The in-between in the Quarantine ensemble

Research report

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Content

Note: Photo's and illustrations without source are made by the author.

‘Een wandeling op het quarantaine terrein is een route vol ervaringen waar architectuur en context een bijzondere relatie aangaan.’

‘The Quarantine area is a place in the harbour in Rotterdam with surprising beauty and an atmosphere that seems to be untouched by time.’

Introduction

The quarantine area on the Beneden Heijplaat is a special piece of heritage in Rotterdam. Characterized by its green atmosphere the area is a bit an alienated piece of history in a still active industrial surrounding. To be able to tell a comprehensive story about the quarantine terrain and to think about a new future, careful and intensive analyzing is needed. This research report contains the information that is necessary for the design process. Next to this personal research report a broader analysis has been made. The main question or theme of this report is mainly based on the first impressions of the site. From the first moment I was fascinated by the atmosphere of the outdoor space and the influence of the architecture on this outdoor space. Research on the outdoor space in relation with the buildings can give answers to important questions about how to deal with the ensemble in the future.

Problem statement
In future the area Eemhaven-Heijplaat-Waalhaven, where the quarantine area is part of, presumably will redevelop gradually from hard industrial activity to a knowledge area focused on harbour innovation. How does the transformation of the quarantine area, and its value, relate/find a role in this future urban transition. What will happen with the special enclave feeling of the quarantine area when its surrounding context is changing.

Research questions
What was and is the character/atmosphere of the outdoor space in the quarantine ensemble in relation to the buildings and what can it be in future?

Methodology and structure
This report is structured in the way the analysis has been done. Different scale levels and subjects have been studied, divided in cultural historical urban scale, ensemble scale, architectural, and building technology analysis. Based on the analysis the report will conclude with a valuation.

During the process of research and design, different methods, techniques and tools will be used. Fascinated by the theme ‘atmospheres’ I want to focus on a phenomenological approach, focusing on the way architecture and buildings are perceived and experienced, a sequence of experiences. Tools I want to use during designing are maquettes, sketches, perspectives and 2D drawings, literature and studying and visiting reference projects. Designing in different scale levels will show the impact of the interventions.

What do we find?

I want to start this research report with a short description of my first impression of the quarantine area gained during the location visits.

The quarantine area is located on the south side of the river Nieuwe Maas. Quite far from the city centre of Rotterdam and lying opposite of Schiedam.

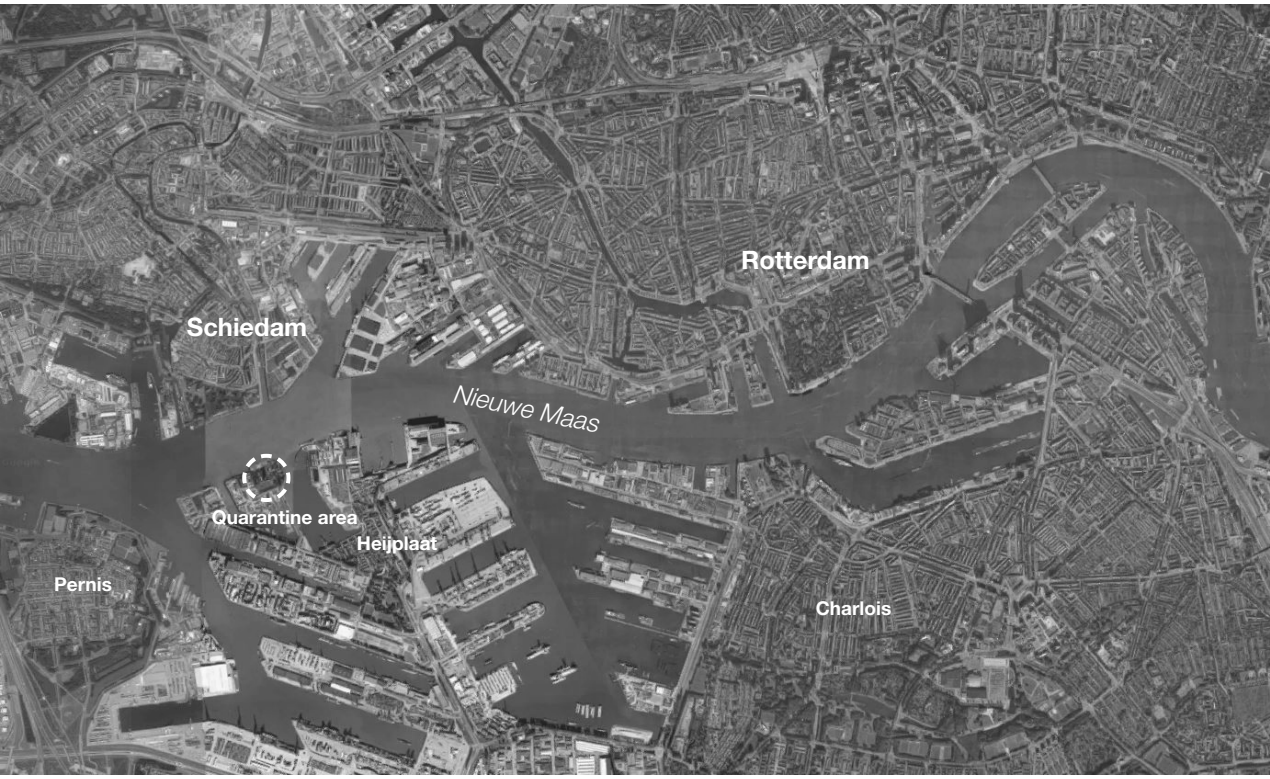


fig. 1 Located along the river - surrounded by water

The quarantine area is surrounded by the river, two harbours named Werkhaven and Heysehaven and docks with industrial activity.

fig. 2 Direct surrounding - river and harbors

Remarkable is that inside the green wall of the quarantine area, one notices just little of all that surrounding water . Only sounds reveal the activities of the surrounding.

fig. 3 Green context - water hardly noticeable (12 oct 2016)

fig. 4 Green context - water hardly noticeable (20 sept 2016)

Sequence of experiences

The outdoor space is a sequence of experiences, where different buildings are positioned in a diverse green setting. Together the green and the buildings create different atmospheres.

fig. 5 Sketch 1 garden in front of building (9 sep 2016)

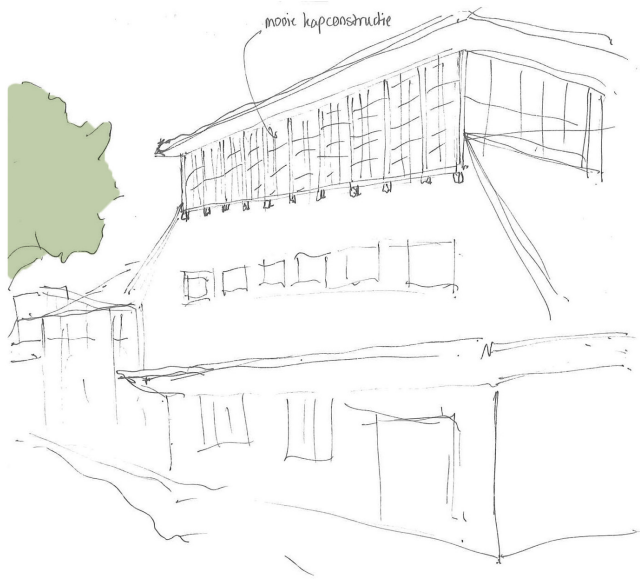


fig. 6 Sketch 3 buildings with expression (9 sep 2016)

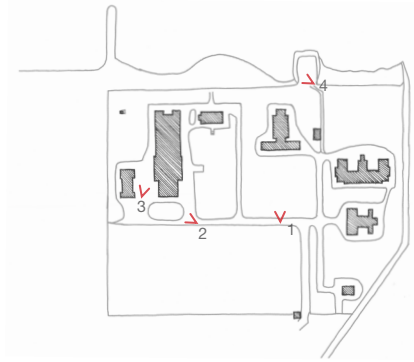


fig. 7 Sketch 2 buildings and green (9 sep 2016)

fig. 8 Sketch 4 hidden river beach (9 sep 2016)

1. Cultural History / Historical development

Transition of the landscape
What was happening with the landscape along the river before and after the quarantine facility was established? The construction of 'de Nieuwe Waterweg' in 1872 was a decisive impulse for Rotterdam to become a large port. Harbours and quays and adjacent municipalities were enlarged or developed. The landscape along the river Maas was in intense transition, which actually took place in a relatively short period of time. Much land along the river was changed into water (harbours).

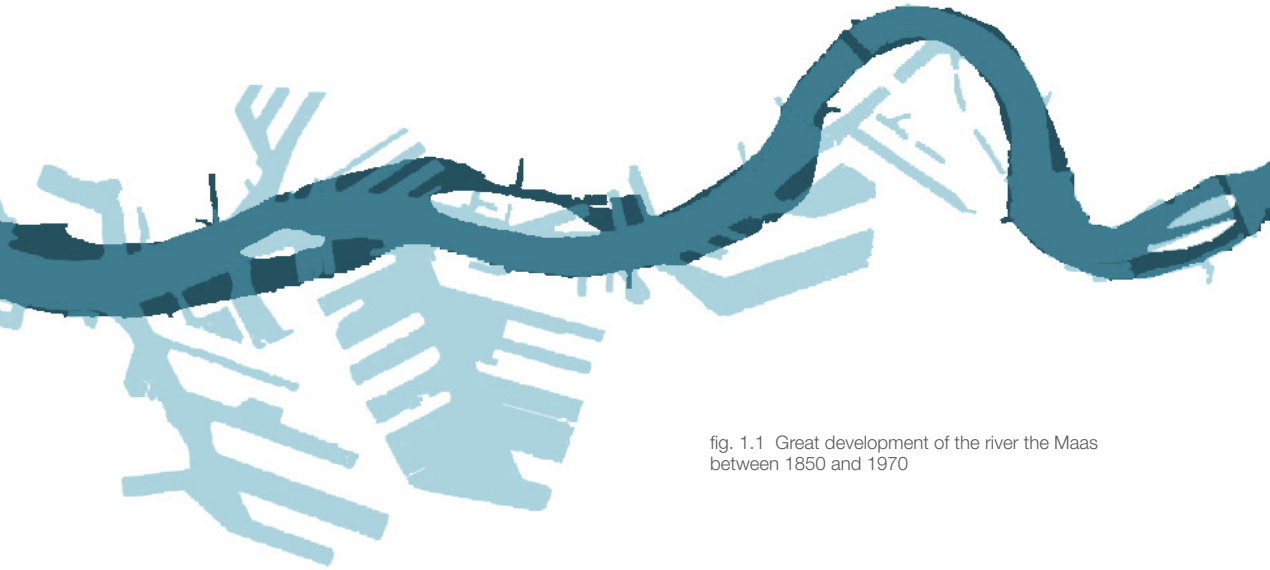


fig. 1.1 Great development of the river the Maas between 1850 and 1970

Also the landscape around the quarantine area, changed significantly before it was established in 1934. At the location of the future Quarantine facility the land, unlike other places, was not changed into water but land was created in the river. Looking at historical maps (fig. 1.2a-g) the piece of landscape seems to be artificially formed land, partly because of accumulation (ophoping) of soil in the Maas made possible by a dam in the river (visible in fig.1.2d) and partly by land reclamation (opspuiten). Possibly sand was moved during the dredging of the river (uitbaggeren) (oorsprong zand strandje?). The surrounding landscape around the quarantine facility was still in transition, also after the establishment of the facility. The construction of the harbours Waalhaven, Eemhaven, Heyschehaven and Werkhaven changed much of the surrounding landscape of the quarantine facility.

Earlier use?
It seems to be that the piece of land had no other purpose of use before getting the quarantine function. Whether the landscape is made for the purpose of quarantine island, is difficult to determine.

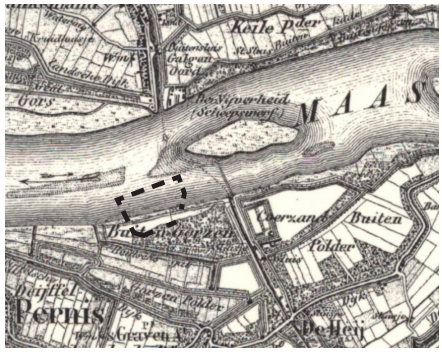


fig. 1.2a Landscape around 1850

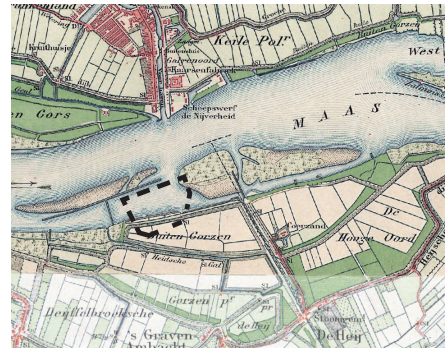


fig. 1.2b Landscape around 1880

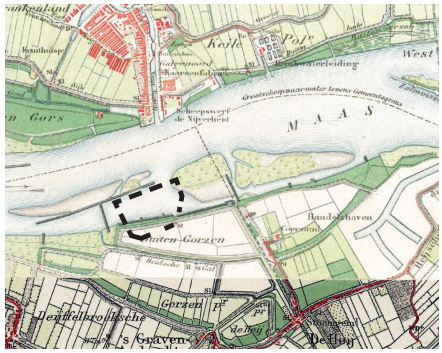


fig. 1.2c Landscape around 1900

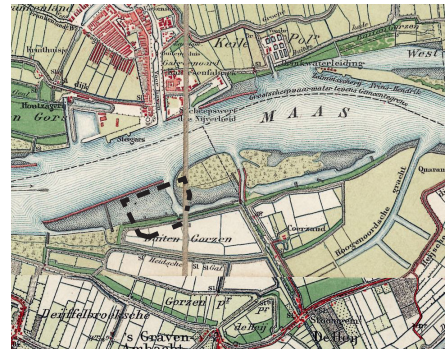


fig. 1.2d Landscape around 1905

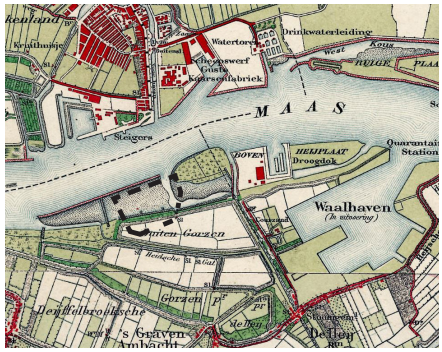


fig. 1.2e Landscape around 1910

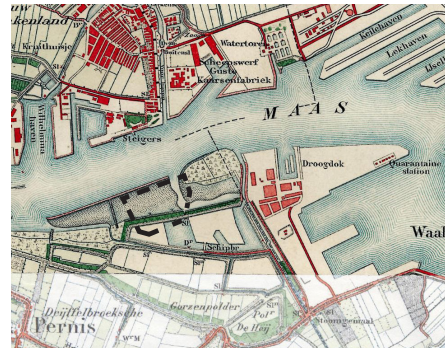


fig. 1.2f Landscape around 1920

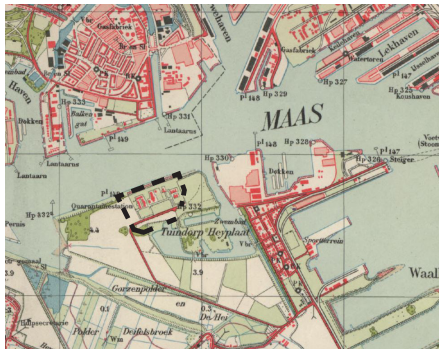


fig. 1.2g Landscape around 1940

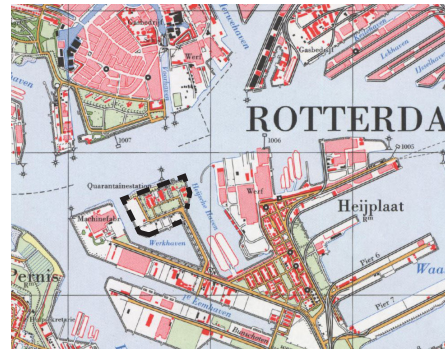


fig. 1.2h Landscape around 1970

(source: www.topotijdreis.nl)

Why a quarantine terrain and why at Beneden Heijplaat?

Since the second half of the 19th century international regulations mandated big port cities to have a quarantine facility to protect the city from unknown tropical infectious diseases brought in by ships from sea (Archive 1209_976). Quarantine complexes were realized for in quarantine treatment of seafarers with these diseases. In the Netherlands the realization of a quarantine facility was a shared responsibility between the state and the concerned port city.

The first quarantine station in the harbour of Rotterdam was established in Hoek van Holland in 1884. This station was moved to Poortershaven near Maassluis in 1903, due to the establishment of the living area 'de Nieuwe Hoek', which was built to close to the quarantine area (Historisch Hoek van Holland, 2016).

Plans for the quarantine station on Beneden Heijplaat can be traced back to 1914 when the municipality drafted a plan for a new harbour in the Heijplaat area, including a new quarantine facility.
Beneden Heijplaat was a suitable place because its position along the Maas and because a large part of the surrounding consisted of non-urbanized land (fig. 1.3). The position along river was important so boats could easily reach the facility. The waterfront was provided with a jetty to which the for quarantine selected boats could moor (fig. 1.4). The quarantine area was located close to the RDM factory and the garden village Heijplaat.

From 1919 on designs have been made for the quarantine facility by J.G. Snuif, an architect employed by the municipality of Rotterdam. It took several years before definite plans were drawn, presumably due to (financial) disagreements between the municipality and the State (Zwaluw & Hor, 2010, p.x). Finally the construction of the quarantine area took place in the period 1931-1934 and it officially opened on 16 August 1934 (Moscoviter, 1993, p.9).

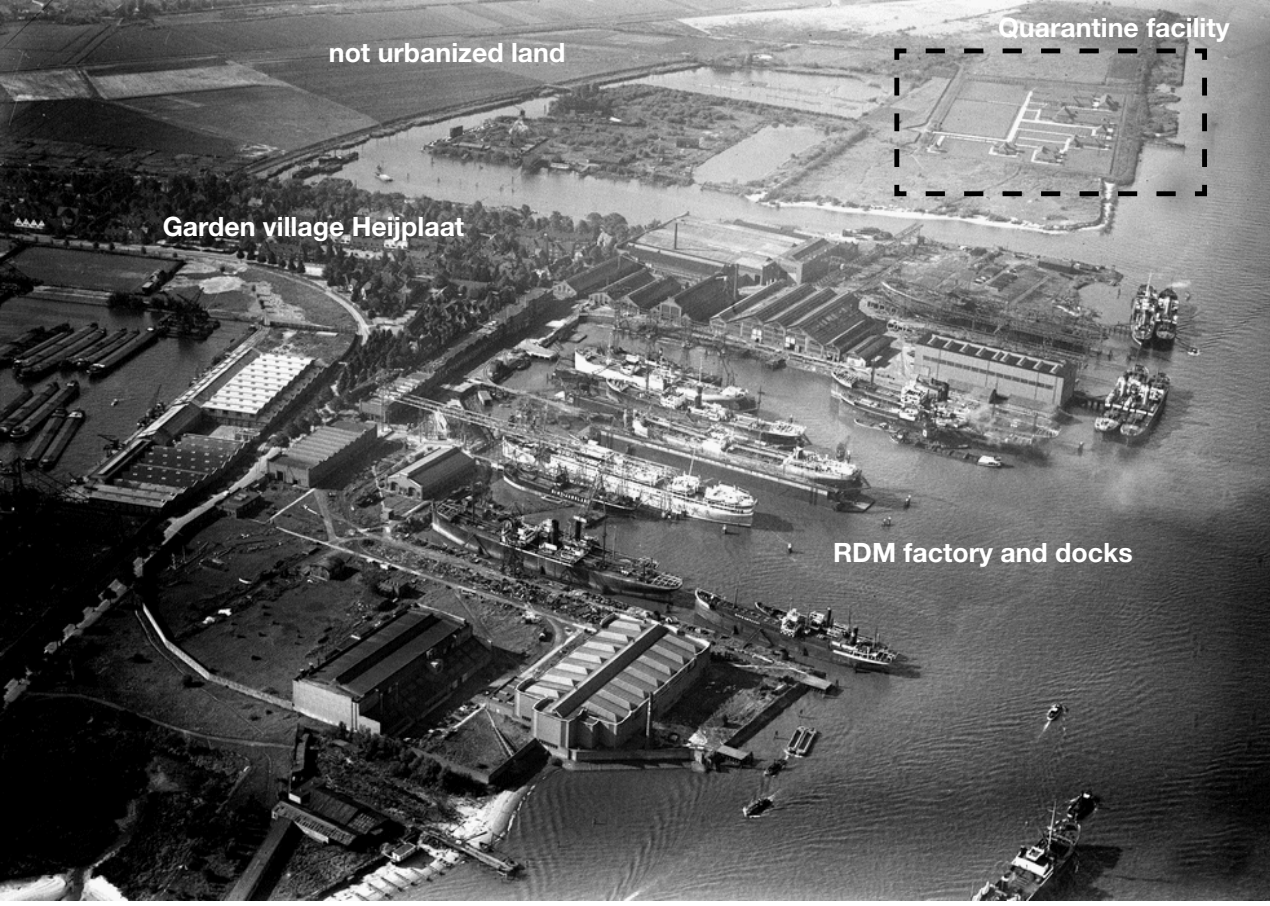


fig. 1.3 Quarantine area short after construction (source: http://www.boijmans.nl/nl/7/kalender/calendaritem/1283/onderzeebootloods/)

fig. 1.4 The jetty of the quarantine facility (source: Zwaluw & Hor, 2010, p.82)

The original design

The design of the quarantine was a functional and quite geometrical structure of separate pavilions. The facility consisted of twelve buildings. Originally every building had a specific function serving the facility. The twelve buildings were carefully placed within three zones (fig. 1.6), separated by hedges (Bruyne, 1935).

The eastern part of the terrain was meant for the sick people and the personnel taking care of the sick. This ‘sick’ zone consisted of a nurses home (zusterhuis), an isolation barrack (Isoleerbarak), an ordinary sick barrack (Gewone barak) and a mortuary (lijkenhuisje). The western part of the terrain was the zone for contacts, healthy people who had been in contact with sick people. After being disinfected in the disinfection building they were housed in the contact barracks, of which one was the captain’s barrack. The middle part of the terrain, housed the more facilitating barracks: the disinfection building (reinigingsgebouw), kitchen and administration barrack (beambtenbarak).

In total the terrain of the facility measures 350x182,5 meters. The terrain was enclosed by a fence. At the entrance, reachable via land, a gatehouse was made. The terrain had a clear routing (fig. 1.7) between the different buildings accentuated by the green structure of hedges (fig. 1.8).

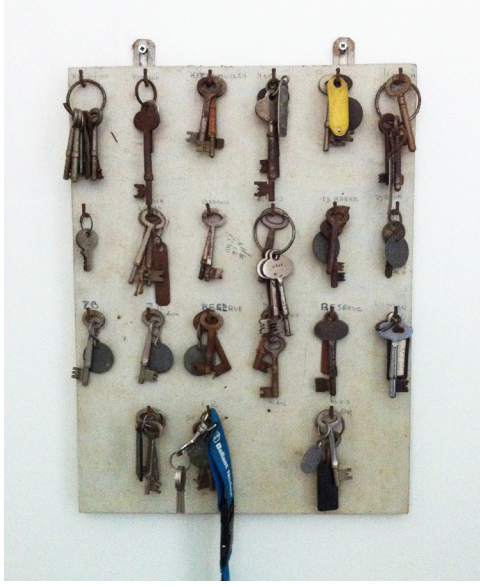


fig. 1.5 The original keys of the different barracks present in the administration barrack.

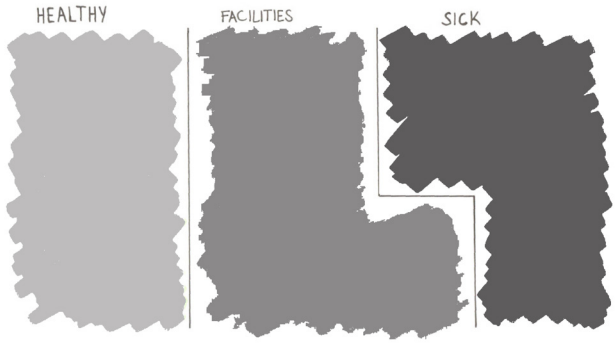


fig. 1.6 Zoning terrain

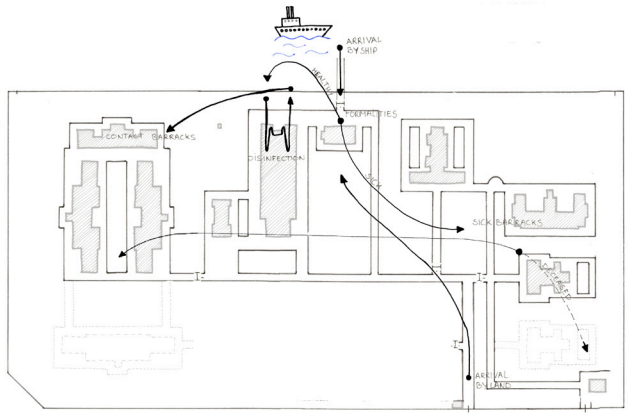


fig. 1.7 Routing (drawing: M. Bijkerk)

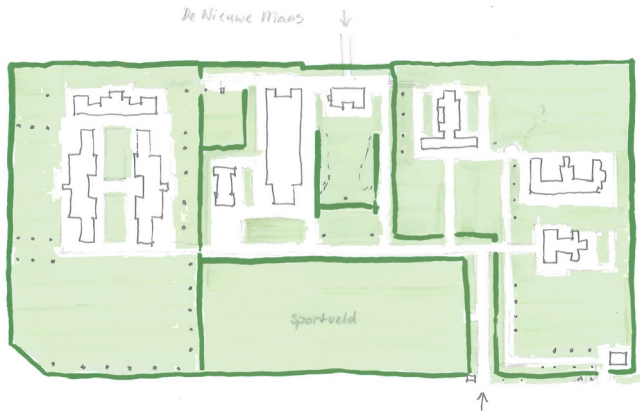


fig. 1.8 Green structure

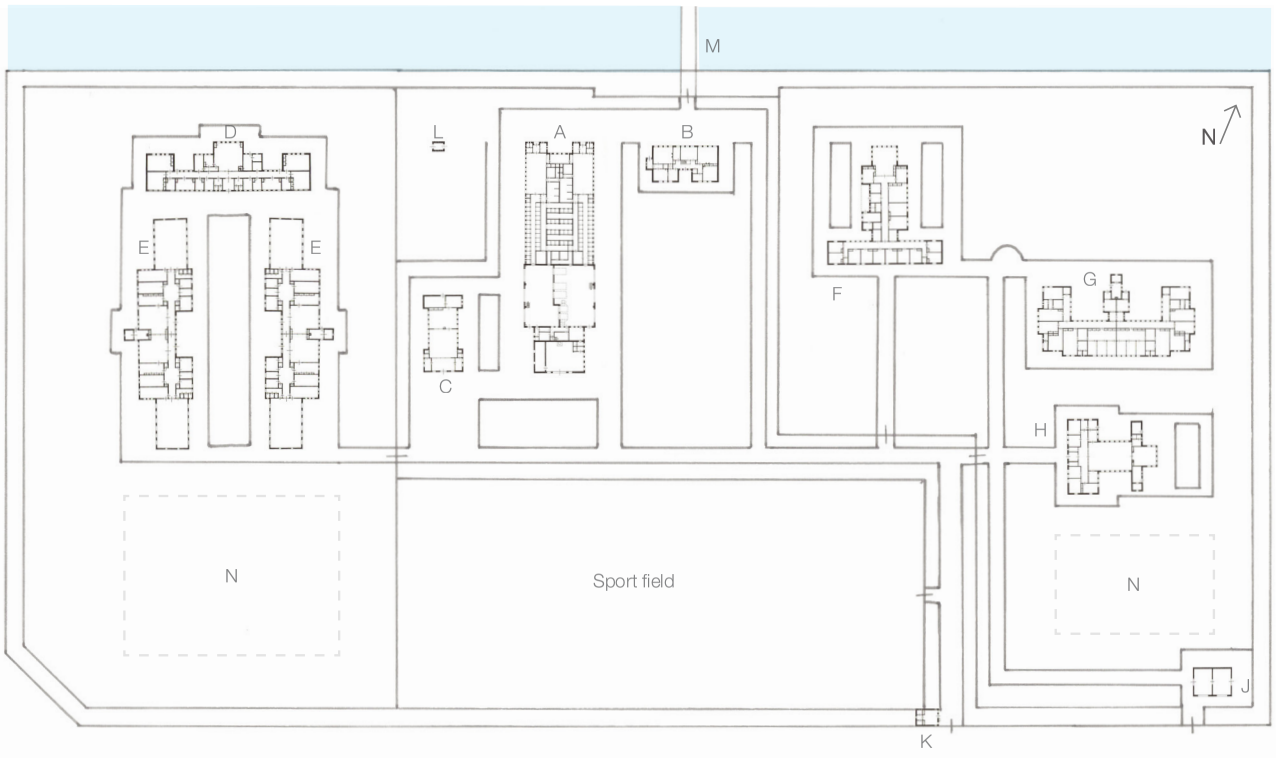


fig. 1.9 Program original situation (drawing: M. Bijkerk)

A. Disinfection building (Reinigingsgebouw)
B. Administration barrack (Beambtenbarak)
C. Kitchen (Keukengebouw)
D. Captain's barrack (Kapiteinsbarak)
E. Contact barracks (Contactenbarakken)
F. Nurses home (Zusterhuis)
G. Isolation barrack (Isoleerbarak)
H. Ordinary sick barrack (Gewone barak)
J. Mortuary (Lijkenhuisje)
K. Gatehouse (Portiershuisje)
L. Chlorine building (Chloreerhuisje)
M. Jetty
N. Space for expansion

Accessibility
Originally the facility was accessible via water and via land. The ships which were not yet allowed to enter the city due to the risk of contamination could enter the facility via a jetty. The possibility to access the quarantine area by water is probably not often used, because the facility has actually never been used for its original intended function. The access via land could be used by the personnel or for the supply of goods. Also people from the city whom got sick during an epidemic for example could be brought to the facility using the route via land.

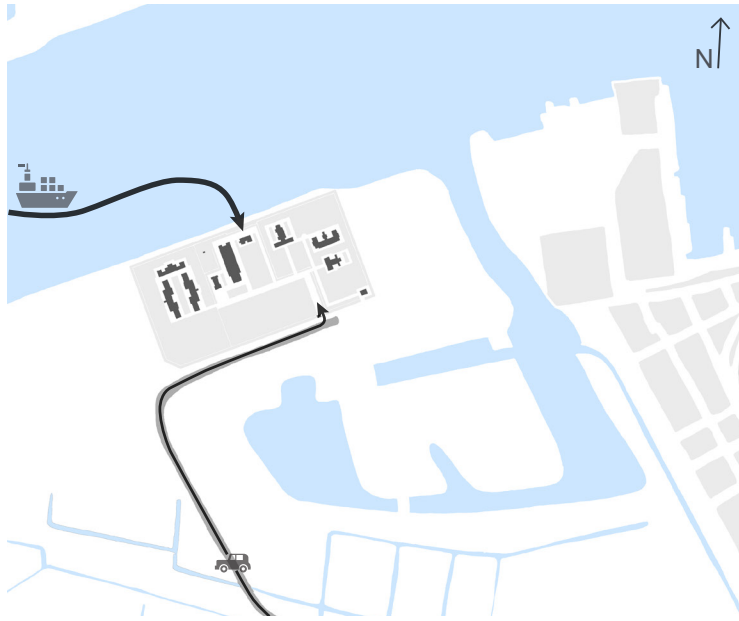


fig. 1.10 Accessibility original situation

Section original situation

The section of the original situation is characterized by flatness, low green, overview, openness and the distances between the different buildings. From the terrain you had a extensive view on the river.

