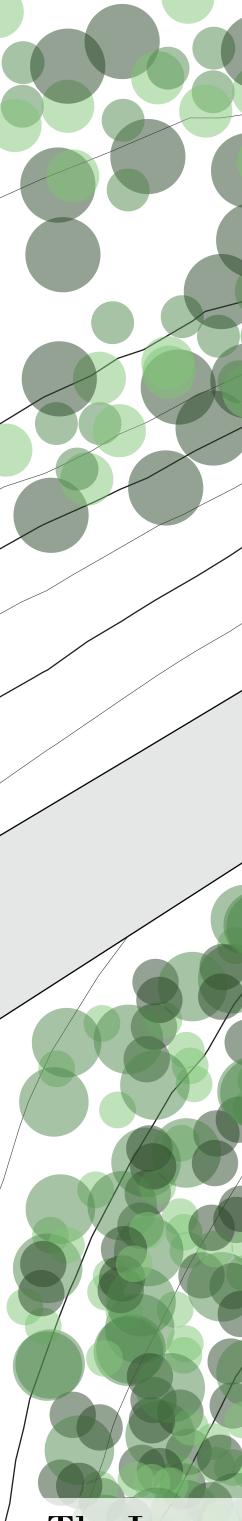


Ely Natural Wildife Research Center / Going Beyond Sustainability

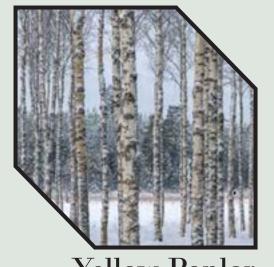


The International Wolf Center's wol enclosure goes up to the property line

ed within atural clearing so no trees were removed



American Basswood



Yellow Poplar



White Cedar



White Spruce



Norway Pine



