GROUNDWATER CONSERVATION AT COASTAL AREA

BY

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MANAGEMENT RESORT AND LEISURE

GROUNDWATER CONSERVATION AT COASTAL AREA

1. USAGE WATER POTENCY

   A. WELL DEEPNESS ACCORDING TO INTERFACE CONDITION

   B. PUMP DEBIT DO NOT EXCEED MAXIMUM

2. GROUNDWATER INJECTION IN ROCK MATERIAL

3. DIFFUSION WELL

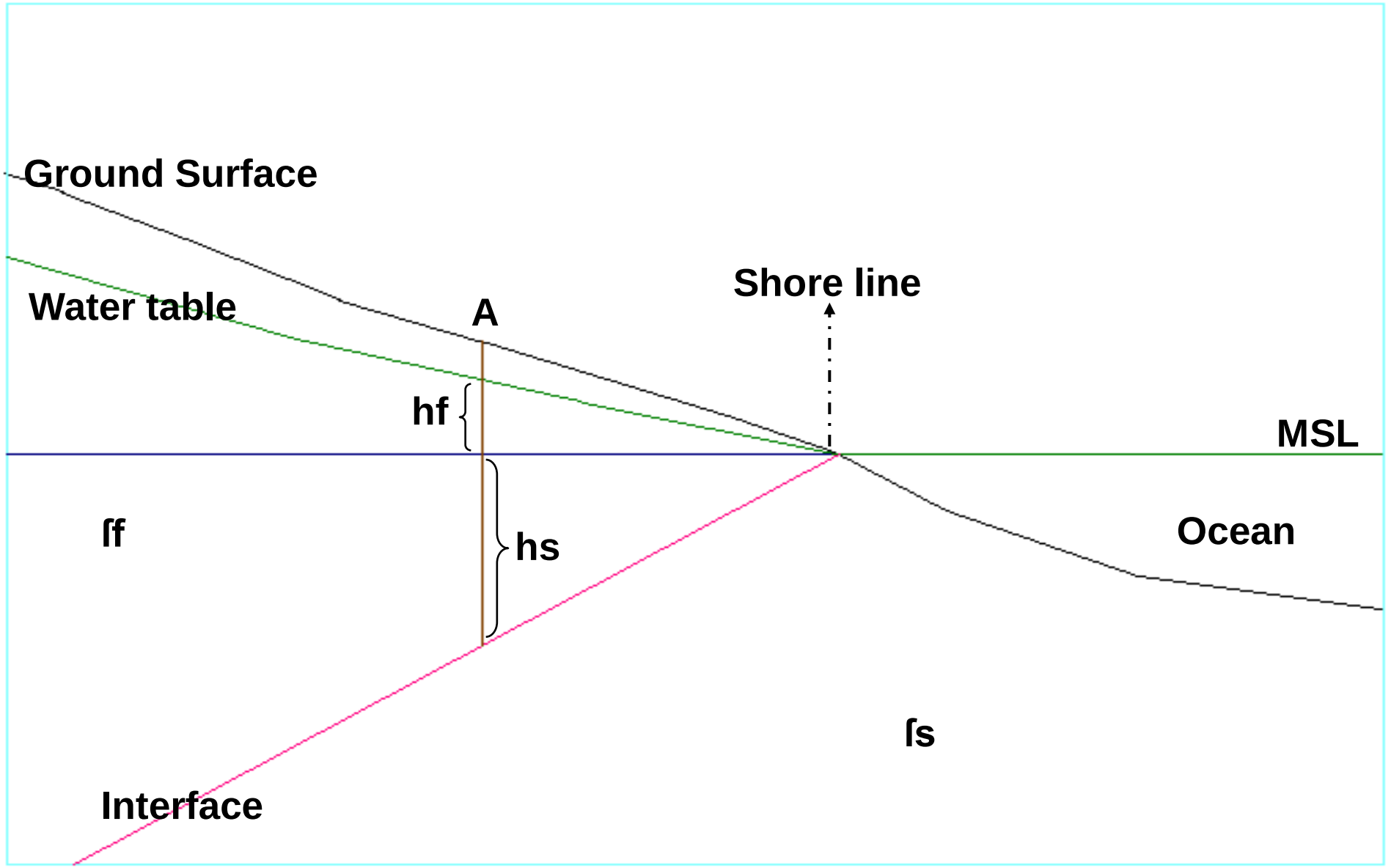
4. MAKING RIVER DAM

5. LIQUID CEMENT INJECTION

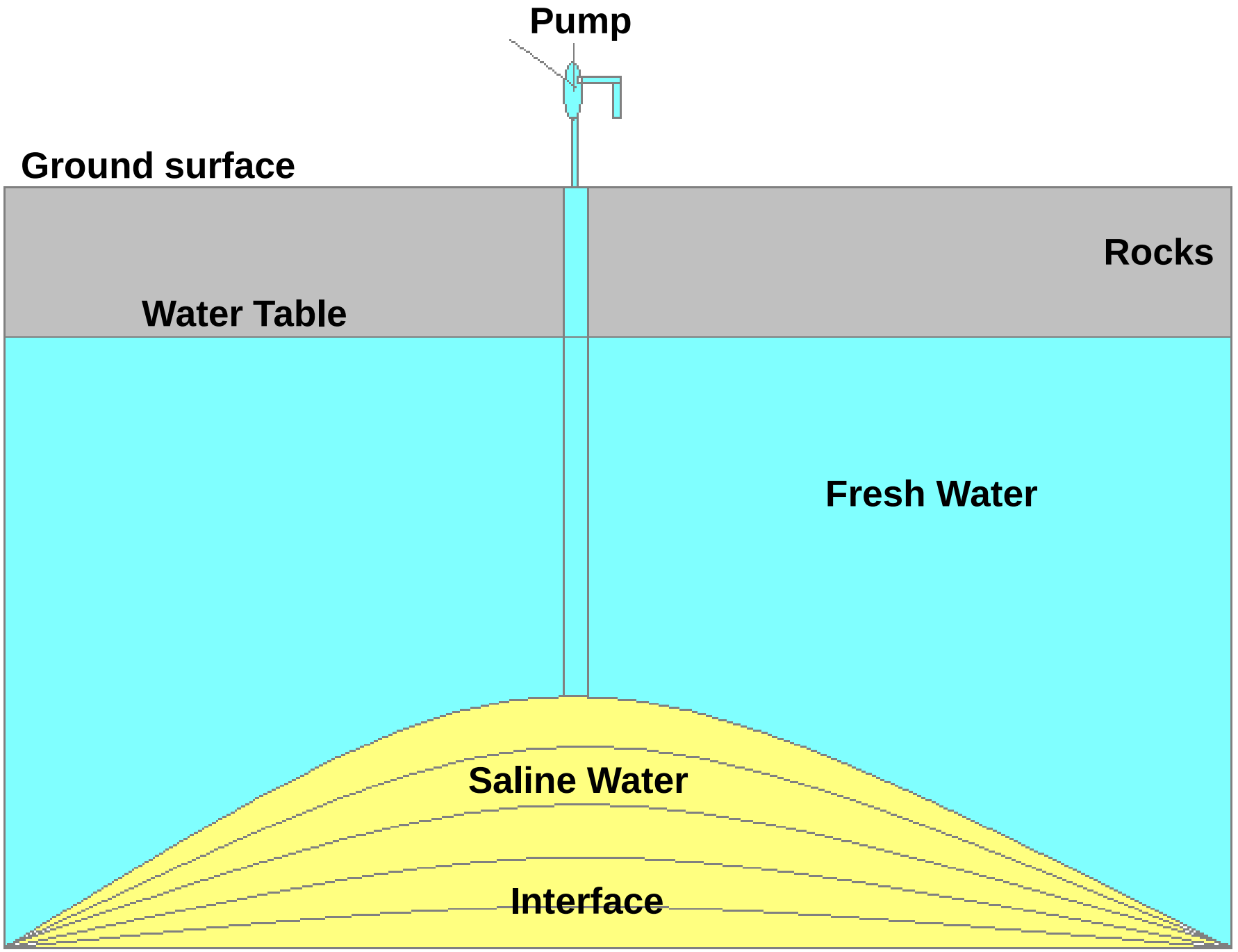
6. MANGROVE CONSERVATION

7. RECYCLE WATER WASTE

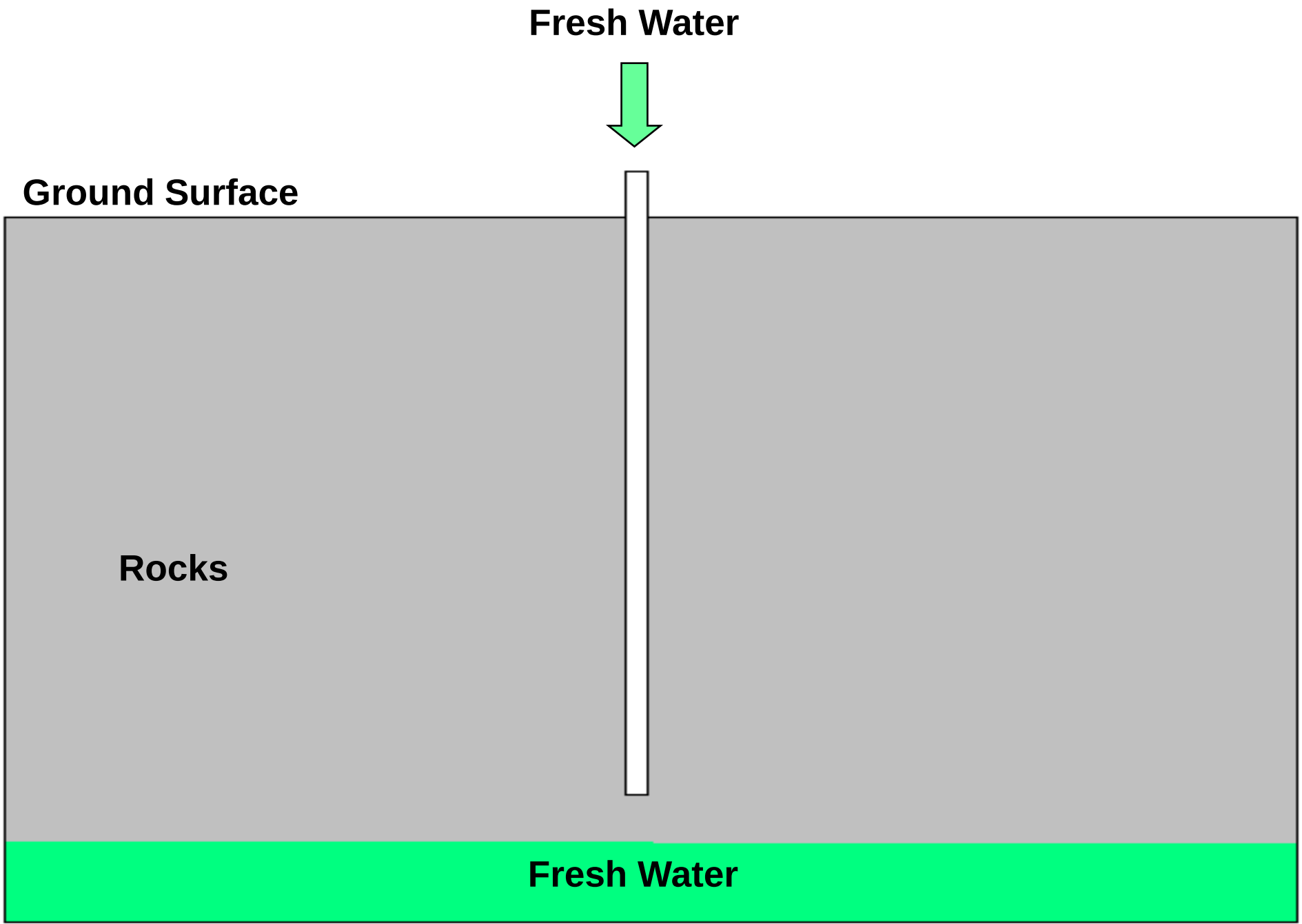
WELL DEEPNESS ACCORDING TO INTERFACE CONDITION