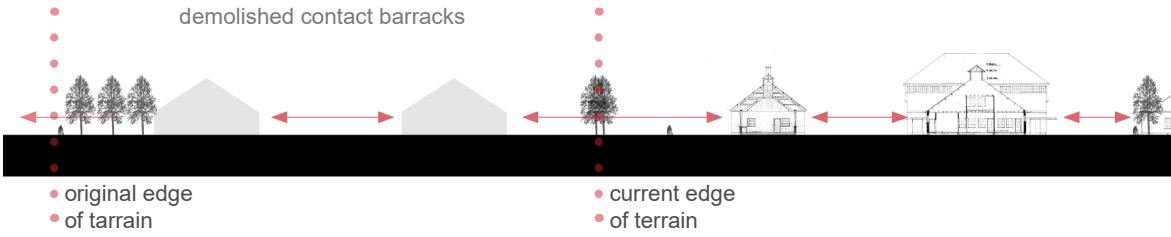
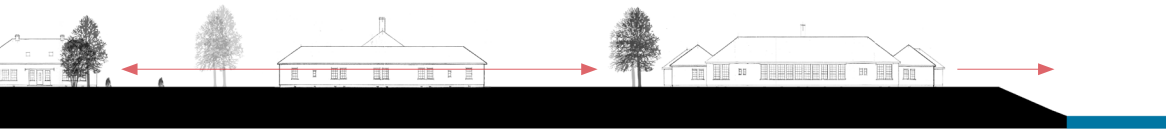


fig. 1.11 Terrain section original situation



Disinfection building

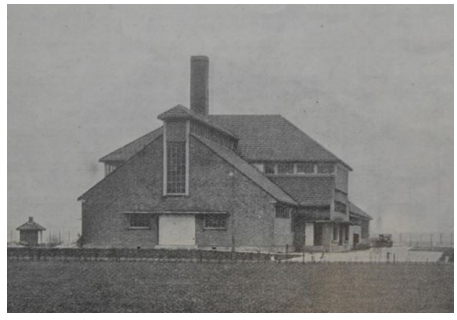
Original

The disinfection building was a functional building. People entering the facility, had to pass through the building to be disinfected (as did their belongings). The building was separated in three parts. A bathing part in which the people were cleaned, a disinfection facility for their belongings and clothing, and a boiler house. The bathing and disinfection parts were divided in a clean and unclean side. With some exceptions the building has been built quite symmetrical.

The entrance of the bathing part of the building lies on the riverside. People had to enter in the 'unclean' part of the building. Here a routing starts of sequentially a waiting room, individual changing rooms, individual showers, entering the clear side, examination by a doctor, entering the changing rooms in the clean part and put clothes back on. During the cleaning process the clothes and belongings were disinfected in the disinfection part of the building.

Current

In comparison with the other buildings the disinfection building has undergone the most adjustments/changes during time. Since the artists have moved in, quite some changes have been made. Interior walls have been removed (among others the changing rooms and shower booths). In this way, two houses and 5 studio rooms have been created. The clear structure, logic and routing of the design is not really noticeable any more. At a few places at the facade new openings are created.



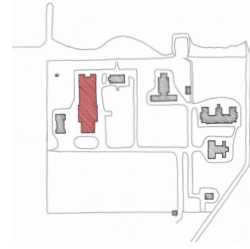


fig. 1.12 Disinfection building 1934 (source: Stadsarchieven Rotterdam, archive 1209-978)

Note: The description of the other buildings is included in the group analysis

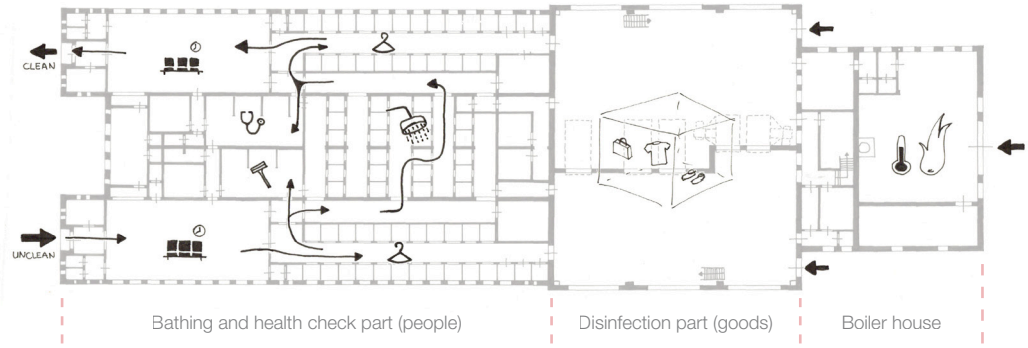


fig. 1.13 Original plan of the disinfection building, with specific routing/zoning (M. Bijkerk)

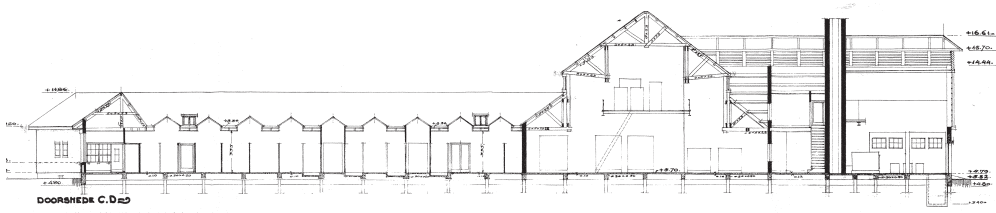


fig. 1.14 Section of disinfection building (source: original drawings)

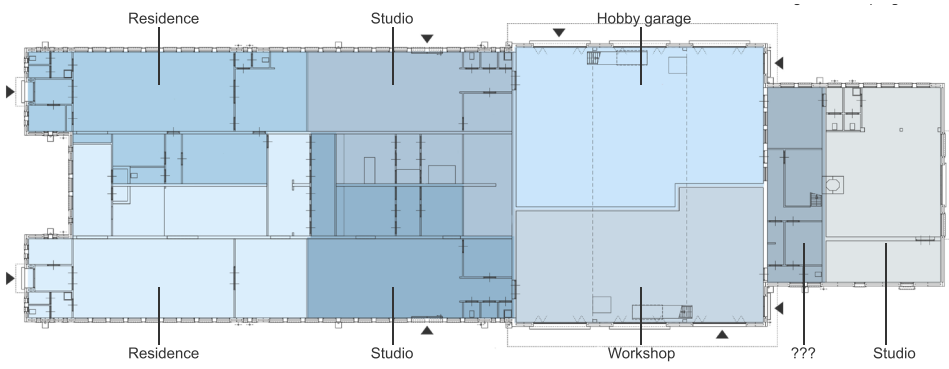


fig. 1.15 Current situation disinfection building (Mei architecten)

fig. 1.16 Traces left on the floor after the removal of the walls of the changing rooms (20 september 2016)

fig. 1.17 West facade disinfection building (T. Sandfort 6 sep 2016)

Life of the quarantine area

As the quarantine facility on Beneden Heijplaat was built to protect the city of Rotterdam from unknown tropical contagious diseases brought in by ships from sea it has never been used for this purpose. Other developments in the health care (in Rotterdam) made it not necessary to use the quarantine area. Simultaneously with the quarantine area the harbour hospital was built provided with special quarantine rooms, and the medicine 'penicillin' was discovered in 1928 (heijplaat.com, 2005).

The quarantine area was also built to deal with or to protect the city from land epidemics, which have occurred a few times (Stichting Beeld en Geluid, 1981). The first time in 1937, when 27 typhus patients from the city were taken in quarantine. After these first patients, the facility was empty again.

In course of time the quarantine complex has served different users:

1938-1939: Jewish refugees
In anticipation of the Second World War the quarantine facility is prepared to house Jewish refugees before they travel to America. Over 1700 refugees pass through the quarantine station between 1938 and 1939. The terrain looks bare and desolate and is surrounded by an iron fence with barbed wire (Moscoviter, 1993, p.27). For the refugees not really a nice place which could replace their abandoned home. (see fig. 1.18)

1940-1945: German war navy
Not even a year after the last refugees left the facility, shortly after the bombing of the city centre of Rotterdam (14 may 1940), the German war navy occupies/confiscates the quarantine facility (Zwaluw & Hor, 2010, p.86-96). The Germans significantly change the context of the quarantine area. Among other things they make the Werkhaven and expand the Heysehaven. On the west of the quarantine facility bunkers are placed to store ammunition. The buildings of the quarantine facility are used as accommodation for the military. (see fig. 1.19 and 1.20)

fig. 1.18 Refugees behing the metal fence around the quarantine facility (source: C.K. Berghuis as quoted in Zwaluw & Hor, 2010)

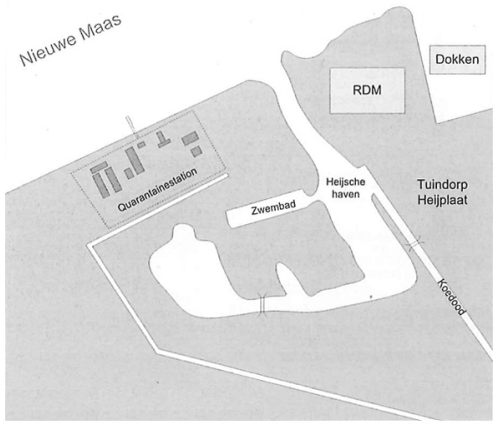


fig. 1.19 Quarantine area may 1940 (Zwaluw & Hor, 2010, p.189)

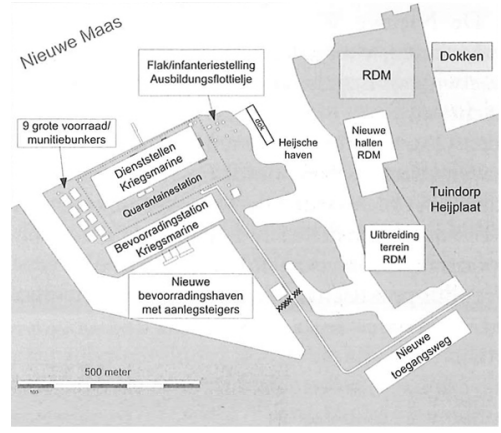


fig. 1.20 Quarantine area mid 1941 (Zwaluw & Hor, 2010, p.189)

April 1945:
Short after the liberation of Rotterdam a typhus epidemic hits the town of Spijkenisse (Moscoviter, 1993, p.31). The infected people are treated in the quarantine facility.

November 1945:
The facility is used for a city wide delousing, opposing scabies and lice.

1946-1949:
In 1946 the facility is annexed by the Zuiderziekenhuis to shelter those men that returned from Germany, infected with tuberculosis (Moscoviter, 1993, p.31). The facility is renamed to 'Sanatorium Heijplaat' in this phase.

1949:
A pox patient, on the ship 'Kota Inten' coming from the Dutch East Indies, is transferred to the quarantine station to be taken care of.

1953:
In 1953 the contact barracks on the western part of the facility are made available to the psychological facility 'Maasoord'. Eighty demented elderly, forty men and forty women, are relocated and taken care of in the facility until the Delta hospital (formerly called Maasoord) closes the dependence in 1981. The other barracks of the facility remain empty. (see fig. 1.21)

1956:
In 1956 the Port authorities requires a piece of the area on which the facility was built. The municipality agrees and the corner on which the mortuary is located becomes property of the Port authorities, who transform the land into water. Therefore the mortuary is moved closer towards the other barracks and next to the ordinary sick barrack.

1966:
Four of the eight bunkers made by the Germans are demolished (Het Vrije Volk, 1966). On an aerial photo from 1981 the traces of the bunkers are still clearly visible in the landscape. (see fig. 1.22)

fig. 1.21 Dementing elderly in the contact barracks (source: Stichting Beeld & Geluid in QI Initiatiefplan)

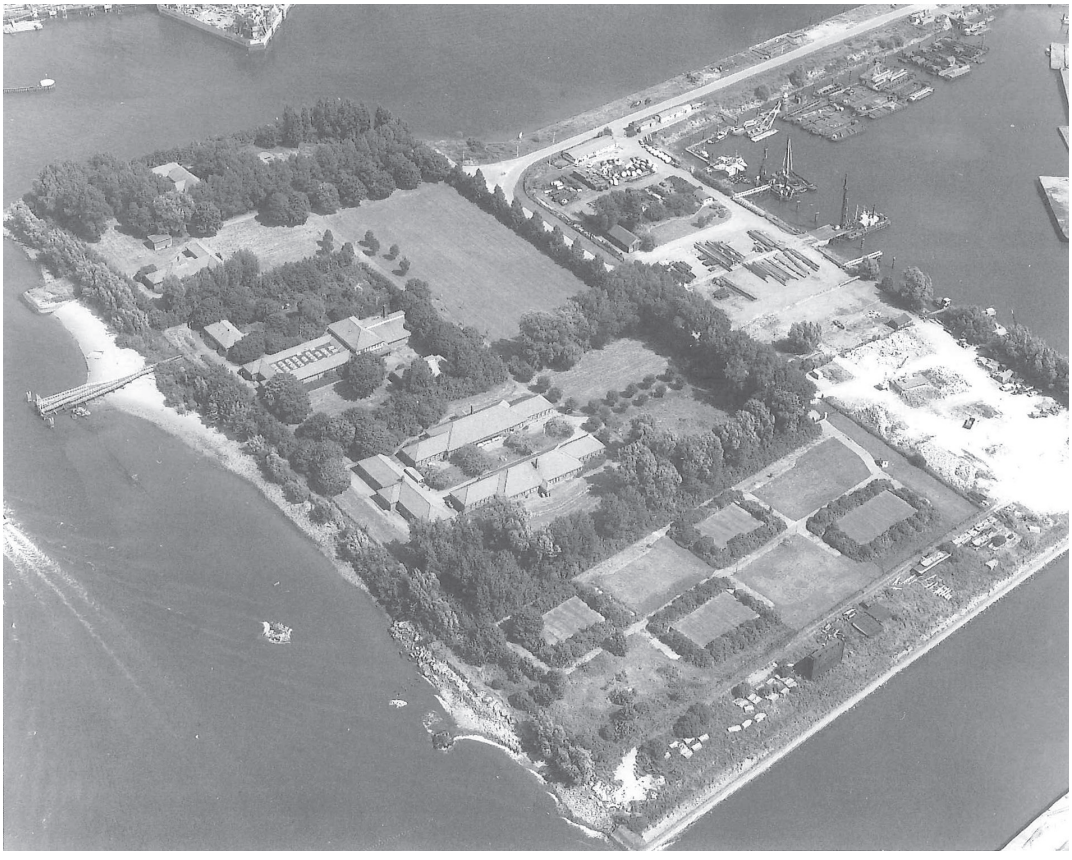


fig. 1.22 photo 1980 (source: klm Luchtfotografie)

1979-current:
In 1979 a group of artists enters the quarantine area started living and working in the empty barracks (see fig. 1.23). Even though the buildings have not been in use for several years they are still in relatively good state and connected to the electricity grid and water supply (Verhey, 1980, p.3). In 1981 the artists unite in a foundation called ‘Beeld & Geluid’.

1981:
The municipality gives the terrain to the Port Authorities, whom have plans for demolishing the facility, in order to use the space for warehouses and storage buildings serving the harbour (Moscoviter, 1993). The demolition is planned for 1985, but never actually happens.

1990:
The captain’s and contact barracks are demolished by the Port Authorities because they are not safe enough to be used any more, according to the Port Authorities. The artists claim that the buildings are as safe as all other buildings of the facility (Moscoviter, 1993). Meanwhile the artists remain residents of the remaining barracks. Over the years they adapt the buildings to their new functions as workshop, theatre or house.

2008:
The quarantine area (buildings and ensemble) gain a national monument status.

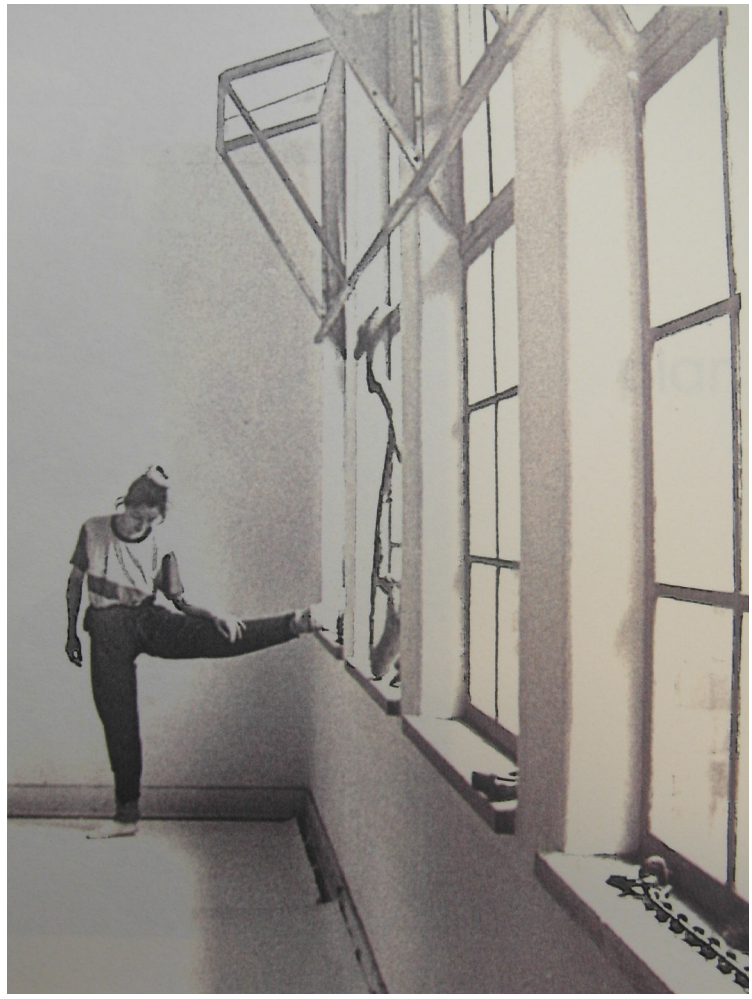


fig. 1.23 Artist in the quarantaine area (source: Stichting Beeld & Geluid, QI Initiatiefplan)

Spatial development
In course of time the quarantine complex has served different users as described in the pages before. Also on the scale of the context big physical change took place during successive decades. Further development of the harbours (big influence by the German war navy) transformed the quarantine area into a kind of island (peninsula).

fig. 1.24 Situation after construction (source: http://www.topotijdreis.nl/)

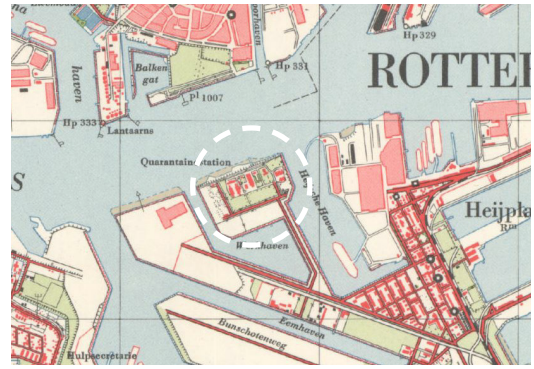


fig. 1.25 Situation around 1960 (source: http://www.topotijdreis.nl/)

Also the structure/composition of the pavilions changed. In 1956 the mortuary was moved because the port authorities wished to expand the Heysehaven plausible for better accessibility. This intervention took the south eastern corner of the terrain (fig. 1.27). In the 90s three barracks (captain's and contact barracks) in the west of the site were demolished, because the condition/state of the buildings was found to be poor. A small building (probable services of the municipality) is added tot the composition next to the nurses house. The architecture of this building is not corresponding with the other buildings.

Consequence of the spatial development of the composition was that the disinfection building was no longer the centre of the area. The centre moved to the nurses home (fig. 1.29).

Green development
The overwhelming/overgrown greenery on the terrain changed the appearance of the area. Currently the quarantine area is an unique green environment in the city of Rotterdam with a natural river beach.

Changes on buildings
The interior of the buildings underwent some changes but the exterior remained almost unchanged. The disinfection building has changed the most.

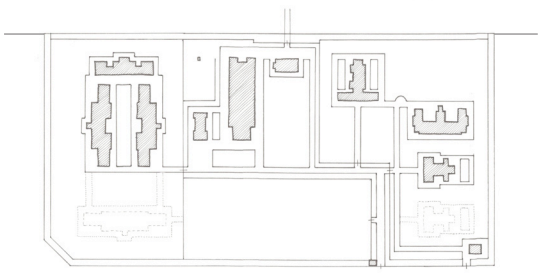


fig. 1.26 Original composition (drawing: M. Bijkerk)

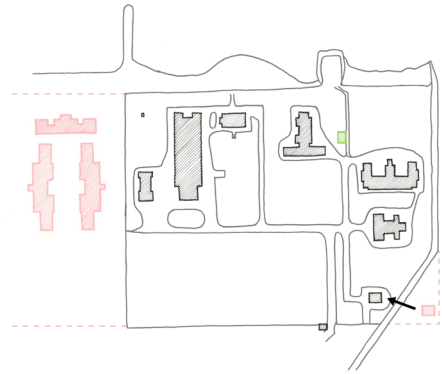


fig. 1.27 Demolished, moved and new buildings (M. Bijkerk)

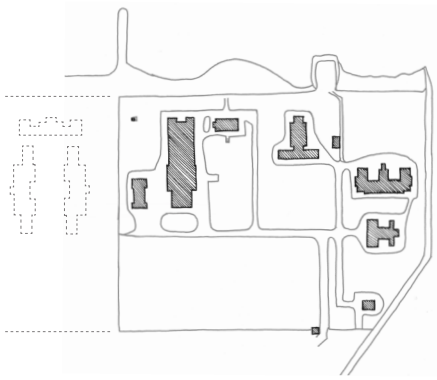


fig. 1.28 Current composition (M. Bijkerk)

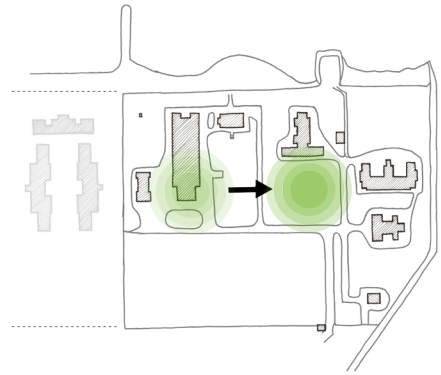


fig. 1.29 Center of the composition has moved (M. Bijkerk)

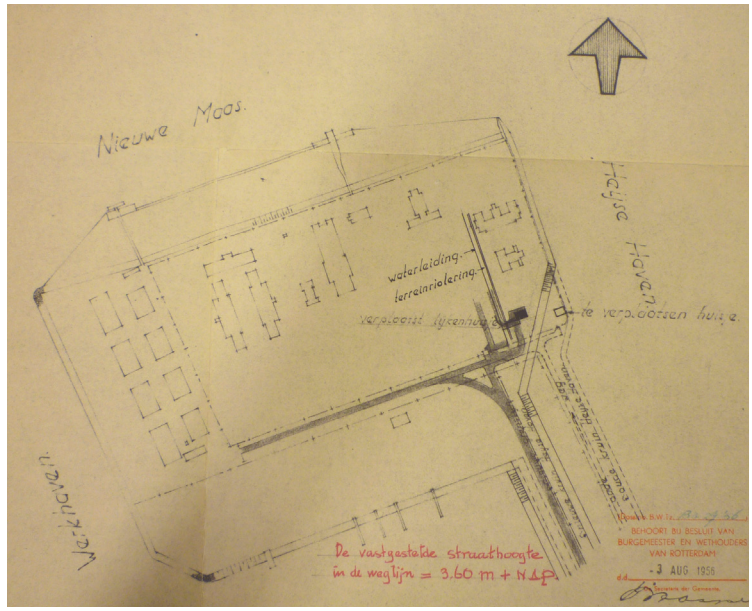


fig. 1.30 Situation drawing of the move of the mortuary. Also the eight bunkers made by the German war navy are drawn on the west side. (Source: Stadsarchief Rotterdam Bouwtekeningen B3_27_1956)

Change of accessibility
Somewhere around 1983 the scaffolding was demolished, because the structure was unstable and no longer safe to be used. Since the demolition of the scaffolding, the only entrance possible is via land. Due to spatial changes of the landscape the road to the quarantine terrain has been moved.

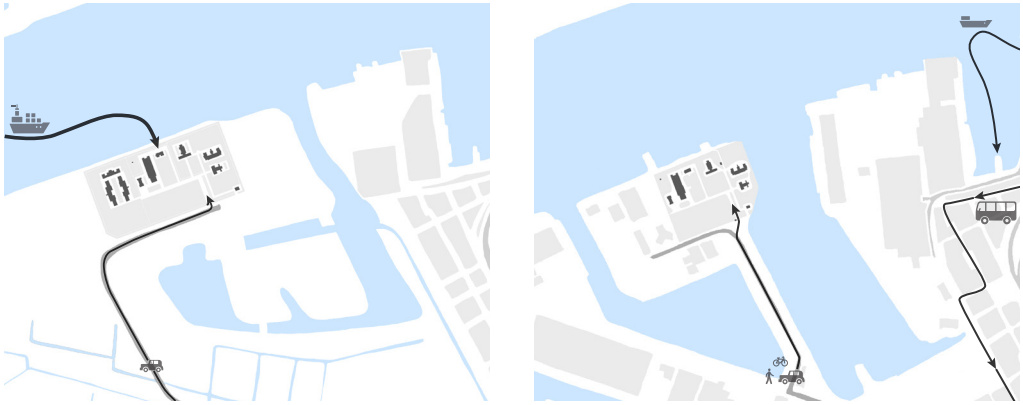


fig. 1.31 Change of access, original situation and current situation (M. Bijkerk)

Current situation
Since 1979 the area is inhabited by artists, who work and live on the terrain. Currently many of the buildings are being renovated by the port authority. Asbestos removal, installing double glazing and replacing / repairing damaged elements are the most important actions of the renovation.

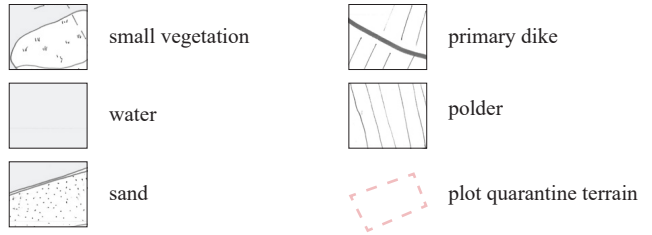
Future plans quarantine area
Het Havenbedrijf, in collaboration with BVR advisors and MEI architecten (BVR, 2015), is going to develop the quarantine area in a satellite location of the RDM campus. Small companies will be housed in the existing buildings. These companies will operate next to the RDM, with the same goal to make Rotterdam into the most sustainable harbour through innovative technology (Port of Rotterdam, 2016). The Havenbedrijf has offered the squatters, who are currently living at the quarantine area, an agreement that they can extend their stay for 10 years (until 2025) if they will leave without protest at the end of this period.

Conclusion Cultural History

The quarantine area in Heijplaat reflects the health care related side of a growing port city in the early twentieth century. The division of the program in separate buildings (barracks) was a common typology in the health care architecture at that time. The quarantine area is not really used for its original suggested function. In course of time the quarantine area has served many different users, for quite short periods. It has been used for the accommodation of groups of people, not only health care related. The current users, the artists, are making use of the ensemble in a more individual way.

2. Urban analysis

Historical development landscape
The historical development of the landscape around the quarantine terrain is showed in the following drawings. Traces left from periods in the past are part of the current landscape (underlaying) structure. Visible in the drawings is the quite rapid transition of the landscape (water and land) due to the increase of port activities.



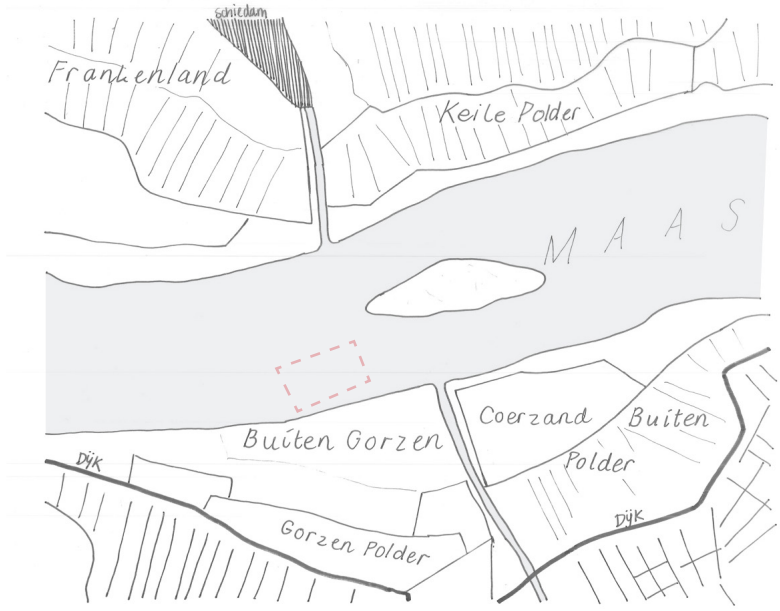


fig. 2.1 Landscape situation around 1850

In 1850 the Maas has still its original ecological shape. The land is cultivated in polders, but there are still no signs of the future port landscape. The primary dikes are defining the inner and outer dike area. The red rectangle is showing the plot where the quarantine area will come in 1934.

fig. 2.2 Landscape situation around 1900

The small island in the Maas is removed, probably for improving passage for shipping. New pieces of lands arose/made along the south side, by making use of dams (fig. 2.2).

fig. 2.3 Landscape situation around 1910

The new pieces of land are growing and taking shape. Starting with the construction of the Waalhaven and the dry dock of the RDM factory. The primary dikes start to move. (fig. 2.3)

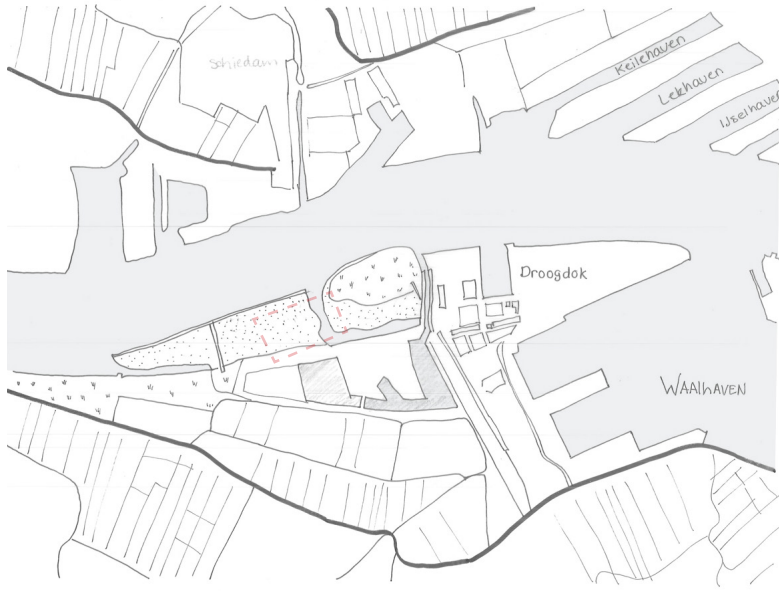


fig. 2.4 Landscape situation around 1920

The first part of garden village Heijplaat is developed (fig. 2.4). The RDM and Waalhaven are developing further. Small harbours are made in the piece of land called Buiten Gorzen.

fig. 2.5 Landscape situation around 1940

In 1934 the quarantine area is developed located at Beneden Heijplaat, surrounded by empty land (fig. 2.5). The outer dike area is increasing. The construction of the Eemhaven has started and the Waalhaven is almost finished.

