

The waterfront of Lisbon between Torre de Belém and the Jamor river
Urban and Architectural Project

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Extended Abstract

Examination Committee

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INTRODUCTION

The aim of this report is to reflect upon the project of urban and architectural scale developed in the class of Final Project 2, throughout the course of three semesters. The goal is not only to explain the conceptual method used but also to make its theoretical substantiation. Therefore, it should be understood as a complement to the project.

The project is centered in a section of the waterfront comprehended between Torre de Belém and the Jamor's river mouth. On the one hand, it can be considered a privileged area, as it is located near a historical neighbourhood, close to the river Tagus and to the Monsanto forest park. On the other hand, it is a place long subdued to the conflicts of interests between the municipalities and the port's administration. In general, it is an unresolved space on the frontier of the cities of Lisbon and Oeiras, a *Brownfield* or a *Terrain Vague* that has been waiting for a new fate.

The exercise presented in the first semester of the academic year of 2015/2016 was rather flexible, both in terms of program and of form. But its goals were clear: to promote the urban regeneration of the area, so that this space could be integrated in the local and municipal dynamics.

After concluding the urban approach, a focus was placed on a specific area of the section under study. In this case, it was decided to intervene in the two buildings of the former fish market in Pedrouços, where a reconversion intervention is proposed.

Due to the initial programmatic uncertainty, an extensive bibliographical research was necessary to better understand the work context as well as to try to discover recommendations or constraints that could shape the solutions. Thus, in a first phase, the characterization of the site at various levels (historical, physiographic, urban) was studied. It was at this stage that the interests of the various actors in the space were exposed, and it was the responsibility of the working groups to mediate these forces and find a harmonious balance between them. In a second phase, and throughout the remainder of the project, other themes were explored as they were considered necessary for the design task.

THE LOCATION

Image 1 - Location of the urban project



The territory under study extends on the riverside of Lisbon, from the Torre de Belém to the mouth of the river Jamor. In spite of the privileged location, it is a place that does not participate in the daily life of the local populations, since it is an urban emptiness with little attractiveness.

This place is located on the border between the municipalities of Lisbon and Oeiras, but it is the port's administration that manages the space. Conflicts of interests between these three entities and also between the central government dictated the obsolescence of the place, which now awaits a new destination.

Like many other places in Lisbon's waterfront, this area suffers with the impacts of the railway line and the high level automotive network. Functioning as a barrier to the population, these elements contribute to the segregation of the place in relation to the nearby urban fabric.

In addition to the presence of the river, the area is also benefited by a proximity to the forest park of Monsanto as well as to the center of the neighbourhoods of Algés, Dafundo and Belém. This means that the place is defined not only by its riverside character, but also by the green, residential and cultural spaces that are adjacent to it.



Image 2 - Road node in Algés

THE URBAN PROJECT

WATERFRONT RECONVERSION IN PORT CITIES

The prospect of performing in Lisbon's waterfront, especially in a place where time has originated void and obsolescence, encouraged the knowledge of interventions in the waterfronts of other port cities. This way one can understand the evolution of this type of places in other world cities and the way they have tried to respond to the urban voids created by the paradigm shift of port activities. Although, as would be expected, each city had its own development dependent on their national context, technological and economic progress worldwide allows the definition of common lines in the past of the main port cities and of their waterfronts.

Matias Ferreira (1997) summarizes the three main periods of port cities: a first that corresponds to an increase of the activity due to industrialization and that has as the consequence of the disengagement of citizens in relation to the river; a second period, when ports undergo a reformulation, for economic and technological reasons, which leads to the birth of large urban voids in the port areas; and finally a period in which there is a genuine interest in rapprochement of the city to its river or sea. And only through the understanding of these derelict riverside spaces as true urban regeneration opportunities can there be an

effective regeneration of the waterfronts in all their physical, aesthetic and symbolic dimension. But regardless of all the functional or formal options to take over this type of conversions, an idea seems consensual: the permanence of signs of an industrial past will always be an advantage for the intervention. Especially considering that this is such a rich past, mirror of evolutions and revolutions and so closely linked to the history of port cities. Any project that proposes an intervention in the waterfront of one of these cities should be sensitive and understanding of the importance of these places and their stories to the communities. In this perspective, it is especially relevant to remember that these derelict spaces now in reconversion were inaccessible to citizens for a long time, so these interventions should be driven by the desire of reconnection of an entire community in front of water, through a genuine democratization of the place.

