

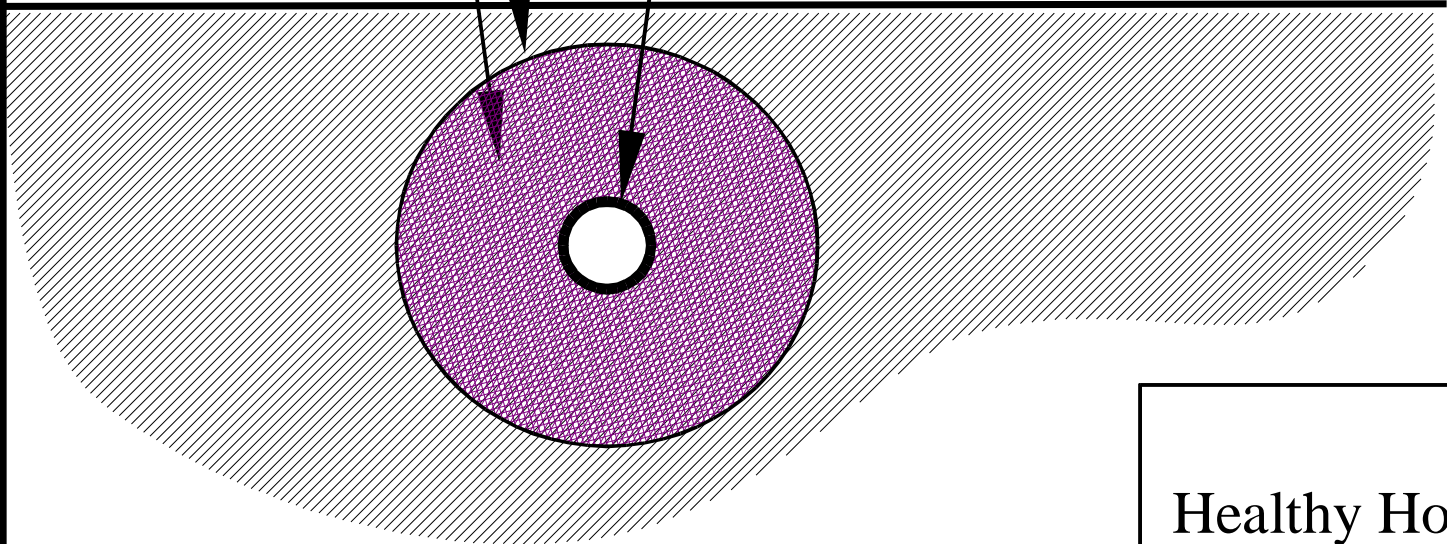
Concept Layout
Apex Healthy House System
Branch layout - Concept #2
March 31, 2002