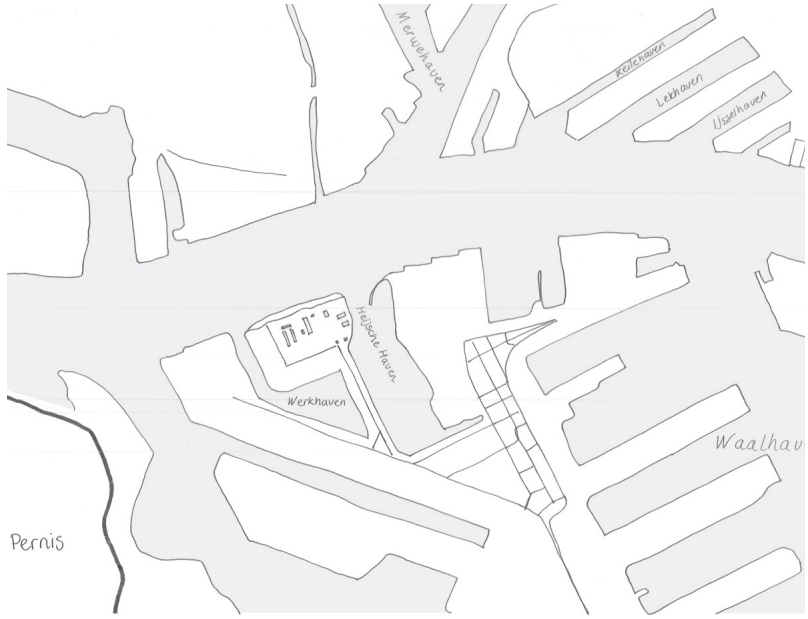


fig. 2.6 Landscape situation around 1970

During the Second World War the quarantine area has been used by the German war navy. They constructed the Werkhaven and increased the Heysehaven. During time the harbours developed further and the contours of the land kept changing. As a result, the quarantine area is now only connected with a narrow dike to the mainland. (see fig. 2.6)

The facility was threatened with demolition several times and around 1990 the port authorities did even demolish three of the barracks. The space that became available was then used by harbour companies. Since then industry was happening right beside the former quarantine facility.

fig. 2.7 Situation 1937 (KLM Luchtfotografie)

fig. 2.8 Current situation (Google maps)

See how the primary dikes move further away from the river and how the river is taking more space. With the development of different harbours the contour of the river is becoming more irregular (*grillig*) and more and more land will be situated along the river.

fig. 2.9 Development of the landscape 1850 - 1970

fig. 2.10 Development of water structure 1850 - 1970

Urban analysis - Present

Outer dike area

The quarantine area is situated in the outer dike area, which means that the area is not protected by a primary dike/water barrier. Depending on the street level, the area can be flooded. Heijplaat is a sensitive area in terms of flooding. In the future, measures will be necessary in order to protect the area against high water. The street level of the quarantine area is relatively high compared to its direct surrounding, which reduces the chance of flooding.

Functions

Currently the quarantine area, together with the garden village Heijplaat, seem little residential enclaves within the large harbour environment. Heijplaat and the quarantine area are connected with a narrow dike. The water is a distance between other residential areas like Pernis and Schiedam.
The quarantine area is currently surrounded by the harbours Eemhaven, Werkhaven, Heysehaven and Waalhaven. The harbours are in use for harbour activities, like ship repair, fruitport, container storage, etc. Also the land along the north side of the Maas is still used for harbour activities.

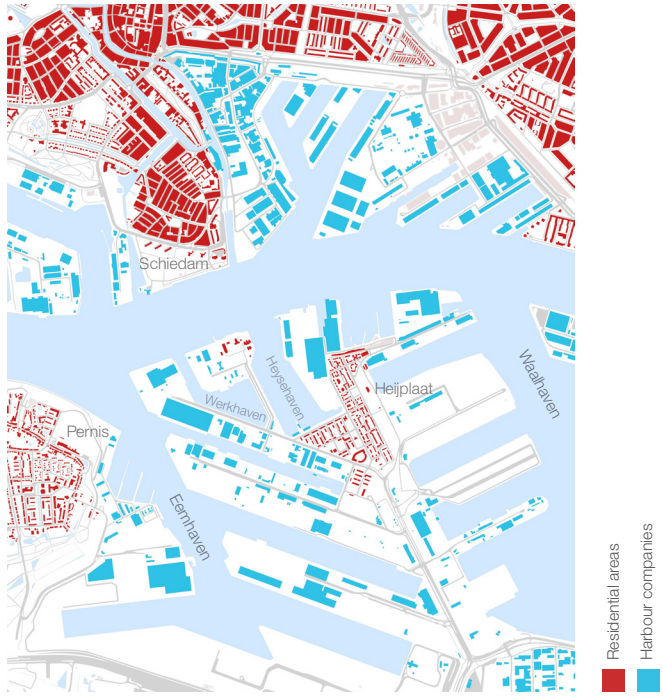
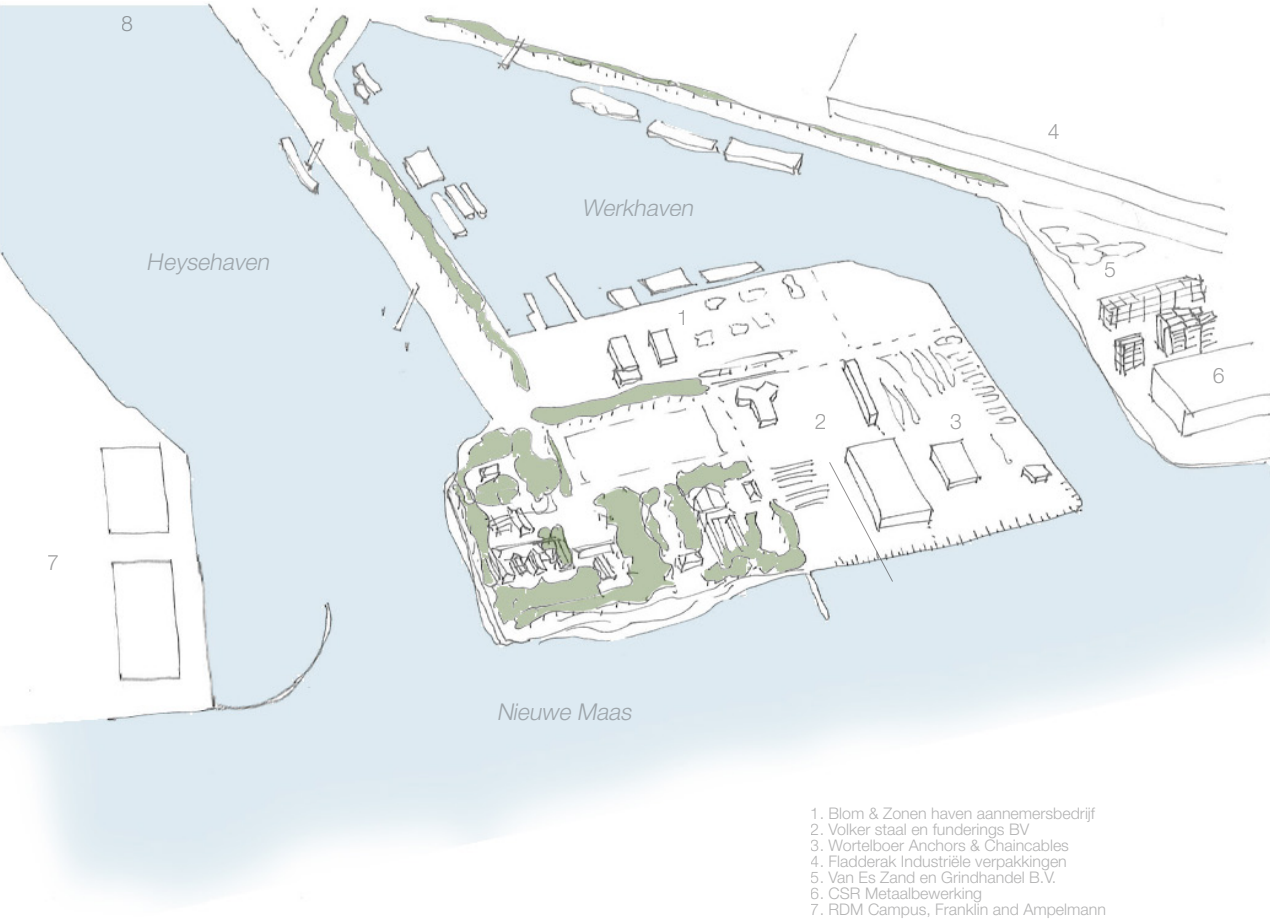


fig. 2.11 Functions of the surrounding (M. Bijkerk)



1. Blom & Zonen haven aannemersbedrijf
2. Volker staal en funderings BV
3. Wortelboer Anchors & Chaincables
4. Fladderak Industriële verpakkingen
5. Van Es Zand en Grindhandel B.V.
6. CSR Metaalbewerking
7. RDM Campus, Franklin and Ampelmann
8. Koninklijke Nederlandse Redding Maatschappij

fig. 2.12 Functions in the direct context

Infrastructure and mobility

The main infrastructure of the surrounding of the quarantine are roads and water. A road network of different types of roads provides good access to the area. Travelling by car or bus is the most common option. The area is also reachable via water (water bus). Although the water and roads (highway) are carrying the mobility of the area, they also act as a 'barrier' between the area and surrounding neighbourhoods like Pernis, Poortugaal and Schiedam.

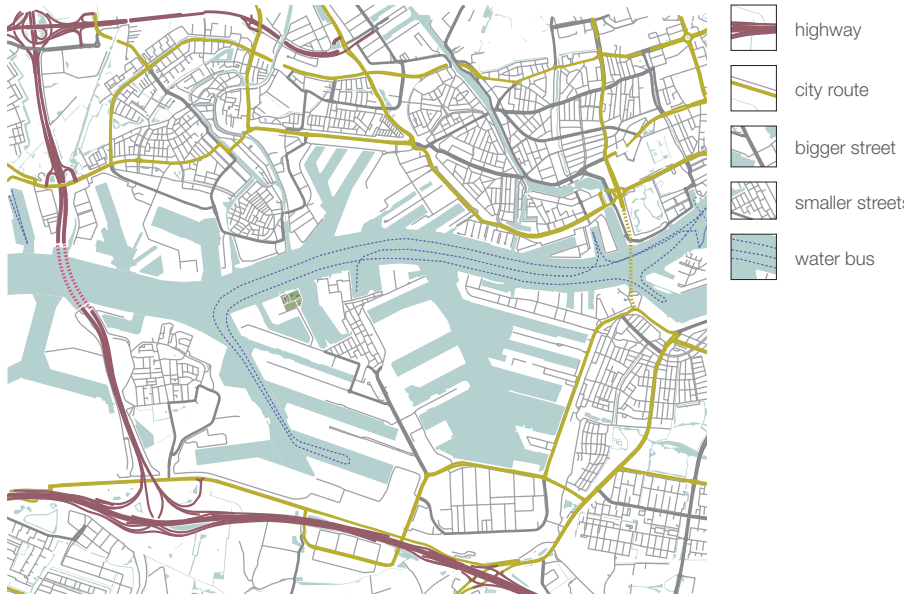


fig. 2.13 Infrastructure and mobility

Surrounding of the quarantine area

There are two possible ways to get to the quarantine terrain. The first is by water bus which stops in the former RDM dock. You walk through the small and green residential area Heijplaat and continue your way along the Heijsehaven. The other possibility is getting there by land (car and bus). The landscape you pass is characterized by stacked containers and big cranes. The large stacks of containers are in big contrast with the village like buildings of the garden village Heijplaat and the buildings of the quarantine area.

At the end you approach the green quarantine area via a long and narrow dike. The quarantine area is only accessible via this dike, which increases the isolated position.

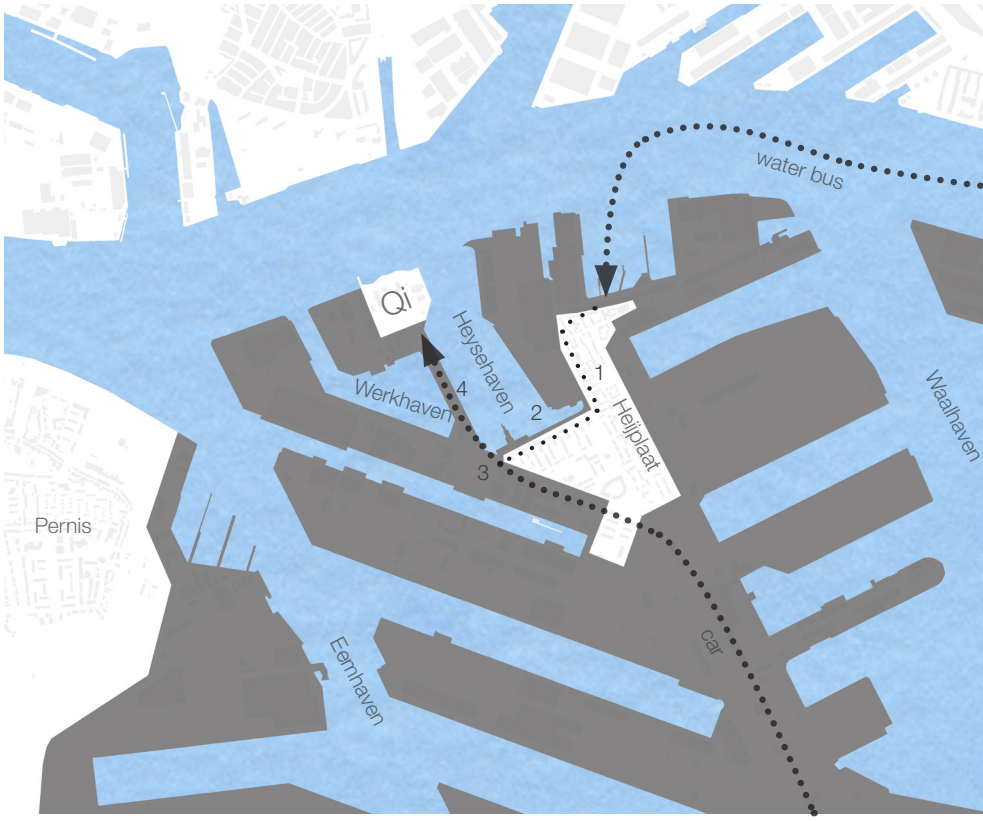


fig. 2.14 Ways to approach the quarantine area

fig. 2.15 Housing and green in garden village Heijplaat (2 sept 2015)

fig. 2.16 HeyseHaven and behind the quarantine area (trees) (2 sept 2015)

fig. 2.17 Containers along Eemhavenweg (9 sept 2016)

fig. 2.18 Dike along Heysehaven towards quarantine area (12 oct 2016)

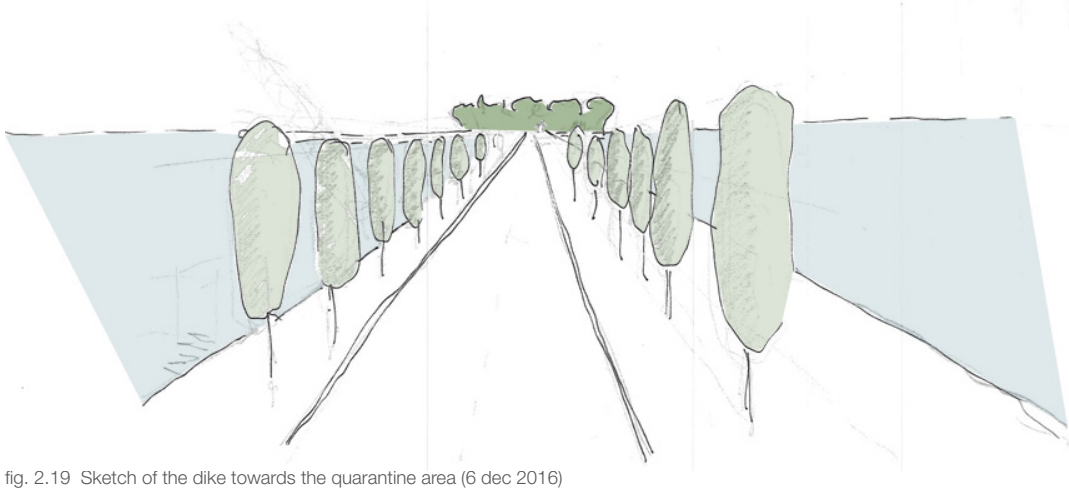


fig. 2.19 Sketch of the dike towards the quarantine area (6 dec 2016)

Sections

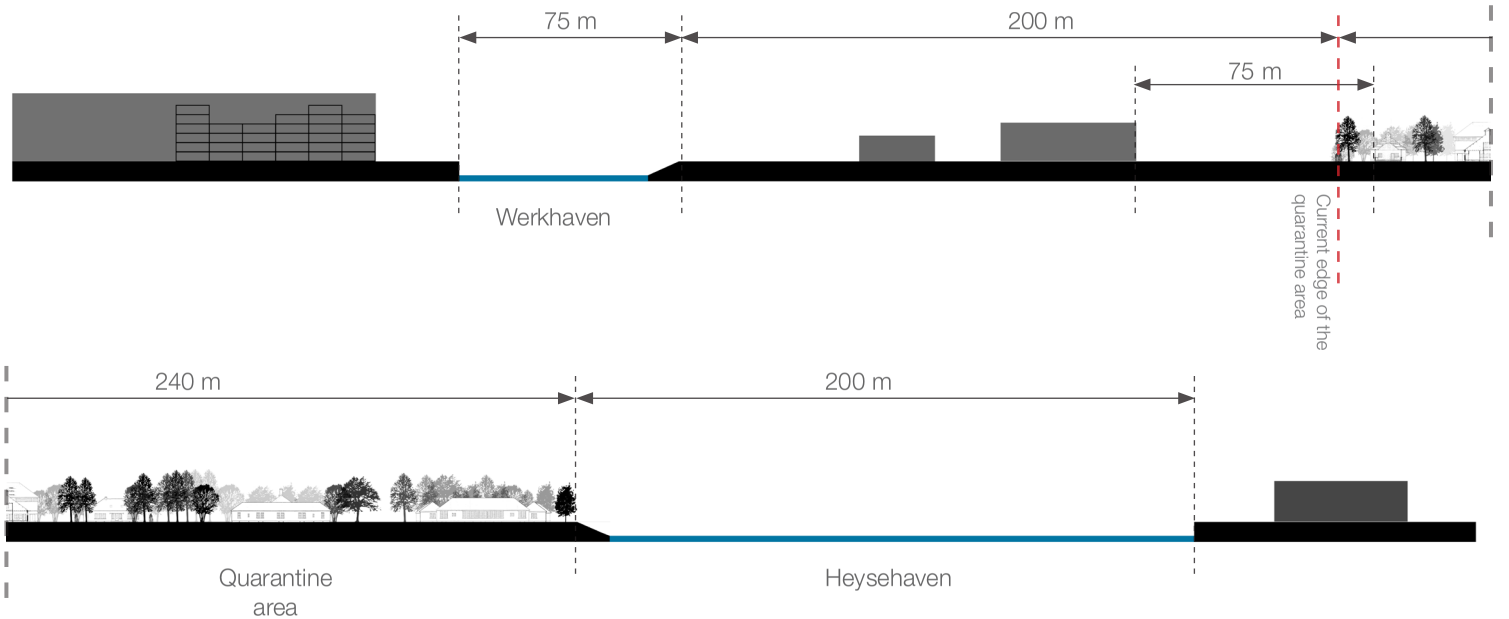
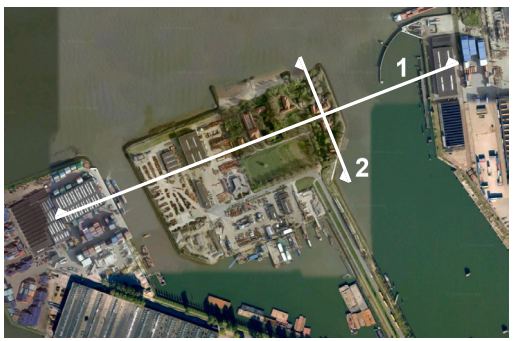


fig. 2.20 Section 1

fig. 2.21 Section 2



Green

The quarantine facility seems a green enclave within a context of harbour landscape. Garden village Heijplaat and Park de Hey are other green areas near the quarantine area. On the other side of the river a green park is located at the water edge of Schiedam. Around Pernis and on the south of the map between the big road and Poortugaal big green areas are located.

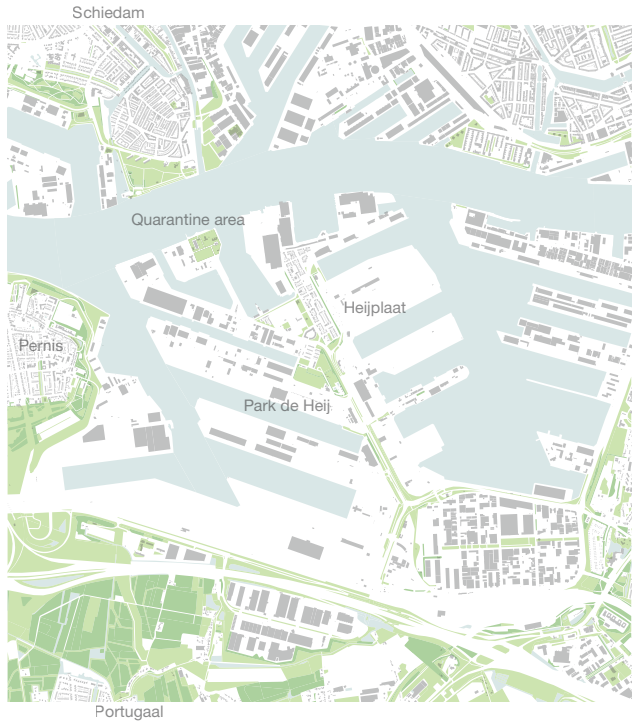


fig. 2.22 Green structures surrounding

RDM

The Former Rotterdamse Droogdok Maatschappy (RDM) was located at the Boven Heijplaat since 1904. The RDM was specialized in maintenance, repair and construction of ships. The built industrial heritage of the RDM is among other things characterized by the use of brick and red steel.

fig. 2.23 Heritage of the RDM factory (source: www.pilastron.nl)

Heijplaat (village)

Heijplaat has originally been developed as a residential area for workers of the former RDM. Because of difficult access of the location, growth of the company and economic benefit, it was handy/necessary to house the employees close to the factory. The workers village was developed in garden village style, designed by architect H.A.J. Baanders. The village can be characterized as a green nice living environment.

The spatial structure of Heijplaat and the quarantine area are not corresponding with the usual structure that is applied in port areas. It is characterized by small scale and harmony. Both Heijplaat and the quarantine area have brick buildings.

fig. 2.24 Houses of Heijplaat and the gate building of the RDM, 1913-1920 (Archief Amsterdam)

fig. 2.25 Housing and green in garden village Heijplaat (2 sept 2015)

The RDM site, quarantine area and Heijplaat are all good protected ensembles. All three ensembles have their own architecture which stands out from the harbour buildings / landscape.

Monuments and protected city scape

Heijplaat, the RDM site and the quarantine area are cultural and historical points in this part of the harbour. Together they are listed as a protected city scape. The quarantine area is listed as a national monument. Some buildings of garden village Heijplaat are selected to be listed in future.

fig. 2.26 Protected city scape and monuments

Scale difference context
The small scale buildings of the quarantine area and also the houses of Heijplaat are contrasting in scale with the big scale water and harbour landscape with big warehouses, cranes, boats and stacked containers.

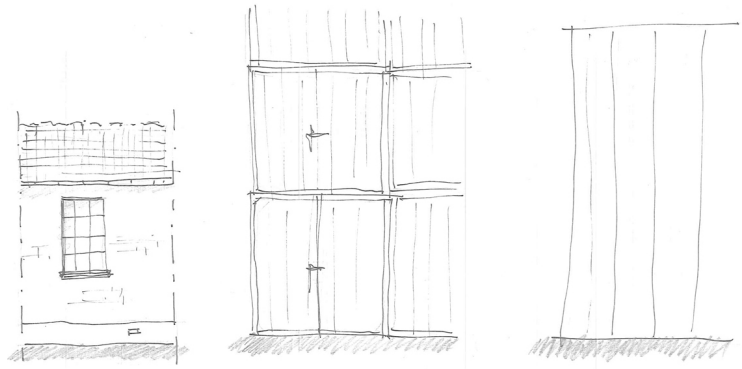


fig. 2.27 Scale difference between buildings of the context

Orientation and movement
The quarantine area and the land around the quarantine area can be seen as dock lands. In this way there is a lot of interfaces/ relation with the water (harbours and river). Without complex connections and infrastructural systems, the focus is on local traffic (*bestemmingsverkeer*). The quarantine terrain is a bit a finite place (*eindige plek*), a characteristic of dock lands. Like a final destination (quality or not?). The dock lands surrounding the quarantine area have the same character, but in case of the quarantine area it is intensified by the long and narrow dike.

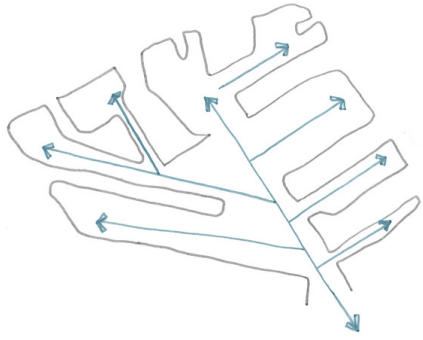


fig. 2.28 Orientation of context

Dynamics
The quarantine area and Heijplaat (both human scale architecture) contrast with their surroundings of harbour activity. The dynamics of the quarantine area and Heijplaat are partly determined by nature (currently). The green (trees and plants) and the small river beach are important for the experience of the outdoor space and make tides (beach) and seasons (trees) clearly visible.

fig. 2.29 Immense difference in scale (6 March 2017)

Future plans

As said in plans of the municipality (Stadshavens Rotterdam), in the area Waalhaven and Eemhaven the deep sea container transshipment will gradually be replaced for new activities (Stadshavens Rotterdam, 2009, p.14). Keywords for future development are short sea hub, value added logistics, fruit cluster and maritime technology (Port related knowledge intensive activities, work and education). In this area the municipality wants to invest in the network of public spaces, floating working environments in a qualitative area, sustainable mobility and re-inventing delta technology. The map below is showing the future plans. The quarantine area is marked with the sign 'public facility'. The Port Authority, the owner of the buildings of the quarantine area, wants to use the buildings to accommodate small harbour related knowledge and innovation companies. The outdoor space of the quarantine area including the beach will be a public space. The new proposed program is corresponding with the activities of its surrounding. This will influence the enclave/isolated character of the quarantine area, which is now clearly present. The question may be whether this is desirable?

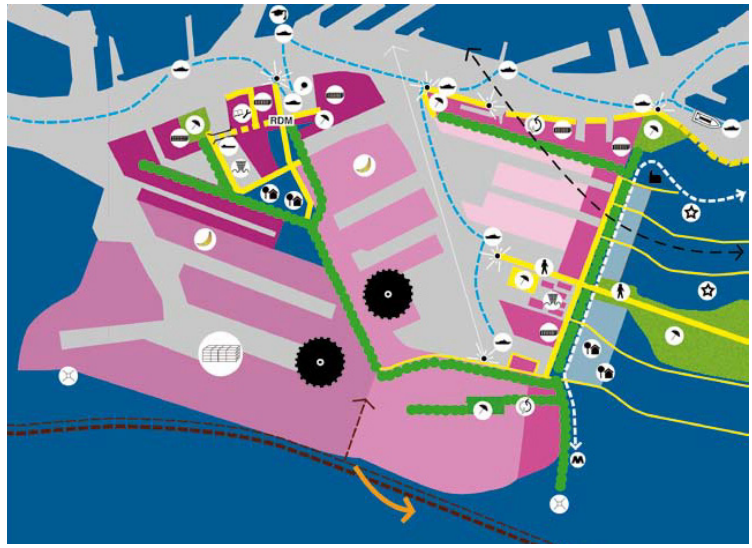


fig. 2.30 Development direction towards 2025 (source: Stadshavens Rotterdam, 2009, p. 18)

Conclusion analysis urban context

The quarantine area is in fact a green enclave in an industrial landscape. There is a big contrast between the green atmosphere and the surrounding water and harbour activities. The contrast in function and scale intensify this enclave feeling. During the lifetime of the quarantine area the surrounding landscape has been developed intensely. The dynamics of the terrain and its surrounding has been changed.

3. Ensemble

The word ‘ensemble’ in architecture means the presence of a specific coherence between elements. The elements can be both buildings and contextual elements. Ensembles can be built in one time, consciously as an ensemble, but can also consist of different elements of different times. The quarantine complex can be seen as an ensemble.

For the design of the quarantine area a pavilion set-up was used. The system of different separate building volumes, instead of one large building, was common typology for quarantine stations in general and also in the health care at that time. It makes it possible that each pavilion, in principle, can be designed in a different manner to adapt to the conditions for its proposed function. The buildings have a quit functional organization (modern) in a traditional architectural appearance.

fig. 3.1 Quarantine area with buildings highlighted (source: Google maps)

What makes the quarantine terrain an ensemble? First, one architectural language has been used, expressed in a grammar: the materials brick and red roof tiles, steel windows in different sizes often applied in clusters, brick details around facade openings, concrete canopies above entrances and overhanging roof edges. Through consistent detailing and use of materials the exterior and interior is consistent. Second, the contrast with its surrounding and a clear edge of trees around the terrain make the quarantine area appear as an ensemble.

fig. 3.2 Architectural language (12 Oct 2016)

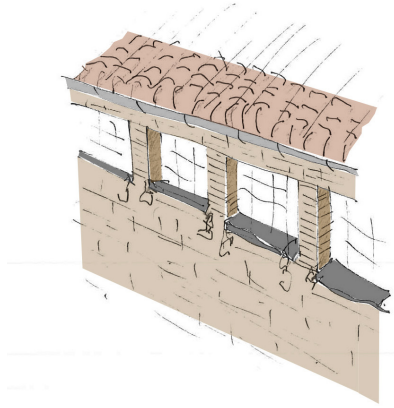


fig. 3.3 Consistent use of material and detailing (6 sept 2016)

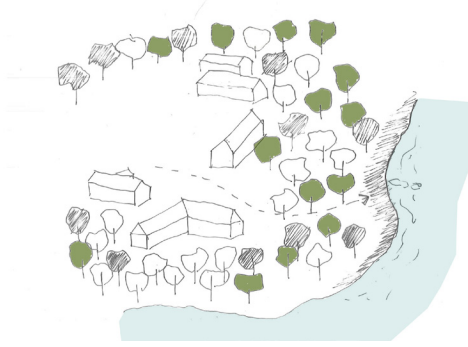


fig. 3.4 Contrast and edges (13 sept 2016)

Ensemble within its context
Relation between the city/surrounding and the ensemble of the quarantine terrain. The space between city and the site is characterized by water, industry and harbour activities. The quarantine area has a particular/special landscape and urban situation. It is designed outside the city and functioned because of its special function as an inaccessible enclave. As a result of urban expansion similar remote enclaves are now often closer to living and working areas. In case of the quarantine area in Heijplaat the surrounding area consists mainly of industrial activity and residential areas are not so near. The quarantine area still feels relatively far from the city, still like an enclave. This remoteness or enclave character is valuable but can also be seen as a limitation.

The water
The original proposed function of the quarantine area was strongly related to the river the Maas. The water was the way that would bring the ships with infectious diseases to the facility. Time has shown that this only came rare. The direct connection to the river (jetty) has had less significance than it was designed for. The dynamics of the activity on the river has changed during time.

Nowadays the water contributes to the remote character of the quarantine ensemble. The quarantine terrain is a bit a finite place, because it is surrounded by water and only easily accessible with one road. With design interventions the relation with the water can be intensified.

fig. 3.5 Quarantine area in its context

Edges of the ensemble

The distance/relation to the water line depends on the type of quay that is present. Around the quarantine ensemble different relations with the water exist.

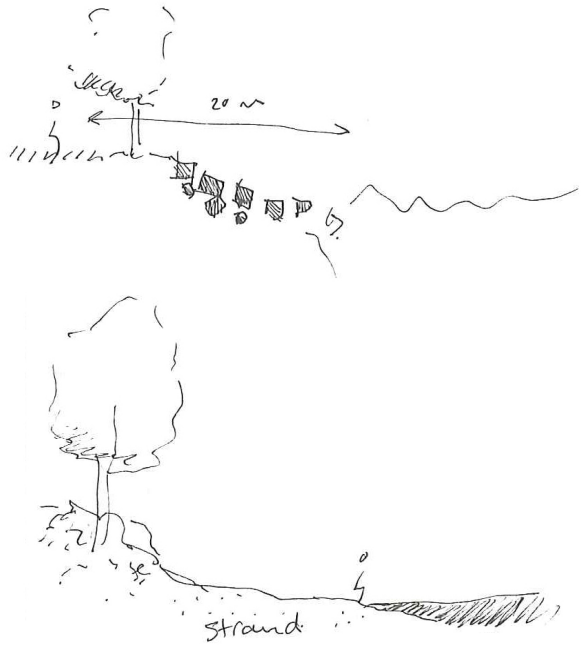


fig. 3.6 Distance to the water

Quays

After the quarantine area was built, its surroundings kept changing. New harbours were made or existing harbours were enlarged. Due to these developments the quarantine facility got more and more edges connected with the water. The area is only connected to the mainland by a small strip of land, the Quarantaineweg.

