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03	Foreword
04	Looming Water
07	Aquaphobic Norms
09	Becoming Alluvium
10	Sweating Monolith
13	Synthetic Biota
15	Constructed Atmosphere



Interior visualisation with alluvial monolith and elevated flooring

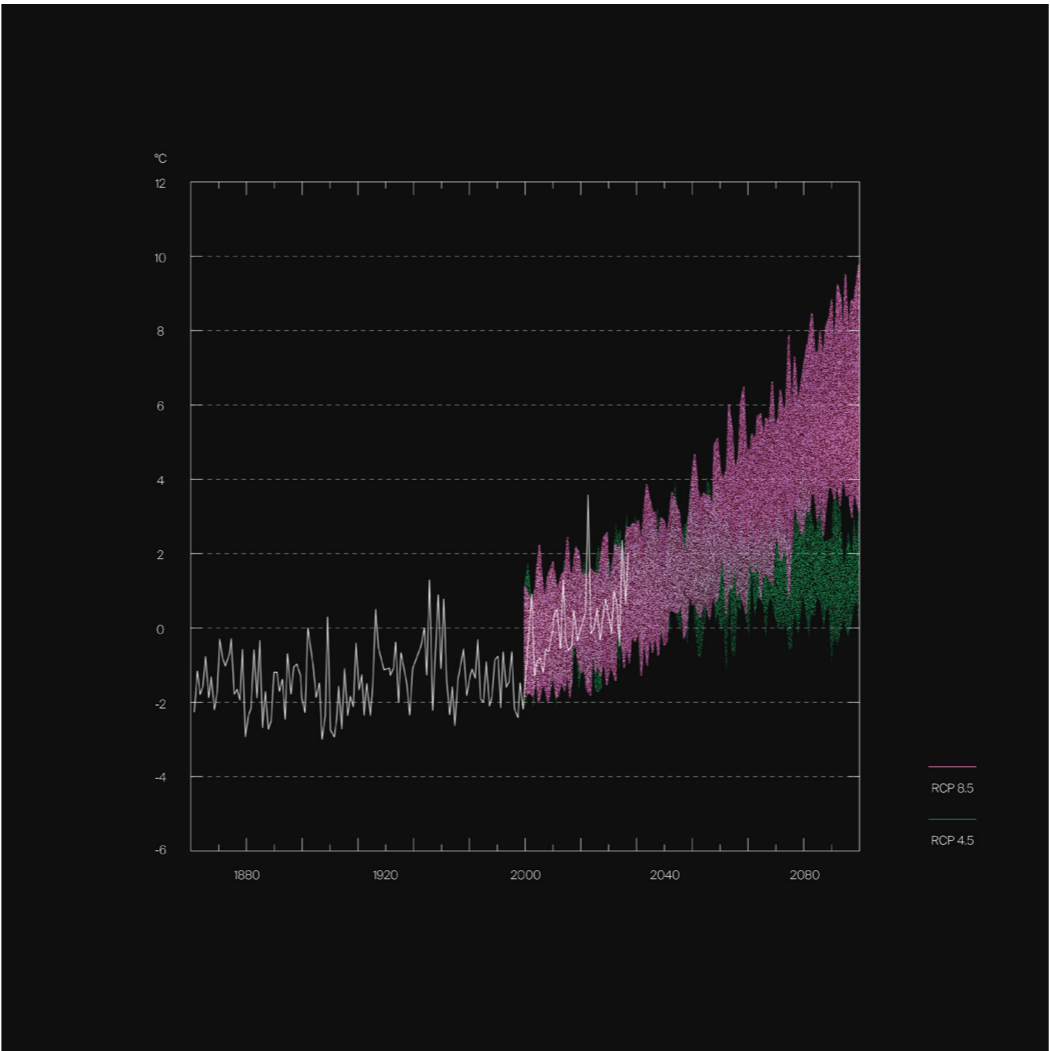
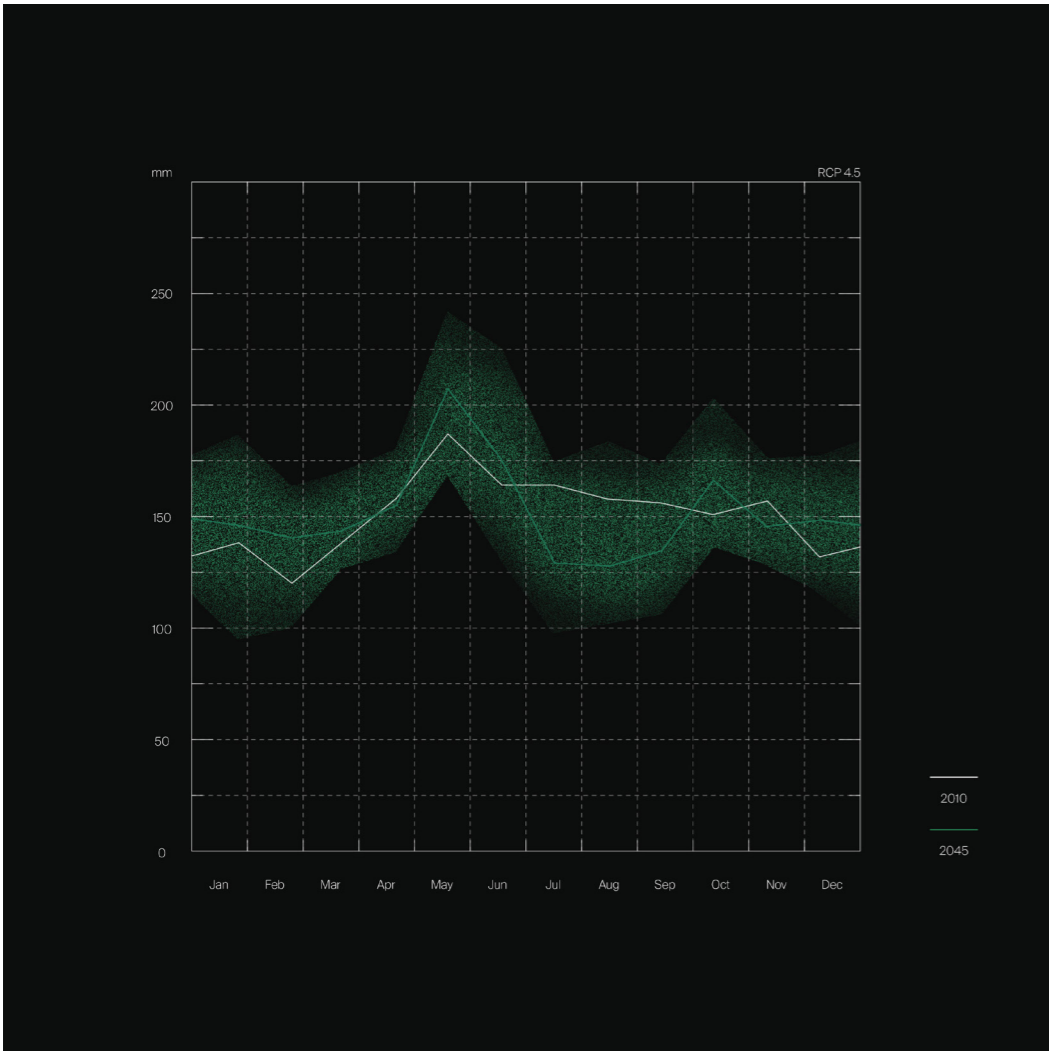
We live in an epoch shaped by extensive modernistic practice, one that is both implicit and explicit, an Architectural encapsulation of complex material dynamic within the comfort of a single ecology, that claims its administration of domain over the external entropy. As such, the shadow of anthropogenic terraforming has casted far beyond its spatial and temporal proximity with fatal aftermath ensue.