Black Elm



Cattails



Lily Pads



Poison Ivy



Big Bluestem





Wild Honeysuckle Common Elderberry



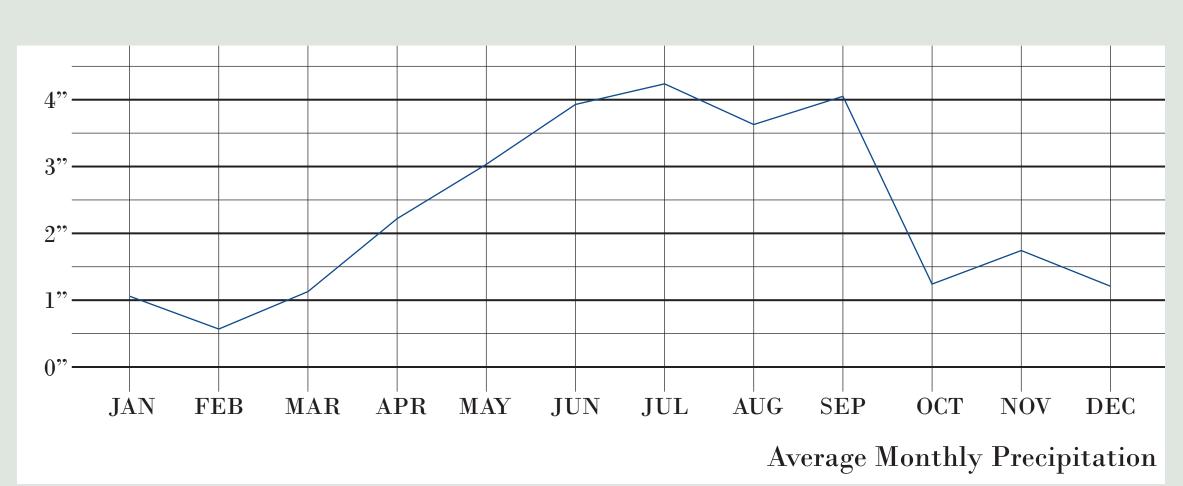
Common Hops

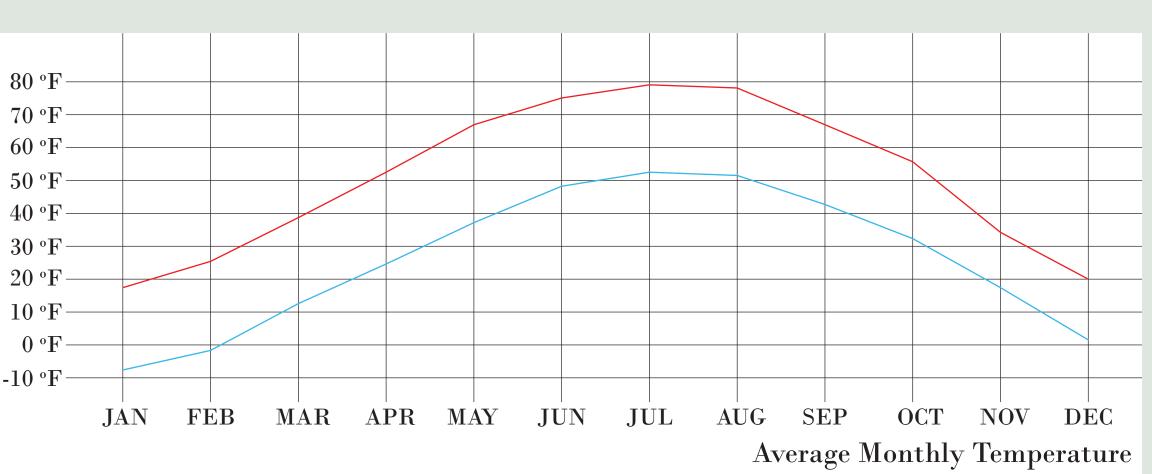


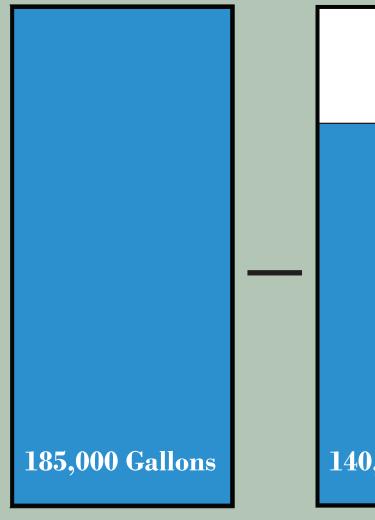
Lady Fern

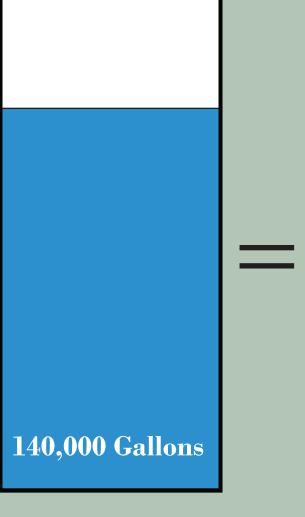
<u>Native Plants</u>

<u>Climate Data</u>







