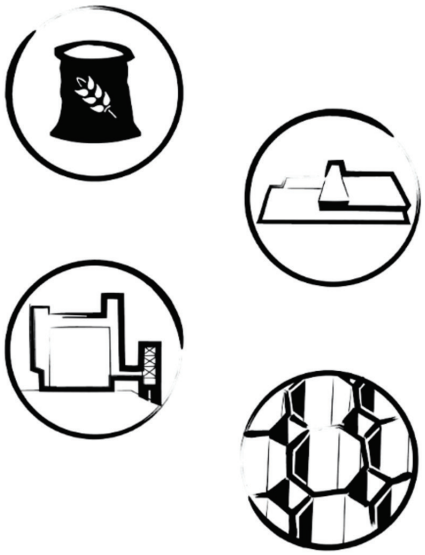
"Connecting the Maassilo"

Cultural Value - reflection paper



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Date: 12-12-2017

Introduction

Instead of starting with a blank canvas, the studio of Heritage & Architecture works with existing buildings, structures and surroundings. These all come with their own age, aesthetic, rarity, and other cultural values. The values can be qualities of the building or provide opportunities that may enrich your future design, but they can also pose as problems that make it challenging to realise your ideas for adaptive reuse of the building. In Heritage & Design, research and design are strongly intertwined. Before starting a design for adaptive reuse, research is required on all different aspects of the existing building. All its values, its history, the applied building methods and materials, and how the building was used and modified throughout its life.

After analysing the Maassilo on these values in the categories of architecture, building technology and its place within the urban fabric, my group members and I placed all the significant values of the building in the cultural value matrix that is attached to this paper as appendix 1. Out of these values the ones that were essential to the identity of the Maassilo were colour-coded red. These essential values appeared mostly within the columns of historical value, rarity value and aesthetic value and were translated / summarized into four main topics: History, Rarity, Presence and Technology. The value statements to these topics are enclosed in appendix 2.

In the first half of this paper, I will use these statements together with the opportunities and obligations that emanated from some key discussions that we had as a group (enclosed in appendix 3), to reflect on my individual values and initial choices for the concept of redevelopment of the Maassilo. In the second half of this paper, I will list and reflect on several aspects of my final design that will have impact the existing building and vice versa on the impact that the cultural values have had in the process of making design decisions. At the end I will summarize the most important design decisions in relation to cultural values and reflect on the process.

Part 1

From value statements to design concept

Relation to the history and urban fabric of Rotterdam

The Maassilo, as the first industrial building placed at the southern waterfront of the Maashaven, was one of the instigators for the development of its surrounding neighbourhoods (Tarwewijk and Bloemhof), which were built as residential areas for the industrial workers. This strong socio-economic connection is contradicted by the border formed by the Brielselaan, a heavy traffic road that separates the Maassilo from the adjacent residential areas, shown in figure 1. This traffic line used to be functionally bound to the Maassilo as train tracks ran closely alongside the building for the distribution of grain, see figure 2. But with the loss of the original function of the Maassilo, the Brielselaan now only isolates the building.

The Maassilo lies on the edge of two areas. The north – towards the Kop van Zuid, and the south – towards the Zuidplein. Both areas have very different characteristics and show opposite states of socio-economic development, illustrated in figure 3. According to the key discussion 'north / south' in appendix 3, this poses a conflict. The Maassilo has a significant historical relation with the border (Brielselaan), while this border prevents connections between the districts south and north of the Maassilo. But there is also a big opportunity for the Maassilo to act as a gate or mediator where the transition between the districts with different social development takes place.

With my design I choose to cross the border with a bridge that runs from the edge of the Tarwewijk, over the Brielselaan, through the Maassilo and exits the building on the north side, just above the waterfront as drawn in figure 4. This gesture forms a strong physical connection without touching the Brielselaan on street level.

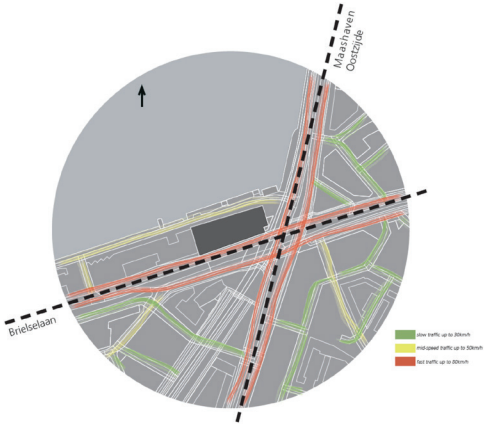

Fig. 1: The Maassilo is isolated from its surrounding neighbourhoods by two heavy traffic roads.

Fig. 2: Historic photograph of former train tracks running closely alongside the Maassilo (south side).

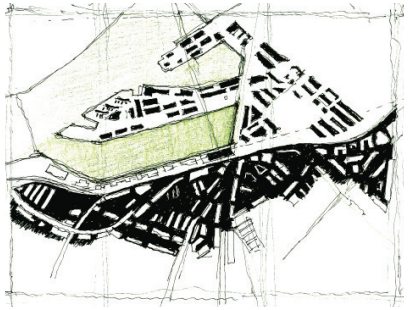

Fig. 3: The Maassilo on the border of north and south, two areas in different states of socio-economic development.

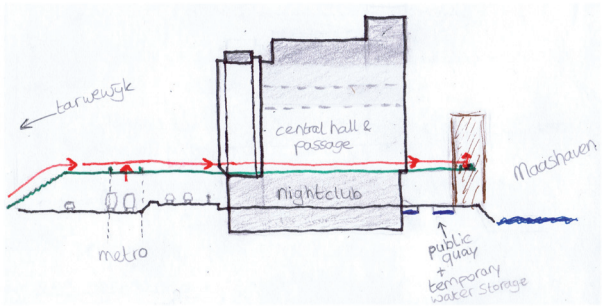

Fig. 4: Sketched section of concept for urban intervention: creating a bridge over the Brielselaan that runs through the Maassilo and will turn the building into a gateway/ meeting place between different areas.

A public building with a closed off character

A social connection with the surrounding neighbourhoods can be made by introducing new public functions to the building that will bring people together: a beer brewery with a bakery and restaurant, a theatre and a performing arts school. With these new public functions, the building can act as an instigator again for new social activity on the south-side of the Maashaven.

During the analysis of the building it quickly became clear that the Maassilo was a very closed-off and non-public building, with hardly any windows to be found in the different facades, as can be seen in figure 5 and 6. This non-public character of the buildinng can also be illustrated by the very small and unnoticeable original entrance to the building, shown in figure 7. The key discussion on 'public / private' in appendix 3, mentions as a conflict that the closed-off exterior appearance as well as the buildings original function are non-public. Literally and figuratively opening up the building to the public would undermine this character, but not opening up to the public could mean missing out on the Maassilo becoming a meaningful building in the development of the south and the redevelopment of the harbour area.

I believe it is more important to turn the Maassilo into a well-functioning public building for future users than it is to completely preserve the closed-off and concealed character of the building because of its historical identity. In my design this translates to making the building better accessible with a clear entrance in the centre of the building, as suggested in figure 8, while still respecting the concealed character in the rest of the façades as discussed in the key discussion on 'readability / concealment' in appendix 3, especially the monolithic north façade of phase 2 and the south façades of phase 3. This brings along a design challenge to get creative with the placement of the new functions and bringing in daylight.

Fig. 5: North facade (current situation).

Fig. 6: South facade (current situation).

Fig. 7: Original entrance door.