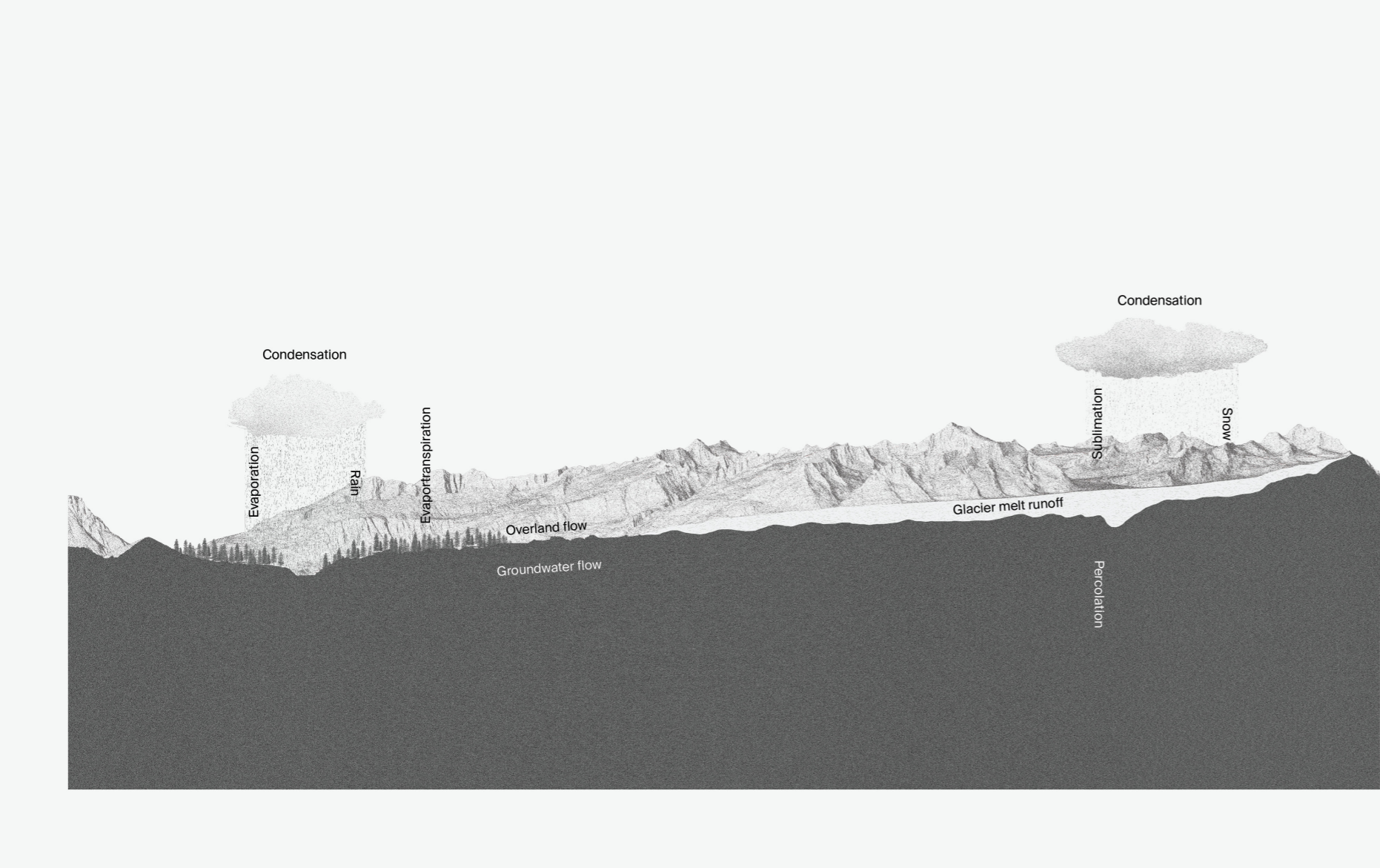
The project proposes a hygroscopic design of “Architecture with externalities”. One departs from the conviction of “Change” as the inherent genesis of planetary metabolism, along revisions the modernistic connotation of Comfort and norms following hydrological dynamics. Architecture as such must give and be given shape to material organization, living and nonliving, to connect, and to embrace friction.



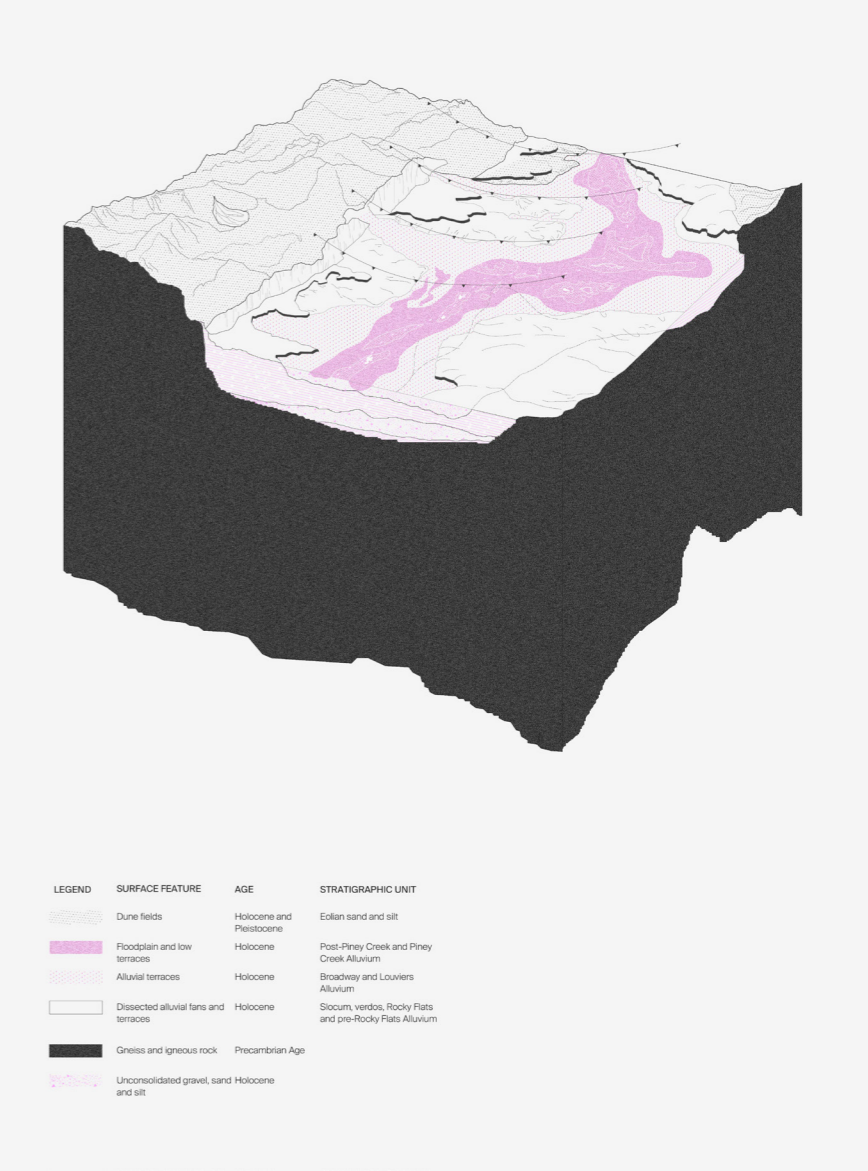
Glacier retreat and rising water  
at the Aletsch glacier

The rising temperature has severe interference on the Hydrospheric composition. With the inevitable Glacial retreat in the apline region, the local biomes and urbanized region on the valley floor will be confronting with Extreme weathering event- extreme precipitation, overheating, and flooding, among others.





