

For decades infrastructures have been state owned. They have been privatized since and now people have to rely on private owned companies. Is an alternative possible? For Santa Monica and for other places worldwide it is nowadays important to consider light and soft infrastructure opposed to large scale technological system that we cannot afford anymore. The worst the economy/ecology goes the more we have to be creative. Great advance in computer science show us how important it is to develop agile responses to contemporary challenges. Infrastructure must go wireless!

A structure that reacts to local meteorology
Infrastructure are often thought as heavy elements that aggressively shape land. They strongly and negatively interact with the geological critical zone and refrain ecosystems. Highways, dams, dike and embankments are heavy elements that tend to destroy landscape by an important add and share of imported material (aggregates, sand, concrete). The heavier they are the longer they

have been presume to last. History shows us the opposite! There are no human creation heavy and strong enough to resist nature. We need to redefine infrastructure from the image to planning. Thus when we think of a spatially based infrastructure that support urban life and economy we have to shift our views and think of a lightweight, evolving and lean structure. When it comes about water, where can we find the resources that we need? We are so much used to open the tap and let water run out of it. We are so deeply used to have water in tubes and pipes, in hard infrastructures. Can we imagine that we rely on a soft and air based infrastructure?

Multiple scales
When we think about new kind of infrastructure supporting human needs we should think them as landscape project. They shape the territory and our relation to our environment. Our understanding of the region may change. More than simply providing water to a group of people, it is about creating a symbol

that assemble us. Can the large scale of the Ocean be the symbol that assembles us around fresh water? Ware strongly related to the scale of the ocean. Human being is within the loop of the ecosystem. Working with the region and its meteorology means that we are part of a larger system and that we – humans - are one of the many elements, not better nor worse than others. The large scale of the Ocean comes to the small scale of the human needs.

Climatic territory
We define “climatic territory” as a territory characterized by climatic parameters like temperature and humidity rather than by topography, geology or buildings. The Santa Monica shore is influenced by the creation of an advection fog above the sea. It is known as the marine atmospheric boundary layer (MABL). The MABL is generally defined as a layer or cool, moist maritime air with the thickness of a few thousand feet immediately below a temperature inversion. In the Mediterranean climate of the Los Angeles basin conditions favora-

ble for the formation of a MABL inversion can occur during any month of the year, but are most common during the summer or “dry” season that runs from May through the middle of October. Natives of the area (“The Southland”) use the terms “May Grey” and “June Gloom” to describe the frequent cool, damp, overcast days during this calendar period. theweatherprediction.com The local climate is a clue to creating site specific infrastructure that interact rather than confront territory. A strong understanding of the climatic territory helps us shaping infrastructure that support urban life and activities.

