REFLECTION

In this reflection the student uses a short substantiated explanation to account for the results of the research and design in the graduation phase (product, process, planning). The aim of the reflection is to look back and see if your approach worked, to understand the "how and why", and subsequently to learn from this. The choice of method (how) and argumentation (why) which preceded the research was a part of your study plan - the reflection must contain an answer to the question of how and why the approach did or did not work, and to what extent. Depending on the research and design, reflection on a number of the following aspects should be included (you may choose in which order). The reflection should be in the form of a text, with diagrams and sketches for purposes of illustration and clarification.

Aspect 1: The relationship between research and design
Aspect 2: The relationship between the theme of the graduation lab and the subject/case study chosen by the student within this framework (location/object)
Aspect 3: The relationship between the methodical line of approach of the graduation lab and the method chosen by the student in this framework
Aspect 4: The relationship between the project and the wider social context

'Delta Interventions is a design studio with a strong emphasis on the translation of research output into design concepts.' (Design Delta Intervention for Architecture course information) It is also a studio which has a close relation to water. The project starts from the Galveston Bay and ends with the 1:5 details of the building. The research is also from the delta scale to the urban scale then to the architecture scale and finally the details. The process of developing the project needs a strong connection between each step. What's more, another important factor should be taken into account during the whole process depending of the main topic of delta intervention studio: hurricane. It should be reflected on every steps of designing. The structure of the design process is like a chain with triangular links which are overlapping and connect with each other. Each 'triangle' is the main topic of one character which corresponds to one scale or aspect. (figure7.1)

After the research on Galveston bay area I chose the Galveston city and after the urban scale research I chose the intersection of two boundaries as my site. After the research on the site and people's activities, I made the theme of my project 'Live with water' aiming to extend urban life of Galveston city and tourism activities to the waterfront. My proposal is creating a recreational system onto the sea to provide different layers of water related experiences by the urban design. And by using different strategies to deal with flood threat on different parts of the recreational system depending on its character.

I chose Galveston urban center as my main project to develop since it is an important link between the city and the recreational system. The water part locates on the pier and the land part locates on the marine park. The artificial pier system on the water and the park on the land can both be seen as the landscape below the urban center which can be called lower layer system. And the sloped green roof can be seen as the upper layer landscape which forms the building. (figure7.2) The building is not isolated, it is close related to the landscape. So the architecture scale research question is how to integrate Galveston urban center with the landscape from both exterior and interior.

In this case, both of two parts are elevated higher than the seawall to avoid the water problem. So they are facing the same level hurricane challenge. But the land part has more complicated landscape and function than the water part. So I chose the land part of urban center to mainly develop. (figure7.3) The designing process are divided into different layers. The artificial landscape continue to the interior of the building step by step. (figure7.4)

The building has a double layer wall system: The transparency, flexible outer wall and the isolated inner wall of each building/room. There are three kinds of inner buildings: solid core with solid concrete load bearing wall which is also the main structure of the building; glass core with removable glass façade; isolated concrete building which is solid enough to resist the hurricane. The outer wall reflects the public character of the urban center. It is transparent and flexible, the exterior landscape can be seen clearly continue to the interior of the building. The interior building cores and columns are like plants growing on the landscape. (figure7.5)

The solid core is the main structure to fix the roof together with the column. When the hurricane came, all the flexible walls and facilities can be removed to the solid core and isolated concrete building and be well protected. And the rest which is built as exterior elements are left to resist the hurricane. Thus can meet the demands of reducing damage and recover easily and quickly. The hurricane prevention strategy is also coherent with the urban concept and building concept. (figure7.6)

The column, facades and roof window are all designed to meet the architectural concept and hurricane prevention strategy. I choose the branch column for the building since it meets the concept of public space quality and hurricane prevention both well. The land part of the building is protected by the seawall and the water part of the building is elevated. There won't be much water problem for the building but the wind. The structure of the building should be solid enough to protect the roof from overturning. The branch column can provide a stronger column than normal one. What's more the space quality is improved by the branch column. It can be a symbol of 'landscape go inside' and provide more exterior sense to interior. (figure7.7) The outer façade is made of several units which can be moved up and down flexibly for ventilation and as entrances. It also can be hidden in the roof when the hurricane comes. (figure7.8)

Living with water is not only live with water geographically but also spiritually and take advantage of it. The project tries to utilize water adaptive strategy on different scale. And the concept of each 'triangle' is coherent. By integrating architecture with the landscape the public space quality is improved and the public activities are extended from both interior and exterior.

The project is tentative to some degree: building a recreational system onto the sea for a barrier island. It seems like choosing a most dangerous place to do the most dangerous thing. For Galveston city, there can be many choices and strategies. My choice is a less common one than building in a safer place protected by the seawall, but it is worth trying. And many cities have already expand the urban area to the waterside successfully. What the project provide is an attitude and a possibility to live with water and enjoy water to the maximum degree. Extending urban life and tourists activities onto the water can make Galveston city more attractive and inject new vitality to the city. A new attempt always brings some risk, but the risk is not the reason to give it up. So one of the goals of the project is to solve the problem and reduce the risk by designing.
figure 7.1 The structure of design process

figure 7.2 Two layers of landscape

figure 7.3 Main project

figure 7.4 Landscape continuity

figure 7.5 Wall system

figure 7.6 Hurricane prevention strategy

figure 7.7 Branch column

figure 7.8 Flexible facade