Hydrological circulation in transect at Aletsch glacier



Alluvial sedimentation in the rhone valley

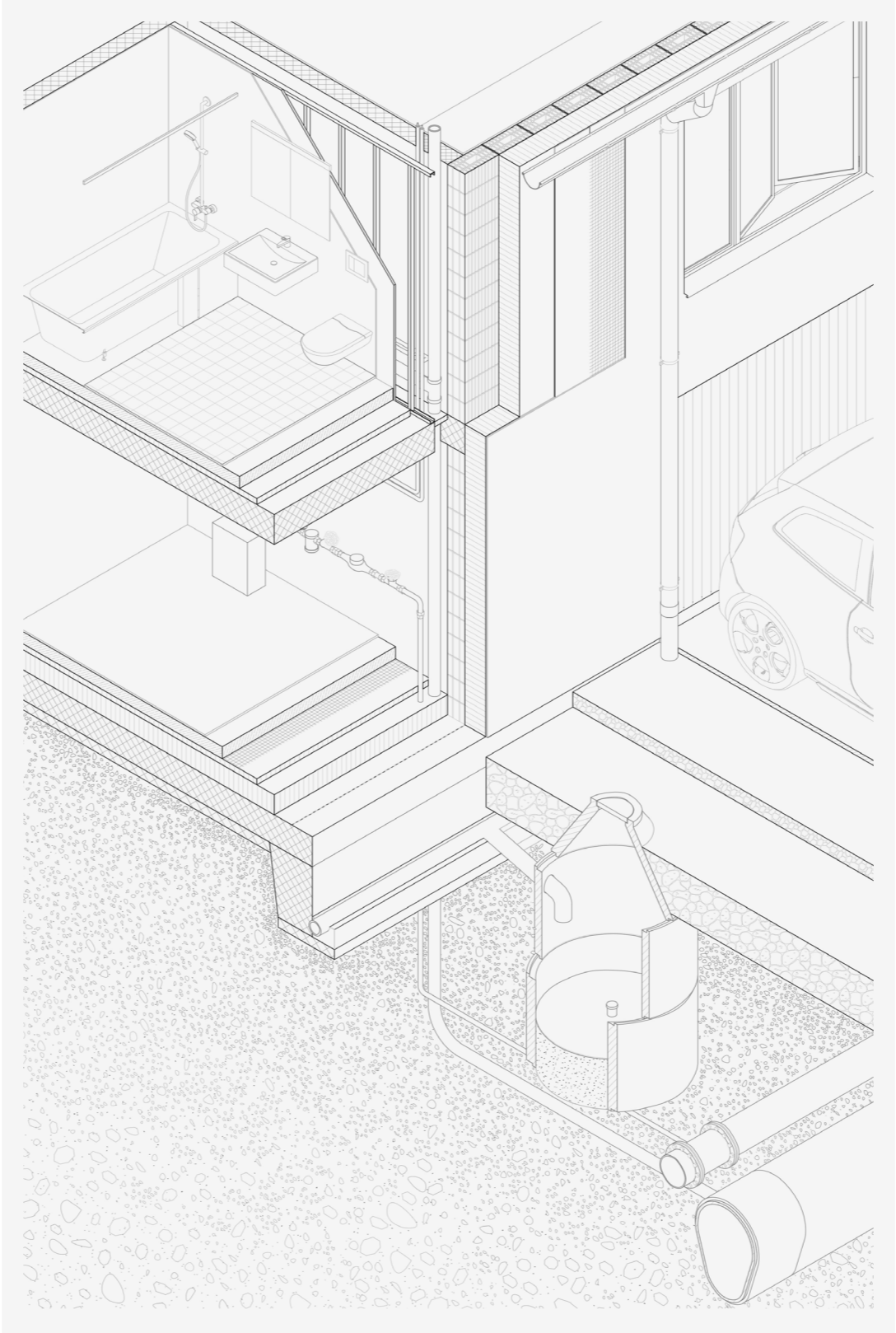
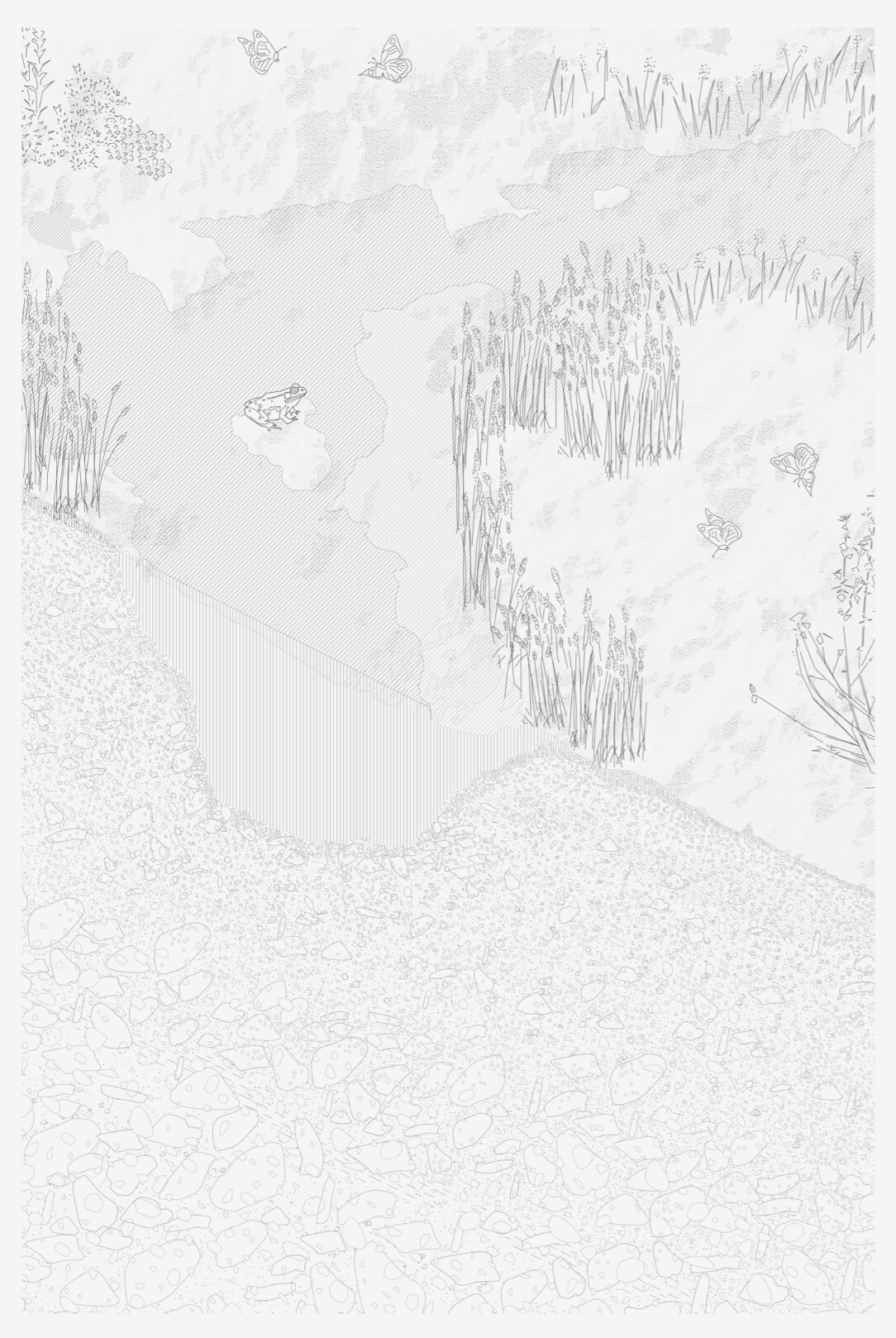
The city Naters in the rhone valley was an Alluvial wetland in its past. The glacial sediments has been deposited along the Rhone river through millennial of water-flows and geoforamtion, forming highly hygrosopic floodplain and nutrient biota for flora and fauna. The urbanization process has shaped the valley into a highly edgy Utilitized synthesis. Today, deprived the floodplain spaces for waterflow, the rhone river has been confined into a straight geometric channel.