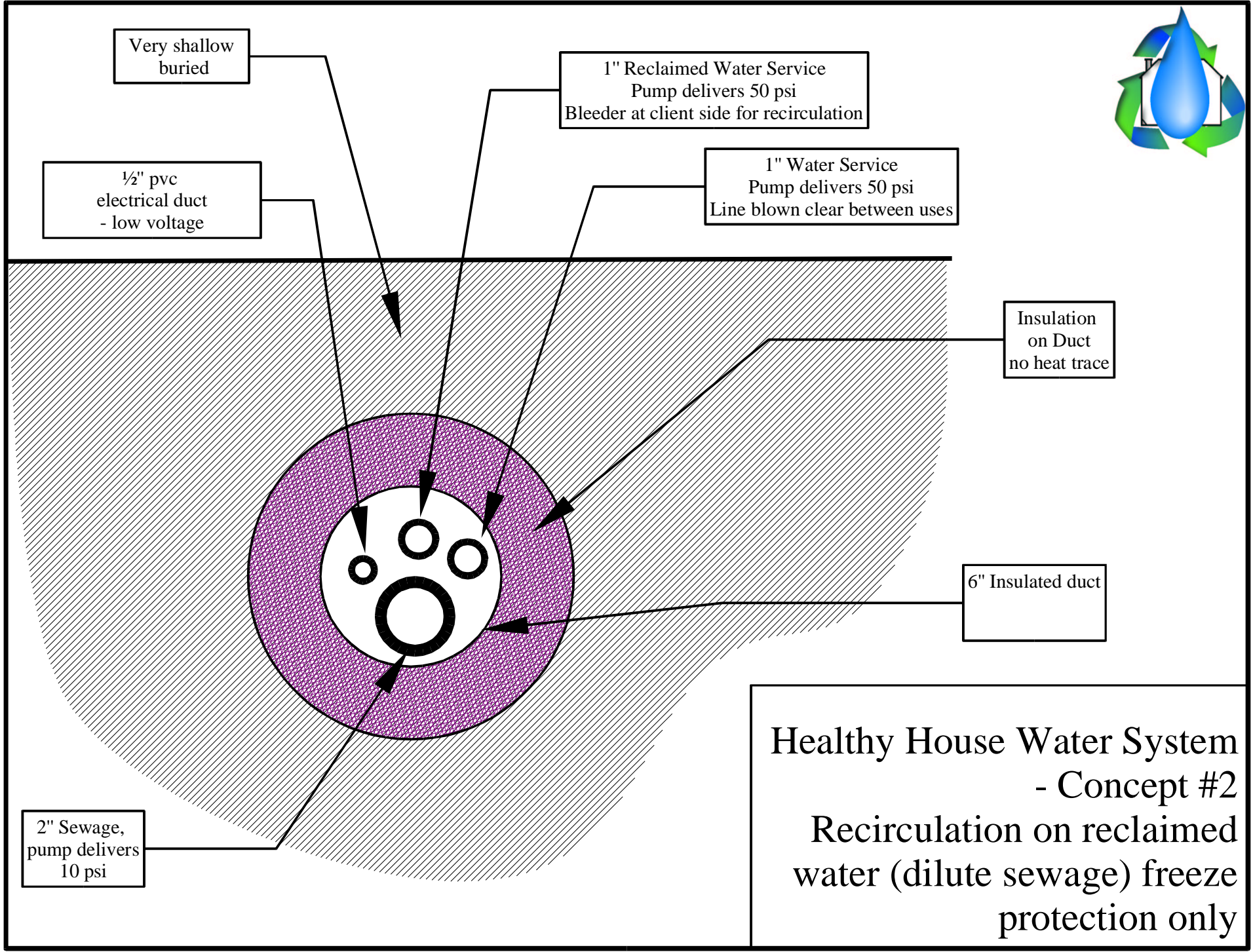
Very shallow
buried

Insulation
on Pipe
no heat trace

1" Reclaimed Water Disposal
Pipe empty when water not flowing
Pump delivers 50 psi
exit at ambient pressure



Healthy House Water System
- Concept #2
Outfall Line Section



Very shallow buried

1" Reclaimed Water Service
Pump delivers 50 psi
Bleeder at client side for recirculation

