

Connecting the Maassilo - Impressions

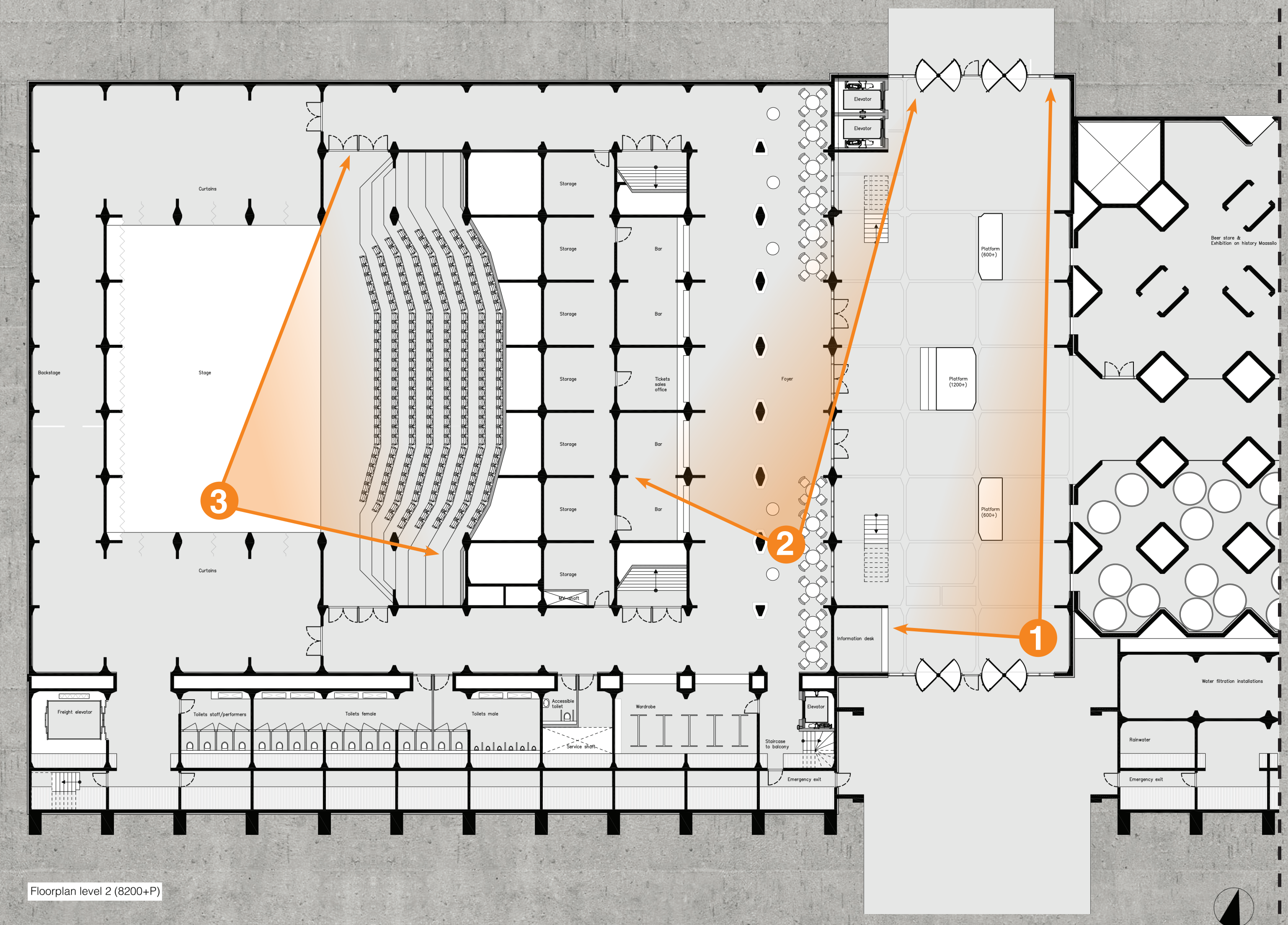