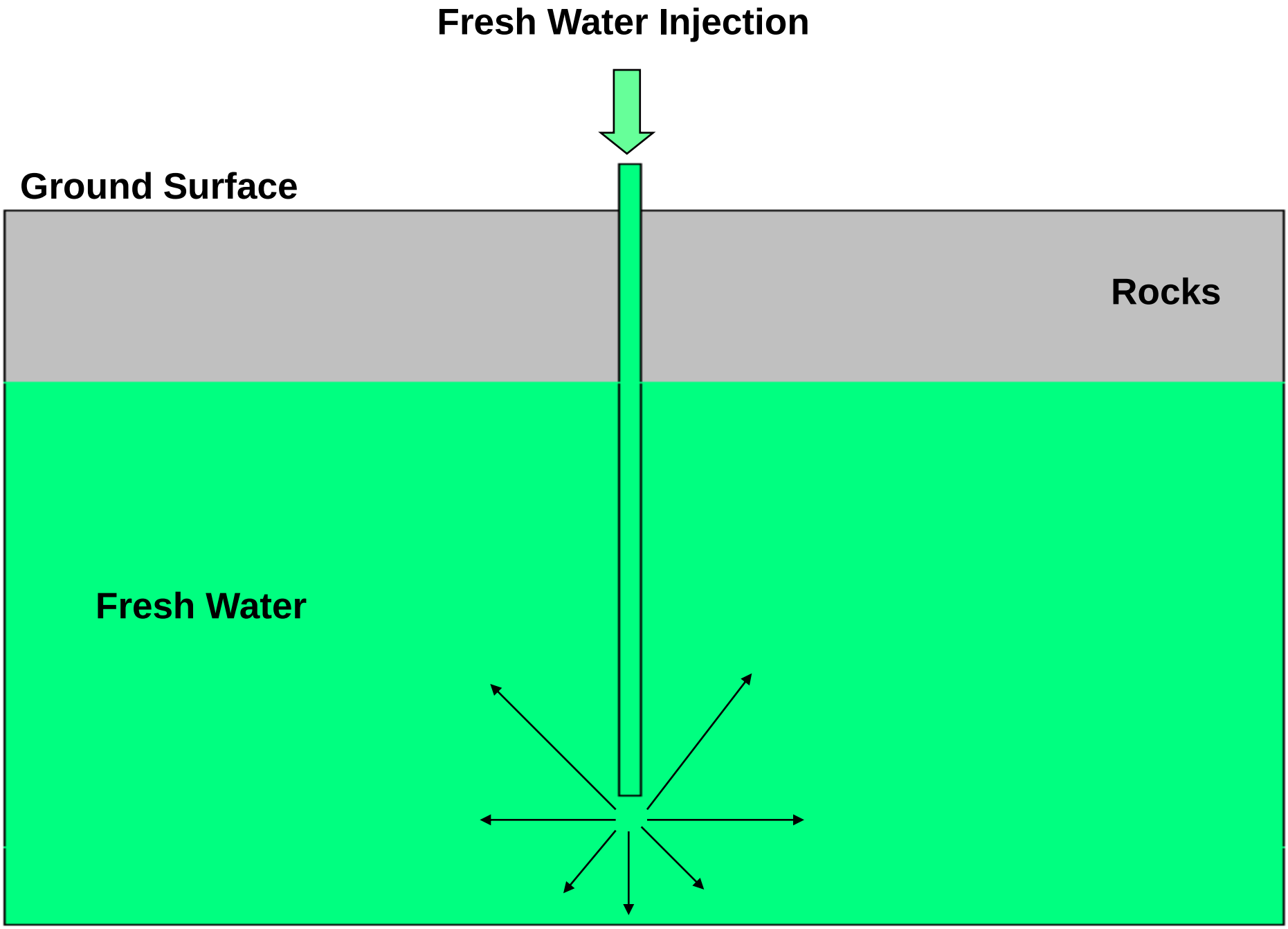

Ground Surface
Water table
A
Shore line
hf
MSL
ſf
hs
Ocean
ſs
Interface

PUMP DEBIT DO NOT EXCEED MAXIMUM

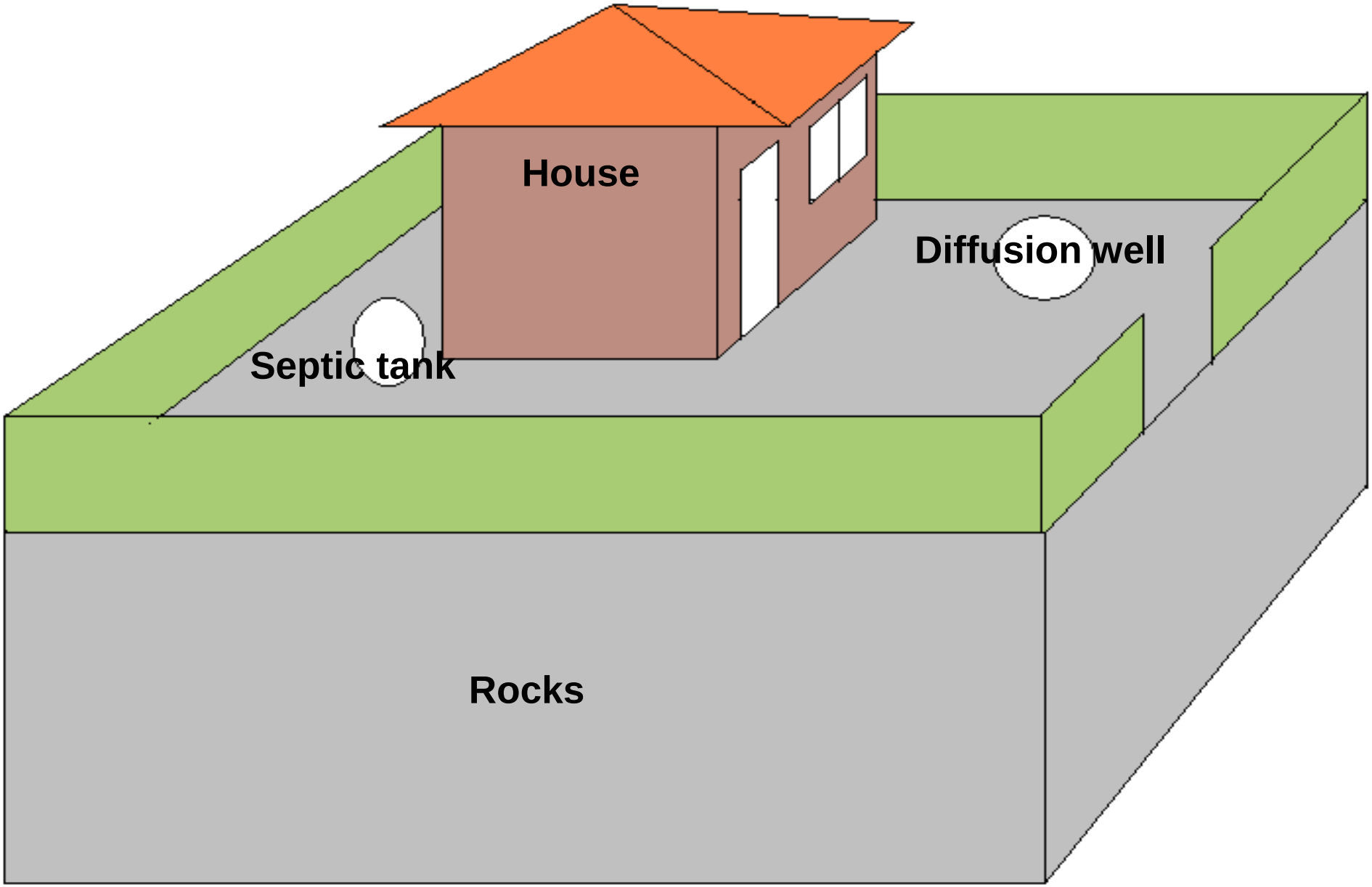

Pump
Ground surface
Rocks
Water Table
Fresh Water
Saline Water
Interface

GROUNDWATER INJECTION IN ROCK MATERIAL


Fresh Water
Ground Surface
Rocks
Fresh Water