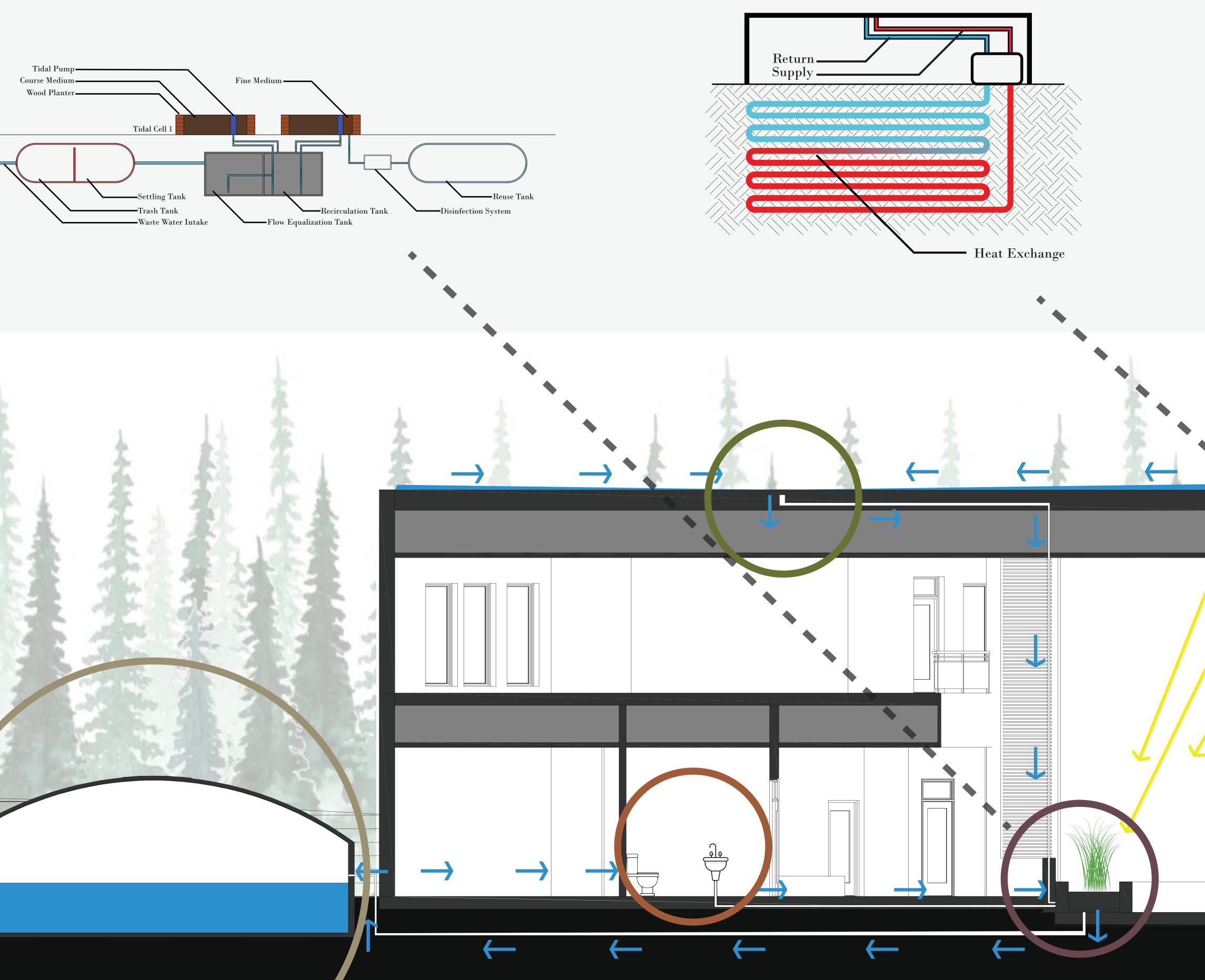


Water Collected

Water Consumed

Net-Positive Water

45,000 Gallor





<u>Collection</u>

The green roof's gutter system collects rain water and is connected to a pipe that runs into the living machine.

Treatment

The rain water is treated through the living machine which utilizes the cleansing properties of coastal wetlands.