2 Foyer



1 Central hall

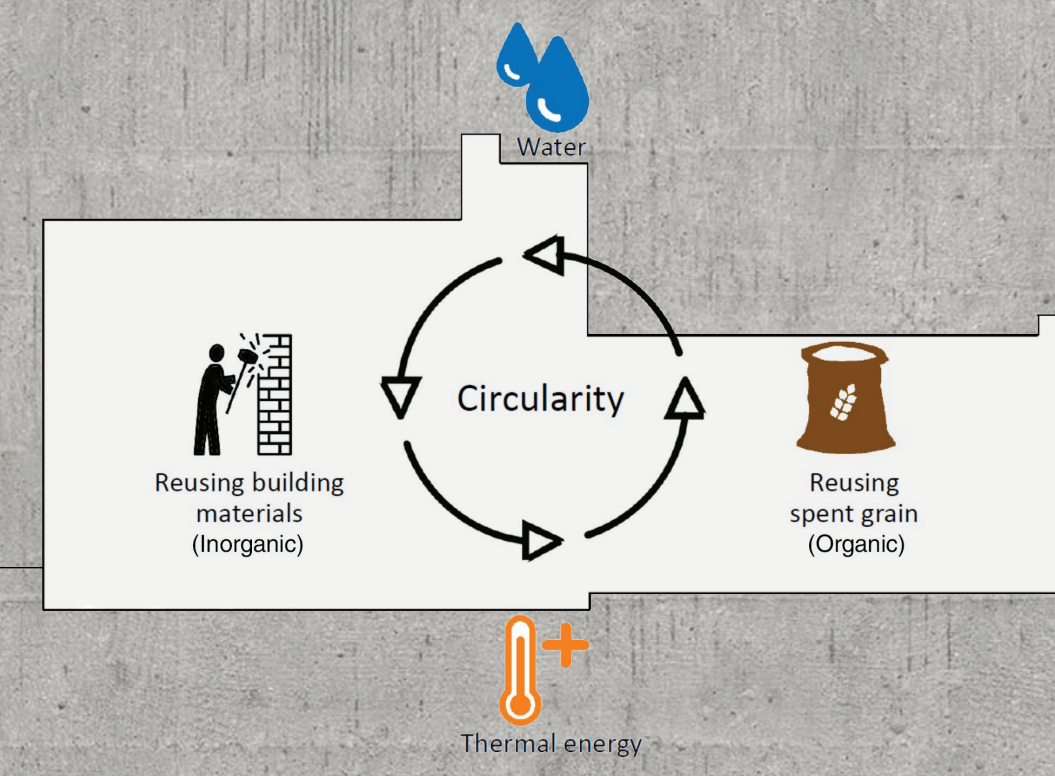


3 Theatre hall

