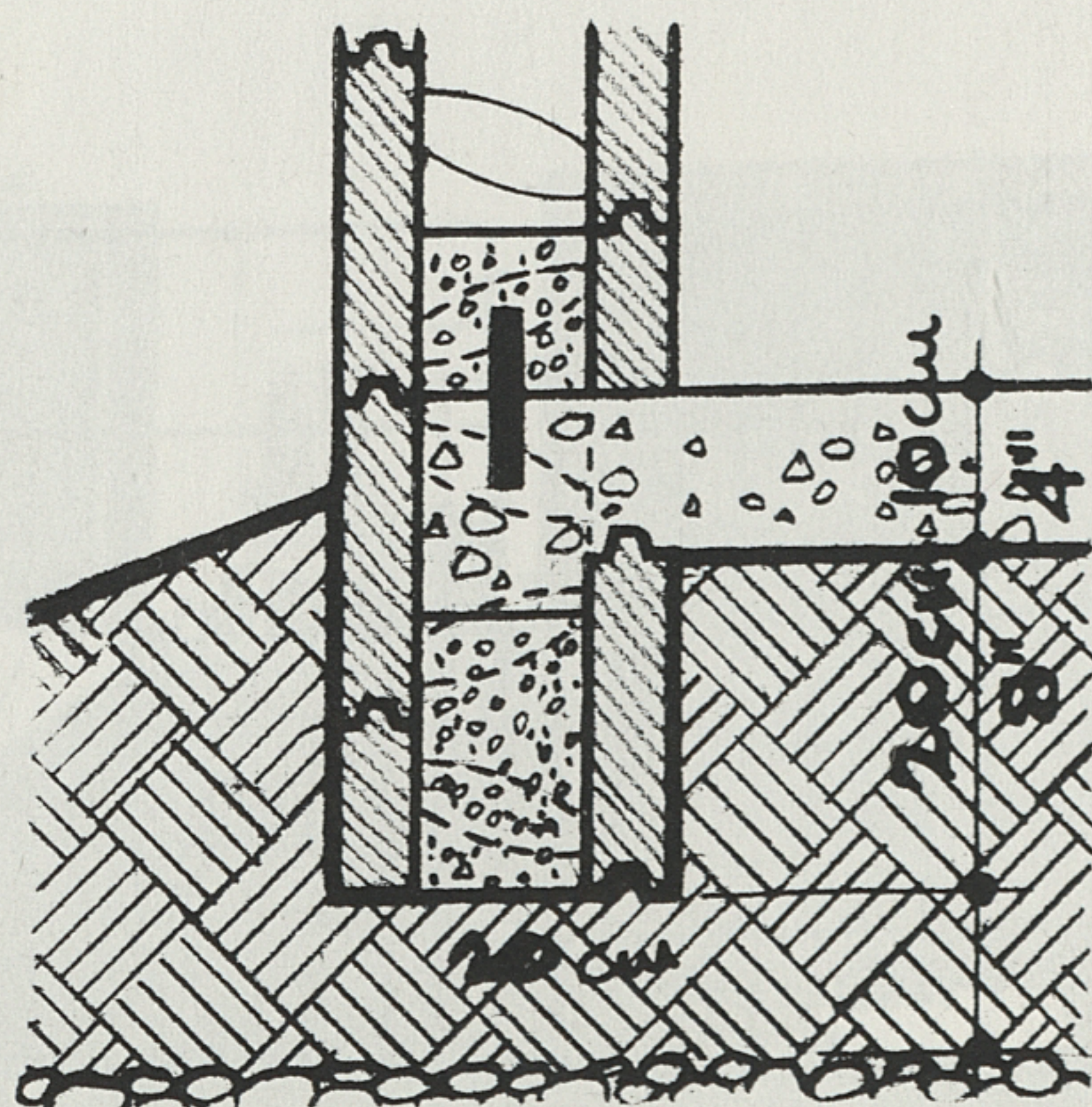
