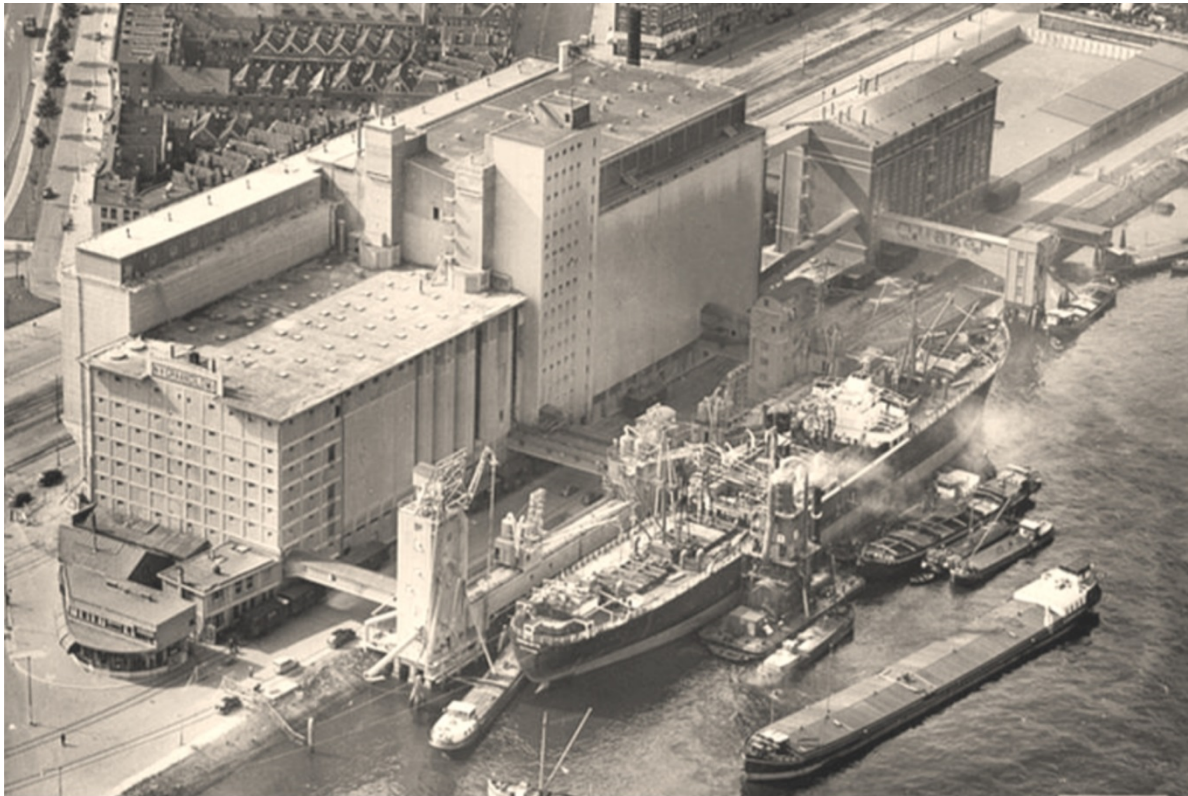


REFLECTION PAPER P5

This paper reflects on the research and design process I made during this graduation studio. I will talk about why I chose my case study and how I approached the redesign of the building.

The relationship between the theme of the graduation lab and the chosen case study

The Heritage & Architecture section focuses on the architectural and technical aspects involved in the conservation and transformation of buildings, including those of cultural significance. Finding challenges where the past explicitly determines the possible future. The approach of the Heritage & Architecture section is preservation through development. Especially in the Rotterdam Harbor design studio, this holds very true that preservation through development is necessary because these harbor buildings made Rotterdam the city it is today and would be a shame if lost.



Luchtfoto maassilo, sepia

The Maassilo located in the south of Rotterdam at the Maas Harbor was at one point in time the largest grain storage facility in Europe, but this happened gradually in 3 massive phases which are still visible in today's ensemble of the building. The moment I first saw this ensemble all other case studies became boring in my eyes, the sheer volume of this monolith excites me to see what is possible with it.