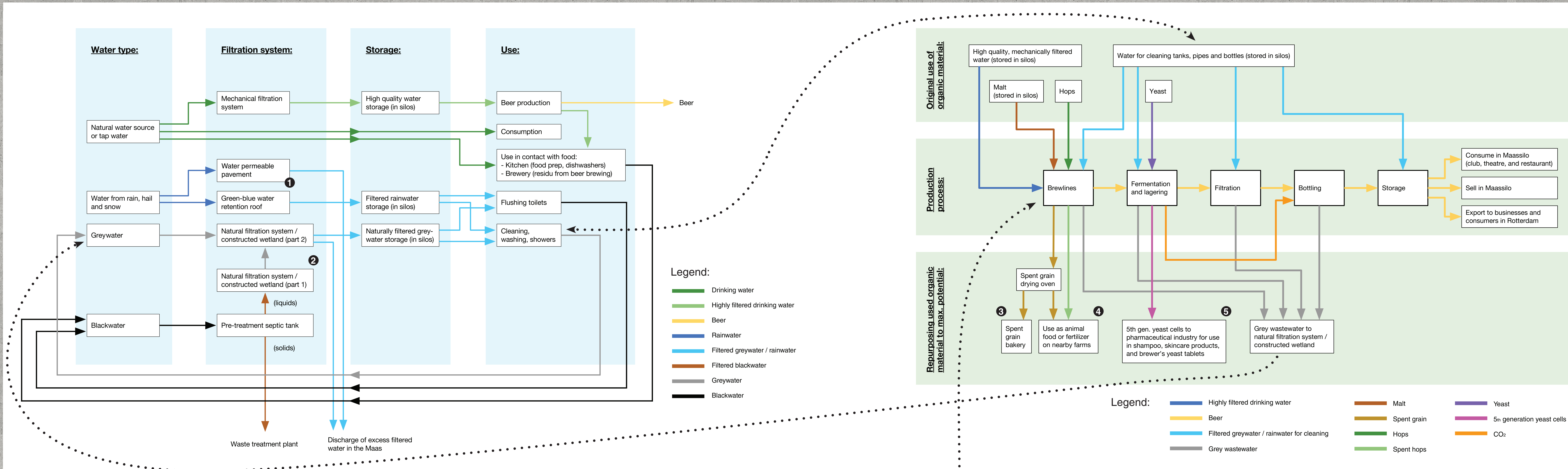
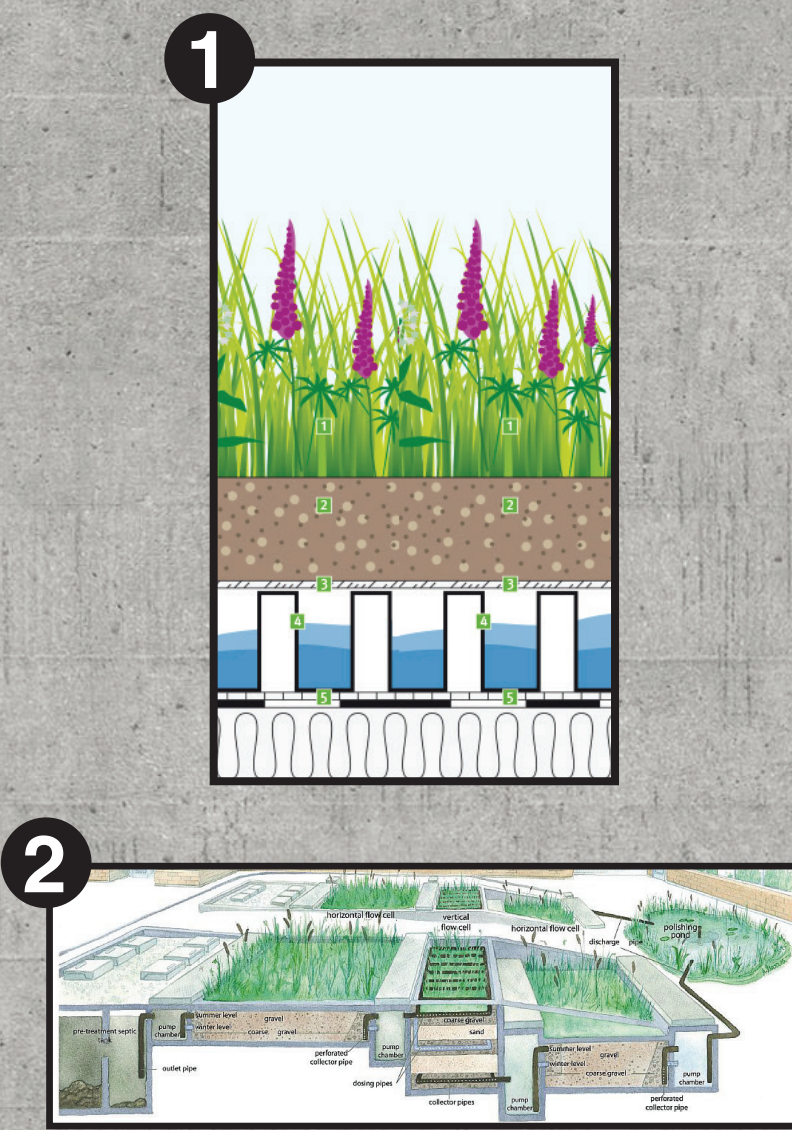


