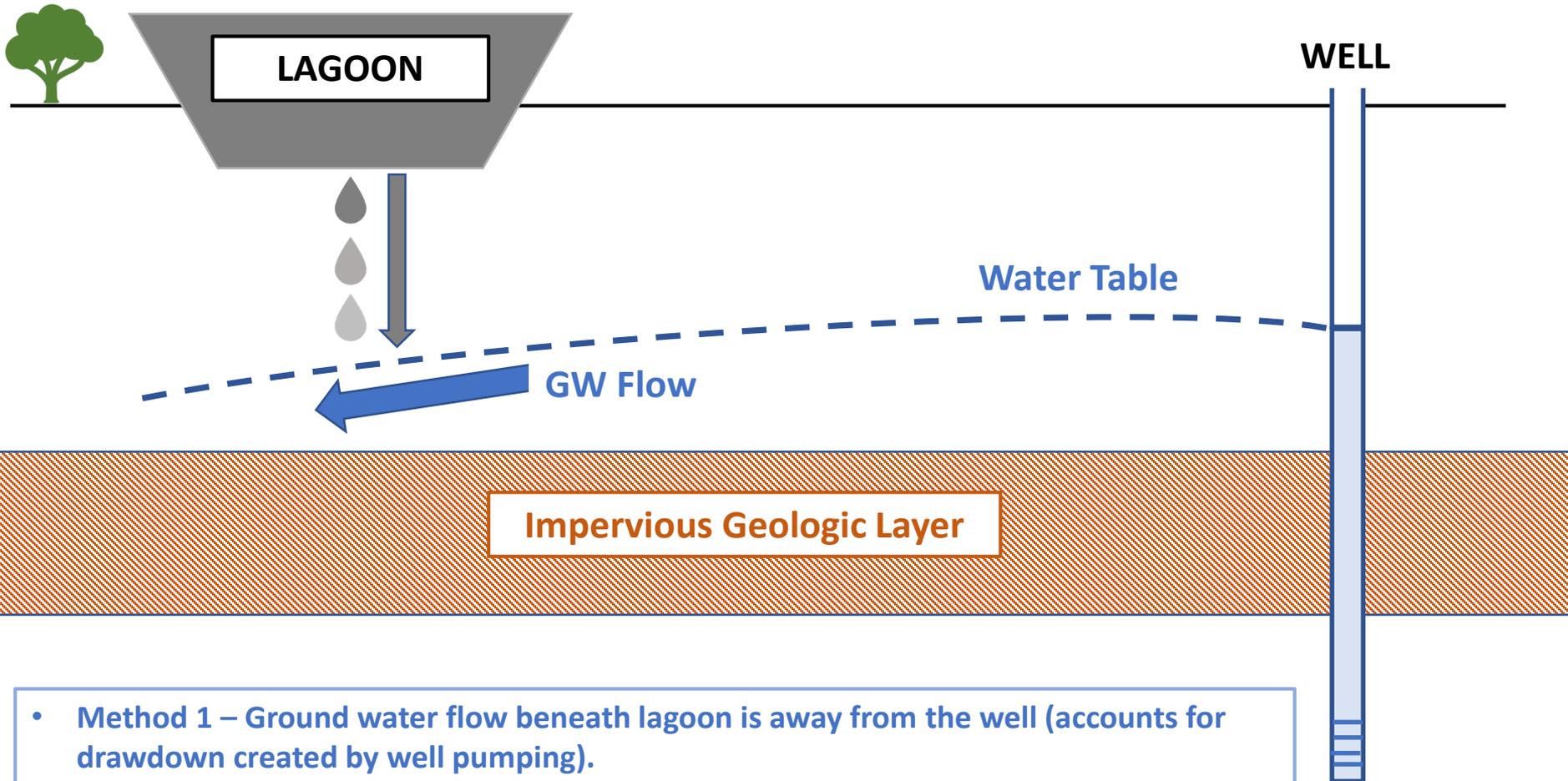


# Sewage Lagoon and Water Well Setback Summary

- 1,000 foot default setback
- 100 foot minimum setback
- Setbacks less than 1,000 feet allowed for site-specific conditions:
  - Discharges from sewage lagoon to ground water that are hydraulically disconnected from the water source supplying the water well. Setback = 100 feet.
  - Sufficient soil beneath the sewage lagoon and horizontal distance to the well to provide adequate natural 4-log (99.99%) pathogen reduction. Methods to determine pathogen reduction are provided in the rule. Setback = between 100 and 1,000 feet based on the calculations.
  - Continuous disinfection (4-log) of a public water supply well. Setback = 200 feet.