1/2" pvc
electrical duct
- low voltage

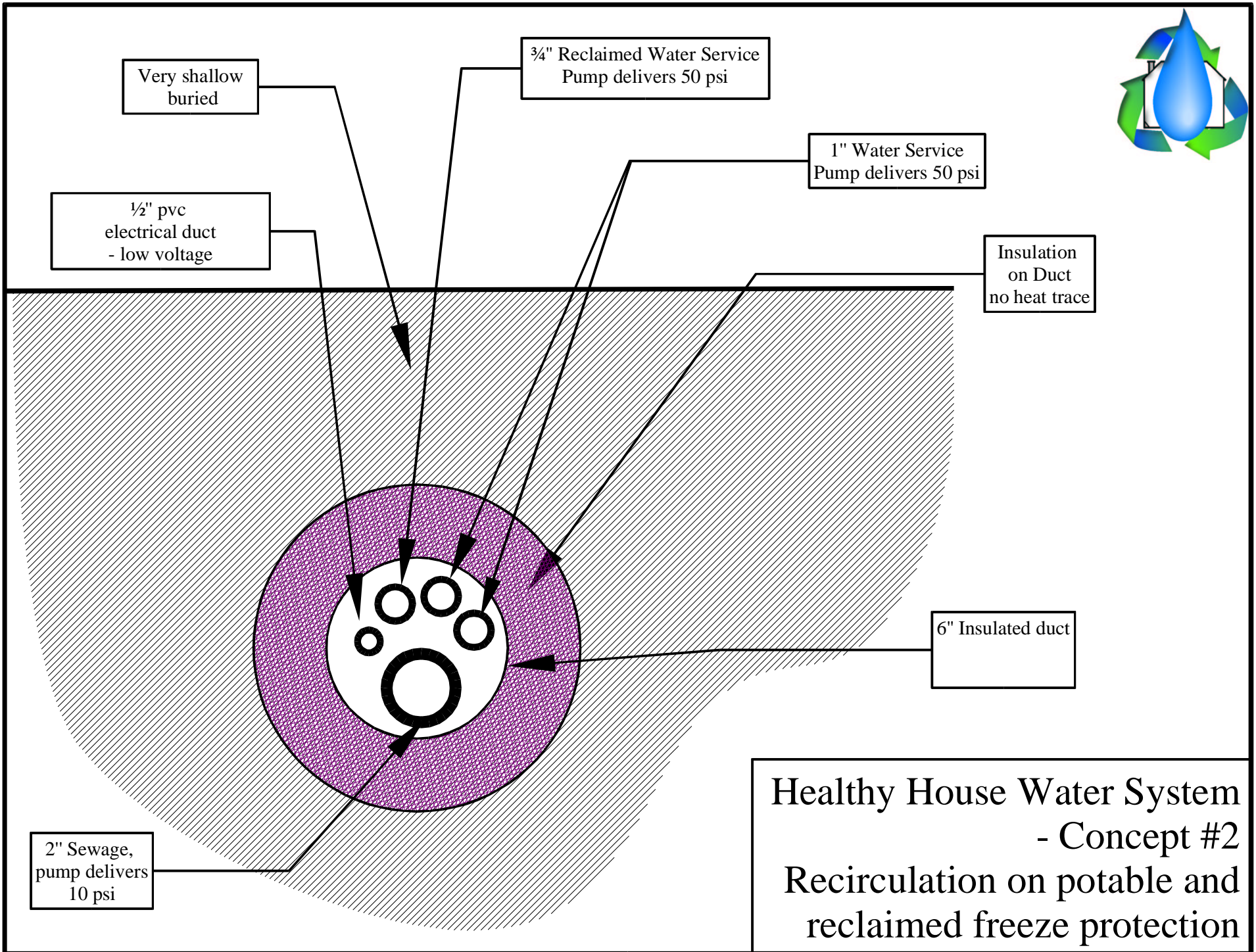
1" Water Service
Pump delivers 50 psi
Line blown clear between uses