SUSTAINABLE URBAN DESIGN

Costa Lobo (2010) recognizes that the protection and appreciation of space near water is crucial to human health, fauna and flora, as well as to the quality of water, air and climate. The proposal of intervention in an area located between the Tagus river and the Monsanto forest park, two of the most important natural elements of Lisbon, requires the understanding of the natural and formal characteristics of the place. Only in this way can we establish a sustainable relationship between the water and the land, so that a new stretch of Lisbon's riverfront can be lived by the whole community.

After presented in the previous section the distinction between different periods of the evolution of waterfronts, a parallel analysis, but an equally valid one, can be made. An analysis that distinguishes three generations of waterfront reconversion: first, one that was based on the real estate and economic valuation of the space; a second that already recognized the value of the waterfront while public space to be lived by the population; and finally, a third generation, in which the water is understood as an ecosystem, with appreciation of the environmental dimension of the place where the land meets the water (Saraiva, 2010). It has been established that public space can benefit from the presence of green areas. These contribute to the environmental quality of the city, by improving acoustic, air and soil conditions. Furthermore, they bring enormous advantages to the quality of life of the communities.

Riparian areas are, in fact, unique areas in town and that are valued by green spaces, good accessibility, multifunctionality, equipments of public interest and, in general, quality public spaces. However, the increasing vulnerability of cities to harmful environmental phenomena, both in the present and in the future, justify that the design of these spaces be increasingly based on environmental considerations, to ensure that the riverside redevelopments have a positive impact on the city.

Image 3 - Urban intervention plan



THE URBAN PROPOSAL

Considering the bibliographical research synthesized in the previous sections, as well as the analysis of the place in all the dimensions considered relevant, it was established a set of initial intentions for the execution of the project. On the one hand, it was imperative to implement order to the Algés road node and to make a competent transition from a 1st level roadway (CRIL/IC17) to local transit routes. On the other hand, it was essential, according to the understanding of the working group, to project a waterfront for all, without favouring any social status. It was desired to return the river to the entire population, avoiding real estate pressure scenarios that culminated into luxury ventures, where only a part of the population could have access to the waterfront. Finally, in analysing the ecological structure of the area, a final intention was born, which then became the project's generating concept: to link the forest park of Monsanto to the river Tagus. The project's execution was divided into three main parts: road reformulation, public transportation and urban park.

The intervention project in mobility began with the proposal to end in Algés the train line that is born in Cascais. From Algés to Cais do Sodré, it was proposed the creation of a metro line, integrated with the existing network. Extinguished the urban barrier that the railroad implies and eliminating the redundancy that Avenida da Índia and Avenida Brasília provoke, another intervention was essential to redesign the road situation: disabling car traffic in the last section of the CRIL/IC17, which currently has the sole purpose of connecting to Avenida Brasília and serving the area south of the railway line. Since this connection is no longer necessary and because of the importance for the remaining intervention, that there is no 1st level route to affect the riverfront, this operation allowed the reconversion of the entire Algés node road into a roundabout to better distribute traffic.

The decommissioning of the last stretch of the road viaduct from CRIL/IC17, also allowed its conversion into an extensive pedestrian space, connecting the waterfront to the forest park of Monsanto.

The project decisions to recast local mobility were taken in parallel with considerations relating to public transport. The Algés node is already considered an interface of considerable scale. However, to make it more functional and appealing, some amendments were proposed. In addition to the aforementioned railroad reconversion and insertion of a metro line, there was also proposed the creation of a bus terminal as well as a river boat station. This interface is also served by a large parking area, in order to make it more appealing for people to come into the city of Lisbon by public transportation.