Floorplan level 2 (8200+P)

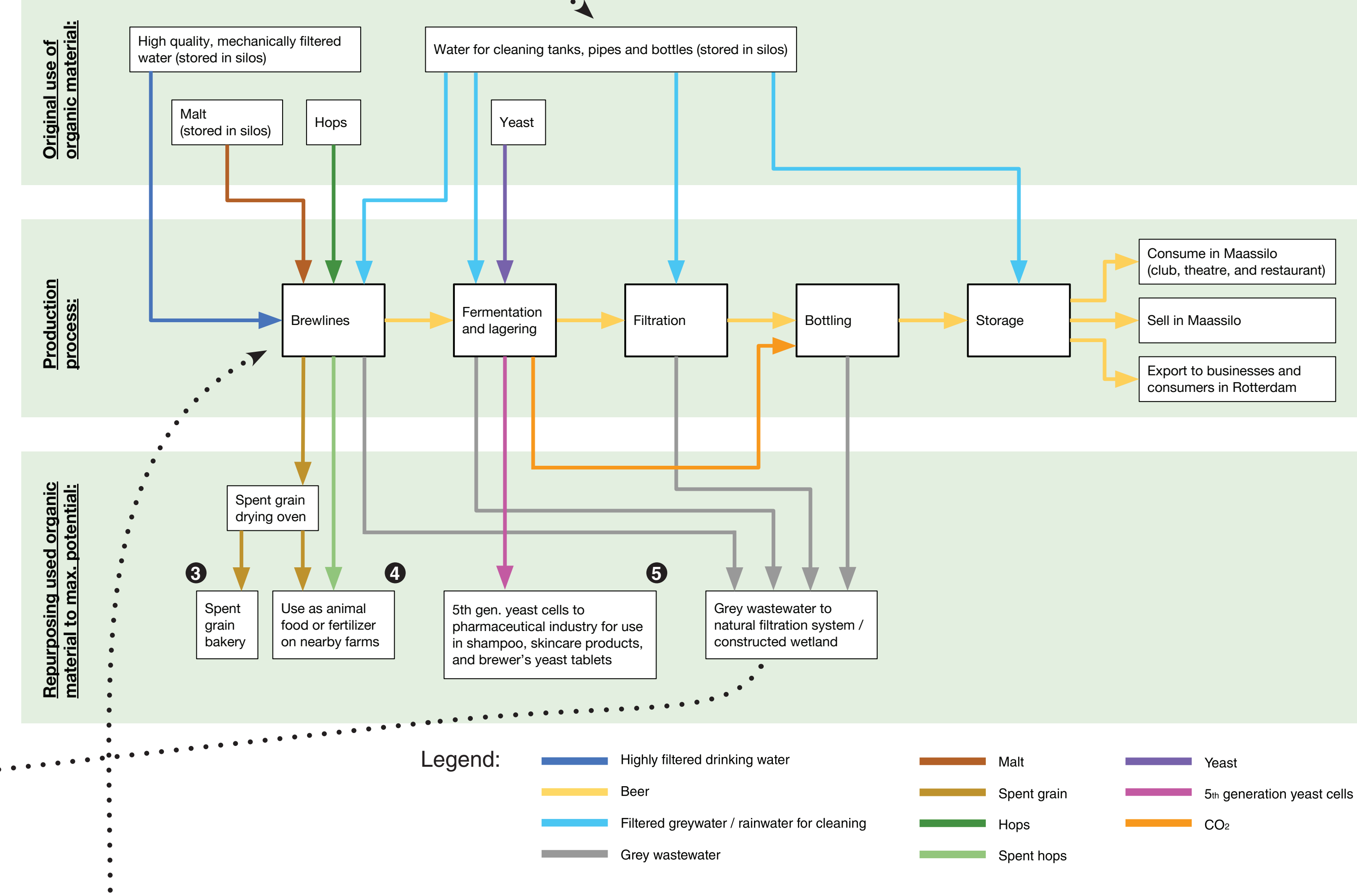
Connecting the Maassilo - Sustainability Circular systems