In 1910 the first part was built, designed by J.P. Stok. This was the first large building/storage facility that was built at the Maas Harbor, and at the time it stood above all other buildings in its vicinity. Then in 1930 the second part was built on to the west façade of the first part as an extension for the increasing demand of storage volume. Designed by Brinkman & v.d. Vlugt it was the first building outside of America to implement the McDonald method. And in 1951 the last major extension was added to the south of the complex designed by J.P. Postma making it the largest storage facility of Europe.

After the Company moved to the Botlek area in 2003 the building stopped working as a storage facility and the building was left behind with all its empty silo's. Since then there has been a nightclub in some parts of the Maassilo as well as flex office spaces and some other activity spaces. Currently 70% the buildings volume is still left empty due to the silo's, and the interventions that have been made since 2003 are only temporary interventions so some parts could be used. But the building is still deteriorating now because there have not been any real interventions to increase the life span of the building or try to use the huge amount of volume that is available in the building.

So in order to preserve the Maassilo we have to develop it. Not only by preserving its original state but finding a new function so that the building can start a new long life.

The relationship between research and design
















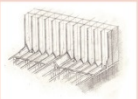


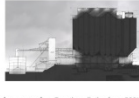

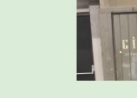

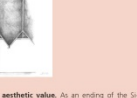


When designing in relation to an existing/historic building you have a starting point for your design, and a compass that can guide you in the way the building should be orientated. The relationship between research and design within heritage is something of key importance, because one cannot exist without the other. When designing interventions it is of a fundamental interest to find an appropriate balance between the old and the new. Research is a substantial part of the design process and is reflected in the statement Design by Research and Research by Design.

Research is the father of design, without researching and analyzing an object/subject/desire there can be no fruitful result in the design. Because of given existing information we can evaluate the good qualities and bad qualities of a design and also see limiting factors or rather creating limiting factors. By which I mean creating guidelines so that one's design doesn't start on a tabula rasa but on a palimpsest, enriched by the underlying value of what once was. Or the exact opposite can happen in which you discover that most of what you have been analyzing isn't worth anything or is more expensive than building something completely new.

In case of existing buildings one must first look at the history of the building, researching the influences that created the final design, and valuing them as to how much they contribute to the current state/image of the building. Which in heritage is done by assessing the cultural values of the building. During the first two phases of the project Rotterdam Harbor Studio I researched different aspects of the Maassilo, like the urban context, technical details such as structure as well as previous activities and the architects of the buildings. Alongside this research the Maassilo-group used the information that was gathered to compile a report about the cultural values of the building which can be divided into physical and non-physical values. To get a better understanding how these values correspond with each other or oppose each other we composed a value matrix that measures the values according to level of scale.

From this matrix one can compile the most important values and decide from there what to use in the design and what has to be kept in the design to preserve the heritage.

