

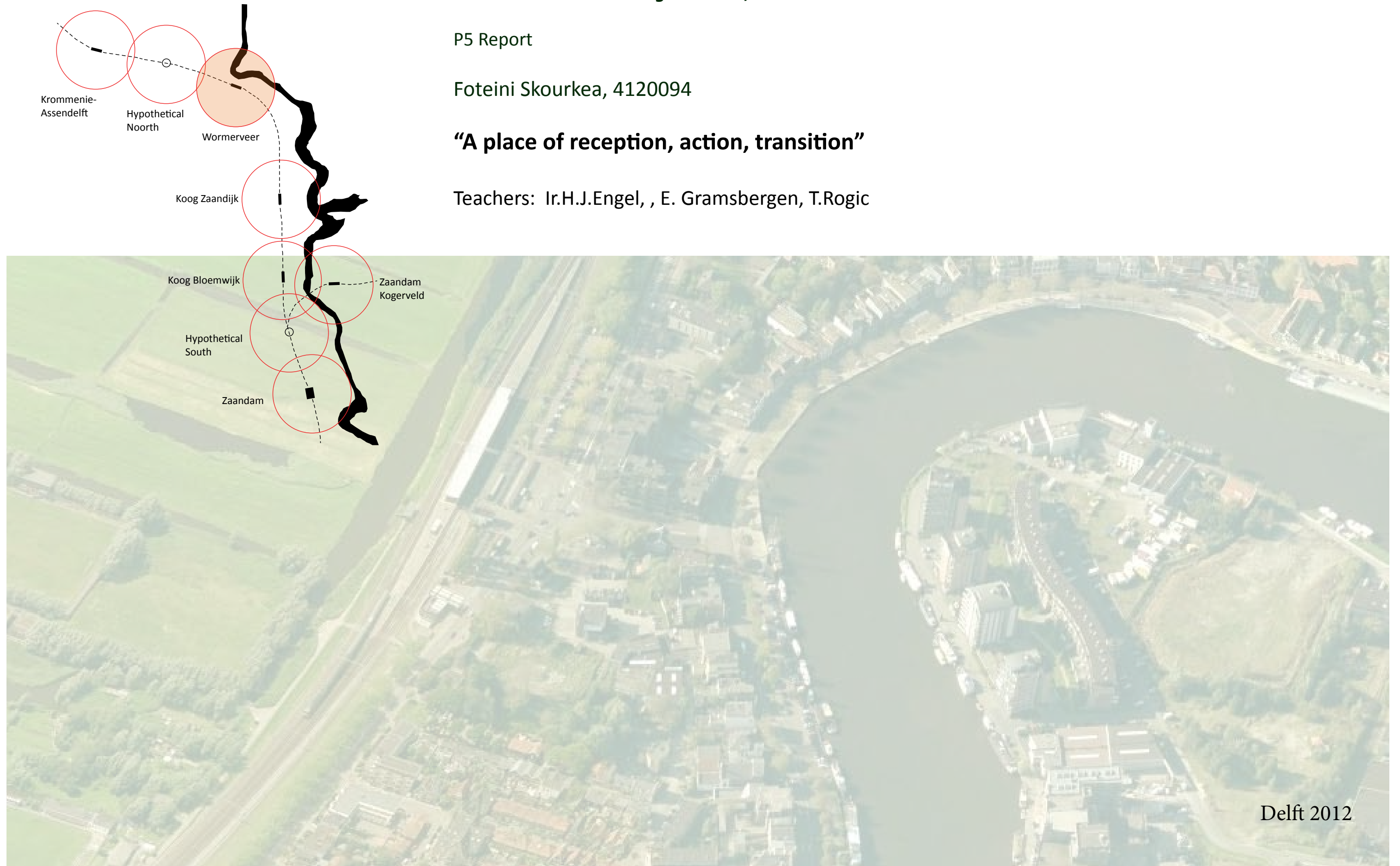
Msc 4, Hybrid Buildings, Architecture  
Studio Theme: ***“Urban regeneration, what next?”***

P5 Report

Foteini Skourkea, 4120094

**“A place of reception, action, transition”**

Teachers: Ir.H.J.Engel, , E. Gramsbergen, T.Rogic



Delft 2012

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<b>Theme:</b>	Urban intervention next to Wormerveer rail-station
<b>Title:</b>	<b>A place of reception, action, transition</b>

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## 1. Introduction

This document is prepared to give an insight in the design process of the final graduation project. It aims to define the goals of the proposed design assignment, to present the methodical line of approach, the theories and research data which are going to be used. By providing this information it will become understandable how the project is positioned within the broader context, what are the intentions of the proposal and it's value for the wider social and scientific field.

### Theme of the Graduation Studio

The graduation project is conducted within the graduation studio of Hybrid Buildings, dedicated to the theme of "Urban regeneration: What next?". This theme is related to a larger Dutch research project which concerns the implementation of densification around the public railway transport nodes of the province of North Holland. Furthermore, the Ministry of Infrastructures and Environment is exploring the implementation of a High Frequency Program (PHS) at the railway line Alkmaar-Amsterdam and the future adjustments needed for the rail and the stations.

Taking the above research as a starting point the graduation studio focuses on the perspectives that can be opened for the station locations in the Zaan area. The studio is concerned with the process of densification in the area close to the railways, the restructuring of the existing urban field, the transformation of the industrial sites and the maintenance of cultural heritage. Thus, it aims to investigate how station areas can be reactivated through a number of interventions along the Zaanlijn and how architecture can act as a catalyst for urban renewal. The general scope of the studio program is to produce various spatial combinations, to bring together different functions in order to create the potentials for alternative social and urban phenomena.

The study made from Randstad for the account of Ministry for nine cities in Netherlands, revealed that the decrease in home occupation, which became even more intense after 1970, had a big impact in the use of urban land. During the years the density of occupation and the number of inhabitants, per hectare was greatly reduced. The study focuses on a number of 22 stations locations in order to develop this hypothesis. To reach these conclusions, data from previous studies such as of the research firm Goudappel - Coffeng has been taken into consideration. The study also proceed to an extensive analysis

of the plots around the station areas and the potentials for densification.

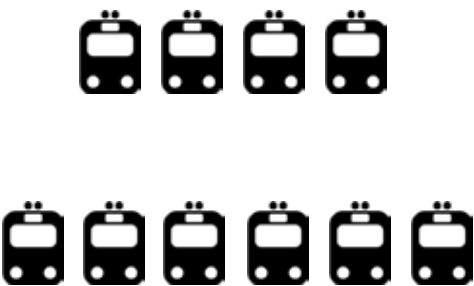
The station areas are located in twelve municipalities, in the Northern Quarter at the area north of the North Sea. According to data collected from the study of office Goudappel-Coffeng, of all residents of the area north of the North Sea only the 19% lives in the vicinity of the railway and a daily average maximum of 6% makes use of the rail network for commuter traffic. The data presented also shows that between 1970-2010 there was a drop in coverage around the stations areas.

The research reveals also that, between 1970 and 2000 enormous expansions occurred in the urban areas. The increase in houses didn't necessarily serve the growth of population but was also the result of lower housing occupancy. Although 6 new stations opened, the majority of the new area extensions was out of the reach of the stations area. According to the study this is strange, because the increases in houses were largely intended for commuters. Based on the expectation that the home occupation in twelve municipalities the coming years will decrease from an average of 2.29 in 2010 to 2.13 in 2030, housing should be extended to 20,787 homes to maintain the population of municipalities constant. Due to the low occupancy and the increase of population new needs are created for reaching a desired coverage. The current matters of decline in coverage and urban expansion, also open the perspectives for the creation of new stations. Thus the new needs are going to be satisfied and the rail can become more attractive and competitive to car transportation.

The graduation studio of Hybrid Buildings is focusing on the Zaanstreek area in the station locations over Zaanlijn, from Zaandam to Uitgeest. In the period 1970-2010, the population of the Zaanstad - Uitgeest region will increased from 123,230 to 157,801 and is expected to increase further to 173,344, in 2030. The coverage of the stations since 1970 till 2010 fell and there seems to be no improvement despite the projected housing needs of 10,780 dwellings. From these dwellings there is an available capacity of 2,642 in the station locations. Then the number of inhabitants around the stations in the Zaan will be well maintained, but because of the growth elsewhere in the municipalities there will be a coverage decrease. This could change, if a greater proportion than the existing need for dwelling would be realized at stations. If the entire housing needs in the 7 station locations would be accommodated, then this agglomeration can reach a coverage of 40%. In Zaanstad there is a need of

Programma Hoogfrequent Spoorvervoer

	Uitgeest - Amsterdam Trains per hour
service scheme 2010	4 Intercity's
	4 Sprinters
preferred decision 2020	6 Intercity's
	6 Sprinters



Ranstad Research in 22 station locations  
of North Holland

	1970	2000	2010
1. 12 Gem.	44%	29%	27%
2. Zaanstreek	39%	33%	31%



- 1. Decrease in percentage of inhabitants, (coverage), living within a radius of 800m around the rail station, in 12 municipalities of north Holland from 1970 to 2010.
- 2. Percentages specific for Zaanstreekt station areas.

	2010	2020	2030
1. Zaanstreek	2.29	2.21	2.19



- 1. Expected decrease in housing occupancy between 2010 till 2030.



about 10,092 homes, 6,945 for population growth and 3,147 for the decline in housing occupancy. With the current available locations around the stations, only a low capacity for housing exists, as already mentioned. If a portion, however, of the existing industrial area could become available for housing that would give some relief. In addition, a second option is to add two new stations on this line: one west of the current station Krommenie Assendelft and one between stations Koog Bloemwijk and Zaandam. There is not only the concern of compactness around station locations but also an important need for addressing different matters concerning the relationship of stations with their surroundings and the enrichment of station areas with other functions.

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## 2. Problem Statement

Within the context of the larger research project "Urban regeneration: What next?" the graduation assignment should be able to deal with the two important matters:

- The reactivation of the train station areas
- The problem of densification in a radius of 800m around rail station.

On a group basis, there was an extended urban analysis over Zaanstreek in order to understand the cultural and physical context of the various station areas and formulate different research questions. In addition three master plan studies were conducted about the whole area of Zaanstreek with the aim to identify the potentials of each station area.

Based on the results of this research the location of Wormerveer station has been chosen for the graduation proposal. This is a location with a great historical identity which at the same time poses a number of questions strongly related with the theme of the studio. The main spatial problems are:

- The area around the station is highly inattractive for pedestrians.
- Station as it is can't establish a good physical and functional connection with it's surroundings.
- High way is a barrier for the transition of pedestrians to the inner area of Wormerveer
- Left over spaces and morphologically contrasting new buildings contribute to the deterioration of the area next to the station.

The question regarding the problem statement is how the adjacent to the station area can satisfy the needs of densification and how it can acquire a better urban quality able to highlight the historical value of the place, to encourage action and introduce visitors to Wormerveer.

To deal with this question a preliminary urban proposal is formulated which includes:

- The planning of a number of dwellings opposite to the railway
- The designing of an open public area able to act as a reception place related to the station function.
- The integration of public functions around the public area, which can serve both local residents and visitors coming to Wormerveer.

According to the master plans conducted, in the radius of 800m around Wormerveer station there are great potentials of densification. The greatest densification is not possible to be achieved in the free area that exists next to the station as it is quite small. However there is a lot of potential dwelling space on the periphery of the circle. With an average of densification of 60 dwellings per hectar around 1040 can be constructed. Based on this hypothesis as well as on the fact that the new High Frequency Program for the stations will be applied, new needs for public facilities and public space are going to occur. This proposal can then consist an answer on how to deal with these new needs and increase the attractiveness of the station location. Wormerveer station area is now a place with many hidden qualities that through a number of urban and architectural decisions can be upgraded and transformed to an important destination.

## 3. Methods and techniques

Various methods were used during the process of graduation project in order to gather the necessary knowledge and deal with the design problem. The first step for selecting and approaching the project area, was to map the various characteristics of Zaanstreek area and delve deeper into the advantages and disadvantages of the district. Kevin Lynch method which consist a phenomenological approach was used as a guideline for the evaluation of the city form. By following Kevin Lynch method, the study on Zaanstreek area was focused on the distinct features of the context which could become more attractive to the people and thus could form an important layout. Important paths, edges, districts, nodes, and landmarks were identified. In

that way it became clear which of the places in Zaanstreek lack what Lynch calls “Imageability” and what the nature of intervention could be for upgrading the specific areas. By walking in the area several times and further analysing the way that local people might perceive their surroundings, there was an effort to understand how the specific location of the intervention can become meaningful for them.

The phenomenological approach to architecture is analysed by many theorists among which the Norwegian theorist and teacher of architecture Christian Norberg-Schulz. Schulz analyses in his writing “Genius Loci: Towards a Phenomenology of Architecture”, the notion of the “spirit of place”. According to Schulz the geometry and the atmosphere of a place can affect very strongly human perception and spatial expression. In his work he explains how a number of qualities of the surroundings can be integrated in architecture, how people can discover deeper meanings in the environment that live in and attribute them to their spatial creations. There are many architects that use phenomenology as a method to develop their ideas. In the Lectures series: Research Methods and Design practices, the material and perceptual characteristics of architecture were discussed and the positions of contemporary architects such as Alvaro Siza. His work Leca Swimming Pools in Portugal (1966), is an example of how architecture can be bound with the landscape and can acquire a poetic dimension.

As the location of intervention in Wormerveer, carries an important historical value expressed through the industrial architecture and at the same time has strong natural qualities, phenomenology is a mean to explore its identity and find incentives in order to deal with architectural form and expression. The area of intervention is a quite sensitive place in terms that is surrounded by old buildings with various morphological characteristics. Through a phenomenological approach it can become clear what the nature of intervention for the location should be, how the new form can adapt to the existing environment and create a relationship with the existing old constructions and monumental buildings. The different morphological characteristics of the surroundings can pose limitations in the architectural decisions but also can open important creative channels. The alternation of scales, the elements on the façades, the heights of the surrounding urban fabric can become important parameters for dealing with the project assignment. Furthermore another important methodology used through the process of

the design assignment was the study of morphology and building typology in order to understand the living models through the different historical phases and the various factors which defined the urban development. Aldo Rossi in his book “The Architecture of the city” makes an analytical study of the city in order to define a base for an architectural theory. His approach is a way of connecting the past with the future and facing history as a starting point for new design interventions. In his book he connects the idea of an event with the generation of the architectural form, which he considers part of a collective memory. This type of “typo-morphological” study is then essential for discovering the important moments in history that changed the use of urban land and produced new spatial questions and needs. This research can offer the motivation to reinterpret the existing patterns, to adapt them to the current needs of inhabitants and to discover the various inadequacies over the urban fabric.

Moreover for approaching the design process important source of inspiration was the philosophical ideas and theories of Louis Kahn. Kahn’s ideas developed under the influences of the tradition of Ecole des Beaux Arts. He supported that at the beginning of the compositional process the architect should start without any study of previous architectural programs but from a deeper analysis of the meaning and the purpose of a building. Thus according to him the compositional process should begin with the question ‘What the building wants to be?’. He considered that a good question is greater than the most brilliant answer. He also believed that the essence of space can reflect its being. According to his words:

“Design is form-making in order

Form emerges out of a system of construction

Growth is a construction – In order is creative force

In design is the means – where with what when with how much

The nature of space reflects what it wants to be

Is the auditorium a Stradivarius

or an ear

Is the auditorium a creative instrument

keyed to Bach or Bartók

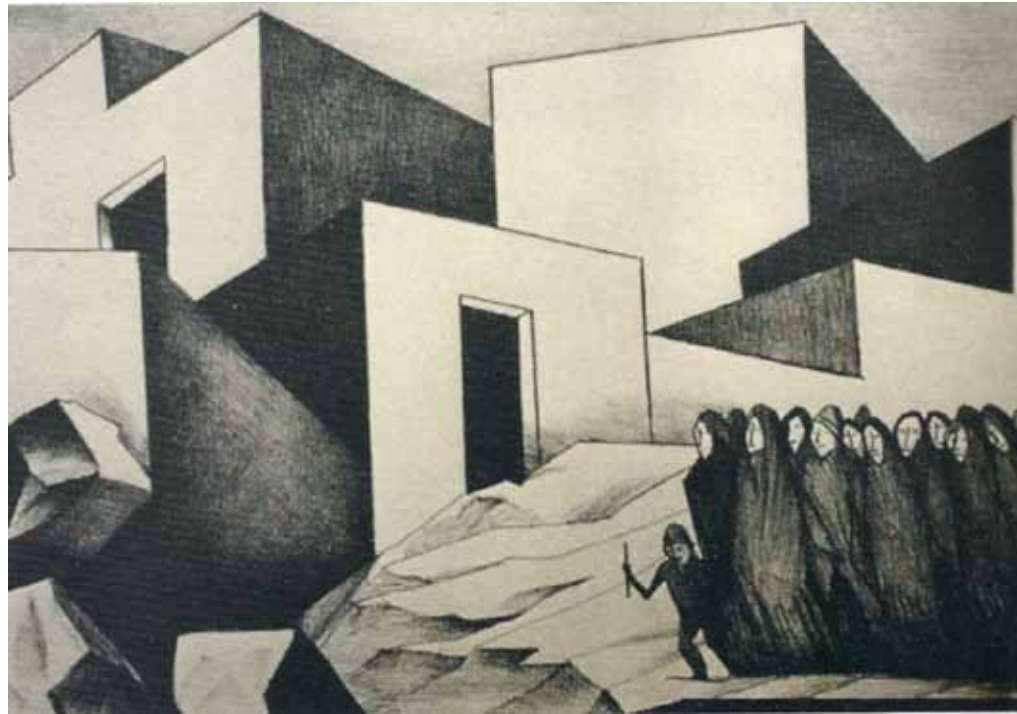
played by the conductor

or is it a conventional hall

In the nature of space is the spirit and the will to exist in a certain way



## LUIS BARRAGAN



“Pueblo mexicano”, José Clemente Orozco, 1930.



Prieto López House, entrance courtyard, Luis Barragán, Mexico City, 1948.



“Melancholy and Mystery of a Street ”, De Chirico, 1914.

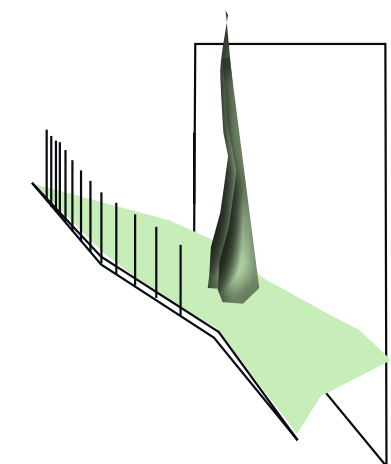
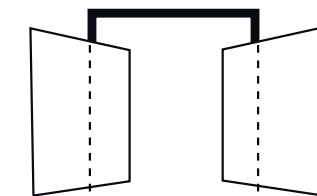
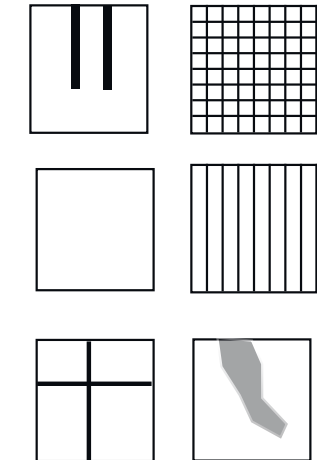
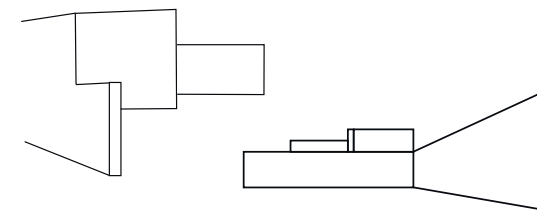
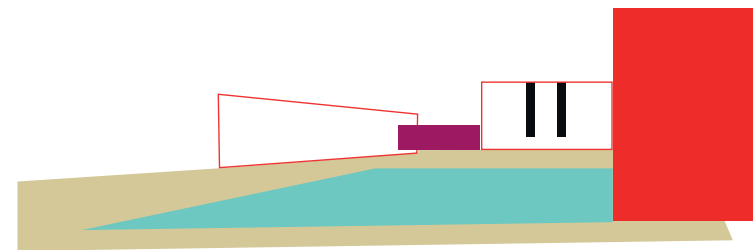
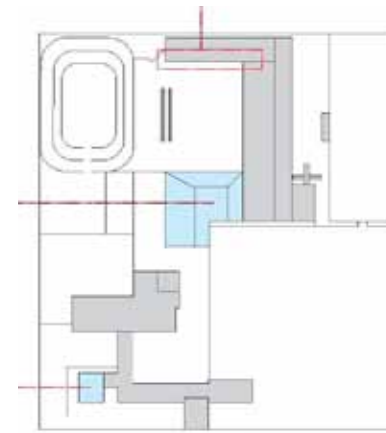
Red Wall, Luis Barragán, Las Arboledas, Mexico, 1958-61.

