



POLITECNICO  
DI TORINO

# Honors thesis

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## ARCHITECTURE AND CONSTRUCTION CITY

### *Abstract*

**An infrastructure-based approach to design scenarios in Qianhai Bay (China).  
The artificial nature of the city. A story of interference**

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This research is the outcome of a Joint studio started between Hong Kong and Shenzhen and then completed in Torino, about the future of the new district of Qianhai Bay in the southern part of Shenzhen.

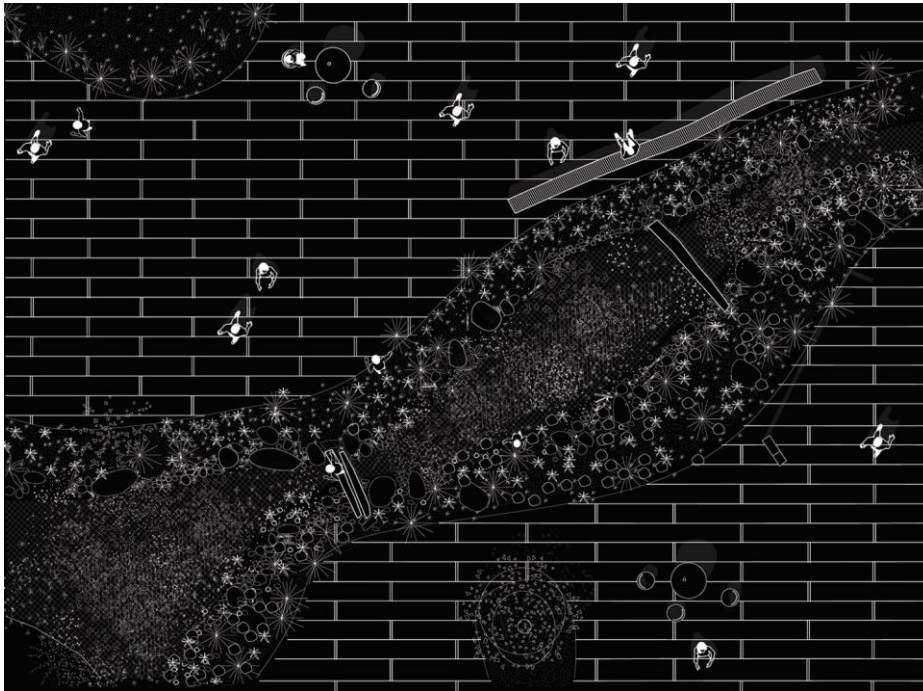
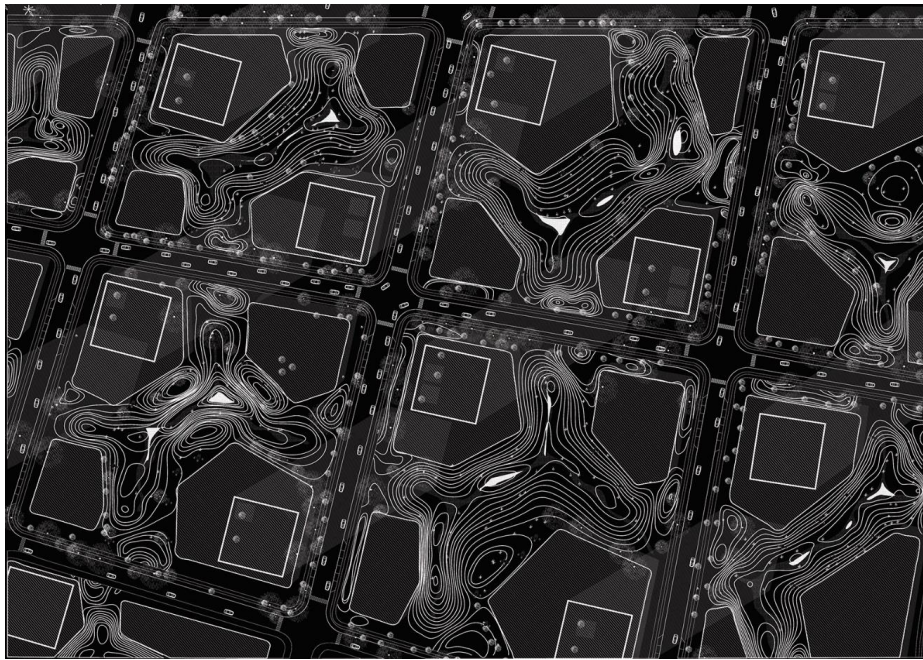
The thesis represents an attempt to reflect on the role of the infrastructure in urban design and its conception as an *operative system* that sustains and shapes the urban of today. In China, infrastructure design stands at the base of urban planning; nevertheless, those infrastructures that supports urban life and occupy relevant space in the city fabric need to be described not only through a hard specific engineering lexicon but also as a real spatial category able to develop urbanity and public programs.

With a winning proposal of fifteen square kilometres completely built on reclaimed land, the new image of Qianhai as “Water city” is built on the specificity of water management efficiency and a deep trust in technical solutions. Visions and images of the future development are extremely attractive: clean and open streets, high modern towers, and vast areas of manicured green spaces.

Nevertheless, the production of these images do not clash only with the aesthetical value of the landscape but they do not reveal the real lack of an integrated approach to face natural hazards. We demonstrate in fact, through the analysis of plans and climate data that most of the existing calculations on extreme scenarios should be now considered as average situations unable together with the rapid urbanization process to prevent the area from extreme weather events linked to climate change.

In this light, rather than propose a fixed “solution”, my design exploration place itself in a tangential position within the architectural speculation. It uses constantly the uncertainty of the area and field condition to reframe the original design statement with a systemic understanding of urban ecology useful to visualize both the macro-dimension of the district and its natural topography and the micro-dimension of urban wildlife.

Through a new topography between the city blocks in fact, a new performative ground of interconnected rain gardens allows collecting water and infiltrating from heavy rainwater events. The system has a double benefit for the city: on the one hand, it is useful to reduce flashy and localized floods by storm water and on the other hand, it contributes to create more naturally environments between the buildings. The installation of this natural green and blue infrastructure that wraps the city aims to redefine a new sense of publicness in the water management connecting nature, built environment and daily urban life. In order to better understand the dynamics of the proposed landscape I have conducted an investigation trough different plant species and their behaviours to create a more resilient and productive nature in front of an expensive ornamental one. In addition, the design by research aims to explore the city as a place for the life of that huge part of non-human animals who lived in the artificial environment and, which most of the time are forgotten in the balance of our ecosystem. The research investigates the possibility of such form of coexistence with a particular attention to the architecture, people and the way animal world interacts with them. In conclusion, this thesis tells a *story of interference* to highlight the multiple strategies that we could take or find in the city. Natural and artificial, fake and real, ornamental and productive, humans and not humans are only just of the categories that in the city’s system work with the *infrastructural behaviours*. The funny part is collect them, re-organize and produce research and design exploration for our future ecosystem.



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