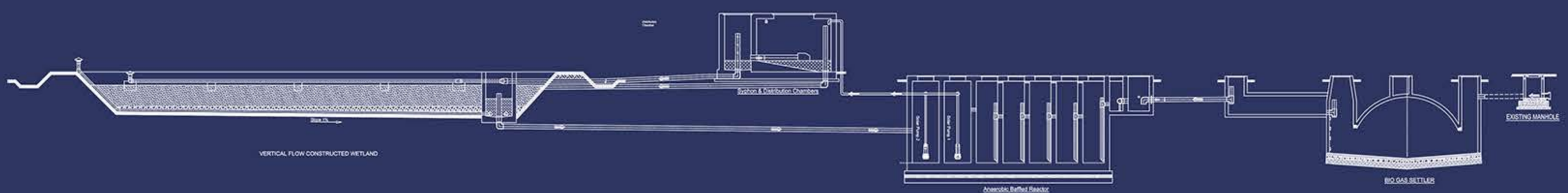
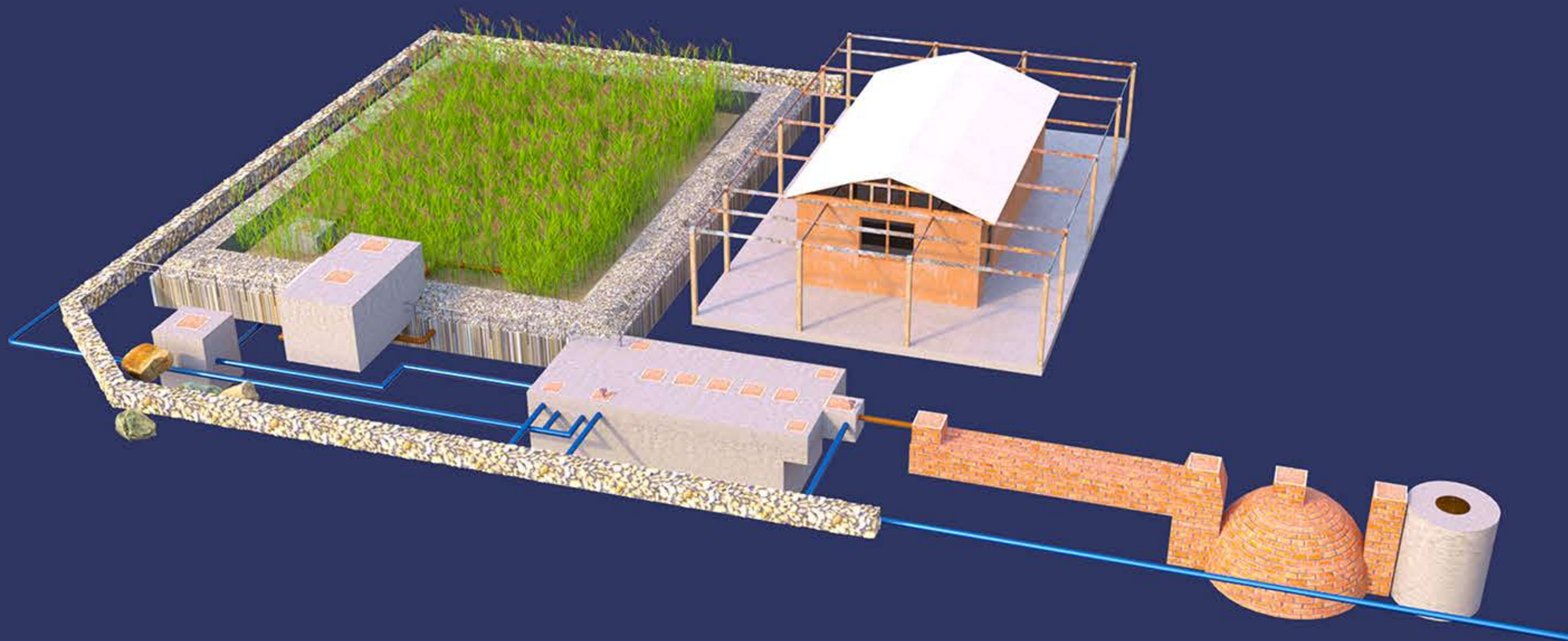