San Cristobal Stables, Sculptures of the two lovers carved out of old wooden troughs, Luis Barragán, Los Clubes, Mexico, 1967-68.

## LUIS BARRAGAN



San Cristobal Stables, Luis Barragán, Los Clubes, Mexico, 1967-68. [photograph] (Rispa, 1996)



El Pedregal, Mexico, 1945-1950. [photograph] (Rispa, 1996)



Design must follow closely that will  
 Therefore a stripe-painted horse is not a zebra  
 Before a rail road station is a building  
 it wants to be a street  
 it grows out of the needs of the street  
 out of the order of movement  
 A meeting of contours englazed.

### References

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- Lynch, K., 1960. The Image of the City, Cambridge MA: MIT Press.
- Norberg-Schulz C., 1980. Genius Loci, Towards a Phenomenology of Architecture Rizzoli, New York.

### Design Theory

Wormerveer as already mentioned is a place with a strong historical identity which is expressed through the architecture of the old built environment. At the same time is a place with a very special character due to the adjacent natural environment and the presence of Zaan. There are many important architects that take the tradition, the morphological characteristics and the local cultural elements of a place and try to reflect them through a contemporary architectural expression. Kenneth Frampton introduce the idea of “critical regionalism” and defines a number of architects that belong to that direction. Among them is A. Siza, C. Scarpa, M. Botta and Ando.

The “critical regionalism” consists a theory that sees in a critical way modernization. It is an idea that doesn't confront building as a free-standing object but as an entity that is bound with the location. It also gives importance to the topography of a place, the light and the special conditions. It takes into consideration the different materials, the sounds and everything that can influence senses. It is opposite with the emotional imitation of local characteristics but tries to reinterpret traditional elements as events in a whole and combine them with distant influences and references. One of the most important architects that express this idea is Luis Barragán. Barragán integrates local tradition in a unique way in his compositions. His work is also inspired by the notion of a universal culture and the idea of fusing elements of foreign origin. The places of solitude, the ambiguous planes, the massive

volumes and the textured surfaces compose a poetic world with hidden meanings, memories and allusions to distant places and eras.

### References

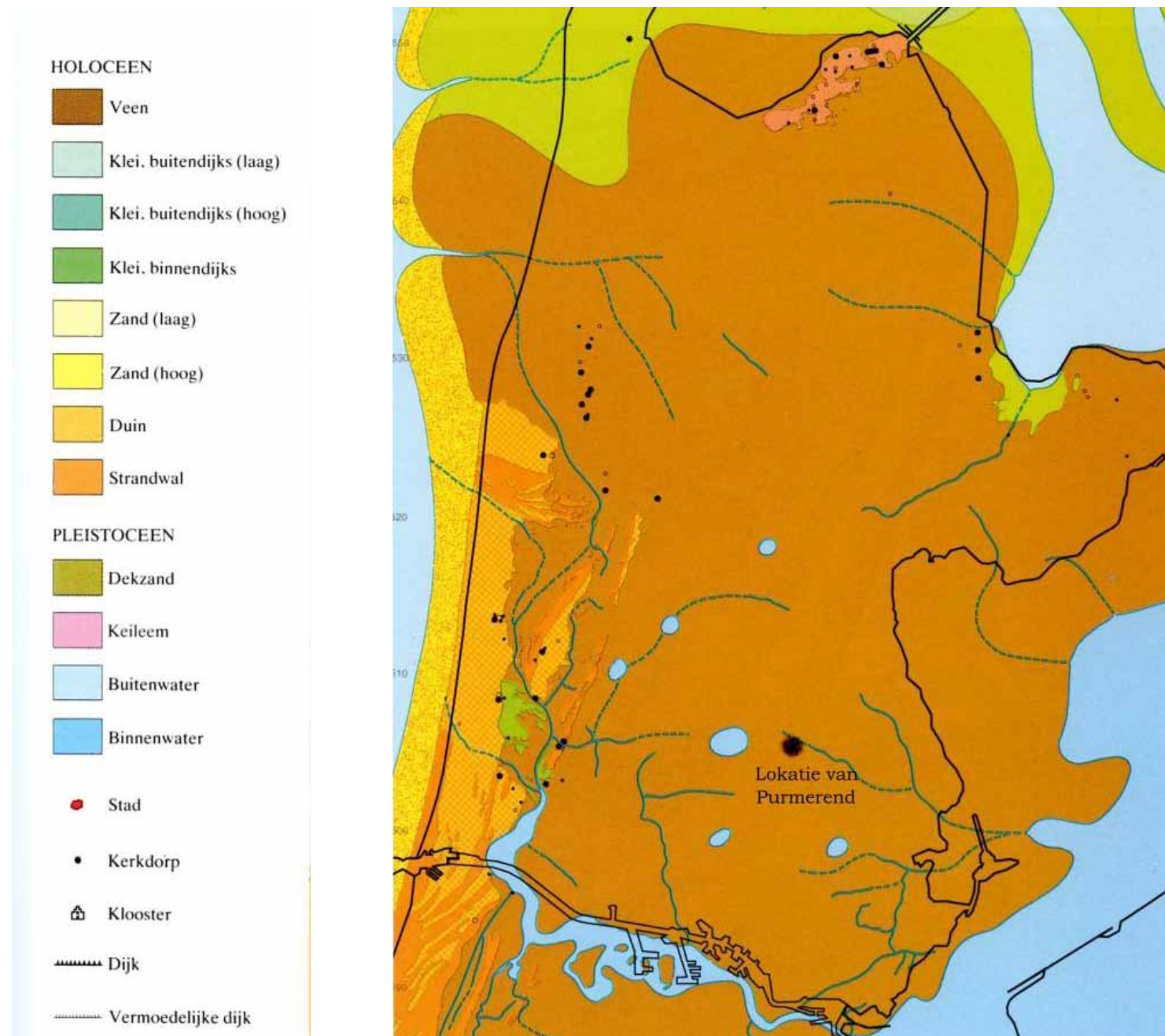
- Frampton K., 2007, Modern Architecture: A Critical History. 4th ed. London: Thames & Hudson, (World of Art).
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## 4. Analysis and Argumentation

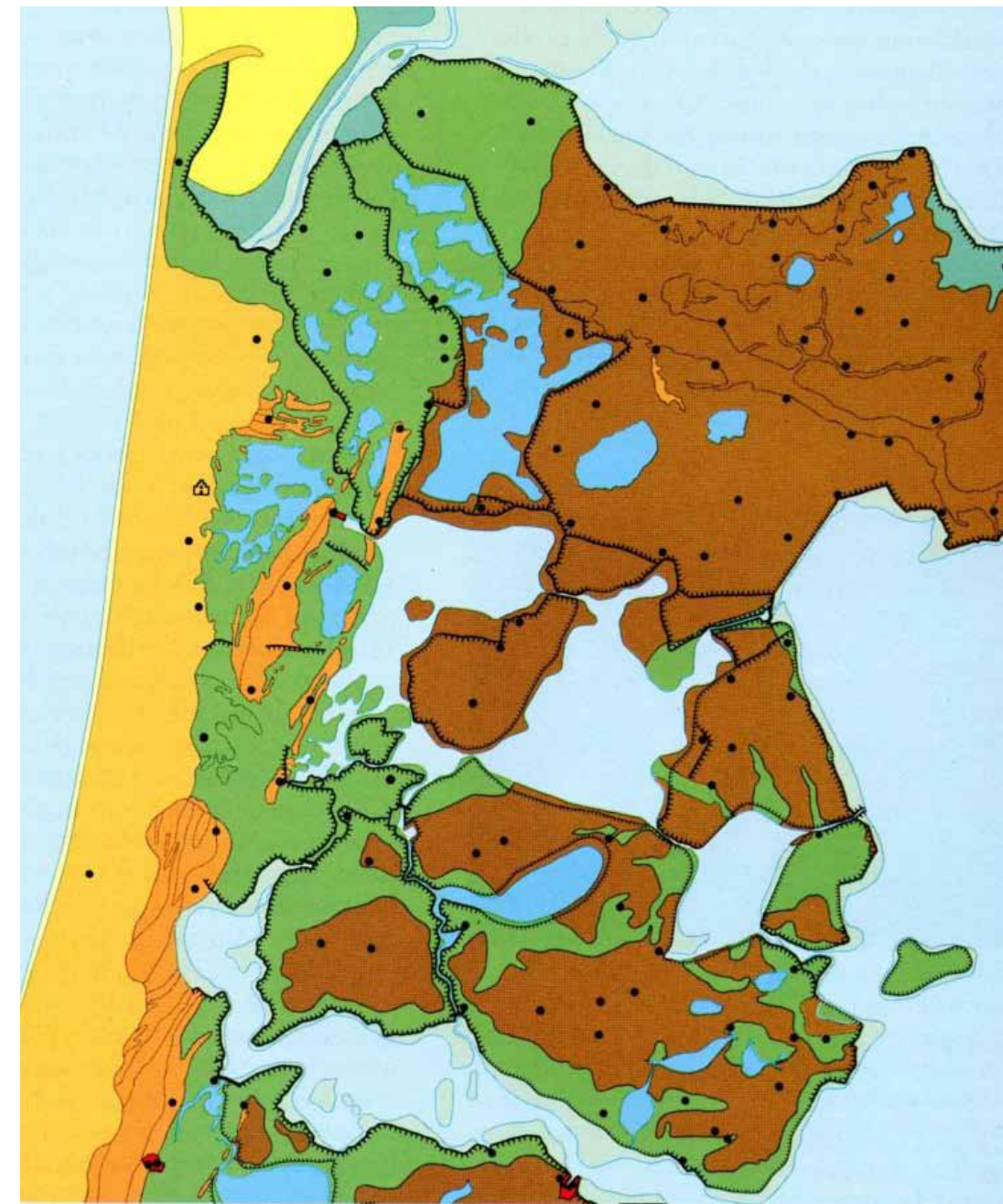
### Area of Study – Historical Background: Zaanstreek

Zaanstreek is one of the most important areas of Netherlands as it's development had a strong impact on the whole country. In that part, water played an influential role, not only in the formation of landscape, but also in the urban development. In the prehistoric times the area is covered with peat and is initially inaccessible and inhabited. During the Iron age settlers are coming from the dunes. The first inhabitants were farmers that occupied with bovine animals and grain. Later at the end of Roman period the floodings obliged inhabitants to remove away (<http://members.chello.nl>). The swamp covered meadows and farm lands. At the 10th and 11th century there are again settlers back in this land. To deal with the problems of the swamp land, ditches were created and a land with many parallel drainage canals resulted. Land was able to be used again for agriculture. The ground was sedimented due to oxidation by cultivation and dewatering and went below the sea level. The inhabitants constructed dikes to prevent flooding and the area became more habitable (Kleij, 2003). Till 1350 AD. rivers and large lakes have been created in the peat and gradually were connected with the sea. As a result the briny water characterize the whole area, ([www.kwaad.net/Purmerend-Geschiedenis.html](http://www.kwaad.net/Purmerend-Geschiedenis.html)).

During the medieval times villages developed along Zaan next to the dykes. The villages had an elongate form called “ribbon structure”. The 80 years battles between Spain and Holland (1568–1648), were a strong beat for the Zaan area. Many of the villages were completely destroyed. Despite the impact of the war, Zaan, in a very short period of 50 years succeed in becoming one of the first and most important industrial areas of Europe. Prosperity in Zaan begun in 1592 with the invention of sawmill. In 50 years in Zaan there were 52 mills and in 1731 there was a number of 256 mills. In Amsterdam however,

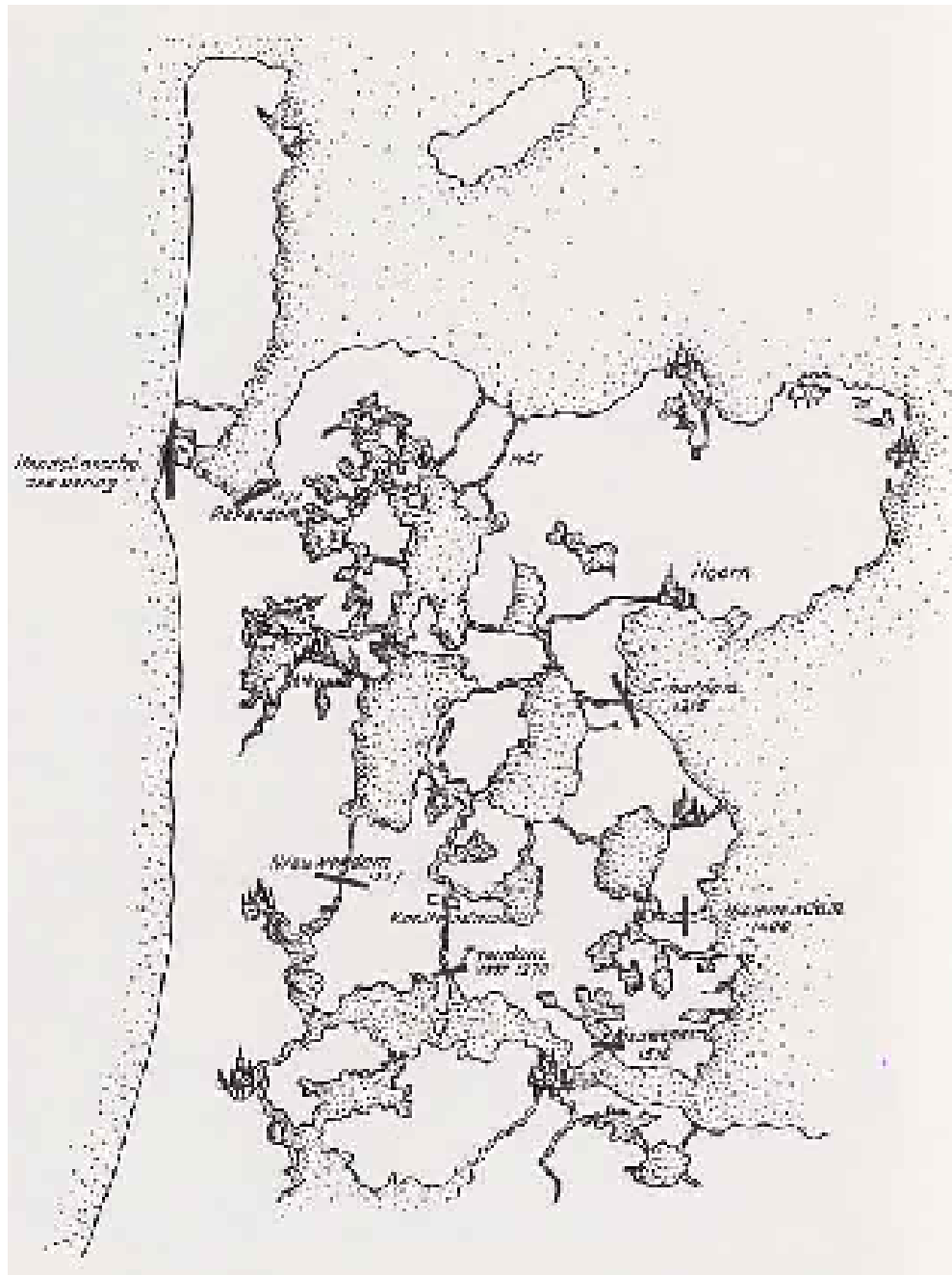


Reconstruction Map of the Northern Quarter around about 800 AD. 9. (<http://www.kwaad.net/Purmerend-Geschiedenis.html>)

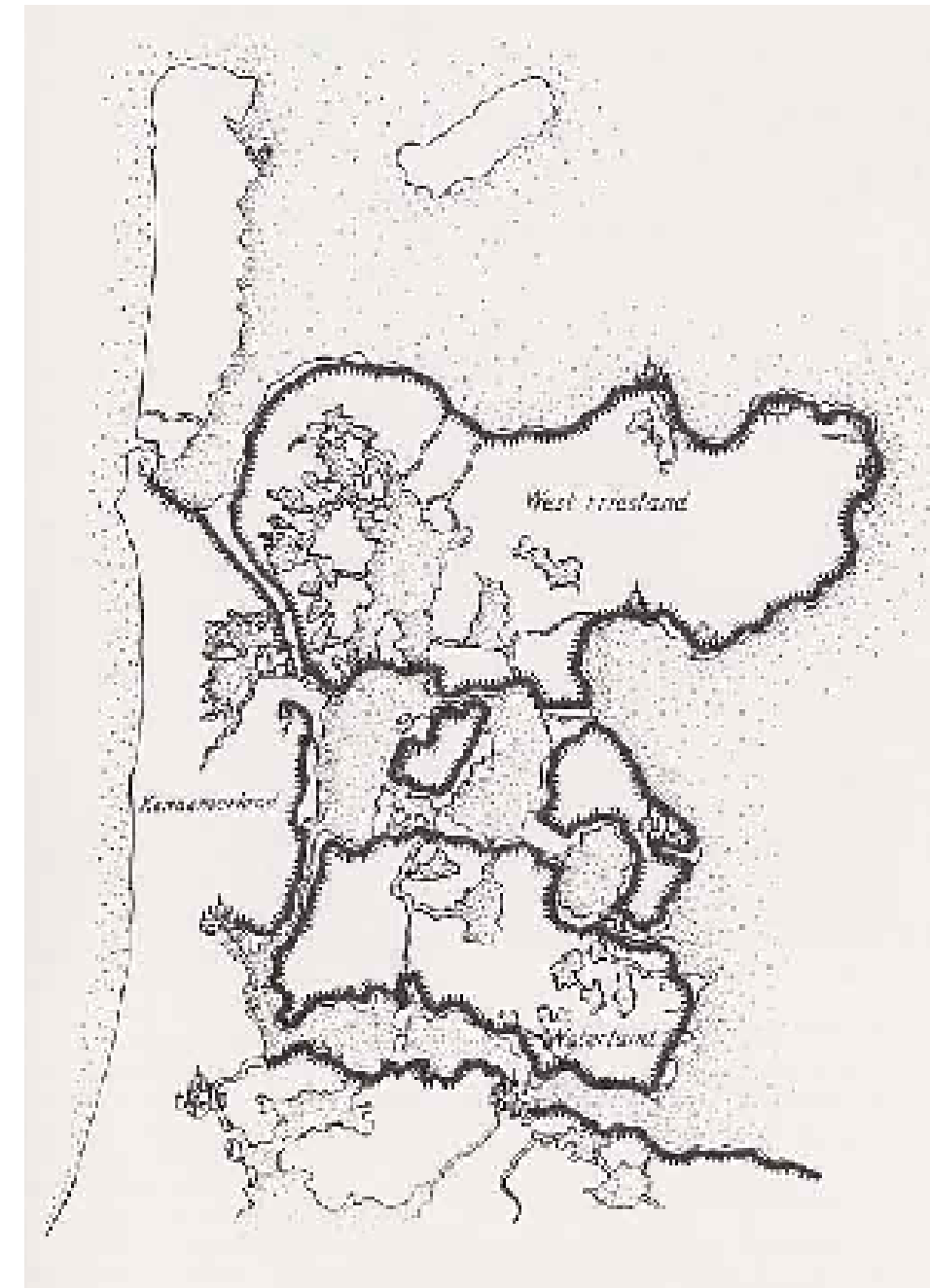


Reconstruction Map of the Northern Quarter around about 1350 AD. (<http://www.kwaad.net/Purmerend-Geschiedenis.html>)





Dams



Dikes

13th century, Genesis of landscape around the Zaan. (Source: FKG Architecten aan de Zaan)

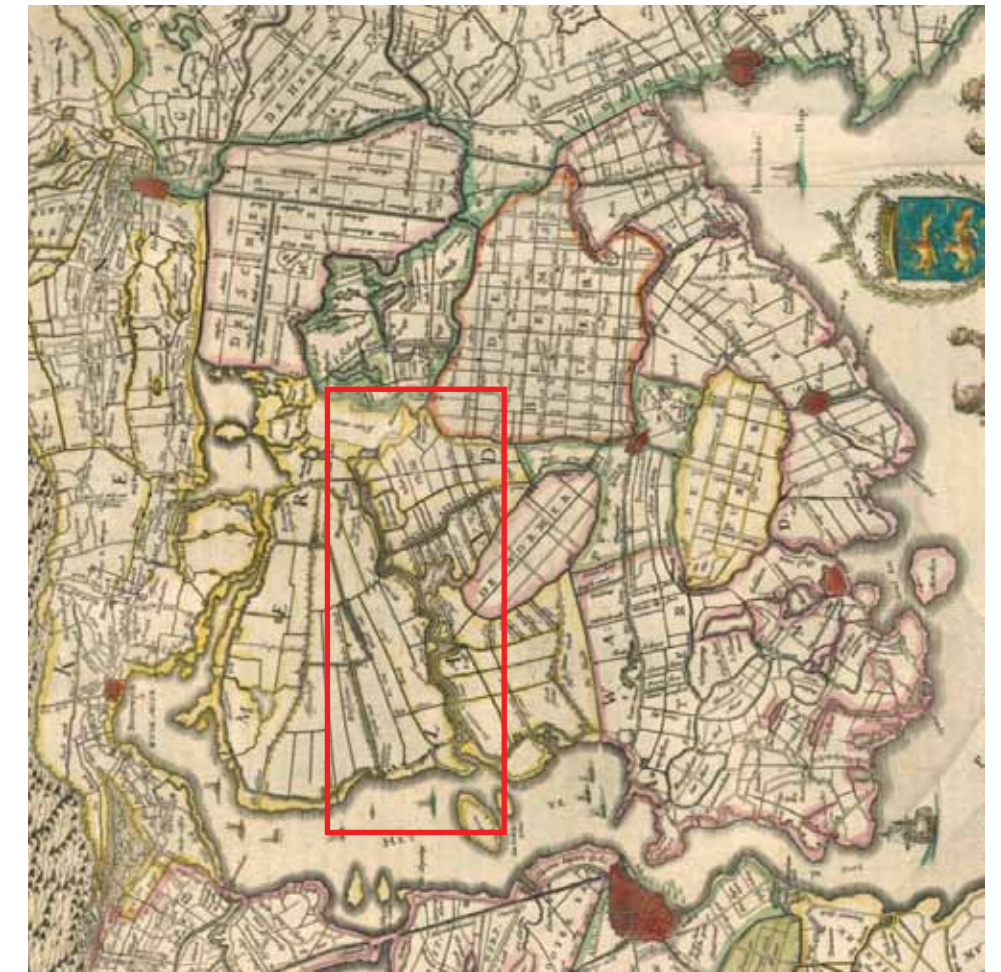




Map of Noord Holland by Jacob van Deventer from around 1540 (Westfries Archive, Horn). (<http://www.kwaard.net/Purmerend-Geschiedenis.html>)



Detail map of Noord Holland by Christian Sgroten, 1573. (<http://www.kwaard.net/Purmerend-Geschiedenis.html>)



Part of the map of North Holland by Blaeu in 1640. The Schermer (1635), the Beemster (1612), the Purmer (1622), Wormer (1626) and other lakes are drained. (<http://www.kwaard.net/Purmerend-Geschiedenis.html>)



in 1653 there was no mills and in 1731 only 30 appear to exist (<http://www.zaans-industrieel-erfgoed.nl>).