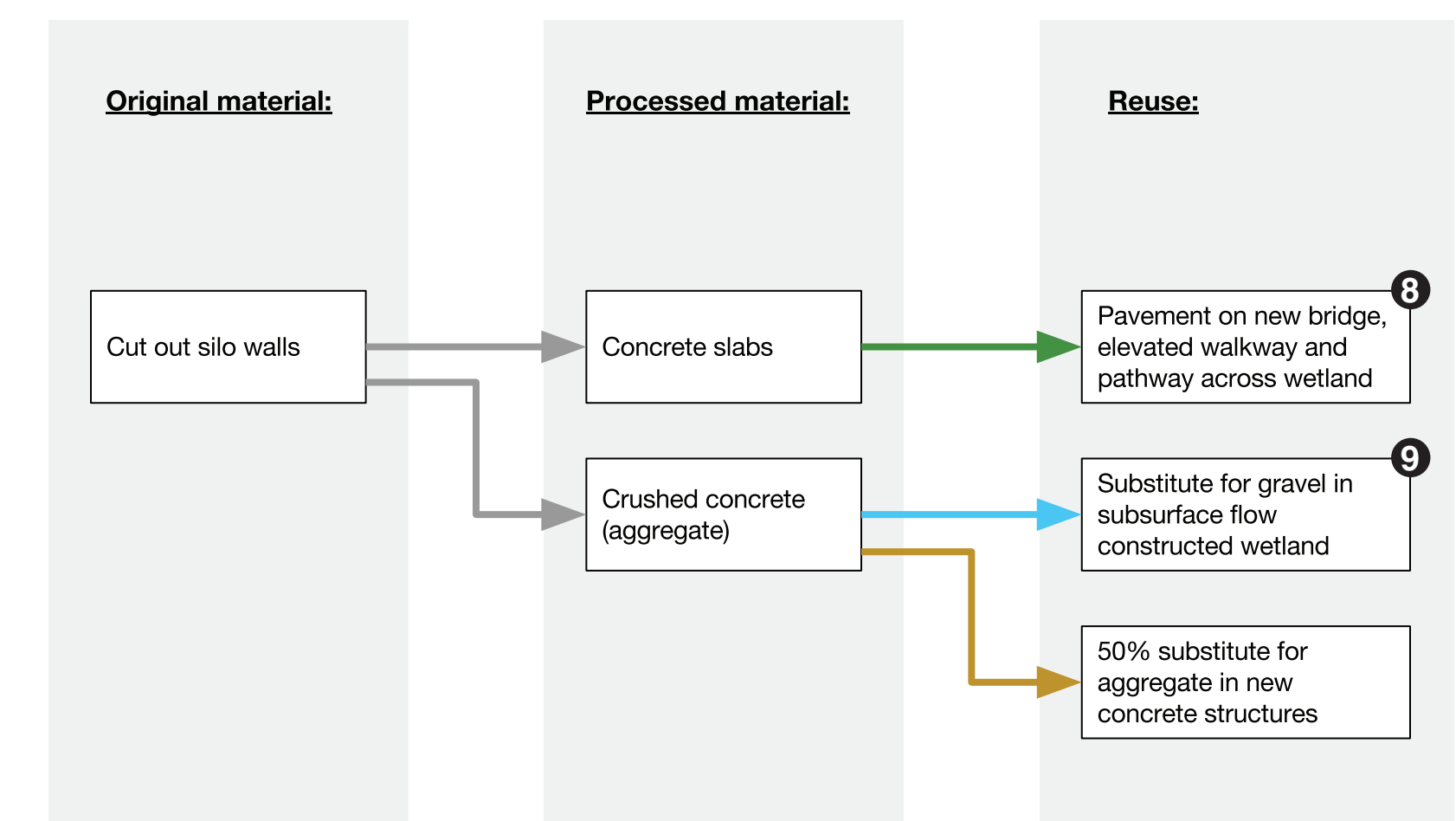
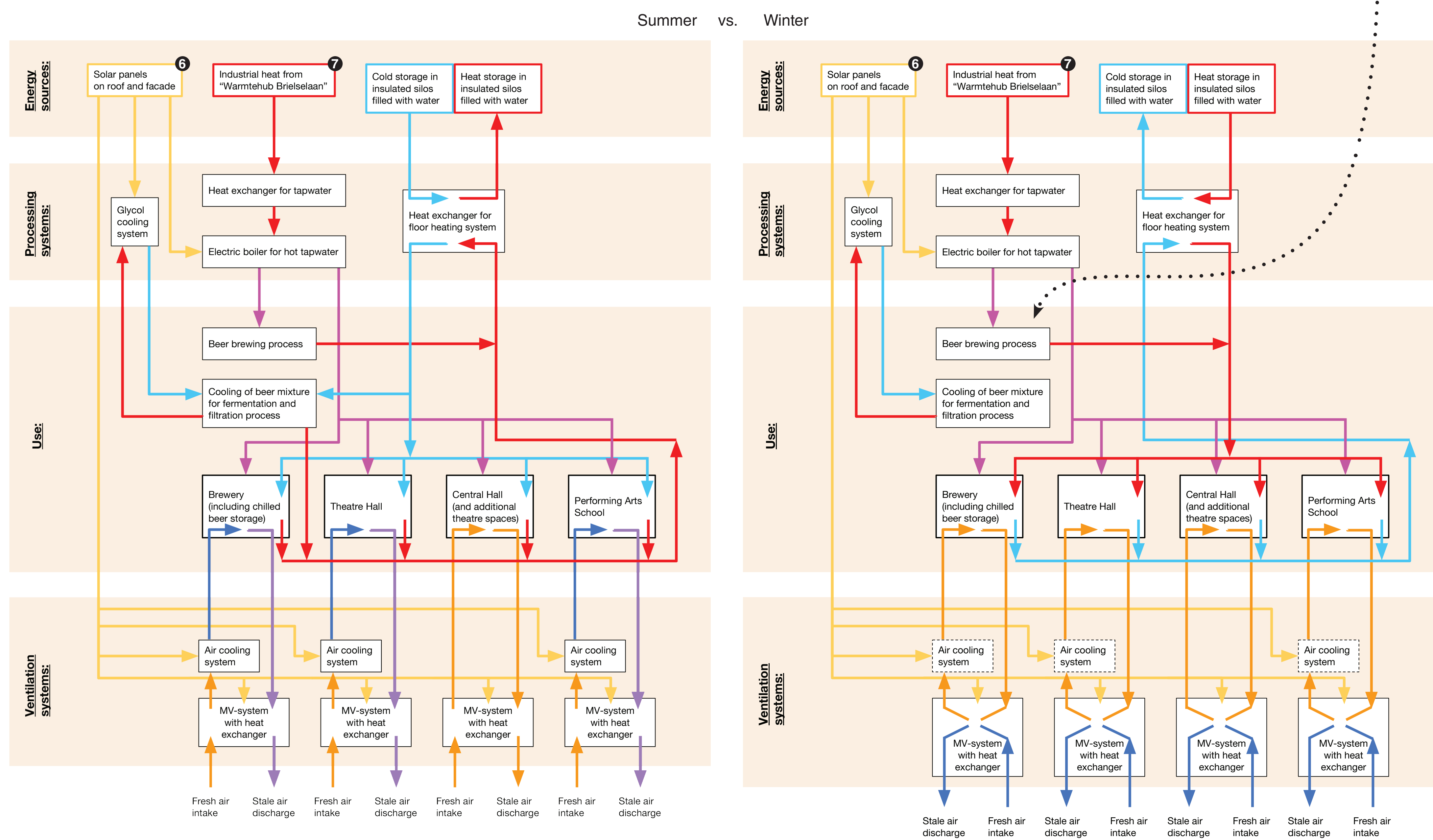