CULTURAL VALUE MATRIX Made by the Maassilo research group

VALUE MATRIX		Age Value	Historical Value	Intentional Commemorative Value	Newness Value	Art Value	Rarity Value	Use Value	Aesthetic Value
MAASSILO, ROTTERDAM									
Surroundings			 <p>The Rotterdam south area is characterized by its former harbour function. Several morphological elements (old train tracks, roads, harbours and docked boats) that characterize the surroundings of the Maassilo.</p>	 <p>The names of streets, harbours and neighbourhoods refer to the history of the area. "Maashaven" for instance, refers to the former harbour function. Or "Tenevrij" as we see on the map the name of the neighbourhood.</p>	 <p>A lot of new buildings, especially on the Koolwaerduid by famous architects bring new activities to Rotterdam-Zuid. These buildings function as a catalyst for the development of the area.</p>			 <p>Due to the development of new connections with the center, the area gained a good location within the urban fabric of the Rotterdam. With the harbour industry disappearing, the area remains with lots of space for further development.</p>	 <p>The new high-rise buildings that have been constructed over the last two decades create an interesting contrast with the original industrial buildings.</p>
Site	 <p>Rust, algae, and decay are visible on the structures of the unrestored elevator towers.</p>	 <p>The building complex, together with the elevator towers and connecting bridges form an almost total ensemble. Most tracks are missing in which the process of grain storage and distribution took place.</p>	 <p>So far, two elevator towers have been restored in 2015. They have been brought back to an original state which is clearly an act of commemoration.</p>			 <p>The total ensemble of fixed elevator towers, moving elevators, supporting bridge structure and the connection with the building complex is rarely found in the Netherlands.</p>		 <p>The building has always functioned as a resilient mass in a vibrant industrial setting. The abandonment of active uses the image of an empty stage.</p>	
Spatial Composition		 <p>The different volumes give an impression of the development of the company, the economy and of the building as a whole. However, this unclear to the untrained eye.</p>						 <p>The building has always functioned as a resilient mass in a vibrant industrial setting. The abandonment of active uses the image of an empty stage.</p>	
Skin	 <p>Weathered surfaces, decay, damage on masonry plaster and rust on steel is visible on different parts of the facade.</p>	 <p>Since civil works and industrial buildings became part of the architectural discourse in the beginning of the 20th century, the site buildings are important works in the oeuvre of the different architect. For Hahn the office building was a bit less important being 1 of many.</p>	 <p>The original sign of the east facade on the building by J.P. Stok has recently been restored from to the original as it was built in 1910. And next to the entrance door on the same building there is a sign indicating the company details.</p>		 <p>The architectural styles that are represented in the facade express the architects' intentions. J.P. Stok's facade for instance, expresses the different functions on the inside. The 35 x 55 meter painting called "Flowers of hope for universal love" by the spiritual artist Lisa Lux on the 3rd-phase building is literally a piece of art.</p>	 <p>There is no trace of any identical 'pilot-boat' like the ones on the third building by D. Postma which make it very unique.</p>		 <p>To prevent noise pollution from the club to the neighbouring houses, the 'pilot-boats' were covered by steel boards on the inside. Consequently, the aesthetic appearance of the light coming in through these grills has been lost. Another element are the octagonal ribs of the silos that emphasize the industrial appearance.</p>	
Structure	 <p>The structure shows clear decay, has been worn out and damaged on several places and the concrete surface has gotten dirty after the hundred years of usage.</p>	 <p>The development of the technological possibilities in these concrete superstructures is remarkable. The 'pilot-boat' that has been used in the 2nd phase, the base structure for the office by H. Hahn but also the increased height of silos in later phases are examples.</p>		 <p>The big columns have been cut away on the ground floor and some have been replaced with new thinner columns in order to create more space for the flow and Wow music club.</p>		RELATED	 <p>Due to the intervention with new columns bigger space is currently available that could easily be used in several ways. Besides that, the structures is designed to bear the load of 80 million kilos grain. This load-bearing capacity offers great opportunities.</p>	 <p>The structure contributes to the industrial feel due to its rough finish and the big scale that is less related to human and more to machine. The structure is the building hence it makes the atmosphere.</p>	
Space Plan		 <p>The space plan is highly related to the original function of the building, hence the layout plays an important part in understanding the way the building was used.</p>					 <p>low use value. Together all silos form 80% of the actual building volume. The use value of these spaces is very low at the moment. It's a great challenge for the future redesign.</p>	 <p>The functional layout of the building as an ensemble of rigid grids results in a specific form of elements. Consequently a 'pressing' symmetry can be experienced in many parts of the building.</p>	
Surfaces	 <p>Many surfaces, including signs, are damaged or even worn out to the point that they are no longer readable. This clearly shows they are from another time.</p>	 <p>The codes painted on the silos, the blue and yellow silos, and signs like 'top' on the door give an impression of the sturdy functional original usage.</p>			 <p>Graffiti artworks on the ground floor and on the 10th floor in the D10 factory have been made during the renovations. The graffiti on the ground floor was commissioned by Pops MAA and carried out by graffiti network to sell unclear which artist did the artworks in the D10 factory.</p>		 <p>low use value. In its previous function the tunnels strictly fulfilled the purpose of unloading grain out of the silos. Due to its specific function it's very difficult to come up with a new use for these tunnels.</p>	 <p>aesthetic value. As an ending of the Silos, in a way the funnels form the ceiling that is so characteristic for almost the entire ground floor space. The shape of these surfaces first as an unknown presence behind those surfaces. Despite that, the funnels have a very unique and striking appearance.</p>	
Services/Staff	 <p>Mainly rust and decay but also damage is visible on machinery and utilities around the building.</p>	 <p>The machinery and utilities give an impression of the previous function of the building. The elevator system that was used to blow grain through pipes to the top of the building where one of the first of its kind and very unique at the time.</p>	 <p>During the renovations some of the machinery has purposely been put together to be exhibited. The clock board in the control room on the 2nd phase building shows a grid of different silos and the type of grain stored inside. The board is spiced with a substance that prevents the clock and makes it un-erasable.</p>				 <p>The buildings was never designed to host large amounts of people. For the new club-ventilation systems have been introduced during the renovation. These run through some of the silos and provide the spaces with enough fresh air.</p>		