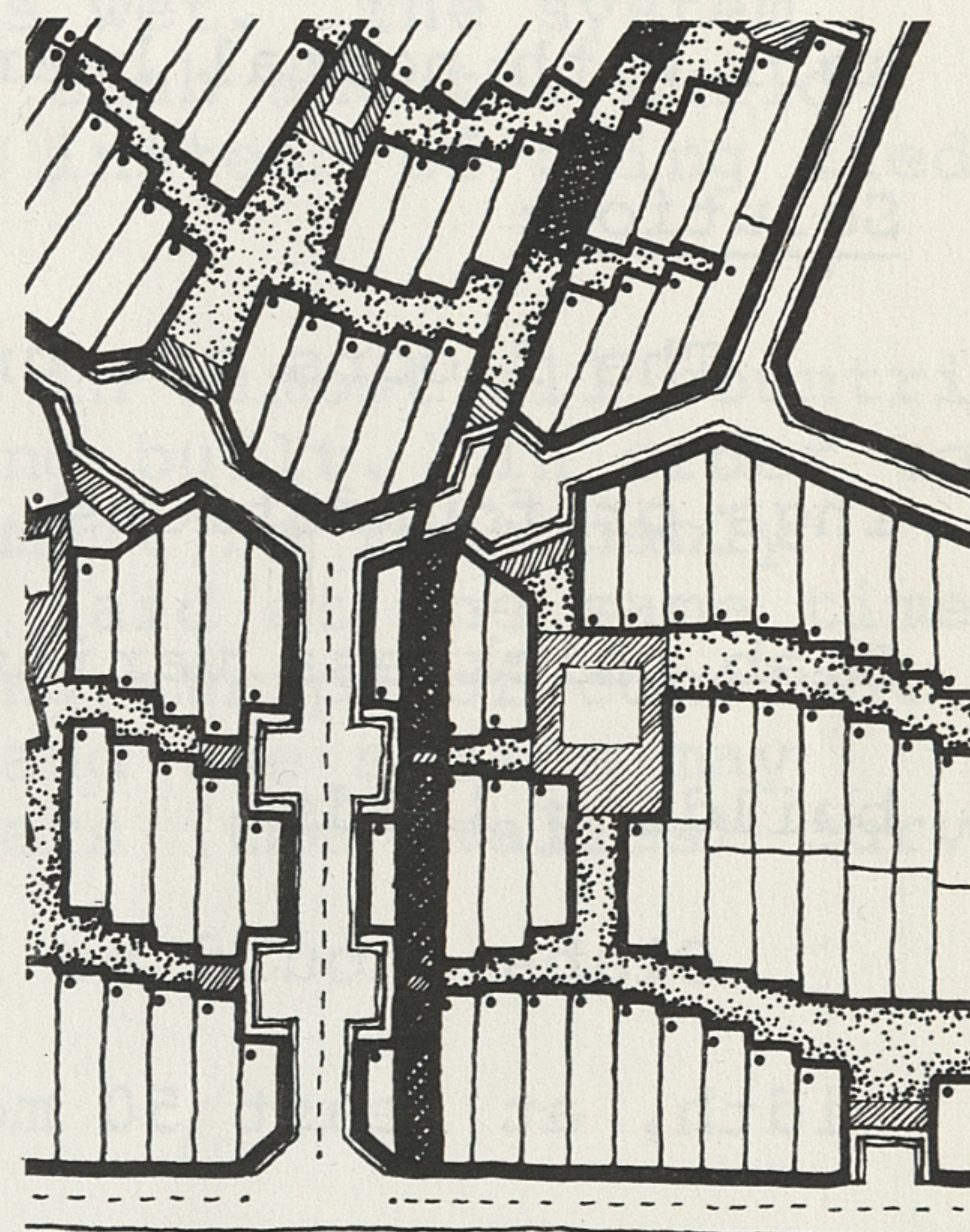