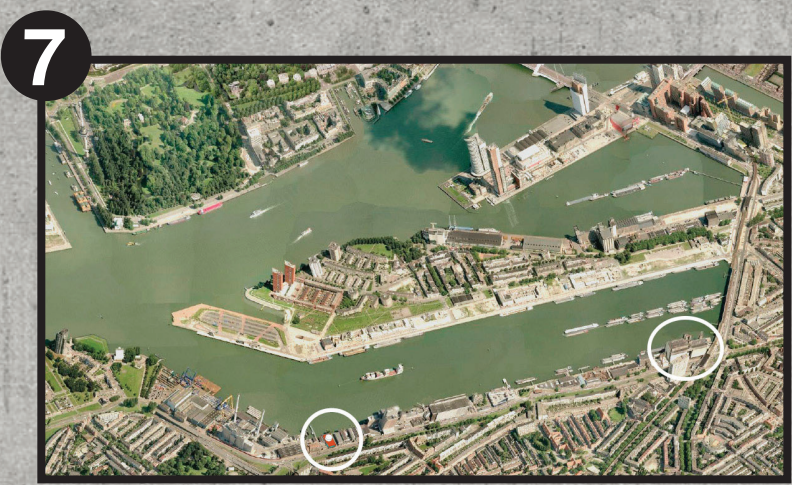
Water system :