Fresh Water Injection
Ground Surface
Rocks
Fresh Water

DIFFUSION WELL


House
Diffusion well
Septic tank
Rocks

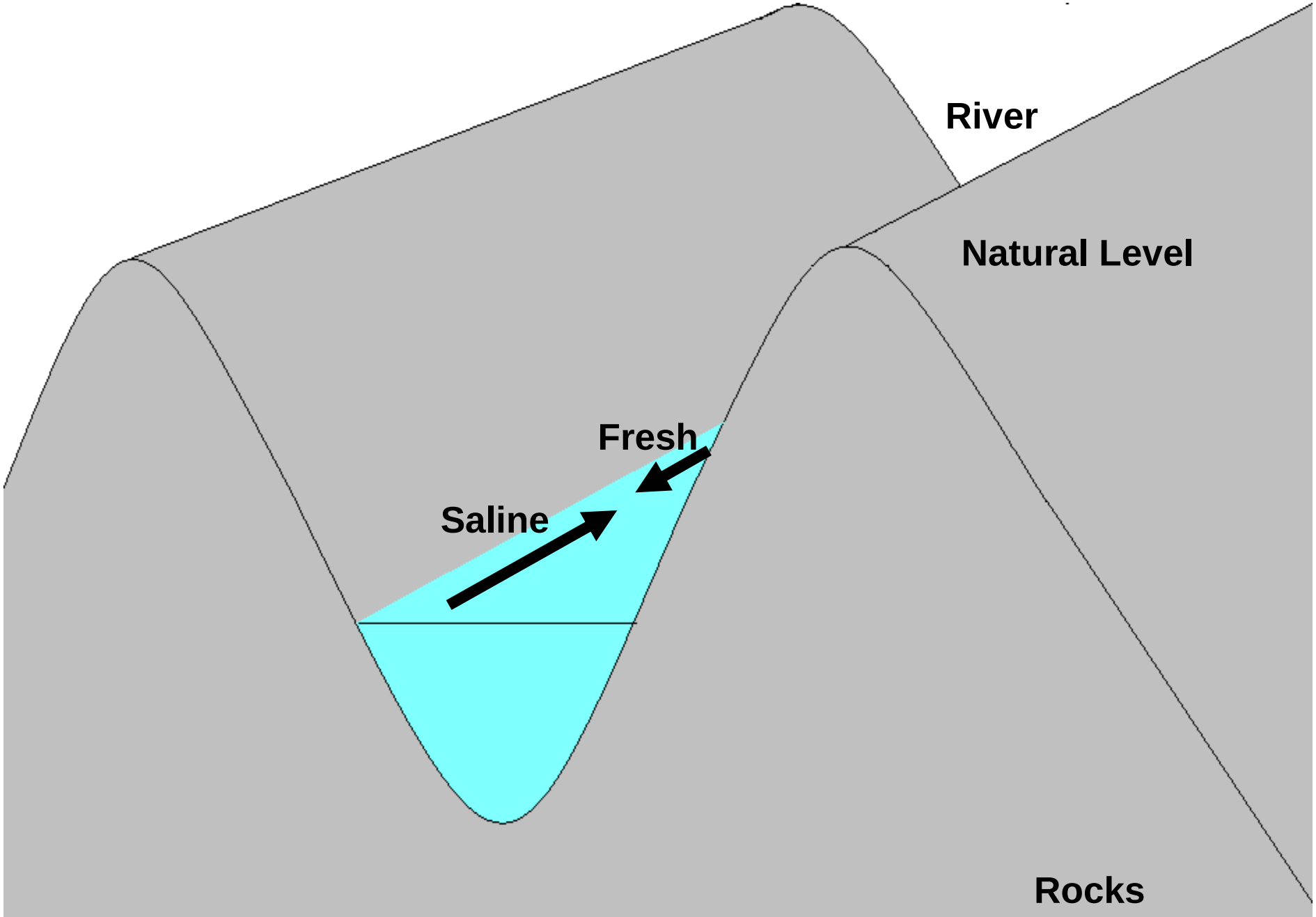
EXAMPLE

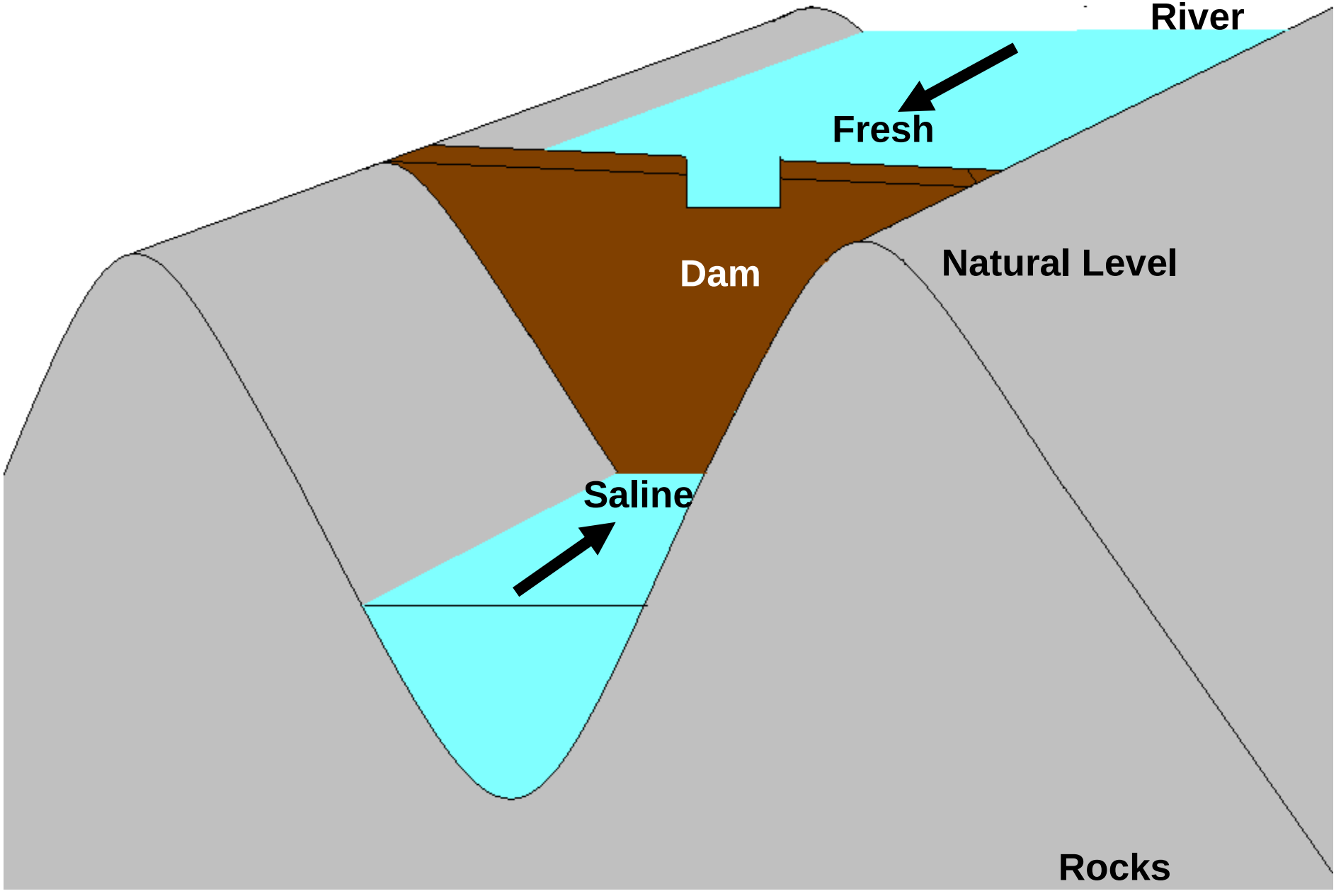
TOTAL AREA = 500 M^2
RAIN INTENSITY = 50 MM/HOUR

QUESTION:

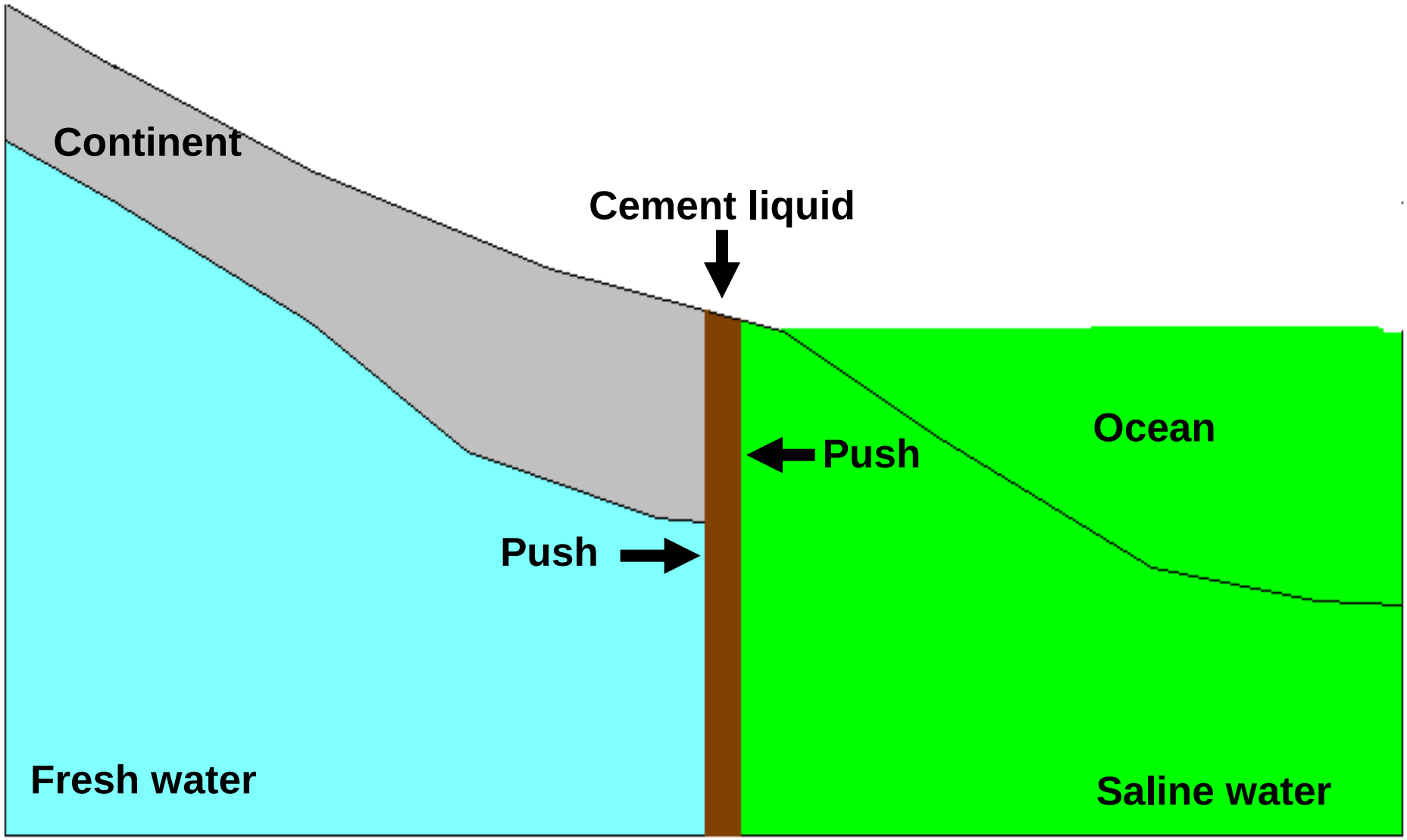
HOW MANY MINIMUM SIZE OF DIFFUSION WELL?