The water can be seen as both a border and a connection. It visually connects the quarantine area with its context, but it is a physical border because one can not go any further than the edge of the water. In its current situation, two sides of the quarantine area, are directly located at the waterfront. Sloping stone quays separate land and water (fig. 3.7).

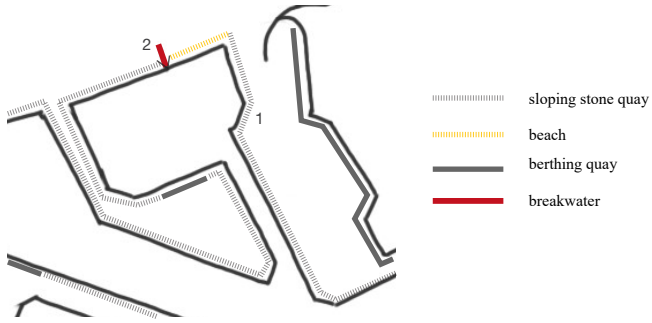


fig. 3.7 Indication of types of revetment (dijkbekleding) at and around the quarantine area

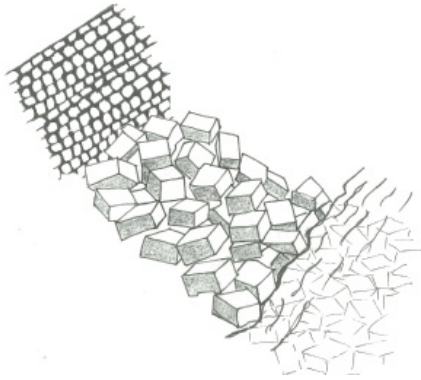


fig. 3.8 Sloping stone quay, 1 (M. Bijkerk)

fig. 3.9 Sloping stone quay at the dike towards the quarantine area (M. Bijkerk)

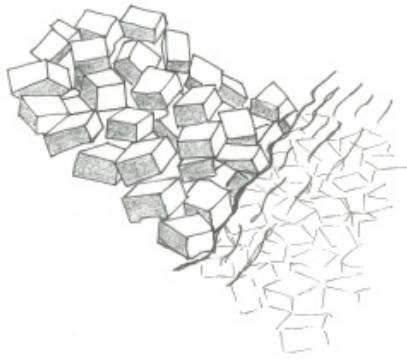


fig. 3.10 Rubble breakwater to protect the shore from heavy waves, 2 (M. Bijkerk)

fig. 3.11 Rubble breakwater at the north side of the quarantine area (M. Bijkerk)

Beach

On the northern side, there is a small beach, which is used by local residents. The beach can be seen as a part of the ensemble. According to aerial photos it seems that the beach has been there almost from the start (photos showed in group analysis p. 29). When the western part of the quarantine area was demolished and part of the 'island' became industrialised, the beach was partially replaced by sloped quays.

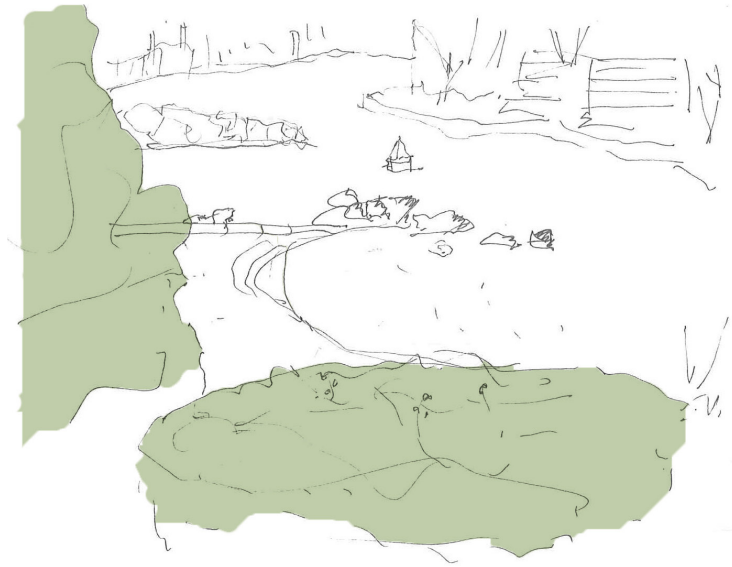


fig. 3.12 Sketch of the beach (sketch 6 sep 2016)

fig. 3.13 The natural river beach on the north side of the terrain (photo: M. Bijkerk)

Pier/Jetty

The quarantine area was provided with a jetty. It was demolished between 1982-1985 due to instability and danger (resident, 2016). Still traces of the jetty are visible in the sand and water.

fig. 3.14 Pier of quarantine area in 1979, before demolition (Stadsarchief Rotterdam, A. de Herder)

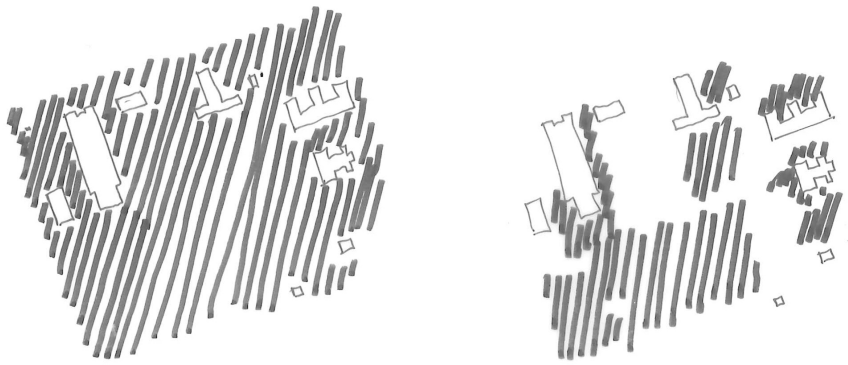
fig. 3.15 Traces of wooden parts of the jetty (photo M. Bijkerk)

4. The in-between space

(*tussenruimte*)

Thinking about an ensemble the space in-between the elements is important. The in-between space in the sense of distance, but the in-between space is also a place on its own. Despite the importance of the 'in-between space' as gradual transition between the public and the private, it is in practice rarely purposefully designed. The 'in-between space' not clearly has a autonomous spatiality or ideal architectural form, like buildings/architecture have. Often the in-between space is a result of standard sizes of buildings and the necessary distance between them.

The 'in-between space' is a mysterious space. In case of the quarantine terrain you can question if the in-between space is the space between the buildings or the space between buildings and green? The space in-between has a symbiotic relation with the buildings and the green.



Space between the buildings

Space between the buildings and green

fig. 4.1 The in-between

Elizabeth Grosz discusses the definition in the following way:
"*The space of the in-between is that which is not a space, a space without boundaries of its own, which takes on and receives itself, its form, from the outside, which is not its outside (this would imply that it has a form) but whose form is the outside of the identity, not just of an other (for that would reduce the in-between to the role of object, not of space) but of others, whose relations of positivity define, by default, the space that is constituted as in-between.*"

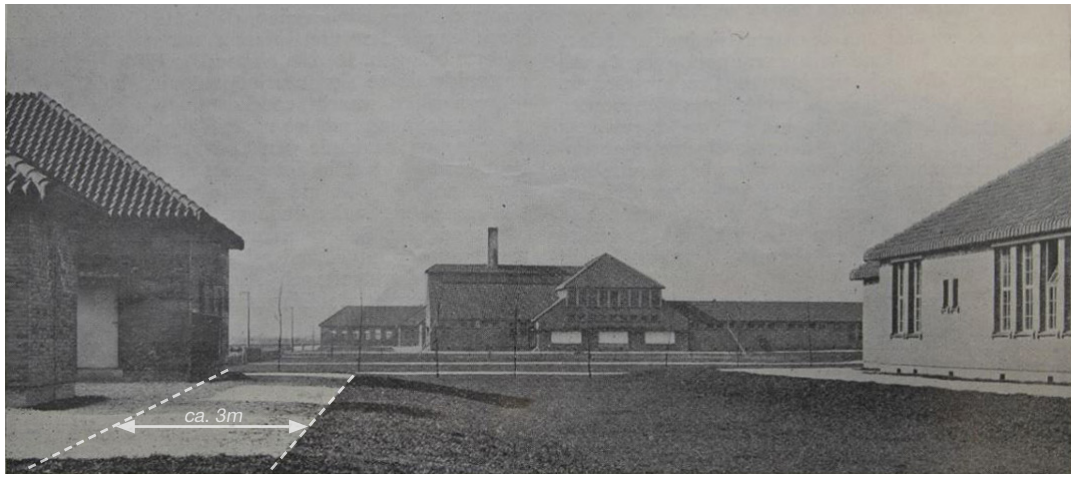


fig. 4.2 Space between buildings 1934 (source: Stadsarchieven Rotterdam, archive 1209-978)

Original in-between space

Looking to in-between space within the ensemble in the original design the in-between space was defined by separation of functions in different buildings, because of risk of infection and daylighting.
What were the characteristics of the in-between space at that time? There was a clear overview. The outdoor space was characterized by large lawns, hedges and some planted trees according to landscape design, as described on the following page. The atmosphere can be described as rigorous and sober.

The buildings were placed at clearly marked plots in the lawns. The distance between the facade and the grass was about 3 meters. The transition between the plots and the grass lawns was mostly without a clear separation (Fig. 4.2).

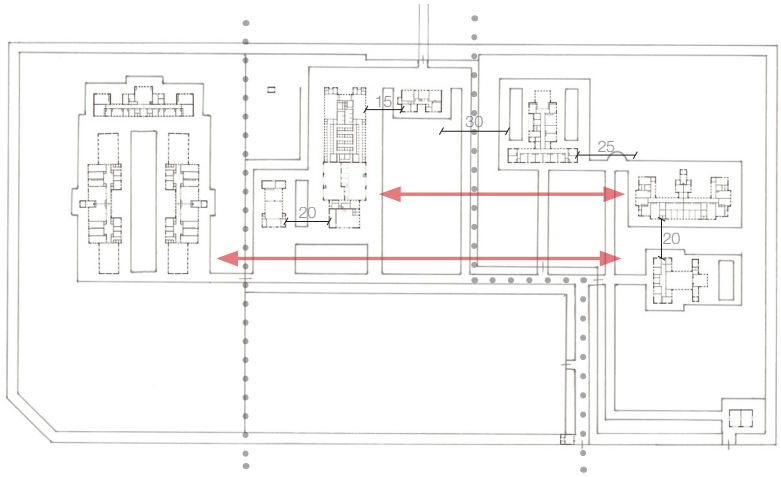


fig. 4.3 Space between buildings in original situation (drawing: Merel Bijkerk)

fig. 4.4 Terrain section original situation - overview between buildings

Original green structure

The original green structure around the different pavilions of the quarantine area, with its sports fields, hedge planting and paths system, built in 1933, was according to a sober/ simplified version of the architectural garden style (Rijksdienst voor het Cultureel Erfgoed, 2010). The architectural garden style is characterized by functional and geometrical structure/compartmentalization of rectangular lawns and straight paths.

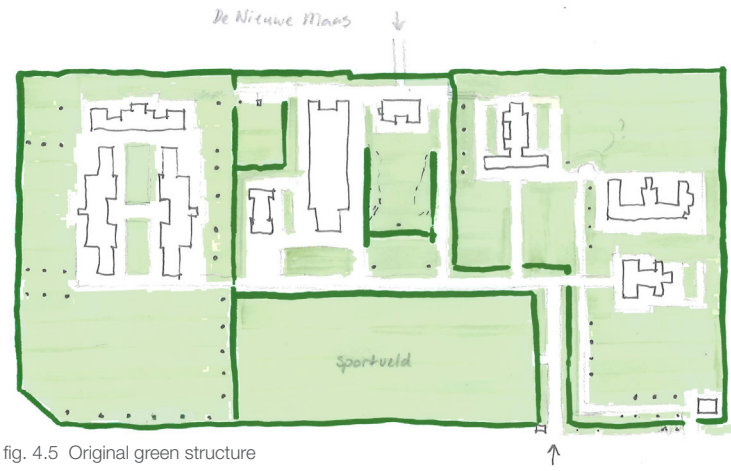


fig. 4.5 Original green structure

fig. 4.6 Quarantine ensemble with the disinfection building and contact barrack. Photo made in 1946, just after the period that the German war navy occupied the area. The trees has grown larger, but no hedges are visible. (source: Beeldbank Stadsarchief Rotterdam, photo Dienst gemeentewerken)

Current in-between space

During the years the original green structure is ‘overgrown’, but the original structure has remained recognizable. New types of green (trees and plants) come blowing with the wind or have been planted by the various users. The current in-between space is defined by both the buildings and the green. The green and the buildings define different outdoor spaces. Maybe it’s the green which has changed the appearance of the quarantine area the most during time.

fig. 4.7 Current green structure (L. Senden)

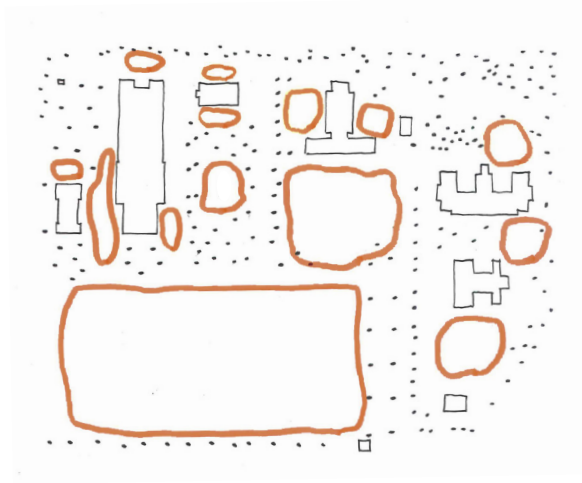


fig. 4.8 Is the in-between the space between trees and buildings or are the trees part of the in between space? Together the green and buildings make different ‘rooms’ in the outdoor space.

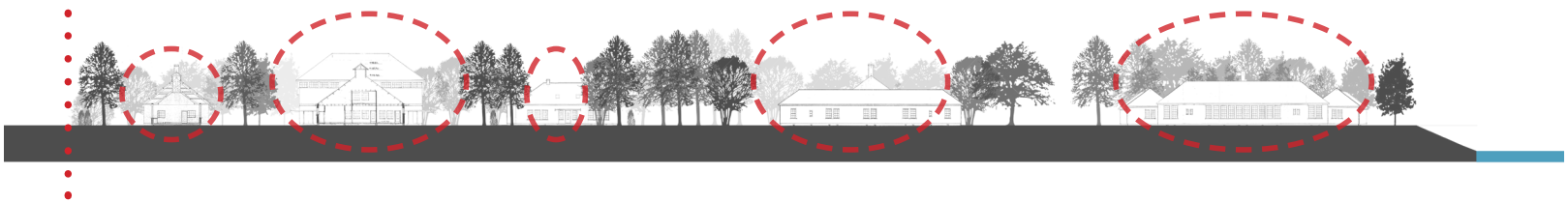


fig. 4.9 Section - buildings and green define spaces

fig. 4.10 Sketch of the in-between space between the disinfection building and the kitchen (6 sep 2016)

The in-between spaces have different dimensions and characteristics/ experience.

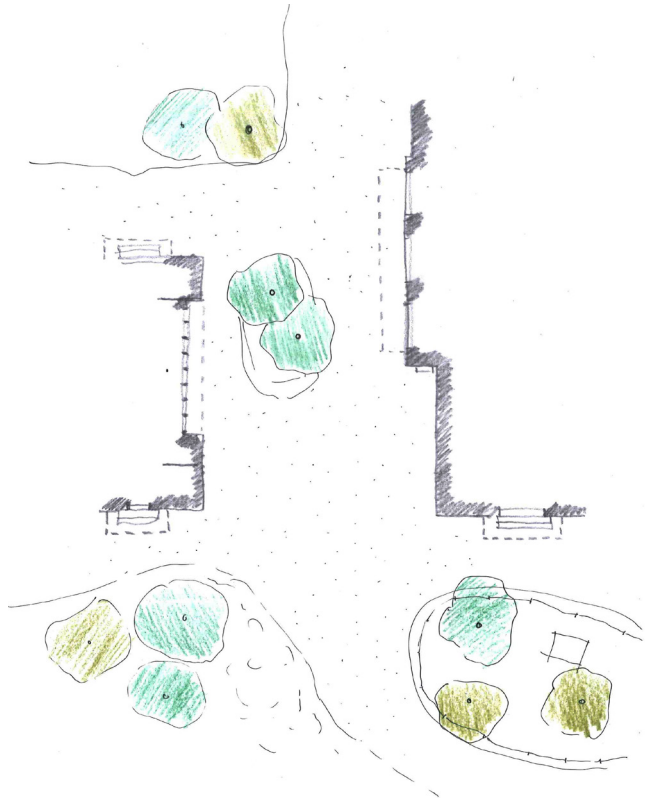


fig. 4.11 Plan of the in-between space between the disinfection building and the kitchen

fig. 4.12 Sketch of the in-between space between trees and the nurses house (6 sep 2016)

fig. 4.13 Plan of the in-between space between the nurses house and trees

Experience or influence of the green

path framed by trees

building hidden behind green

green by approach the building

overgrown green

field bordered by trees and building

field

Hortus conclusus (enclosed garden)

view on the river when there is no green

fig. 4.14 Experience or influence of the green (L. Senden, 12 oct 2016)

Types of green

The current green structure consist of different spatial types of green. For example a border, a field, a hortus conclusus, a small forest or a row of trees accentuating a path. Figure 4.15 shows the different types. These different types all have a specific atmosphere.

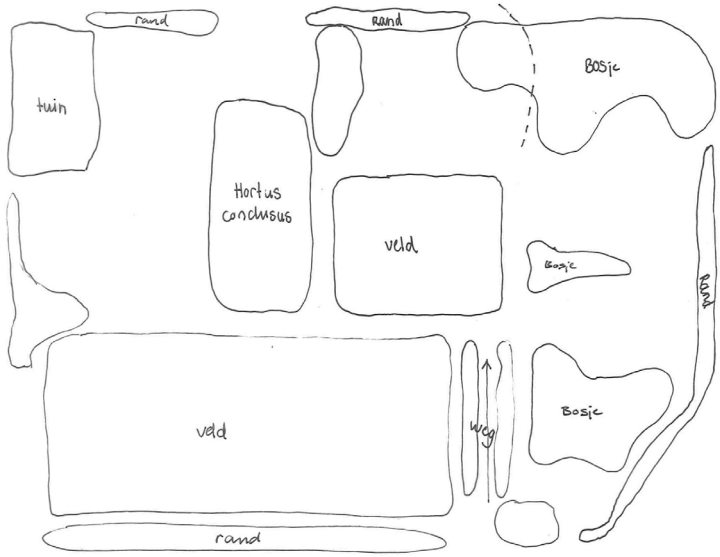


fig. 4.15 types of greenery

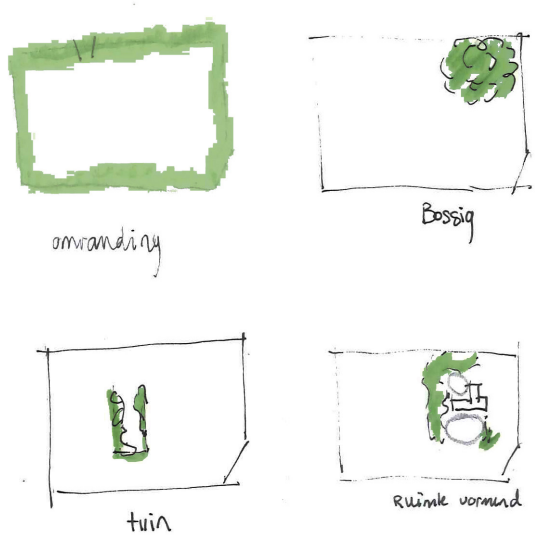


fig. 4.16 types of greenery

fig. 4.17 Tree species (photo: Google Maps)

The different types of trees are indicated in figure 4.17.

In the current diverse green structure the original structure of paths and green (lawns and trees) is still traceable. The designed structure of the 1930s is the under layer for the current green structure. It is difficult to determine from which times the different trees are. The circled trees are pretty sure from 1934.


fig. 4.18 Original layer (photo: Google Maps)

The textures of the in-between

The in-between space has its *floor*, and its *texture* of *materials*. In the quarantine terrain you have very soft and natural transitions between these textures. Grass, ground covering plants, gravel, sand (beach and paths), dune grass, wood waste.

fig. 4.19 Textures of the in-between space (photos: L. Senden, 12 oct 2016)

Seasons

The presence of the green makes the seasons strongly noticeable/ tangible in the quarantine area. During the winter, when the trees have dropped their leaves the buildings are drawn through the branches and you can better oversee the site. In summer, the trees block the view and the buildings are surrounded by green walls (rooms). The green quarantine area is a contrast with the character of the surroundings, where the power of nature and the seasons is less present in the landscape of concrete, steel and stone.

fig. 4.20 End of the autumn (M. Bijkerk, 3 dec 2016)

fig. 4.21 End of the summer (12 oct 2016)

Human scale

The pavilions of the quarantine terrain have one building layer and an attic. In the original situation only in the disinfection building and the administration barrack, the space under the roof construction was used. The other buildings were only used on the ground floor. Now some parts of the attics in the different buildings are used for storage. The buildings have a human scale, made by layers of the facade and details. The trees can be much higher.

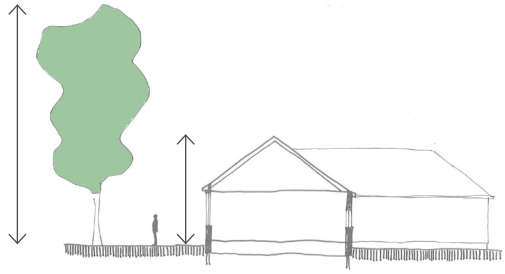


fig. 4.22 Human scale

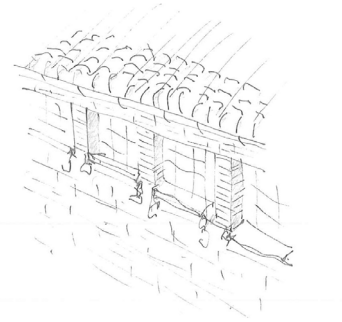


fig. 4.23 Detailing (sketch 6 sept 2016)

roof:
roof tiles

base volume:
brick masonry

foundation:
concrete

fig. 4.24 Facade of barracks (20 sep 2016)

The buildings in the in-between

The buildings make architectural statements that influence the in-between space. The buildings of the quarantine terrain have different orientations, also within the building, and different faces which relate to the outdoor space. The direction of the axis of the space inside determines which part of the facade is a front facade (face) and which part not. The orientation of the building and ‘faces’ of the facades are often articulated in the roof volume.

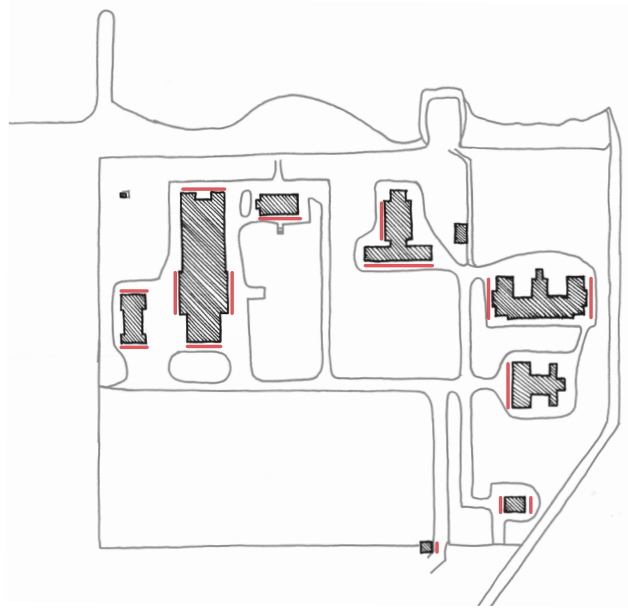


fig. 4.25 Orientation and faces (drawing: M. Bijkerk & L. Senden)

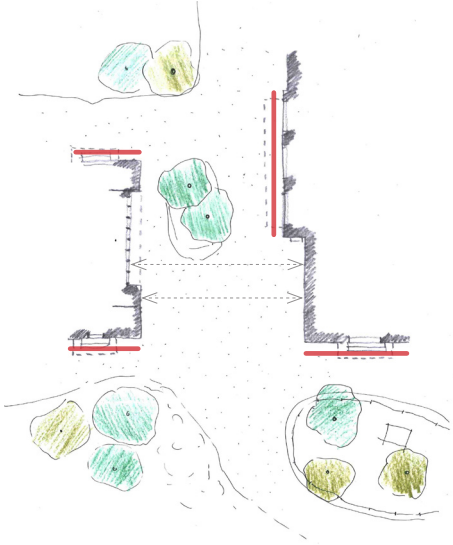


fig. 4.26 In-between space influenced by the facade and shapes of the building.

Relation inside - outside

The relation between inside and outside is part of the in-between space. The in-between space connects the inside and the outside. The transition between inside and outside must not be seen as a boundary.

"*These boundaries, consequently, are more porous and less fixed and rigid than is commonly understood. (...) The boundary between inside and outside (...) must not be regarded as a limit to be transgressed, so much as a boundary to be traversed.*" (Grosz, 2001, p.65)

The depth of the day (*negge*) of doors and windows, the height of the ground floor compared to the ground level outside and the articulation of the entrances/windows are architectural tools that influence the relationship between inside and outside.

Within the quarantine ensemble there has been thought about the design of the transition zones, for example with the entrances. The entrance zones are articulated with a concrete canopy and stone steps (fig. 4.28). Sometimes, the entrance has been placed in a recessed part of the facade. The ground floor is around forty centimeters above ground level outside. The green is influencing when you approach the buildings. The green is a kind of decor. The outdoor area is the introduction. From inside you always have a framed view through windows to the outside (fig 4.30). The day of the window is around 330 mm, the windows are placed in the middle (see fig. 4.31).

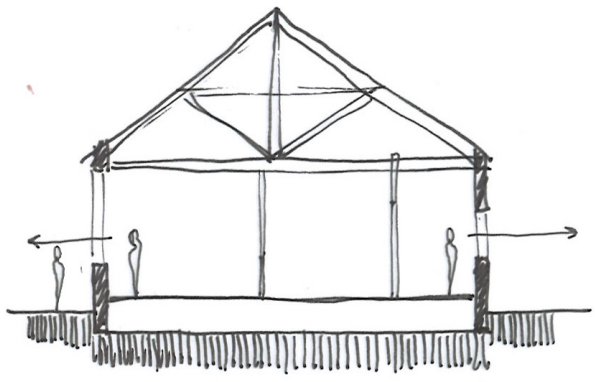


fig. 4.27 Section - relation inside outside

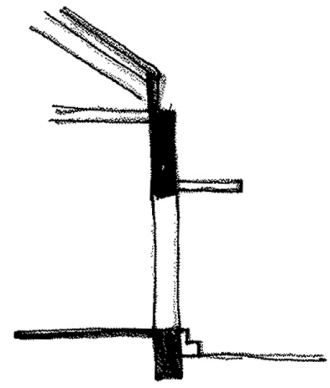


fig. 4.28 Section of an entrance

fig. 4.29 Entrances: canopies, loggias, green doors (photos: L. Senden, 12 october 2016)

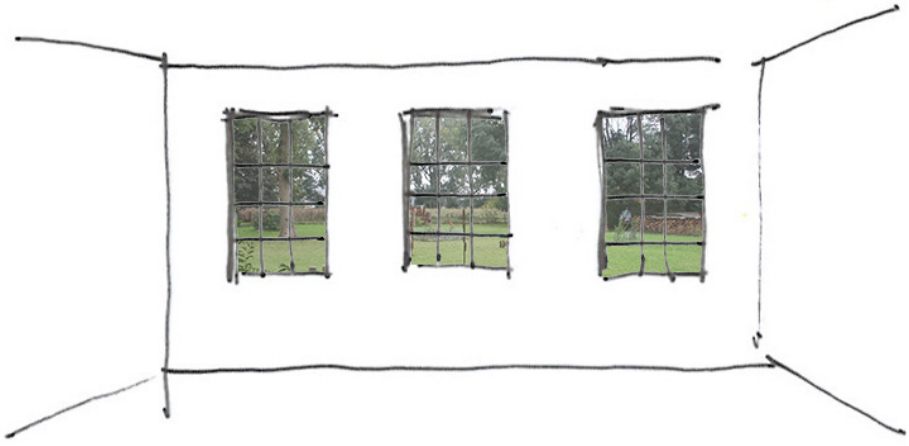


fig. 4.30 Framed view to the outside space

fig. 4.31 Window day thickness influences the relationship with the outside (6 march 2017)

Atmosphere ensemble and in-between space

Due to the development of the green structure the atmosphere of the current outdoor space is totally different than it was original. Original the buildings were positioned in a bare, sober and strict landscape. Not really a pleasant place to stay for a longer time, for example when the Jewish refugees were accommodated in the buildings. The terrain had little shelter from wind and weather and had few recreational places.

fig. 4.32 Atmosphere of the outdoor space during the accommodation of Jewish refugees, 1938-1939 (source: C.K. Berghuis as quoted in Zwaluw & Hor, 2010)

Nowadays the buildings and the green together form a idyllic and village like atmosphere. The architecture of brick and roof tiles fits the green in-between space. The green divides the terrain in smaller and more pleasant areas and brings more variety. You notice the power of nature. The seasons transforms the site during the year. During winter, the clutter between the trees becomes more visible. Also the big scale and rough elements of the surrounding, like boats and stacked containers, are visible from the location. This influences the safe enclave feeling.

fig. 4.33 Idyllic and village like atmosphere of current situation (9 sep 2016)

5. Architecture

Building typology
The used building typology were barracks but with architectural expression. Although barracks were usually made of wood, the main materials used for the barracks of the quarantine ensemble were brick (interior and exterior), wood and roof tiles.

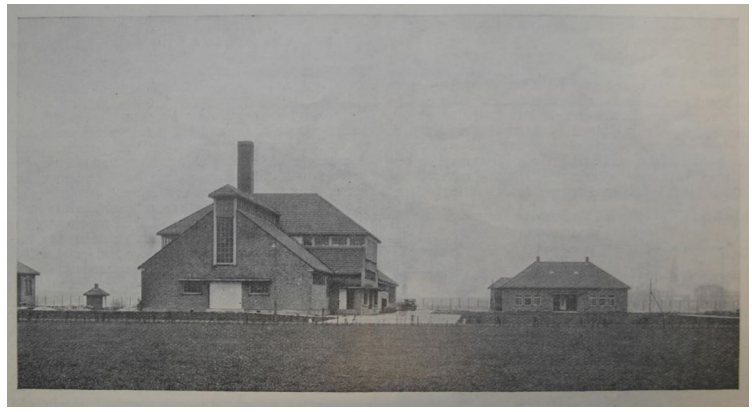


fig. 5.1 Buildings 1934 (source: Stadsarchieven Rotterdam, archive 1209-978)

All of the buildings of the ensemble are unique, with the exception of the already demolished contact barracks. Looking to the plans of the different buildings three typologies of organization can be distinguished .The nurses home (fig. 5.2), the isolation barrack, the ordinary barrack (and the demolished barracks) have a corridor typology.

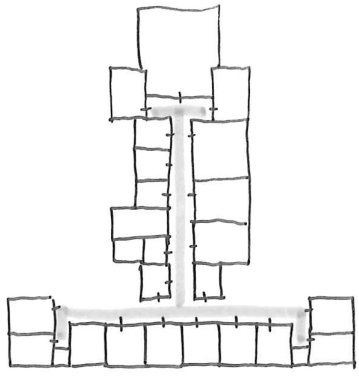


fig. 5.2 corridor typology nurses home

fig. 5.3 sketch of corridor along the facade in the isolation barrack

The disinfection building (fig. 5.4), kitchen and mortuary can be described as a functional organization of sequential spaces. The administration barrack (fig. 5.5) has more a house typology.

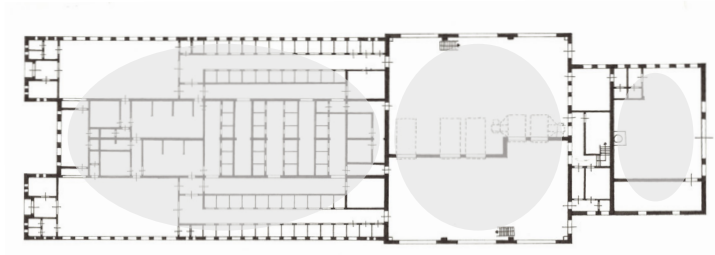


fig. 5.4 organisation of disinfection building (M. Bijkerk & L. Senden)

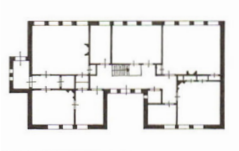


fig. 5.5 Organisation of the administration barack (M. Bijkerk)

Symmetry

All the buildings of the quarantine ensemble are based on symmetry. Visible in the facades and floor plans.