With the arrival of mills more people worked in industry than in agriculture. The proximity to Amsterdam was crucial. Zaan was an area able to take profit of the functions that were not immediately connected to Amsterdam. Labor was cheaper in Zaan and low prices was a motivation for traders to buy their products from there. The raw material from all over the world were imported through Amsterdam, then were processed in Zaan and then again transferred to Amsterdam (<http://www.zaans-industrieel-erfgoed.nl>).

After 1700 the shipbuilding industry reaches it's peak. The quickest way to cut wood and therefore the higher production of beams and planks gave a great boost to it's development. Along with the shipping the trade flourish. Other sectors as well such as whaling, paper, color industry and oil mills. Moreover, economical prosperity resulted in the increase of the housing. The old villages have been built with the "ribbon" structure. Gradually typical Zaanstreek area took it's form. It was consisted of wooden houses and paths. Initially these pathways connected the different buildings to each other. The network developed to a system called comb. Houses were built along pathways perpendicular to the river. Between 17th and 18th century the typical Zaanstreek architecture is developed as well. Stone houses were consider quite expensive for the area and wood becomes more preferable material. At that time there is no separation between the houses of traders and workers (Kleij, 2003).

During second half of 18th century there is a recession in Dutch economy that has great impact in Zaanstreek. At the beginning of 19th century, as well, due to the French domination, the industry received a hit. Unemployment increased seriously. In 1815 the French occupation came to an end. Netherlands however was still ahead concerning the competition with the other foreign countries and it was not difficult for the country to stand on it's feet again. In Zaan an important part of industry couldn't survive. The ship building industry was also disappeared (Kleij, 2003).

Between 1875 and 1940 is the second period of prosperity for the Dutch economy. The industry is concentrated again along Zaan banks. At the beginning of 19th century the power of a wind mill was better than that of a steam engine. This is the reason that took a long time for steam engines to be established. When the steam was introduced the mills were replaced by factories (<http://www.zaans-industrieel-erfgoed.nl>).

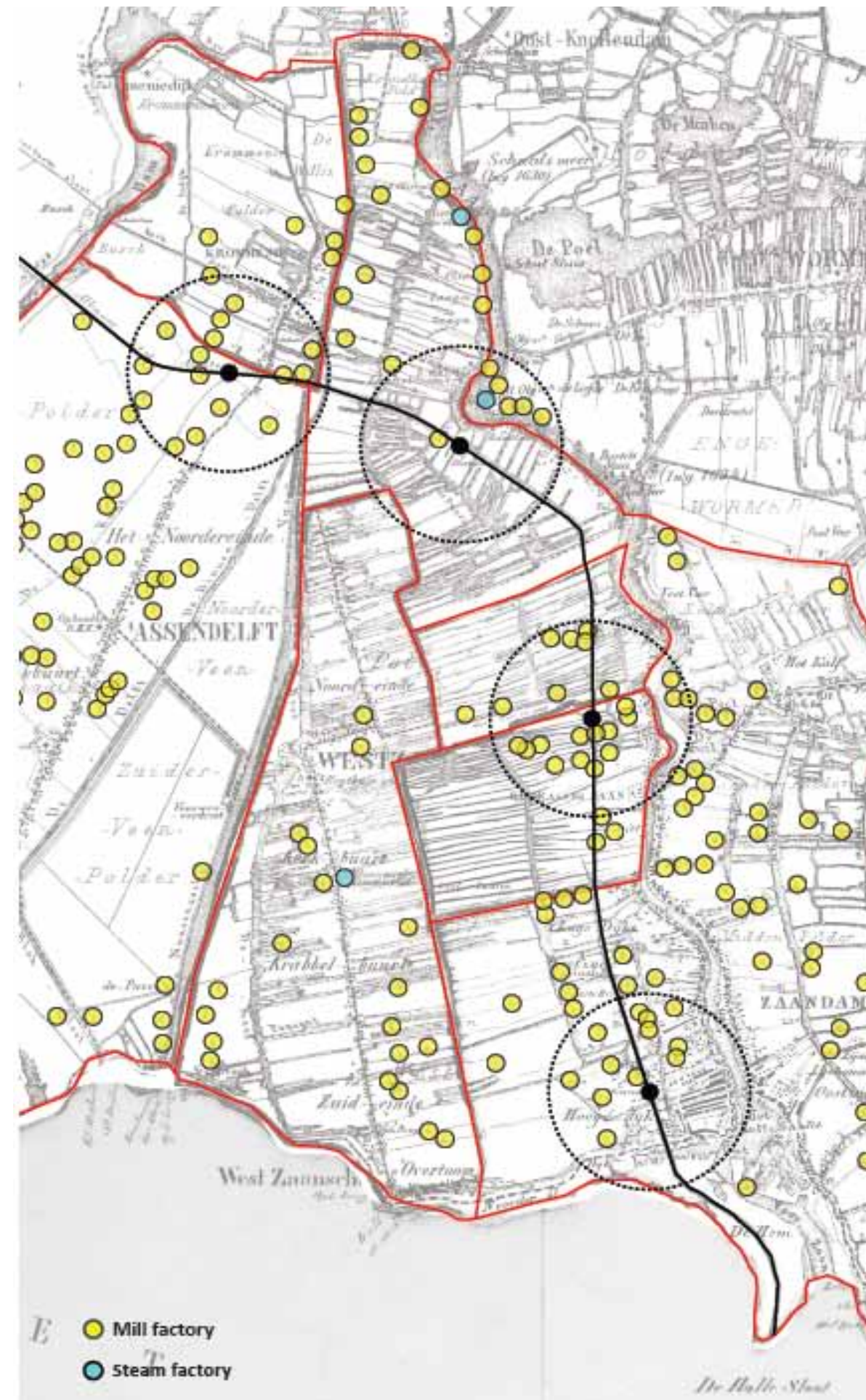
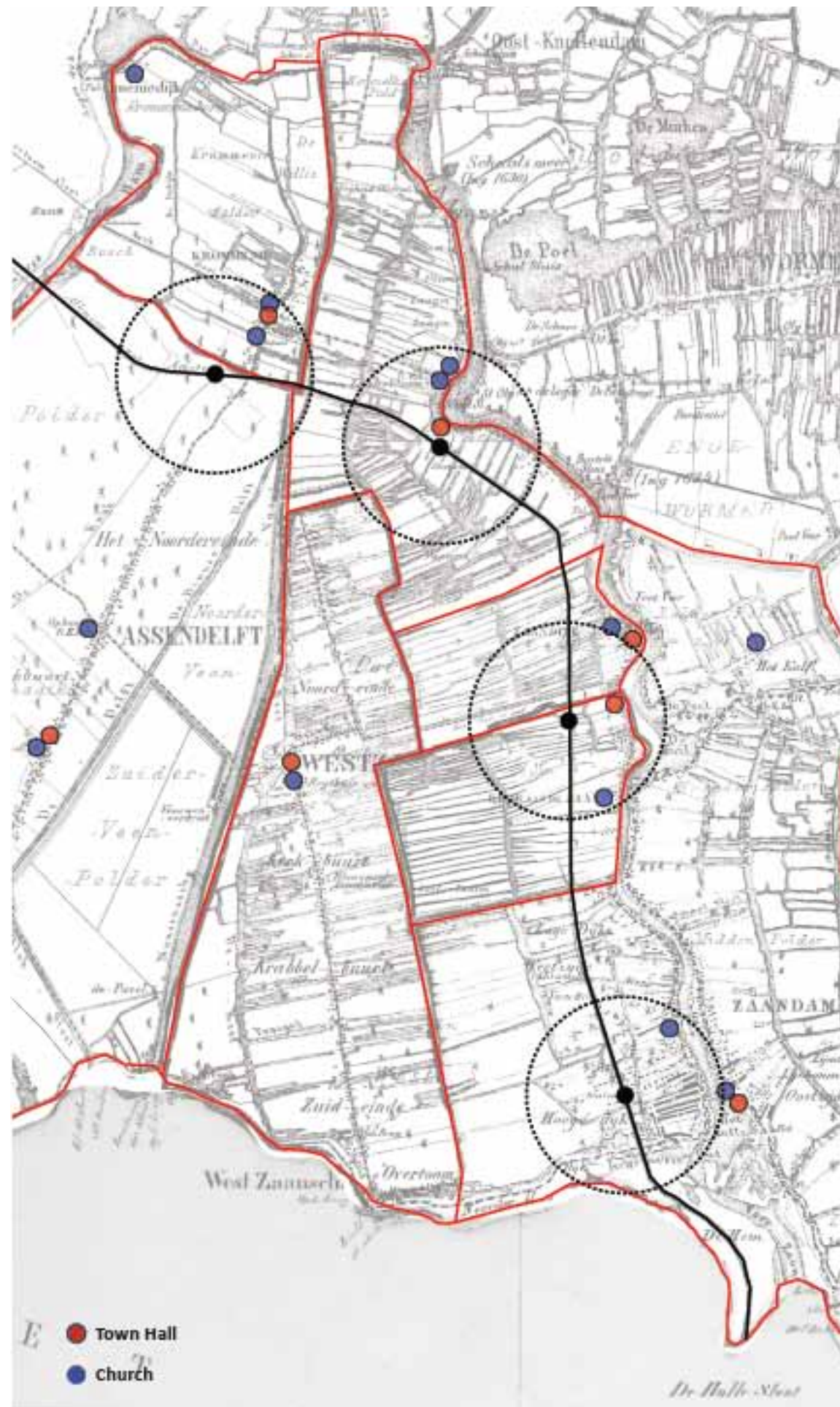
zaans-industrieel-erfgoed.nl). New factory installations were accommodated along the river of Zaan. In some cases the factory buildings were extended in many kilometres and Zaan was enclosed. In the 20th century however the industrial activity was diminished and a number of villas were constructed along river banks. Although many factories remained at the area, there was a breakup of their offices which were moved to Amsterdam (Kleij, 2003).

Around 1800, waterways at west part of Netherlands, including Zaan, were the most comprehensive and cheapest transport infrastructure in Europe. The factories were completely dependent on their supply and discharge of water transport. However in 20th century, road network and railway start becoming dominant. The first railway was constructed in England in Liverpool in 1829. At that moment Holland didn't have the infrastructures and the technical knowledge to introduce railway transportation. However, finally, it was the fifth country who succeeded to integrate it. The first railway was opened in 1839 between Amsterdam and Haarlem. Other lines followed but big parts of the country remained without railway network (<http://www.zaans-industrieel-erfgoed.nl>).

The construction of railways lines was not economically advantageous. However with profits from India the state managed to build the lines and ceded their exploitation to private companies. In 1869 the line of Zandaam Uitgeest is ready. The stations of Krommenie / Assendelft, Wormerveer and Koog / Zaandijk were the state railway type of Hoogezand, a station of third class. Zaandam had a larger station. That period infrastructures are improved gradually. A number of bridges is constructed along Zaan to facilitate circulation. In 1876 the opening of the canal of north sea takes place as well. One part of the Y of Zaan was dried as to make the railway connection with Amsterdam easier. At 1867 Alkmaar - Uitgeest line is ready and at 1878 the part of Amsterdam-Zaandam. In 1908 the introduction of electricity takes place and thus the capacity for transporting passengers was greatly increased. In 1931 in the line Amsterdam-Alkmaar electrification is introduced (<http://www.zaans-industrieel-erfgoed.nl>).

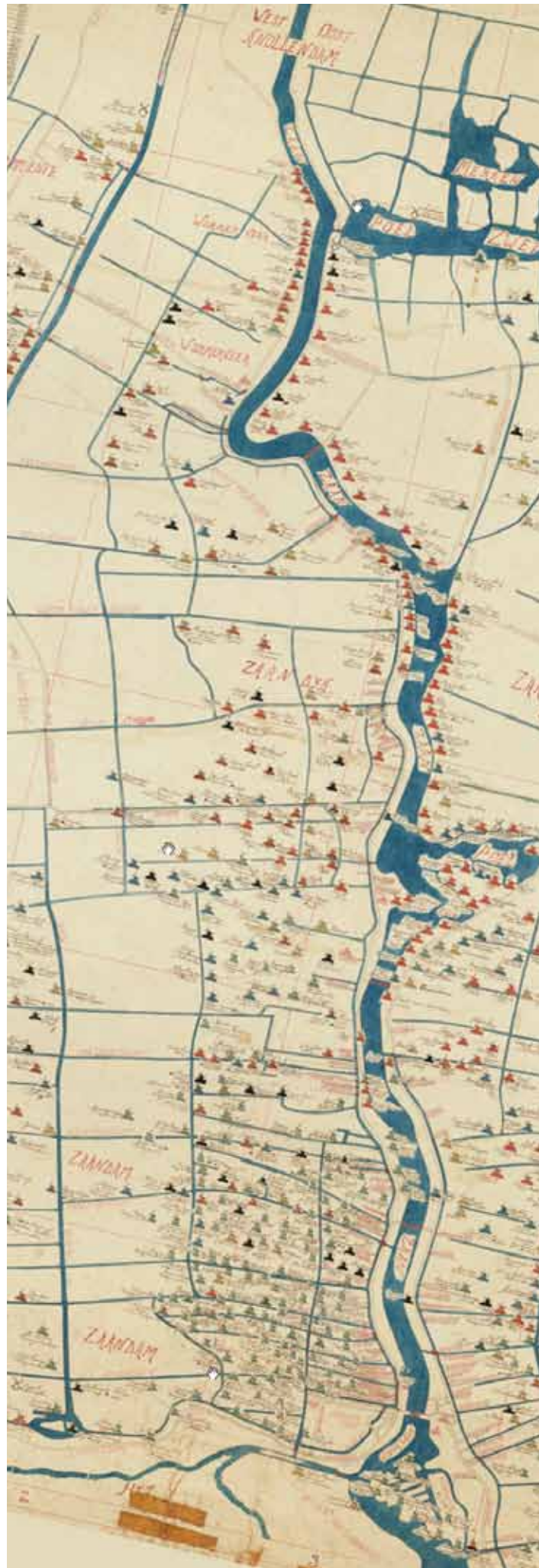
The train played an increasing role in the development of commuters. It facilitated employees who where not in the immediate vicinity of the factory or any other working place in Zaanstreek. For example the girls working in Verkade were coming from Amsterdam. It is notable that Zaanse businesses didn't have their own rail connection. Elsewhere happened frequently.





Map of Zaanstreek in 1868 Source: <http://zaanstad.pictura-dp.nl>



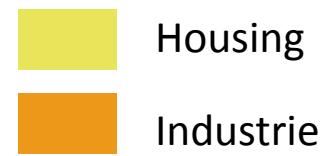


Left: Mill Map of Zaanstreek. displaying the various types of windmills. Source: <http://zaanstad.pictura-dp.nl>

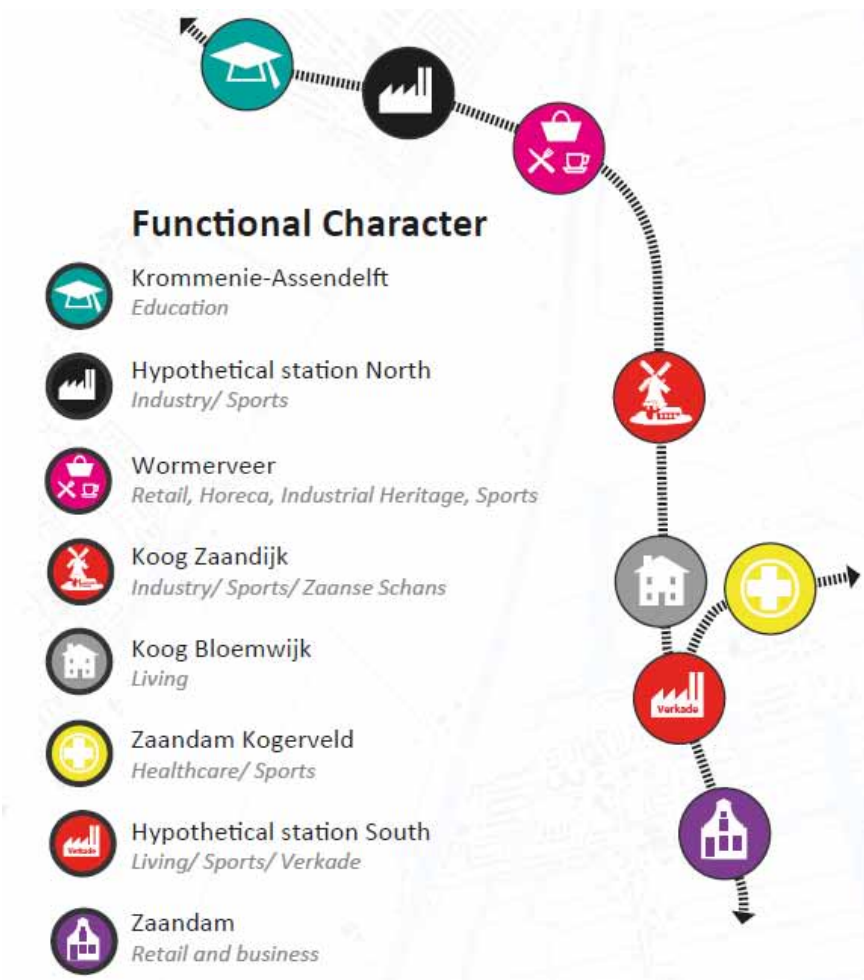
Right: A detail of the “Card Industry” when the route is indicated. This “Map of factories and businesses along the Zaan ‘from 1946 was compiled by architectural engineer JP Smits B.I. commissioned by the Dutch Society for Industry and Trade. The name and type of industry is shown in color and legend. Source: <http://zaanstad.pictura-dp.nl>



On the right, map showing the industrie and dwelling areas in 2012.



Below, functional diagram of Zaanstreek in 2012.





Possible explanations are that the companies were too small for its own railway connection, too far from the railway, or too little use was made of rail transport. The Zaanse stations had their own goods yard with goods sheds and loading bays. From 1936 N.S. elaborated the transportation of goods with the 'group system': today brought, tonight transported, tomorrow ordered. In the freight yards of the station of Zaandam and Koog-Zaandijk there was a direct transfer possible within sailing vessels, mostly barges, towards Westzijderveld. The only discharge station point in the river of Zaan was in Wormerveer (<http://www.zaans-industrieel-erfgoed.nl>).