MAKING RIVER DAM

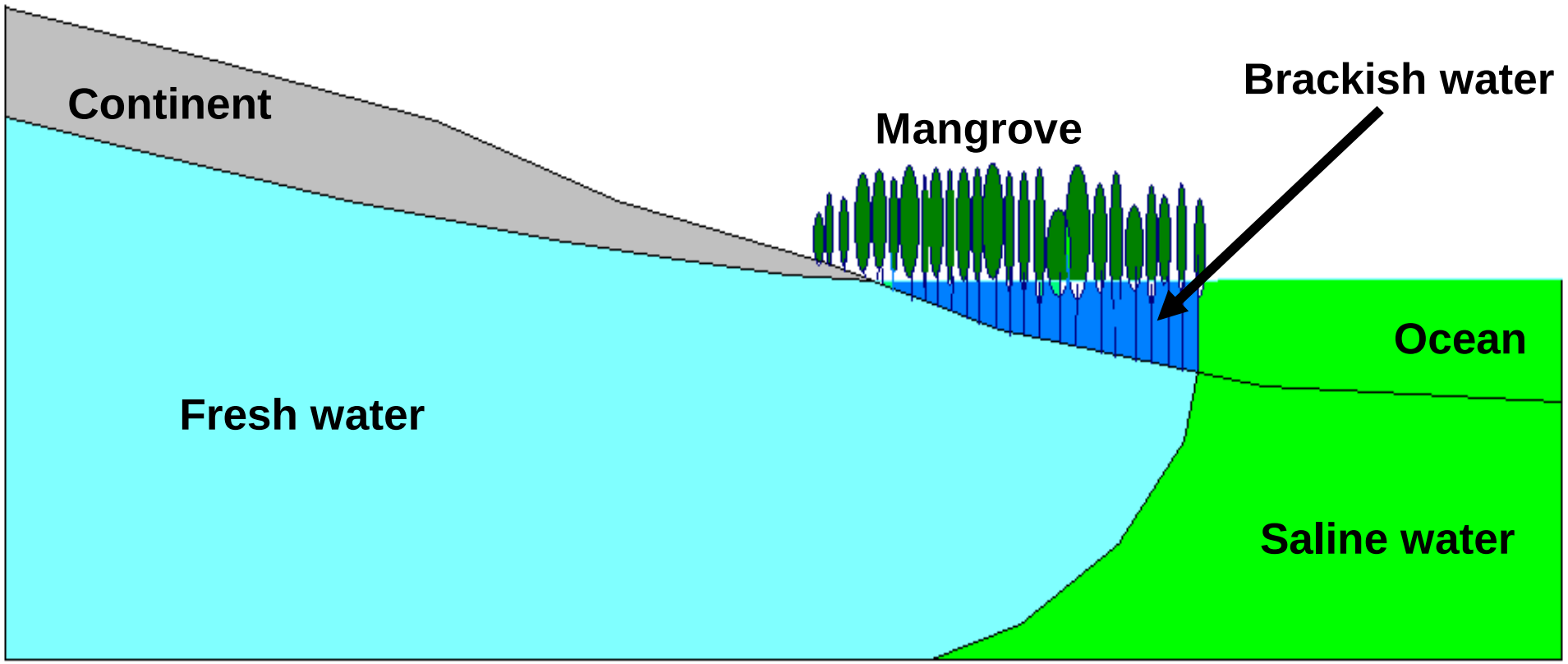

River
Natural Level
Fresh
Saline
Rocks


River
Fresh
Dam
Natural Level
Saline
Rocks

LIQUID CEMENT INJECTION

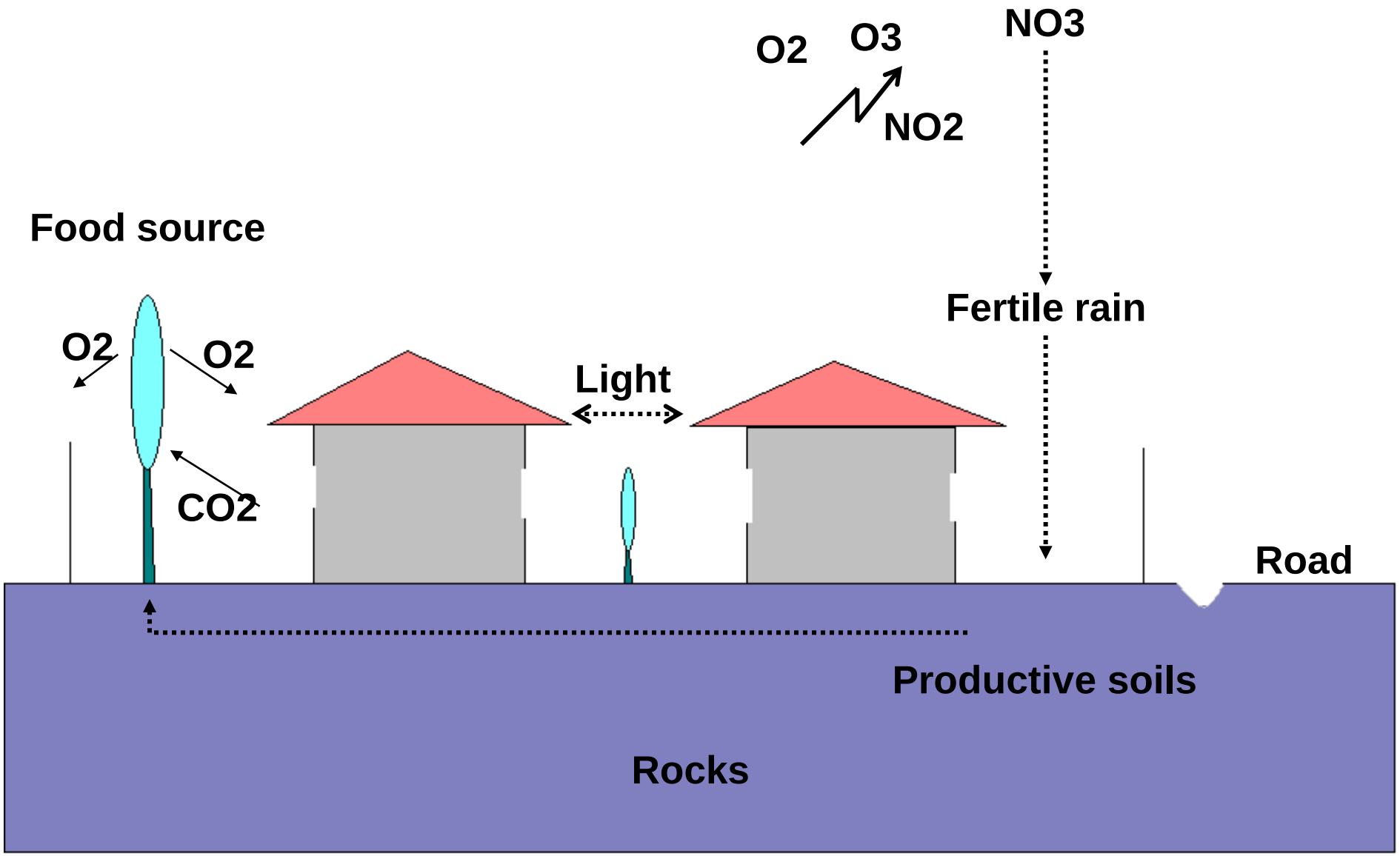

Continent
Cement liquid
Ocean
Push
Push
Fresh water
Saline water

MANGROVE CONSERVATION

