

Port of Portland Headquarters

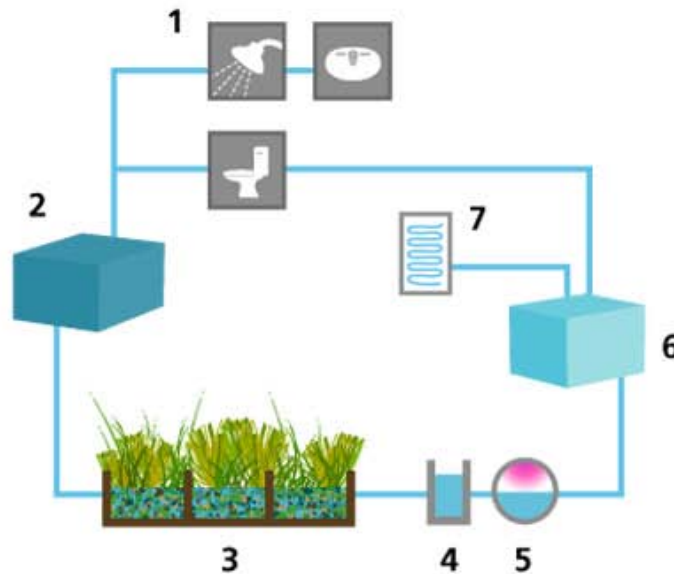
Portland, OR





THE LIVING MACHINE SYSTEM

1. Office building: toilet, sink & shower
2. Primary & equalization tanks
3. Tidal flow wetland
4. Polishing vertical flow wetland
5. UV sterilization disinfection
6. Clean effluent tank
7. HVAC office cooling tower



WATER EFFICIENCY

- A. 8th floor landscape deck with adaptive plants and micromist irrigation
- B. Low-flow fixtures
- C. Eco-roof with adaptive plants and micromist irrigation
- D. Living Machine System

ENERGY EFFICIENCY

- E. Reflective membrane roof
- F. High performance glazing
- G. Radiant heating & cooling ceiling
- H. 200 wells provide ground source heating & cooling with auxiliary cooling tower for peak periods (augmented by the Living Machine)



Next Gen Living Machine[®] for Water Reuse

- Energy Efficient
- Small Footprint
- Regulatory Acceptance
- LEED Points



6 Effluent Reuse for Toilets, Irrigation, Cooling Towers

1 Influent Blackwater or Greywater

2 Primary Tank

3 Recirculation Tank

4 Stage 1 Tidal Flow Wetlands

5 Stage 2 Vertical Flow Wetlands



Worrell Water
TECHNOLOGIES



