

SECTION 69- SUBGRADE AND SUBSOIL DRAINS

1418. Side drains often suffice for sub-grade drainage, but they are difficult to maintain if very deep and are ineffective in severe frost.

1419. Subsoil drains may be necessary:

- a. In marshy areas.
- b. In poor sub-grade soil when seepage is likely.
- c. When a cutting taps free subsoil water.

NOTE-Intercepting ditch may be replaced by a bank formed to divert water.

1420. For drains under the road itself it is usual to lay 3-in pipes with open joints, normally about 2 ft below the formations, at a gradient of about 1 in 50, discharging into a deep side drain or piped collector drain.

1421. Drains may be placed transversely beneath the road formation or in herring-bone pattern, but layout and symmetry are immaterial. Spacing should be at 25 to 30 ft apart in clay, and at 35 to 40 ft apart in clay-sand. In other types of soil deep side drains or intercepting ditches are usually sufficient.

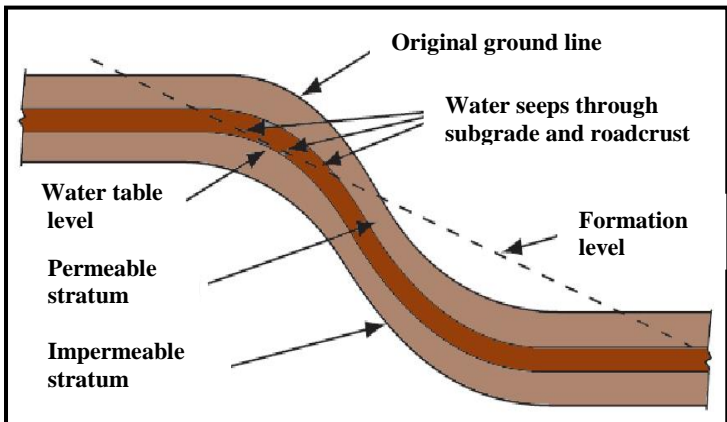


Figure 14.4: Longitudinal Section Showing Subsoil Water at a Hill Crest