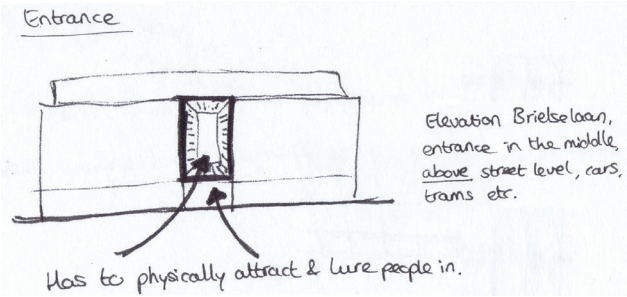

Fig. 8: Sketched proposal of (location of) new entrance that is clearly recognisable.

Emphasising the development of the ensemble

In over 50 years (1910 – 1963), the Maassilo has developed into a unique ensemble of different silo buildings, machinery and elevator towers that show the growth of the grain company as well as the development of styles for industrial and functionalist architecture and the progress in building technology of silo buildings. The total ensemble is (apart from the decay) well preserved, because the building was still used for its original function until halfway through 2003. After that the partial reuse of the building by the creative factory and club Now & Wow only lead to minimal interventions on the ground- and top floor since everything in between consisted of unusable space in the silo structures, as shown in figure 10.

With my design for reuse of the Maassilo, I want to keep the building composition and shape of the complex intact. The Maassilo will keep its rarity value and stay recognisable on the outside as the landmark that it has become over the decades, including all building phases and the elevator towers on the waterfront, while the inside will be opened up to create new spaces. For me the ensemble of different building phases attributes most to the identity of the building. Even though all phases are made out of concrete and are quite closed-off, you can distinguish the individual phases by their architectural style when studying the total composition on the outside, and when studying the shape and construction methods of the silos on the inside. The new entrance of the building will lead to a central hall that connects to all different phases, from this central point it will be clearer to see which building part you are going to, as drawn in figure 9. The individual phases will have different functions and a different design approach for carving out or opening up the silo structures.

The building has become unique due to the different parts that were combined during the development of the company over time. I am keeping the current reuse as a nightclub on the ground floor and as creative factory on the east side of phase

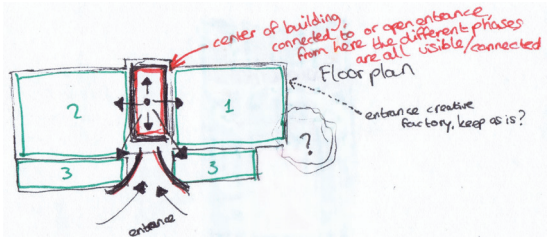

Fig. 9: Sketch of the new building layout with a central hall that provides an overview of and access to the different building phases.

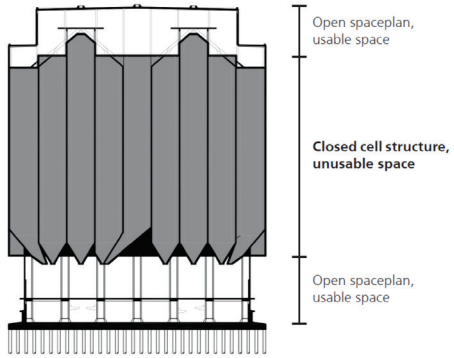

Fig. 10: General vertical layout of the Maassilo, with open spaces on the ground- and top floor and closed off silos in-between.

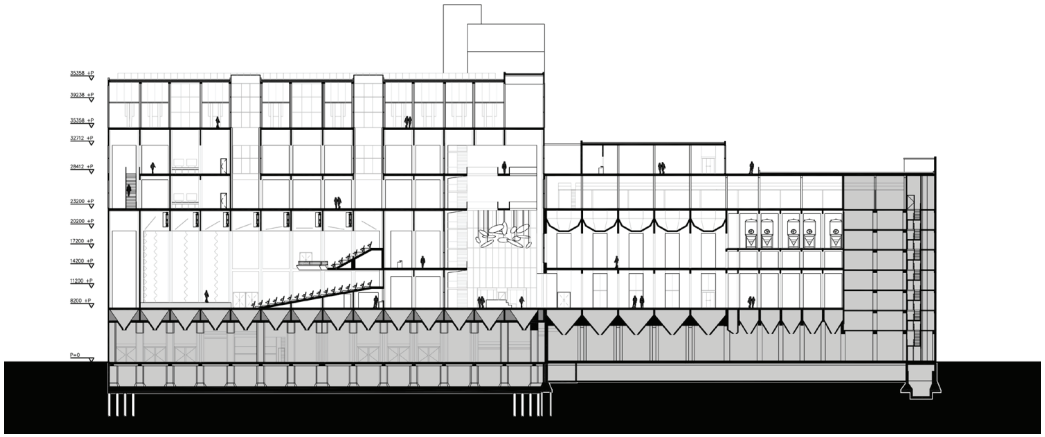

Fig. 11: The grey areas have already been developed for reuse and will stay as they are. My design focusses on the parts that are still vacant, mainly the silos.

1 intact, as shown in figure 11. They also form part of the story of the development of the Maassilo now and I want to add on to that by redeveloping the parts of the building that are still vacant.

Part 2

The impact of CV on design decisions
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The impact of design decisions on CV

Impact of new functions in an existing building

A large factor in choosing which functions to include in my design was the impact that they would have on the existing building. Figure 12 gives an overview of the new functions and their location in the building.

The theatre function was partly chosen because it creates a social connection. It attracts a wide range of people, depending on the type of show or performance that is given. An eqyally important reason for designing a theatre is that it doesn't require any daylight. This has made it possible to place the theatre on the bottom half of phase 2, with no direct connection to the outside. Therefore the theatre function has a minimal impact on the facades of the bottom half phase 2, where it was important for me to preserve the concealed character of the building. However, the theatre function does need a large open space for the theatre hall with the stage and the seating platforms, shown in figure 13. The silo structure of phase 2 was a better fit to create such a large open space than the other phases. A lot of existing silo walls have to be taken out to make this possible. But while the original materials get less in quantity, they gain quality because the large cut through silos will become visible in ceilings, columns ad walls. This will add a lot of character to the spaces that people were never able to see, as visualized in figure 14.

The beer brewery that will be taking place in phase 1 was chosen for its relation to the former use of the building. Instead storing grain, this part of the Maassilo will now be producing with grain. The next step in the lifecycle of grain (from storage to usage) coincides with the next step in the lifecycle of the building (reuse). The choise for placing the brewery in phase 1 is based on the fact that the brewery can reuse part of the original silos and part of the grain distribution system, as shown in figure 8. The (structural) interventions in the brewery in building phase 1 are less radical. Instead of cutting out entire rows of silos, spaces in the western part of phase 1 are

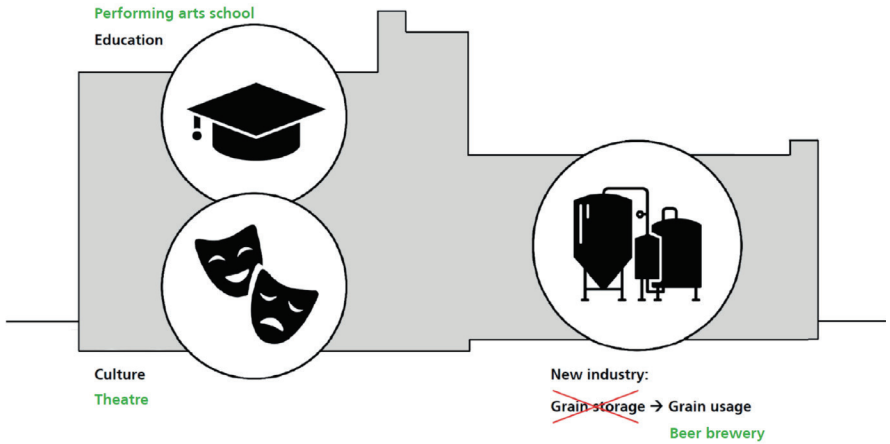


Fig. 12: New functions in the Maassilo (schematic section).