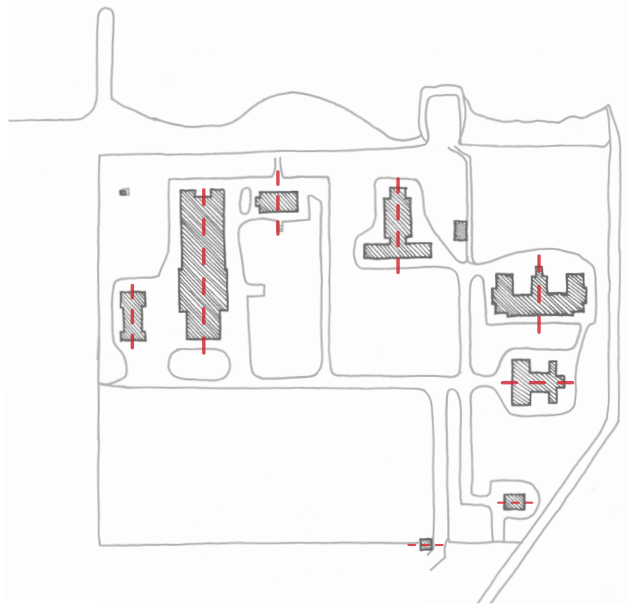
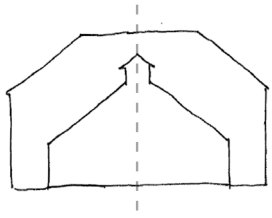


fig. 5.6 Symmetry

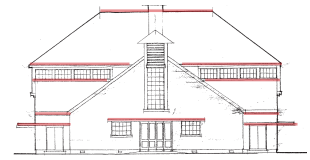
Exterior facades

The building volumes have clear silhouettes of block volumes with hipped roofs, overhanging roof edges and a strong horizontal spatiality. The facade views are characterized by symmetry, horizontal volumes, clusters of different window sizes (determine the relation between inside and outside) and the subtle height differences in the roof scape.



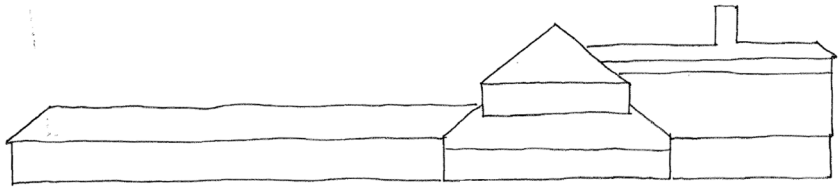
Shape, symmetry and composition

Open and closed

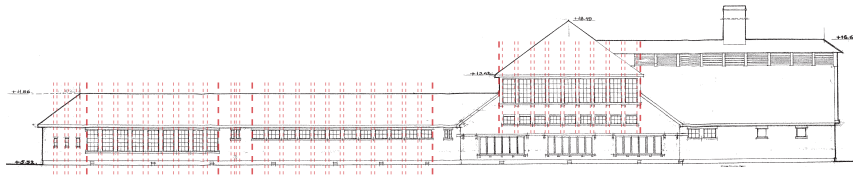


Horizontal movement in the facade

Open and closed

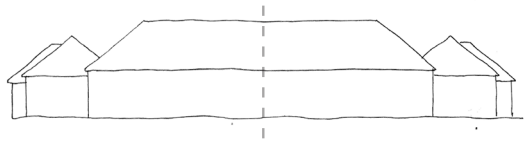


Shape and composition

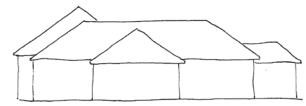


Rhythm of the facade openings

fig. 5.7 Analysis of the façades of the disinfection building



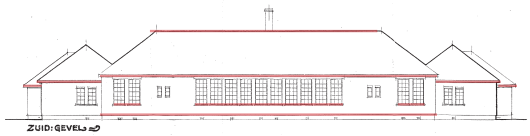
Shape, symmetry and composition



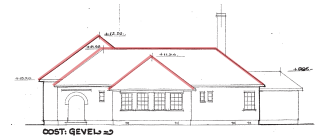
Shape and composition

Open and closed

Open and closed



Horizontal movement in the facade



Roof lines

Rhythm of the facade openings

fig. 5.8 Analysis of the façades of the isolation barrack

Exterior - materials and colour

fig. 5.9 General exterior appearance, kitchen building (20 sep 2016)

The pictures below show the main materials used for the exterior: red roof tiles, greyish red irregular coloured bricks and casted concrete.

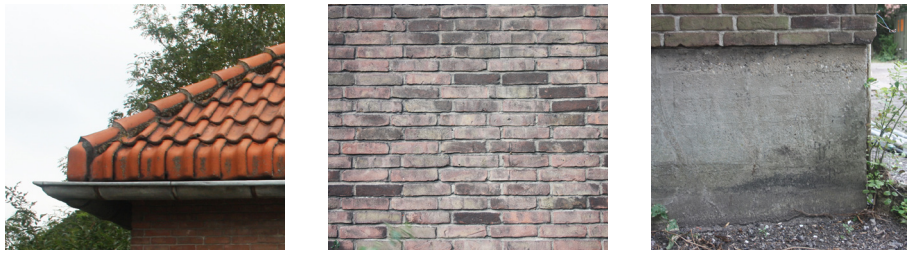


fig. 5.10 Main materials exterior (12 oct 2016)

Windows

The steel and wooden window frames in the brick facades are quite contrasting because they are painted white.

fig. 5.11 Windows (20 sept 2016)

White exterior walls
Some exterior walls are painted white (wit gekeimd) at a later stage. This is done with some façade parts / niches in the kitchen building, the nurses house, the isolation barrack and ordinary barrack. The white colour influences the atmosphere of the adjacent outdoor space.


fig. 5.12 White painted facades (12 oct 2016)

Doors
In the current situation the doors in the exterior have different colours. Likely the green colour on the left is the original colour of the doors, since these doors still have the original names referring to the function of the buildings. (Also grey doors with the original names can be found) The doors with the green colour in the middle probably have been repainted. Also some yellow doors can be found. These doors has been probably replaced completely.

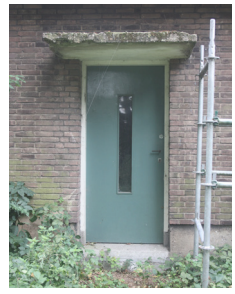




fig. 5.13 White painted facades (12 oct 2016)

Concrete canopies
The entrances are accentuated with concrete canopies. These canopies contribute to the horizontal articulation of the facade.

fig. 5.14 White painted facades (6 march 2017, 12 oct 2016)

Atmosphere of the exterior
The atmosphere of the exterior is influenced by the greenery around the buildings. Together the buildings and the green give a idyllic feeling. The exterior fits in the green and divers context. The rounded and cantilevering eaves make a friendly gesture. The facade is based on a human scale.

Exterior and interior
The different spaces of the floor plan are articulated in the total shape of the building. The buildings consist of different volumes joined together and articulated by subtle height differences in the roof scape. The facade of the building shapes the direct space around the building.

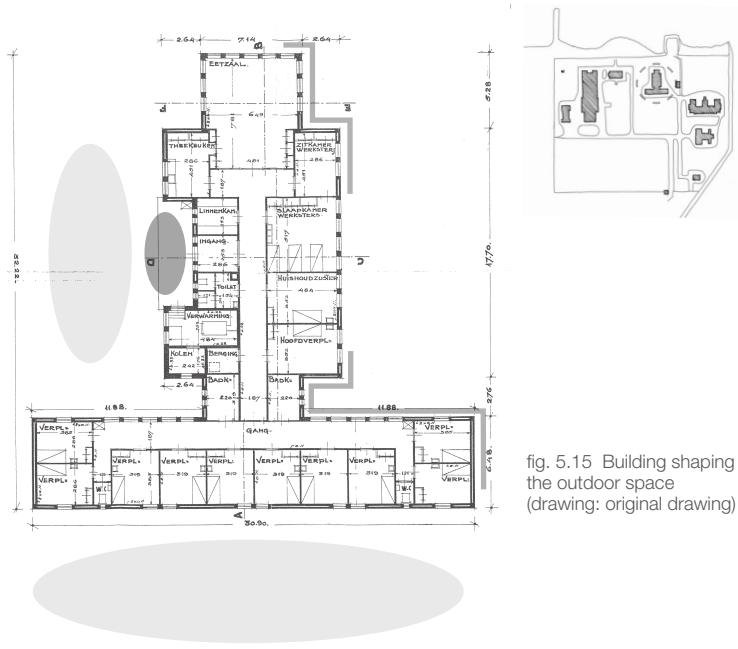


fig. 5.15 Building shaping the outdoor space (drawing: original drawing)

Atmosphere of interior space

The interior of the buildings is characterized by a sequence of quite small spaces. The spaces in the interior are about 3.20 meters high, with a flat ceiling. The atmosphere of the interior spaces is for a great part influenced by the amount of daylight that is entering the space and the view to / relation with the outside space. Daylight was an important subject for the original care function of the facility. Spaces with windows placed above eye level, without a view to the outside have a different atmosphere compared to spaces with big windows at eye level.

fig. 5.16 Interior space (disinfection building) with high positioned small windows has little relationship with the outdoor space. (20 sept 2016)

fig. 5.17 Interior space (disinfection building) with big windows at eye level has relationship with the outdoor space and is a more pleasant place to stay. (6 march 2017)

The original interiors (fig. 5.18) had a clinical and sober atmosphere, a pervading mood related to the health care function. This feeling/ atmosphere is still present in the current state of the interior spaces. The atmosphere of the interior is quite contrasting with the atmosphere of the outdoor space. Here the buildings and green together make an idyllic and village like atmosphere.

Originally the atmospheres of the interior was quite equal comparing the different buildings. There was consistency in materialization and detailing. In the current situation the different users have added their own characteristics, valuating and preserving the existing in their own way, but the original atmospheres are still noticeable.

fig. 5.18 Photograph of original interior of the ordinary barrack. A sober and clinical atmosphere. (Stadsarchief Rotterdam, archive 1209-978)

The detailing of the interior space is of great importance for the atmosphere, like the rounded corners of facade openings and grooves in the wall between the two layers of plaster. Also the absence of detail, for example the flat ceilings, is determining the atmosphere.

fig. 5.19 Interior view of corridor in nurses home. Natural light is coming from above via windows in the roof an ceiling (12 oct 2016)

fig. 5.20 Interior view bedroom nurses home. A framed view to the outside space (12 oct 2016)

Interior material and colours

Walls and ceilings

All the interior walls and ceilings are plastered in light colours, mostly white. Often the plastered walls are horizontally divided in a (sometimes coloured) stucco 'wainscoting' and a white stucco wall. As described in the building specifications (*bestek*), for separation there are pulled grooves between the two layers.

fig. 5.21 Plastered walls (T. Sandfort, 12 oct 2016)

fig. 5.22 Light green plaster below groove (12 oct 2016)

fig. 5.23 White plaster (12 oct 2016)

Floors

Most of the concrete floors were/are covered with linoleum (light gray with dark grey borders). According to the building specifications the concrete floor realized without linoleum (e.g. in the disinfection building) were finished with a cement mortar with an addition of silicon carbide, resulting in the dark colour of the floor.

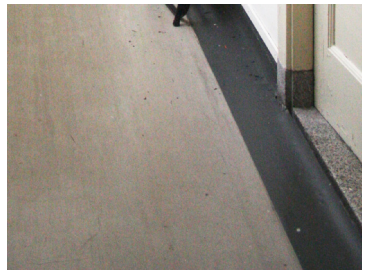


fig. 5.24 Concrete floor covered with linoleum (12 oct 2016)

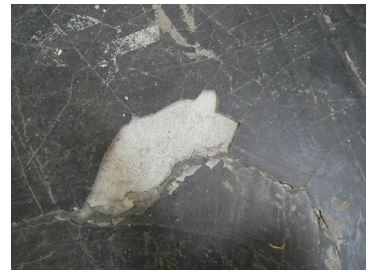


fig. 5.25 Concrete floor with dark finishing (12 oct 2016)

Door and window frames (interior)
The timber door and window frames in the interior are painted in different colours (original): off-white, light (greyish) green, or light grey.

fig. 5.26 Painted timber frames (12 oct 2016)

Window/door sills and kitchen counters
Granite (*granito*) is used for the window and door sills and the different kitchen counters in the buildings.

fig. 5.27 Use of granite (12 oct 2016)

Conclusion - Architecture

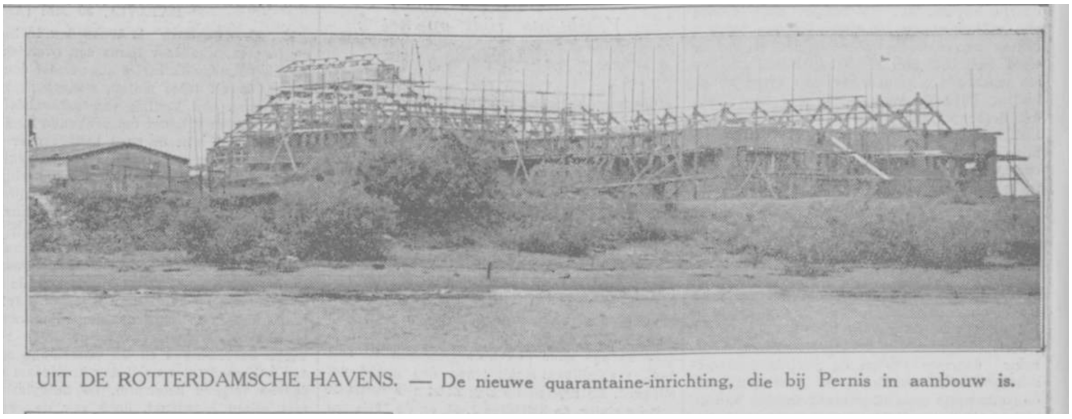
The buildings are based on a functional organisation. The architectural expression is more traditional, with a brick facade and red roof tiles. Every building is designed with recurring architectural elements. The building shape is determined by the size and shape of the space in the interior. The atmosphere of the interior spaces is contrasting with the atmosphere of the outdoor space.

6. Building Technology

Historical context
The Quarantine complex is constructed between 1930 and 1934 in a traditional building method. Traditional building method means that almost every part of the building is constructed at the construction site (in situ), by making use of small manageable elements, such as bricks. Prefabrication is barely used in the case of the quarantine complex. After the Second World War, during the reconstruction period, prefabrication was applied on a larger scale.

Technical time based perspective
Different developments or improvements of building materials or methods took place in early 20th century. In the beginning of the 20th century the use of reinforced concreted increased (Heinemann, 2013). By the 1930s it had become a common building material. Reinforced concrete was an important and popular material in the development of the harbour of Rotterdam. Next to concrete steel/rolled iron became a popular material for windows in the beginning of the 20th century. The windows were composed of different profiles available on the market (Hermans, 2008, p.3). The serial production of steel windows started in England and spread to continental Europe in the early twentieth century. Besides quite new materials also more traditional building methods/ materials were improved in the beginning of the 20th century. Around the 1930s the (external) cavity wall of brick was gradually introduced. These cavity walls were often placed on concrete strip foundations. Till the 1920s solid masonry exterior walls were common.

Technical development and renovation
During the lifetime of the quarantine area the buildings have changed relatively little. Although the possibility of expansion was designed in the plan, there has never been an extension. In the 90s three barracks in the west of the site were demolished, because of the poor condition of the buildings. The interior of the still existing building has undergone some changes but the exterior has remained almost unchanged. The disinfection building has changed the most. Currently many of the buildings are being renovated by the port authority. Asbestos removal, installing double glazing and replacing / repairing damaged elements are the most important actions of the renovation.



UIT DE ROTTERDAMSCHE HAVENS. — De nieuwe quarantaine-inrichting, die bij Pernis in aanbouw is.

fig. 6.1 Quarantine complex under construction , 1931 (source: De Maasbode, 31 mei 1931, p.4)

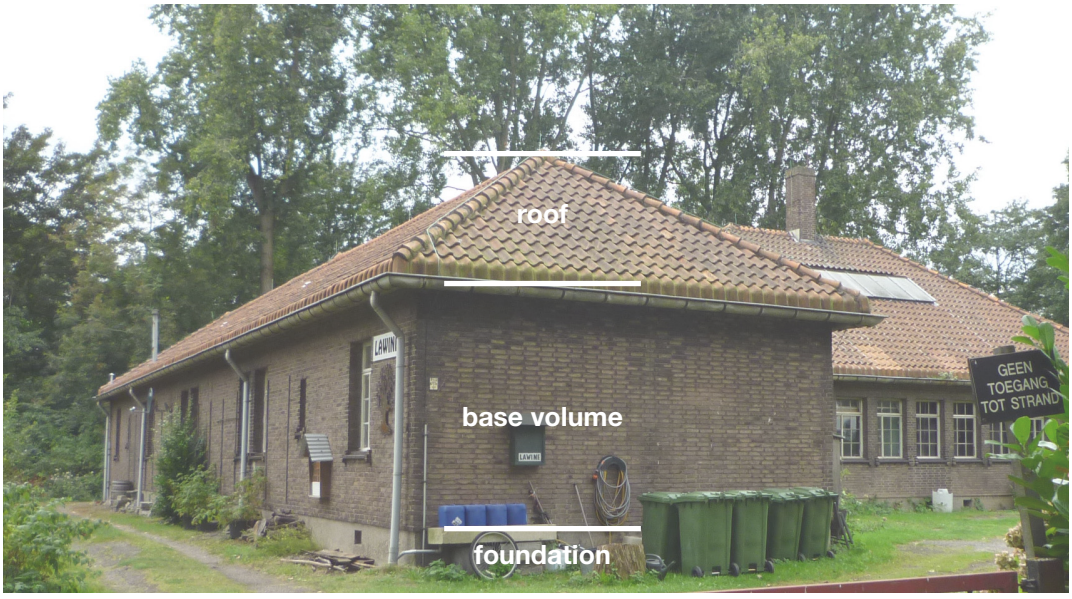


fig. 6.2 General exterior layering of the buildings (20 sep 2016)

Material

Practically one materialization has been used for all the buildings of the quarantine ensemble. The main materials used are brickwork (external (cavity) walls, internal walls and chimneys), concrete (foundation, ground floor, canopies and lintels), timber (foundation piles, roof constructions, attic floor and window frames) and steel (window frames).

Main materials used:

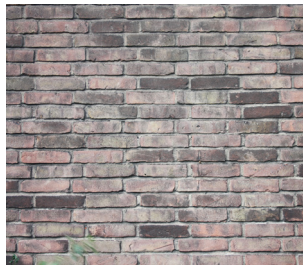
Roof construction:
- timber
- roof tiles

roof-tiles

timber roof construction

timber window frames

Body of the building:
- brickwork
- steel
- glass



brickwork

concrete canopy

steel window frames

Foundation
- concrete
- wood

concrete foundation

Artificial granite / betonno steps

fig. 6.3 (photos: L. Senden, Sept and Oct 2016)

Load bearing structure and stability

The load bearing structure of the buildings consists of masonry cavity walls on a reinforced concrete foundation (on wooden piles). On the one level running cavity wall a relatively simple timber roof construction of hanging rafters is positioned. Nearly all the building volumes consist of one building level and a attic. Only the disinfection building (reinigingsgebouw) has higher volumes. Here a more complicated roof construction of trusses and rafters combined to one structure is used. The stability of the buildings has been achieved by collaboration of the masonry external and interior walls. The roof contains rafters.

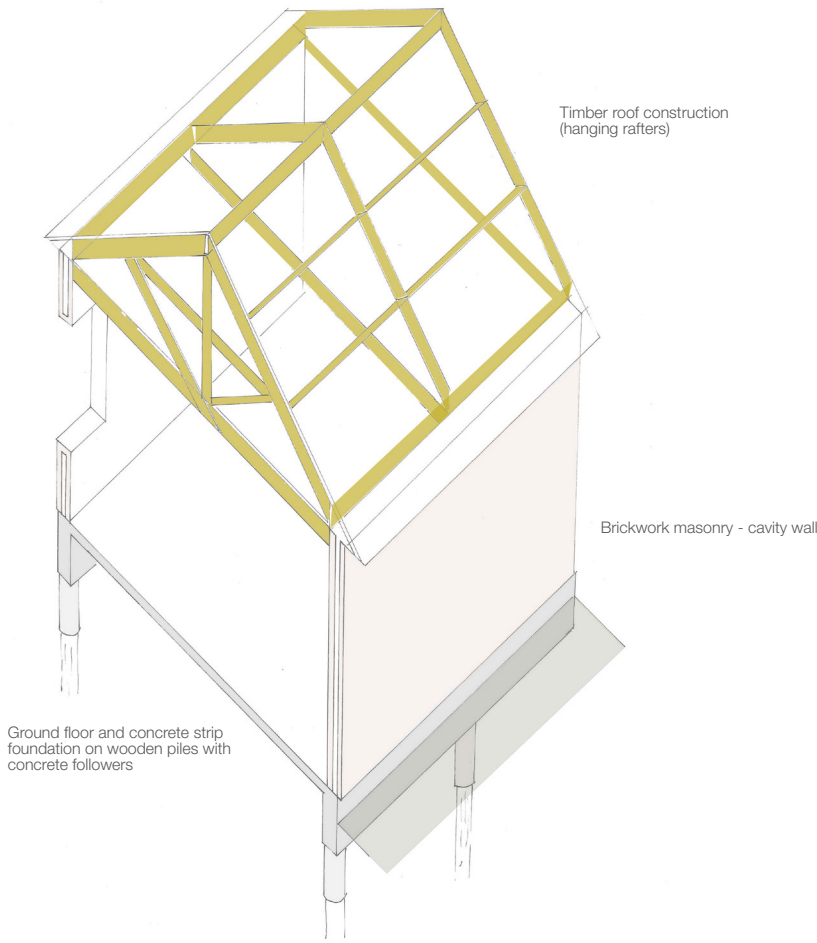


fig. 6.4 Axonometry of the general load bearing structure

Foundations

According to the building specifications (bestektekst) and drawings the foundation of the buildings consists of a concrete reinforced strip foundation on top of wooden piles with concrete followers (betonoplangers). Concrete followers are (prefabricated) reinforced concrete attachments, which are placed on top of the wooden poles in order to drive these deeper into the soil (Brouwer, 1995, p.81). In this way the top of the wooden pole comes further below the ground water level. Concrete followers are applied since the 1920s. After driving in, the part of the follower which is above the level of the bottom of the foundation beams, is cut off. They cut off in such a way that the reinforcement of the followers is saved and can be integrated in the reinforcement system of the concrete strip foundation, to result in one solid structure.

In the making of the concrete ground floor a work floor (werkvloer) is applied as a permanent form work (verloren bekisting). The ground floor level of the buildings is about forty cm above ground level. As a result of this the upper part of the concrete foundation strips is visible in the facade.

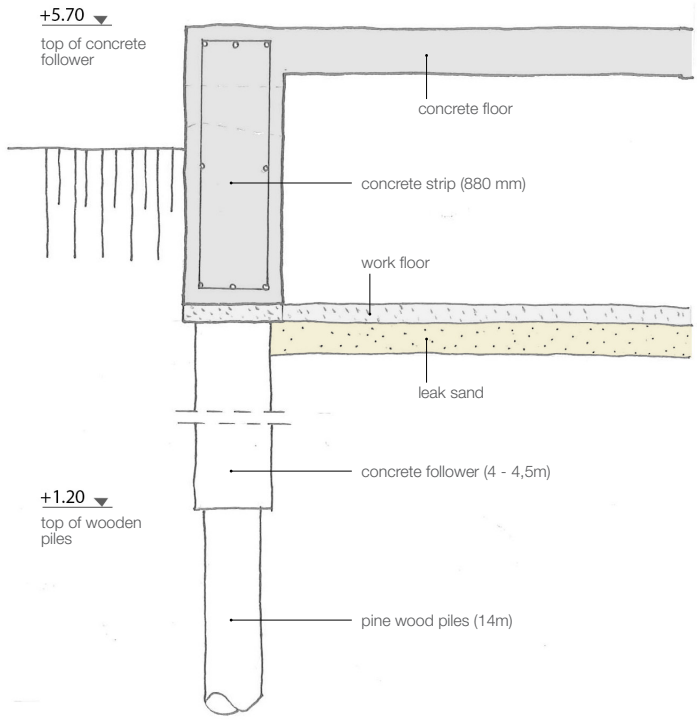


fig. 6.5 Foundation principle

fig. 6.6 Concrete foundation visible above ground level (12 Oct 2016)

fig. 6.7 Detail of concrete foundation. Lines of wooden formwork still visible (12 Oct 2016)

Brick Masonry
Brick masonry is used for the exterior walls (cavity walls), inner walls, chimney and air ducts. Different brick types (and mortars) are used in relation to place/function.

Cavity walls
The facade/outer walls of the buildings are cavity walls. To be specific: 'partial cavity wall' (onvolledige spouwmuur), which means that the cavity has been only applied in some parts of the wall (Kooij, 2013, p.4). At different spots the cavity is bricked up (dichtgemetseld) to a solid wall. This takes place around windows, corners of the building and at places where interior walls are connecting to the external wall. By making solid parts in the wall it has been intended to achieve a constructive connection between the inner and the outer wall. However, the many thermal bridges in the masonry (solid spots) can cause moisture problems. According to the drawings of 1930 the dimension of the cavity is 110 mm. The total wall thickness together with the masonry leafs is 330 mm.

Partial cavity walls were originally not provided with insulation (Kooij, 2013, p.4). The function of a traditional cavity (without insulation) were the protection against rain penetration and improving the thermal resistance. Important to mention is that the disinfection building is not composed entirely of cavity wall. Only the bathhouse part has cavity walls and the disinfection area and the boiler space (ketelhuis) have solid walls (according to the drawings 1930). Also the coal spaces that are included in most of all the buildings do not have a cavity wall.

Brick type
The outer leave of the cavity wall is constructed of 'hardgrauw' bricks. According to the building specifications of the 1930s all bricks had the same colour. In reality this is not the case (fig. 6.12). Masonry walls heavy exposed to rain were traditionally made with 'hardgrauw' of 'gevel klinker' (facade clinker) around the thirties (Groot & Gunneweg, 2006, p.2). The hardgrauw brick has a grey red colour. Compared to the 'boerengrauw, used for the inner leaf/walls, the 'hardgrauw' brick is more grey in colour, has a flatter surface and is harder.
The size of the brick is 210 mm x 50 mm, a standard size. For al the buildings the dimensions of the facade are determined by the size of the brick. In the original drawings the dimensions are indicated with the number of stretchers and heads (fig. 6.13).

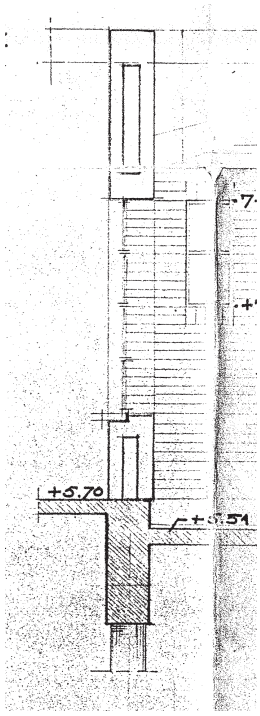


fig. 6.8 Close-up partial cavity wall (vertical) (original drawing)

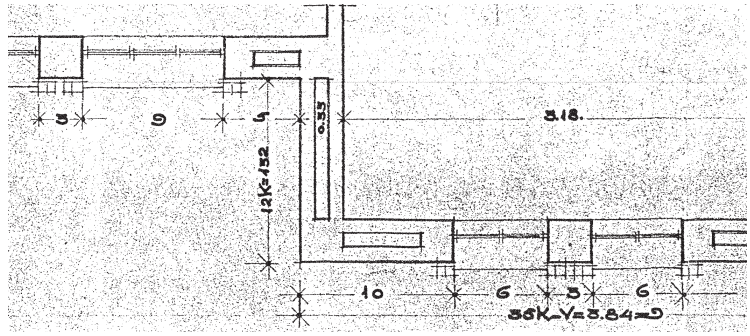


fig. 6.9 Close-up partial cavity wall (horizontal) (original drawing)

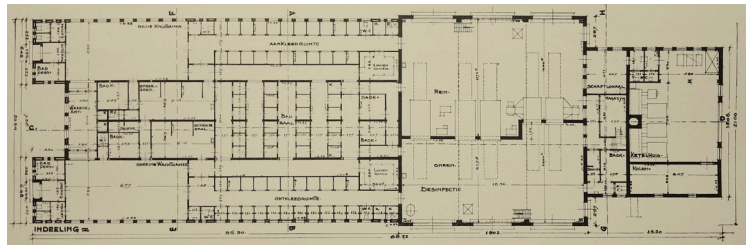


fig. 6.10 Disinfection building; marked part is without cavity (Het Ziekenhuiswezen, 1933, nr.5, p. 212)

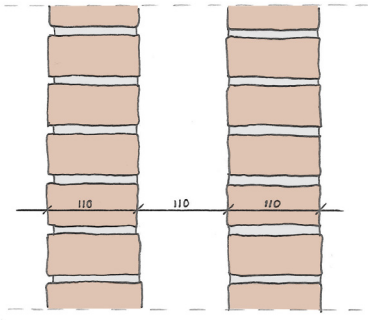


fig. 6.11 Cavity wall, dimensions

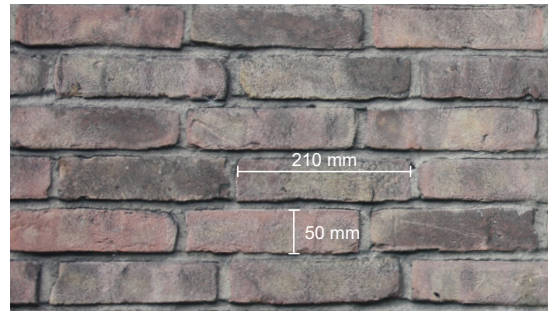


fig. 6.12 Brick type ‘hardgrauw’

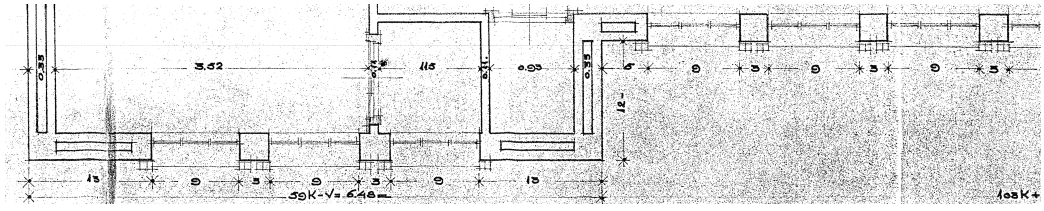


fig. 6.13 Facade dimensions indicated with bricks (original drawings)

Masonry bond
The masonry bond of the outer leaf is ‘staand klezoorverband’. The ‘klezoorverband’ consists of layers of almost exclusively stretcher (strekken). In klezoorverband the layers move a ‘klezoor’ length (1/4 stretcher). The standing klezoorverband is an ornamental bond (sierverband). Standing klezoorverband always starts with a three-quarter brick (drieklezoor) at the corner. Sometimes an extra head is necessary to be able to end with a three-quarter brick.

Next to the window sills a decoration in brick is made by letting brick sticking out of the wall. Above the facade openings soldier courses are made. A soldier bond is a brickwork bond in which the bricks are placed vertical.

Pointing
The type of pointing is ‘recessed pointing’. The pointing is a few mm recessed from the surface of the brick. Because the pointing is recessed it is less exposed to rain (longer service life). Because of the shadow effects in the space between the stacked bricks the facade can look more ‘livelier’ (Naldini, 2015).