Alluvial wetland in Naters and Brig in 1835

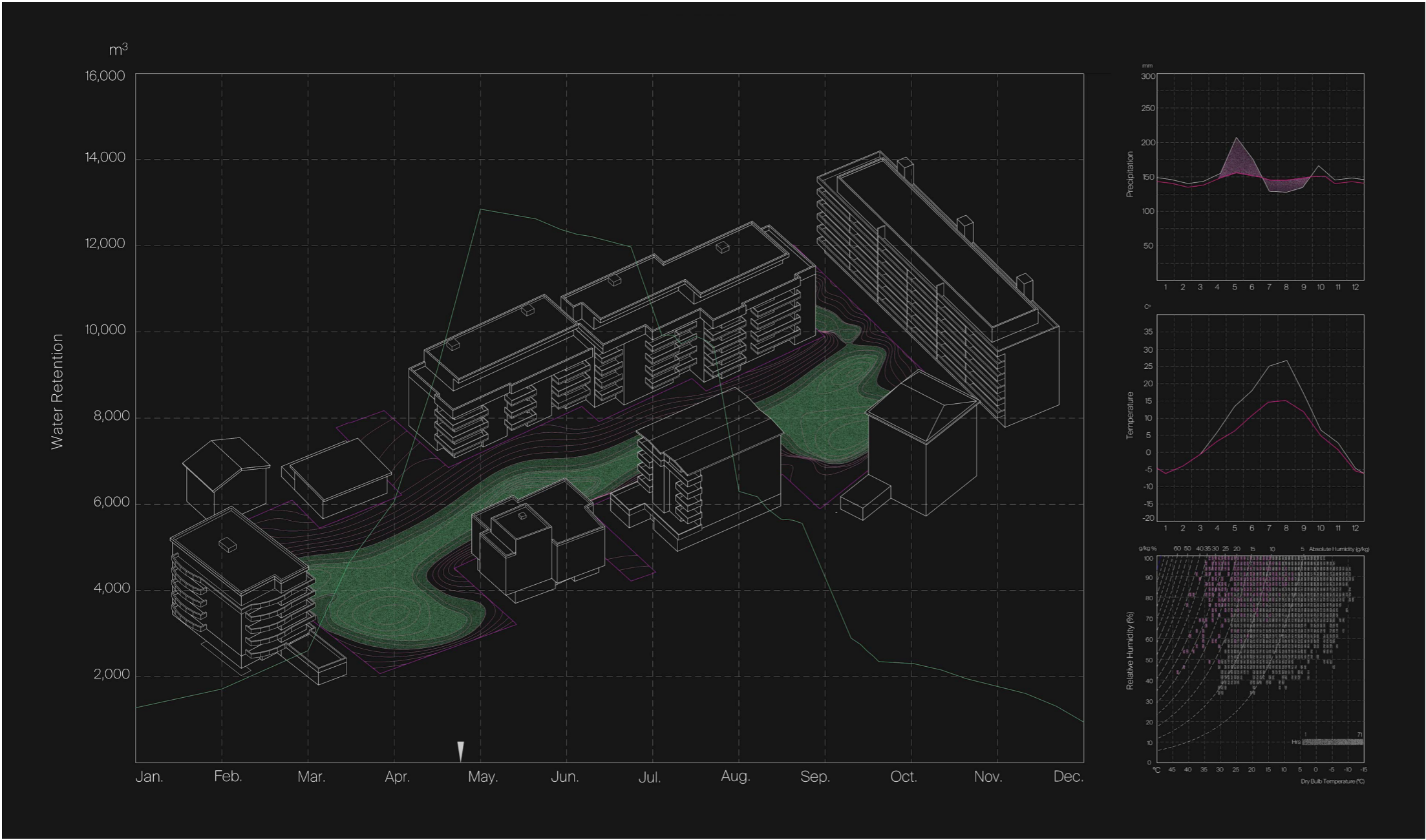


Urbanization in Nater and Brig today

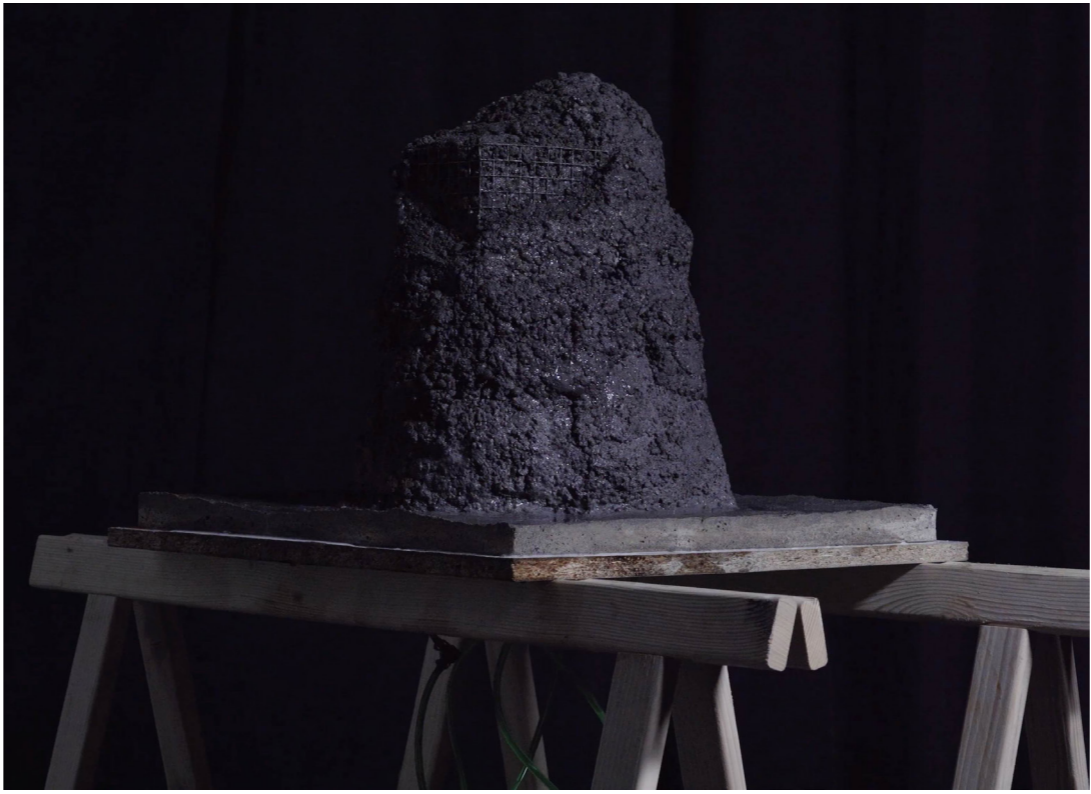
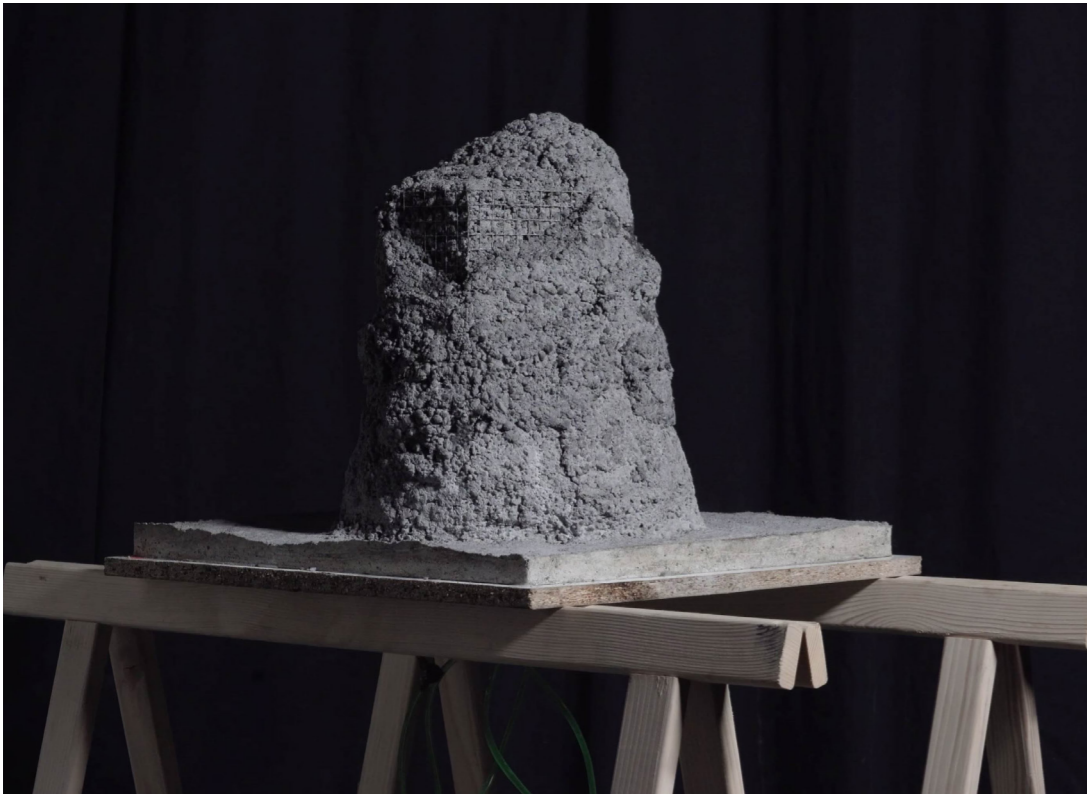


Waterflow comparison with alluvial wetland and SIA standard

The sprawling urban surface is likewise covered the nearly 40% with impervious substance - asphalt, concrete, among others, submerging the alluvial soil down beneath. The modern demand of comfort and Aquaphobic norms requires the rain water going directly into the swege system underground. Yet, the model perfection is identical with their inherent fragility. The current water management system will become obsolete upon the forthcoming extreme climate condition.



The project proposes an alternative geography in the urbanized rhone valley, through reorganization of local material distribution and water circulation. The intervention aims to appreciate the value of the Alluvial wetland down beneath thus restablize Hydrospheric dynamic. By excavating the porous alluvial soil, decentralized and seasonal water retention ponds are formed in between buildings. A bilateral water management model is then introduced to retain the excessive water in rainy seasons and shift it for the use into the drought and overheated seasons, for cooling and humidifying the interior spaces.