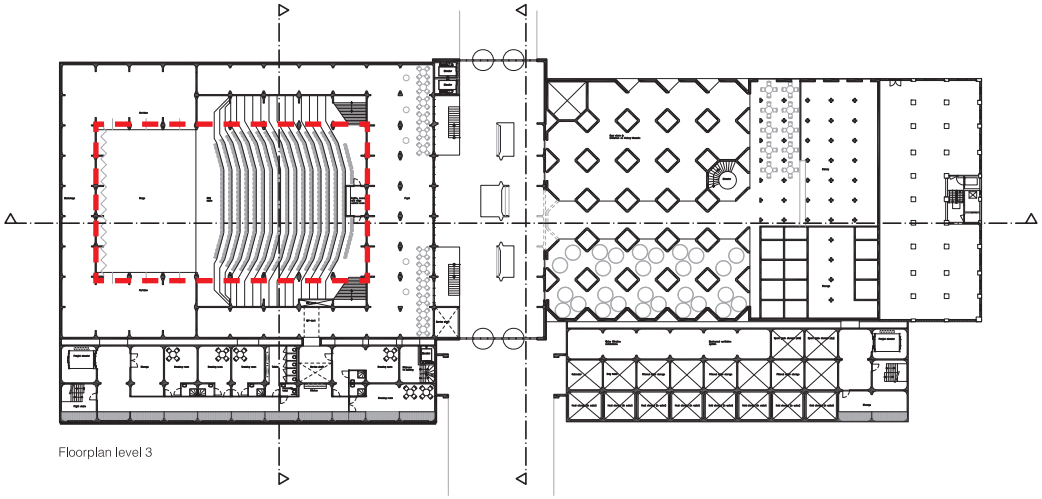


Fig. 13: Large intervention in the bottom half of phase 2 to create open space for the theatre hall.

created by cutting openings in some of the octagonal silo walls. Preserving a lot of the original structure here is important to me, since phase 1 has the most rarity value with its octagonal silos and a lot of historical value in the grain distribution system and machines like the conveyor belts and elevator towers. Some daylight is needed in this function, but not as much as a regular living space. Figure 15 shows that to allow daylight in phase 1, the octagonal silo walls on the north façade will be opened up on one side, bringing daylight in from the northwest while keeping the concealed character from the northeast, which is the direction that transportation from the city centre comes from. Half of the octagonal silos in the brewery will be partly reused for the storage of malt, as well as one of the conveyer belts on the attic floor for horizontal transportation and distribution of malt to the silos, and one of the elevator towers on the waterfront (which will need to be updated) for the transportation of malt from ships to the building, see figure 16. The fact that part of the silos and existing distribution system can be reused according to their original function is a reminder of the history of the building and keeps the memory of the former use of the Maassilo alive.

The performing arts school will be located above the theatre, in the upper half of phase 2. This is also a creative and public function and will attract young people to the building. Spatial interventions for fitting in the performing arts school on top of the theatre in phase 2 lie somewhere in the middle between the brewery and the theatre. There are some larger rooms but these don't succeed five by three rows of silos. However, daylight is an important issue here. I am bringing in natural light by using several silos as light tubes and opening up part of the west façade. But these measures are not sufficient for all levels. The different rooms and spaces within the performing arts school are organized in a way that only one level needs additional windows in the facade. Directly above the theatre is first a level with dance studios that don't require natural light. Above that is the level with regular class rooms which do need extra light. And on top, on the attic-level are communal spaces, a cafeteria, study spaces and a library but these can suffice with the light

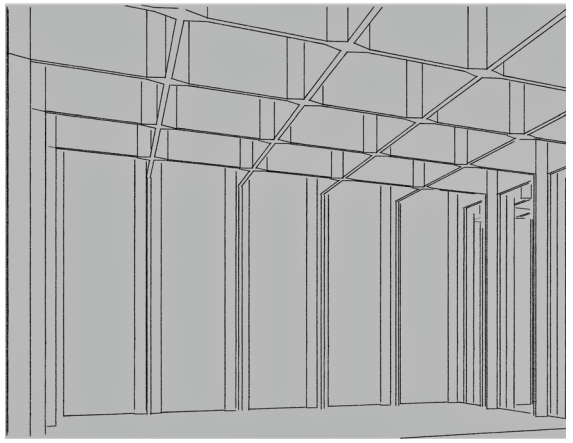


Fig. 14: Cell structure of silos in phase 2 becomes visible in the ceiling of the theatre.

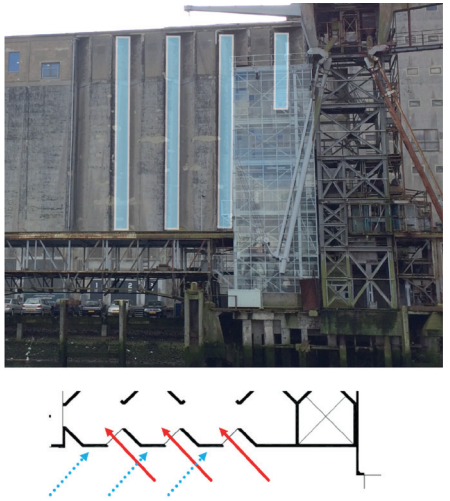


Fig. 15: Bringing in daylight (red arrows) while still preserving the concealed character of the building from the other directions (blue arrows)

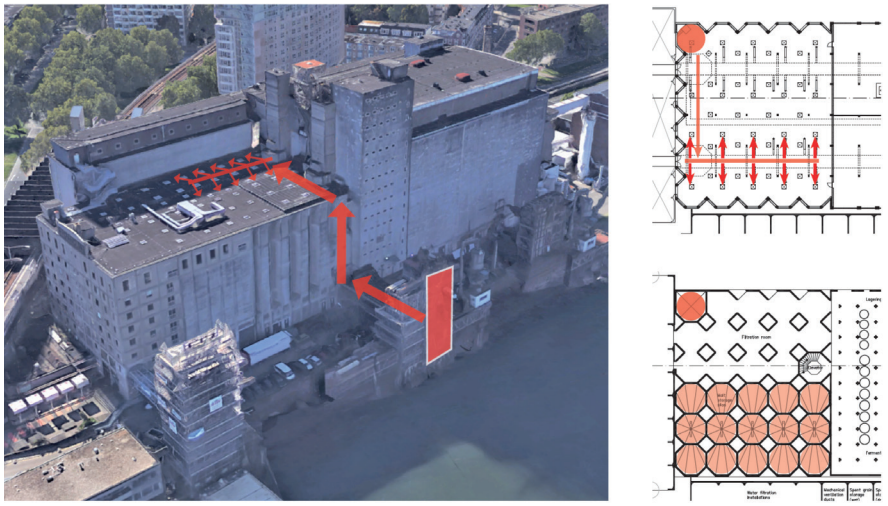


Fig. 16: Partly preserving the original distribution system and silos for malt transport & storage in the brewery

that comes from the light tubes. Figure 17 shows the elevation of the Maassilo with added windows in the top of the north facade in phase 2, to provide daylight for classrooms. This is pretty easy to realise while still keeping most of the monolithic facade intact.