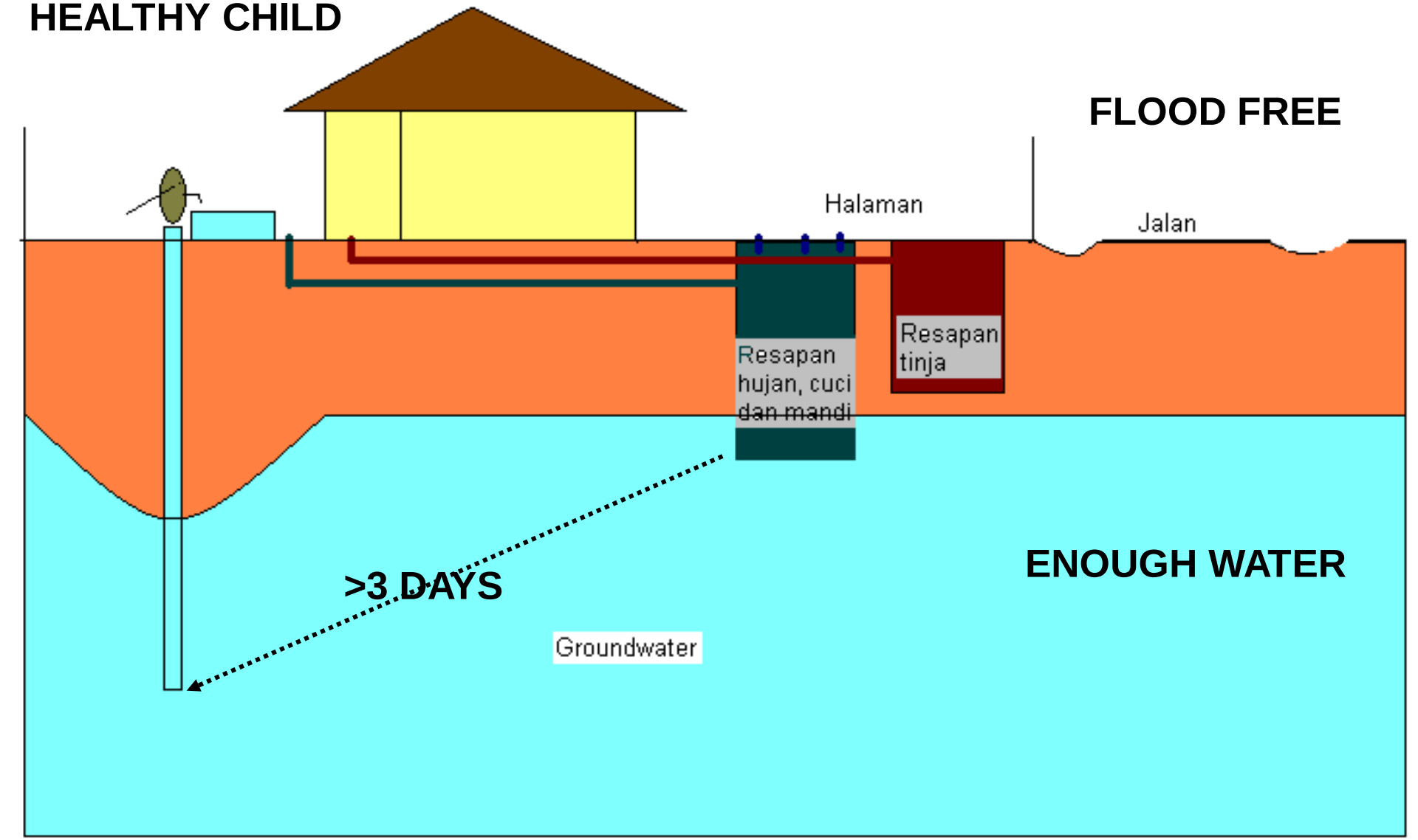

Continent
Mangrove
Brackish water
Ocean
Fresh water
Saline water

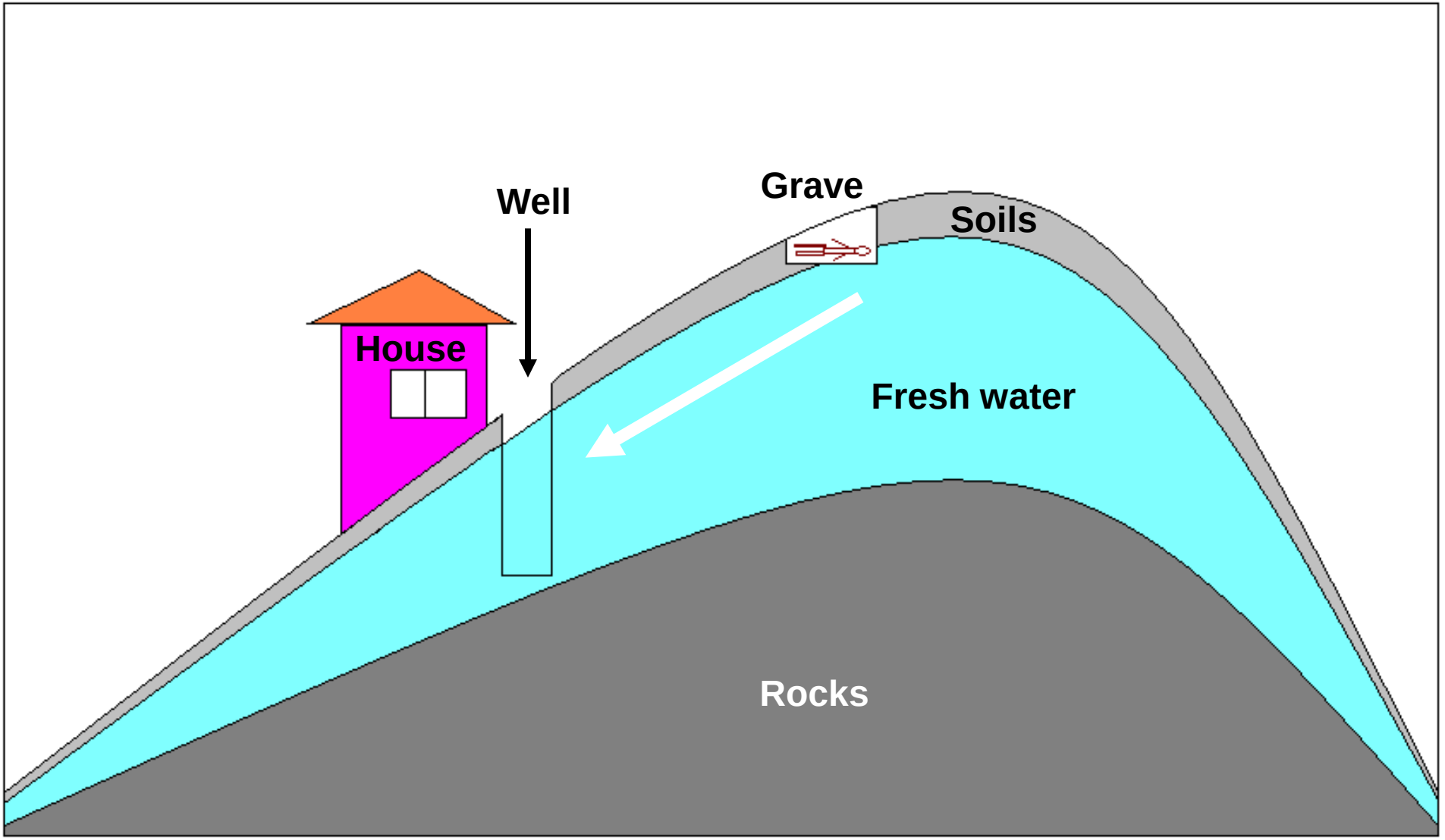
RECYCLE WATER WASTE

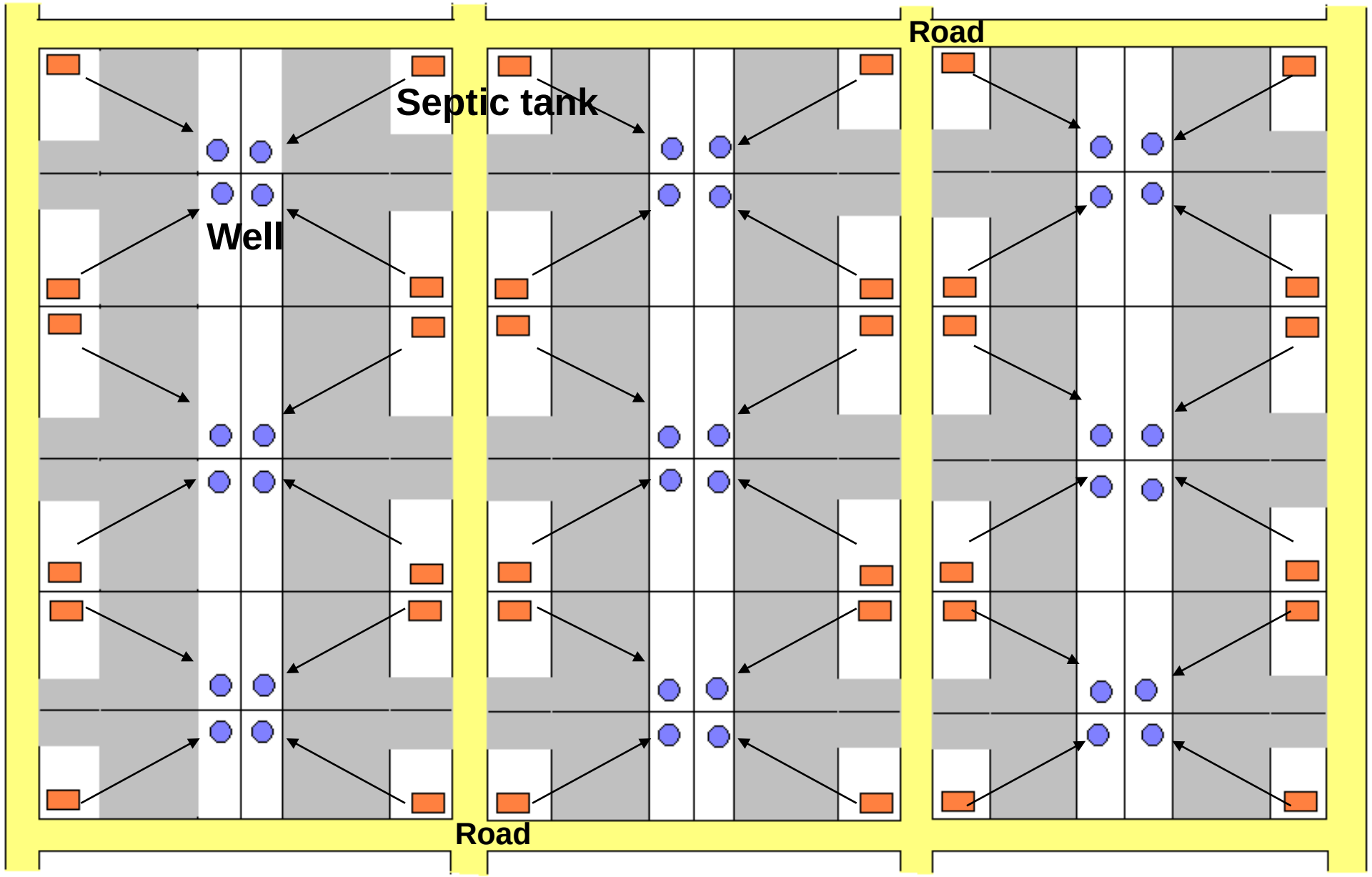
LIGHT AND OXYGEN DEMAND

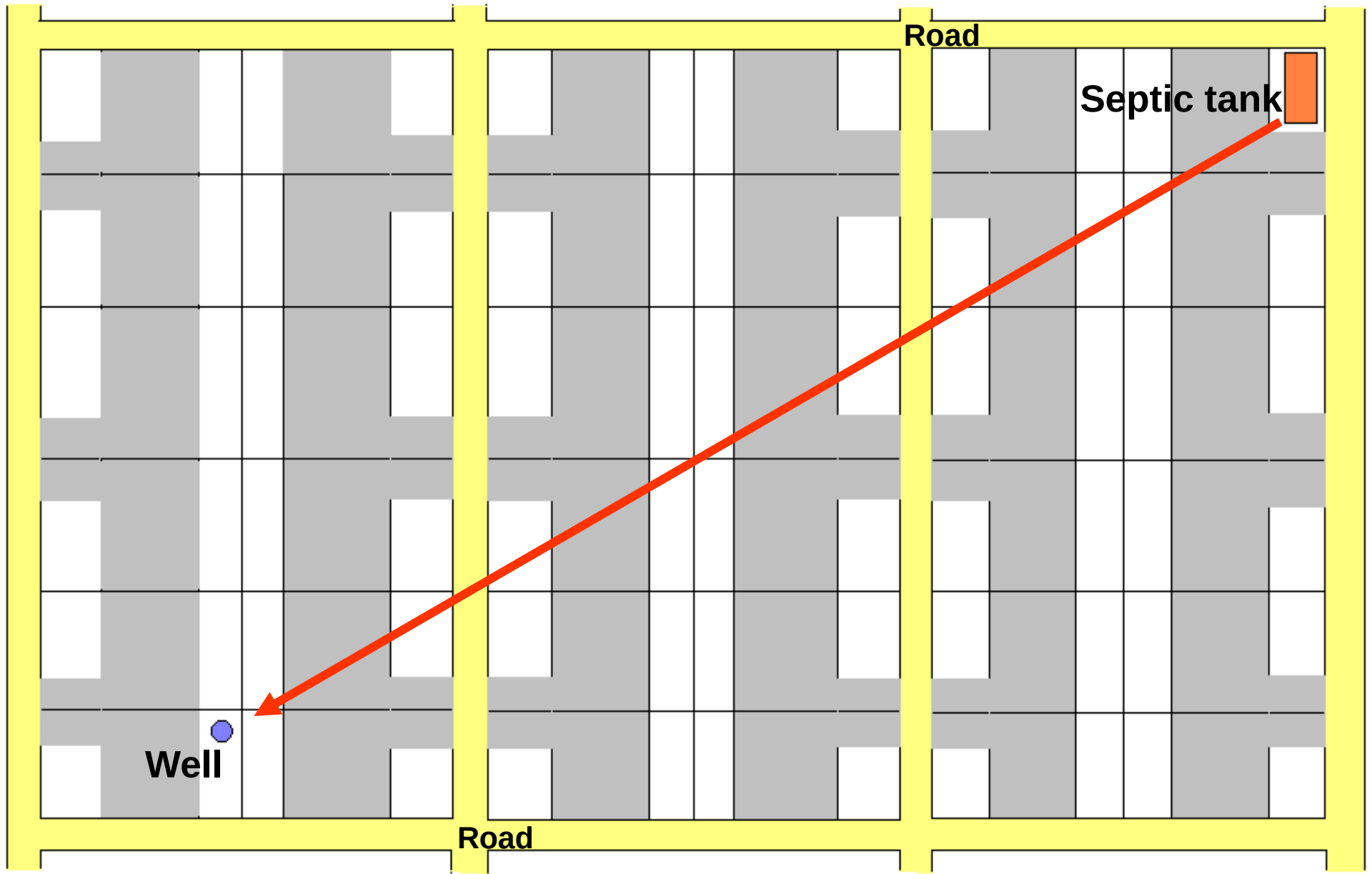


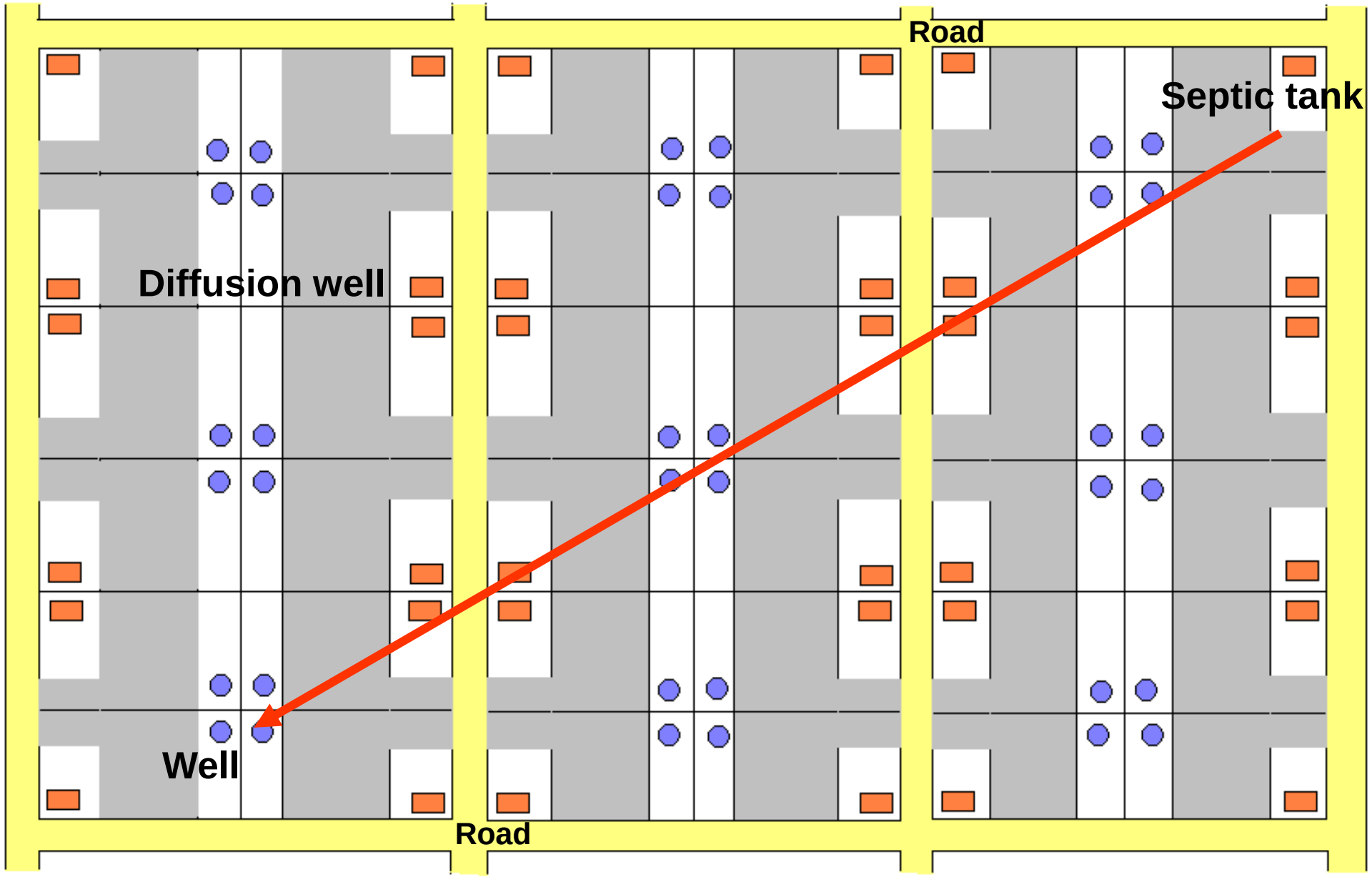
RECYCLE WATER WASTE