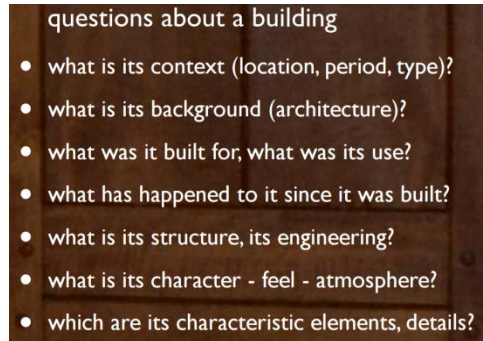
Essential values
Taking away these elements would change the total essence of the complex

Important values
These elements make the readability of the total ensemble richer

Complementary values
When these aspects are altered the general idea of the building can still be read

The relationship between the methodical line of approach of the graduation lab and the chosen method

There are a lot of different ways to select data and to assess the value of that data. Some methods that are already in use nowadays to assess the values are for example the method of Suzanne Fischer which has an approach which works based on scale. She starts from the biggest scale which in the case of buildings/architecture is context and works her way down to small details of the building and ornaments that have meaning.



Afb.1

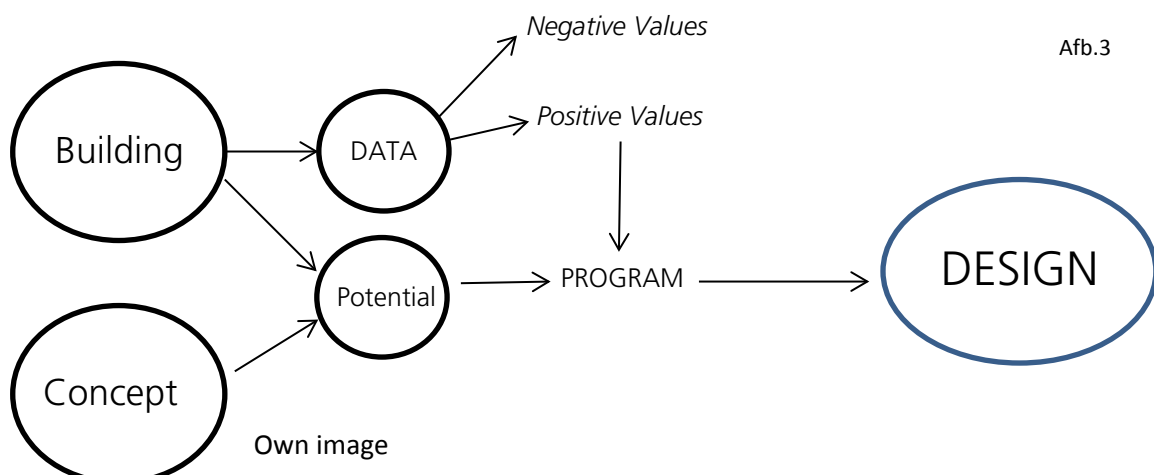
Another way of analyzing the data is dividing the data into different kind of values. Such as the NARA Document does, it makes a separation in four different aspects.