The school also uses the top part of phase 3, situated right next to phase 2. This means that the south facade of phase 3 has to be opened up a lot on the higher levels, as well as on the lower levels where the additional functions of the theatre are located. This is in conflict with wanting to preserve the monolithic character of this facade. My solution is to add a second skin in front of this south façade, shown in figure 18. This second skin is made out of perforated conccrete to let in daylight but also keep the idea of a large monolithic surface intact.

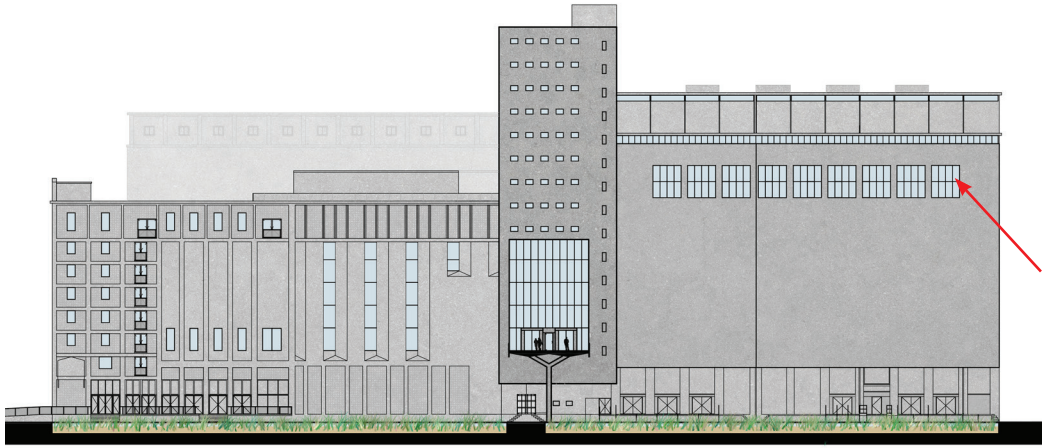


Fig. 17: Elevation of north facade, with a new row of windows on the top of phase 2

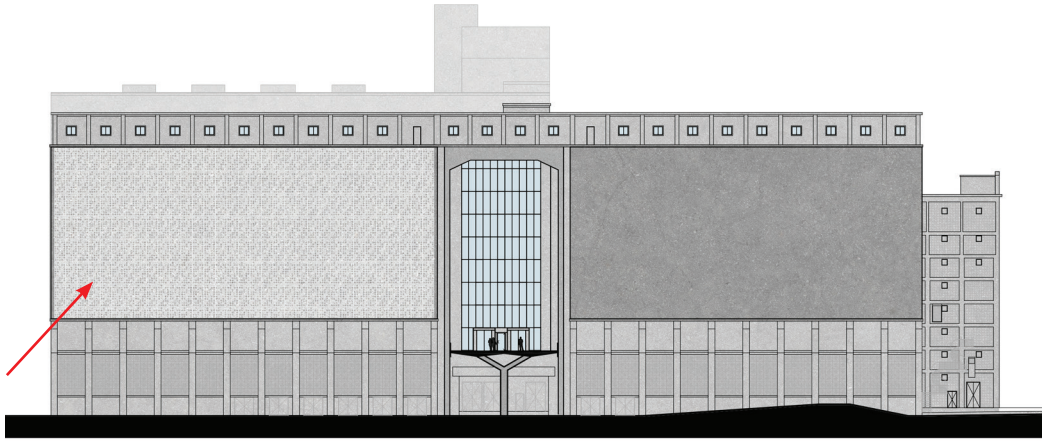


Fig. 18: Elevation of north facade, with a second skin to partially cover the window openings in the original silo wall, resulting in a new look while preserving the monolithic charachter

Materialization & introducing new elements

One of the major technological changes will be climatizing the building. Overall it is easier to thermally insulate the building on the outside, preventing thermal bridges. But this drastically changes the building's appearance. Insulating on the outside of the building will happen in building phases 2 and 3 since their facades have suffered quite a lot of damage over the years and would have to be repaired or partially replaced anyway, changing their appearance regardless of adding insulation. After the insulation layer, the facades will be rendered in a concrete-look. Phase 1 will have a different approach. Thermal insulation will be applied on the inside, since the exterior of the façades is more detailed and valuable for its aesthetic qualities. The way that the silos will be cut out will minimalize the amount of thermal bridges that still have to be eliminated or compensated.

In the interior of phase 2 and 3 most of the existing concrete silo walls will remain in sight / exposed to keep the industrial feeling of the building. Almost everything in the building is made out of concrete, used in different ways with more or less detail per building phase as shown in figure 19. In my design I mostly need to take out a lot of concrete silo walls, but for the new elements that I add, I want to continue using concrete as main material and show even more variations of its use. Most silo walls that are going to be cut out to create space will be reused one-on-one as large pavement sheets on the new bridge and elevated walkway. Remaining concrete walls will be crushed and reused as aggregate for the new concrete floors. The second skin that will be added in front of the south facade of phase 3 will also be made out of concrete, but in a lighter colour than the current facades in order to make the new intervention visible yet not standing out too much. The pattern in the panels of this perforated concrete skin, visible in figure 20, resembles and represents the floorplan of the silos in the building.

Other elements and materials that will be added will have an industrial but polished look. To match with the existing industrial

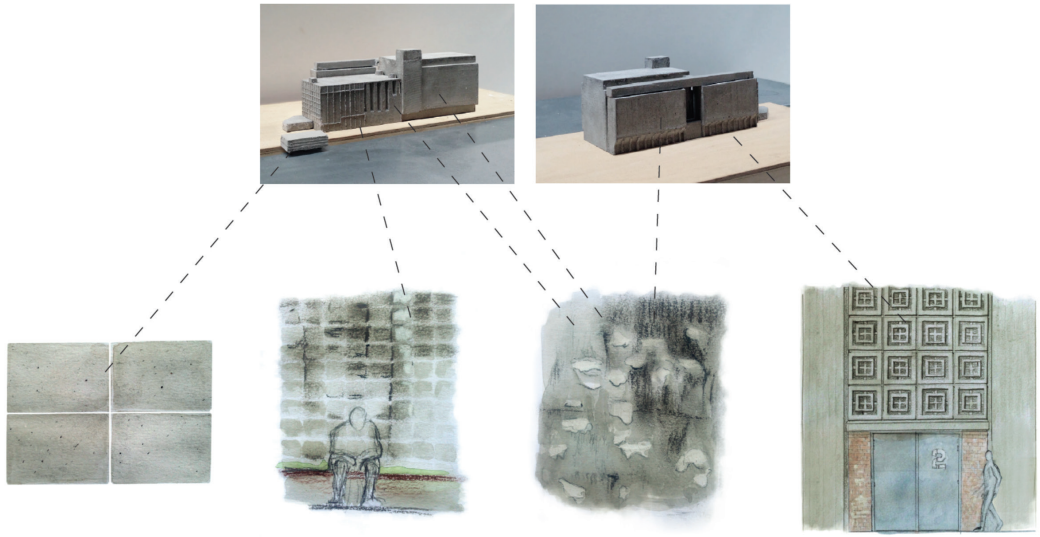


Fig. 19: Different ways that concrete has been used throughout the Maassilo complex.

