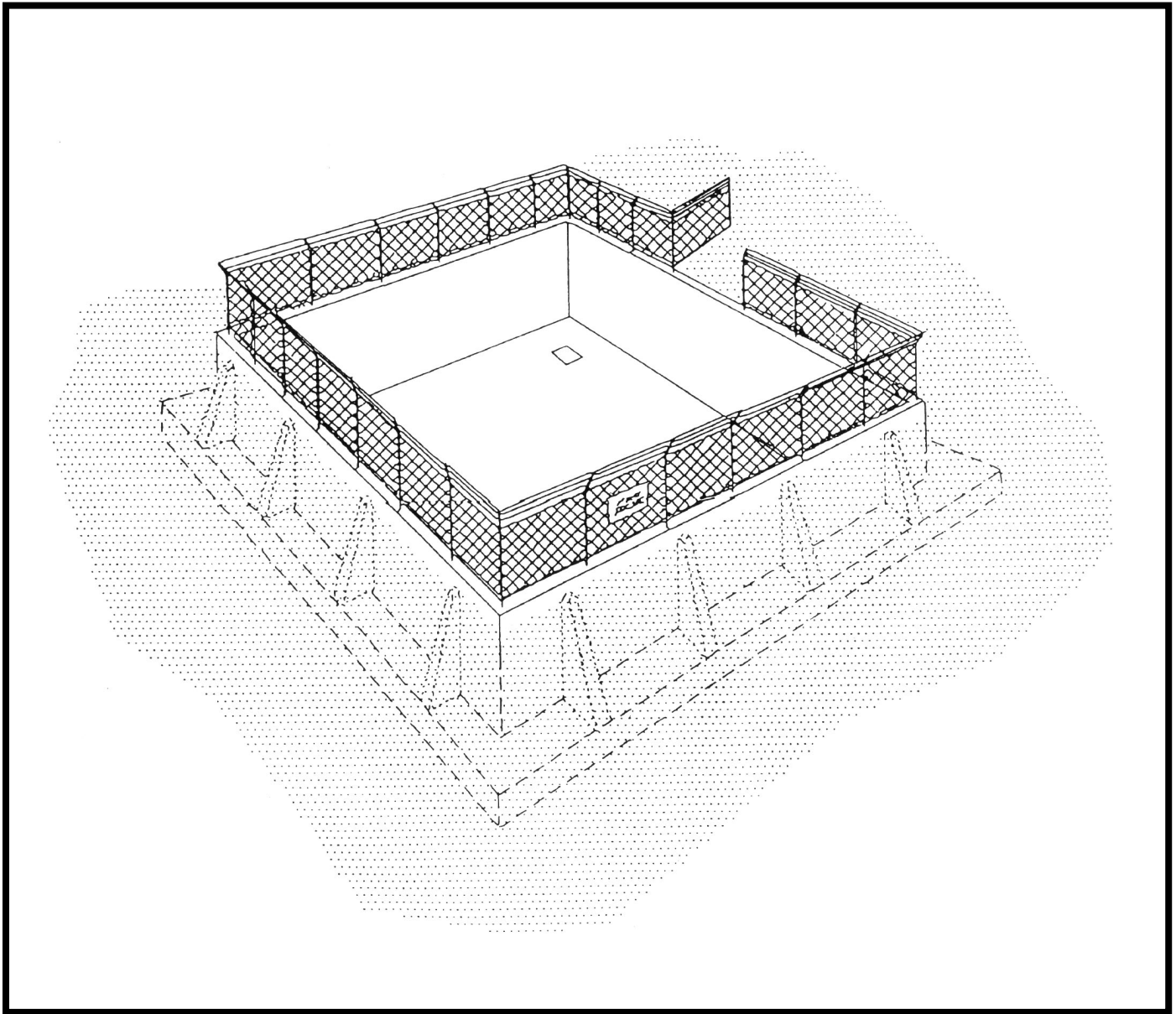


OPEN RECTANGULAR MANURE STORAGE TANK WITH BUTTRESSED WALLS



DEVELOPED BY CANADA PLAN SERVICE

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CPS
PLAN 10732

This leaflet highlights the details of a plan for an open rectangular liquid manure storage tank with buttress walls.

The plan provides construction details for floors and footings, and for wall heights ranging from 8 to 12 feet.

Table 1 on sheet 4 provides footing dimensions and reinforcing steel details required for various wall heights, both for fully drained and undrained back fill scenarios.

In addition to manure and soil loads, walls have been designed to reflect outside uniformly distributed surcharge loads imposed by vehicles. Critical increased reinforcement is necessary near access ramps. Ice loading has not been included in the design of the walls.

If the groundwater table rises above the tank floor, it is possible that the floor slab can fail or the entire tank can be lifted out of place by the resulting hydrostatic water pressure when the tank is empty or partially empty. Adequate drainage to maintain groundwater levels below the floor slab will prevent uplift. Alternatively, pressure relief plugs can be provided in the slab.

Footing drains must be free draining and discharge from these drains shall be disposed of in such a way as to not pollute the environment.

Uncovered manure storages must be enclosed with a permanent safety fence or wall extending not less than 1.5 meters (5 feet) above adjacent grade or floor level. The plan provides details for construction of a safety fence. The fence should be adequately secured at ground level using gates and latches to prevent access by children and livestock.