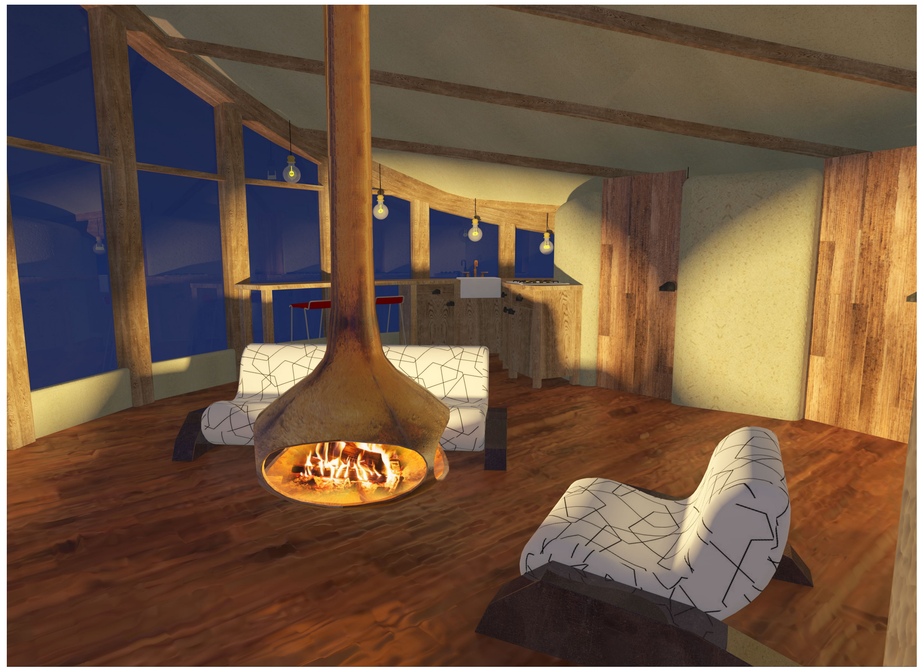
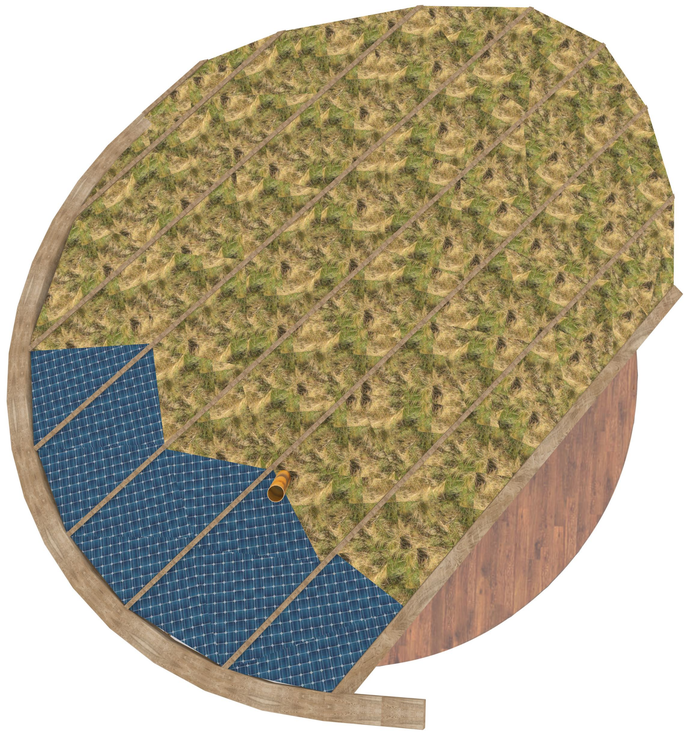
A PINCH OF EARTH



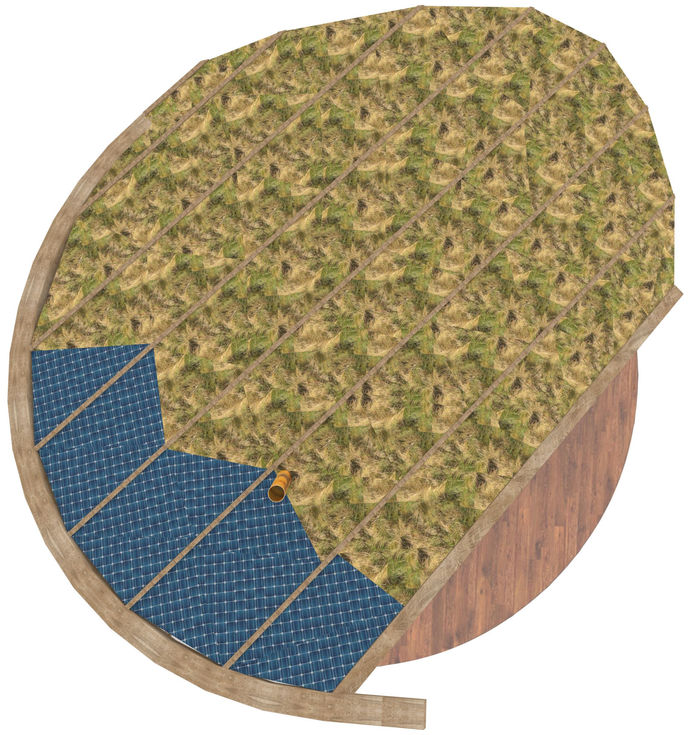
Compost toilet

Modern toilets are major culprits of water waste, so the toilet shown here would be a compost version, using little or no water. The compost collected would be stored and turned into fertiliser to be used on the surrounding soil. The shower would be supplied with water harvested using only passive methods and waste water would be treated onsite meaning it could be recycled. The overall aim being to achieve a total of net 0 water usage and no further adverse impact to local water quality.



Solar roof

Around a quarter of the roof will be covered with electricity generating solar panels made of Polycrystalline Silicon PV. The panels will sit on the highest part of the roof ensuring minimum damage from rain water, run off and debris. The electricity will be used to power the magnetic rotation system, internal lighting, data hub, kitchen and any other small appliances. Any supplementary power generated will be stored in batteries for lower light days. By using Polycrystalline Silicon PV, the panels can be coloured to blend in with the surroundings and the remainder of the roof, causing as little disruption to the visual environment as possible.



Living roof

Around three quarters of the roof constitute a “living” surface. By planting the roof with flora from the surrounding area, the building creates a continuation or replacement of the land it has covered and creates habitat for insects and birds. Alternatively, the roof could be planted with edibles to be consumed by visiting groups or researchers staying at the building. As well as improving air quality, living roofs have the added benefit of noise insulation, minimising any sound pollution caused by the inhabitants.

Water will be collected from precipitation and filtered through the plant composite roof panels. This clean water is then stored in a tank. Further collection can be taken from the atmosphere through condensation, however this will rely on on temperature differences between atmosphere and surface.