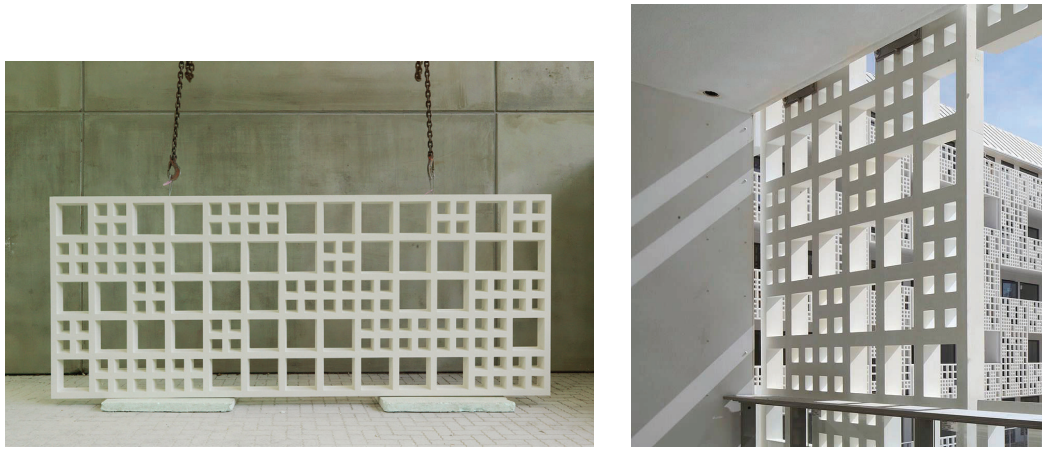


Fig. 20: Cast concrete facade elements that resemble the silo structure inside the Maassilo.

character of the building but still feel contemporary. Examples are aluminum-profile curtain walls and a PU cast floor. A reference project that shows the combination of these materials with an existing concrete structure is 'Le Silo' in Marseille, shown in figure 21.

Lighting is also a very important addition to the design that determines the atmosphere of large parts of the building that have limited or no natural lighting. With light strips on the protruding silo walls I want to contour the buildings structure, as has been done in the auditoriums in figure 22 and 23. Aditional lighting in the form of (coloured) spotlights can light up the concrete walls.

The building's heating system will be incorporated in the new floors that will be added. The mechanical ventilation ducts will be placed underneath the ceilings. They will remain in sight as to keep the silo structures on the ceiling visible as well. Sound insulation will have to be applied, especially in the theatre hall and the dance studios, but won't affect the cultural values of the building.

Part of the sustainability approach for the Maassilo is creating a circular system. By connecting energy-, water-, and product streams between the different processes in the beer brewery and between the rest of the building, these products can be optimally used and reused without quickly losing value. In addition, waste can be reduced to a minimum. These measures don't really affect the cultural values. The reuse of building materials however, that is all the silo walls that will be cut out and reused like mentioned before, will create a link between the old and the new, not wasting anything of the original building.

Fig. 21: Reference project 'Le Silo' in Marseille, featuring similar new industrial materials and colourful lighting combined with the exposed original concrete structure.

Fig. 22: Reference project 'Ligne' in Sittard, using light to emphasize dimensoins of the room and create structure.

Fig. 23: Reference project of an auditorium in Saudi Arabia using light to emphasize the ceiling structure.

Part 3

Conclusion & reflection

Conclusion

I mostly agree with the value statements that we made as a group and in my design I largely comply with the obligations that we set out in the key discussions. But to me it is more important and more valuable for the reuse of the Maassilo to somehow open up the building and connect it to the surrounding neighbourhoods and people, than it is to completely preserve the concealed and closed-off character of the building. Apart from adding the new bridge and opening up the centre of the building as a new public entrance however, the rest of the façades of the building will mostly stay the way they are, with a concealed and monolithic appearance on the most prominent facades. The north facade will only be interrupted by one row of new windows. The south facade does get a new look on one side, but this shows that behind the new facade is also a new function. Overall the Maassilo will stay recognisable on the outside as the unique landmark that it has become over the decades, while the inside will be opening up new spaces. Although this requires cutting away a lot of the silos to fit the program, the silos will remain recognisable by keeping the structure visible in protruding walls and ceilings. This will also make it easy to distinguish the different phases from within the building by their individual shape of silos. Materials, installations and other additions to the builiding will be executed in a industrial but contemporary style to fit in with the old industrial building and structure but at the same time showing new interventions that belong to the new functions.

Process

Characteristic to the Heritage & Architecture studio is extensive research on the cultural values of the existing building and site that you work with. During the P1 period at the beginning of the graduation year, I spent a lot of time together with group members, to identify the qualities and values of the Maassilo. Our research was summarized in a Cultural Value matrix and accompanying value statements. This mandatory part of a heritage graduation project proved to be very useful as it forces you to look closely at all cultural aspects that are involved and because it makes you categorize, compare and, most important, prioritize these values. The key discussions that followed from the value statements were useful to summarize the identity of the Maassilo and helped me to set up my problem statement and the subsequent research question and goals for my design: to physically and socially connect the Maassilo to the urban fabric with an integrated sustainable design.

In the P2 period, cultural value played a large role in choosing new functions for the Maassilo and in deciding their placement and layout. Especially regarding the limited amount of daylight that would be able to reach the new functions without completely destroying the highly valued monolithic facades of the building. This tension between opening up the building to make it more public and keeping its closed-off character remained an interesting struggle up to designing details and choosing materials during the P4 period. In another possible cultural value conflict for example, carving out and cutting away parts the silo structures was easier to justify in order to create useful spaces and making the silo structures visible, but it brought along other difficulties like maintaining the structural integrity of the building.

With the heritage graduation studio, every design decision needed to be evaluated from a cultural value viewpoint as well as buildign technology and architecture. The combination of these three categories made it more complex than designing a completely new building but also far more interesting.

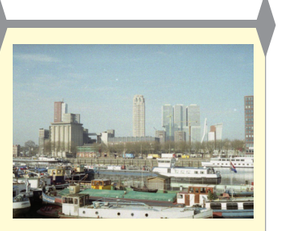
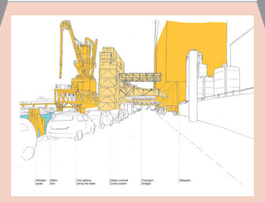
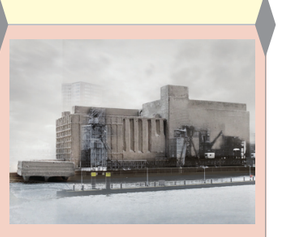
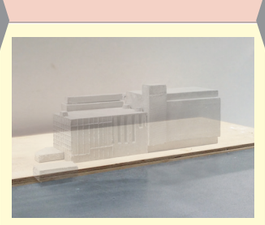
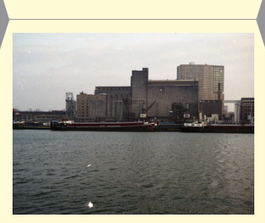
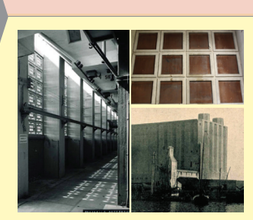
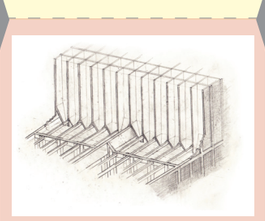
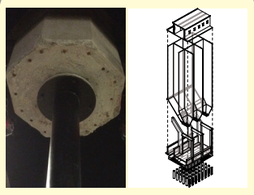
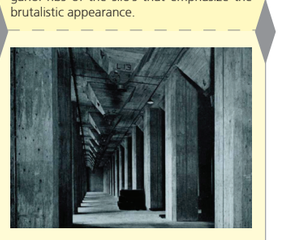
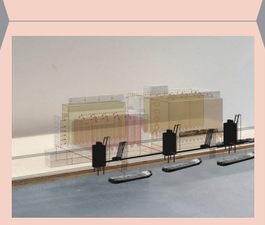
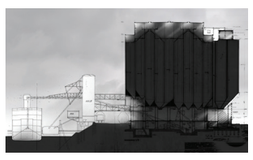
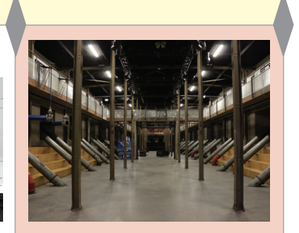
List of Figures

All other material is the author's own work.