With regard to the reconversion of the riverfront, it was decided to characterize the entire area as public space. It was designed an urban park that limits Lisbon to the West as does Parque Tejo, to the East. The park and its natural elements integrate the concept of connecting Monsanto and the Tagus river and allow a contrast between land and water. The insertion of green spaces on the riverfront, integrated into everyday urban experiences, give countless environmental and social advantages to the communities.

At the functional level, it was clear that the Park should be more than just a showcase of flora and fauna. There should be functions that attract people to the river front, because only a strong human presence avoids the risk of the park becoming a marginal element and being understood as an unsafe place. Thus,

a set of equipment and services was designed in the park as a complement to the different green spaces. The urban project is defined, in short, as an answer to the intention to return the waterfront to its city, creating a space that, by accessibility and openness to the entire population, can compensate for the inaccessibility of other areas assigned to the port. In this way, the solution represents a commitment between the port activities and the experiences of the population, promoting the coexistence between the two realities.

THE ARCHITECTURAL PROJECT

MODERN INDUSTRIAL ARCHITECTURE IN PORTUGAL

The modern movement offered a new design language for industrial spaces. A language that, in Portugal, was best interpreted by a generation of architects educated between the beginning of the military dictatorship and the Exhibition of the Portuguese World, who responded to the new industrial program in a simple, rational and sober way (Custódio, 2005). And even though the factory program, by default, was not the most desired by the architects, the fact is that it allowed them to apply, experience and reflect upon the modern ideals (Figueira & Vaz Milheiro, 2005). In fact, the arrival of the modern movement to Portugal boosted a new approach to industrial architecture. However, the origins of this movement were already closely linked with industry, by the progressive spirit and combination between art and technique (Tostões, 2005).

Today, the modern industrial ruins, of which Lisbon has many examples, are symbols of an industrial promise that has not been fulfilled. They are empty, obsolete spaces, representing the modern desire to respond to a program that no longer exists (Figueira & Vaz Milheiro, 2005). And the meaning of these spaces is not only formal, constructive and technological, but it is also, and primarily, at a social level.

Any intervention to be carried out in this heritage must be based on a deep knowledge of the pre-existence and must ensure the functional integrity of the space. It is recognized the value of interventions consisting in the adaptation of the place to new uses, except in cases of special historical significance. This type of intervention, as far as possible, should allow the maintenance of the original systems of activity and circulation, proposing uses that maintain some degree of compatibility with the original uses. Adapting uses also saves resources both economically and environmentally. In general, interventions must be reversible and have a minimal impact, and any deeper intervention, such as reconstruction, should be reserved for exceptional situations (TICCIH, 2003).

Obsolete industrial heritage can have an important role to play in the regeneration of urban areas (TICCIH, 2003). However, intervening in this heritage implies recognizing two great polarizing forces: on the one hand, these solid, sober and functional constructions have a great deal of adaptability to current building and use standards, which generates a great public and private interest to reuse. But, on the other hand, they are places of great value, not only at the social level, for the communities that were dedicated to industry, but also at the documentary level, for the history of technique and industrialization (Choay, 1992). Therefore, any intervention to be carried out in an industrial area must harmonize these two realities.

THE PRE-EXISTING BUILDINGS

Currently there are two buildings where initially there was only one, as both existing bodies were joined by a volume that guaranteed spatial unity to the lot, according to the original project by the architect Paulo de Carvalho Cunha. Located along the length of the dock, the buildings are a good example of industrial architecture due to their extreme functionality. The set has length 294m and 57 m wide and can be divided into several functional areas (A.G.P.L., 1965).