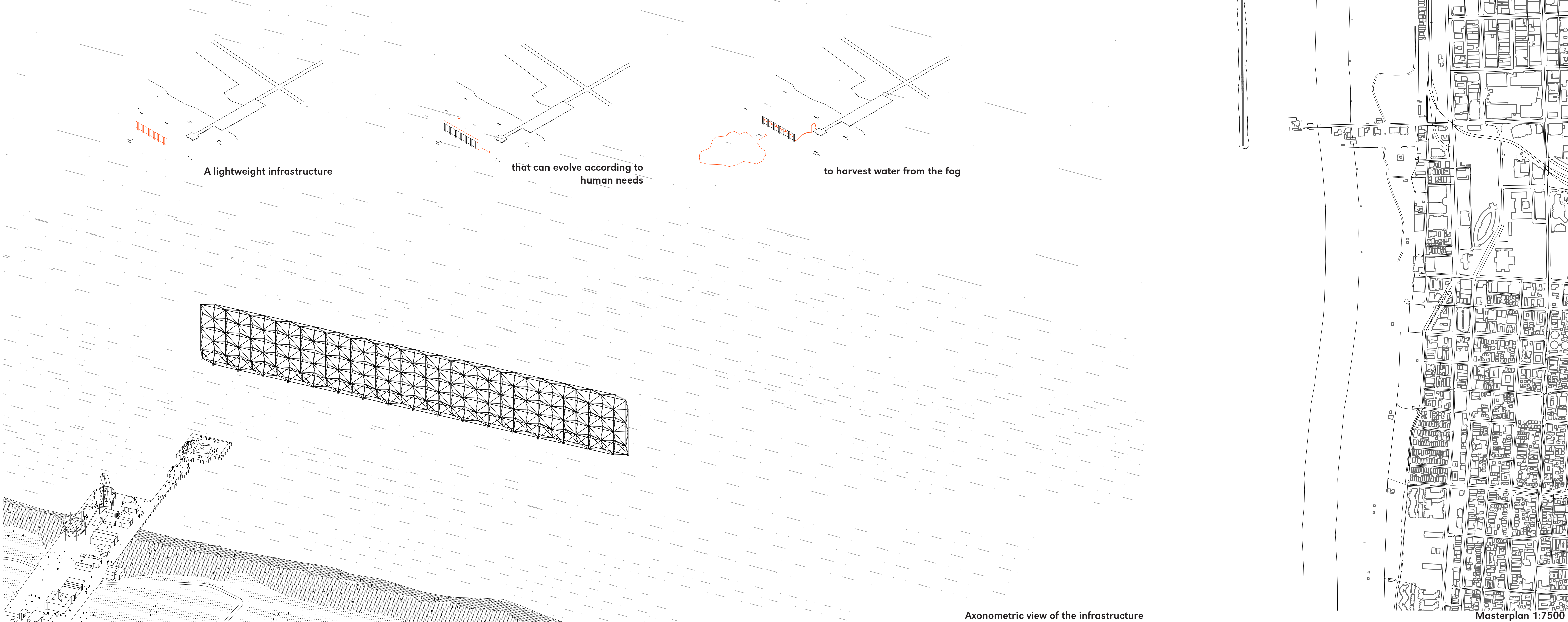
Air as a thick layer
Water contained in the air is invisible to the human eye, in contrast to its liquid or solid forms. The Ocean is a solid mass of water as air is a vaporous mass of water. When fog is created, the mass of water contained in the air turns visible. The invisible space surrounding us gets an intelligible form. Space is no longer perceived as an empty void but as a lightweight mass, with specific physical, chemical and elec-

tromagnetic properties, in which we live. Therefore, we need specific instruments to search for water in the air.

Cloud Trap
All the water that fog contains can be harvested. It is possible with lean/low technologies to collect that water transport it to the coast and use it as drinkable water or as industrial water for the leisure activities of the coast. The nets are made from a polypropylene mesh that is extremely efficient at collecting water droplets. Our structure is a soft infrastructure. It is lightweight, it can grow or shrink, and it can be easily adapted or can be totally removed without leaving any trace. It’s integrated in the ecosystem. It works with the territory rather than against and is thus site specific. It works 365 days a year without added energy and is CO2 neutral. Yet it responds to the most important thing on Earth: providing potable water.

Environmental impact assessment
The structure and the nets of the open sea are collecting water from the air. There are no hard infrastructure needed. We don’t dig or pour concrete. There is no need for pipes and tubes to connect a place to another. There are no costly infrastructure but rather a light weight, evolving and agile soft infrastructure. The footprint of such an infrastructure is minimal. We minimize our impact on seawater ecosystem. The CO2 impact is lowered as we need few construction material. On the other hand the infrastructure can collect enough fresh water for local activities and leisure.

Estimation of water production
The technology we are dealing with is very simple. Around the world many attempts to harvest water from fog show that in the local context 1sqm of nest has an efficiency of around 12 liters per day. With the 26’000 sqm of catchment we can expect to produce 312’000 liters of fresh water every single day. With a consumption of around 40 gallons a day per capita in California, the water production of our infrastructure is designed and sized to provide water for around 2’000 people every day. As it is a soft infrastructure it can grow or shrink to adjust to people’s need.



Axonometric view of the infrastructure

Masterplan 1:7500