DIMENSIONS	Artistic	Historic	Social	Scientific
ASPECTS				
Form and design				
Materials and substance				
Use and function				
Tradition, techniques and workmanship				
Location and setting				
Spirit and feeling				

Fig. 2 Scheme based upon the Nara Document (ICOMOS 1994)

I think that collecting the data is the easiest task, it may take up a lot of time but it is most of the time available in digital, paper or physical form. The hardest task in my opinion is to find the data within all the data collected which is useable or even better *reusable*. Trying to formulate the worth of that data by creating a new plan which utilizes those existing elements is what makes a design special if you're building in relationship with an historical or existing context.

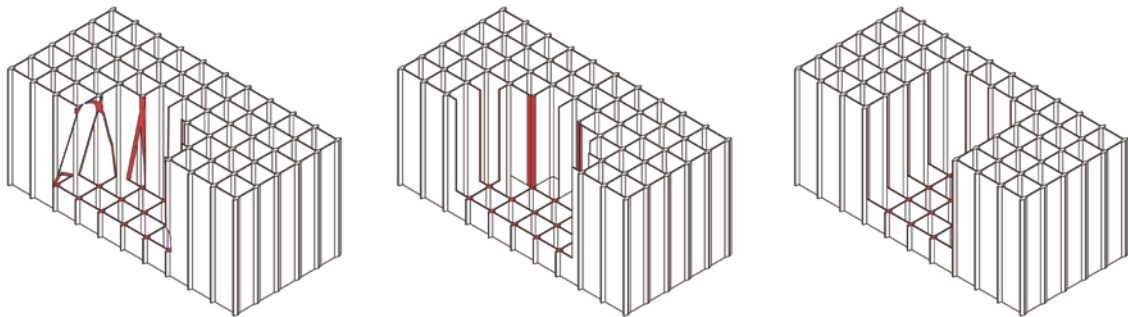
Here is my method, how to change the data into value for your design while working with historical buildings or existing structures.



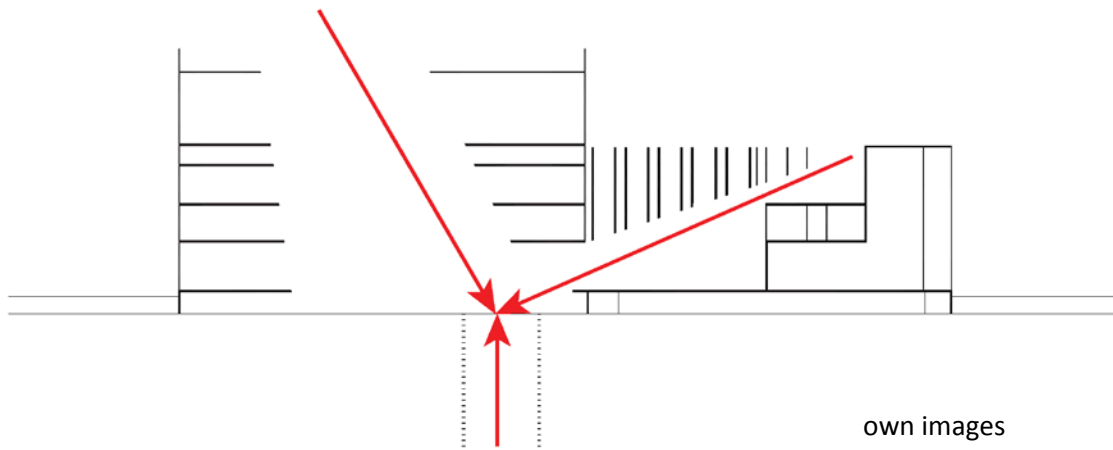
Afb.3

So this brings me to my approach towards designing a museum in the Maassilo. How do you make the Maassilo suitable for a museum, a giant concrete monolithic block with zero to no daylight and a 70% volume that is unusable for anything other than its previous function, storing grain. So the main challenge is how to deal with the inaccessible silo's that take up a lot of space. So how do you create an intervention in the silo's that increases the value of the silo structure and bring in daylight as well. Maintaining the image of a closed off, alienating concrete monolith, but opening up the inside to light, revealing the hidden parts of the building and experiencing the hidden nature of the silo's by partly exposing them.