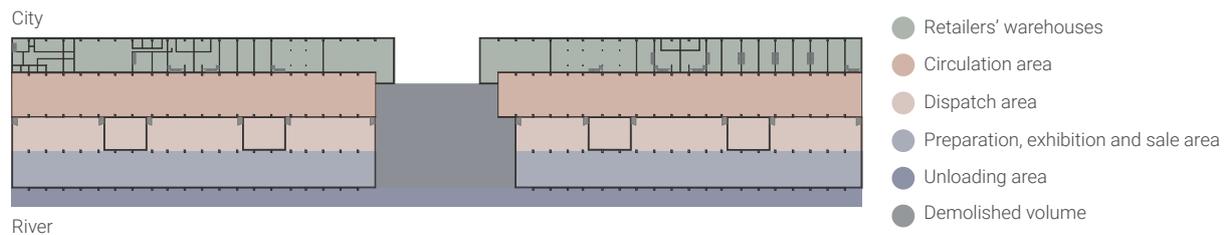


Image 4 - Functional organization of the buildings in the ground floor

THE ARCHITECTURAL PROPOSAL

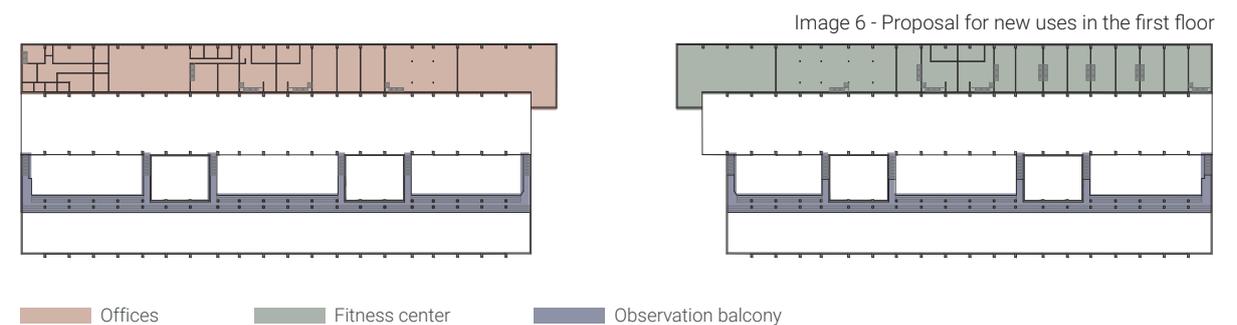
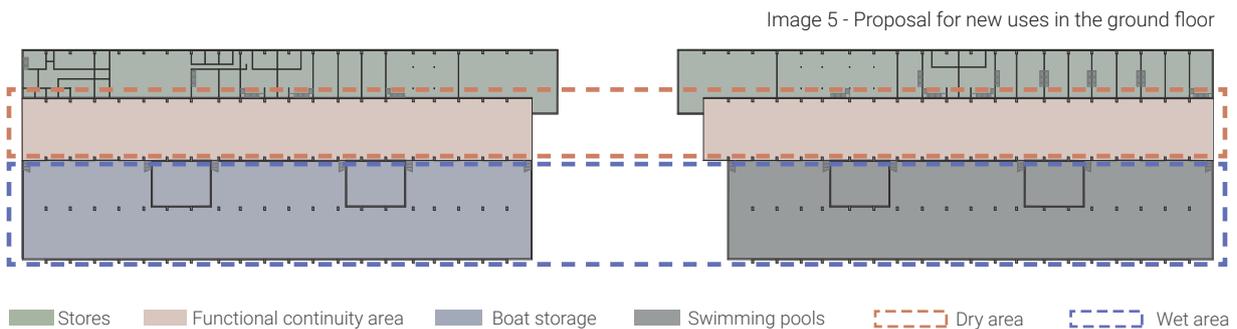
With the intervention in these two buildings it was intended to revalue spaces with great spatial and patrimonial interest, assigning them new functions that were in agreement with the interests established by the various actors: the municipality of Lisbon and the port's administration. As such these buildings were intended for nautical activities as a way of taking advantage of the natural conditions of the place and of the current interest that certain nautical organizations have for the space, namely *Volvo Ocean Race*.

Faced with a pre-existing building in good conditions, with a recognisable spatial value and with an ease of adaptation to new functions, a methodology based on minimum intervention principles was established. This sought to save resources both at the environmental and economic levels, while restoring life to two architectural pieces with a spirit that deserves to be preserved. It should further be noted that the freedom to intervene was guaranteed by the absence of any patrimonial classification or protection.

