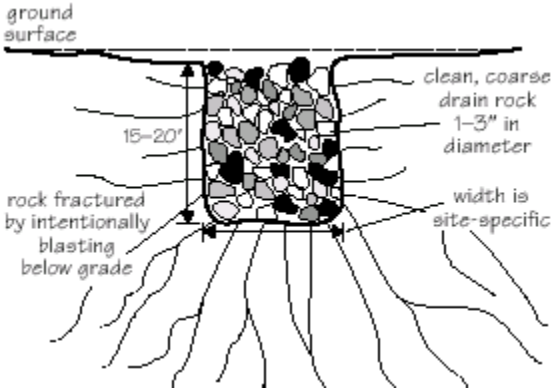


FRENCH DRAINS

- What** ➤ A hole or trench filled with coarse aggregate. Also called a Dry Well.
- Purpose** ➤ To hold collected water until it percolates into the ground.



Source: Washington State Department of Natural Resources, Oregon Department of Geology and Mineral Industries.

Details French Drain construction.

Where **YES:** Wherever stormwater cannot be drained off (e.g., around buildings), volumes are small, or natural infiltration is poor.

Materials, Equipment & Costs

- 🚧 Coarse aggregate, filter fabric, optional blasting explosives to fracture quarry rock.
- ⚒️ Backhoe or excavator, hand shovel, labour.
- 💰 Low.

Plans & Specs

- Flatter areas are preferable.
- Because there is no outlet for water, French drains should be located where stormwater will naturally accumulate.
- Ditches and grading can also be used to direct stormwater runoff to the French drains.
- French drains should not be used where oil and grease are present to contaminate the ground water.

Installation

- Excavate a hole or trench to the maximum reach of the equipment used: the deeper the better.

- Line the excavation with filter fabric. For lining the walls, drape the filter fabric over the edge while backfilling. It can be secured by holding the top in place prior to draping it into the hole, by stapling it to the walls, or with boards fastened to the walls.
- Fill the bottom of the well with clean and washed pea gravel to form the base. Clean coarse aggregate can be used to fill the excavation to within 15 cm of the top. Cap the excavation with a 15 cm layer of pea gravel to act as a filter.
- Percolation rates should not be less than 15 cm per hour and can be tested the same way as septic fields.
- To avoid compacting the subsoil, use equipment with tracks or oversized tires.

Maintenance

- Maintenance is typically limited to periodic replacement of the fill with clean rock.
- Periodic inspection is required to ensure that the stone fill is level to the ground surface and that the filter fabric, if used, has not become clogged with material.
- A larger well will function for a longer period before requiring maintenance.

Sources

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