Insulation
on Duct
no heat trace

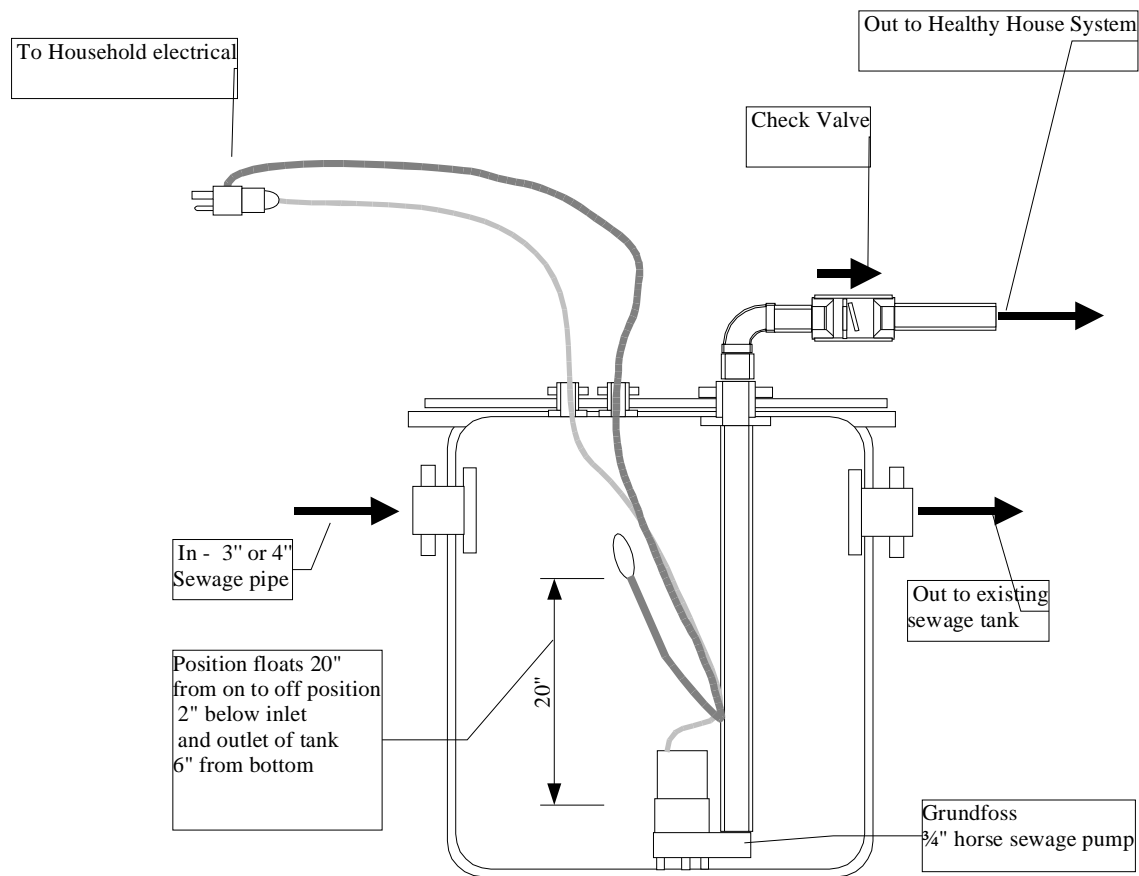
6" Insulated duct

2" Sewage,
pump delivers
10 psi

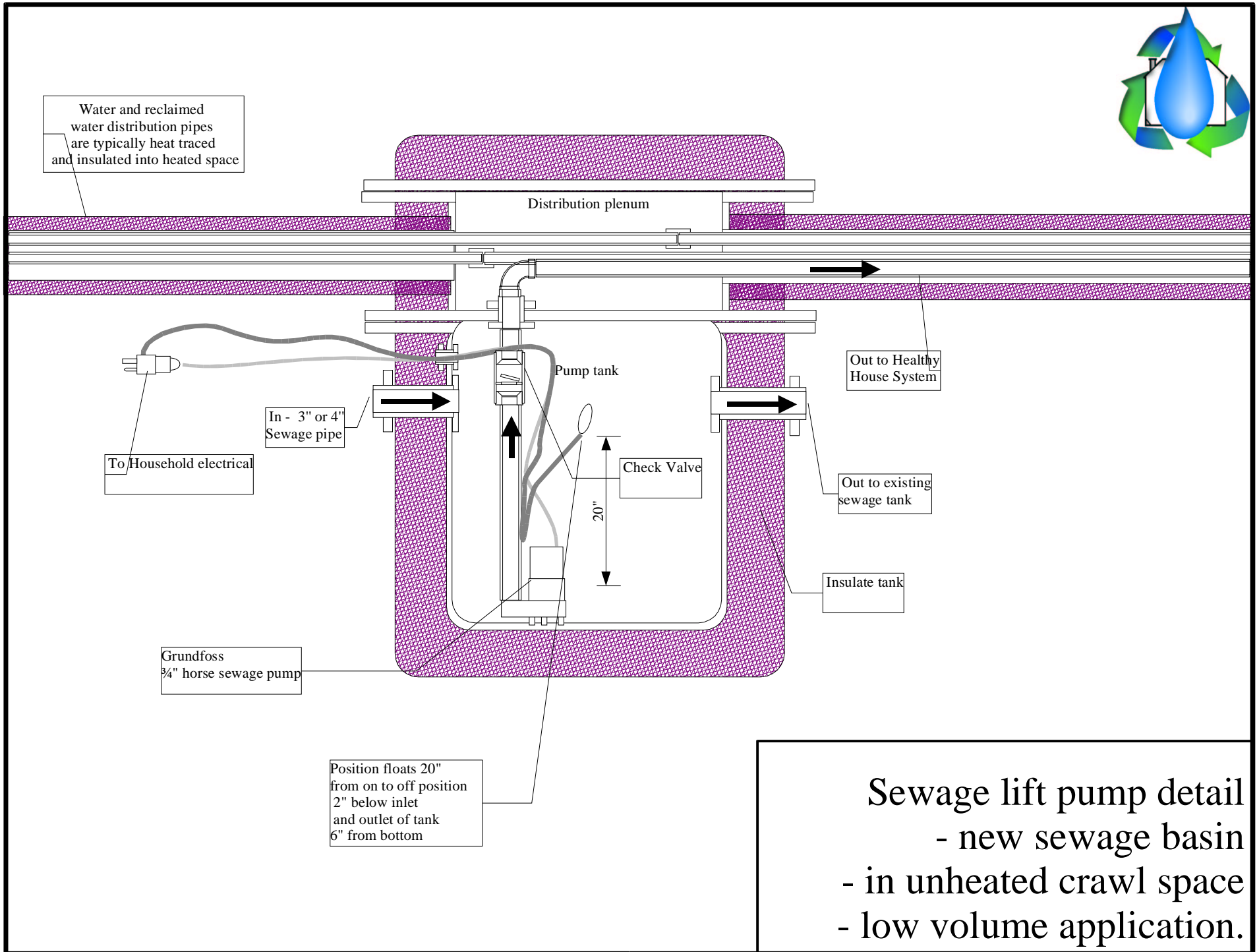
Healthy House Water System
- Concept #2
Recirculation on reclaimed
water (dilute sewage) freeze
protection only