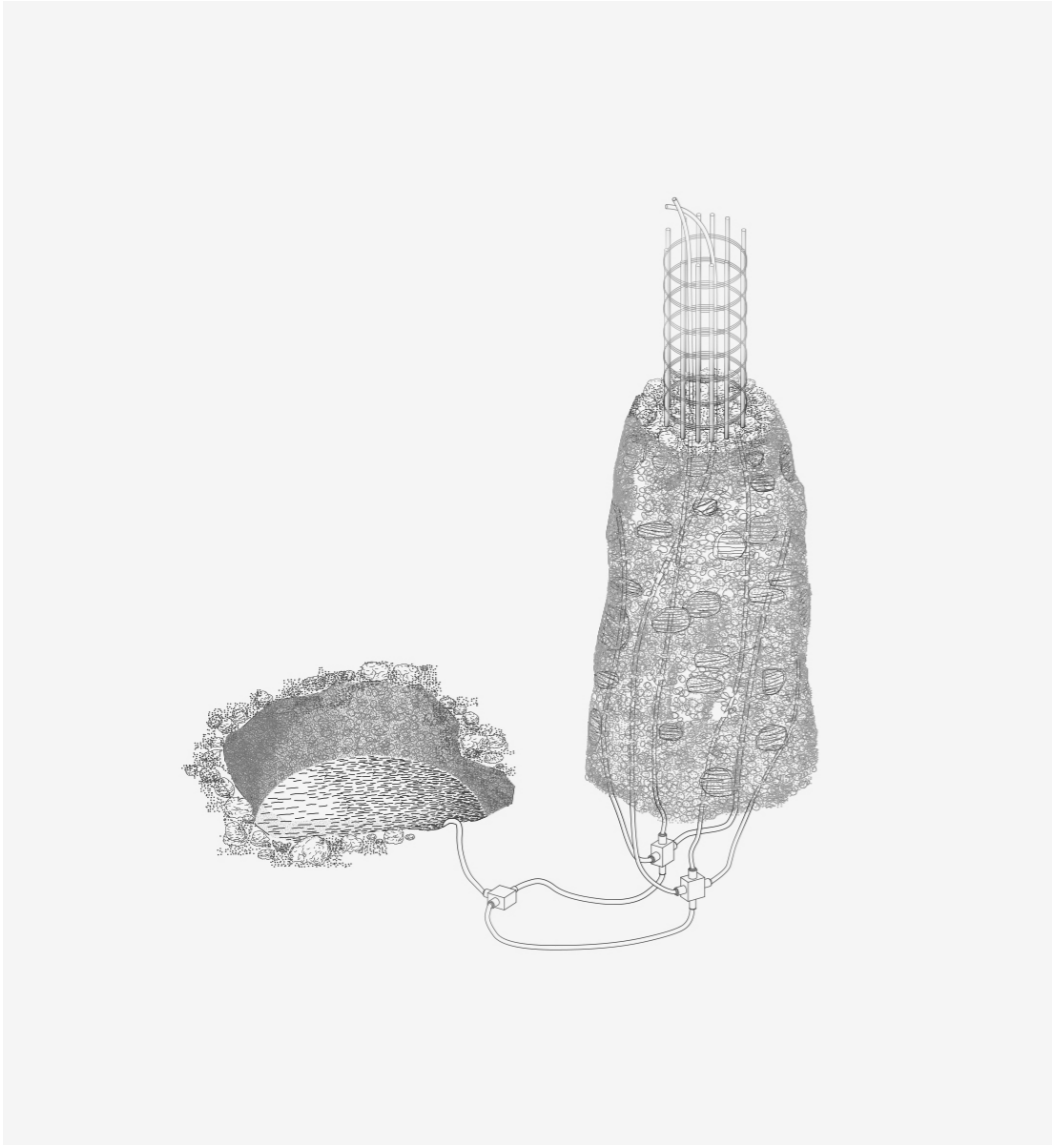
Film stills from the sweating monolith



The excavated alluvial soil - clay, silt, and sand is layered and formed as aggregate with natural binder into a hydro- and thermalactive load-bearing monolith. The microstructure inside alluvium with evenly distributed large and fine grains constitute its hygroscopic capacity. The monolith absorbs the water from retention ponds with precasted pipes, and gradually transpire the moisture back into the atmosphere. The evapotranspiration process actively forms different climate condition in its immediate surrounding.