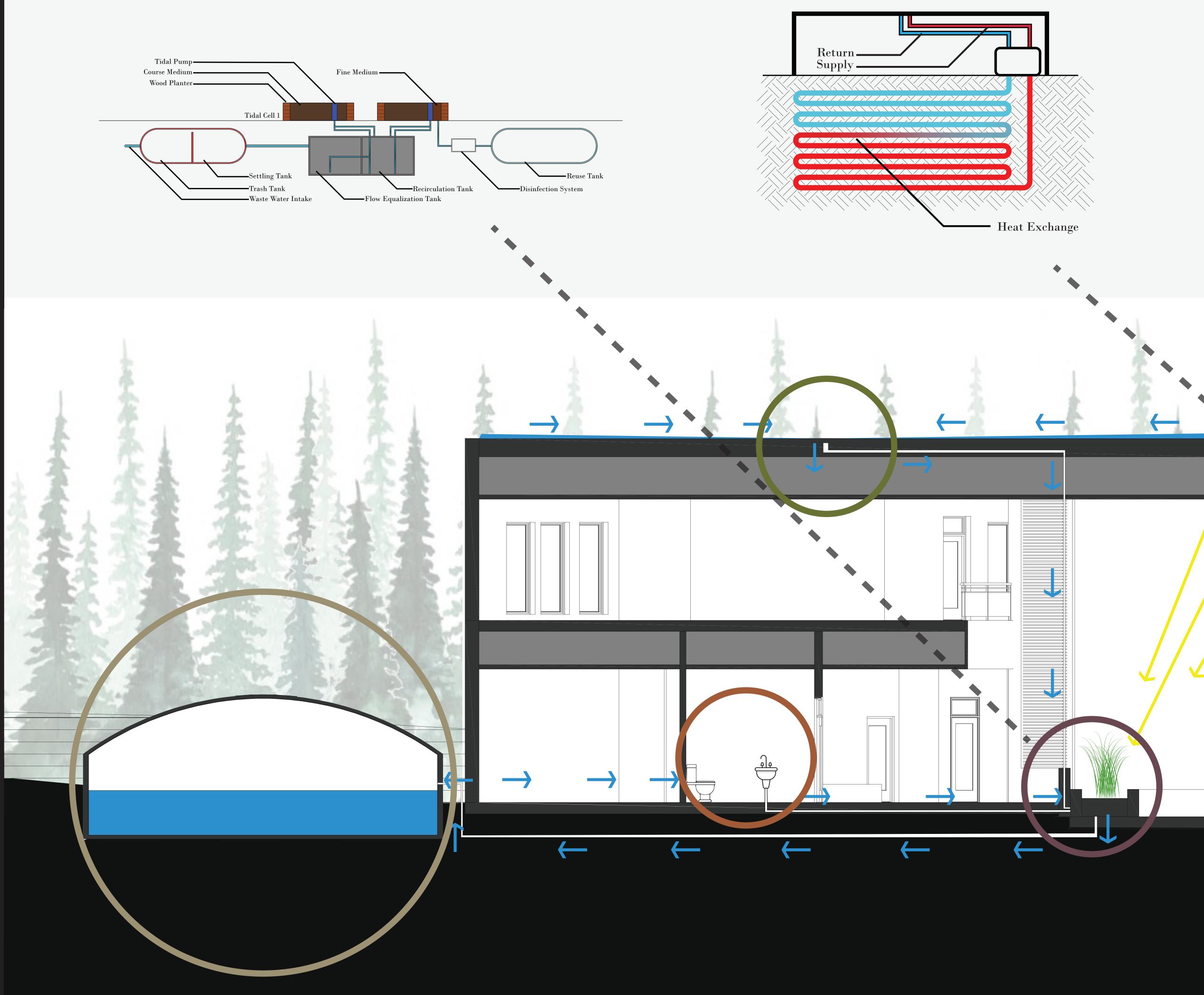
<u>Storage</u>

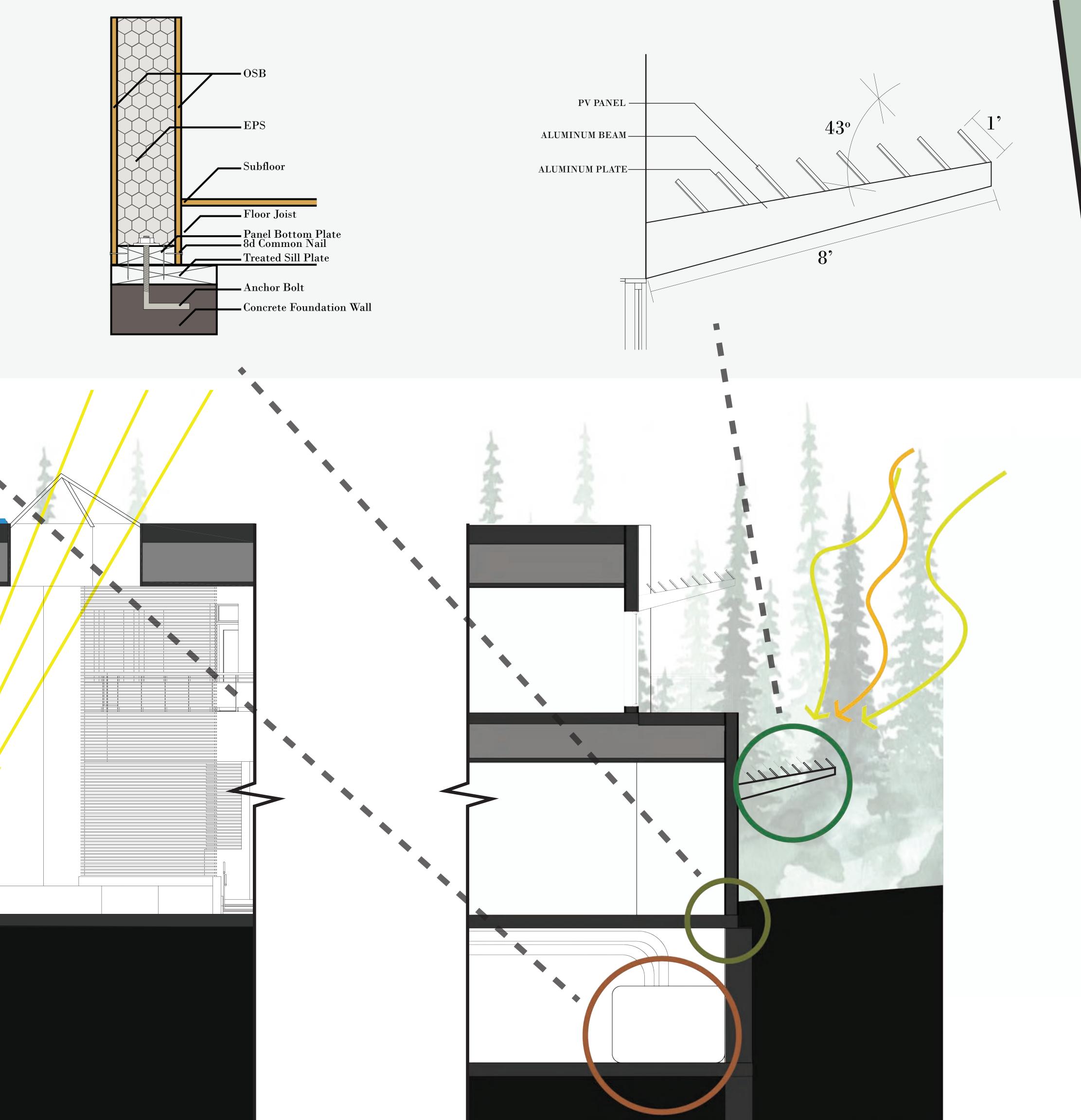
The treated water is then pumped to a cistern outside for further use.