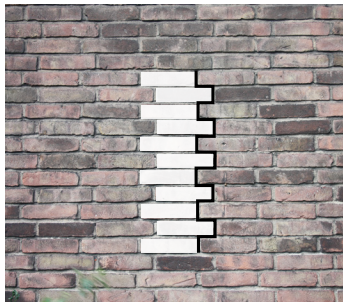


fig. 6.14 Masonry bond ‘staand klezoorverband’

fig. 6.15 Corner solution

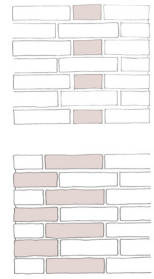


fig. 6.16 Masonry bond around facade openings (sept 2016)

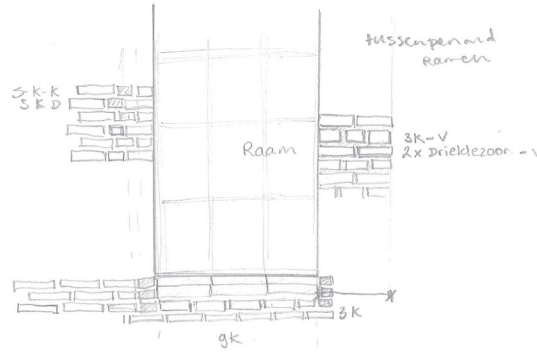


fig. 6.17 Bond around window (sept 2016)

fig. 6.18 Window sill and soldier course

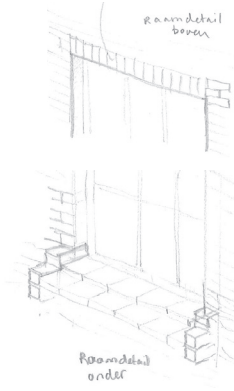


fig. 6.19 Detailing/decoration in brick next to the window sill (sept 2016)

Roofs
Most of the roofs of the quarantine complex are hip roofs. Only the mortuary and the south part of the disinfection building have a gable roof.

Tiles
The used roof tile type is the ‘opnieuw verbeterde holle pan’ (OVHP), a red wavy interlocking tile. This tile was used from the 1928s. The tile had a deeper curvature than the ‘verbeterde holle pan’.

The roofs slightly hanging over the walls, finishing with a ‘knikpan’(5), is characteristic for the architectural expression of the buildings. These ‘knikpannen’ were applied regarding the drainage of rain. In later use sink gutters were added.

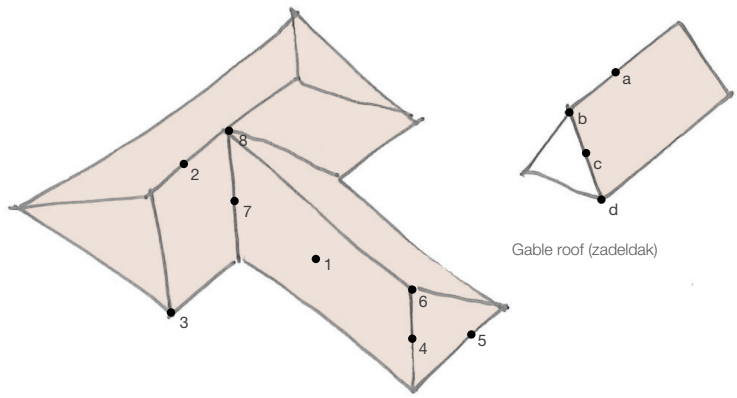


fig. 6.20 Roofs and tiles

1. rool tile
2. nokvorst
3. hip starter (knikvorst)
4. hoekkepervorst
5. knikpan/onderpan
6. broekstuk
7. kilkeper pan
8. T-stuk

a. nokvorst
b. begin nokvorst
c. kantpan
d. eindgevelpan/gevelknikpan

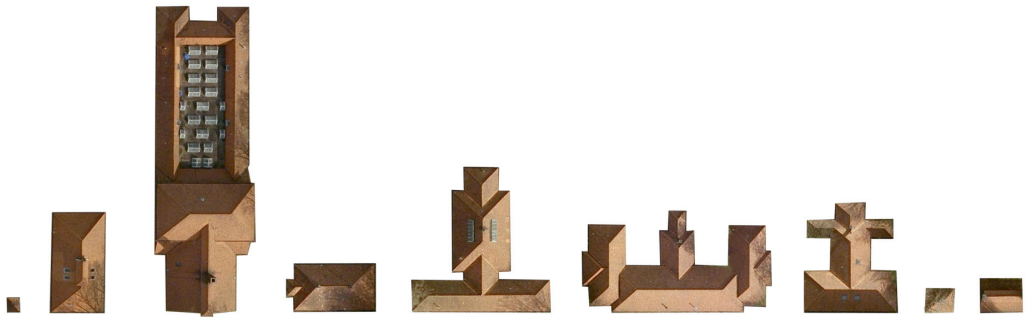


fig. 6.21 Roof landscape: chloor huisje - kitchen building - disinfection building - beambtenbarak - nursus house - isolation barrack - normal barrack - gatehouse - mortuary (photo: google maps)

fig. 6.22 Types of roof tiles

fig. 6.23 Types of roof tiles

fig. 6.24 Types of roof tiles

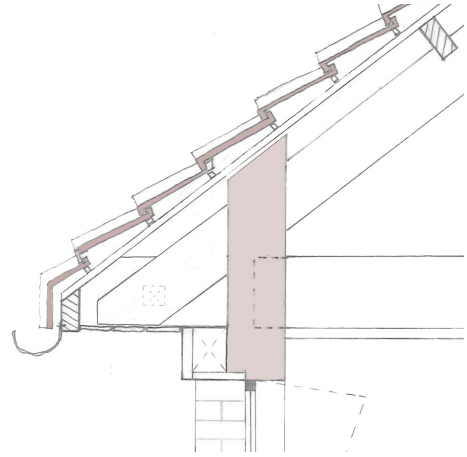
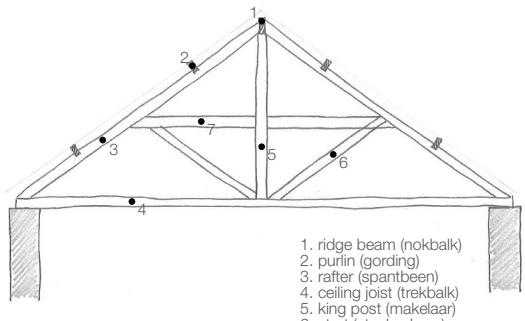


fig. 6.25 Detail roof edge

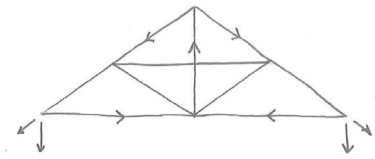
Roof construction

The general roof type of the quarantine complex is the hip roof. The roofs consist of a rafter structure. The rafters are variations of the Dutch rafter. The rafters are constructed out of different elements, named in fig 6.26. The drawings on the left show the roof construction of the 'beambtenwoning'. The roofs of the other buildings are based on a similar system of rafters. The roof construction consists of rafters made of different elements called purlins, ridge beams, hip rafters and '*halfspanten*'. The 'halfspant' is the ending rafter of a hip roof.
It is hard to figure out the current state of the roof constructions (general type) because the attics are not easy accessible. Based on a photograph (fig. 6.28) of one of the contact barracks during they were demolished, shows the construction in quite good state.

The disinfection space of the disinfection building was constructed with a higher roof compared to other building volumes, in order to be able to place installations on the entresol. The roof construction consists of a quite complex combination of rafters and trussed beams (fig. 6.30). The roof construction consists of four trussed beams (primary bearer) at two levels giving their load to the façades and a partition wall. The rafters are connected with the trusses. The rafters make the typical roof shape. The rafters and trusses are composed of different timber elements (composite construction). Connections are made with nuts and bolts (en sluitplaten). This wasn't a traditional way of connecting wood elements. Different arguments can be given for choosing steel connections. First, the expansion and shrinkage of the timber, caused by change of humidity and temperature, could be compensated by tighten or loosen the connections. For this action a special key was provided (fig. 6.32). A second argument is that the complex is partially constructed by unskilled workers. Nut and bolt connections are easier to make than the traditional wood joints.
According to the drawings all roof structures of the complex are made with steel connections. Therefore, the influence of moisture (specific for the disinfection building) would not necessarily be the reason for choosing for steel.

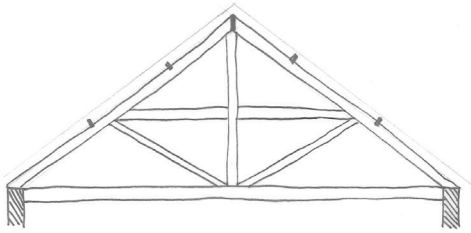


1. ridge beam (nokbalk)
2. purlin (gording)
3. rafter (spantbeen)
4. ceiling joist (trekbalk)
5. king post (makelaar)
6. strut (steekschoor)
7. collar tie (spantbalk)

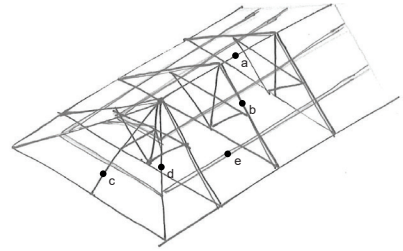


Forces

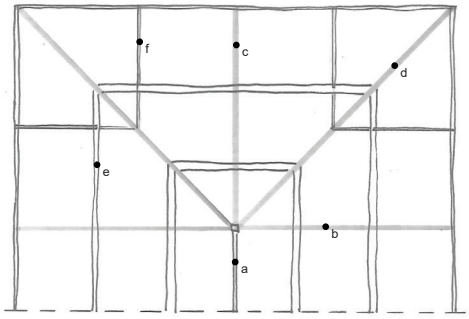
fig. 6.26 Roof construction



Rafter (*spant*)

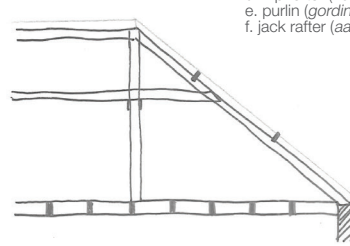


Rafter construction of rib roofs



roof plan

a. ridge beam (*nokbalk*)
b. rafter (*spant*)
c. (*halfspant*)
d. hip rafter (*hoekkeper)*
e. purlin (*gording*)
f. jack rafter (*aanloper*)



halfspant

fig. 6.27 Roof construction

fig. 6.28 Roof construction visible during the demolition of the contact and captains barrack in the 1990s, seems to be in quite good state. (Source: Initiatiefplan Quarantaine inrichting Beneden Heijplaat. (1997). Vereniging tot Behoud en Beheer van de Quarantaine-inrichting)

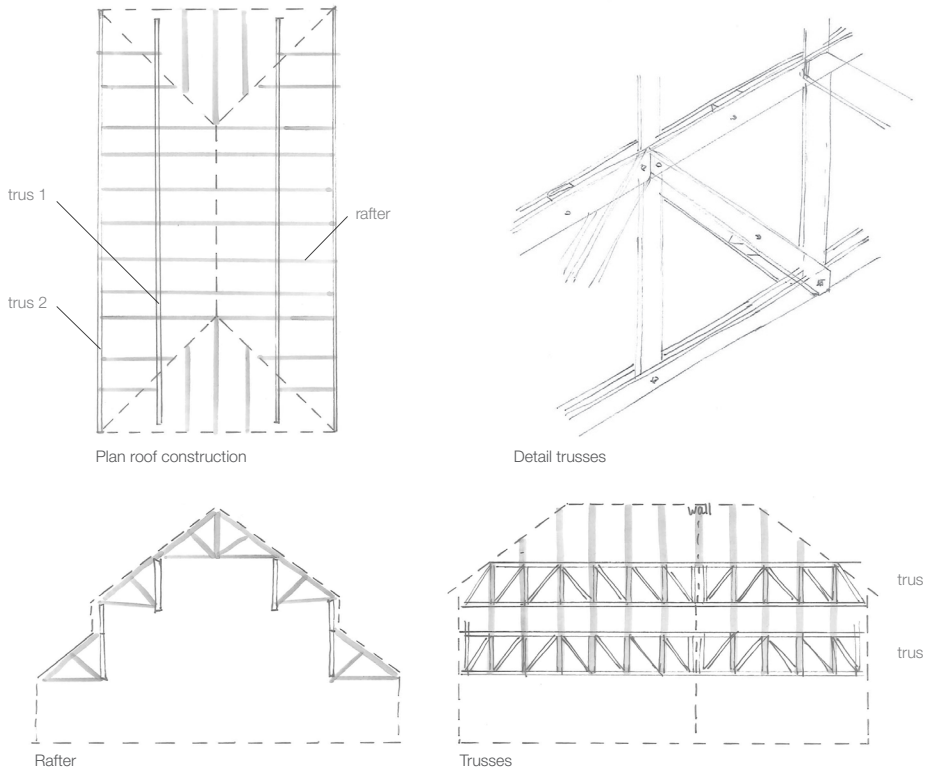


fig. 6.29 roof construction disinfection building

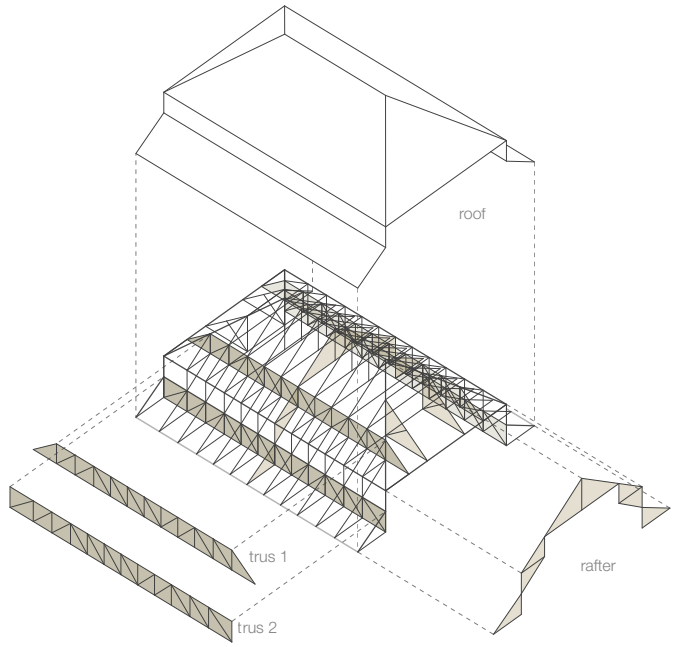
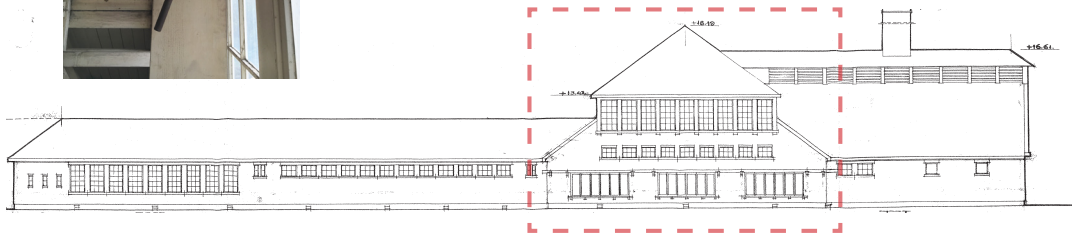


fig. 6.30 Roof construction disinfection building




fig. 6.31 Photos of roof construction disinfection building

fig. 6.32 Photos of special key



Windows

Probably because of the importance of natural light for the care function, the buildings of the quarantine terrain relatively have many windows. The window frames are made out of steel, accept from some wooden windows in the disinfection building. The shape and size of the steel windows correspond with the function of the space behind the facade (fig. 6.35).

Steel windows

In the entire complex about 30 different steel windows types exist. The windows have a rectangular shape with subdivision. They are constructed of various types of steel profiles. The different profiles are welded together in a factory before transported to the construction site. On site the external glazing is done. Putty (*stopverf*) is used to fix the glass in the steel window frames. The steel windows are painted white. (see fig. 6.36-38)

Currently in the buildings which have been renovated the single glass in the steel windows is replaced by double glazing. The steel window frames are not replaced.

fig. 6.33 Steel windows outside

fig. 6.34 Steel windows inside

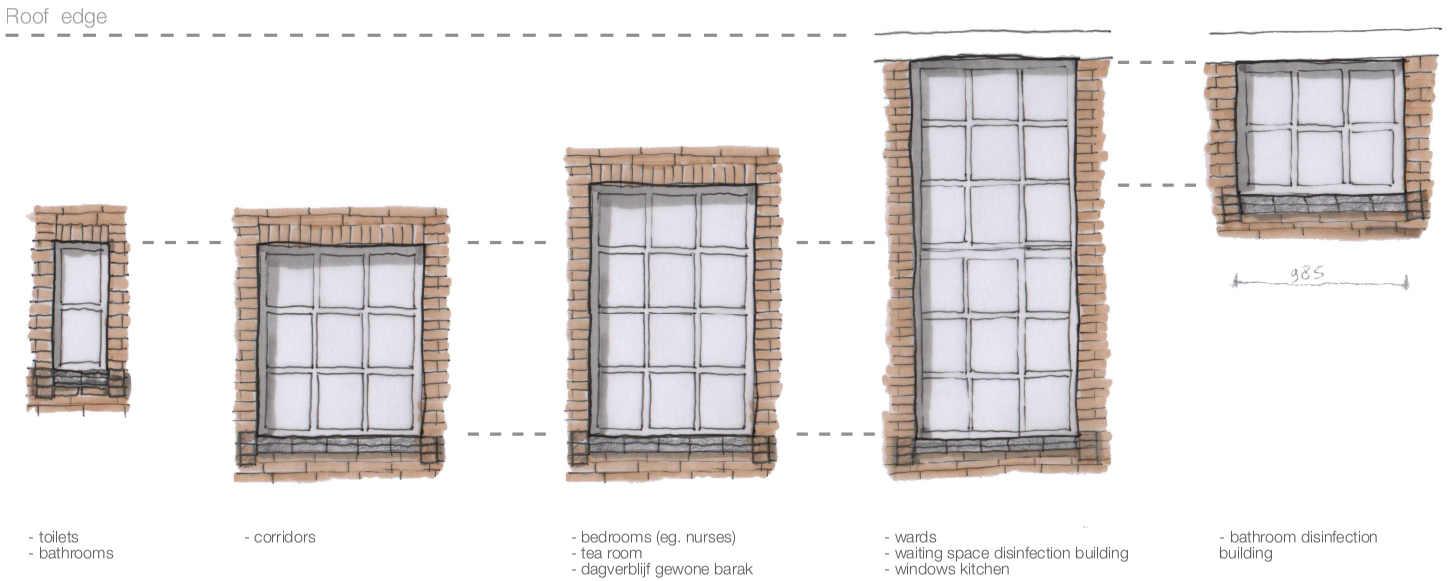


fig. 6.35 Different sizes of steel windows corresponding with the behind lying function

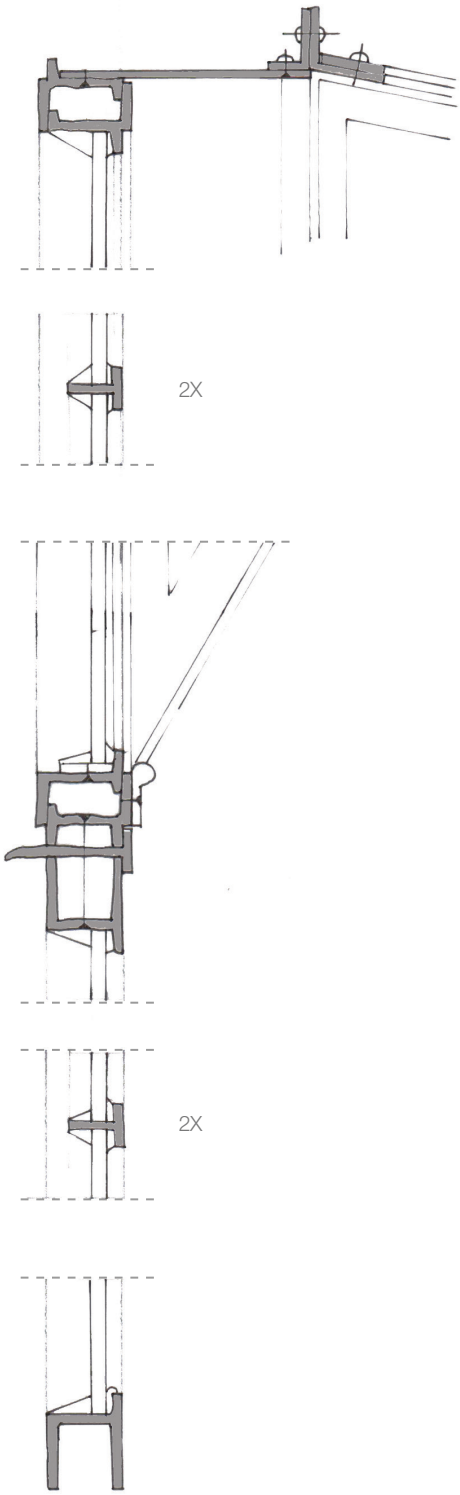


fig. 6.36 Section steel windows

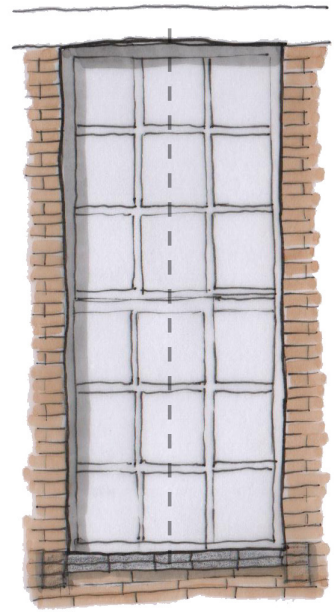


fig. 6.37 Sketch steel window in facade

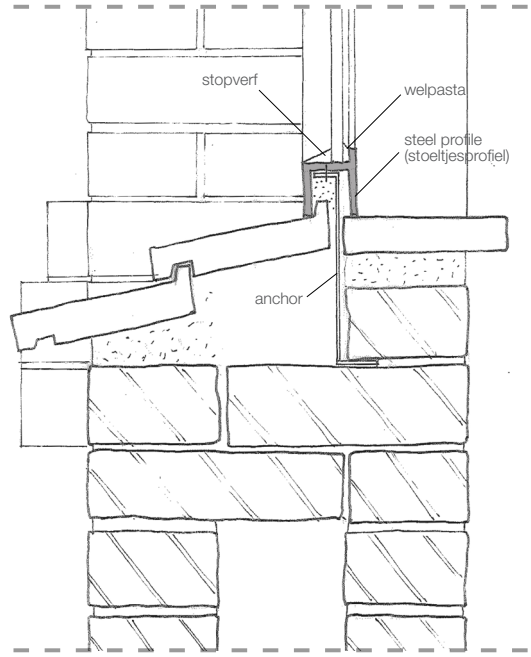


fig. 6.38 Detail steel window in cavity wall

Wooden windows

The disinfection building contains besides steel windows also wooden window frames. Wooden window were applied in the facade of spaces with high temperature and humidity. The wooden windows are marked in the facade views on the left. The wooden windows are more part of the roof than integrated in the masonry walls, comparing to the steel windows.

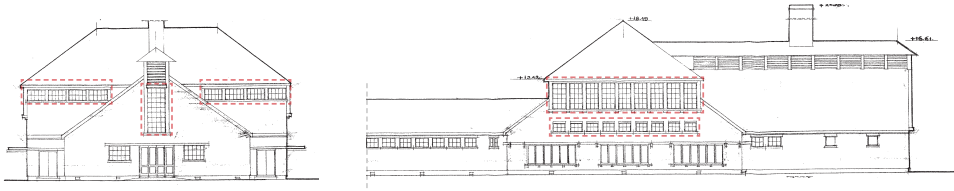


fig. 6.39 South and west/east facade disinfection building (source: original drawings)

fig. 6.40 Wooden window frames under the roof (9 sep 2016)

fig. 6.41 Wooden windows in west facade (20 sept 2016)

fig. 6.42 Wooden windows inside (20 sept 2016)

fig. 6.43 Wooden windows in west facade (20 sept 2016)

fig. 6.44 Wooden window with air roof south facade (12 oct 2016)

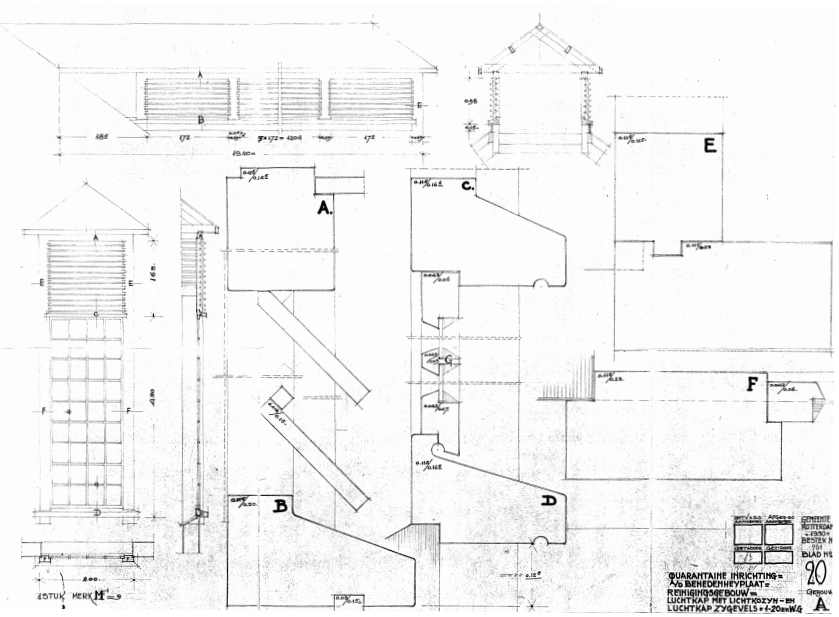


fig. 6.45 Details air roof and light windows south facade (source: original drawings)

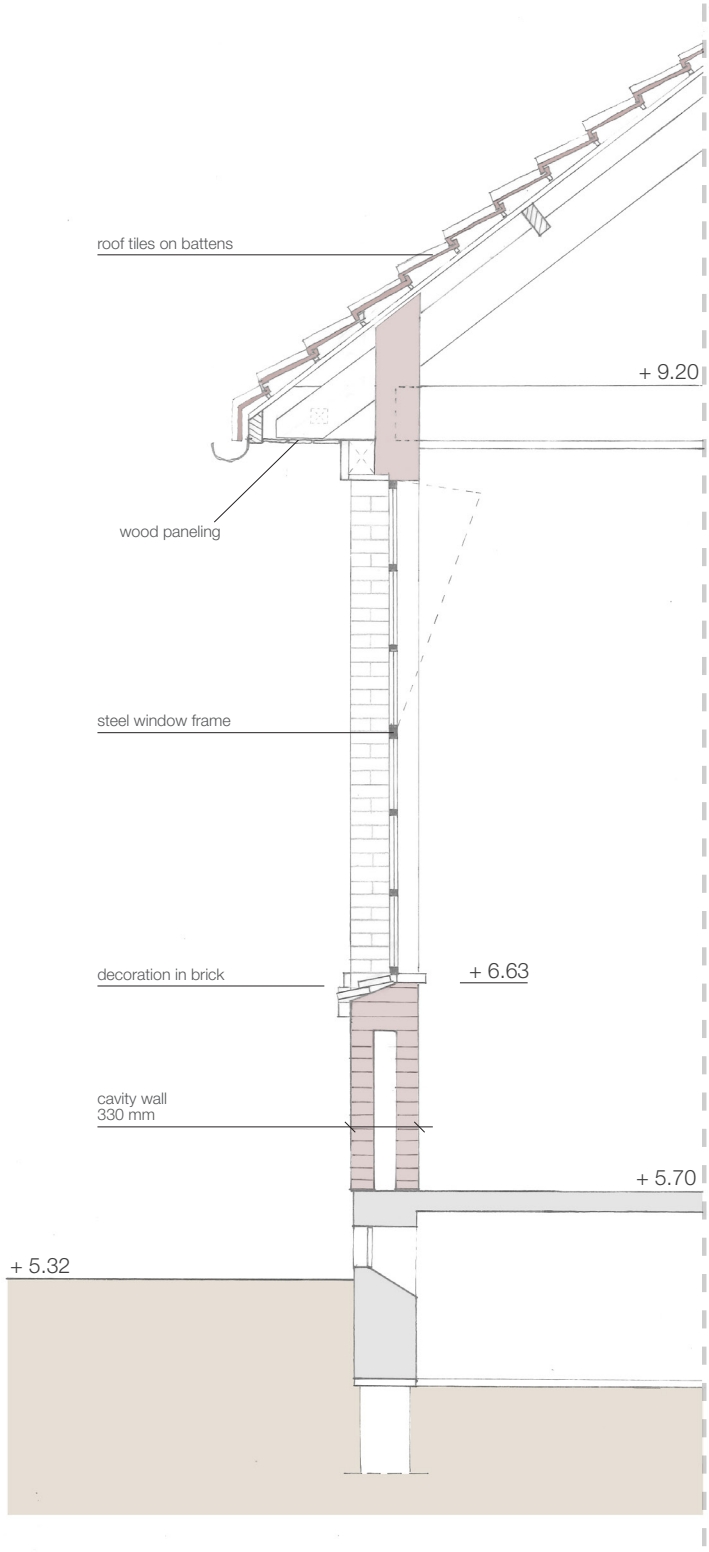


fig. 6.46 Technical section of the 'gewone barak', principle for other facades.

Services

Ventilation

Al the buildings of the Quarantine complex are based on natural ventilation. Because of the care function ventilation (and light) was an important aspect. An airflow was created by opening the steel windows in different façades. The windows were provided with mosquito nets, which was important because of the care function.
Some of the buildings of the quarantine complex needed extra ventilation possibility. The disinfection building, the kitchen building and the mortuary have special wooden ventilation facilities on the roof for the discharge of warm air and water vapour or in order to get a good ventilated space. The ventilation roof could be closed with steel plates when additional ventilation wasn't required. Currently some parts of the ventilation roof are provided with glass.

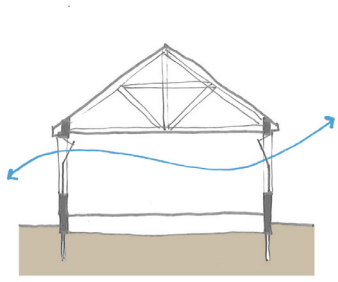


fig. 6.47 General ventilation principle is natural ventilation

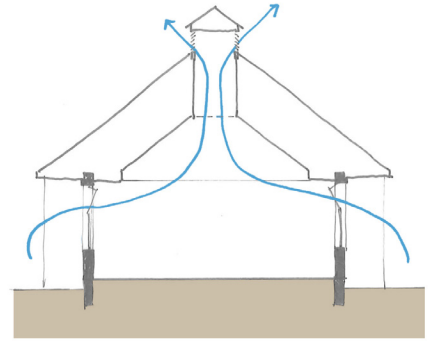


fig. 6.48 Additional ventilation with ventilation roof

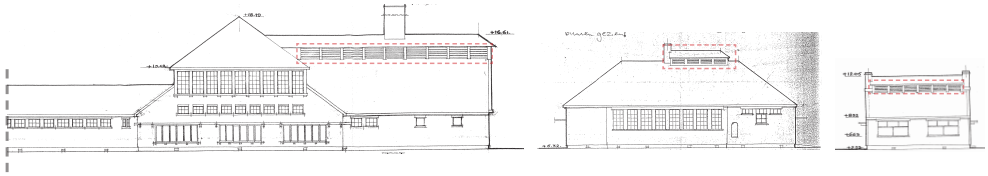


fig. 6.49 Ventilation roofs marked in the facade view of disinfection building, kitchen and mortuary (source: original drawings)

fig. 6.50 Ventilation roof at the disinfection building (12 oct 2016)

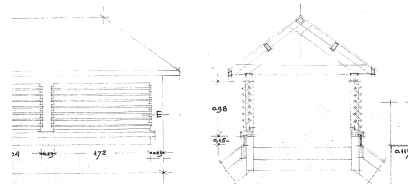


fig. 6.51 Technical section ventilation roof (source: original drawings)

Heating

Each building had its own central heating device. Cast iron radiators were placed in the spaces that had to be heated. Almost every building, except the mortuary and the kitchen building, had their own coal room and an adjacent room for the heating installation (Coal boiler). The disinfection building made use of high-pressure steam and also provided heating for the kitchen building. Currently, the heating system is different for each building. In the nurses house the inhabitant uses wood for heating the water for modern radiators. The original cast iron radiators are almost all removed.