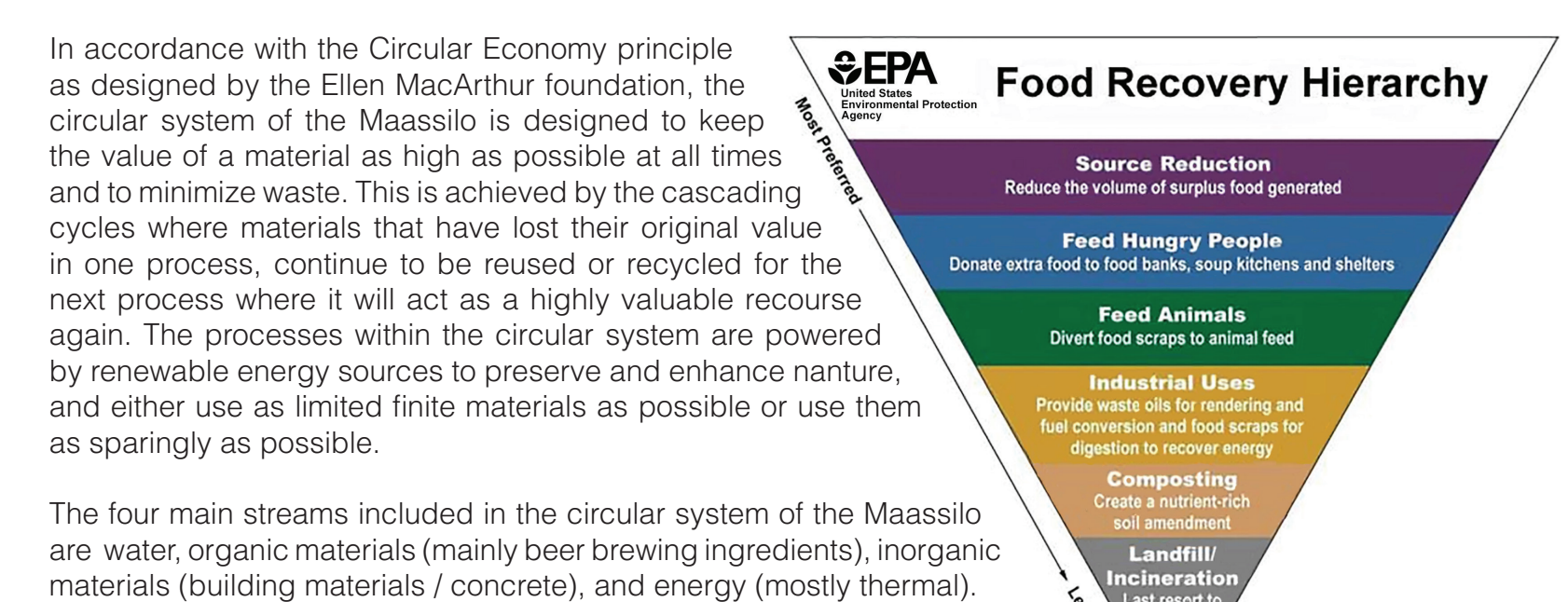
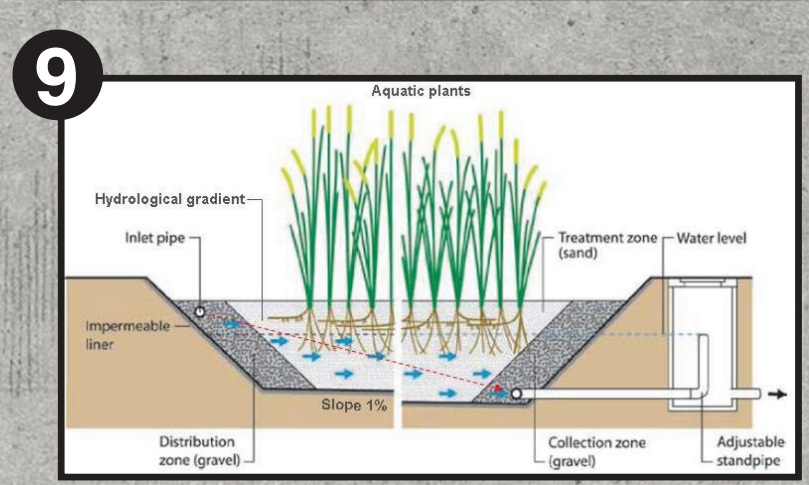
Organic waste system:



(Thermal) Energy systems:



Inorganic waste system:



In accordance with the Circular Economy principle as designed by the Ellen MacArthur foundation, the circular system of the Maassilo is designed to keep the value of a material as high as possible at all times and to minimize waste. This is achieved by the cascading cycles where materials that have lost their original value in one process, continue to be reused or recycled for the next process where it will act as a highly valuable resource again. The processes within the circular system are powered by renewable energy sources to preserve and enhance nature, and either use as limited finite materials as possible or use them as sparingly as possible.

The four main streams included in the circular system of the Maassilo are water, organic materials (mainly beer brewing ingredients), inorganic materials (building materials / concrete), and energy (mostly thermal).

Inorganic (building) materials is the only category where the material is reused during the construction period of the new design. In the other three categories, the circular systems are working during the use of the building and as long as the building remains operative.

The circular system in the Maassilo will generate as much energy and useful products as possible (rainwater, electricity, heat-cold storage in water silos), reuse as much as possible (heat-exchangers, spent-grain bakery) and process waste as much as possible (waterfilters) all on the site of the Maassilo. With one exception: if a material could be reused on site but at low efficiency or if it could be reused elsewhere in Rotterdam at a higher value, then I chose the second option. This in accordance to the EPA's Recovery Hierarchy for maximum value reuse of organic materials. This doesn't make the Maassilo completely self-sufficient and autonomous, but it connects with other parties for a better result, which complies with the concept of 'sharing' in a circular economy, is preferable for the environment, and fits with my design concept of 'Connecting the Maassilo'.