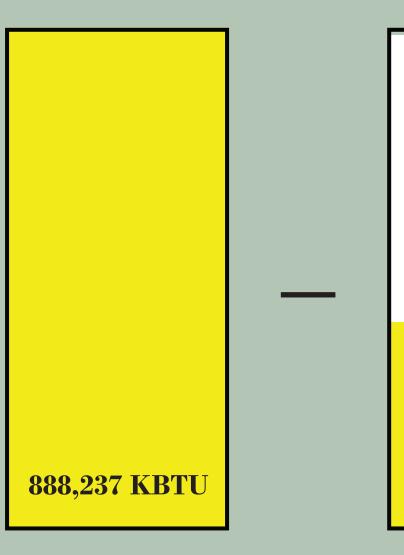


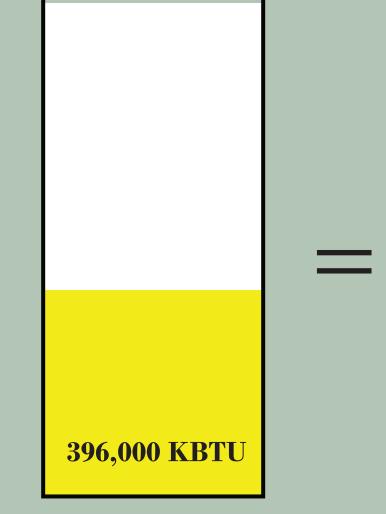
<u>Reuse</u>

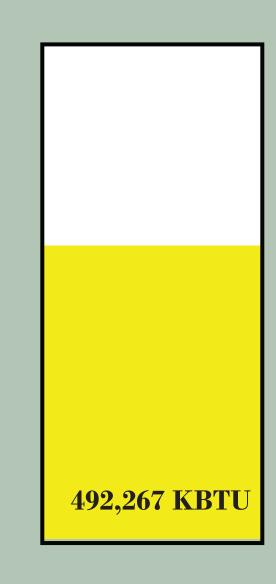
This water is then used for things such as running sinks and flushing toilets. Blackwater is sent to the constructed wetland to be treated and put back into the groundwater while the greywater is pumped back into the living machine to be treated again.











Energy Produced

Energy Consumed

Net-Positive Energy



PV Shading Device

The adustable PV array doubles as both the buildings power source as well as a shading device used throughout the site.



Structurally Insulated Panels The SIPs are used to create a sealed

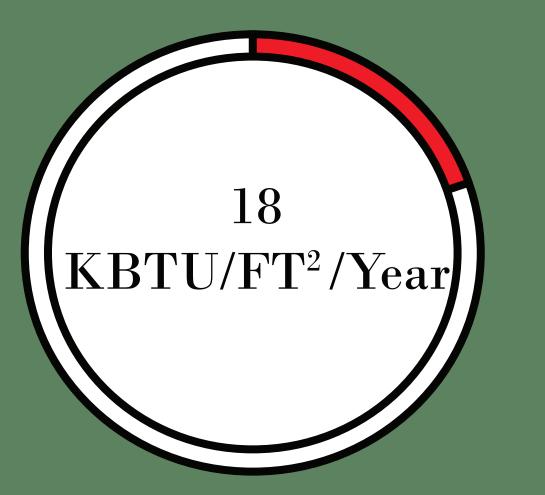
envelop with minimal thermal bridging which is key to thermal efficiency.



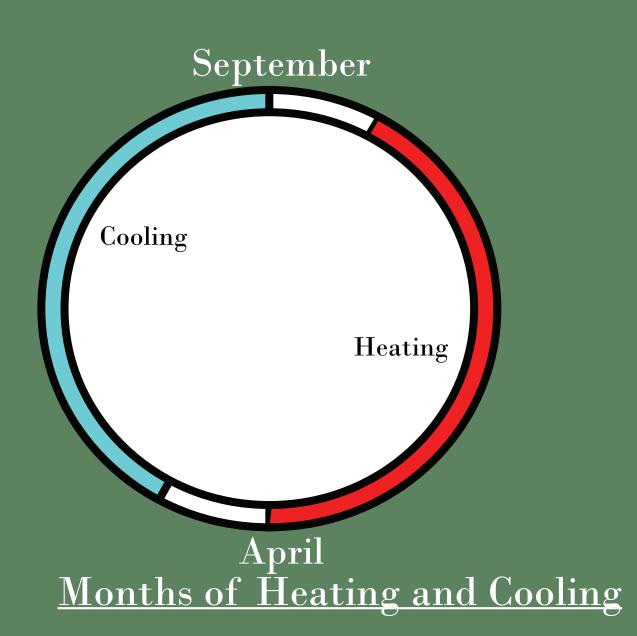
Ground Sourced Heat Pump

Acting similar to a standard heat pump, this system uses the consistent heat of the ground to heat or cool the building.

Scattered throughout the site are displays describing the sustainable techniques that the building utlizes to become more ecologically friendly. The building serves not only the purpose of being a high performance building, but it also becomes a teaching tool for the people passing by in order to show the obtainability of these strategies.