Healthy House Water System
- Concept #2
Recirculation on potable and
reclaimed freeze protection



Sewage lift pump detail
- new sewage basin
- in heated crawl space
- low volume application.



Water and reclaimed water distribution pipes are typically heat traced and insulated into heated space

Distribution plenum

Out to Healthy House System

To Household electrical

In - 3" or 4" Sewage pipe

Check Valve

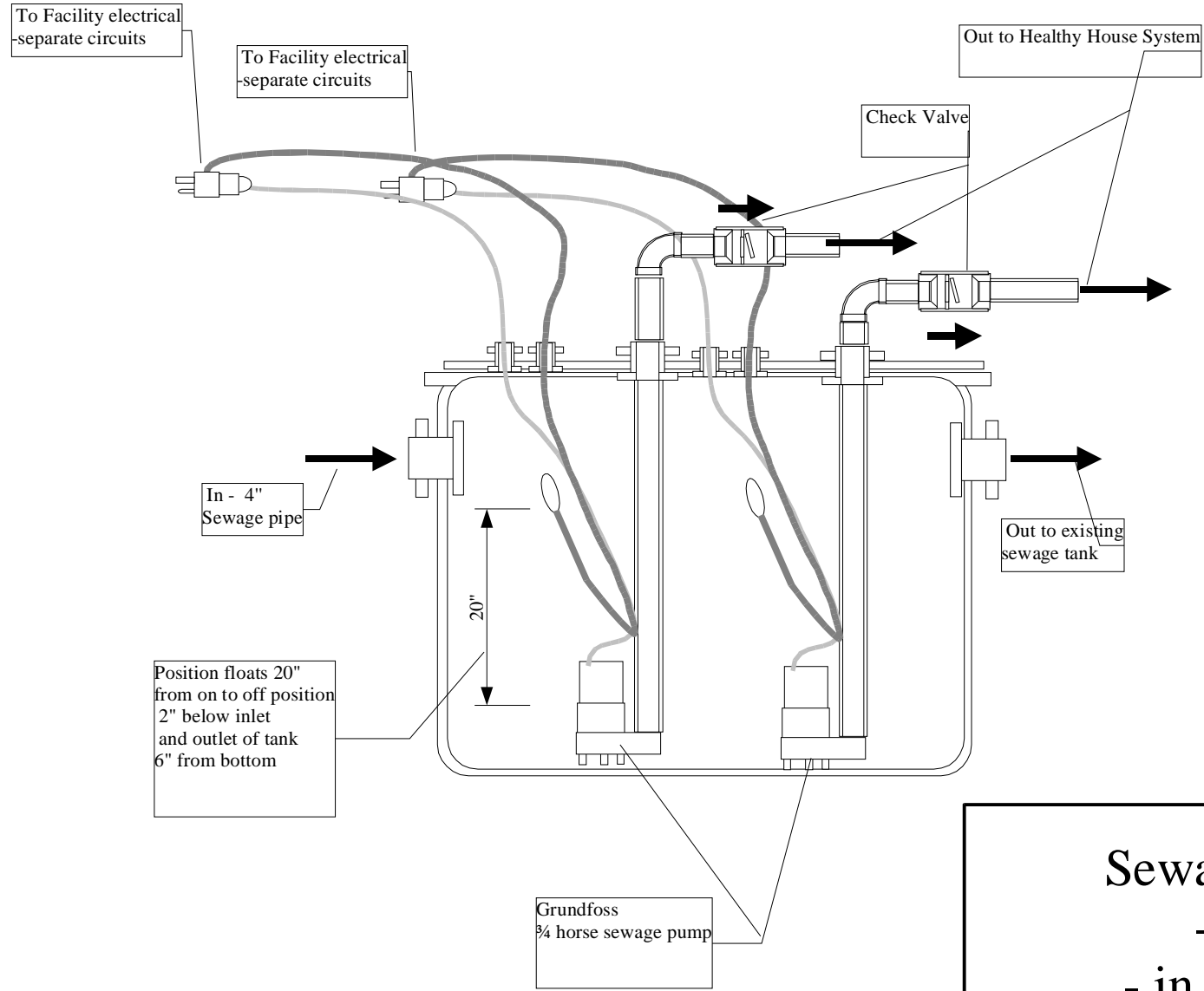
Out to existing sewage tank

Insulate tank

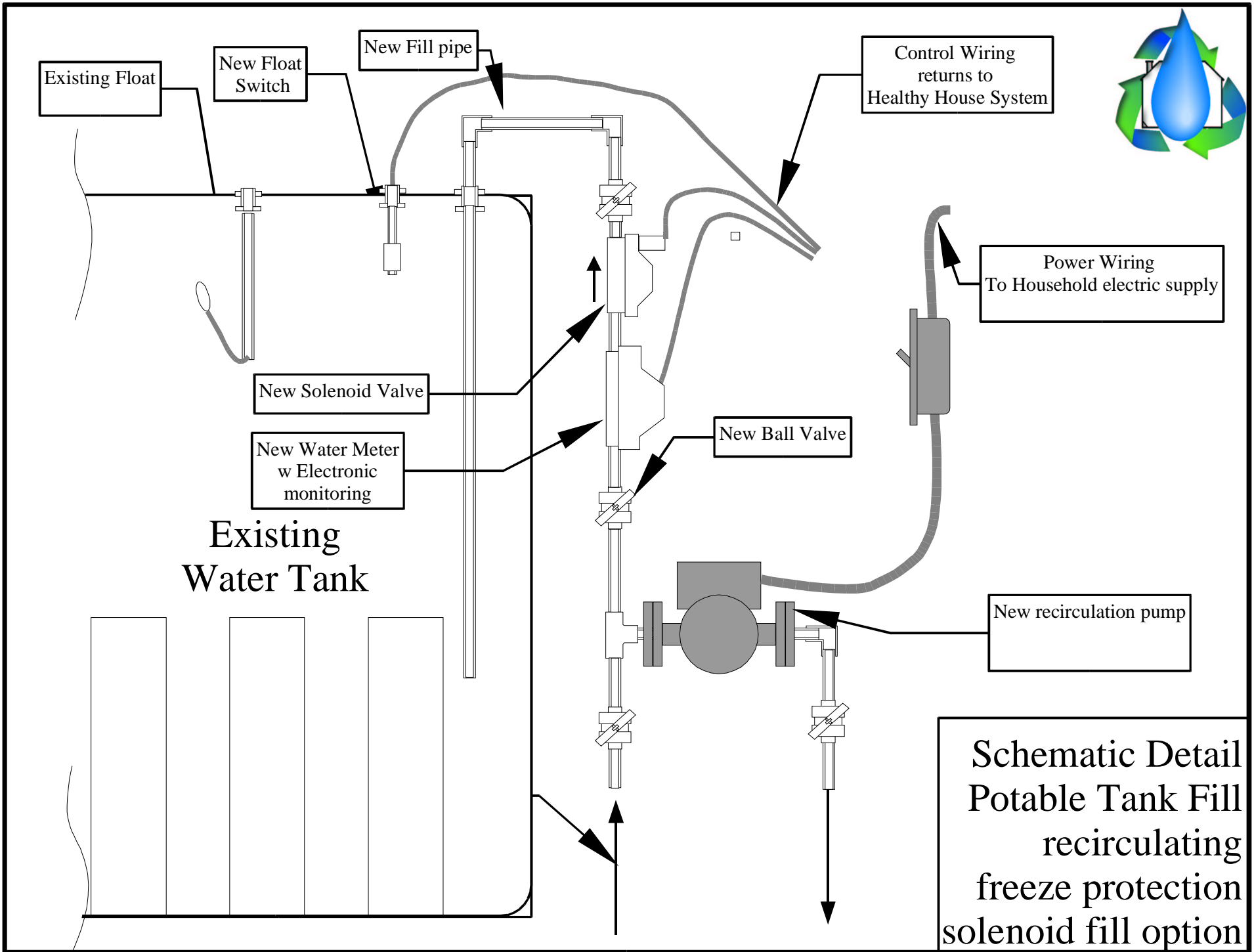
