any suitable quarrying method and by the use of any device that yields the required sizes within the gradation limits chosen. Stone fill shall be hard, angular to round, durable and of such quality that they shall not disintegrate on exposure to water or weathering during the life of the structure. Gabion stone fill shall range between 100 mm and 200 mm. The range in sizes may allow for a variation of 5% oversize and/or 5% undersize rock, provided it is not placed on the gabion exposed surface. In all cases, the oversize rock shall not be larger than 250 mm, and the undersize rock shall not be smaller than 50 mm.