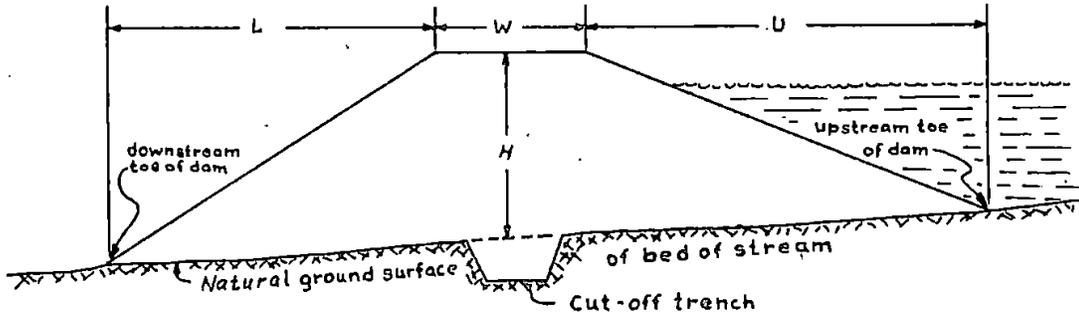


Before a permit is issued approving an application proposing the construction of a dam less than 10 feet high and storing less than 3,000,000 gallons of water, the information following the sketch below must be filed with the State Engineer and must conform with the dimensions and description of the dam given in the application. The height is measured from the lowest point of the ground surface or from the lowest point in the stream bed to the top of the dam on the center line of the dam. The data required is that of the maximum section or at the point where the dam is to be highest above the natural ground surface or stream bed.

All dams will be inspected by the State Engineer or his assistant before certificate of water right is issued.

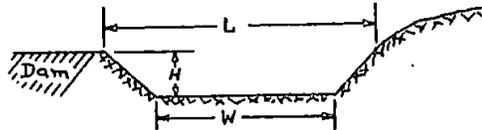


All dimensions given below must conform to minimum requirements shown on other side.

EARTH DAM:

Amount of water impounded 2.0 acre feet.
 Top width of dam indicated on sketch by letter "W" 5 feet.
 Height of dam measured from top of dam to ground surface or bed of stream on center line of dam or a point $\frac{1}{2}$ the top width of the dam, indicated on sketch by letter "H" is 6 feet.
 The horizontal distance from upstream top of dam to upstream toe indicated on sketch by letter "U" is 18 feet.
 The horizontal distance from downstream top of dam to downstream toe indicated on sketch by letter "L" is 12 feet.

SPILLWAY:



Approximate drainage area of creek above dam N.A. square mile.
 Bottom width of spillway, indicated on sketch by letter "W" is 10 feet.
 Top width of spillway, indicated on sketch by letter "L" is 12 feet.
 Distance between top of dam and bottom of spillway at the upper end, indicated on sketch by letter "H" is 2 1/2 feet.
 (Must be at least $2\frac{1}{2}$ feet)

OUTLET:

Size and type of outlet pipe through base of dam which will allow free passage of the natural flow of the stream N.A.

The applicant herewith agrees to build the dam in accordance with the above dimensions and the requirements given on other side.

Application No. R-38650
 Permit No. R-3263

RECEIVED
 MAY 6 1968
 STATE ENGINEER
 SALEM, OREGON
 Signature of Applicant: B. Katzenbach

ADDITIONAL INFORMATION TO BE SUBMITTED WITH APPLICATIONS PROPOSING CONSTRUCTION OF DAMS LESS THAN 10 FEET IN HEIGHT OR IMPOUNDING LESS THAN 3,000,000 GALLONS

Under Oregon laws the builder is not required to submit plans and specifications, prepared by a registered professional engineer, for approval of the State Engineer for the construction of dams less than 10 feet in height and storing less than 3,000,000 gallons of water (9.2 acre feet or the amount that will cover 9.2 acres of land 1.0 foot in depth). It is of much importance to the builder of these small dams that a safe structure be built as should the dam fail the owner will not only lose his investment but will be legally responsible for any damage to the property of others resulting from such failure.

Following are some of the requirements to be followed by the proposed builders of these small earth fill dams: The applicant must give a full description of the proposed dam in the application which shall be subject to the approval of the State Engineer:

1. Width of crest of dam should be not less than 8 feet;
2. Upstream slope not steeper than 3 horizontal to 1 vertical; and
3. Downstream slope not steeper than 2 horizontal to 1 vertical;
4. Spillway channel should be constructed around either end of dam but not over top. It should have at least twice the capacity required to carry heavy winter flows or spring runoffs without overtopping the dam and should be lined if necessary to prevent erosion of embankment. The depth of the spillway should be sufficient to maintain a minimum distance of 2 feet from the crest of the dam to the water surface in the reservoir during the maximum flood. (This is important as experience has shown that insufficient spillway capacity is the principal cause of failure of small dams.) Water passing over spillway should be returned to creek channel at a sufficient distance downstream to prevent erosion of embankment.
5. All brush, stumps, roots and vegetable matter of all kinds should be cleared from area to be occupied by base of dam and from borrow pits.
6. Asphalt dipped corrugated iron pipe with gate at inlet should be installed to permit draining reservoir. Pipe to be bedded in a trench in the natural ground and not on filled ground. Provision must be made to allow the free passage of the natural flow of the stream at any time. Prefabricated concrete pipe is not acceptable unless encased in concrete.
7. Not less than two cut-off collars should be constructed. These collars should be constructed of concrete with a thickness of not less than 6 inches and should extend from the outside of the pipe a distance of not less than 18 inches in all directions. These cut-off collars should be spaced along the conduit at a minimum spacing of 10 feet. Prefabricated asphalt dipped metal cut-off collars are also satisfactory, provided a water-tight joint is obtained between pipe and conduit.
8. Material placed in embankment should be free from brush, stumps, roots and vegetable matter of all kinds.
9. Material should be brought in and placed in embankment from ends of dam and spread in thin layers not over 6 inches thick and compacted by carryalls, rubber tired equipment, or compacting rollers traveling the length of the dam.