Although initially streets were secondary, during 19th century they started to be used as an important transportation way. From 1849, during the French period, Zaanstreek has already acquired a better connection with the network of state highways. The coming of cars, bicycles and trucks increases the circulation on land. Between 1930 and 1940 the opening of the provincial road Zaandam-Uitgeest- Alkmaar, on the axis North-South takes place. After the second World War Zaanstreek, is more and more connected with the provincial road network. However, the limited access of main road to the banks of Zaan decreased their attractiveness. Many factories transferred to the coasts of north sea. In the end of 19th century and the beginning of 20th an important part of factory buildings were demolished for the development of residential complexes. New industries were also created according to new needs (Kleij, 2003).

The extension of industry resulted in an increase of population along the Zaan. From 29000 at 1840 it became 47000 in 1900 and 83000 in 1940. At the last quarter of 19th century there is the division of social groups that used to live together. The mansions of the wealthy were near the factories. Many characteristic wood constructions were demolished between 1875 and 1910. As an effect of industrialization and the new constructional needs the tradition of wooden house came to an end. In the first half of 20th century the houses along Zaan are made of stone. At the beginning of the 20th century programs of social accommodation are put in practice. A Straight and canonical network of road is programmed. Between 1910-1940 the ribbon structure almost disappears. Because of the increase of population during the first half of the 20th century there was also an increase in the meat, milk and other products. The agriculture acquired a business meaning (Kleij, 2003).

Today, the Zaan is still is a leader in the Netherlands in relation to food and

beverage industry. There are companies such as Verkade, Duyvis, Honig and Albert Heijn that have become internationally known and their existence dates back to the first years of the industrial grow in Zaan.

The reasons why Zaan became a very important area of Netherlands and experienced an industrial thrive is a combination of different factors. Zaan was an area that could take advantage of the wind power so it was a place favourable for wind mills. The river of Zaan facilitated the transportation of products. The areas of Wormer and Jisperveld were in open connection with Zuiderzee and consequently with the Baltic sea in Denmark. The distance between Zaan and Amsterdam was not so big but was enough for Zaan to develop to an independent area (<http://members.chello.nl>).

During the years important changes took place in Zaanstreek, the transition from mills to factories and the replacement of water transportation by the car and rail. With the removal of important part of industry new residential areas were developed. Although Zaanstreek experienced important transformations, the layers of history still exist to remind the past. Zaanstreek is an area that continues to subject to a process of transformation as new demands occur, especially for housing.

The questions that the area now poses are various:

- How urban quality can be combined with the current needs for transformation.
- How the historical buildings, can regenerate the area?
- How and where the connection with the water quality of Zaan should be reestablished?
- In what way there can be a relation with the existing green qualities?
- In what way the border of rail should be elaborated to achieve a better relation between east-west part?
- How the value of Zaanlijn as an urban artefact can be highlighted?
- How the history of the place can be reinterpreted through new architectural interventions?

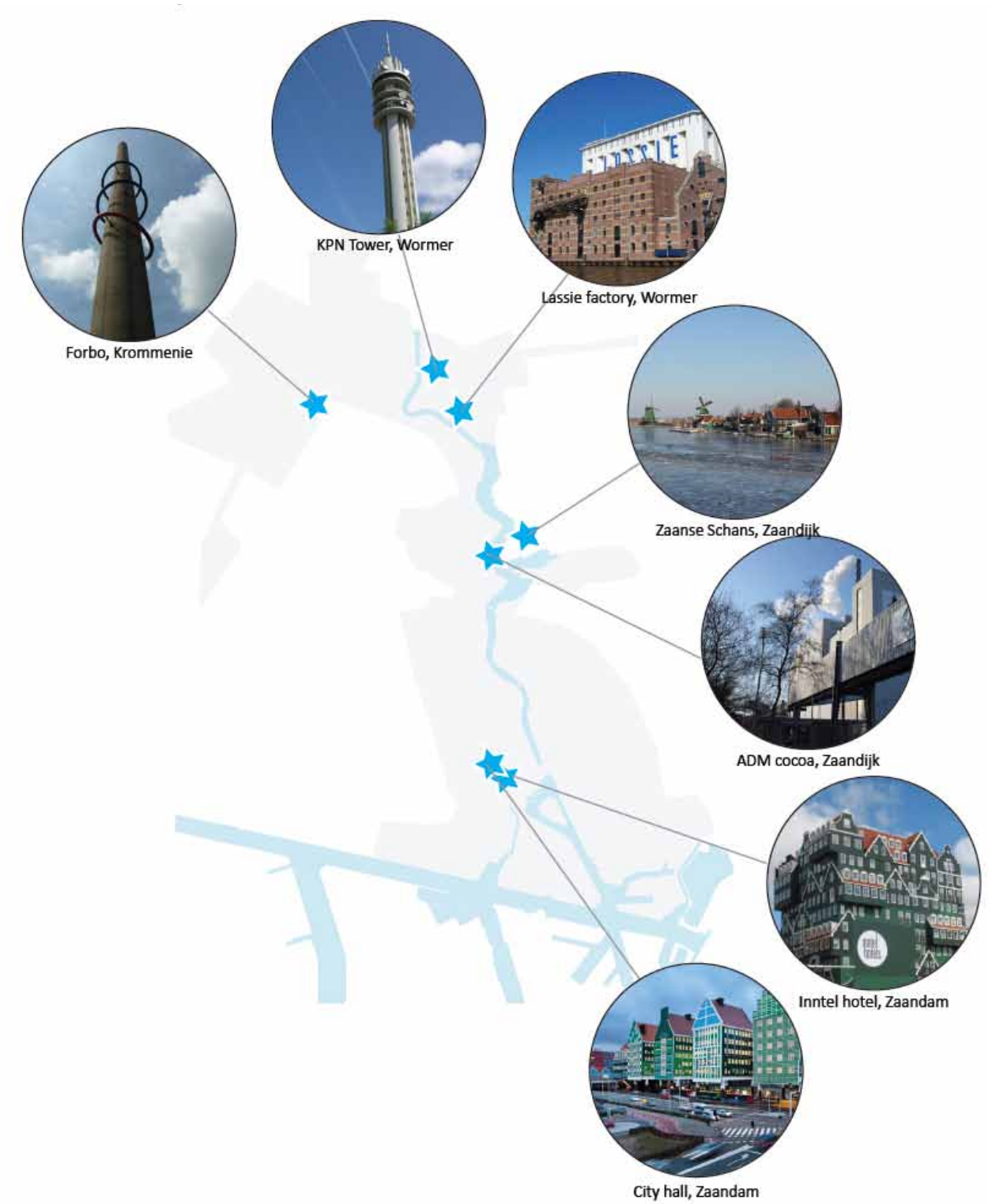
### References

- Kleij, P., 2003. Zaanstreek architectuur en stedenbouw 1850-1940. Waanders.
- <http://www.zaans-industrieel-erfgoed.nl>
- [www.kwaad.net/Purmerend-Geschiedenis.html](http://www.kwaad.net/Purmerend-Geschiedenis.html)
- <http://members.chello.nl>

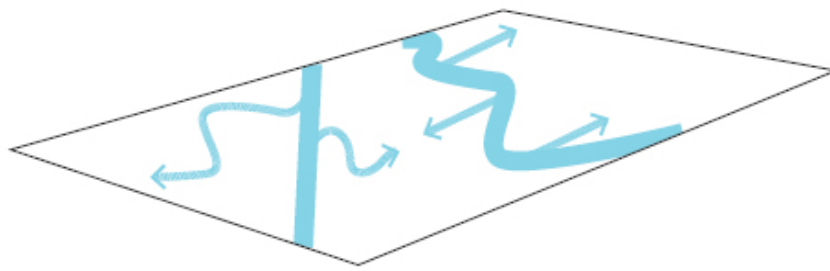
## Historical lints In Zaanstrek



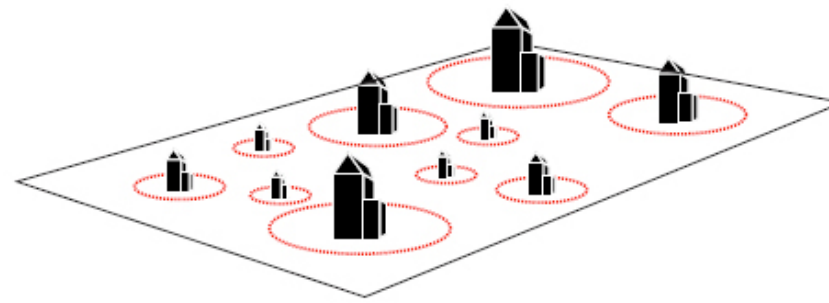
## Visual orientation points



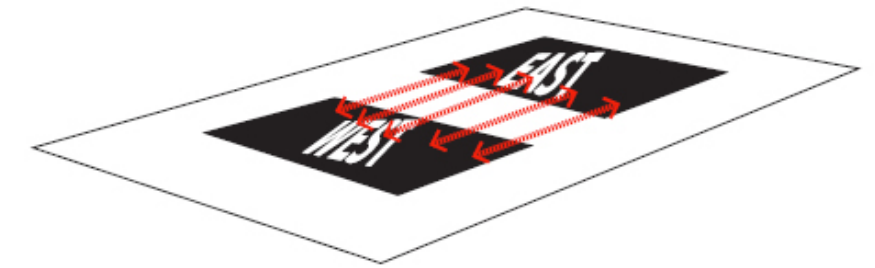
## Research questions about Zaanstreek



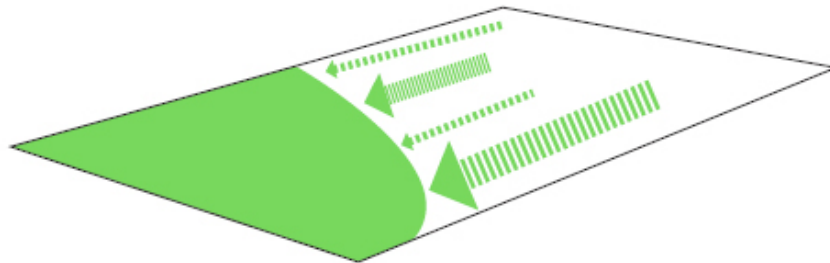
1 Connect with the existing water qualities



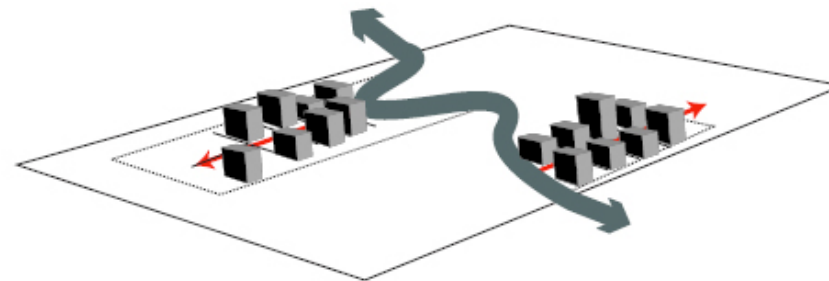
3 Historical buildings as qualitative urban artifacts that can regenerate an area



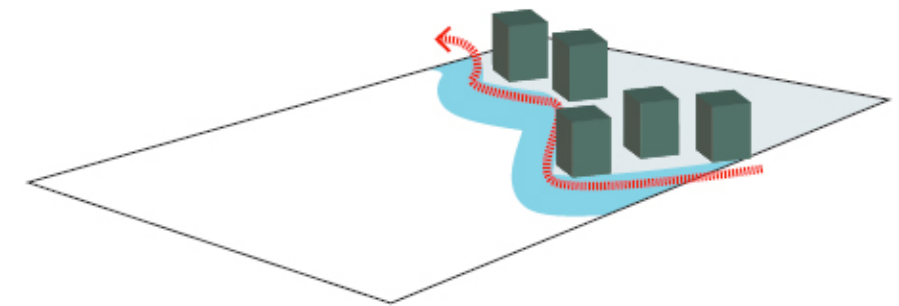
5 Improve the main east-west connection



2 Connect with the existing green qualities



4 Historical ribbons as structural elements for connection



6 Continuing with the buildingscale along the river



## Project location – Historical Background

Wormerveer is located in the Zaan area between Krommenie and Zaandijk. It lies about 13 km north-west of Amsterdam and has a population of around 10400. From 1974 the village belongs in the municipality of Zaandam.

As a community, Wormerveer, arose in the 14th century around a strategic place at the banks of Zaan. This area could serve the pedestrian ferries and could form an important link for the medieval travellers towards the ancient village of Wormer in the north of Zaan. The hamlet was known as 't Saen and was much later called Wormerveer, which means towards the ferry to Wormer.

In the early 16th century Saen grown into a small commercial and fishing place. In 1503 the residents were given permission to build a private Roman Catholic chapel, this year is therefore used as the official founding date of the village. In 1536 Wormerveer got its first flour mill. Also during this period starch (zetmeel) production arose in the village. In 1574, the entire village, as well as large parts of neighbouring places in the region, destroyed by the Spaniards. The inhabitants who had fled and had kept in hiding in the vast reed beds, returned after the catastrophe and began to rebuild the place. The starch and flour production was started again.

Due to the huge amount of rape in the new polders of Wormerveer, oil mills rose one after the other. The herd grew enormously, because of the extensive agricultural and grazing land. Merchants also developed a great cheese trade. Halfway through the 17th century, the paper industry grew as well. As a result of all these activities, the population increased dramatically and the whole Zaan bank was built around 1650 when the first side road was created. In the 18th and 19th centuries, some large companies were established such as Wessanen & Laan (oil, flour, rice and cocoa), Crok & Avenue (oil) Bloemendaal & Laan (rice and oil), Jan Dekker (soap) and Van Gelder (paper). In the same period also grew some cocoa and chocolate factories to large companies (Erve de Jong, Pette and Boon).

In the 20th century, highly reputed companies including Meijer and Mercury arose. Wormerveer mills were almost all destroyed. Other remnants of the extensive 17th and 18th century trade consist of several historic cheese and grain warehouses. From the industrial revolution remainings are the beautifully restored tower of “Cocoa Pette”, the soap factory ‘The Eagle’ and the rest ensemble of industrial buildings along Zaan, among which is the “Lassie”

factory. These factories at northern of Zaan used to form a wall. However the factory front was partly destroyed after the Second World War. The remained buildings represent the rich industrial history and form the so-called Zaanskyline of Wormerveer.

## References

-<http://www.zaans-industrieel-erfgoed.nl>

-<http://www.hvwormerveer.nl>

## Development of the area

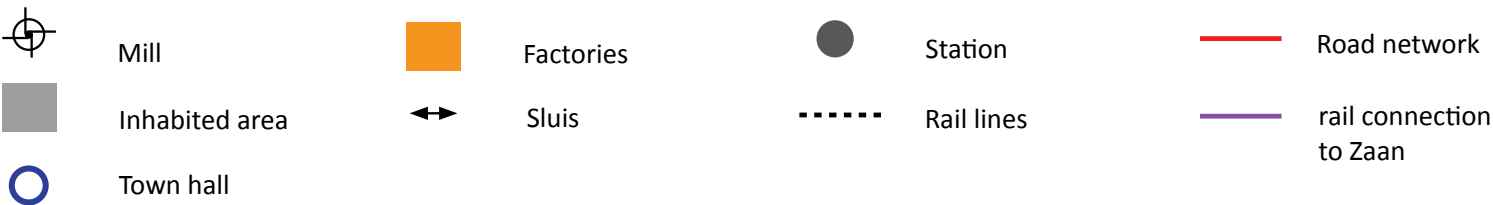
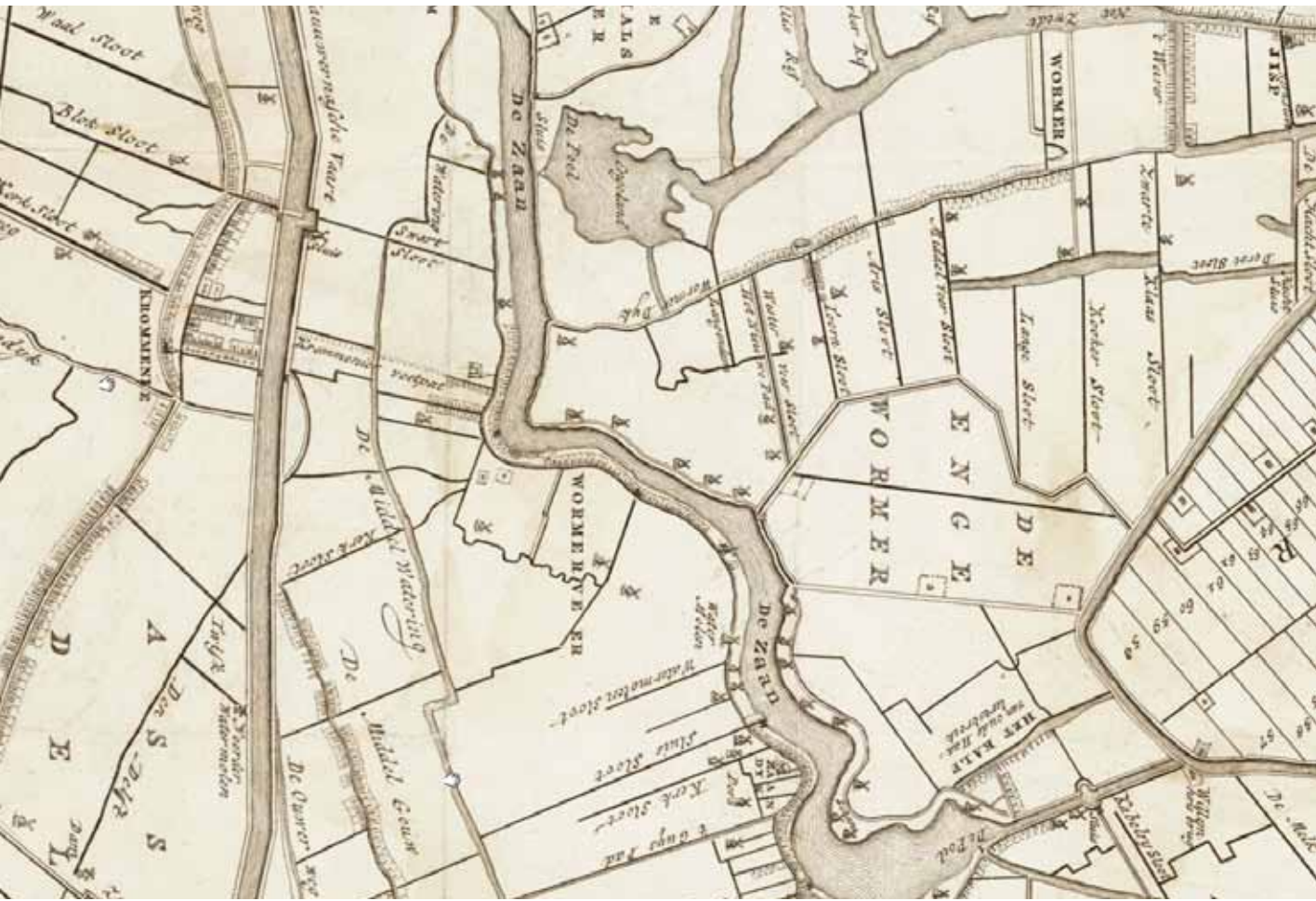
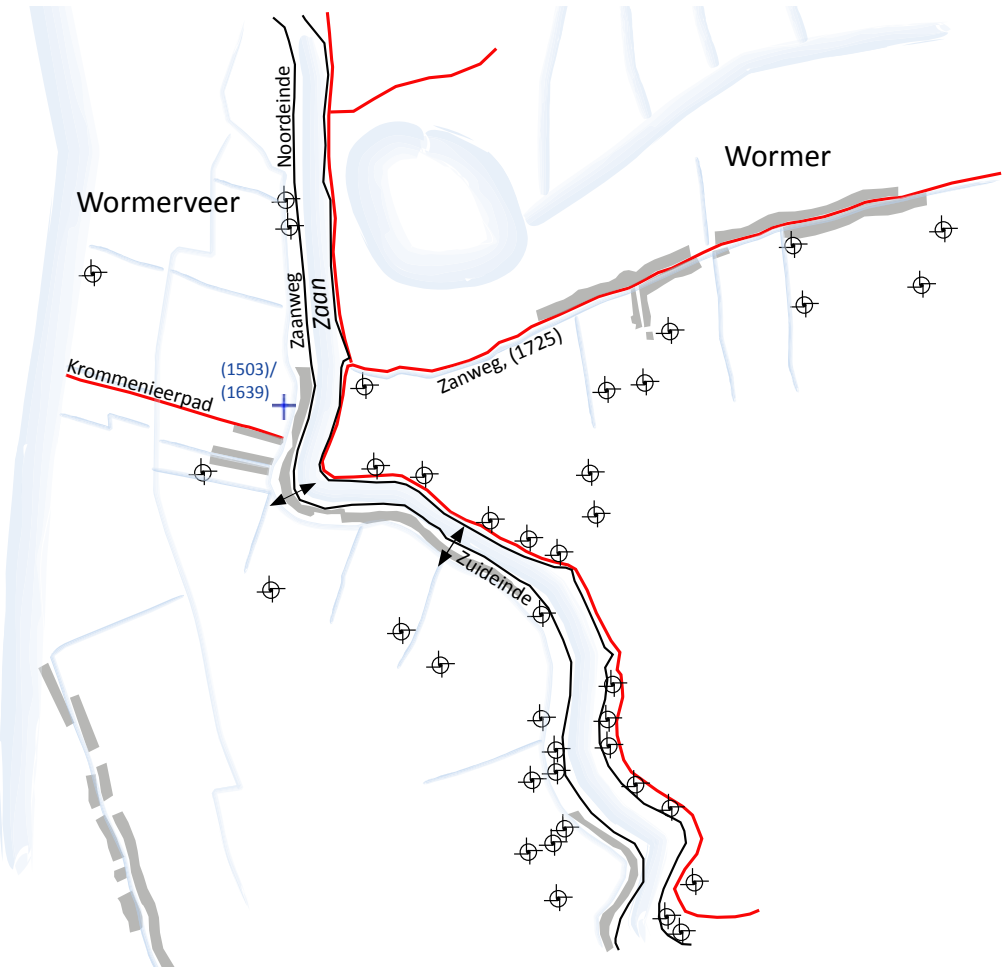
The main starting point of Wormerveer was a core between Marktstraat and Krommeniestraat. The settlement developed gradually along the south-west banks of Zaan with the characteristic ribbon structure. The first industrial activity of oil mills started developing at the north side of the river. During 18th and 19th century, (around 1850-1910), small scale industrial buildings and later large companies were established and replaced the traditional mill industry. Concerning the housing development, between 1910 and 1940 there is an expansion towards south-west which never got ahead the border of the train lines. From 1950 the houses expand more to the north.