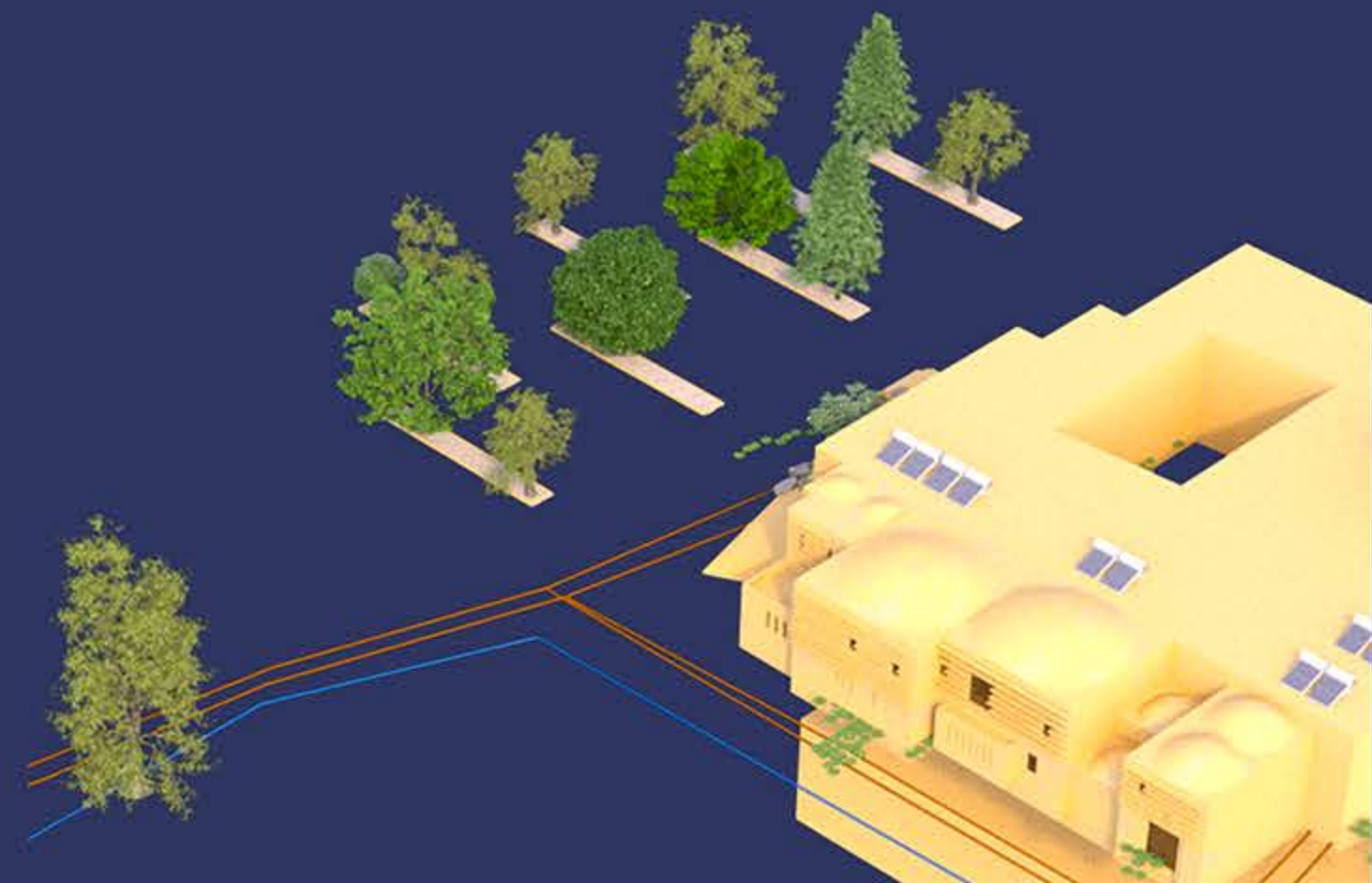
DECENTRALIZED WASTEWATER TREATMENT FOR FEYNAN ECOLODGE

On behalf of the Federal Ministry for Economic Cooperation and Development (BMZ), the Decentralized Wastewater Management for Adaptation to Climate Change in Jordan – ACC project led by GIZ is implementing BORDA's Decentralized Wastewater Treatment Solutions (DEWATS) at the Feynan Ecolodge. This treatment solution is low-cost, low-maintenance, easy-to-operate and close-to-nature. The DEWATS consist of a primary treatment, either with a Settler or a Biogas Settler; then a secondary treatment via an Anaerobic Baffled Reactor (ABR) and a tertiary treatment using a type of Constructed Wetland (CW).