Binding material test with different mineral and natural binder



Dig and dump



Thermal map around the monolith

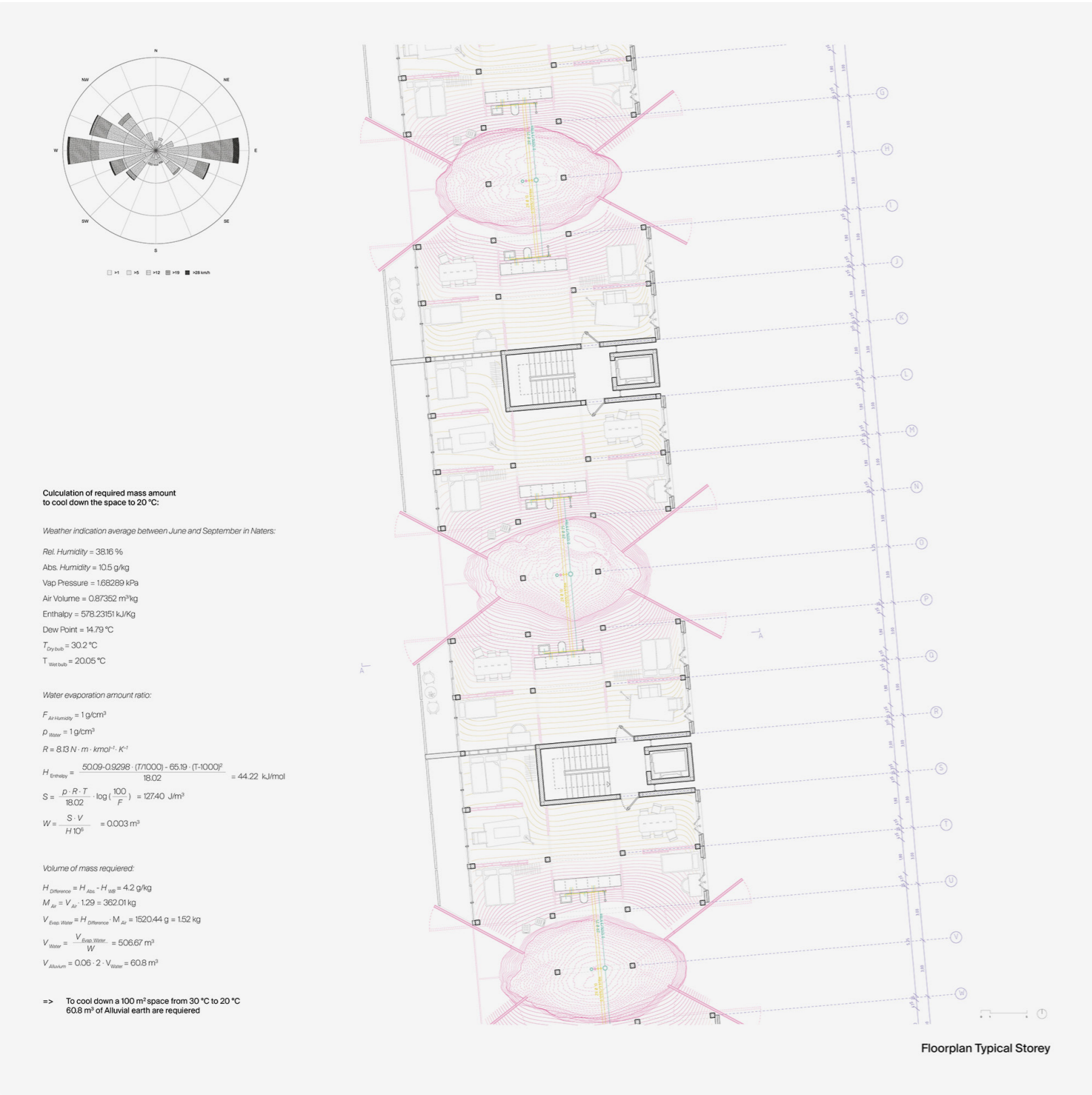




The water retention ponds