In 1869 the line of Zaandam Uitgeest is ready. The station building is constructed in Wormerveer in 1867. As mentioned, the only discharge station point in the river of Zaan was in Wormerveer. In 1898, the H.Y.S.M. (Holland Iron Railway Company) made a connection track. The station was a hub. Horse wagons and boxcars were drawn over rails by Spoorstraat to Zaanweg. There was a second hub. From this hub the wagons could approach the pier or move on two separate tracks next to Zaanweg. In one of these there was a crane. The wide street profile of Zaanweg was used as the yard for trade of goods between ships and train. In 1978 a new station is constructed in the place of the old in an island form. It is a minimized type of station which consists of a central island platform and has four tracks.

Moreover, as it appears in old photos and maps the old train station was connected with the banks of the Zaan through a pathway that formed a kind of square. During 1930 -1940 the provincial road in front of the station was ready and each relationship with the adjacent area changed. Thus the former stationsplein transformed into a busy intersection. Concerning the relation between the opposite Zaan banks, due to the fact that workers should move from the one side of river to the other, a bridge

Historical development of Wormerveer Village

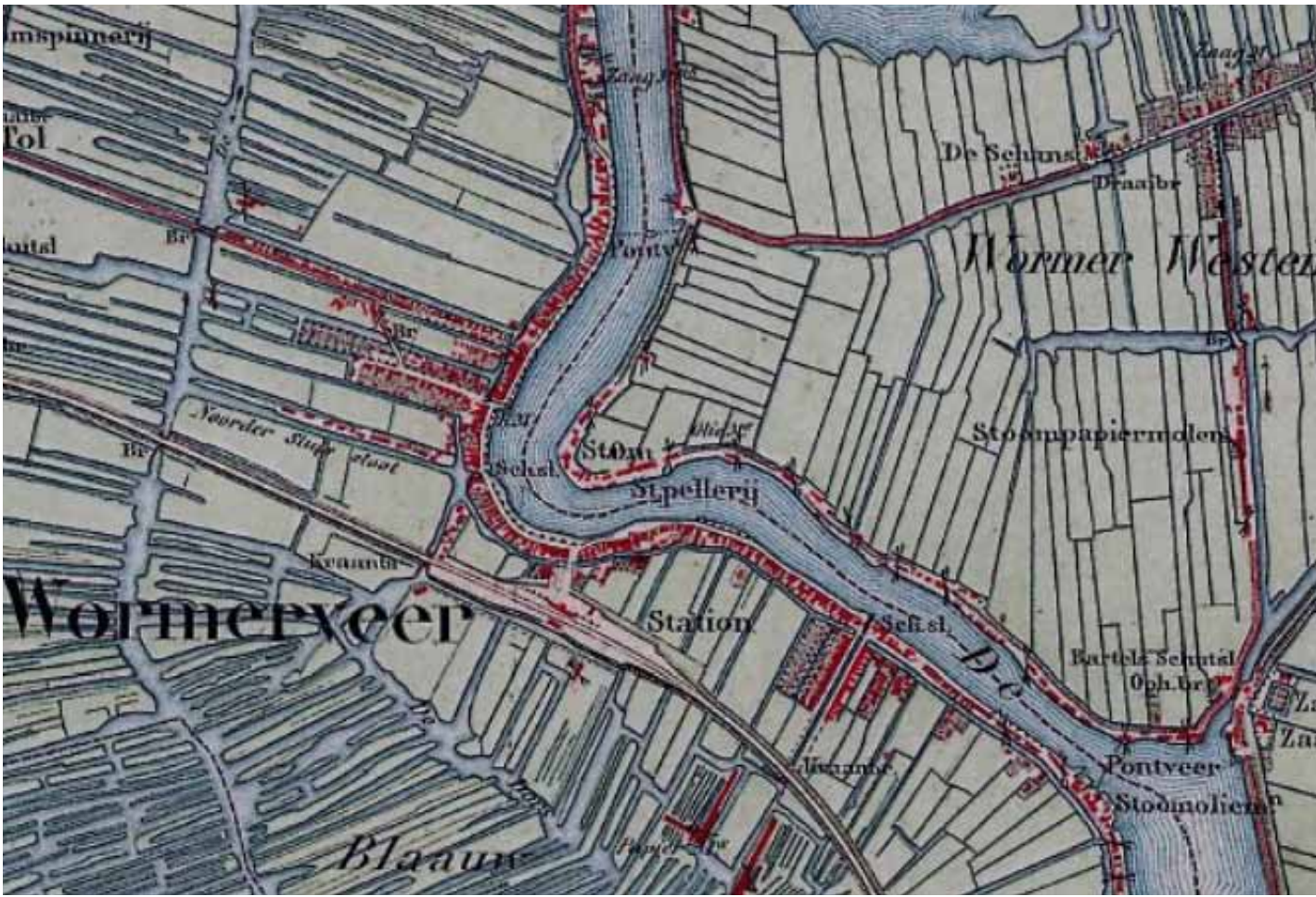
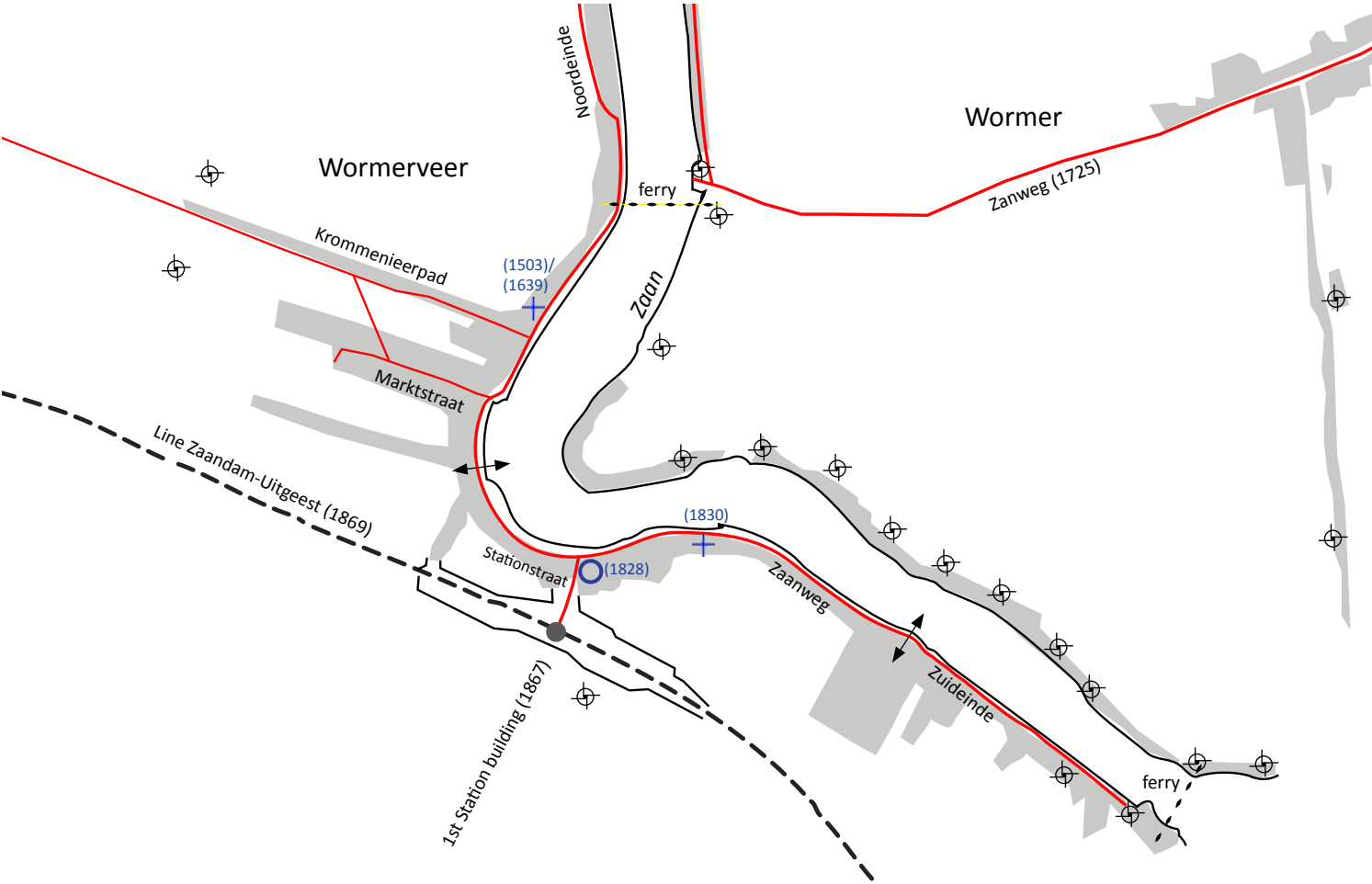
Wormerveer|1794



Wormerveer 1794. Detail of Wormerveer taken from Zaanstreek map of 1794. There is designation of water bodies and roads. Mills are subscribed. (Crèmekleurig papier Zwart-wit). Map number 50.1304. Source: Kadaster



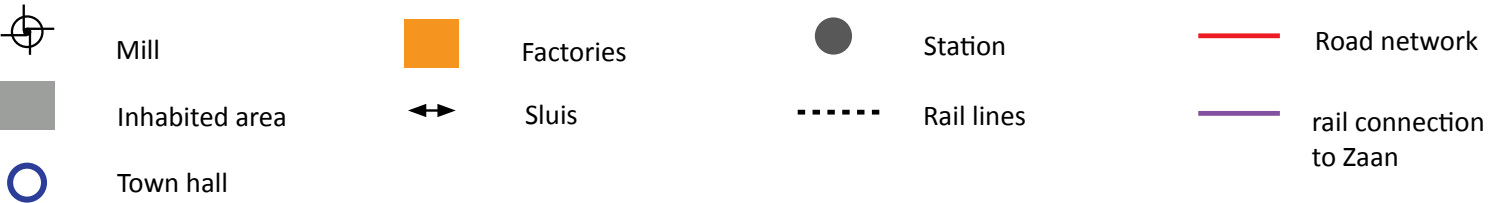
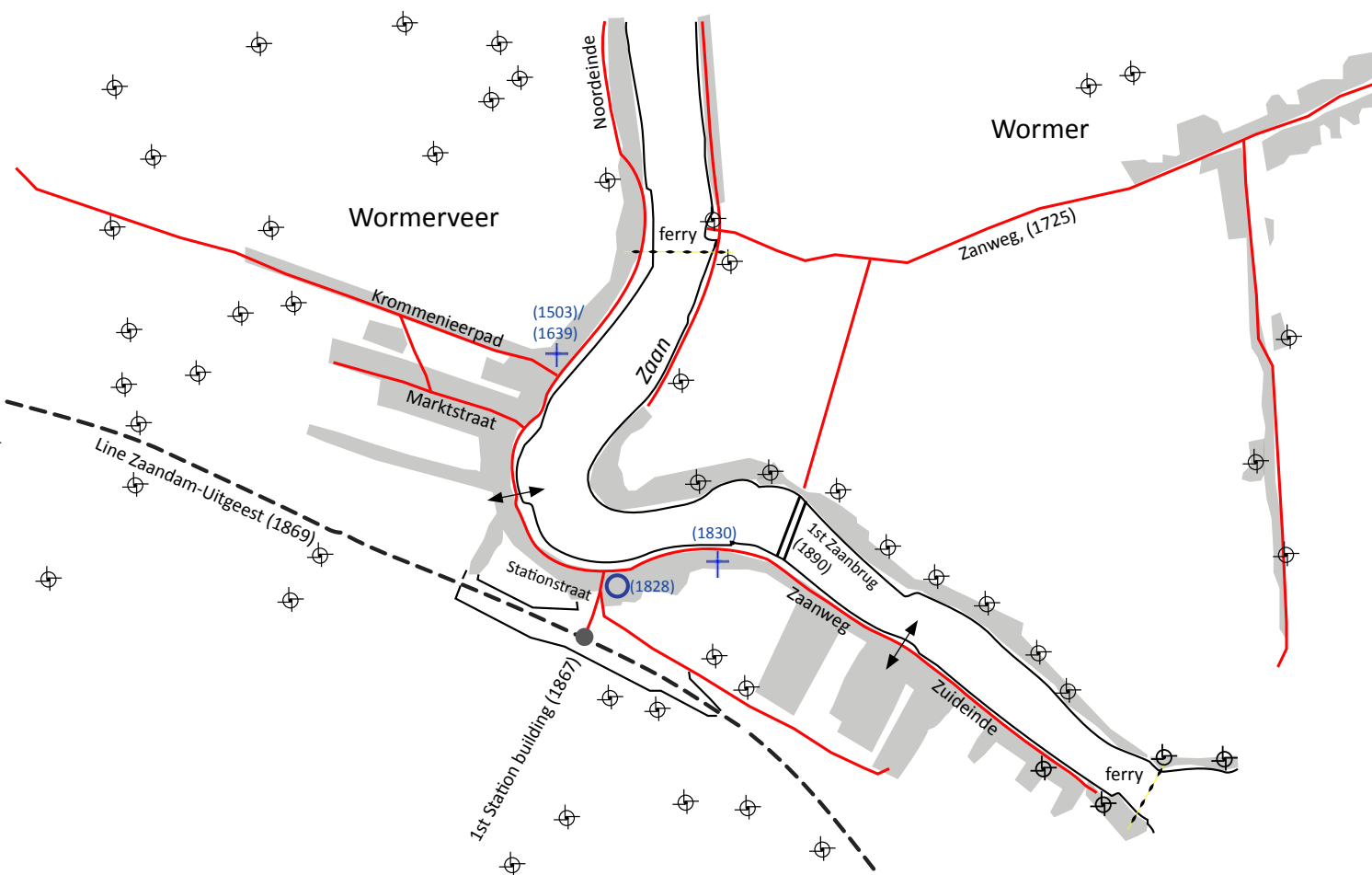
Wormerveer|1878



Wormerveer 1878. Military topographic map (bonneblad - kleur). Map number 311. Source: Kadaster



Wormerveer|1911



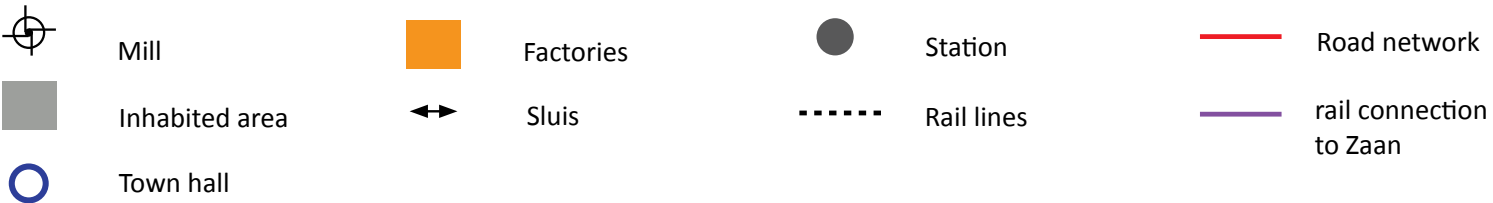
Wormerveer 1911. Military topographic map (bonneblad - kleur). Map number 311. Source: Kadaster





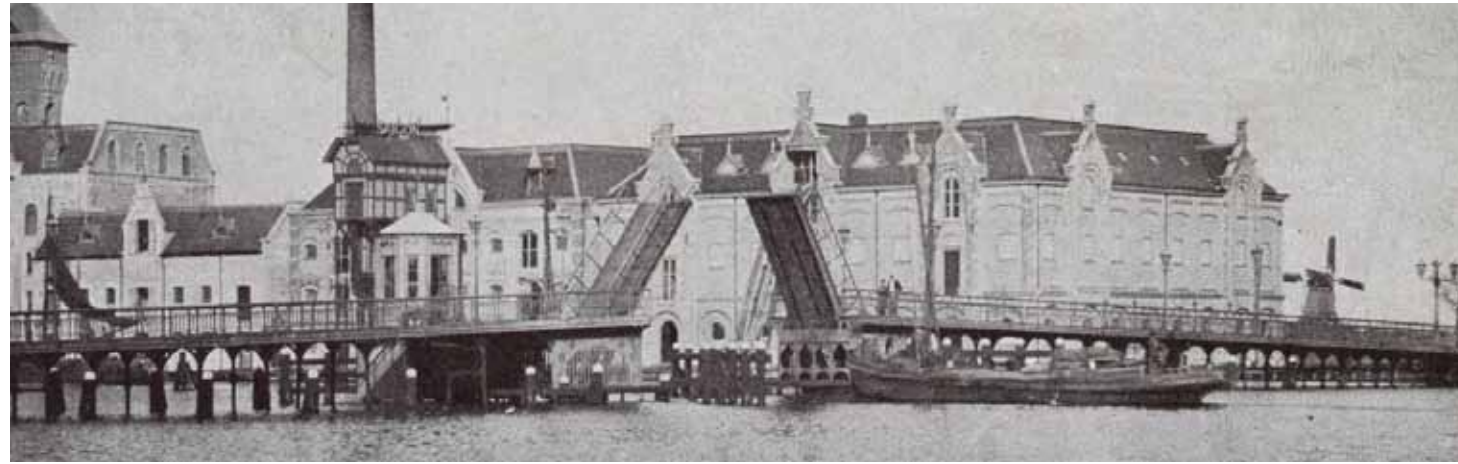


Wormerveer|1983



Wormerveer 1983. Topographic map. Map number 19D. Source: Kadaster





The Zaan Bridge is open. Clearly, the two valves to see that each side of the bridge had to be opened. Warehouse Batavia has also become part of the imposing wall of factory Stoomrijstpellerij Hollandia. Dated around 1900. (<http://www.zaans-industrieel-erfgoed.nl>)

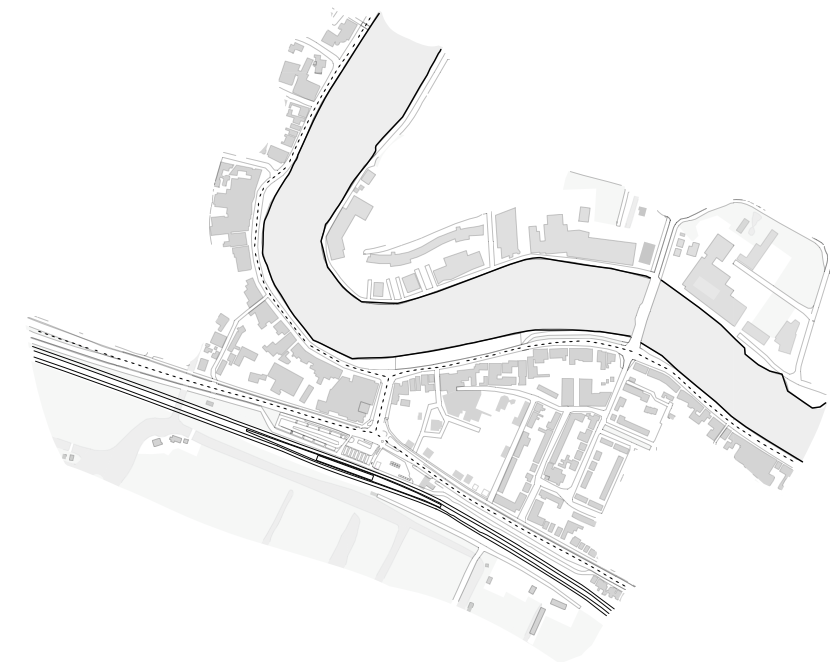
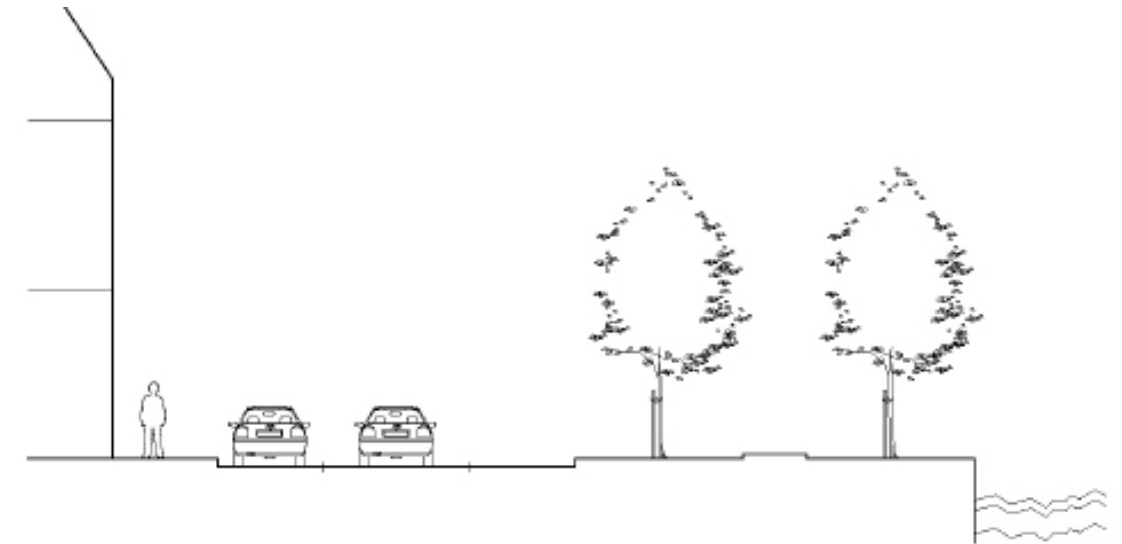


The new bridge with one movable part. Zaan is seen in the direction of the Zaanweg with the market and the Zaan Track. Date is mid 20th century. (<http://www.zaans-industrieel-erfgoed.nl>)



View of Zaan and of rice plant, the Union with the unloading and loading point of the Dutch railway south of the Spoorstraat and north of the river Zaan Bridge. Detering is around 1900. (<http://www.zaans-industrieel-erfgoed.nl>)





Above left, the Zaan with the railway yard and the wagons. The picture also shows the market that used to be held on at Zaanweg on Wednesdays. (<http://www.zaans-industrieel-erfgoed.nl>)

Left, view of Zaanweg in 2012.