APPENDIX 1: CULTURAL VALUE MATRIX

VALUE MATRIX

MAASSILO, ROTTERDAM

	Age Value	Historical Value	Intentional Commemorative Value	Newness Value	Art Value	Rarity Value	Use Value	Aesthetic Value
Surroundings		 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.	 The names of streets, harbours and neighbourhoods refer to the history of the area. "Maashaven" for instance, refers to the previous harbour function. Or 'Tarwewijk' as we see on the map the name of the neighbourhood.	 A lot of new buildings (especially on the Kop-van-Zuid by famous architects) bring new activities to Rotterdam-Zuid. These buildings function as a catalist for the development of the area.			 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 dissapearing, the area remains with lots of space for further development.	 The new high-rise buildings that have been constructed over the last two decades create an interesting contrast with the original industrial buildings.
Site	 Rust, algea, and decay are visible on the structures of the unrestored elevator towers.	 The building complex, together with the elevator towers and connecting bridges form an almost total ensemble (train tracks are missing) in which the process of grain storage and distribution took place.	 Sofar two Elevator towers have been restored in 2015. They have been brought back to an original state which is clearly an act of commemoration.			 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.		  The building has always functioned as a resilient mass in a vibrant industrial setting. The abandonment of activity evokes the image of an empty stage.
Spatial Composition		 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.						
Skin	 Weathered surfaces, decay, damage on mainly plaster and rust on steel is visible on different parts of the facades.	 Since civil works and industrial buildings became part of the architectural discourse in the beginning of the 20th century, the silo buildings are important works in the oeuvre of the different architect. For Haan the office building was a bit less important being 1 of many.	 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.		 The architectural styles that are represented in the facade express the architects artistic intentions. J.P. Stok 's facade for instance, expresses the different functions on the inside. The 35 x 55 meter painting called "Flyers of hope for universal Love" by the spiritual artist: Lisa Lux on the 3rd-phase building is literally a piece of art.	 There is no trace of any identical 'plofroosters' like the ones in the third building by J.D. Postma which make it very unique.		 To prevent noise pollution from the club to the neighbouring houses the 'plofroosters' where 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 octoganol ribs of the silo's that emphasize the brutalistic appearance.
Structure	 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.	 The development of the technological possibilities in these concrete superstructures is remarkable. The 'plofdak' that has been used in the 2nd phase, the base structure for the office by H. Haan but also the increased height of silo's in later phases are examples.		 The big columns have been cut away on the groundfloor and some have been replaced with new thinner columns in order to create more space for the Now and Wow music club.	RELATED		 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 86 million kilos grain. This loadbearing capacity offers great opportunities.	 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 athmosphere.
Space Plan		 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.					 **low use value.** Together all silos form 80% of the actual building volume. The use value of these spaces is verry low at the moment. Its a great challange for the future redesign.	 The functional layout of the building as an ensemble of rigid grids results in a repetition of elements. Consequently a 'pressing' symmetry can be experienced in many parts of the building.
Surfaces	 Many surfaces, including signs, are damage or even worn out to the point that they are no longer readable. This clearly shows they are from another time.	 The codes painted on the Silo's, the blue and yellow silo, and signs like 'gifgas' on the door give an impression of the strictly functional original usage.			 Graffiti artworks on the ground floor and on the 10th floor in the 010 Factory have been made during the renovations. The graffiti on the ground floor was commissioned by Pepsi MAX and carried out by graffitinetwerk. Its still unclear which artist did the artworks in the 010 Factory.		 **low use value.** In its previous function the funnels strictly fulfilled the purpose of unloading grain out of the silo's. Due to its specific function its very difficult to come up with a new use for these funnels. **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 hint at an unknown presence behind those surfaces. Despite that, the funnels have a very unique and striking appearance.	
Services/Stuff	 Mainly rust and decay but also damage is visible on machinery and utilities around the building.	 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.	 During the renovations some of the machinery has purposely been put together to be exhibited. The chalk board in the control room on the 2nd phase building shows a grid of different silo's and the type of grain stored inside. The board is sprayed with a substance that preserves the chalk and makes it un-erasable.				 The buildings was never designed to host vast 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.	

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.

APPENDIX 2: VALUE STATEMENTS

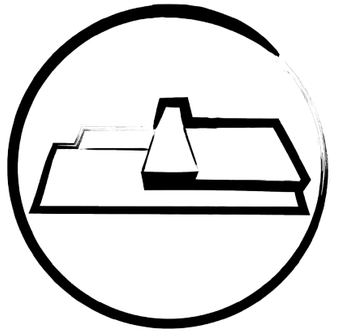
After many long discussions between the authors of this analysis, a hierarchy was found for the various cultural values of the Maassilo, based on the research that was carried out during the analysis of the building and its physical and historical context. The values that are absolutely essential to the identity of the Maassilo were colour-coded red in the value matrix. It is notable that most of these essential values are found within three colums of the matrix: historical value, rarity value and aesthetic value. The hierarchy of cultural values has made it possible to summarize and translate the identity of the Maassilo into the four value statements below. These value statements should always be kept in mind when working on a new design for the Maassilo complex and when making decisions on interventions in the existing building.

History – economic relevance to Rotterdam (essence)

As the first building connected to the Maashaven and instigator for the worker districts of Rotterdam Zuid, the Maassilo has played a catalyst role in the consistent history of Rotterdam as an international harbor city. Having served as a primary instrument for a key grain transshipment company (Granssilo N.V.) the building forms an integral part of the city's socioeconomic development.

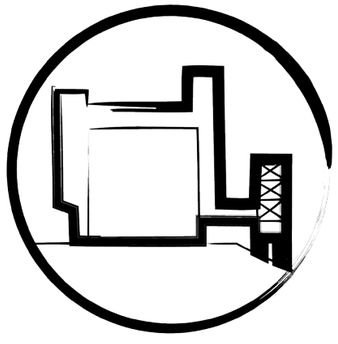
Presence – aesthetics (appearance)

A monolithic concrete mass stripped-off of its initial activities, the building's appearance carries a strong imposing effect in relation to the historic tension that it carries. Confined by the surrounding infrastructure, the building creates a strong contrast with its surroundings and the harbor, in terms of volume, material and scale. This attribute of a solo entity mediating between different districts, also gives the building a characteristic urban role as a 'gate' between north and south.



