

Windtower

Throughout the building there are windtowers placed. These windtowers both ensure the water is ventilated well and thus will not go bad, and it also cools the building.

The design of the windtowers is based on the Ab Anbar (See image to the right). The method of naturally cooling by catching wind and then ventilating over water is used for a long time in the Ab Anbars. (Wikipedia contributors, 2021)

In the Oasis the cooling works with a pair of towers. These towers have openings toward the west to catch the wind coming from that direction. The air is pulled down to the water because it is cooler, it is then cooled itself and because the second tower pulls air out of the building, a draft is created and the building is cooled.

The windtowers do not need the full size of the voxel to function, so they are made smaller than the 5 X 5 meters. This way a functional walking space is created around the tower at the first floor. Wherever the windtower stands next to the underground waterstorage, the extra space around the windtower is used for a stair leading to the water. These underground spaces can then be maintained from here.



Figure 1: Ab Anbar. Wikipedia contributors, 2021

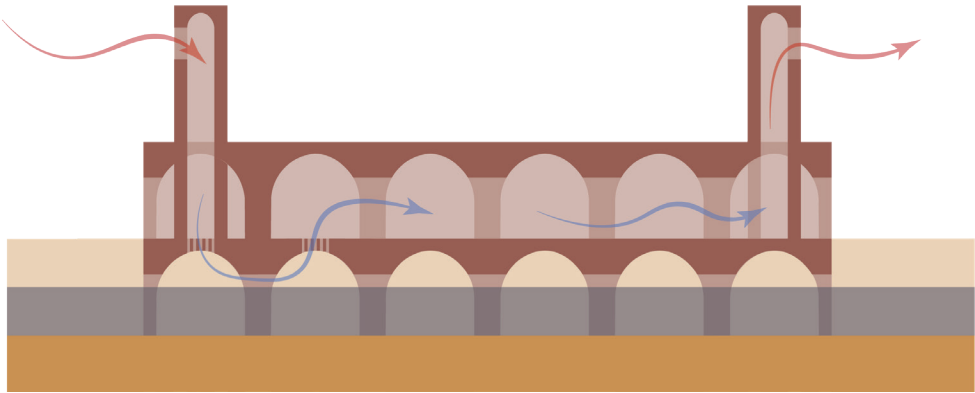


Figure 2: Windtower Diagram

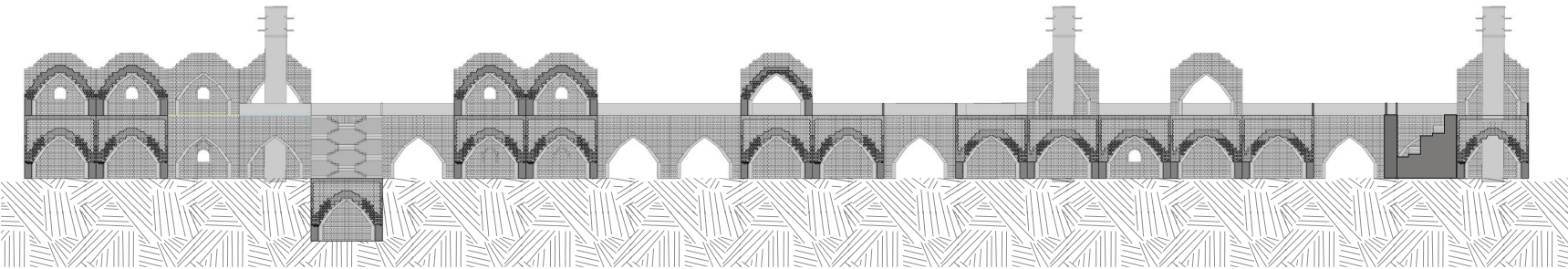


Figure 3: Section



Figure 4: Render