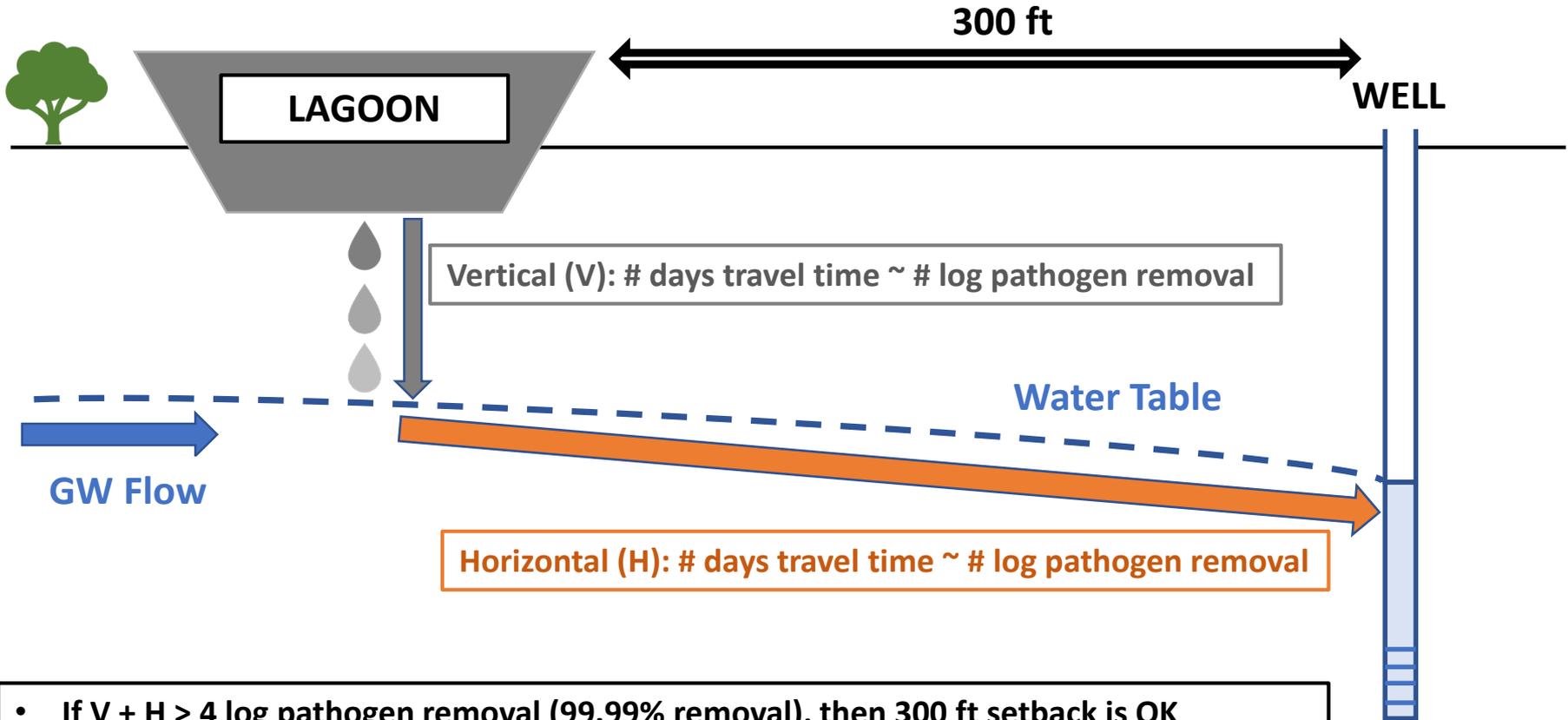
# HYDRAULICALLY DISCONNECTED



- **Method 1** – Ground water flow beneath lagoon is away from the well (accounts for drawdown created by well pumping).

- **Method 2** – Well intake depth is separated from lagoon discharge by impervious geologic layer (e.g. glacial till, clay, unfractured bedrock). Doesn't matter which direction groundwater is flowing.

# PATHOGEN REMOVAL EXAMPLE



- If  $V + H > 4$  log pathogen removal (99.99% removal), then 300 ft setback is OK
- IF  $V + H < 4$  log pathogen removal, then setback should be increased until pathogen removal exceeds 4 logs (up to maximum setback of 1,000 ft)
- Well can be closer than 300 ft if  $V + H > 4$  log pathogen removal at the shorter distance, but no less than minimum setback of 100 feet.