Hygiene and maintenance

In the materialisation and detailing of the buildings of the quarantine complex, hygiene often played an important role. Inside the buildings the edges of façade openings are rounded, in order to make the cleaning easier and to make it less vulnerable. All concrete floors of patient rooms, bedrooms, sitting rooms, infirmaries, dining and conversation rooms and the reading room are (originally) covered with linoleum, an easy to clean material. The linoleum has been bent against the wall for some centimetres. In this way, no sharp but a rounded corner is formed which is easier to clean.

fig. 6.52 Rounded edges

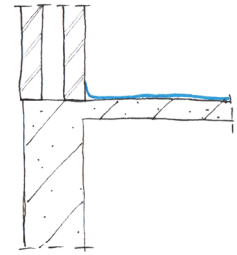


fig. 6.53 Linoleum floor covering

Damages

The buildings have a few relatively small but frequent damages. The facade of the ordinary barrack seems to be in worser state then other facades, maybe partly caused by the overgrown greenery.

Concrete canopies:
- loss of material
- reinforcement visible (betonrot)

Steel windows:
- rust

Paint:
- paint of timber roof construction and wooden windows in disinfection building is scaling (fig. 6.55)

Soil:
- settlement of the soil (outdoor space). Concrete foundation more exposed.

fig. 6.54 Damages on concrete canopies (20 sept 2016)

fig. 6.55 Wooden windows inside the disinfection building, showing decay of the paint (20 sept 2016)

fig. 6.56 Rust on steel window frames of the ordinary barrack (20 sept 2016)

Conclusion Building Technology

The buildings of the quarantine ensemble are constructed in a traditional building method. One general construction typology, consisting of a concrete foundation, brick walls, an a timber roof construction, is applied for all the buildings. Exceptions can be found in the shape and sizes of the different roof constructions. The roof construction in the middle part of the disinfection building is from technical and architectural point of view the biggest exception.

The buildings are in quite good technical state, but they don't meet the current building requirements (climate).

7. Valuation

Introduction
The quarantine area is a listed national monument (buildings and ensemble/terrain with greenery). This advocates a careful dealing with the value of the location in future. But what is this value? Rijksdienst voor het Cultureel Erfgoed describes the value short as cultural, social, and architectural value, and also an ensemble and situational value. A quite general description that states little about the quarantine area in particular. Based on the analysis and historical research I have tried to make a more comprehensive valuation.

The valuation is done on different scale levels: context, terrain (/ ensemble) and building level. Every scale level is described with a neutral map and a value map. The neutral map makes clear from which time period the various elements (traces) date, and gives required information for the valuation. The value map shows the valuation of the elements. Besides the maps the valuation will be explained by text, images and photos. The subjects Cultural historical value, Ensemble value, Uniqueness, Spatial quality (and atmosphere) and Architectural value will be used in the valuation.

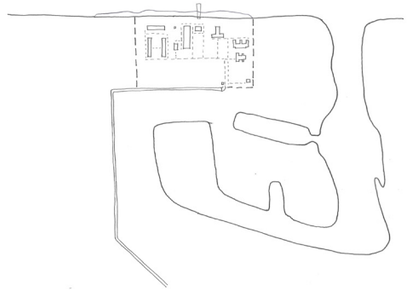
Neutral map - context

Different time layers of the past leave traces that are visible in the current situation. The map on the right shows the time origin of the various elements of the context of the quarantine area. The character of the quarantine area has been changed over time due to development of its surrounding context. There are four main periods that had the most influence on the appearance of the context: (0) Before the construction of the quarantine area, (1) Short after construction, (2) Influence of the German war navy, 1940-45 and (3) 1950 - current situation.

Legend of the map:

fig. 7.1 Neutral map context

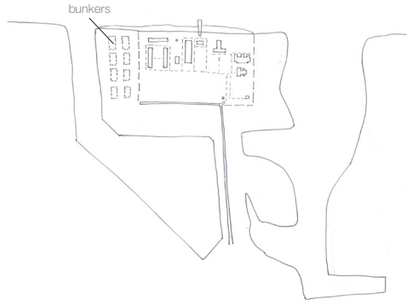
Phase 1: short after construction
The quarantine area, completed in 1934 was surrounded by empty land and located with the north side along the water. There was one access road via land. Emerging harbours were located around the area.



Time layer 1

Situation 1937 (KLM Luchtfotografie)

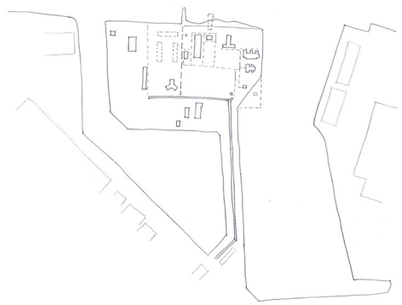
Phase 2: Influence of the German war navy (1940-45)
In the current situation there aren't really visible traces that clearly remind of the period of occupation of the surrounding by the German Navy. For example, the ammunition bunkers are removed. After further investigation, you discover that the German War Navy was responsible for major changes in the landscape around the quarantine facility. They enlarged/developed the harbours Werkhaven and Heysehaven, they made eight bunkers next to the quarantine facility and the changed the road that accessed the facility. It is not really clear if they also did changes on the buildings of the quarantine terrain. It is known that the buildings were used to house the soldiers.



Time layer 2

The subdivision of the land following the contours of the bunkers is still visible in a photograph made in 1980 (source: klm Luchtfotografie)

Phase 3: 1950 - current situation
Major changes in the third phase are the demolition of three barracks (contact zone), which changed the plot of the quarantine area. The mortuary has been moved after which the remaining piece of land (corner) was changed into water to widen the entrance of the Heysehaven. New buildings for harbour/industrial companies were developed next to and partly on the original plot of the quarantine area. The Heysehaven has been further developed.



Time layer 3

Current situation (Google maps)

Valuation map - context

The context of the quarantine area changed intensely during time. How can we valuate these changes in relation to the quarantine ensemble? The map on the right shows the valuation of the context.

Main values on context scale are the remote/isolated positioning and the enclave feeling of the quarantine area. Contextual elements that reflect these values are valued high or positive.

Cultural historical value
Although at first sight the quarantine area can not be easily related to industrial heritage, the quarantine terrain reflects an essential part of shipping and health care culture in the early 20th century. The fact that the quarantine terrain is never used for the intended function, is an essential part of the story. The pavilion-system that was used for the quarantine terrain was a common building typology in the healthcare during the early 20th century. Different functions/specialisms got an independent building volume and were separately placed in pavilions.

Uniqueness
The original function of the quarantine terrain is quit unique in the Netherlands and on a broader scale. The quarantine facility on the Beneden Heijplaat is the best intact quarantine area in the Netherlands. The planned remoteness of the original quarantine area has changed because of the development of the harbour and industry, but still the area feels at the end of Rotterdam. The long narrow road on the dike towards the quarantine area intensifies the isolated positioning.

Looking to the current situation the diverse green setting with as special element the only natural river beach in Rotterdam is quit unique for Rotterdam, especially because it is located in a by industry dominated surrounding. Together with the garden village Heijplaat the quarantine area is a spatial counterpart to the big scale harbor and industry.

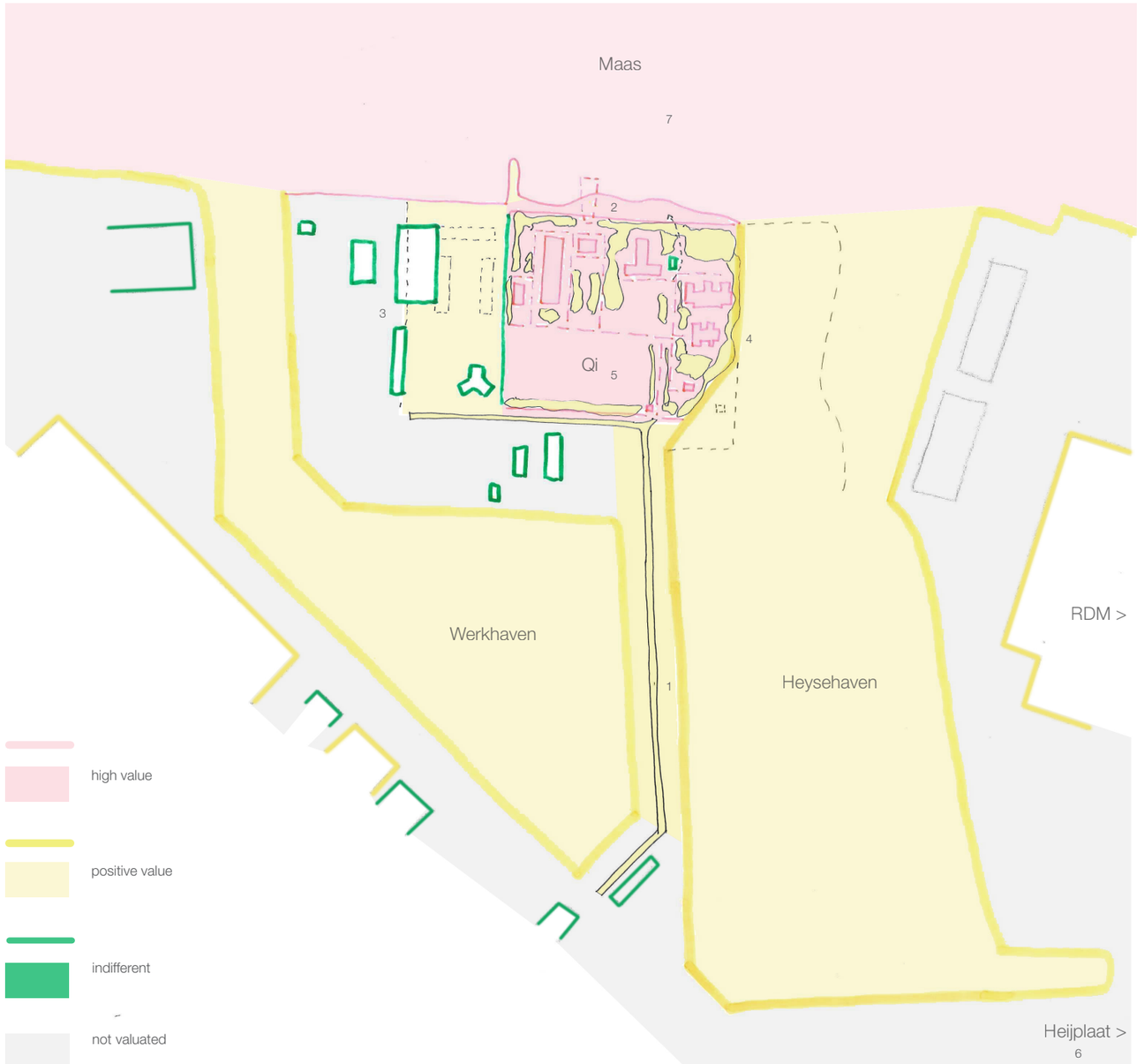
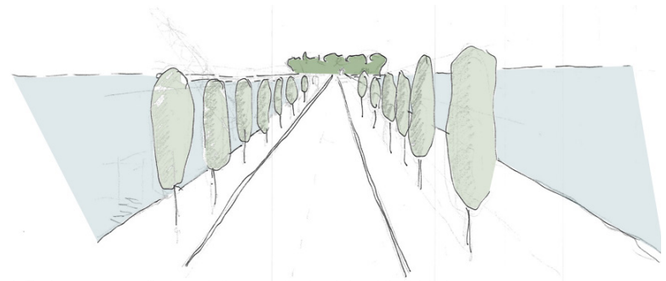


fig. 7.2 Value map context

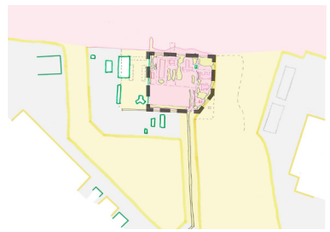


1. The long an narrow dike towards the quarantine terrain is not the original position of the access road. It is valued positive because it symbolizes the remote position of the quarantine area and it intensifies the enclave feeling of the location.

2. The beach (with traces of the original jetty) is valued high because it uniqueness and spatial quality. It reflects the connection with the river (original access)

3. The new buildings in the direct surrounding of the quarantine terrain are valued as indifferent.

4. The stone quays get positive value because they are characteristic for the transition of the harbour landscape.



5. The quarantine area feels like and enclave in its context of harbour (buildings), because of its contrasting function, green character and architecture.

6. On urban scale the quarantine area is maybe functioning as an ensemble together with the original housing of Heijplaat (and RDM), because of similarities in architecture and its green character.

7. The river is valuated high because it is inextricably linked to the original function of the quarantine area. Due to the development of the greenery on the terrain the direct visual connection with the river has become limited.

Neutral map - terrain

Different time layers of the past leave traces that are visible in the current situation. The map on the right shows the time origin of the various elements of the terrain of the quarantine area. The character of the terrain has been changing over time in particular due to development of the greenery. The original outdoor space structure is still strongly present (see the red dotted line of the paths), the straight lines and the right angled corners are softened. The developed green changed the spatial experience of the outdoor space between the buildings. The coloured green trees (map) are dating from the period 1934-current. Tracing the precise dates is difficult.

Legend of the map:

Original from 1934

Faded or disappeared from original

Development/changes 1934-1970

From 1979 - current (e.g. influence artists)

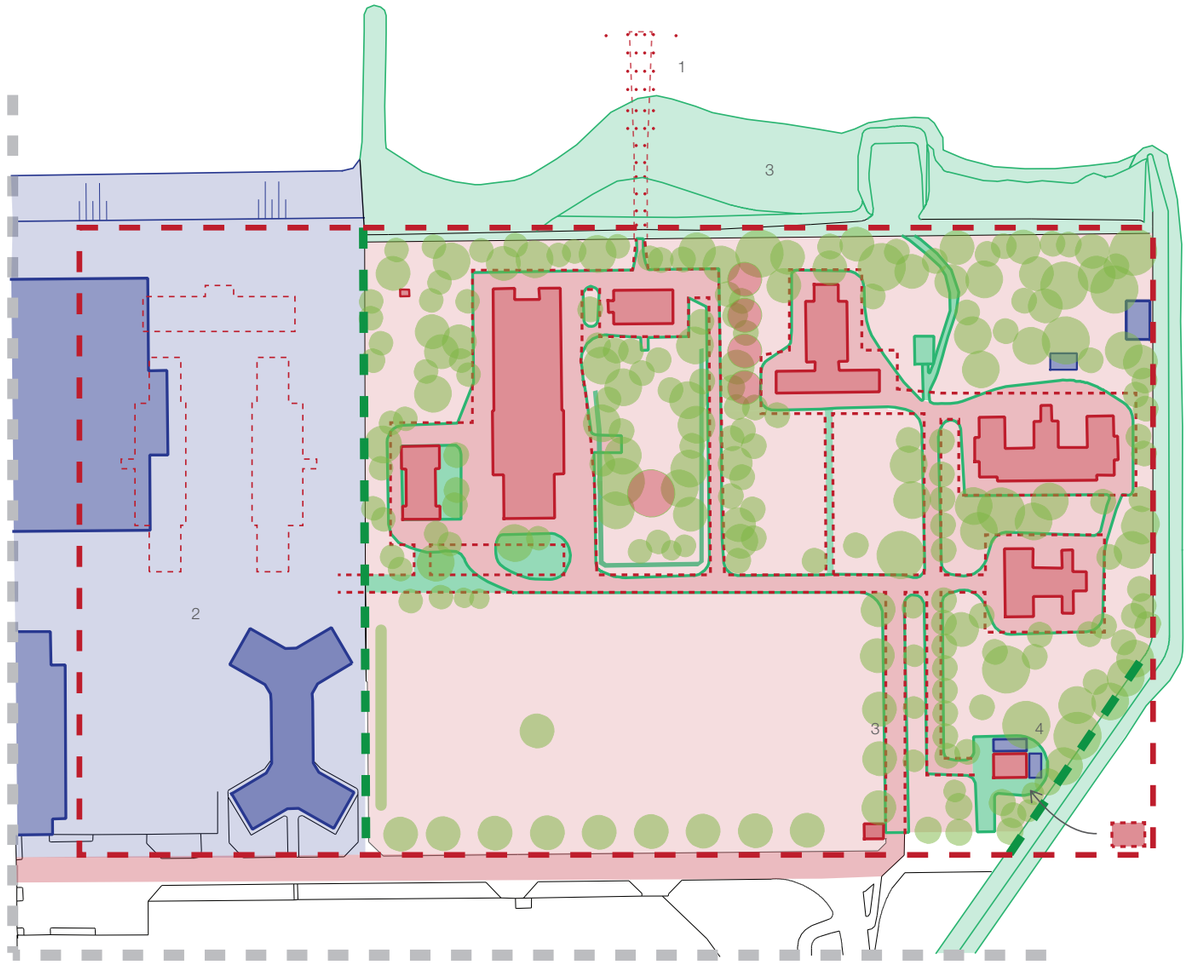


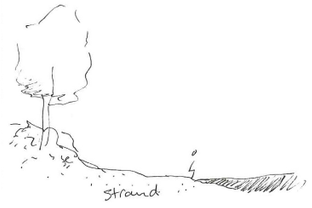
fig. 7.3 Neutral map terrain

1. The jetty of the quarantine area

2. Building next to the quarantine area

3. Remnants of the original fencing

4. Extension connected to original building



5. The shape of the beach changed during time.

6. Development of the green structure from sober and functional to organic and spatial.

Value map - terrain
On the next page the terrain/ensemble (including the building ensemble, the greenery, structure of the outdoor space and the edges of the terrain) is valuated. Main values on scale of the terrain are the pavilion structure (buildings), the enclave feeling, the spatial quality of the in-between space (interaction green structure and buildings). The current green structure is an interaction between the original structure of the outdoor space and the intensive development of the greenery (trees and plants).

Ensemble value
The common architectural language, material and detailing used for all the buildings and the contrast with the surrounding make of the quarantine terrain a strong ensemble. The individual buildings have each their own character expressed in the building volume and their original supposed function, but are clearly also part of a larger whole (a link in the chain), the ensemble. Every building/object has a meaning as essential part of the complex, in cultural-historical and functional sense. The outdoor space, partly designed and partly not, is part of the ensemble and in this way also valuable. The ratio built and non-built surface and the composition of the buildings (pavilion setup) is reminiscing of an institution typology, making the original function as a quarantine area still readable or possible to imagine. The water edges (quays and beach) and the road towards the area are part of the ensemble.

The demolished barracks and terrain on the west site are currently not traceable as part of the original ensemble. The small electricity building (a) that is added next to the nurses home has not a corresponding architecture, and is not really part of the ensemble.

Value spatial quality
The ensemble of buildings positioned in the diverse green structure has big spatial quality. The green structure and the building ensemble strengthen/intensify each other's presence. The green provides an extra dimension to the pavilion-like ensemble of buildings. The buildings contribute to the usefulness of the green structure. Because of the green border around the ensemble made by trees, the relation with the water is limited. The green wall is not an original element of the quarantine ensemble, but it symbolizes the enclosed character which was originally achieved with a fence. At the small beach at the north side of the ensemble there is a strong relation with the river.

The traces of the original green structure (paths, lawns and trees) is valuable (high), as historical-functional part of the quarantine area built between 1930-1933. The development of the green has positive value because it contributes to the spatial experience of the area nowadays.

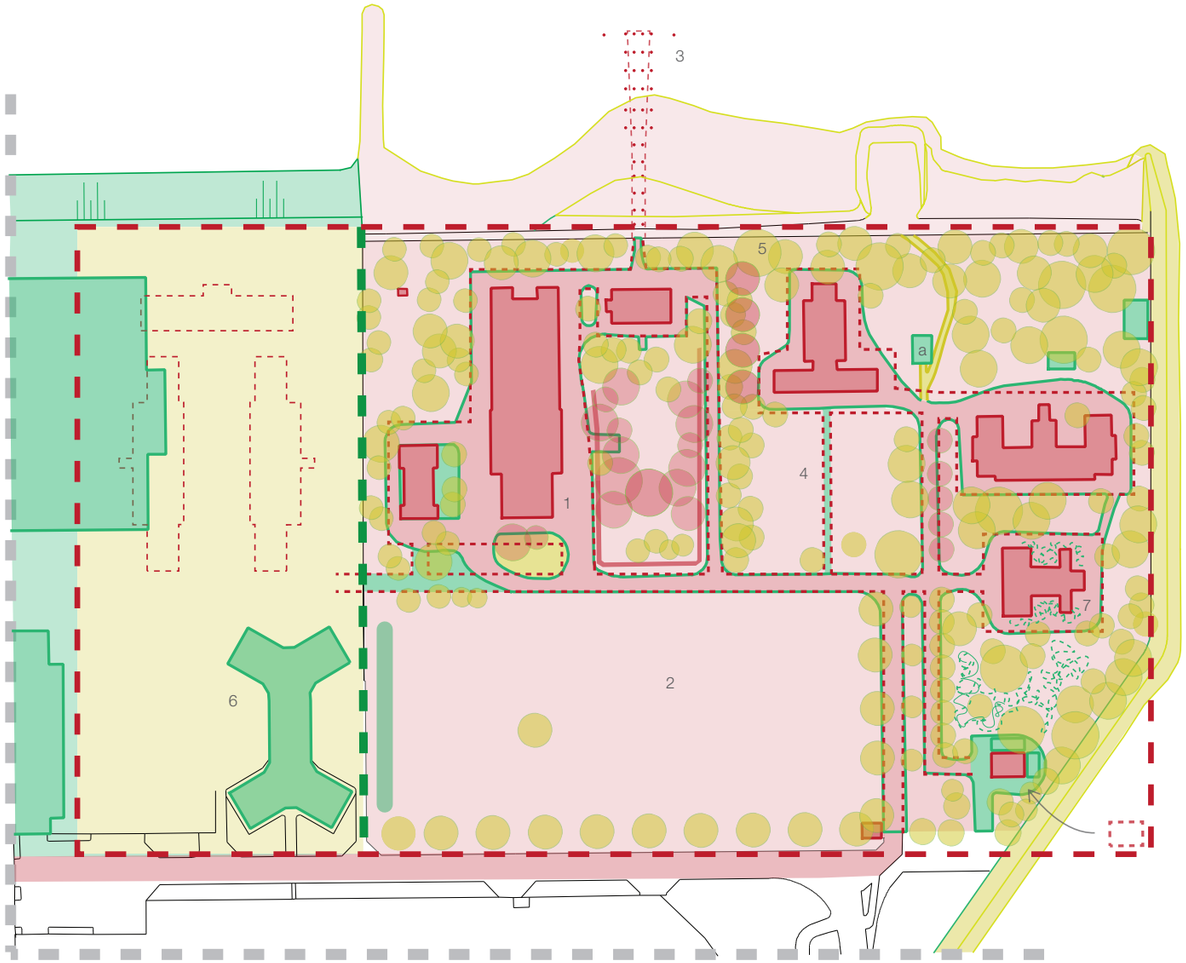


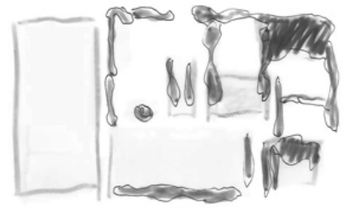
fig. 7.4 Value map terrain/ensemble

high value

positive value

indifferent

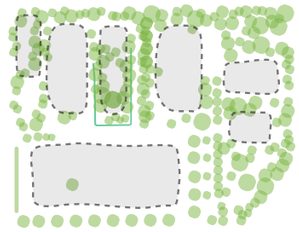
1. The pavilion typology of the ensemble is of high value. It reflects a common organizational typology of the health care during the early 20th century.



2. The original outdoor space structure (green) is still visible. It is the under layer of development of the diverse green structure. The original green structure is valued high. The development of the green is valued positive because of its spatial quality.

3. Traces of the old jetty are valued high because it reminds of the original possibility to access the facility from the river

4. Green as staging around the buildings (rooms).



4. Spatial quality: The trees, hedges and plants are shaping the outdoor space around the buildings. The green forms outdoor rooms in which the buildings stand.

5 The current green structure forms a boarder around the terrain. It intensifies the enclave feeling, but it reduces the visibility of the river and the surrounding land.

6. The buildings located next to the quarantine area are of an indifferent value. The composition of the new buildings in the context and their architectural expression let disappear the memory of the contact barracks.

7. Overgrown green hides the buildings and its value.

Buildings
The buildings of the quarantine ensemble have all undergone several changes during time. Generally, the interior has been changed and the exterior stayed unchanged. Some small changes have been done in the exterior, like small extensions or some new facade openings. The disinfection building is taken as an example for the valuation of the buildings. Also more general issues regarding the valuation of the buildings and architecture will be mentioned.

Neutral map - plan and section disinfection building
The plan and section on the right show the neutral mapping of the disinfection building. A distinction is made between walls, floors and ceilings/canopies. Also faded traces are indicated.

Mainly the secondary structure (interior walls) has changed. The primary bearing structure (facade and bearing walls) is still almost intact. The building is now divided in different dwellings and studios. Al the different users have modified the spaces in their own way.

Legend of the map:

Original walls/floors
Original walls removed/changed
Original ceiling/roof construction/canopies

Added/replaced

Not accessible during inspection
Not accessible during inspection

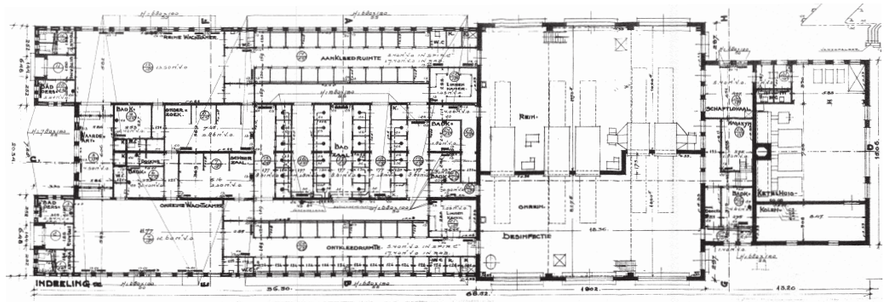


Fig. 7.5 Original plan disinfection building (source: original drawings)

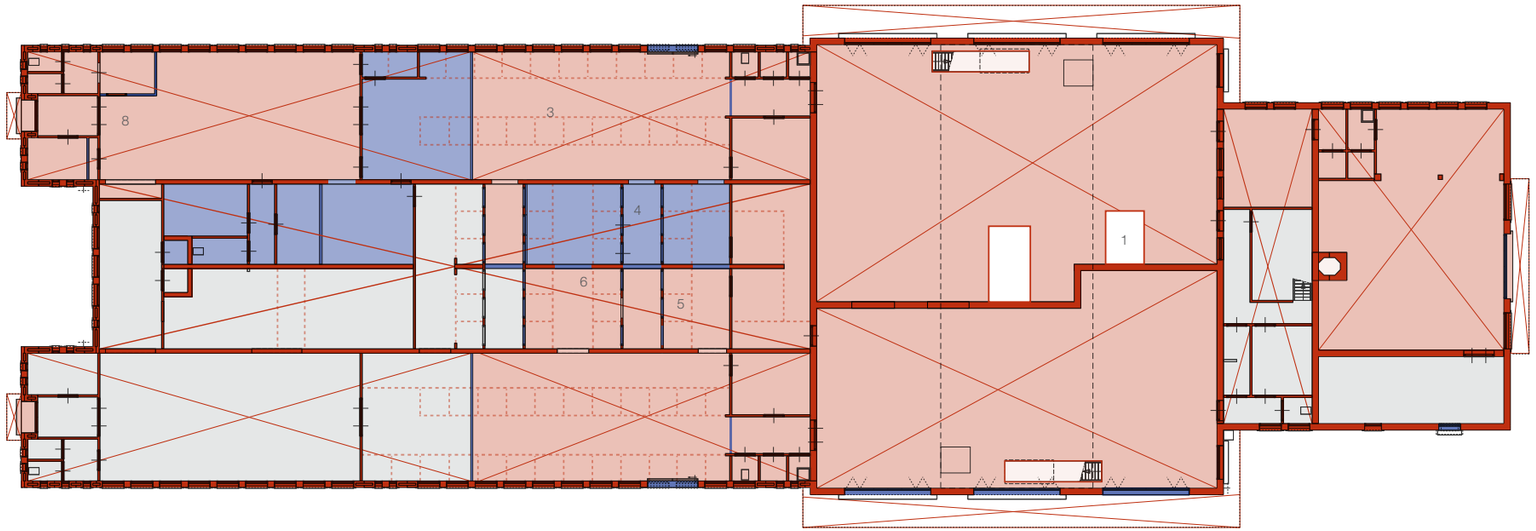


Fig. 7.6 Plan - neutral mapping disinfection building (underlaying drawing: Mei architecten)

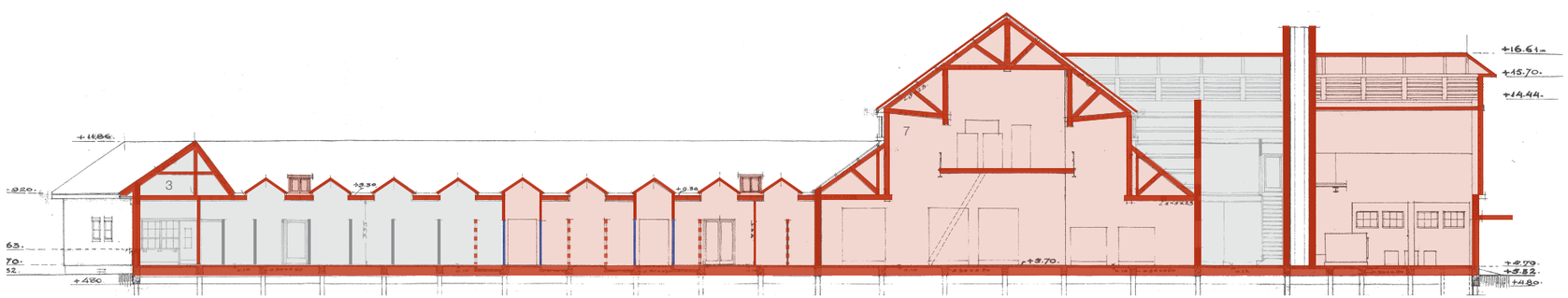
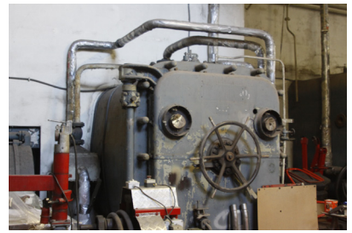
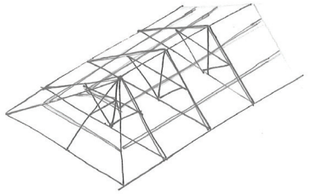


Fig. 7.7 Section - neutral mapping disinfection building (underlaying drawing: original drawings)

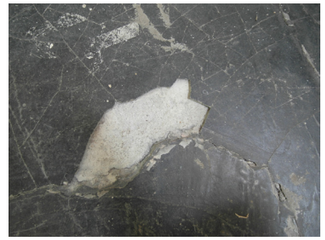


1. Original machines for disinfecting the clothes and goods are still present.

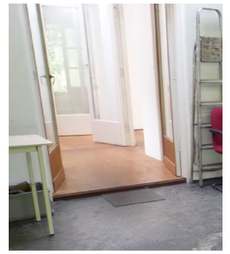


2. Roof construction above ceiling

3. Traces of the walls of the changing rooms are still visible on the ground floor.

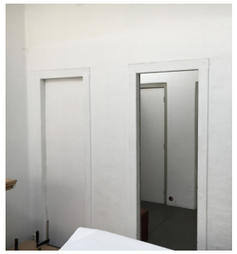


3. Original floor. Upper layer of the floor with an addition of silicon carbide, resulting in the dark colour of the floor.



4.Current user added a new wooden floor on top of the original floor and shower trays.

5. Current user (artist) removed the walls of the shower cabins and uses the trays as part of the art piece.



6. Many of the entrances of the shower cabins are closed.

7. The roof construction of the middle part of the disinfection building is a special roof construction compared to other roofs.

8. New interior infill made by occupant.

Neutral map - facade disinfection building

The facade drawings on the right show the neutral mapping of the disinfection building. Most changes on the facade have been done by the current users (the artists). In case of the disinfection building the changes cover newly created openings and the replacement of the original infill of existing facade openings.