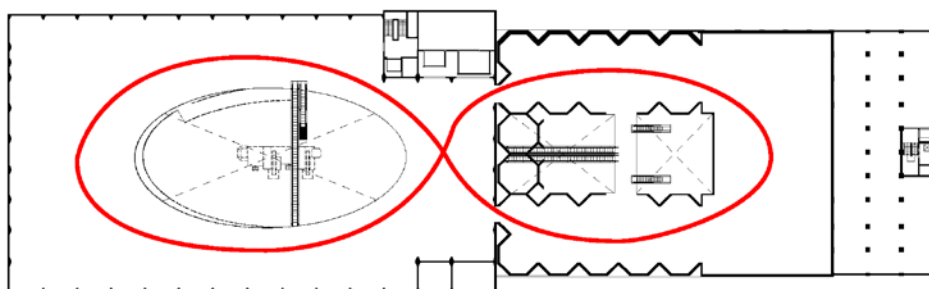
Using the cut out to increase the value of the silo structure . own image



Using these openings/voids as guide posts for the routing of the museum so that users can orientate themselves at ease while observing the art.



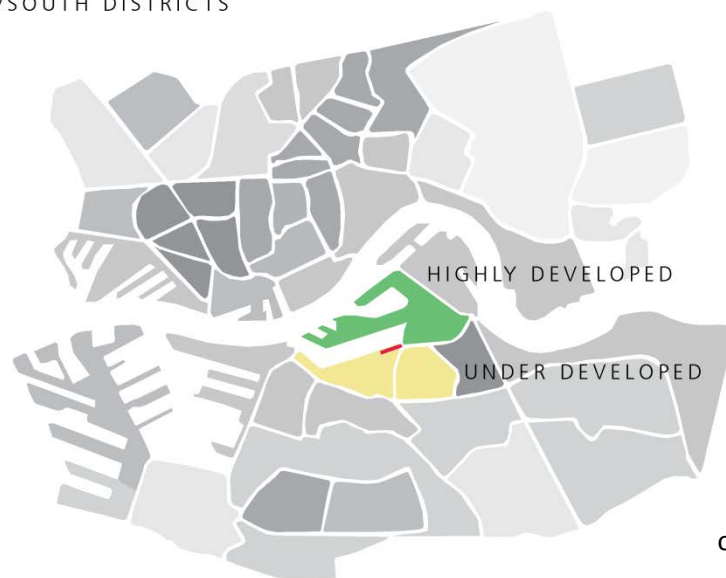
own images



The relationship between the project and the wider social context

The Maassilo is located on the edge of the southern district Tarwewijk and Bloemhof which currently are one of the worst neighborhood districts in the whole of The Netherlands in terms of safety, financial situation and crime. On the north side of the Maassilo are the districts Katendrecht and Kop van Zuid which have been undergoing rigorous real-estate development and the public space has been improved a lot which increased the value of the properties and also increased its good social standing as a district.

NORTH/SOUTH DISTRICTS



own image

Creating a cultural art hub/museum in a neighborhood to help with the social development of the surrounding areas as well as connection the district to the more prosperous Kop van Zuid and creating an connection to Zuidplein. This can generate enough traffic and interest in the