<u>Energy Use vs. Typical Building</u>



<u>Total Floor Area: 22,000 Sq FT²</u>



Level 1 Floor Plan

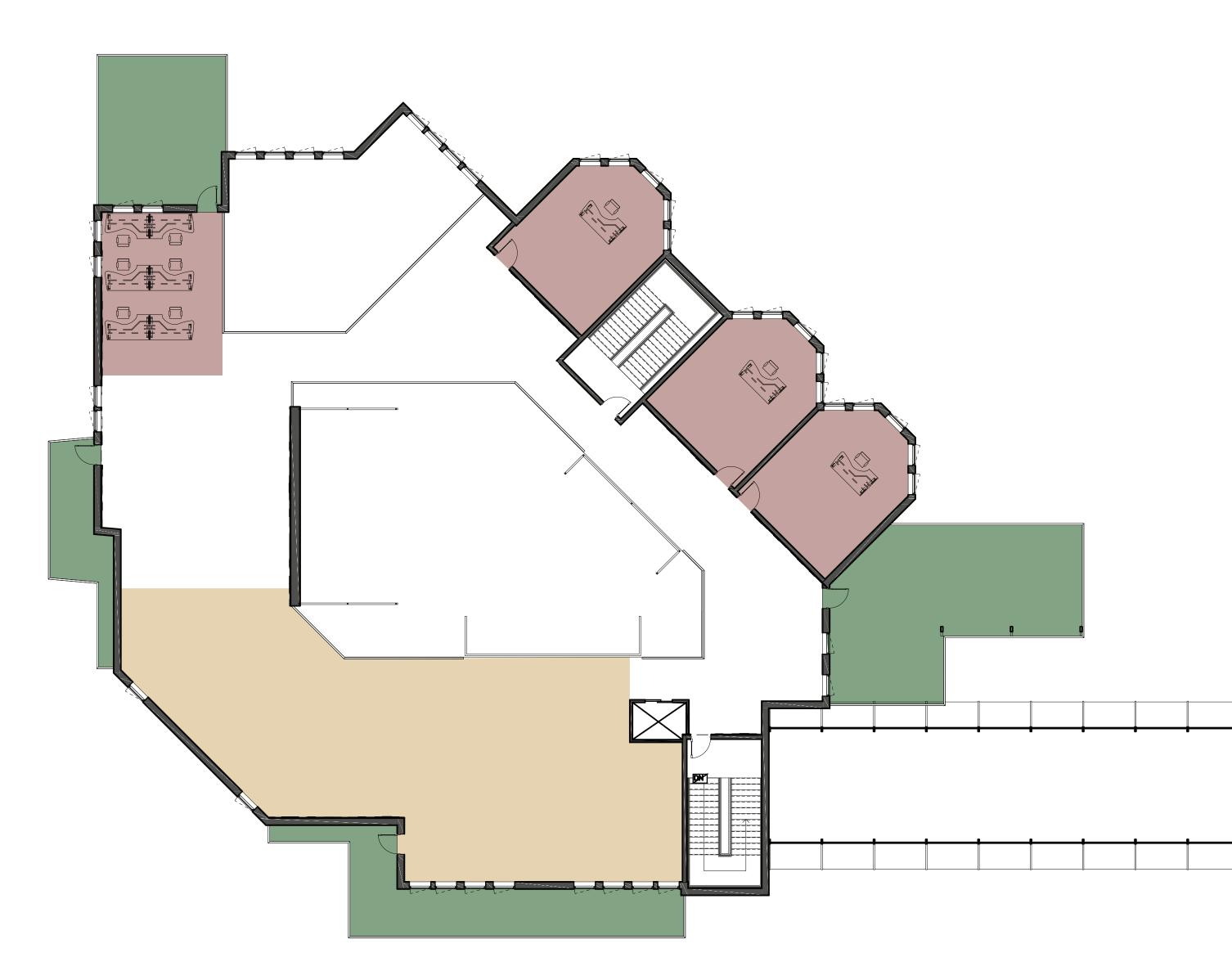




OPEN GREEN SPACE

OFFICES

ART GALLERY



Q_____Q

Level 2 Floor Plan

The building is positioned on the site to maximize the advantage of the west northwest wind to naturally venitlate the building. During the hot months this breeze is breeze is brought in and is rushed past the water wall cooling the air that is then circulated through the building. This is typically done during the night while its cooler to push out the air that has been gaining heat throughout the day. Then during the day the building envelope is closed tight to retain the cool night air all day long.