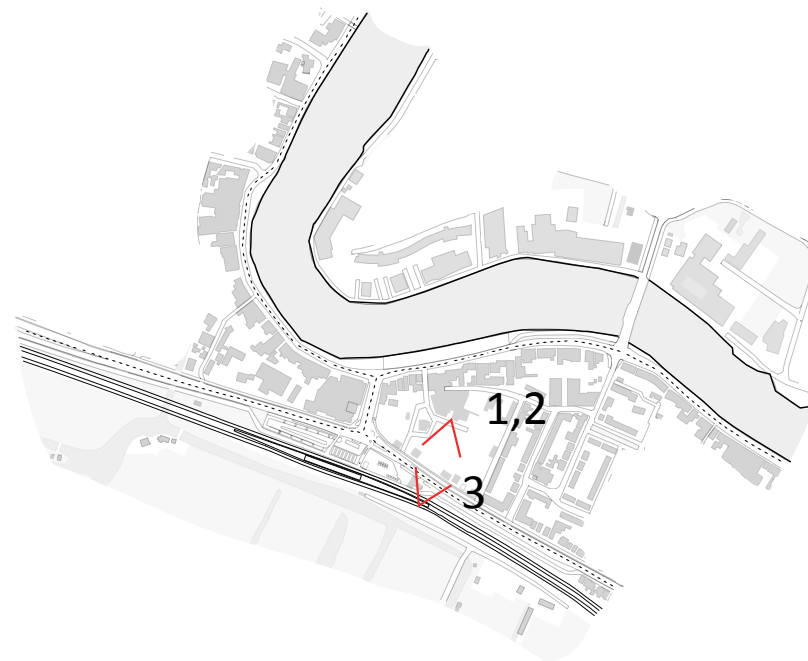
1. Station in Wormerveer seen from Stationsstraat. On the left is the old post office which was demolished in 1933. (<http://hvwormerveer.nl>)



2. Station straat towards Wandelweg, 2012



3. Station straat towards Zaanweg. (<http://hvwormerveer.nl>)



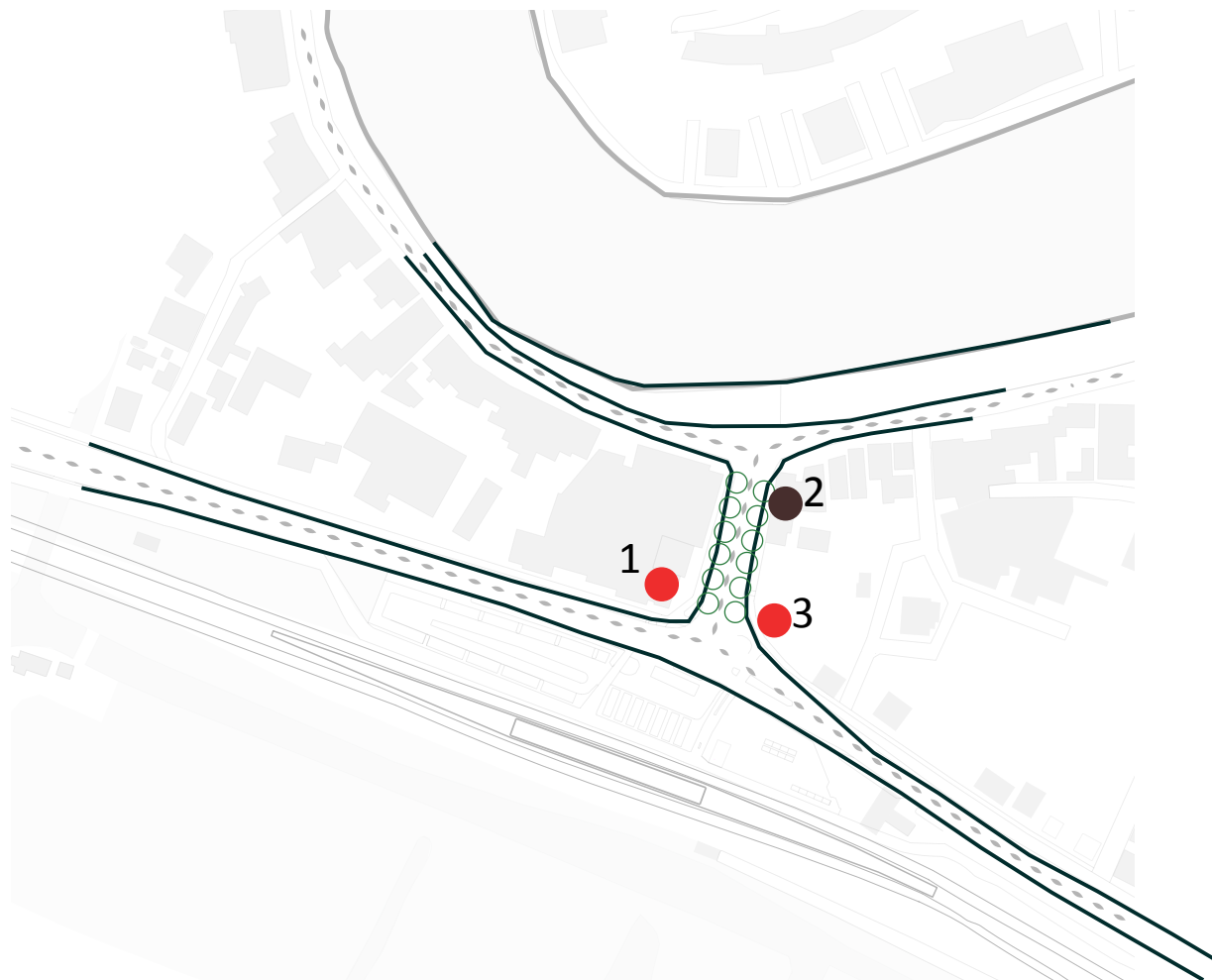




1 The New Hotel Cafe Society restaurant on the corner and Provincialeweg Stationsstraat. Now demolished.



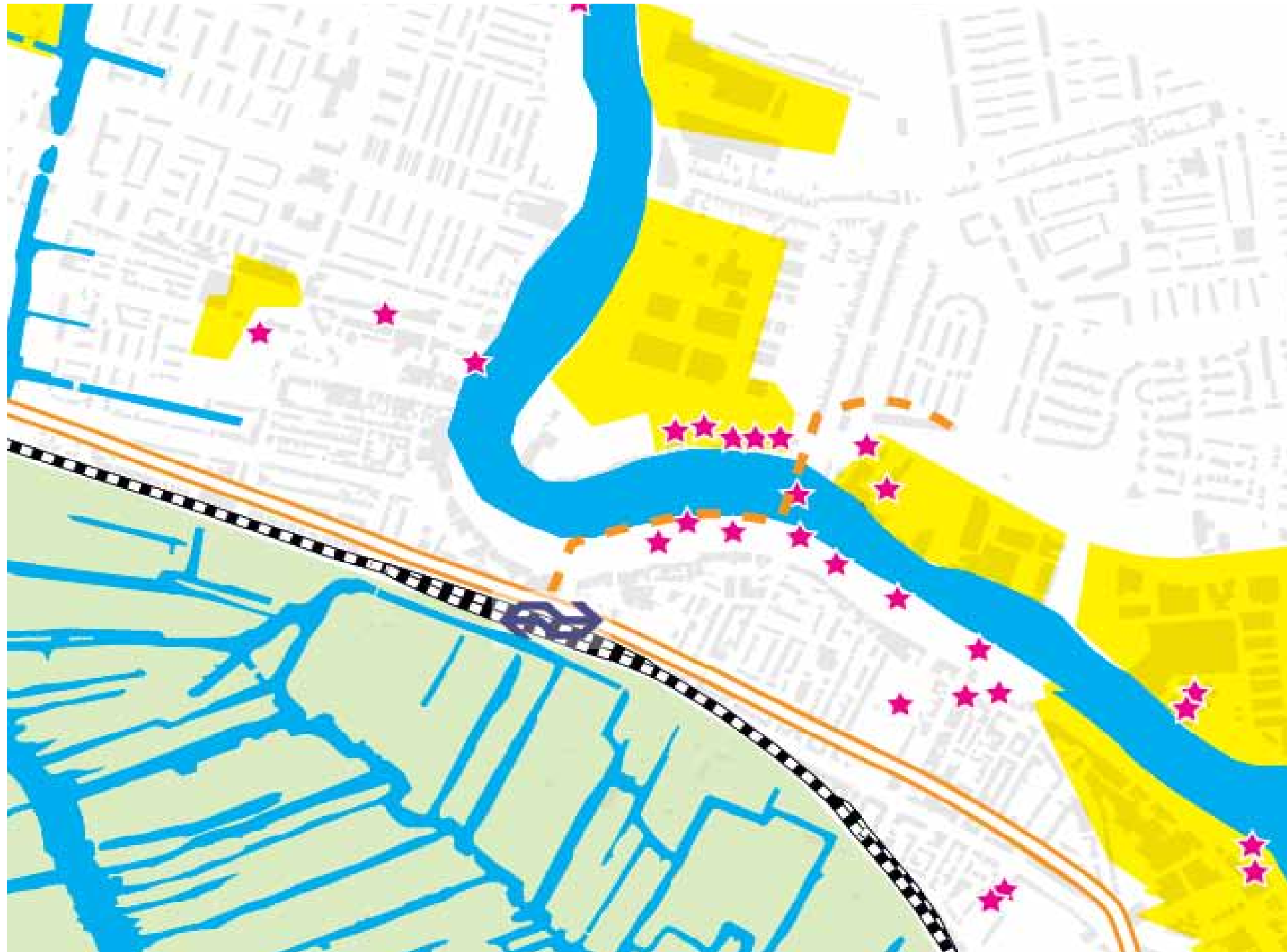
2 The Town Hall on Stationsstraat. Still exists.



3 Post office at the station with the gas in the background on Stationsstraat. Now Demolished



## Map of monuments in Wormerveer



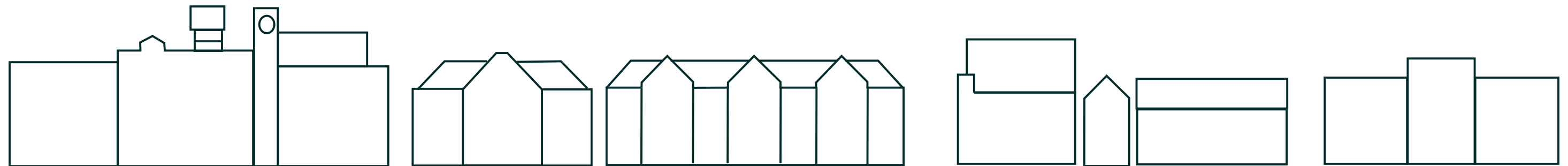
Marktstraat 66.  
Built in 1916 and 1919 as cocoa and chocolate factory was commissioned by Pette by the architect MJ Tribe. From 2003, the buildings are in use as offices. (<http://hvwormerveer.nl>)



Zaanweg 24, monument.  
Wooden house with stones and onderpui side wall built in 1788. (<http://hvwormerveer.nl>)



Zaanweg 49, monument.  
Former manufacturer house, built by architect Klinkhamer commissioned by Dirk Laan. (<http://hvwormerveer.nl>)



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1. Java (1877)

2. Hollandia (1877)

3. Bassein (1896-1899)

4. Saigon (1896-1899)

5. Batavia (1894)

6. Silo (van Lassie) (1907)/(1912)

8. Koningsbergen (1894-1898)

9. Mercurius (1919-1920)

Old Industrial complexes at the north side of Zaan.



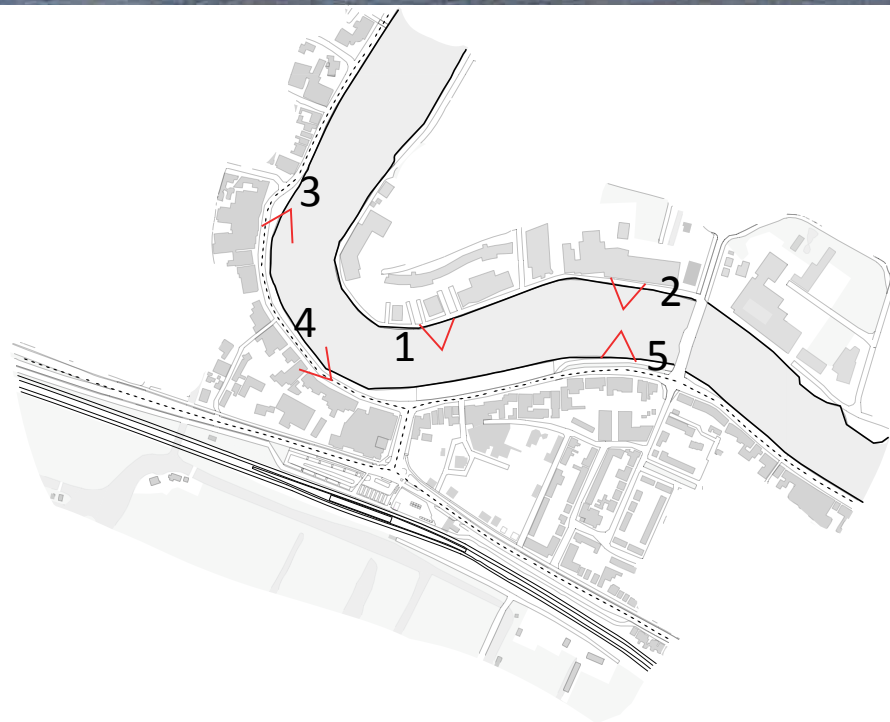


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Views in both sides of Zaan.



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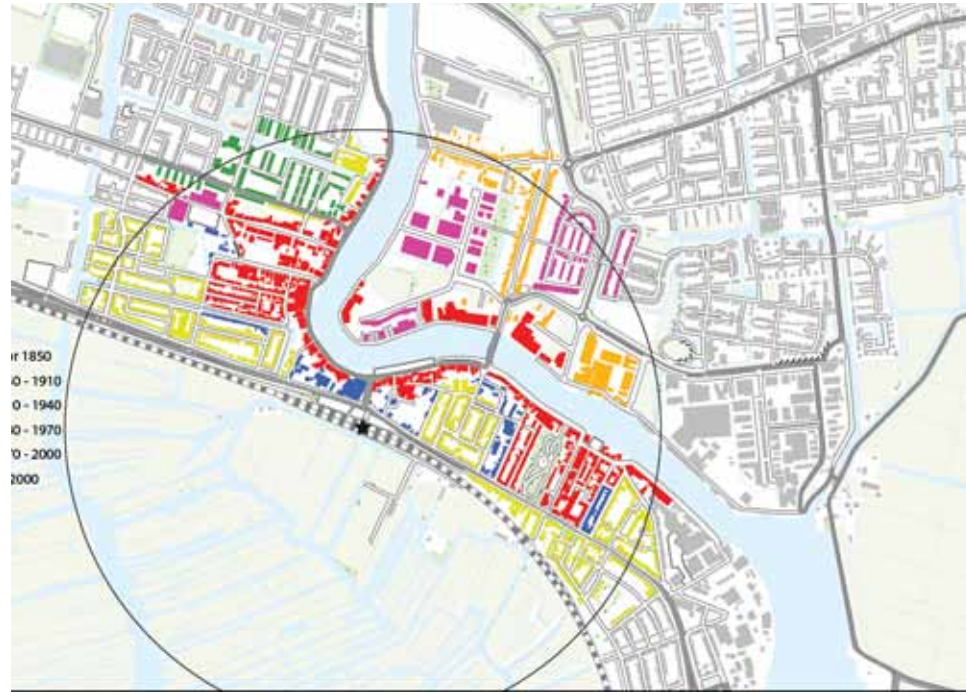
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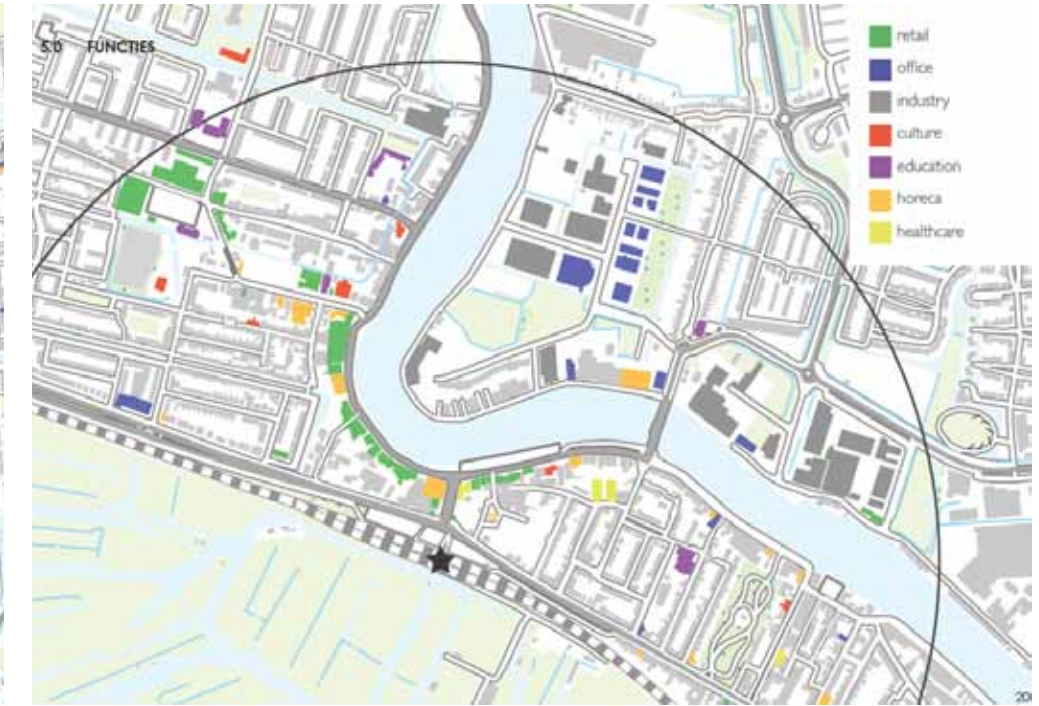
Historical development of Wormerveer village



Bus circulation



Functions



Rail-Station, plan and sections



3.2 'CROSS CONNECTION' STATION



was planned. Zaanbrug was constructed in 1890 and consisted of two parts that could open. In 1926 a new electrified bridge was made with one movable part. The bridge connection at the north of Wormerveer was made around 1993 in the form of the Prince Claus Bridge.