# CONTINUOUS FLOATING SLAB

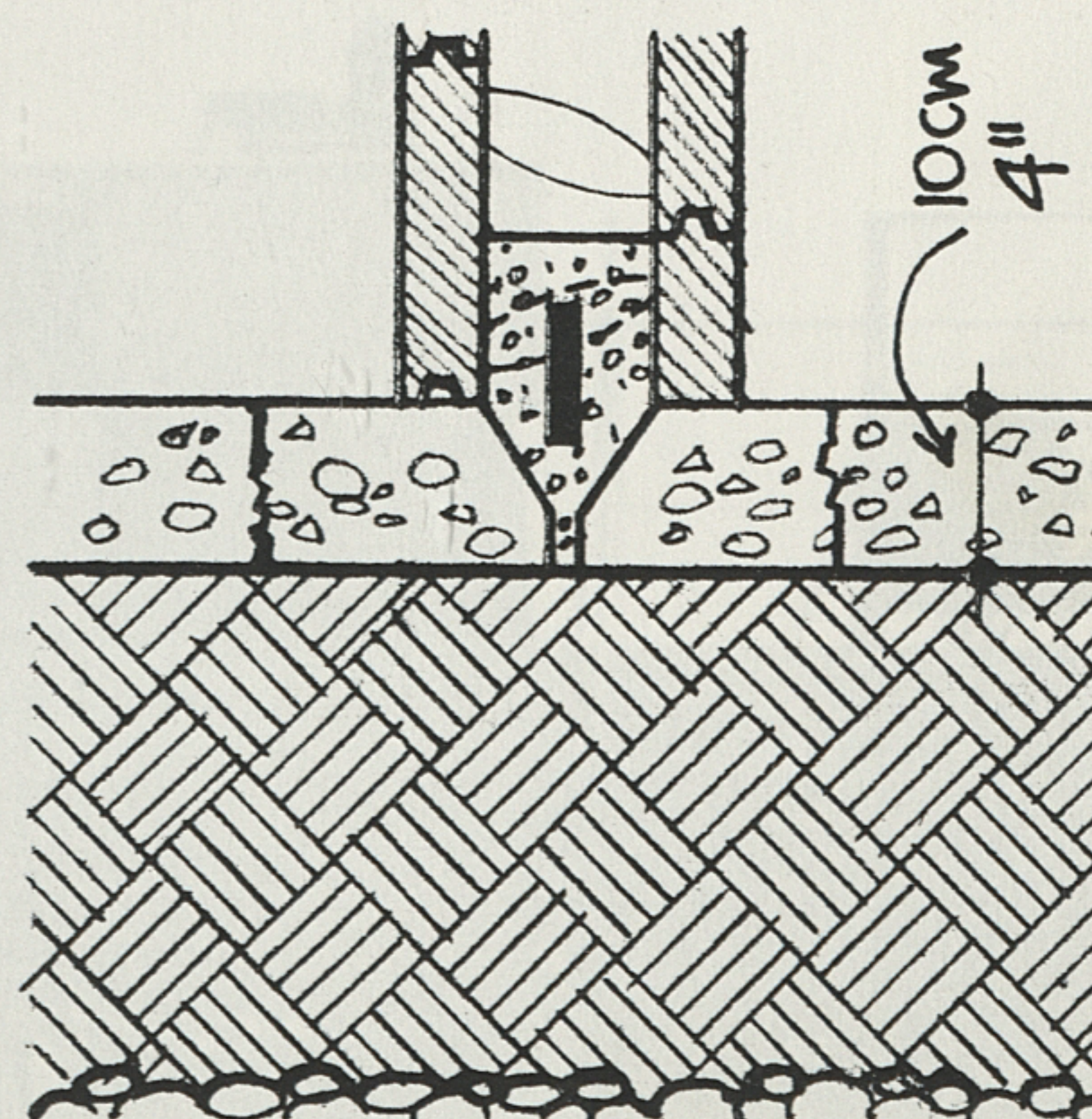
IN THE PROYECTO EXPERIMENTAL, the floors of all houses are 10 cm concrete slabs laid down in 5.20 meter strips (width of houses) by a road building machine known as a slip-form paver. All houses are parallel. The slab is  $175 \text{ kg/cm}^2$  concrete on 30 cm of compacted sand. All exposed edges are turned down, filled block (20 cm x 20 cm). Structural pin connections

for ties into walls are cast by hand immediately after the slab is laid. The slab is dustcoated and colored with a deep red penetrating oil stain for finish.

Pedestrian walkways and patio floors in the houses are also cast in the same way, but onto pre-laid dividers to form 50 cm x 50 cm paving stones inside and 1 meter square paving stones outside.



Slab Edge



Wall Tie

THE GENERAL PATTERN IS:

Context:

Mass housing with slab on grade, on a flat site and on soil with normal bearing capacity.