In general, it is intended that the nautical centre functions as a space open to the community and enabling various forms of use, some related to sports, others related to the viewing and nautical culture. Thus, it was possible to synthesize the major functional areas that the new development should contain:

- Public reception and reception sector: functional area that marks the first contact between the user and the nautical center and allows the distribution of people to the other functional areas;
- Sector of physical training and maintenance of the body: Set of spaces of support to the athletes, with functions related to the physical well-being, such as changing rooms, gymnasium, swimming pools and rowing training tanks.
- Administrative sector: This functional area should contain several administrative offices, management and meeting rooms. They must be provided with good lighting and ventilation conditions. It must be guaranteed an independent access to the course of the athletes and the wet activities taking place in the nautical;

- Social sector: As a complement to the sport activities, there should be considered spaces for the reunion of athletes, spaces that allow physical rest and the promotion of nautical culture through the sharing of experiences. This sector may be exclusive to athletes or be more open to the community;
 - Technical and operational sector: Spaces that should give technical support to the nautical activity. Must boat storage and workshop. This sector must be located near the river, in order to avoid large onshore routes for the storage of the boats;
 - Connection to the river: This functional sector, which is to be found on the outside of the buildings, must contain a flat area, for the arrival of the boats by land and their temporary storage, as well as an area for cleaning and preparation of the boats before and after use. It should also have infrastructures for the boats' entry into the water (ramp or crane);
 - Commercial sector: These spaces must be physically inserted in the nautical centre but it does not need an access through its interior. Ideally these spaces should have a connection with the outside, in order to attract the community to this new complex and guarantee a greater affluence and profitability of the intervention.
- Once the new objectives and functions were defined, that is, once the nautical centre program was defined, it was understood how it could be inserted or integrated in the pre-existence, establishing a parallelism between the original and proposed programs.



A more detailed approach to the buildings, following an interventional minimalism, essentially consisted of a space-by-space analysis, adding or subtracting elements as needed, but always maintaining spatial coherence. In short, the architectural project is thus defined as a response to the need to requalify a long abandoned structure. The solution presented intends to represent an economy of resources through a minimalist intervention that is based on a deep understanding of the pre-existing building. At the same time, it is expected that the heritage values of the space allied to the new functions, extend the impact of the intervention to the urban dimension, thus giving rise to a new sporting centrality at the municipal level.

CONCLUSION

This report aims to justify and present the urban and architectural projects developed on the riverside section that is located between the Torre de Belém and the mouth of the river Jamor. It is considered an extremely important issue, since it is an extensive urban emptiness that, despite enormous potential, represents an effective discontinuity in urban fabrics and systems. The exploration of this theme is also relevant at a time when the relationship between the city of Lisbon and its port is a constant source of reflection and debate. The urban project is defined as a reflection on how Lisbon's waterfront can deal with its gaps in a period of constant evolution of port activity. In this perspective, and in the absence of any decision to relocate the port, it was considered essential to promote a more positive view of the waterfront by the citizens, showing that coexistence between economic and leisure activities is possible.

The architectural project is part of a panorama of recognition of the value of modern industrial architecture, both for its formal and functional character and for its social importance.

The decision on what to preserve, in this project, fell on a single person, the student. It was necessary to consider the value of this place from the perspective of society in general, wondering what the public interest is in preserving its memory. It is a task of enormous responsibility that, outside the academic context, should correspond to a team task, so that it is not dependent on individual interpretations that may not correspond to the general interest.

In fact, all the themes explored in this work, namely sustainability, landscaping, heritage conservation, allow us to draw an important conclusion: the project presented here is only a starting point. A hypothetical implementation of it would only be possible through the contribution of professional experts in these areas and in many others that were not addressed here. It was a project where it was attempted to explore a little beyond the strict limits of the architectural conception, but it is also understood that only this way could an adequate answer be given to such a vast exercise.

And considering the positioning of this work in the final stretch of the master's degree and in the beginning of a professional course, the awareness of the multidisciplinary and richness of architecture could not have been more relevant.

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