offers habitat for floodplain flora and fauna



Floodplain flora and fauna with different living condition

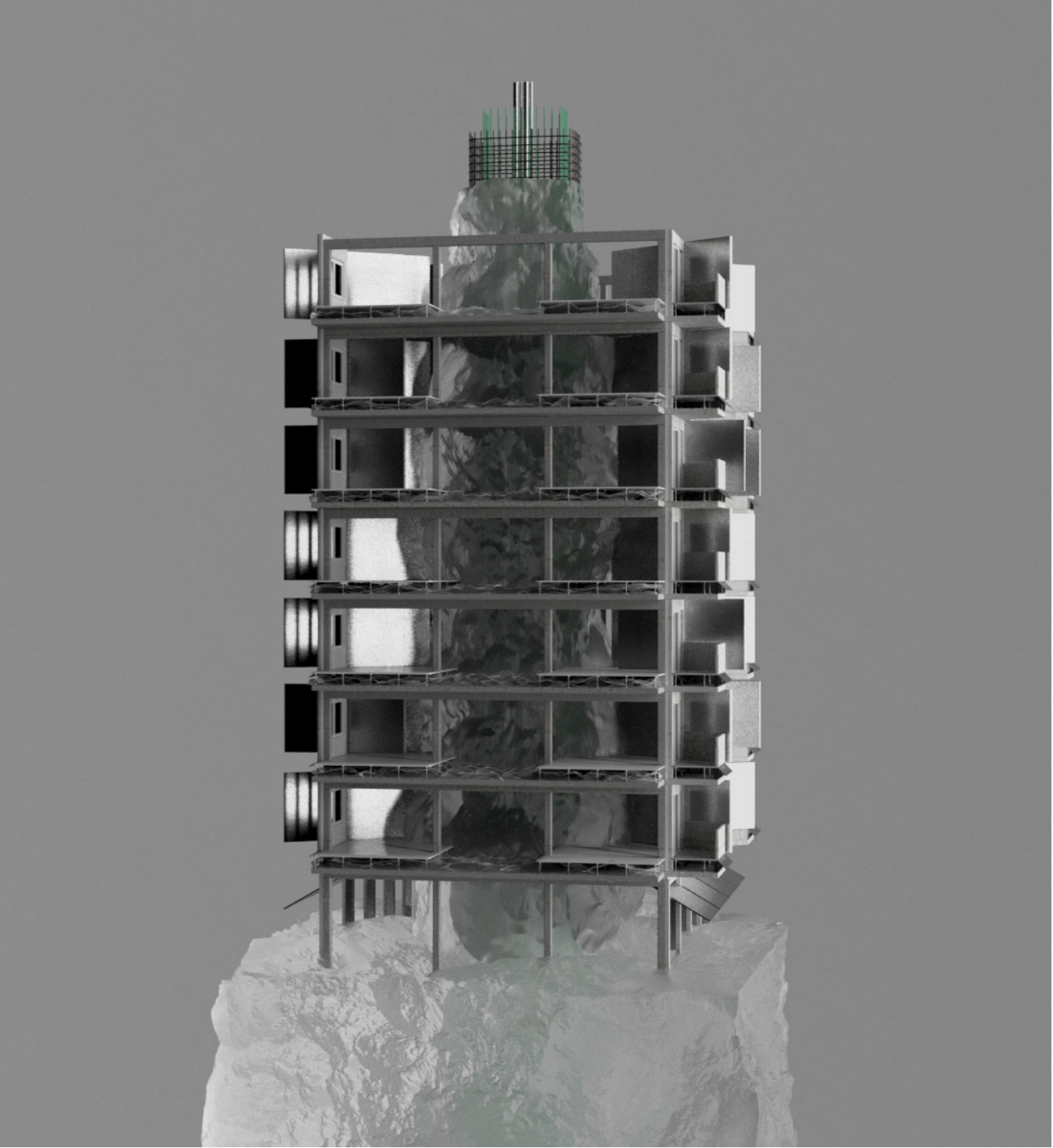
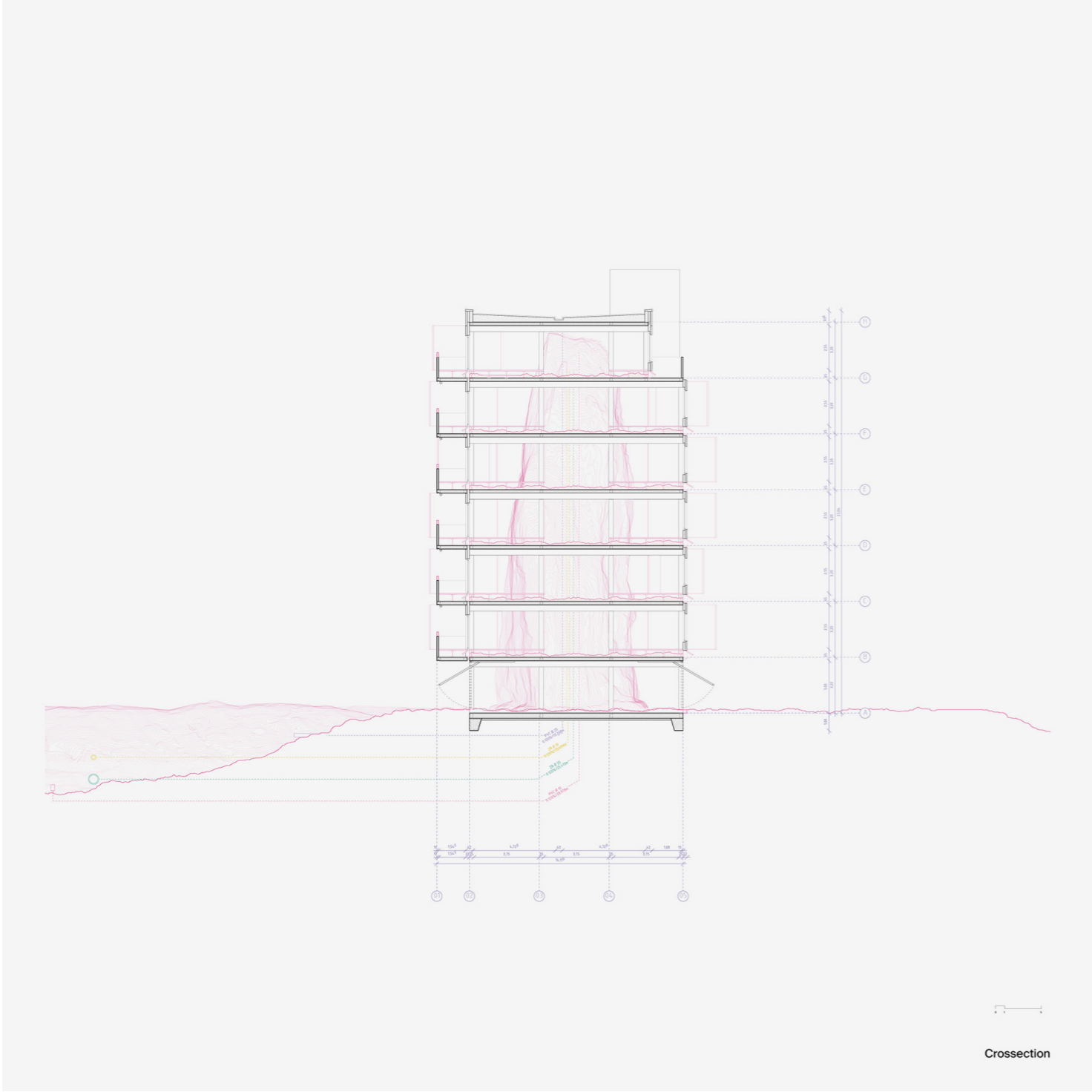