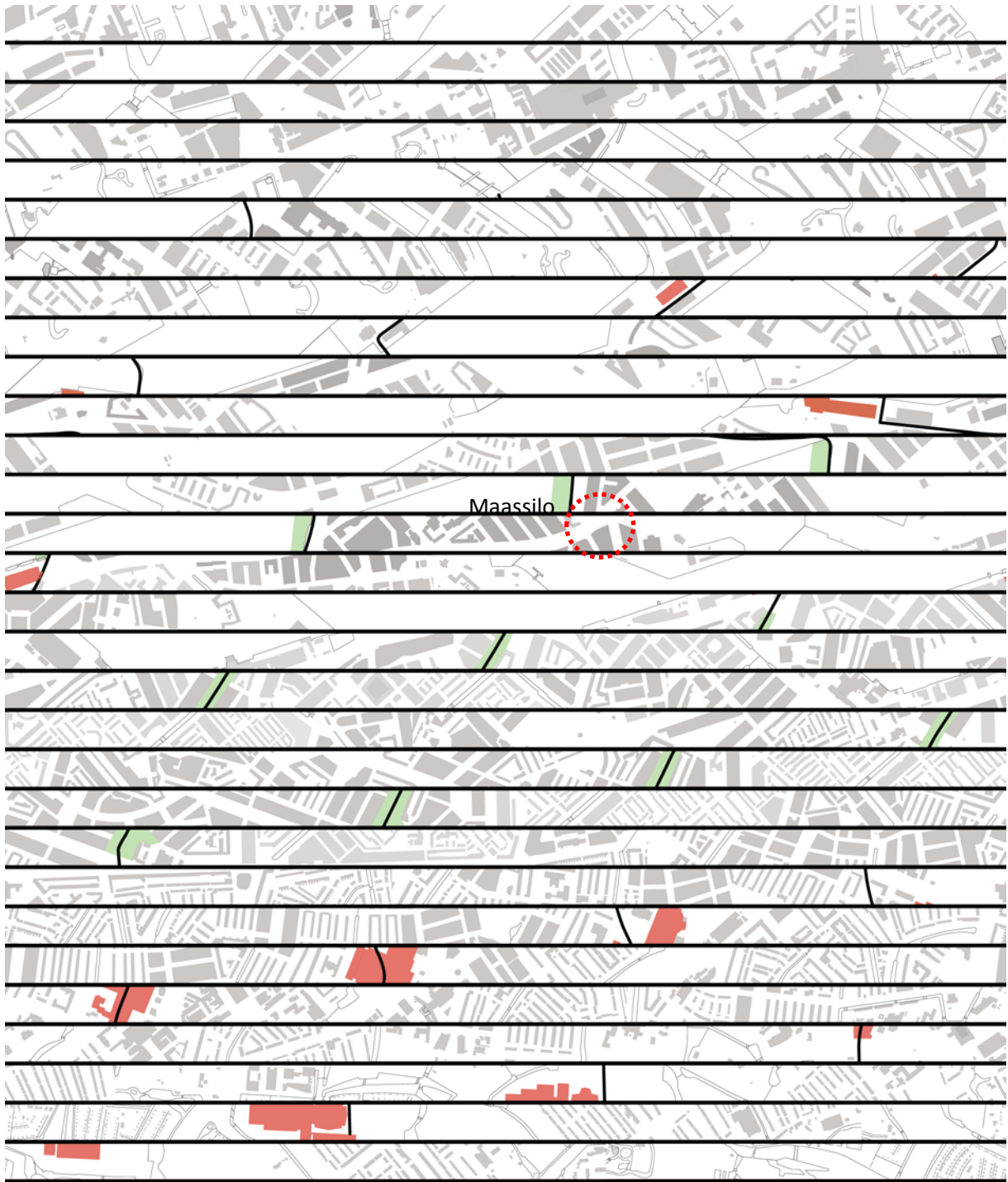


Municipality tidal park



area to help the social development of the struggling districts. Multiple researches done by the municipality have pointed out that art/culture are in fact an effective measure to help improve those areas. I want to create a cultural route through the south of Rotterdam that once again connects these districts and increases its standing within Rotterdam and make it increasingly more popular with not only the inhabitants of

Rotterdam but also make the district internationally known to the whole world because of the Maassilo museum.



Cultural routing connection the Maassilo. own image

Conclusion

With this paper I tried to define my how and why, which is a combination of cultural value appreciation but also looking at the context of the building and trying to create interventions which increase the quality of the redesign. The most important aspects were how to deal with the huge unused volume but also using the characteristics of the silo's as a design quality rather than removing them or leaving no real trace of them behind. Changing the function of the building became necessary in order to keep this building alive and to preserve the heritage that once ruled the Maas harbor in terms of usage and activity so that it not decays any further but rather shines again.