

## Reflection P4

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Project name: **The Renovation of Water-related City Border** / The Green Transfer in TMC

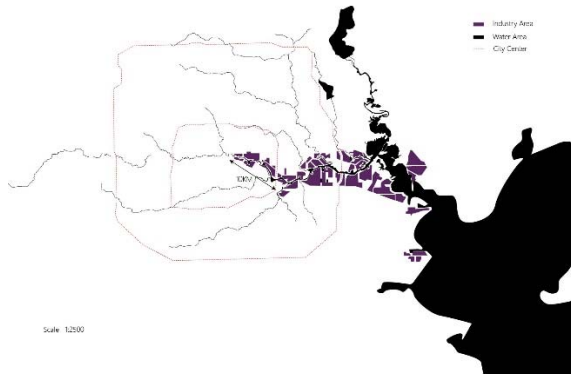
The Delta Intervention Studio Deals with the practical problem of the water-related architecture design and urban planning. It's a combination of architecture, civil engineering and management which provide practical reference for the real project in Houston. Due to a changing climate and changing insights concerning sustainable relations between cities and water-landscapes, new interventions will be needed to create a new urban delta-landscape. The task of an architect in this studio is to develop an architectural object in such a waterscape.

My Project researched the possibilities in architecture to provide better waterfront public space and flood protection for TMC and the Brays Bayou. Like the subject of the studio, this project is a research of the different aspects of the delta and the possibilities this brings for an architectural design. It focus on the bayou water type in Houston, deals with the sustainable, economic and social topics of Brays Bayou in TMC.

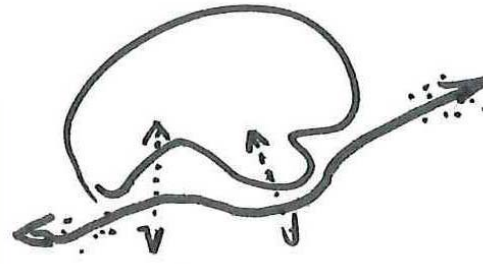
The research of the studio start with the group analysis of Houston, which is so-called the 3X3 analysis. It includes the geographical, ecological, social and economic aspects. In this analysis, I learn a lot about the water condition and urban context of Houston, in which I get my research topic to develop. I am interested in the relationship among the river, city and buildings. I focus on the water condition of the bayous in Houston.

Then the studio organised the visiting to Houston and Lecture in Rice University between 13th and 23th December, 2014. So, in the excursion to Houston, I am focusing on the watersides in the city. During the visit to Buffalo Bayou and Brays Bayou, I found the missing link between the inner city and the water area. Some factories and ports located along the bayou separate the waterfront and the community. The green space near the water is in lack of connection and well organization. Also the conflict between the flood defense and the public waterfront reminds me to consider flood defense technology in my architecture design. Through the lecture in Rice University, I learned how the local strategy the flood defense and bayou area. Some method they use for the renovation of Brays Bayou near Downtown is quite referential.

At the same time, a parallel research "Water-related Architectural Aspects" is processing as a practice to learn the design method for architectural students to deal with different water condition and climate concept.



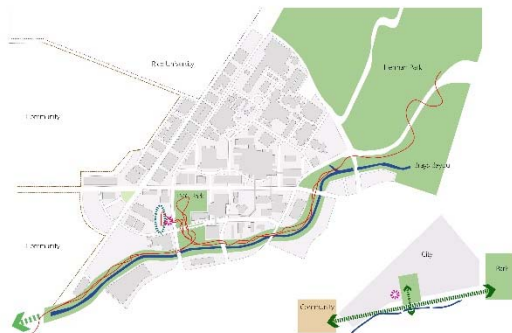
1 Bayous in Houston



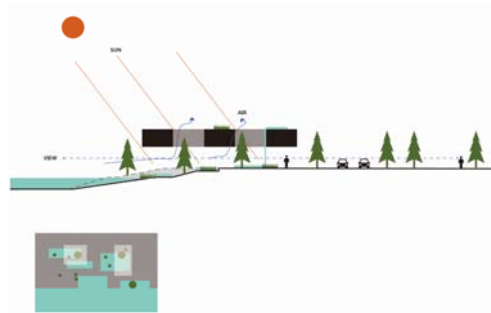
2 Research Question

My research question is how to renovate the water-related city border to enhance the link the public human activities and the waterfront as well as protecting good flood defense for the inner city. I choose the watersides of the Texas Medical Centre along Brays bayou to be the site. In the visit to TMC, I noticed that the waterfront had great potential to be better and cleaner public space, as it is so closed to the TMC Transfer Centre and the inner green park. It also can be a connection between the Herman Park and the community in the west in a larger scale. A sewage treatment works is in need for the site as the sewages were exhausting waste water directly to the bayou. The most institutions in TMC is not open to the public. A public education centre is in need for the whole TMC and the district near it.

My project is deals with two levels for the water border in TMC. In the urban level, is to renovate the Bayou with ecological method to promote the biodiversity, purification and flood defense. The specific method is to widen the bayou from 13m to 20m. Replace the concrete bank to vegetation cover in order to purify and slowdown the water. Connect the bike route to the TMC Transfer center to make it more accessible for the people. New biking route and landscape is designed for the Brays Bayou to make it more soft and public to the people in TMC and community nearby.



3 Urban Strategy



4 Building Strategy

In the architecture level is to design a complex building (sewage treatment works and education center) to connect the TMC transfer center, the green park and the Brays Bayou. The education center will combine program lecture, exhibition, office, family studio and a summer theater. It will also have a sewage center will mainly use plant to purify the waste water from TMC and the education center. The main concept of the building is to convey the concept that we can experience the waterfront in a sustainable way. It will create open ground floor and platforms near the water to connect the TMC Transfer Centre and Green Park to the bayou. The building itself will use solar energy and eco-materials for construction. The structure of this project is also designed with the sustainable and flood concept. I choose the floating method for the building, which will make the waterfront quite

accessible for the people. It is also a normal way in Houston to deal with the flood problem. It also function as a bridge to connect the north and south campus of TMC, in order the deal the bad pedestrian system there. What's more, the truss system can be easily constructed and modified, which make this system is also adaptable for other bayou area. To specify the building, I did a lot research about the steel truss system and climate strategy. At last, the building gives a light and clear flowing image in the green surroundings.

The project tries to answer the question that public water-related building can contribute to the circulation between the inner city and the waterfront as well as promoting flood risk management. The project also shows the concept that ecological aspect is significant for the water-related design. It is a good continue of the group research of the Delta Intervention subject.



5 Structure Strategy



6 Building Image

As an architecture students, the design will mainly focus on the building, including the structure, material, interior, climate strategy. In order to answer the research question, and to make a continue logic for this whole design part. The urban planning and landscape for a larger area is also been developed. But the urban design will not go into a lot of detail or too large. It will mainly help to define the architecture project and to show the whole concept of the research.

At last, when I look back, the Delta Intervention Studio really give a nice and wide topic to me. The research method helps me to get my interest and develop it into a project. The lecture courses improve my skills and knowledge to deal with the water-related topics. The final project is a good practical exercise for me to learn it.