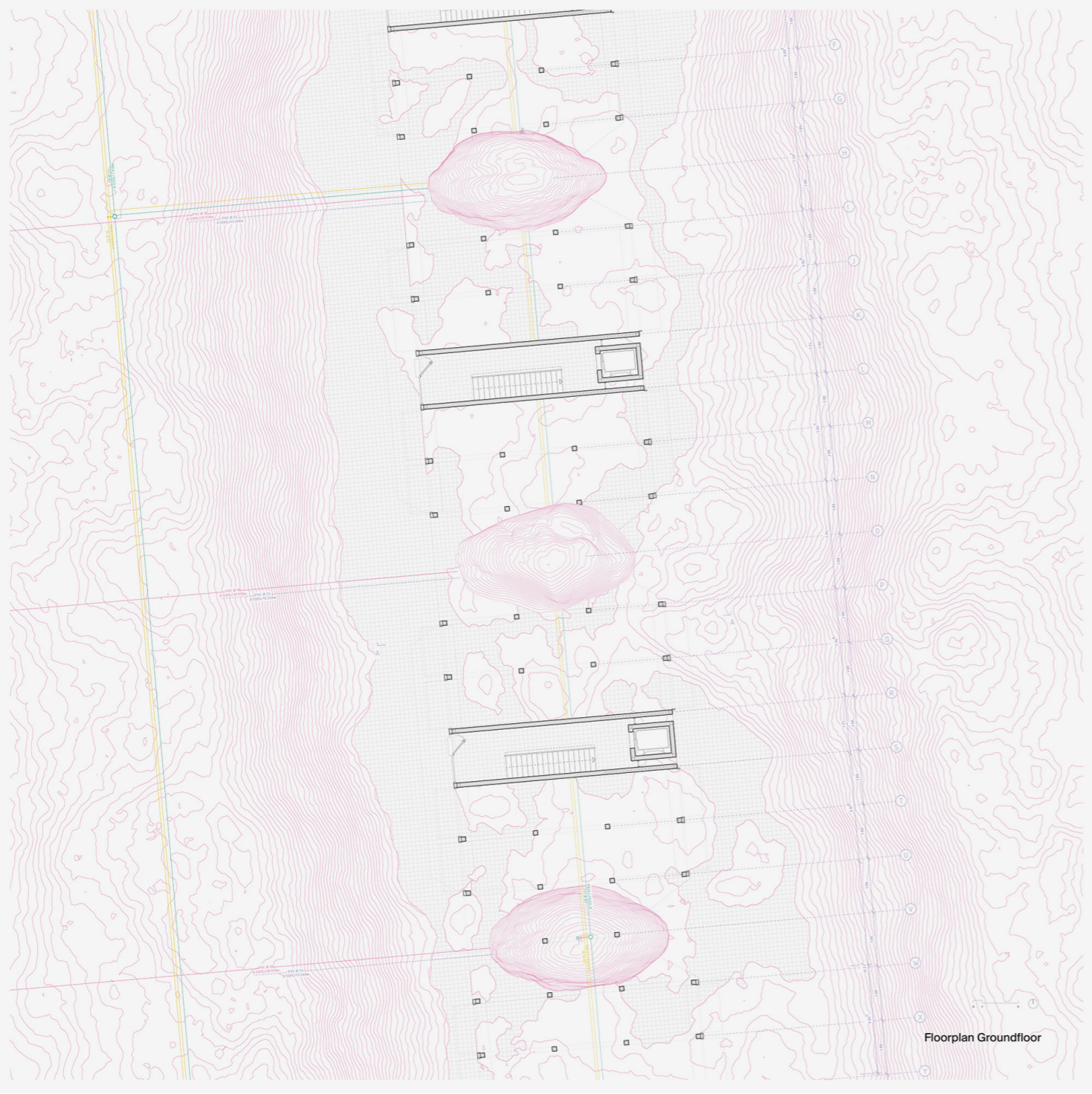
Regular storey with monolith and wind corridor

The local hot and dry climate is contributed by the Alpine foehn wind blowing across the valley. The constant wind direction derive a potentiality to accelerate the evapotranspiration process within the alluvial monolith. The project tries to examines the intervention with a transformation showcase of a typical housing typology in Naters. The monolith intervenes at the former installation shaft as well as unbinded alluvial soil above the existing structural floor. Performative facade panels are introduced, forming wind

corridors along foehn directions. The cross-ventilation ensures sufficient water evaporation, thus further cools down the interior temperature.

As such, the alluvial monolith performs as a active climate agent, one that cools the building in summer by storing water, whereas stores sun radiation in winter season to heat the building. It produces metabolic interior climates associate with its distance allowing seasonal changing dwelling function to be acommodated.

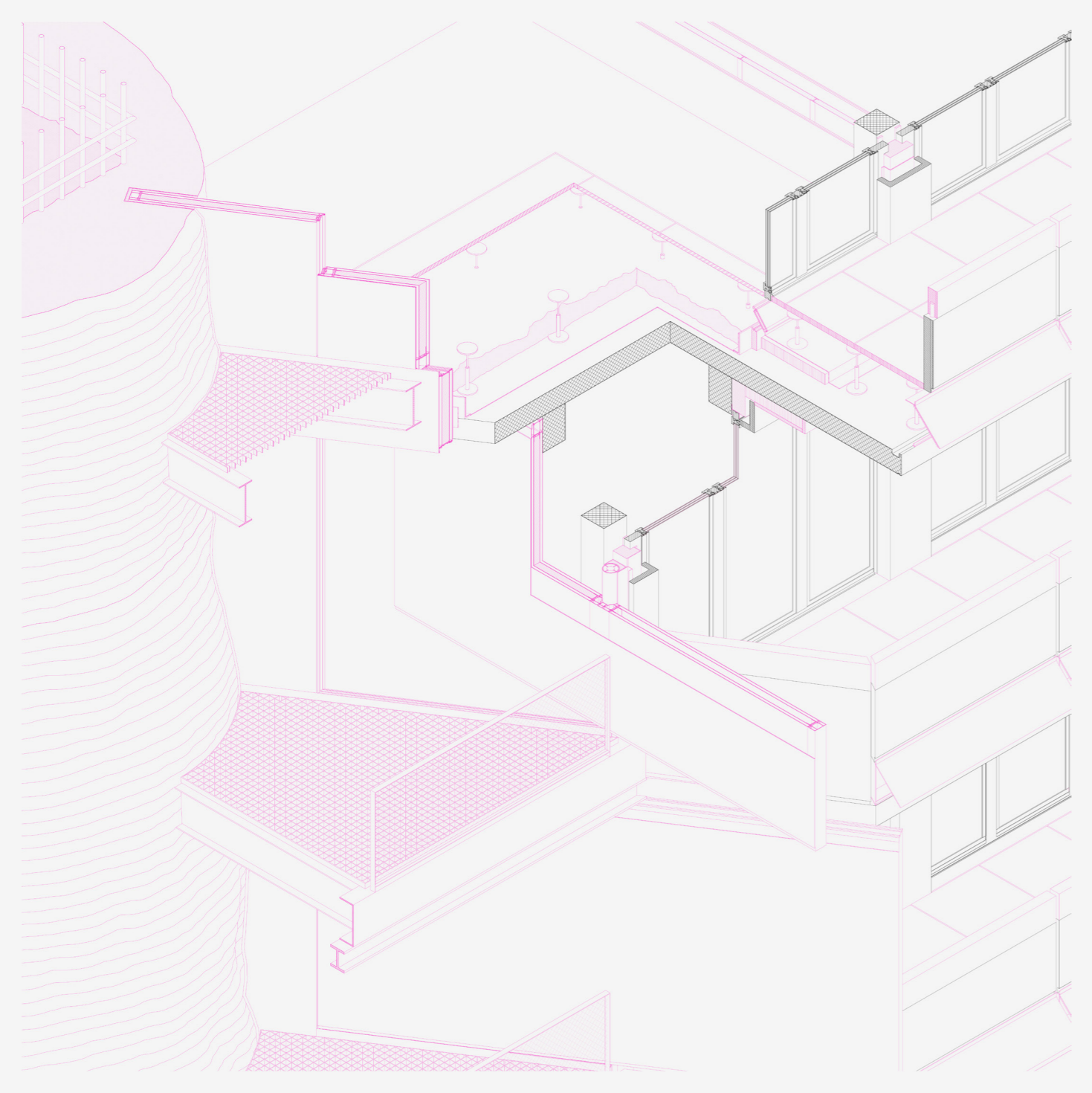




Ground floor with alluvial wetland



Retention ponds at rainy seasons and wind corridor



Construction detail of alluvial earth and performative panel



Interior of alluvial earth and elevated finishing floor