Future Vision for On-site Water Applications

Ben Kele, Tony Kodel, David M. Midmore, Kerry Walsh, Jim Kelly and Ted Gardner
How Much Smart Water does a Septic Tank Require?

- Economics & Regulations will determine the installation of smart water in the on-site wastewater industry.
- Septic tanks and gravity drain-fields are not a top priority.
- The groundwater/lake water/rivers & streams monitoring programs in areas with high densities of the septic tanks do use smart water technologies.
- Alternative On-site wastewater systems do use smart water technologies.
Murphey’s Law

- If something can go wrong it will go wrong
  - Murphey was an optimist
- What can go wrong with on-site wastewater systems?
  - Pumps
  - Floats/pump controllers
  - Blowers/Aerators
  - Sequencing Valves
  - Automated valves
  - Holding Tanks
  - Irrigation controllers
  - Water Quality Sensors
  - Smart Water systems....
No-Release Evapotranspiration Channels

- Plastic or concrete construction
- Import soil suitable for the long term application of effluent
  - Sandy Loam
  - Soils that are not impacted by sodicity
- Gravel layer can incorporate treatment media
  - Such as zeolite and granulated activated carbon
- Pipework and permanent water level designed to minimise the risk of root intrusion
  - Pipework has inspections to allow maintenance access
- Plants evapotranspire the water
  - Plant selection is very important
- Rainfall and stormwater extrusion techniques are used
The Rhizopod System
Smart Water Technologies
Smart Water Technologies

- 5000 gallon a day treatment and no-release dispersal system
- Maintenance visits once per month
- Smart Water technologies used to notify of pump failures, high water events, and sequencing valve issues
- Notifications via text message
- Logs events to determine frequency and identify ‘glitches’