Grundfos 3/4" horse sewage pump

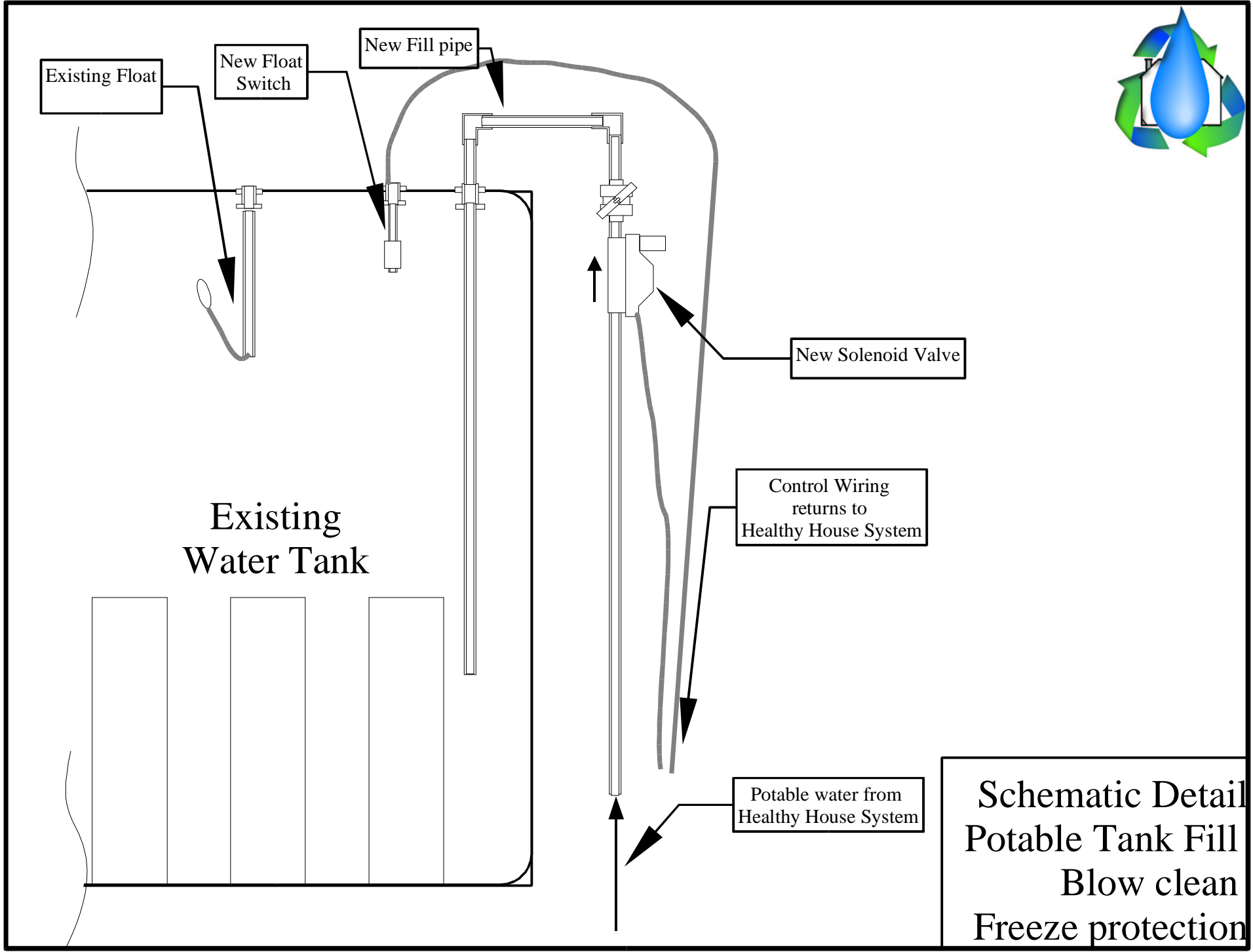
Position floats 20" from on to off position 2" below inlet and outlet of tank 6" from bottom

Sewage lift pump detail
- new sewage basin
- in unheated crawl space
- low volume application.

