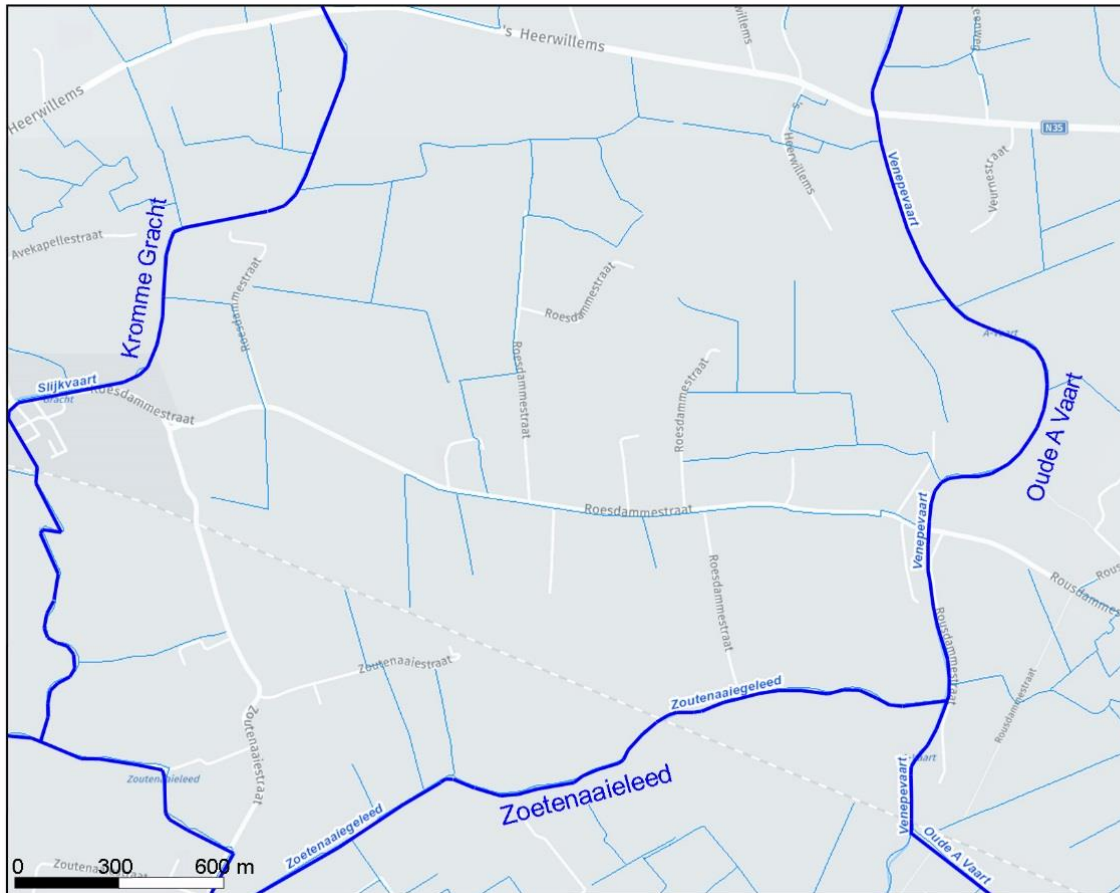




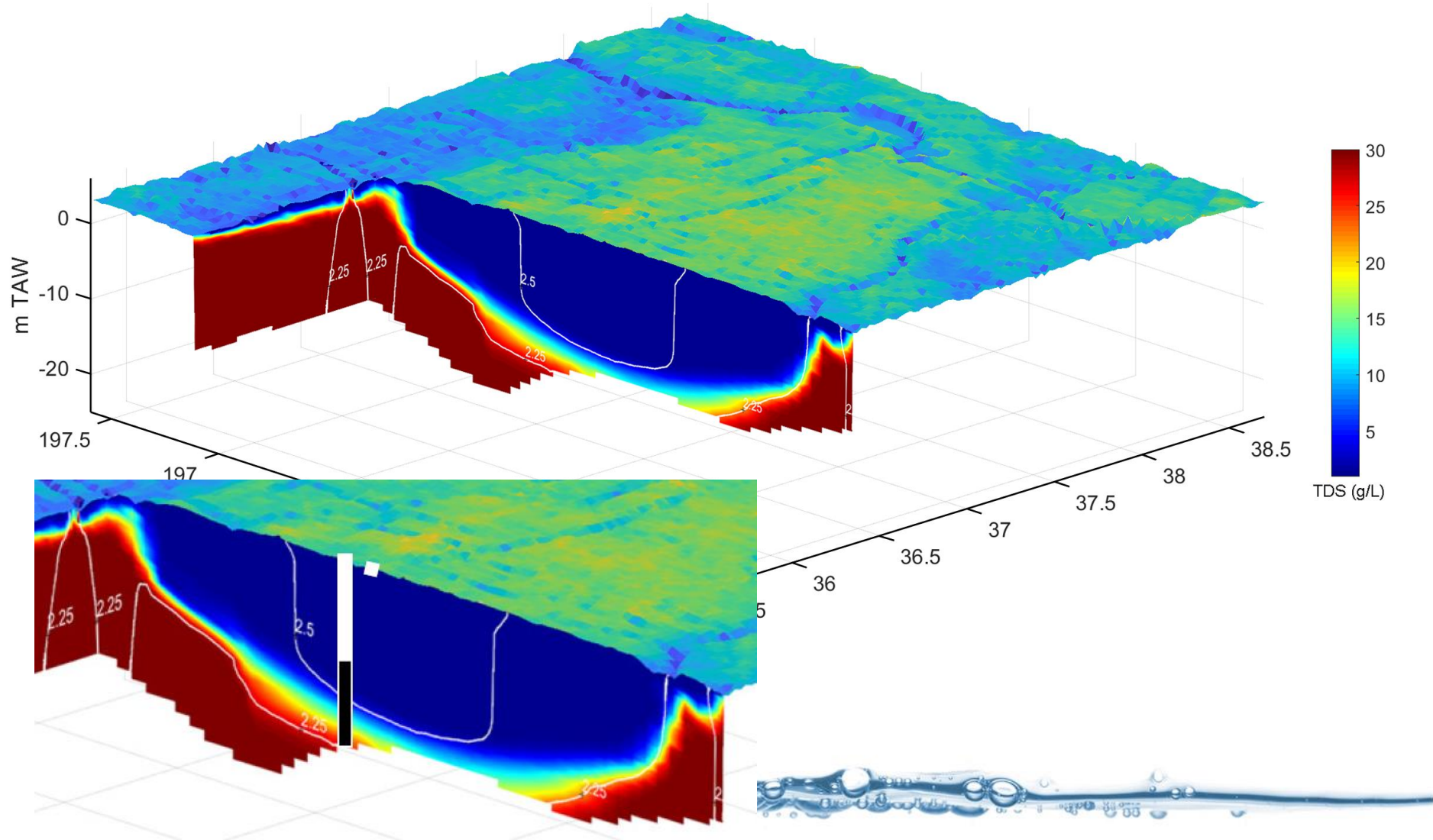
LIFE FRESHMAN
Part Avekapelle



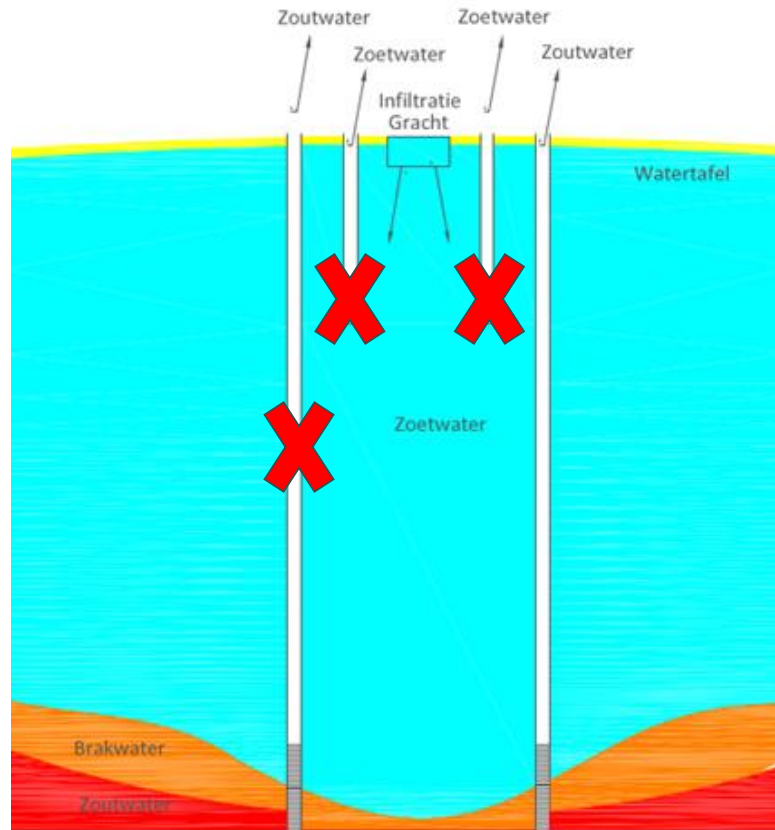
Avekapelle site



Avekapelle site – zoetwaterlens



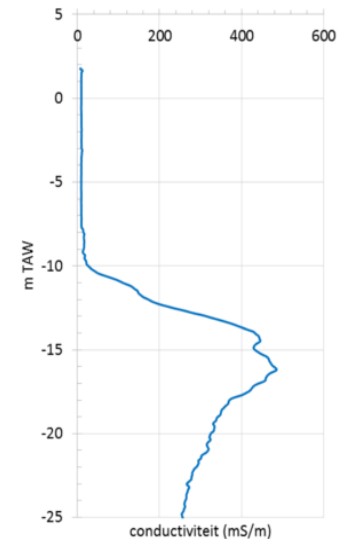
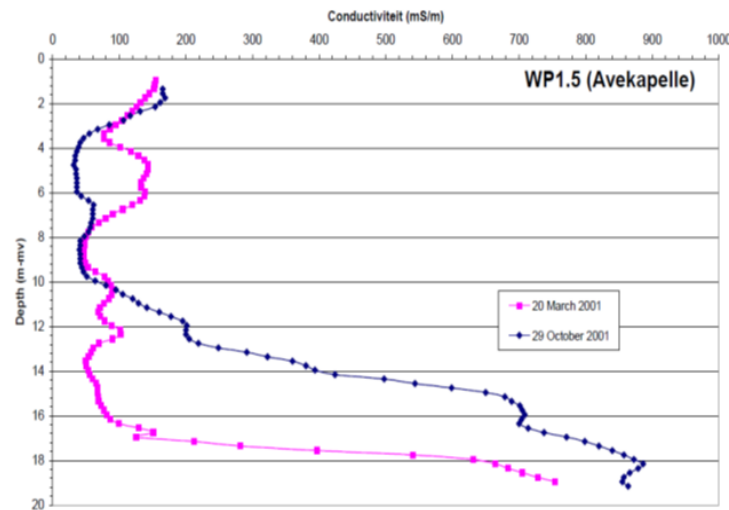
Original idea vs final idea



- A row of deep wells and superficial wells
 - Deep wells --> brackish water --> discharge
 - Surface wells -> sweet water --> to DWP

Final idea

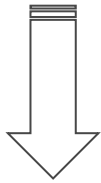
- One row of all deep wells
 - Previous scenario: risk of upconing
