

# Reflection

## 1.1 The relationship between the theme of the studio and the subject chosen by the student within this framework

The theme of the studio Architectural Engineering relates to research and design from a technical point of view. Mostly, the chosen topics are related to sustainability, new techniques and materials or to contemporary problems in which a technical approach is important.

My thesis topic is related to the ability to create flexible housing within the structure of existing office buildings. The link between this topic and the approach of the studio is that flexibility can add a technical value to a building because the ability to respond to changing requirements is taken into account.

## 1.2 The relationship between research and design

The research I have done relates to how building services for housing can be applied within the structure of existing office buildings, in context of flexibility. I have proposed to place the infrastructure, required for the building services, in the façade instead of using shafts inside the building. The emphasis was on office buildings with load-bearing façades and the possibilities and limitations these façades entail. Therefore the topic of flexibility was focused on the relation between the building services and the load-bearing façade.

The office building which is chosen for the design is also provided of a load-bearing façade by meaning of parapets which transfer the loads of the floor to the columns. Because of the corridor-access which has been assigned to the building it was decided to place the infrastructure of the building services in shafts in the corridor instead of in the façade. However, this does mean that the load-bearing parapets didn't play a role regar-

ding to the building services infrastructure (1).

The conclusion is that my research only partly provides input for my design because the research was based on a specific solution: placing the infrastructure of the building services in the façade.

Despite of this I have applied the proposed concept to separate the shafts and the floorplans, but in a slightly different way. I also became more aware of the requirements regarding to building services for housing and I better understand what flexibility in this context means. Besides the chosen solution, the concept that formed the basis of my research will be a possible solution for the transformation of other office buildings.

## 1.3 The relationship between the methodical line of approach of the studio and the method chosen by the student in this framework

The general approach of the studio Architectural Engineering is to make use of the triangular relation of context, technique and program during the research and design phase. This means that the technical fascination which is researched is not a stand-alone topic but is related to a specific environment and to specific users. This triangular relation is also used in my research and design. The context is an old office building in Amsterdam, the investigated technique is the flexibility regarding to building services and the program concerns dwellings.

The result of my research consists of a couple of concepts which propose how office buildings with load-bearing façades can be transformed into housing when flexibility is important. Therefore the research is provided of a comparison of various variants for building services and two case-studies.

## 1.4 The relationship between the project and the wider social context

Transformation of obsolete vacant office buildings into dwellings will provide in a solution to both the owners of the offices and to the society because it offers a solution for office vacancy and housing shortage.

Besides that flexibility of a residential building can ensure that the building can serve as a buffer when the housing market changes. Flexibility also ensures a sustainable use of the building and materials and also costs can be saved. Eventually, dwellings can be adapted easily to the needs of the user and the changing requirements for housing.

Finally, this graduation project aims to show that office buildings, which are until now difficult to transform due to the characteristics of the construction, can be transformed more easily by applying the proposed solution. In case of my design it is made clear how an equivalent office building can be transformed whereby it becomes flexible in use.