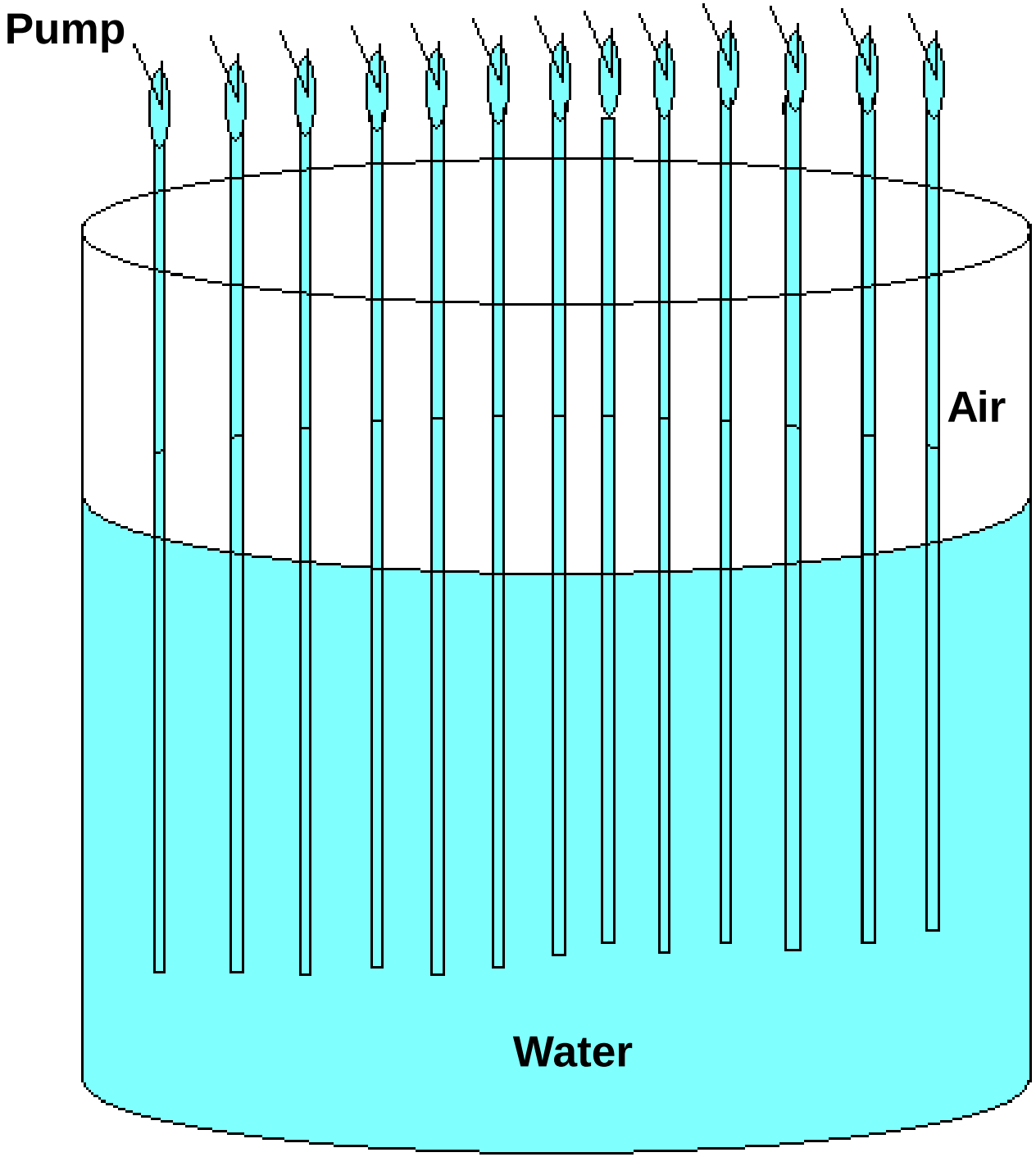


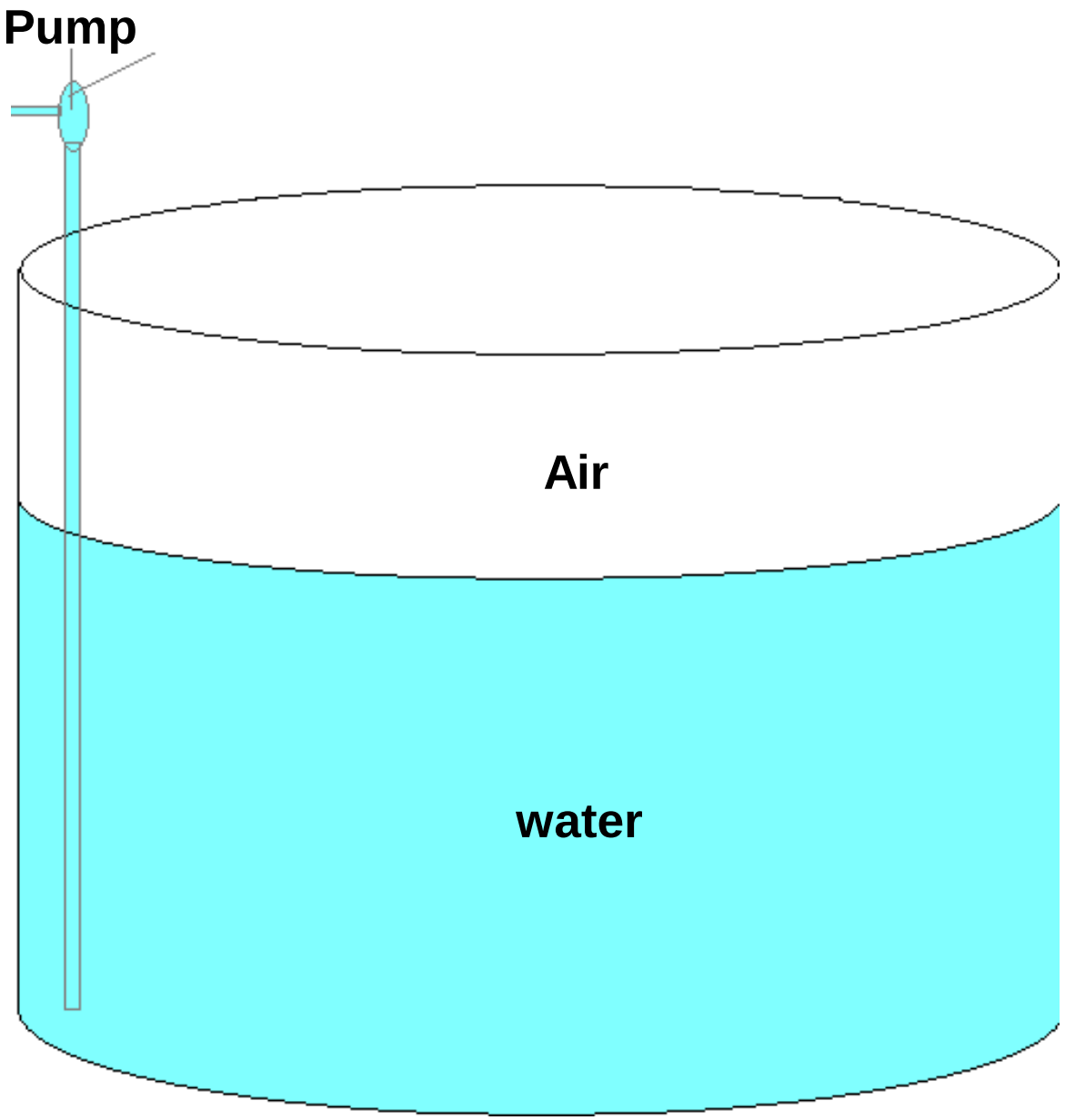

Well
Grave
Soils
House
Fresh water
Rocks


Road
Septic tank
Well
Road


Road
Septic tank
Well
Road


Road
Septic tank
Diffusion well
Well
Road


Pump
Air
Water


Pump
Air
water

EXAMPLE

MAKING WELL = Rp. 2.000.000 PER UNIT

ALL AREA = 36 x 2.000.000 = Rp. 72.000.000

MAKING JET PUMP = Rp. 50.000.000

MAKING SEPTIC TANK = Rp. 1.000.000 PER UNIT

ALL AREA = 36 x 1.000.000 = Rp. 36.000.000

COLLECTIVE SEPTIC TANK = Rp. 15.000.000

THANK'S

A LEADING AND OUT STANDING UNIVERSITY

all desain and picture in power point
created by darsiharjo