Legend of the map:

Original (1934)
traces original (1934)
original (1934)

Added/replaced
Added/replaced

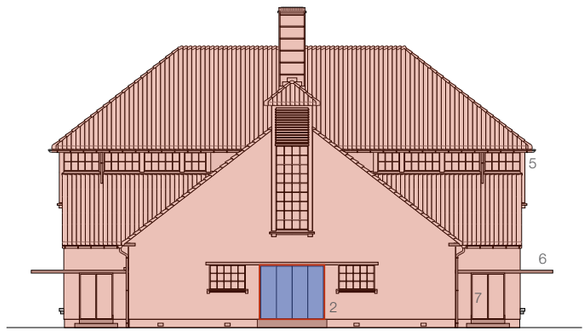
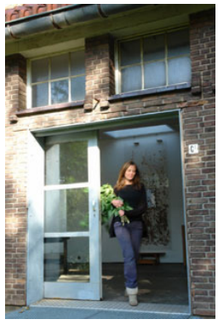


Fig. 7.8 South facade disinfection building - neutral mapping (underlaying drawing: Mei architecten)

Fig. 7.9 West facade disinfection building - neutral mapping (underlaying drawing: Mei architecten)



1. New opening made by the current users

2. New door in existing opening in the south facade

3. Opening provided with new windows

4. Typical accentuating of the entrance with a canopy and stone

5. Windows and ventilation elements lift the roof up from the brick walls

6. New door in existing opening

7. Original door: green colour with white lettering (names referring to the function of the buildings).

8. Windows made in original segment of ventilation roof

Architectural value / Value of the buildings
The pavilion setup is characteristic for the quarantine area. The pavilions look like barracks, but with a valuable architectural expression.

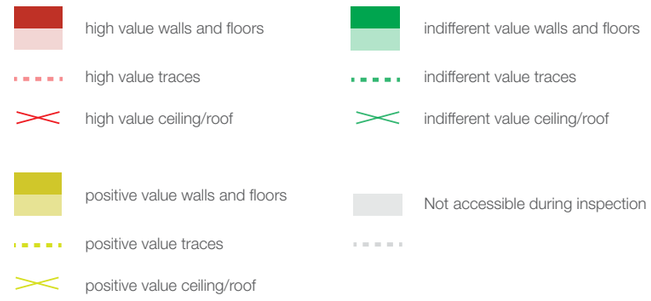
All the buildings (except the demolished contact barracks) are unique. They have a specific floor-plan, with specific program and routing. All the buildings have their own story, with a corresponding building typology. The organization typology of the floor plans reflects the old function/zoning of the buildings and is related to the primary load bearing structures of the buildings. For example the corridor typology in the nurses home. The primary bearing structure of the building is valued high. The secondary structure is valued positive.

Architectural elements that emphasize/contribute to the ensemble character are valuable, for example the horizontality of the facades (layer of brick, layer of roof tiles) and the consistently applied architectural elements like concrete canopies, stone steps for entrances, cantilevered eaves and the repetition of steel windows.

The total exterior (original parts from 1934) is valued high because it is contributing to the ensemble value.

Valuation disinfection building - plan and section
The drawings on the next page show the valuation of the plan and section of the disinfection building. Unique in this building is the architecturally valuable roof construction in the middle part of the building. New elements added by the artist are of indifferent value.

Legend of the map:



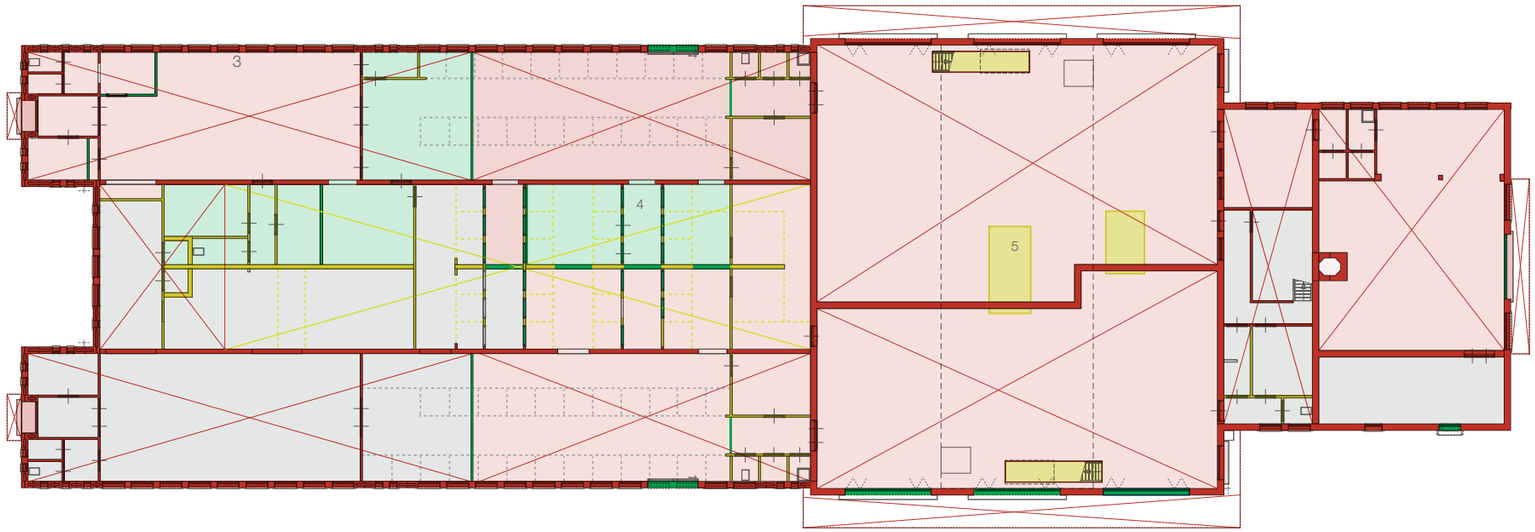


Fig. 7.10 Plan - valuation disinfection building (underlaying drawing: Mei architecten)

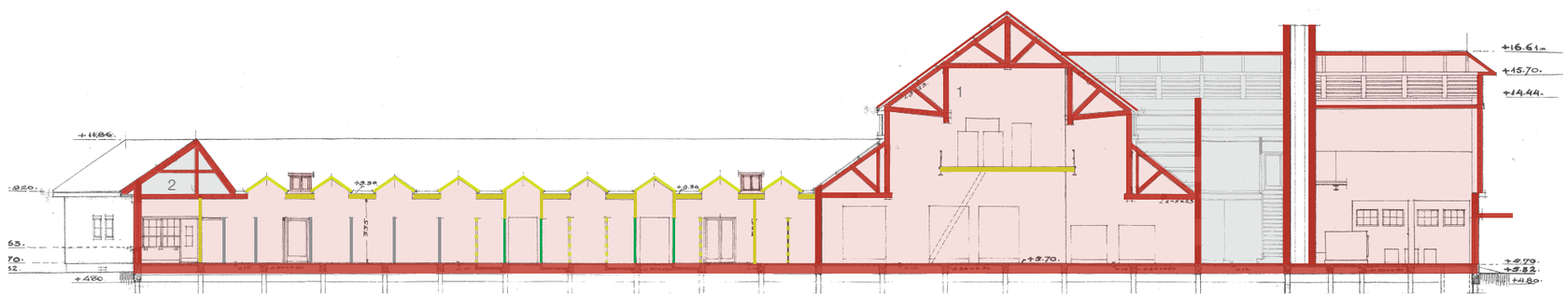
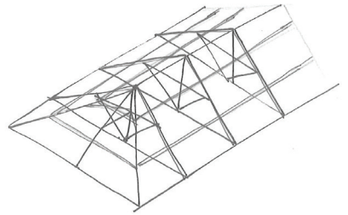


Fig. 7.11 Section - valuation disinfection building (underlaying drawing: original drawings)

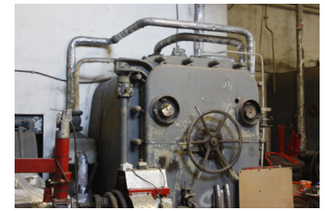
1. The roof construction in the middle part of the building has great architectural and building technical value.



2. The hipped roofs and the related roof constructions have high value. The roof construction is not visible in the interior.

3. Detailing of the interior

4. Additions or adjustments in the interior done by the current user are valued indifferent.



5. The wash and dry machines are objects that refer to the original function.

Valuation disinfection building - facades
The drawings on the next page show the valuation of the facade of the disinfection building. The total exterior (original parts from 1934, facade and roof) is valued high because it is contributing to the ensemble value. New elements in the facade added by the artist are valued indifferent.

Legend of the map:

high value

positive value

indifferent value

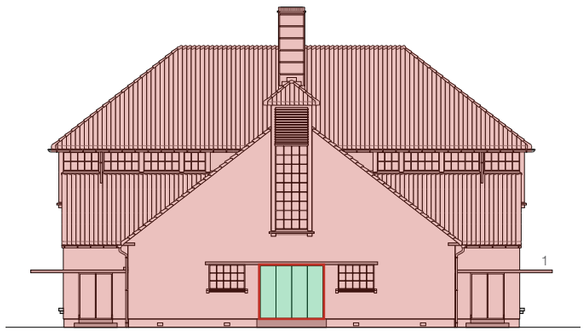


Fig. 7.12 West Facade - valuation disinfection building (underlaying drawing: original drawings)

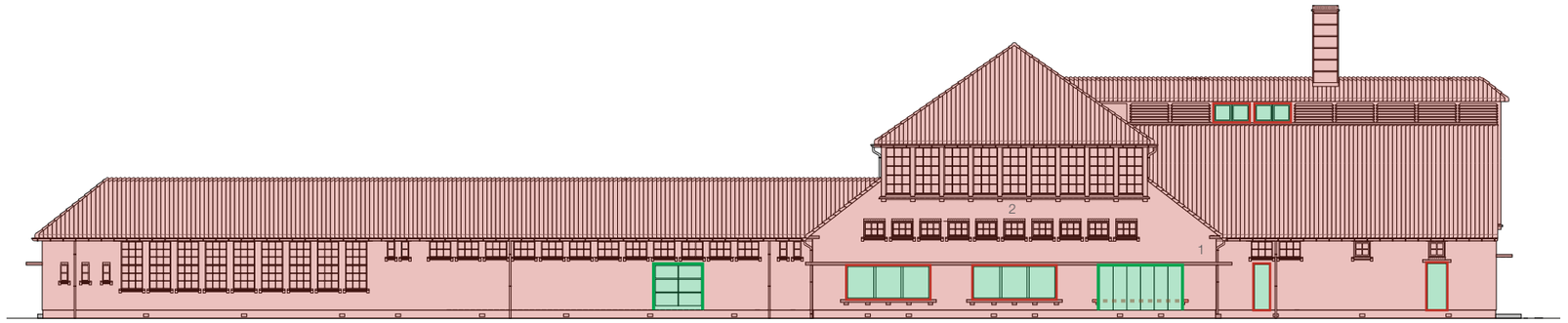


Fig. 7.13 South Facade - valuation disinfection building (underlaying drawing: original drawings)

1. The concrete canopies have high architectural value

2. The big windows in the west and east facade are of great architectural expression. It is a remarkable element in the facade and it gives a special light effect in the interior.

3. New elements in the facade added by the artist are valued indifferent.

Value of atmosphere

An important part of the character/value of the quarantine ensemble is the ‘atmosphere’. The different atmospheres present in the quarantine ensemble are valuable. The atmospheres are connected to the stories and memories of the past (intangible).

The atmosphere of the outdoor space in the quarantine terrain changed during time especially due the development of the greenery. Original the buildings were positioned in a bare, sober and strict landscape. Nowadays the buildings and the green together form a idyllic and village like atmosphere. The place is characterized by nature and the influence of the seasons. The current outdoor space structure has spatial quality and its atmosphere has high value.

The atmosphere of the current interior is contrasting with the atmosphere of the outdoor space. In the interior is still the original clinical and sober atmosphere present. This interior atmosphere is valuable because it reminds of the old function and stories. Detailing, materials and colours are import elements for the interior atmosphere.

In future transformation a position should be taken on how to deal with these different spheres.

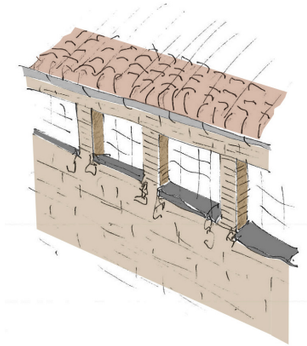
Idyllic and village like

Bare and sober (original)

Buildings in the green

Nature and seasons

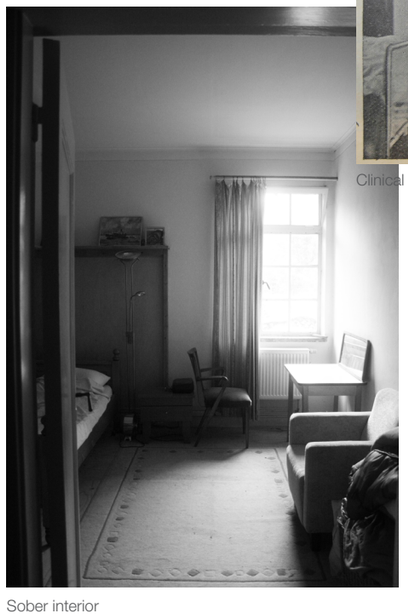
Architectural expression



Interior details

Brick - human scale material

Clinical atmosphere



Sober interior

Additions to interior atmosphere

Clinical and sober atmosphere (original)

Fig. 7.14 Collage valuation atmospheres

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Position paper

Intervening on sites of cultural heritage

Approaches for dealing with the outside space around heritage.

Lieske Senden, 4165179

Abstract

This paper aims to discuss how to approach the outside space around cultural heritage during transformation. Nowadays dealing with built cultural heritage is one of the main challenges for architects. The outside space surrounding these heritage objects is a bit underexposed. By comparing the views of different speakers about the cultural landscape/outdoor space, an approach has been drawn up for handling with the sites of heritage.

Introduction

Reuse of cultural heritage is a main topic in the current architectural debate. The main focus of the discussion is on built heritage, but buildings are inextricably connected with valuable outdoor spaces landscapes. The landscape contains qualities that can serve the identity. The structure of the outdoor space is important in telling stories of the cultural heritage. Reinterpretation or interventions done in the present are new chains in this story. As a starting point for this position paper I took questions that came up in my personal graduation project. Within this project I have to make a transformation plan for the former quarantine area in Rotterdam. Characterized as an ensemble of pavilions in a green context surrounded with big scale industrial landscape and water. The buildings and site are listed as a national monument. However originally designed within a modest and functional (green) site structure, the current quality of the outside space has become a more important part of the identity of the ensemble. How should I approach this valuable outdoor space in the transformation design of the ensemble? Can I respect the layering of history, but also make a valuable interpretation and a transformation for the future?

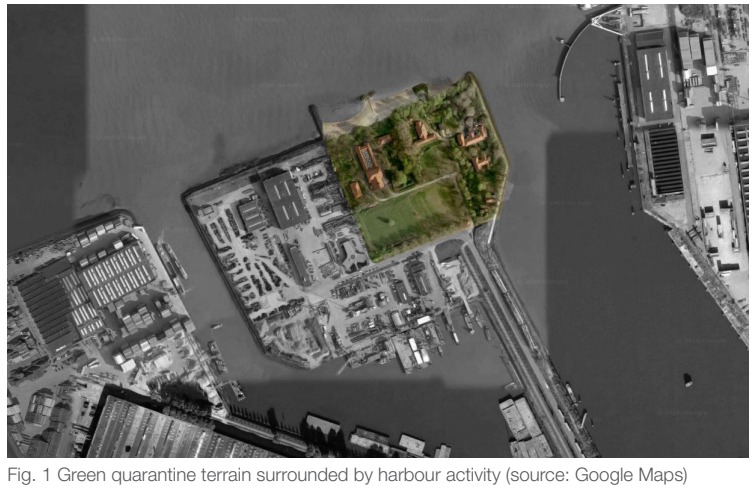

Fig. 1 Green quarantine terrain surrounded by harbour activity (source: Google Maps)

This resulted in the following main question for this position paper: *How to deal with the outdoor space around cultural heritage during transformation?* In the paper first I have made an introduction of the topic and the current/historical discussion. In the second section I will discuss and compare the approaches of designers more specifically.

Cultural landscape, outdoor space and heritage

For the narrative of this paper, it is first useful to briefly discuss the topics heritage, cultural landscape and outdoor space. Cultural heritage are physical and intangible traces which are inherited from the past. Because of collective memory and valuation these traces are maintained in the present and passed on for future generations. The cultural landscape can be seen as the binding factor between our built heritage. The outdoor space around heritage is the in-between space, the connector, of architecture/built heritage and the surrounding, the cultural landscape. Outdoor space is part of the cultural landscape. Landscape, and also outdoor space, is a result of interaction between cultural intervention (interpreting human) and nature (Kolen, 2007, p.16). A composition of man-made or modified spaces in relation to the natural landscape (ecological processes). The landscape is rarely the result of a totally conscious intervention by one person. It is usually the influence of a group which gives the landscape an identity and influence on landscape formation and change (Bosma & Kolen, 2010, p.216).

"The spatial representations of a landscape (and so the visual characteristics of it) are due to this influence also determined by in the landscape active social, mental and cultural characteristics of groups." Koos Bosma (Bosma & Kolen, 2010, p.197)

Every period in time leaves marks on the landscape, which results in a layering containing stories and information of the different periods. Landscape is both the physical visible part of the earth's surface, the tangible. But has also a mental level of collective memory, the intangible. When dealing with heritage an awareness of both tangible and intangible traces is recommended in order to understand the complete story. All speakers that will be mentioned further in this text want to give attention to the fact that landscape isn't as static as buildings are. Landscape and the outside space is a dynamic process (Atelier Rijksbouwmeester, 2013, p.18). It develops, it grows, expands and parts can disappear. Besides a functional space the outdoor space/landscape is also a living dynamic document, a carrier of history, with a narrative ability (Bosma & Kolen, 2010, p.216).

Historical outline of attention for cultural heritage and the outside space.

Throughout time, there has been different approaches towards cultural heritage. Jan Kolen distinguishes three phases (Kolen, 2010, 33). The period from the late 19th century until 1980 is characterized by preserving and caring for monuments, which among others was reflected in the creation of the Monuments care. From 1980 to 2000, a critical look (phase of reflection) at dealing with cultural heritage was

dominant. From 2000 there is an optimistic look at cultural heritage resulting in new concepts and thoughts about the interpretation and design capabilities with heritage.

During history of dealing with heritage, the built heritage got always more attention than the surrounding outdoor space. Since 1970 a green line was gradually developing (focus on the outside space) in the debate about preservation of the national heritage (Andela & Bierens de Haan, 2010, p. 67-68). After a slow start expanding attention was given to an integral conservation of the green heritage, the cooperation between the built heritage and the frame of it, the outside space/site like historic gardens, parks and landscape features. The appreciation of the ensemble value grew.

Positions in dealing with heritage sites

How do designers deal with traces in the outside space remained from the past? Spatial transformation in the present is (re)interpretation and re-use of traces and structures (layers) from the past. This concerns both existing tangible and intangible traces. Jan Kolen, Professor of Landscape Archaeology and Cultural Heritage, describes it as *"art of inheriting"* is *"art of changing"* (Kolen, 2007, p.15).

In the landscape every time phase leaves traces, which remain readable as layers and are interpreted by the next user (Bosma & Kolen, 2010, p. 139). The complexity and layering of heritage landscapes and sites require a conscious and effective way of designing. It asks for a conscious positioning on the physical structures next to the cultural values and behaviors in the society (tangible and intangible) (Bosma & Kolen, 2010, p. 138). A valuation is an useful document in transformation of cultural heritage. The valuation used for outdoor space / landscape should be adjusted to the dynamic character (changeability) of the outside space which makes it different from a valuation of built heritage (Huls, van der Meulen & de Wit, 2011,p.39). For example ecological value and maintenance should be incorporated in the valuation. A designer must be able to substantiate his position about the valuation in relation to design decisions, like adding a new layer (Huls et al., 2011,p.40). The designer must search for a meaningful relationship between the present and history. Also outdoor spaces without a specific monumental state, can still be important for the historical overview (Huls et al., 2011,p.39).
Some main speakers in the current debate about heritage sites are Ben Kuijpers, Jan Kolen, Floris Alkemade and Eric Luiten. Landscape architect Ben Kuijpers, advisor monumental outdoor space at Atelier Rijksbouwmeester, is surprised about the richness of built heritage and the outdoor spaces around it (Bos, 2015, 30-32). However, he is worried about the poor state of the (green) outside spaces of heritage. He sees the surrounding area as an essential and valuable component determining the economical value of the built heritage. Buildings and the space around the buildings should be considered as a whole. He gives attention to the fact that transformation of the outdoor space / landscape should be approached differently because landscape is

always in development and not that static as built heritage.

According to Jan Kolen, transformation of cultural heritage sites should be an enrichment for the history of the landscape and not a repetition of it (Kolen, 2008, p.95). Reconsidering the conscious use of history and heritage in spatial planning is needed, in order to not result in an unclear mixture of past, present and future, a landscape which is difficult to interpret. The dealing with cultural sites / landscape should depart less from history, but more adopt a functional approach.
Kolen recommends a conscious *"culture of space making"* (Kolen, 2008, p.95), in order to be able to reflect on it in future. He recognizes the importance of memory and historical stories of the landscape in order to create identity and historical awareness, but in his opinion it should not play the upper hand in the design of the outdoor area (Kolen, 2008, p.95). Kolen advocates for transformation which focuses on spatial cohesion and functionality besides respect for the past .

Also current Rijksbouwmeester, Floris Alkemade, is concerned about the outdoor space of heritage.
In order to achieve the full meaning/potential and a better management and maintenance of outdoor spaces around heritage, he proposes a strategy (Atelier Rijksbouwmeester, 2016, p.10). A property mapping of the outside space, clarifying the responsibilities, thinking of financial instruments and a integral research and design approach are four focus points of his strategy. In the Dutch field of designing Alkemade notices a valuable culture of designers who recognizes the importance of the outdoor space.

Eric Luiten, professor cultural history and spatial design, sees an important role of the outside space for the built heritage. According to Luiten past and present can not exist without each other when talking about spatial design (Luiten, 2008, p.54). A good structure of the outdoor space embeds the orientation, observability and representativeness of the built heritage, and supports the functionality (Luiten, 2016, p.25).

Approaches
The way we look at cultural heritage and the way we approach outside space around heritage has changed over time, due to an increase of research and awareness about the topic. First a conservative attitude was predominating and especially attention was given to spacial monumental landscapes and outdoor space, like historic gardens, parks and estates. In 2001 Lucia Albers formulated the following design approach. (Albers, 2001, p. 47)
1. maintain and preserve existing historical features;
2. minimal intervention, timely restoration, first consider restoration possibilities before reconstructing;
3. reconstruction is preferred above renewal with modern and / or renovation;
4. renovation (new design) only when no other solution satisfies.

More recently Eric Luiten distinguishes four types of designers dealing with the outdoor space / landscape of cultural heritage, named the antiquarian, biographer, taxonomist and opportunist (Huls et al., 2011, p.39). Below these different approaches will be briefly explained, supported by examples of cultural heritage of which the outdoor space has been transformed.

Antiquarian

The antiquarian valuates the outdoor space as an object of a particular style period (Huls et al., 2011, p.39). He focuses on maintaining or reconstructing one certain time period of the history of the cultural heritage, which in his opinion is the most valuable. This reconstruction, the re-building of an older, (partly) lost situation, tries to achieve historical perfection. Reconstructions are sometimes controversial because, they can create the impression that it is possible to reproduce the past. In the design the other time layers which have been added to the historical place in earlier or subsequent periods are denied. In the Netherlands more often specific/ interesting smaller parts of a bigger structure, are reconstructed, instead of large-scale reconstructions. In this cases the reconstruction can contribute to story or the experience of the monument and strengthen it.

The most discussed Dutch example of the antiquarian approach is the garden of the Loo Palace (Huls et al., 2011, p.39). During the redevelopment the gardens of the palace are reconstructed in a baroque style referring to the former structure in the 17th century. However the baroque period was just a small time layer in the history of the Palace comparing it to other valuable time layers. All the tracks of later periods are removed. The result is an appealing and impressive outdoor space but the complete story of the place isn't told.

Fig. 2 The Loo Palace and garden (source: https://www.geldersestreken.nl/paleis-het-loo/)

Biographer

The designer with an biographical approach is interested in/valuates the sequence of transformations of the landscape, the complete story of the site (Bosma & Kolen, 2010, p. 219). He focuses in particular on the layering (layers of the past and the present) of places and landscapes. The main premise of this approach is the unraveling of the different time layers and the implementation of the obtained historical information in the design, without rejecting the value of the present situation (Huls et al., 2011,p.39). The biographer can get lost into a unreadable collage of layers.

An example of a biographical approach can be found in the recovery plan of the estate Twickel in Delden, done by landscape architect Michael van Gessel. For this design Van Gessel studied the historical layers of the site. Estate Twickel is basically an English landscape garden, but also traces from earlier centuries can be detected, formal elements like the Baroque lanes (Submarine, 2011). The challenge for Van Gessel was to integrate these different layers. The starting point was the last design of 1887. From here he looked for possibilities how much from previous stages could be incorporated and which new layer could/should be added.

"The master plan now in force aims to accommodate the park for the 21st century, with due respect for what remains or is known of the past. Only a new plan guarantees history a future." (Van Gessel, 1999)

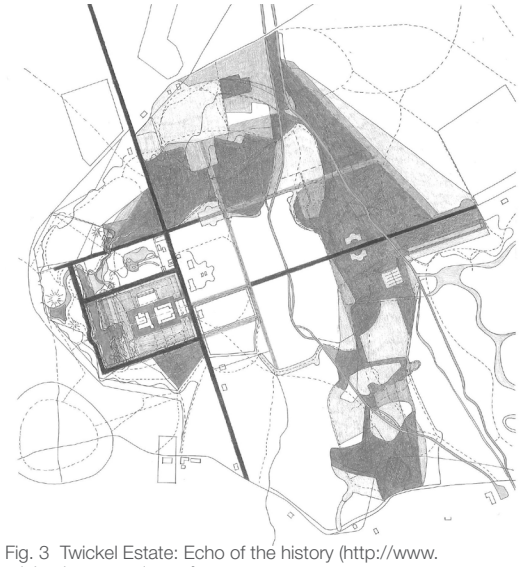

Fig. 3 Twickel Estate: Echo of the history (http://www.michaelvangessel.com/)

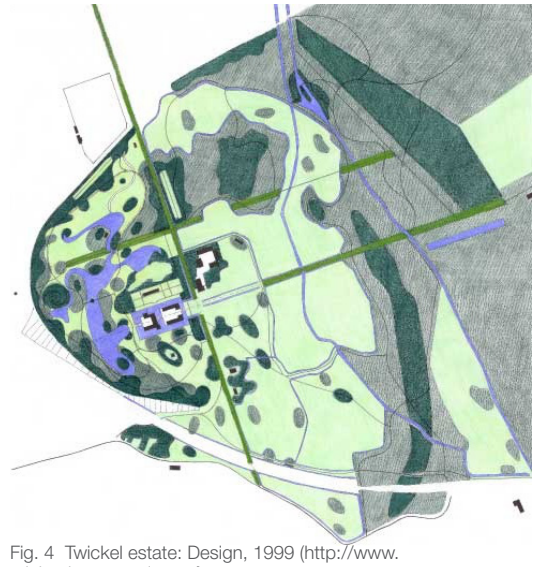

Fig. 4 Twickel estate: Design, 1999 (http://www.michaelvangessel.com/)

A deeper look into the working method of Van Gessel shows that he chooses an appropriate approach for heritage based on his intuition and a careful analysis of the case (Bertram and De Jong 2008, p. 15). The question is how much space new structures gain relative to the historical structures and how they can be connected. Van Gessel searches for the essence of the place. In addition, he thinks selective, interpretive and in abstraction. He dares to clean up and to add. Beside a biographical approach he also takes sometimes another position.

Taxonomist

A taxonomist uses a contemplative approach to the historical layering of a place/landscape. The valuation of the site is based on its uniqueness (Huls et al., 2011,p.39). The historical information distinguished as most unique in the history of the cultural heritage, determines the value and will be the accentuated essence within the design. With this approach the complex layering of the site can become less readable or can disappear.

An example of a taxonomic approach made by Van Gessel is the design for the inner garden of the Hermitage Museum in Amsterdam, originally a home for elderly. Van Gessel made an abstract and sober design. To achieve this, he cleaned up the existing space and made a new design in relation to the monumental existing architecture (Bertram and De Jong 2008, p. 17). For his design, he used some of the historical characteristics of the courtyard, such as the original structure of bleaching fields used to bleach the laundry, and translated this in a new structure of green lawns (Huls et al., 2011,p.41). He removed green, made radical changes in the green structure and planted new trees. He only maintained an existing row of chestnuts.

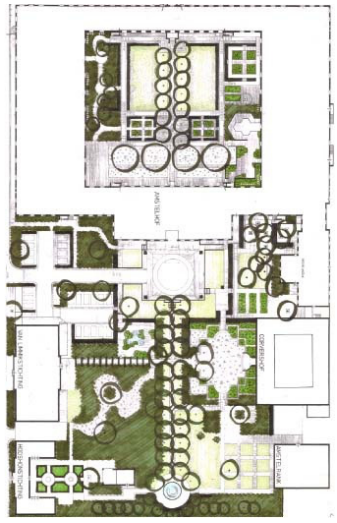

Fig. 5 Hermitage Amsterdam, situation before transformation, 2005 (http://www.michaelvangessel.com/)

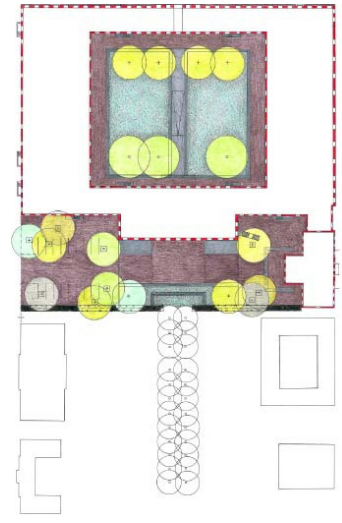

Fig. 6 Hermitage Amsterdam, design, 2005-2009 (http://www.michaelvangessel.com/)

Opportunist
The opportunist is the least conservative attitude. In the design the opportunist tries to weigh the present and the past. He chooses the appropriate historical information which can make a contribution to the new spatial structure. The historical information is not dominant and the main goal is a conscious addition of a new layer. The personal preferences or taste of the designer can arise clearly in the design.

Buro Lubbers Landschapsarchitectuur en stedenbouw made a opportunistic landscape design for the transformation of the former reformatory village Veenhuizen into a prison museum. The assignment was a new design for a courtyard. The main focus of the intervention seems to be the addition of new modern functional structure. This has been achieved by making use of new elements and useful historical features.

Fig. 7 Garden after transformation (source: Buro Lubbers, http://www.burolubbers.nl/projecten/812_veenhuizen.htm)

Fig. 8 Garden after transformation (source: Buro Lubbers, http://www.burolubbers.nl/projecten/812_veenhuizen.htm)

Conclusion / position
The increasing attention towards cultural landscapes and outdoor space around heritage is worth it. Where first most interest was on the built, now an awareness is growing on the spaces around it. The layers of the landscape carry valuable cultural information. All speakers mention the developing character of the landscape, in contrast to the more static built heritage. In spite of this difference they are strong related, and the approaches for both should be related to each other.

Dealing with the complexity and layering of landscape and the space around heritage is a complicated challenge. It asks for an interpretive and critical attitude of the designer. On the one hand a designer should take a position about tangible and intangible traces from the past. On the other hand the functionality of the new design is important for its vitality and durability in the future. A balance between these is desired.

The design must tell a story in which past, present and future are placed in balance with each other.
The different approaches as described (Antiquarian, Biographer, Taxonomist and Opportunist) are each placed somewhere in this balance. In my opinion the right attitude is not necessarily one of the approaches. The approach should be strongly related to the characteristics of a site and the built heritage. It is clear that the case studies each ask for a different design and attitude. Maybe methods of approach can also be combined. As we see Van Gessel also works with different approaches. The modern designer must be able to comply to an antiquarian, taxonomist, biographer opportunist approach depending on the task. Also other stakeholders, like the client or residents, or other documents like the valuation are influential.

Especially with heritage challenges it is important for an architect (student) to think interdisciplinary. In the past buildings and sites often had a significant relationship. Architects should be able to take position in this relationship. To achieve a good transformation design it is important to relate the approaches for the built heritage and the site.

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