Today there are many old industrial buildings at the north riverside. The imposing warehouses and factories form a scene along the waterfront of river which transfer visitors back in time. These buildings consist important landmarks for the area. Many are reused as recreational spaces or houses and other remain like storage buildings. The new industrial buildings and four new residential towers in Wormer interrupt the sequence of old industry along Zaan. The manufacturer's villas and the business offices of families were built around the beginning of the last century on the opposite side on the Avenue Zaanweg. Most facades have been preserved.

The place in our days, still accommodates some industry but the functional character of the area has changed radically. It now hosts activities such as retail and horeca concentrated mostly along the south-west river side. At the south part of train lines, there are also some important sport facilities and the green area of Guisveld that has left untouched. This is considered a nature reserve and construction is not allowed.

### References

-<http://www.zaans-industrieel-erfgoed.nl>

-<http://www.hvwormerveer.nl>

### Argumentation - Choice of Location

Wormerveer is a very important place in comparison to others, because of the great number of well preserved industrial and housing buildings. The traces of the past are not erased and the big factories are powerful reminders of the wealthy times that the place experienced. In the rest of Zaanstreek, the banks of river Zaan are closed up by industrial buildings and dwellings. Thus, there is no visual connection with water. Wormerveer is a site where this situation is overthrown. The Zaan makes a very interesting twist and forms a wide embankment. It's the only point along Zaan where next to the riversides there is a road and people can move near water.

Due to architectural variation Wormerveer offers a morphological wealth. The small scale housing from the one side of the river is juxtaposed with the bigger of the factories on the other side. Moreover it is a place that is on the

north of the Zaanlijn and thus it has the potential to play an independent role, as it is disengaged from the strong influence of Amsterdam. What also consists a noticeable characteristic of it, in comparison to the other areas, is the close relationship of its station with the historical site, the water and the natural landscape. Only at that station point river is directly observable. These qualities turn Wormerveer an outstanding site over Zaanlijn.

On the other hand there is a great number of weaknesses. New constructions deteriorate the value of the place. The areas next to station and highway lack urban quality. Station's front side is treated as a huge parking for bikes and cars. Thus, although there is a good access for the public transport, the station is in attractive to visitors. Some new buildings, a commercial one and an oil station are placed in an awkward way next to the rail lines. The station itself doesn't offer a good access for pedestrians and its existence is diminished to its pure function. Passengers can't identify with the station area, as in old times and as a result it becomes a non-place.

Furthermore, there is not a proper walking area for pedestrians towards the inner part of Wormerveer. Concerning the connection of the area with the opposite city of Wormer, there are only two bridges. The one near the station is shifted from the station axis and thus there is not a well established relationship. Next to the highway and in front of the rail station, there is a big plot with empty space and some buildings that they seem not to fit to their context. This area accommodates some parking spaces and looks in an abandoned condition. Here used to be public buildings and houses that are now partly demolished and the place is in a state of deconstruction.

The decline in front of the station area is in total contradiction with the scene on the river side. By upgrading the adjacent to the station area, new potentials are going to open. The area can form an entrance to Wormerveer and can become an intermediate space able to encourage movement, action and public life.

The weak points of Wormerveer can give birth to some important questions concerning the urban and architectural intervention in the area. Within the context of the larger research project “Urban regeneration: What next?” the assignment should be able to address the matter of reactivation of the train station areas and the problem of densification. In the case of Wormerveer the question that results from the problem statement is: How the adjacent to the station area can satisfy the needs of densification and how it can acquire



Photos around the area of intervention



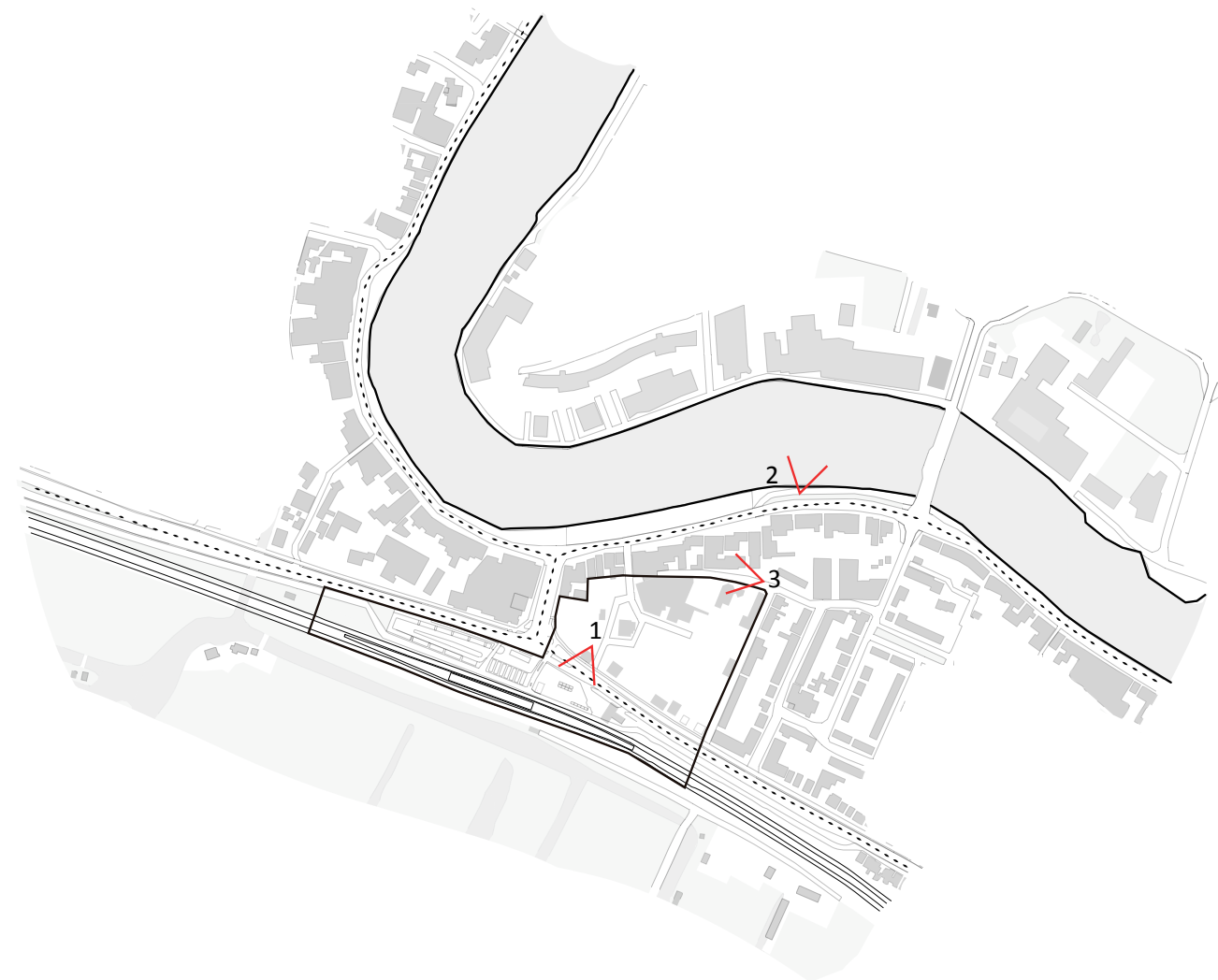
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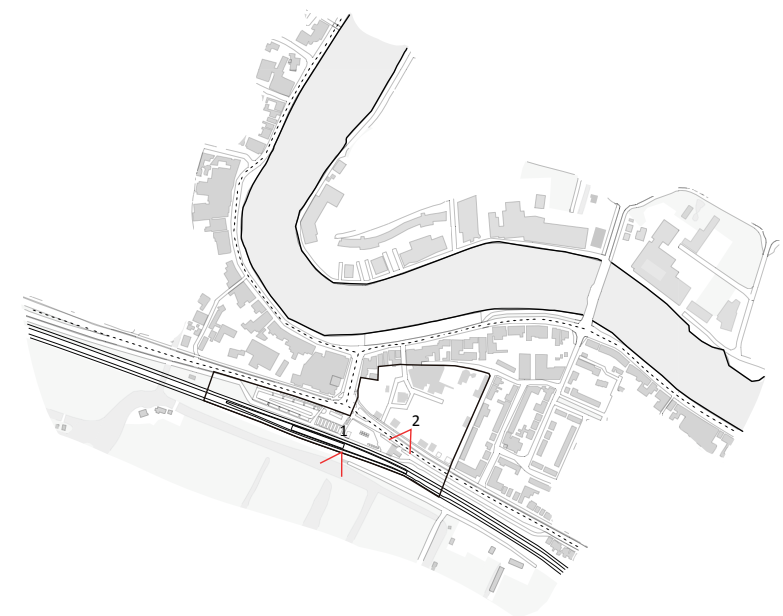
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## Existing Buildings

Housing backyards



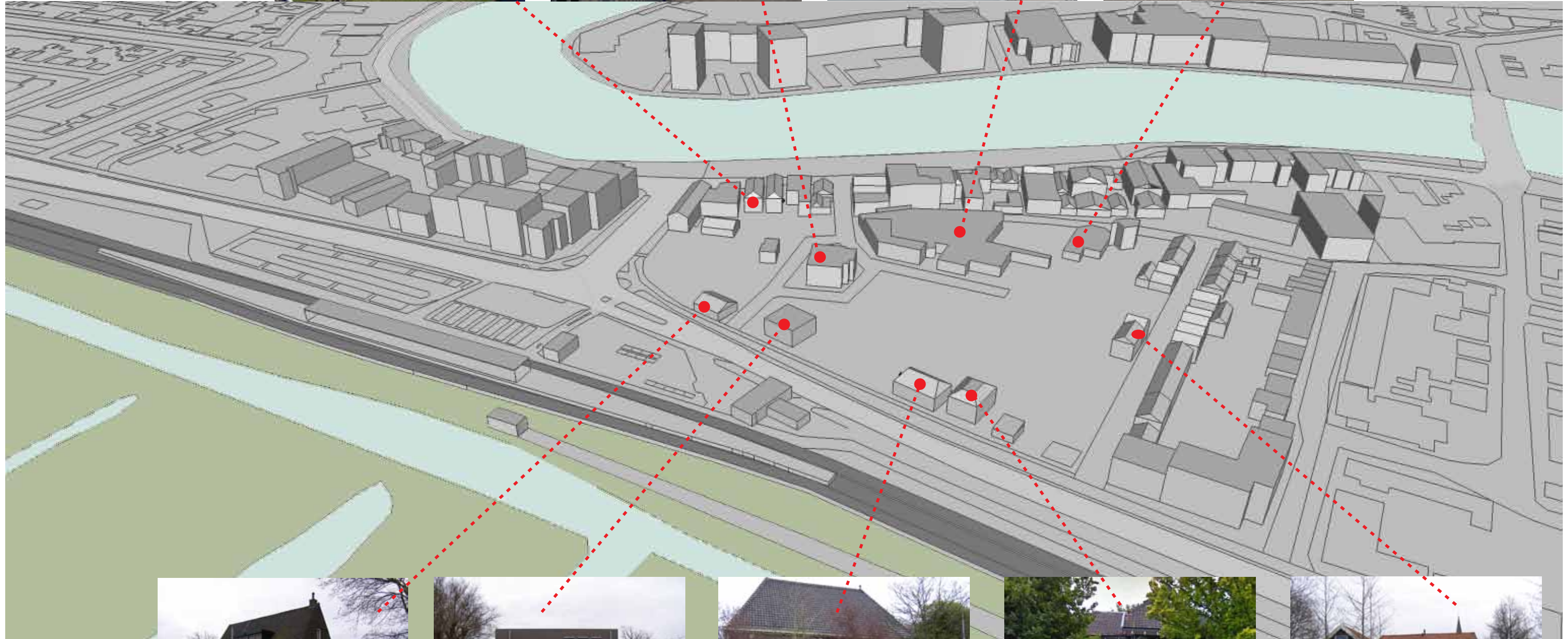
Building of fire station



“Natuur Monumenten” Service



Artistic Atelier



House



Office building



House (municipal monument)



House



House backyards



## Monuments - Important buildings



Former Town hall,  
Stationstraat. 1828-  
1920-1974.

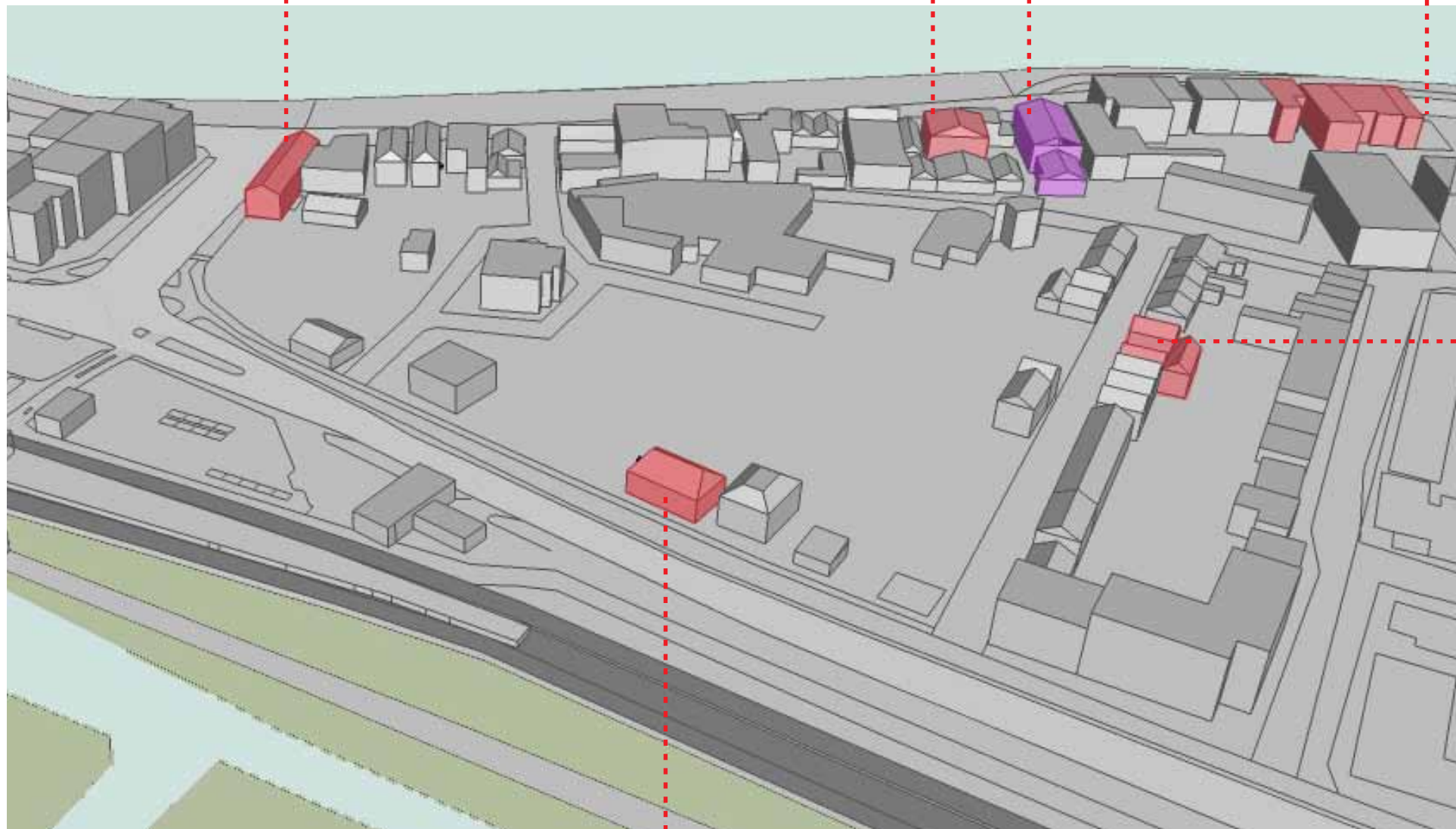
Zaanweg 59. House,  
1870. [http://  
monumentenregister.  
cultureelerfgoed.nl](http://monumentenregister.cultureelerfgoed.nl)



Zaanweg 57. Church,  
1830. [http://  
monumentenregister.  
cultureelerfgoed.nl](http://monumentenregister.cultureelerfgoed.nl)



The merchant houses on the Zaan  
Bank. Photo: Cees Kingma

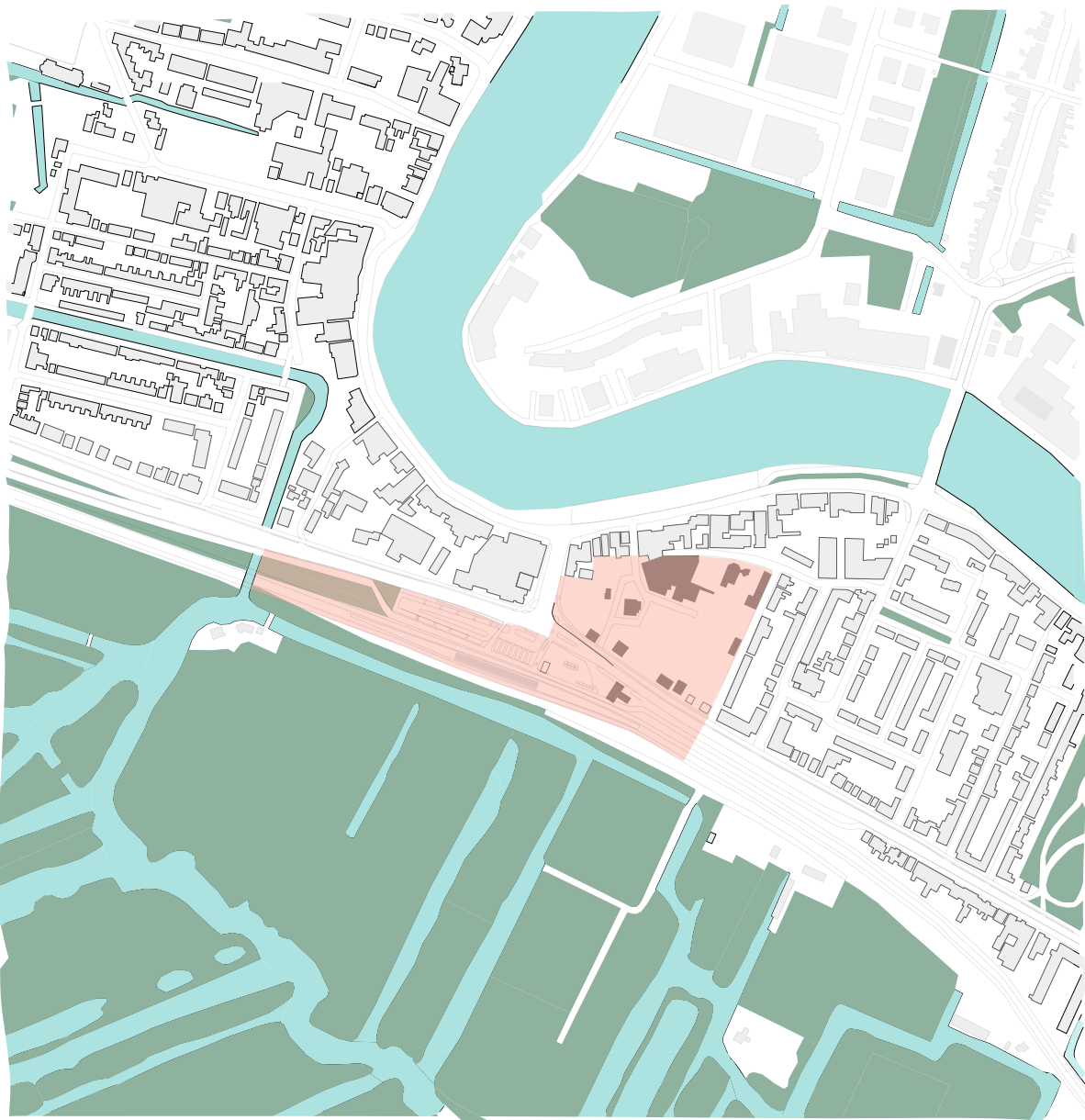


Weverstraat 26, municipal  
monument.  
Former coach house,  
stables and coach-house  
built in 1895 by order of  
the soap manufacturing  
family Dekker. [http://  
hvwormerveer.nl](http://hvwormerveer.nl)