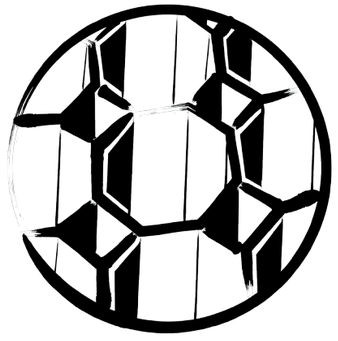
Rarity – complete ensemble of buildings

In the context of bulk transshipment and silo typology, the complex stands as a rare ensemble of different phases reflecting the growth of the company within a span of fifty years. This sequence of different volumes in relation to the preserved machinery and cranes in the waterfront, highlight the building's uniqueness.



Technology – state-of-the-art front runner

The complex also stands as a record of evolving construction processes and state-of-the-art building technology of silo making. As one of the largest in situ constructions in Europe, the complex further demonstrates the advanced use of reinforced concrete, such as the McDonald casting system, which was thoroughly applied.

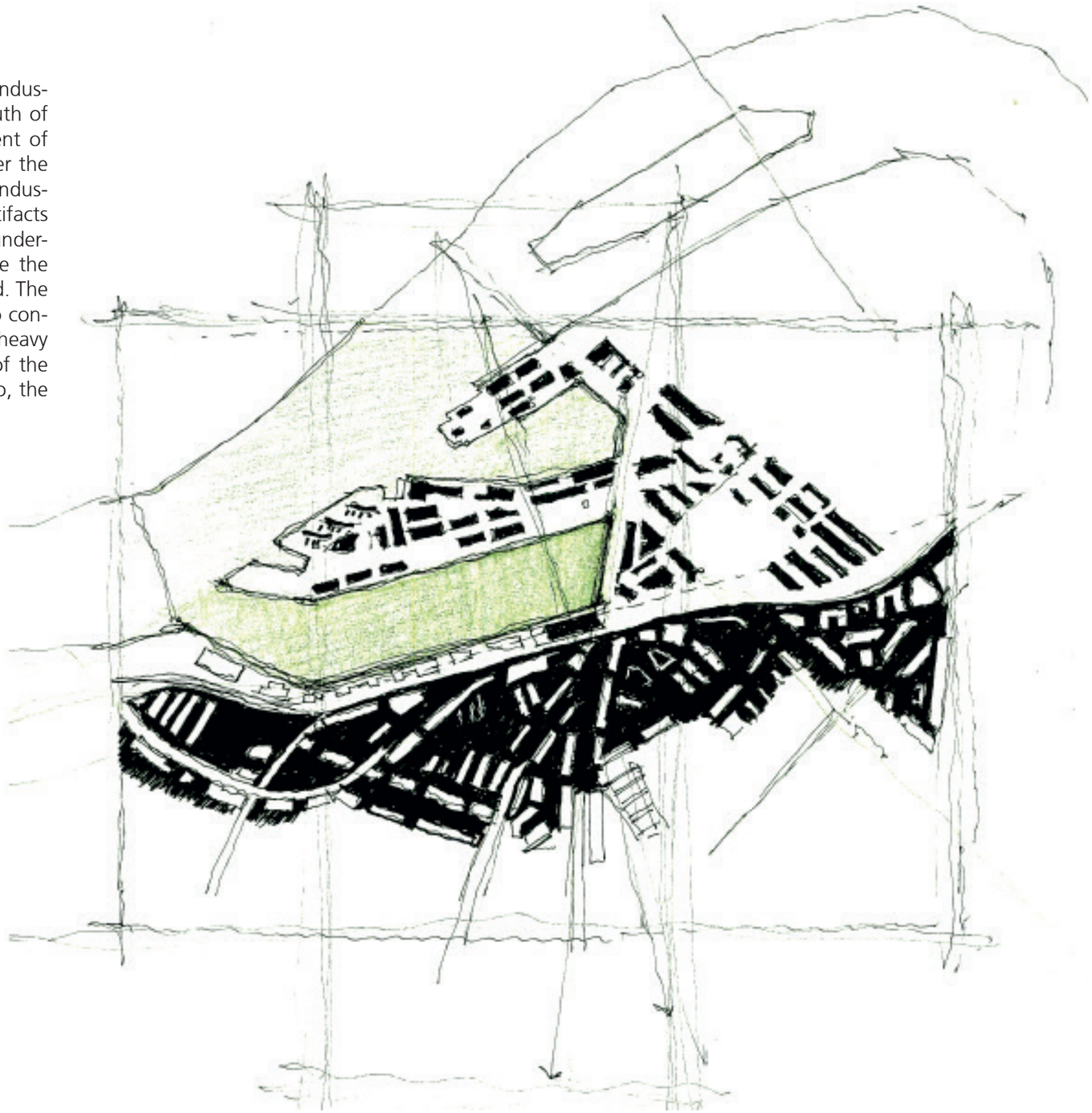


APPENDIX 3: KEY DISCUSSIONS

KEY DISCUSSIONS

NORTH / SOUTH

The Maassilo was one of the instigators for the industrial development of the Maashaven and the south of Rotterdam. Around this industry, the development of the residential areas increased exponentially. After the industry moved to the west, the reminiscence of industrial activity remained, because of industrial artifacts like the Maassilo. The former industrial area is undergoing an intense process of gentrification, while the adjacent workers' districts remain underdeveloped. The Maassilo exists on the border between these two contrasting areas. This border is spatially defined by a heavy traffic line (Brielselaan). Since this is the result of the infrastructure that was connected to the Maassilo, the Maassilo is historically bound to this barrier.



conflict
The two-faced character of the Maassilo and its historical relation with the public space and infrastructure have historical significance. On the other hand, they form a barrier that makes it difficult to connect the southern districts to the harbour area north of the building.

opportunity
The Maassilo could be treated as a gate, mediating between two different stages of development and help gentrify the districts with a low social standing.

OBLIGATION
The areas north and south of the Maassilo have completely different characteristics and show opposite states of socio-economic development. If the aim is to develop the workers' districts to the harbour area, the right balance must be sought between connecting the two neighborhoods and respecting their historical seperation. The Maassilo, historically connected to both the districts and the border itself, plays a key role in this respect.

value statement involved:

history
The Maassilo played a key role in the socio-economic relation between the harbour area to the north and the workers' districts to the south.

PUBLIC / PRIVATE

The Maassilo is, in heart and soul, not a public building. This was already the case in the first phase, when a small and insignificant entrance located to the side of the building was withheld from the eyes of the public. This unpublic character was - and is still - even more present in the enormous closed concrete surfaces of the facades.
In 2004 the NOW&WOW disco opened their doors in the Maassilo. Formally though, they did the opposite, as all the windows and openings in the facade were closed to counteract noise pollution.
Thus, while the formal characteristics became even more uninviting, the building assumed, for the first time in its history, a public function. It is debatable how public this new function is.

conflict
The formal characteristics of the exterior appearance of the Maassilo are impressing, but uninviting to the public. Also the original function of the building is non-public. Opening the building up visually would undermine the specific historical and aesthetic character of the Maassilo. However, keeping the building closed off to the public may hinder the efforts to make the Maassilo a meaningful building in the development of Rotterdam south.

opportunity
The closed-off character of the building could be turned to an advantage instead of a hindering factor. A solution could be finding a function that is both meaningful to the public and in need of closed-off space.
A different solution may lie in the historical daylight situation, in which much more daylight penetrated the building. Opening up the building according to the original situation could be a historically legitimate design decision.

OBLIGATIONS
The character of the Maassilo, as a closed-off mass, is grounded both historically and aesthetically. Therefore, this character should be cherished and, if possible, turned to an advantage. If the building should assume a public role in the city, the solution could be found in finding the right program or function. One that requires little or no daylight, but is still accessible to the public.

value statement involved:

presence
An essential aspect of the presence of the Maassilo is its closed-off - and therefore unpublic - appearance.