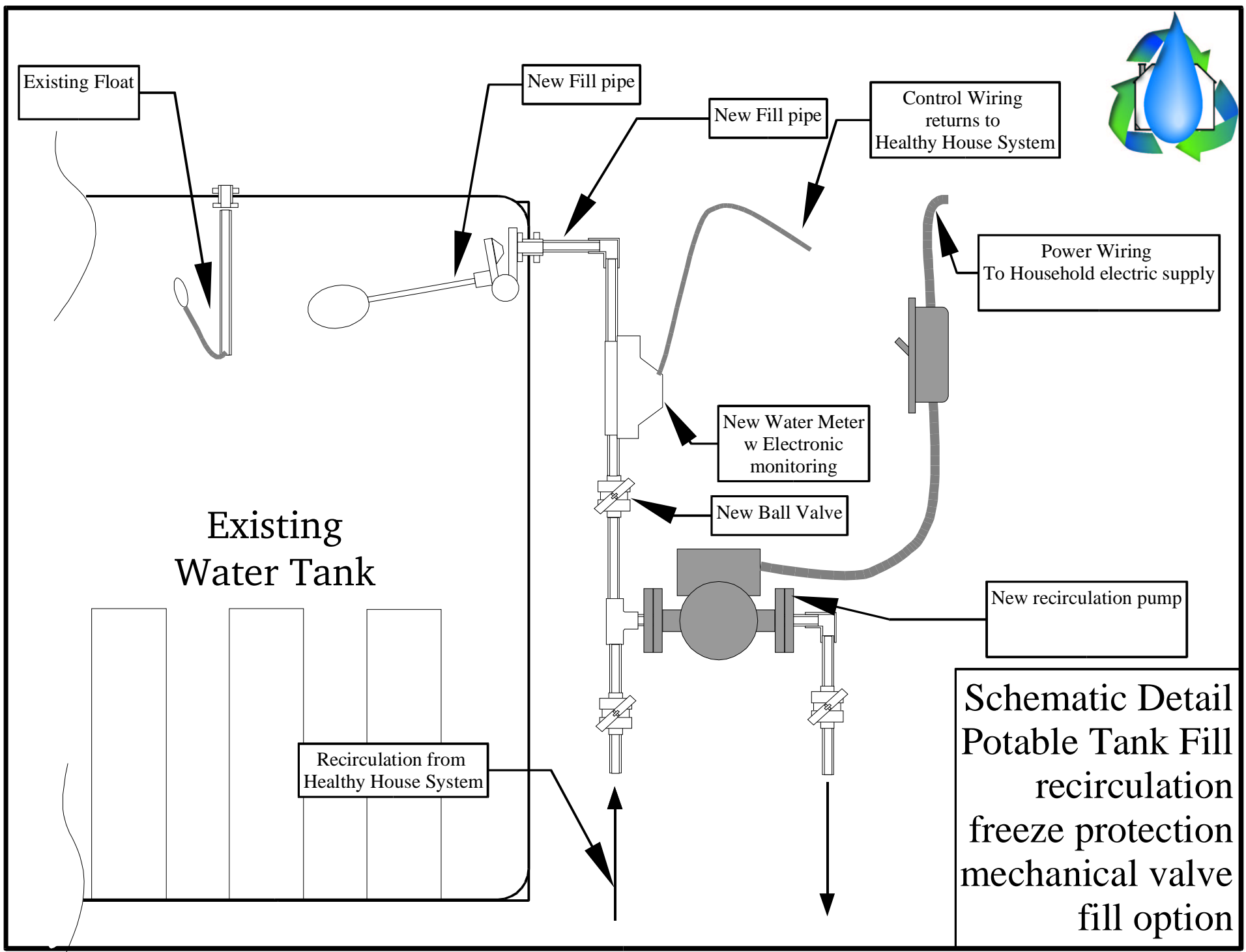


Sewage lift pump detail
- new sewage basin
- in heated crawl space
- large volume application.





Schematic Detail
Potable Tank Fill
Blow clean
Freeze protection



Schematic Detail
Potable Tank Fill
recirculation
freeze protection
mechanical valve
fill option