 - Treatment is needed anyway (for OMP's and chlorides)
 - Less water losses
 - After some years → sweetening of the water



State of the art

1. Test-setup

- 50 m pretreatment
- 200 m infiltration ditch
- 150 m extraction battery
- Flow rate 30 – 40 m³/h



Full scale 400 m³/h



- aanvoer vanuit de Kromme Gracht
- afvoer water naar de Kromme Gracht
- voorbezinkingsgracht
- infiltratiegracht
- batterijputten
- leiding van batterijputten naar afvoer, optie 1
- - - leiding van batterijputten naar afvoer, optie 2

Bottlenecks

- **Water quality**

- OMP's (~), Chlorides
- Microbiology and suspended solids (goal!)

- **Water quantity**

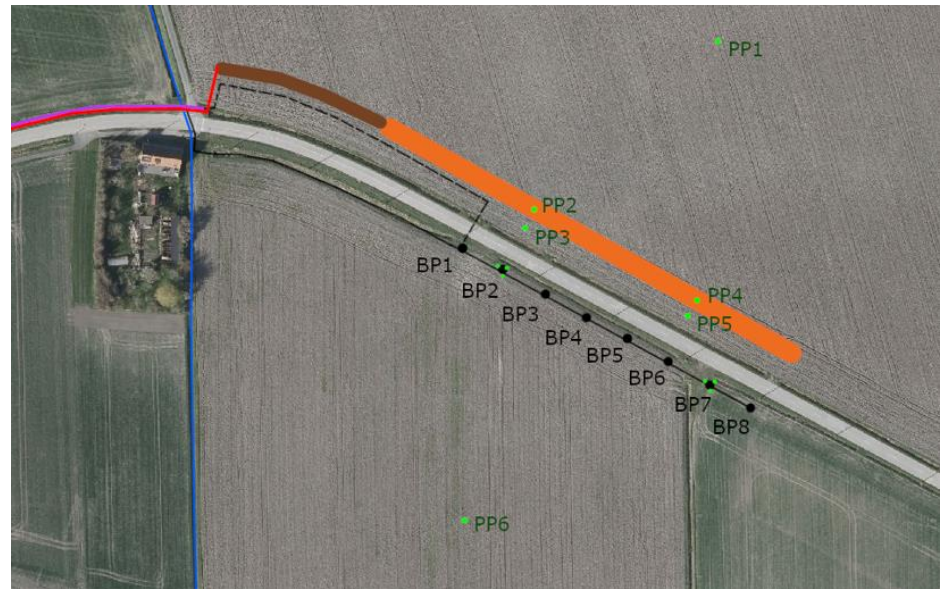
- Flow rate only available from oct – april

- **Permits**

- Need an exemption
 - For infiltration (not compliant)
- For abstraction and discharge
 - For pilot system

Outputs

- Quality improvements?
- Flow rates (in- and out)
- Impact on the surroundings
- Stakeholder management





De Watergroep
WATER. VANDAAG EN MORGEN.

Thank you

More info:

[LIFE FRESHMAN | De Watergroep](#)

[The Freshman-project \(dunea.nl\)](https://dunea.nl)