STATIC / DYNAMIC

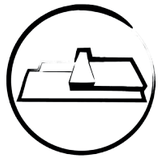
The Maassilo in its historic setting can be comprehended as a heavy static mass in a higly dynamic environment. The very essence of a silo building comes down to this tension between the static and the dynamic. The silo is a place where the grain *waits:* it is in temporal rest, stored securely, protected from external forces, until it is set in motion again by workers, conveyor belts, elevators, trains and boats. Both rest and movement of grain were accommodated by the Maassilo.

conflict
The material sturdiness of the Maassilo is something that cannot be avoided. The heavy structure, the adamant concrete and the impenetrability of the silos hinder spatial flexibility in new developments. Paradoxically, the heaviness of the building was one of the reasons why it has not been destroyed after it got out of use.

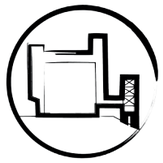
opportunity
The architects of the Maassilo were well aware of the obstinate character of the concrete structure. They understood it was essential for each building phase to implement flexibility and maximize efficiency in the space plan. Another measure was the integration of rails in every beam and column on the ground floor and the basement. Since these measures are inscribed in the current state of the building, they allow for flexibility in new developments. In addition, the loadbearing capacity of the construction is very high, which opens up a wide array of possibilities.

OBLIGATION
The Maassilo has existed for more than a century, and it still stands strong. This has to do with the fact that different strategies, like a structured open space plan and integrated flexible detailing, have been used to make flexible space with rigid material. Still, the Maassilo is a very specific building for a specific function. This specificity is found in the vertical building sections (attic, silos, ground floor). In a new design, one would do well to built upon these qualities, in order to make this building stand the test of time, like it has always done.

value statements involved:



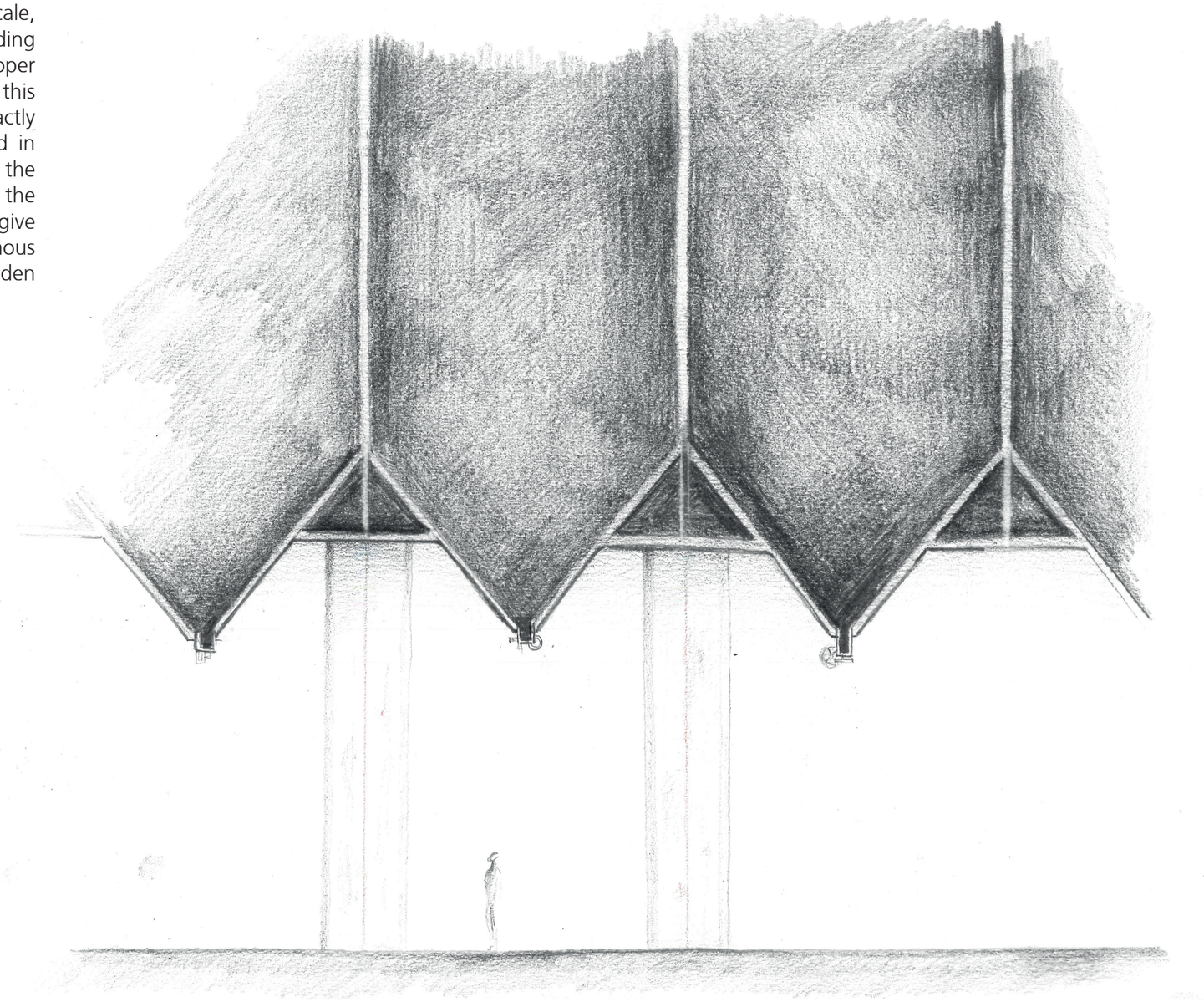
presence
It is the abandonment of the static mass that is key to the current presence of the Maassilo.



rarity
The complete ensemble of silos and cranes is an essential reminder of the former activity at the site.

READABILITY / CONCEALMENT

The Maassilo knows a strong contrast and interplay between readability and concealment. This tension field is played out on multiple scales. On a large scale, it is clearly visible from the exterior that the building was built in multiple phases. However, without proper research, it remains unclear what the exact order of this development was. The skin of the building has exactly the same structure as the internal silo walls, and in that sense it does not mask the interior. However, the skin completely hides the internal spatial logic of the building. In the interior, the signage on the funnels give a direct indication of historical use, while the enormous void above the funnels in the ceiling remains hidden from the eye.

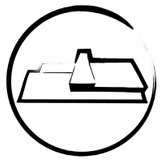


conflict
When the quality of the experience of the Maassilo lies partially in its secrets, then it becomes difficult to intervene spatially, as the value of a secret lies in its concealment.

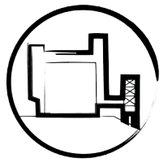
opportunity
The interplay between hiding and revealing can be enhanced, for example by *partially* revealing the formerly unseen. The unknown could be made even more exciting by revealing parts of it, and thereby strengthening the sense of curiosity and wonder. This could be a powerful tool in establishing an architectural route through the building.

OBLIGATION
The interplay between readability and concealment plays a very important role in both the experience of the building as the possibility to read its history. This tension should be taken in high regard, and if possible made even stronger, as it constitues the mysterious atmosphere in and around the building.

value statements involved:



presence
The monolithic building conceals its interior, adding to its imposing, yet mysterious nature.



rarity
The functional layout of the ensemble entails a clear readibility of the original logistics on the site and in the building.

technology
The building stands as a visible (thus readable) record of developing construction techniques.