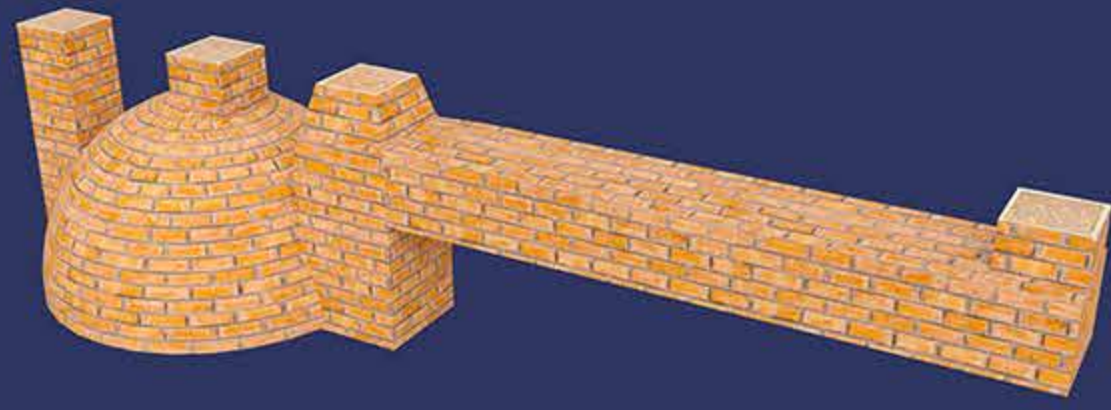


Reuse Objective

The preferred reuse purpose will generate a micro-ecosystem around the main building lodge with the plantation of native trees. The trees' crowns will create shady places where the local staff working at the lodge, the local community as well as the tourists can gather.

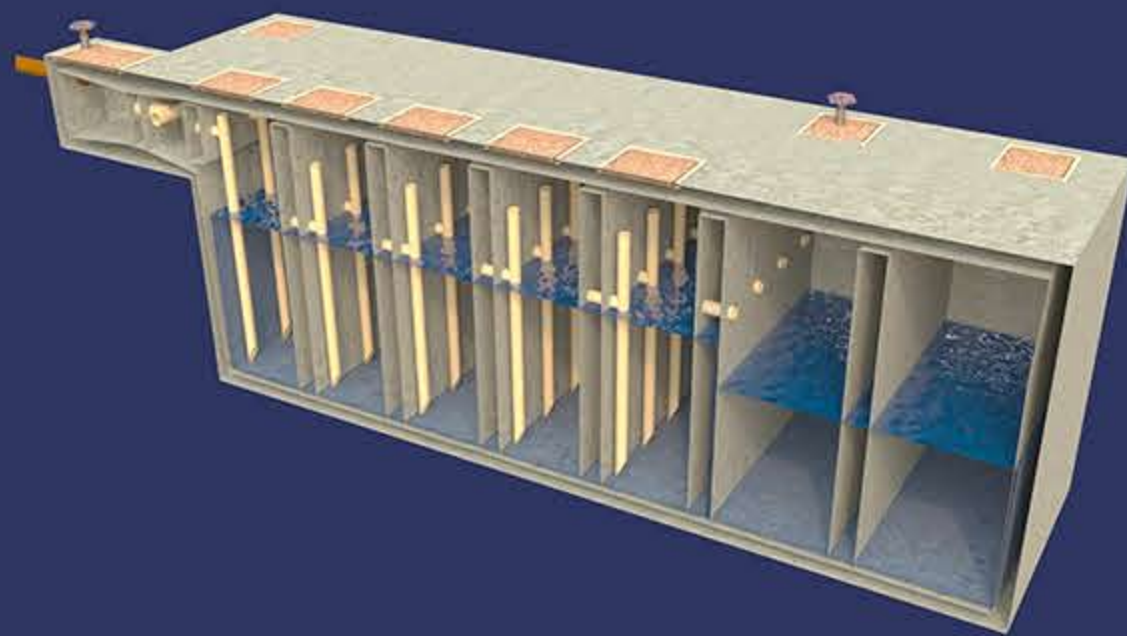
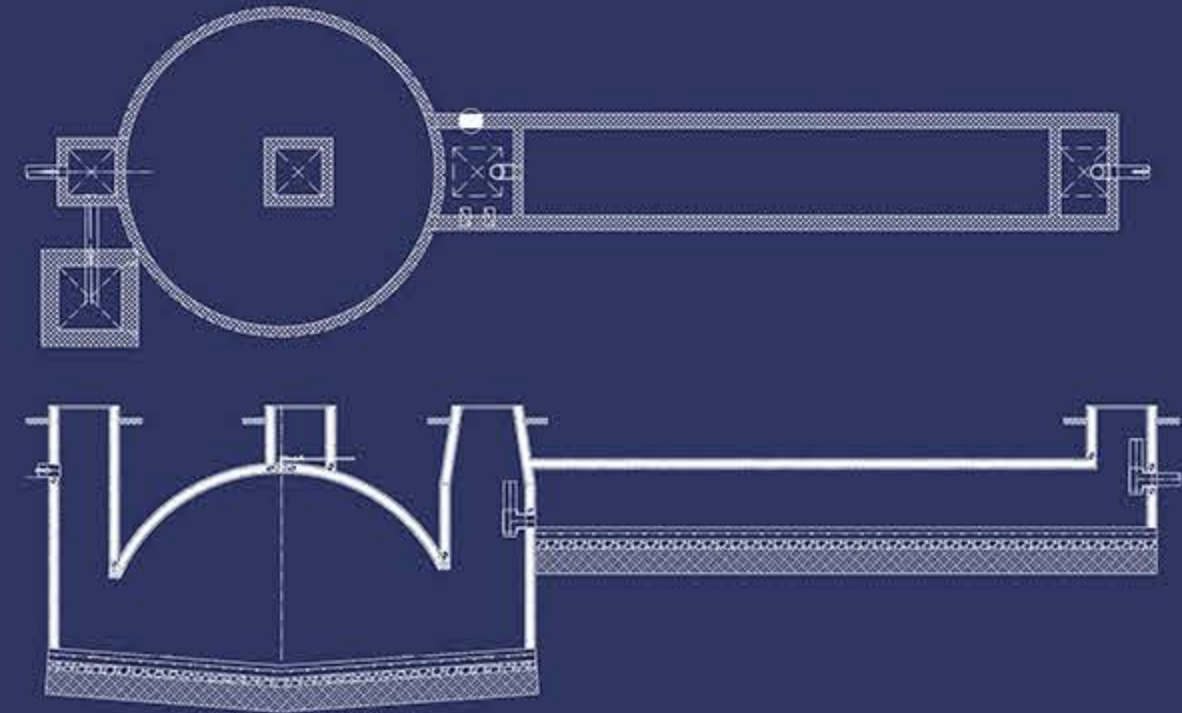