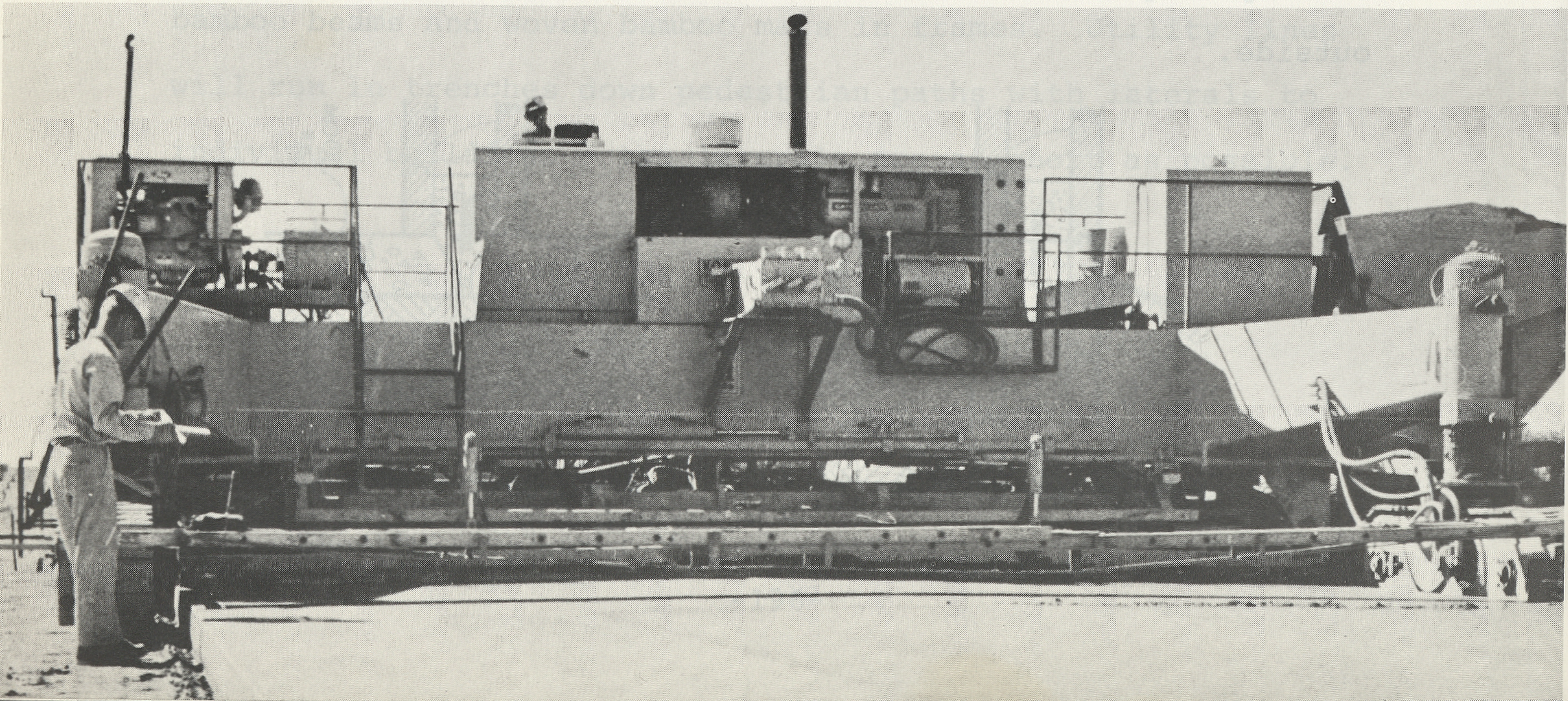
Solution:

The floors are unreinforced concrete slabs with no footings or foundations, laid down by a road building machine. Slab thickness varies according to exact site conditions and building loads.

Slabs should be laid out in continuous strips of constant width, at least 50 meters long. Joints and breaks may be inserted as required. If the slab is laid on a curve, the radius of the curve is not less than 20 meters.

Problem:

Foundations, footings and floors are a major cost in house construction. Foundations and footings usually represent about 10% of the total construction cost, and floor construction another 10%. To eliminate individually excavated and poured foundations, it is possible to use a continuous floating slab, produced by a road building machine, at great speed



and low cost. Vertical loads are distributed uniformly over the slab and make footings unnecessary: horizontally, the slab is held by a turndown at the exposed edges - made by pre-trenching. If the slab needs reinforcement, mesh is laid by hand in front of the machine. However, in warm climates like Peru, there is little temperature change in the soil, and slabs need no reinforcement. Pins which tie the building to the slab are put into the slab by hand, while it is wet. The system is highly earthquake resistant, since the slab and the building act as a unit, floating on the earth, instead of being tied to the earth by footings and foundations.

Road building machines are available in almost all countries today - wherever high speed roads are being built. In order to use these machines efficiently, the site must be reasonably flat, and a large number of slabs must be laid at the same time. Furthermore, the slabs must be laid in long strips of constant width, adjacent strips must be parallel, and the strips may have a minimum radius no less than 20 meters (the smallest curve these machines can negotiate).