TECHNOLOGIES IMPLEMENTED



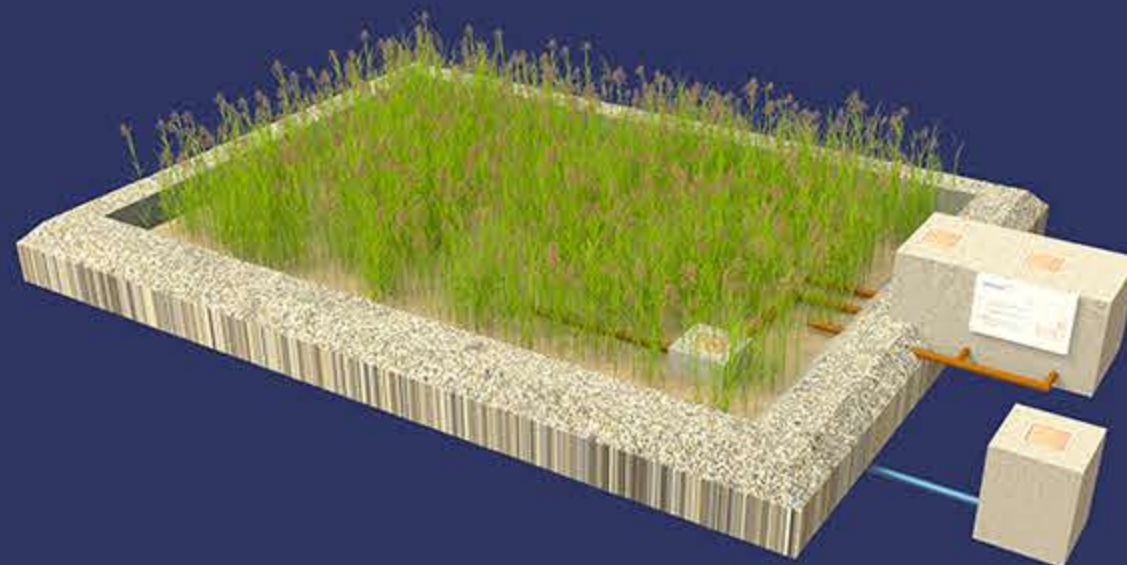
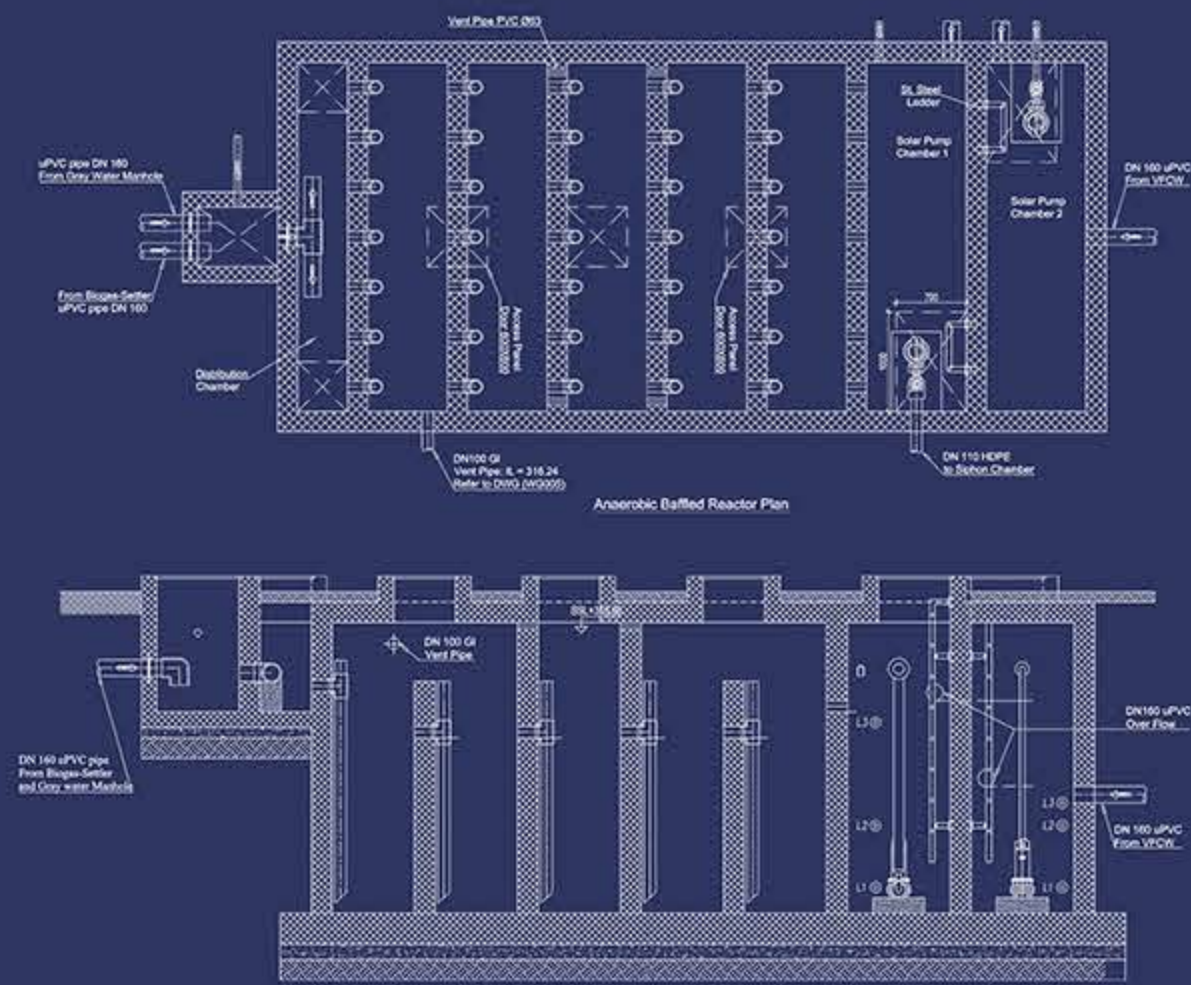
Biogas Digester

The biogas settler implemented is the primary treatment step to process the black water and the organic solid waste generated at the lodge. The anaerobic digestion degrades the mass, thereby creating a gas mixture made primarily of methane and carbon dioxide. The produced gas is used for cooking in the lodge's kitchen.



Anaerobic Baffle Reactors (ABR)

Anaerobic Baffle Reactors (ABR), also called Baffled Septic Tanks, are a combination of conventional septic tanks, fluidized bed reactors and an Up-flow Anaerobic Sludge Blanket (UASB) systems. Biological and natural chemical processes degrade organic matter. An ABR is an improved Septic Tank with a series of baffles under which the wastewater is forced to flow under and over the baffles, from the inlet to the outlet of the system.



Vertical-Flow Constructed Wetland (VFCW)

The VFCW treatment eco-technology referred as 'constructed wetlands' is a worldwide approved system to treat and recycle water, waste water and sludge in a sustainable way. In the past few years, VFCW treatment systems have been implemented in Middle East and have demonstrated the technology efficiency. Indeed, compared to Europe, the local climate (i.e. high temperature, no winter break, low precipitation, duration and sunlight intensity sunlight) enhances the biological processes.