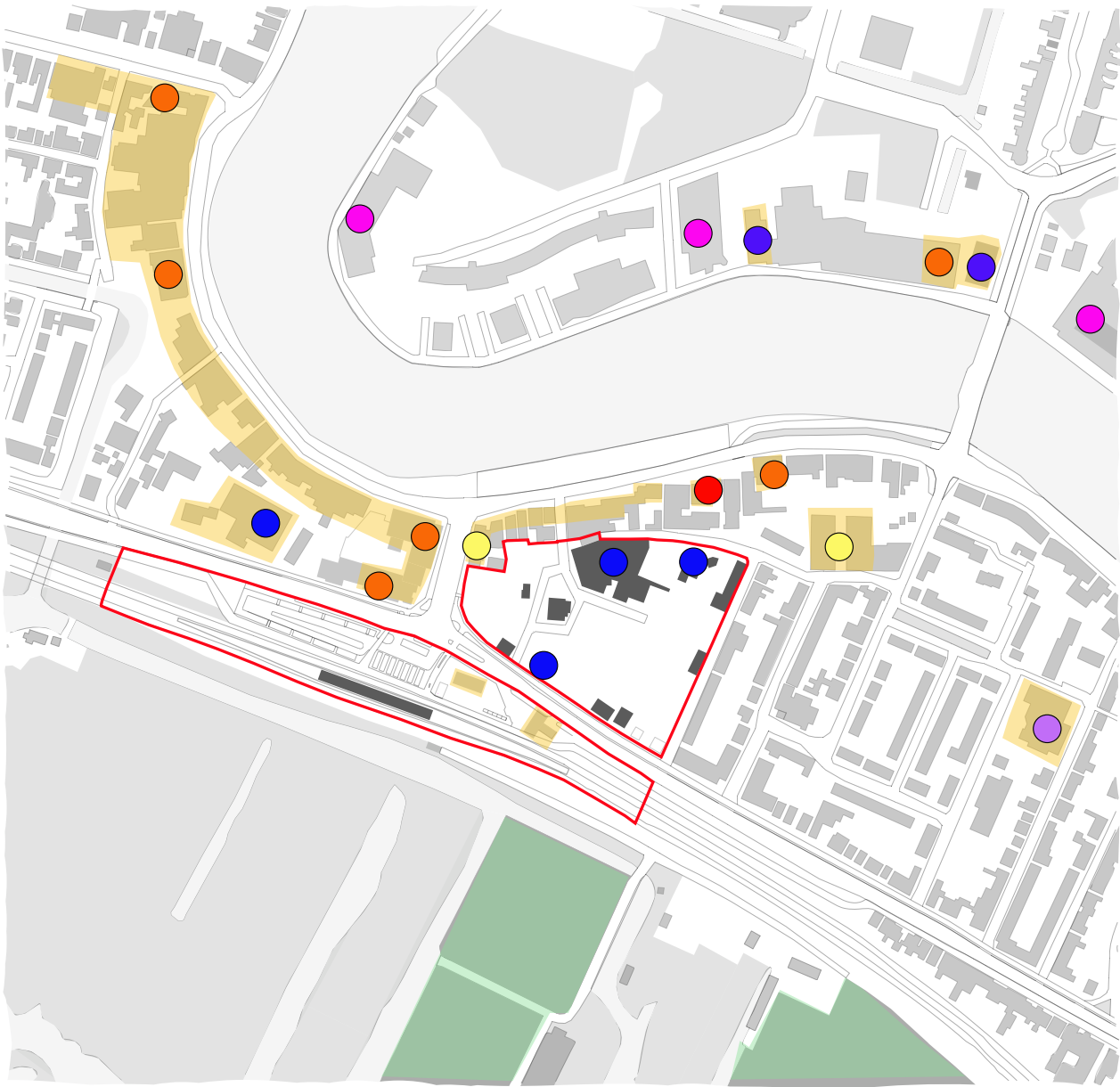


Wandelweg 7, municipal  
monument.  
Former office of the  
municipal gasworks built  
in 1912 - 1913 by the  
architect GJ Hiddink.  
<http://hvwormerveer.nl>





Green and water structure



Functions around the area of intervention

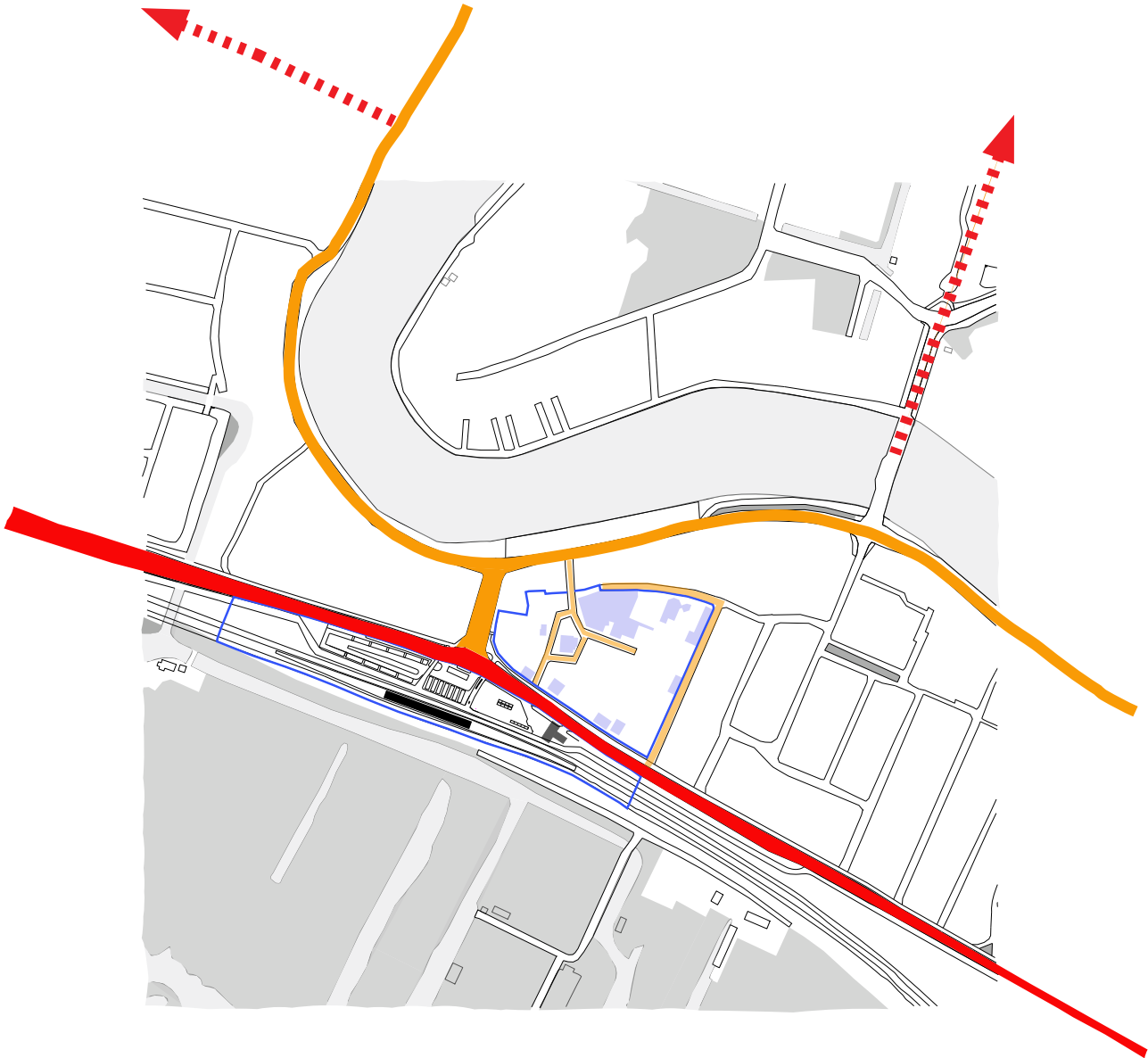
- |  |   |  |
|--|---|--|
|  Public and trade functions |  Industry  |  Healthcare |
|  Horeca                     |  Education |  Offices    |



Road network



Heavy circulation road network



Road network around the area of intervention



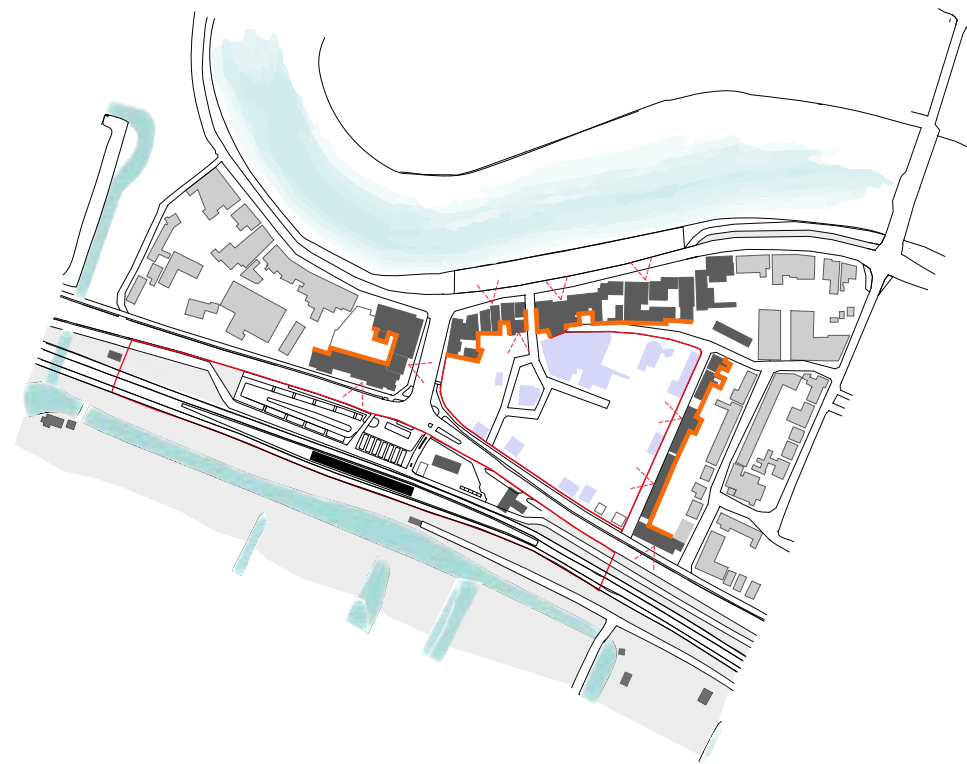
Bus circulation



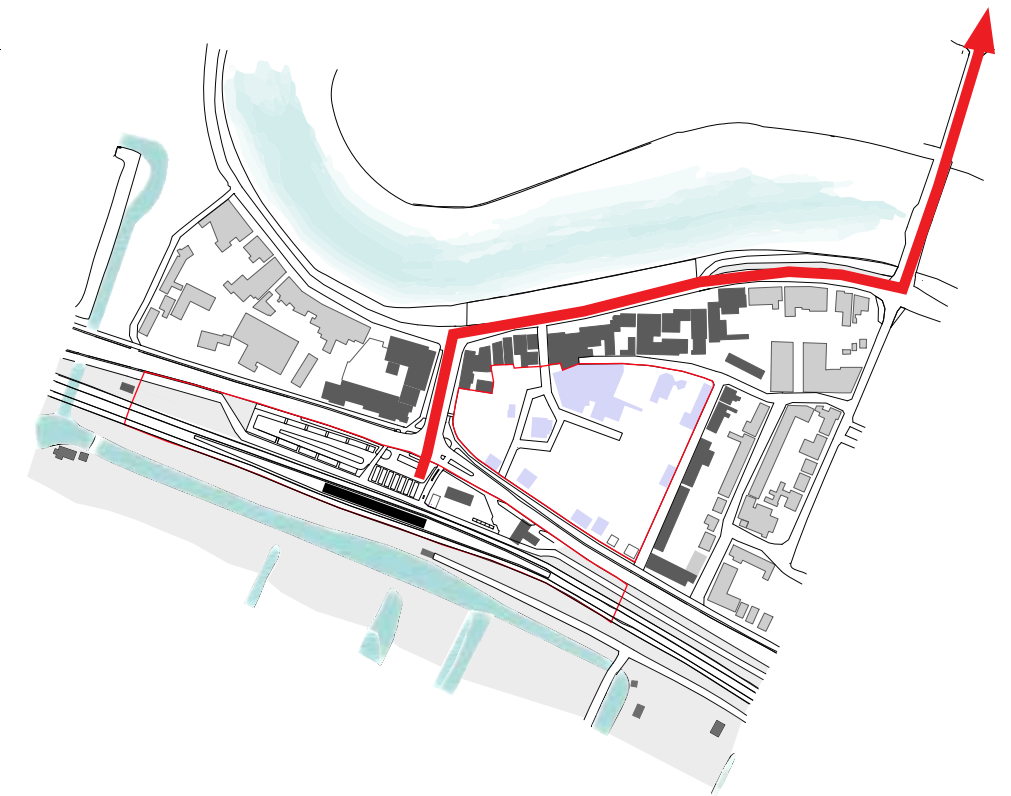
## Analysis of the area of intervention



Important views



Relation with surrounding buildings



Important axis

a better urban quality able to highlight the historical value of the place, to encourage action and introduce visitors to Wormerveer.

This general question includes a number of secondary questions that can lead to specific interventions on the location. These questions concern:

- How the urban intervention can carry and maintain the identity of the place?
- How the area next to the station can become more accessible and attractive for pedestrians?
- How activity in the open space can be reinforced?
- What kind of functions could revitalize the area?
- How the borders between the open public space and the built environment should be elaborated?
- How station can be better integrated in the urban environment?
- What is the role of the station as an intermediate between the urban and the natural environment?
- Which decisions can lead to a better connection between the station and the Zaan banks?
- In which way station can interact with the open space?
- How station can acquire an additional role in terms of function?
- How densification can consist part of the urban proposal?

The above research questions can be answered through an intervention that concerns the further development of the area at the north of the train station. The intervention includes the elaboration of the open area next to the station, it also concerns the transformation of the left over space at the north of the highway to a public square, the redesign of the station itself and the integration of new functions related to housing, recreational activities and amusement.

### **Project Analysis-Case Studies**

The project assignment has two dimensions. The one is oriented towards the problem of densification and the other towards the redesign of railway stations. Thus projects in both domains need to be examined.

Concerning the dwelling development a number of projects were selected as to study the concept of different dwelling blocks and examine their typology. Some of the examples that were studied are:

***Dick van Gameren, Singels Subplan 2, Delft-Den Haag, 2000.***

The starting point for this plan, for six hundred and fifty homes is the connection of the district with the environment. The building blocks integrate with the

neighbouring areas to the east by continuing it's orthogonal pattern of roads and blocks. As the new housing blocks move towards the park area on the western side, they start to fold open towards the green space. This folding enables a large proportion of the houses to have a view of the open space, and at the same time allows the greenery to intrude into the housing area. The gradient curves and lines of the gutter and roofs reinforce the dynamics of the allotment and give a unity to the different blocks, where a variety of housing types are hidden. In the interior space is the dominant shade. In most homes, the ridge is visible from the stairs.

For the development of the façades is a limited amount of materials, openings and colours. This reinforces the continuity of the exterior. Footpaths lead from the residential area to the green edge. The streets are distinguished by their profile and changing vegetation, not by the architecture of the houses.

The low number of floors allow an organization of the plan with individual staircases per house and various spatial configurations.

### ***KCAP, Bodegraafsestraatweg, Gouda, 2002***

The design of the dwellings was determined by their location. Those along the water are characterized by their sculptural plasticity. Designed with large windows facing the water, they presented the opportunity for creating terraces on each floor, while allowing for those less prominent set back dwellings, a view towards the water. The apartment building forms a shielded wall against vehicular noise on the access road leading towards the bridge. The building's form has taken into consideration the casted shadows in the internal outdoor area, while creating terraces oriented towards the water. The south oriented apartments, which are situated along that access road, have their outdoor space imbedded in the dwelling, and may be opened by glazed sliding windows.

The apartment building is organised with three staircases that give access to two apartments in each floor. The dwellings along water have each one an individual staircase.

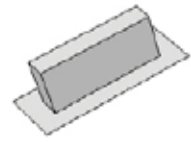
### ***Cino Zucchi, Edificio E1, Venezia, 2003***

The E1 building flanks the new piazza and the new canal ditched in the south-east quadrant of the area. The front toward the piazza, resting on a long public portico, consists of a screen of stone slabs of different colours and textures

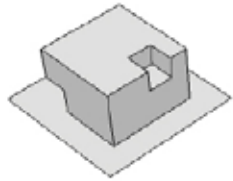


## Toolbox

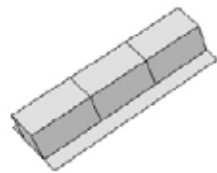
### Mass Studies



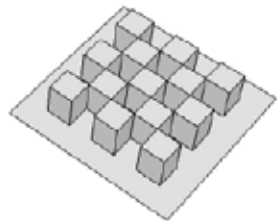
Apartment Flat



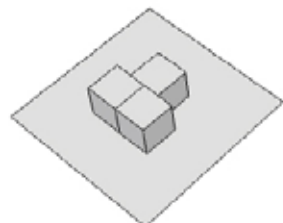
Urban Villa /  
Apartment Complex



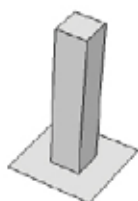
Row Houses



Mat

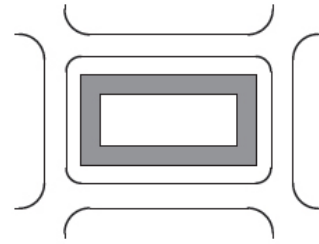


Clustered Lowrise

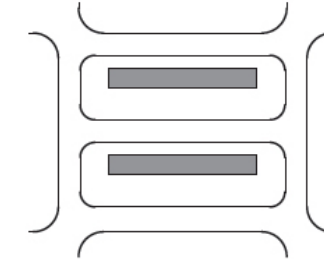


Tower

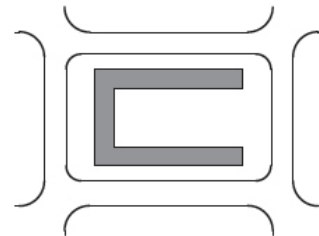
### Urban typologies



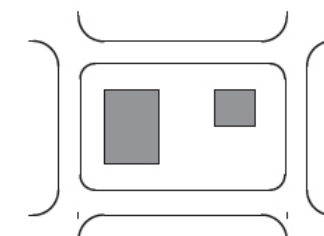
Gesloten Bouwblok



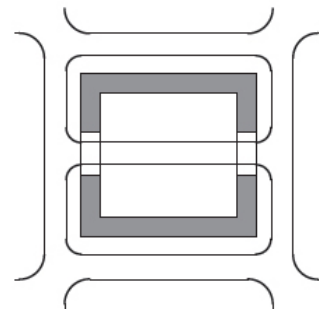
Strokenbouw



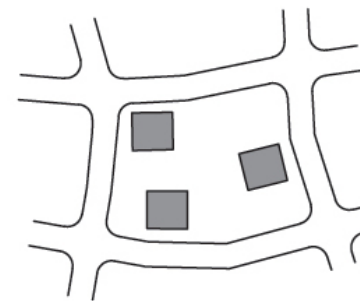
Halfopen Bouwblok



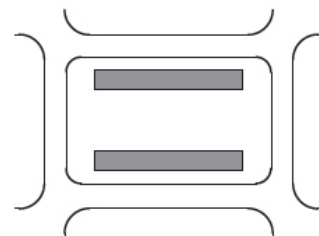
Ensemble



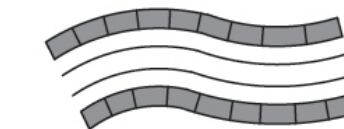
Superblok



Villapark



Open Bouwblok

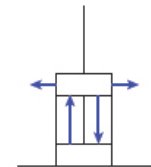


Lintbebouwing

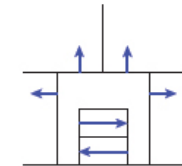
### Entrances



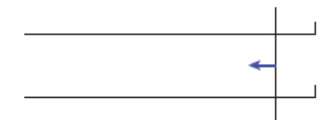
Street Entrance



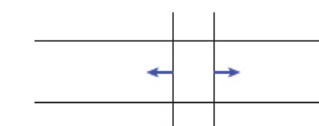
Portiek



Portiek (apartment building)



Gallery



Corridor

## Folded Row Housing

Architect: Dick van Gameren

Location: Ypenburg Delft-Den Haag. nl

Date: 2000

650 dwelling

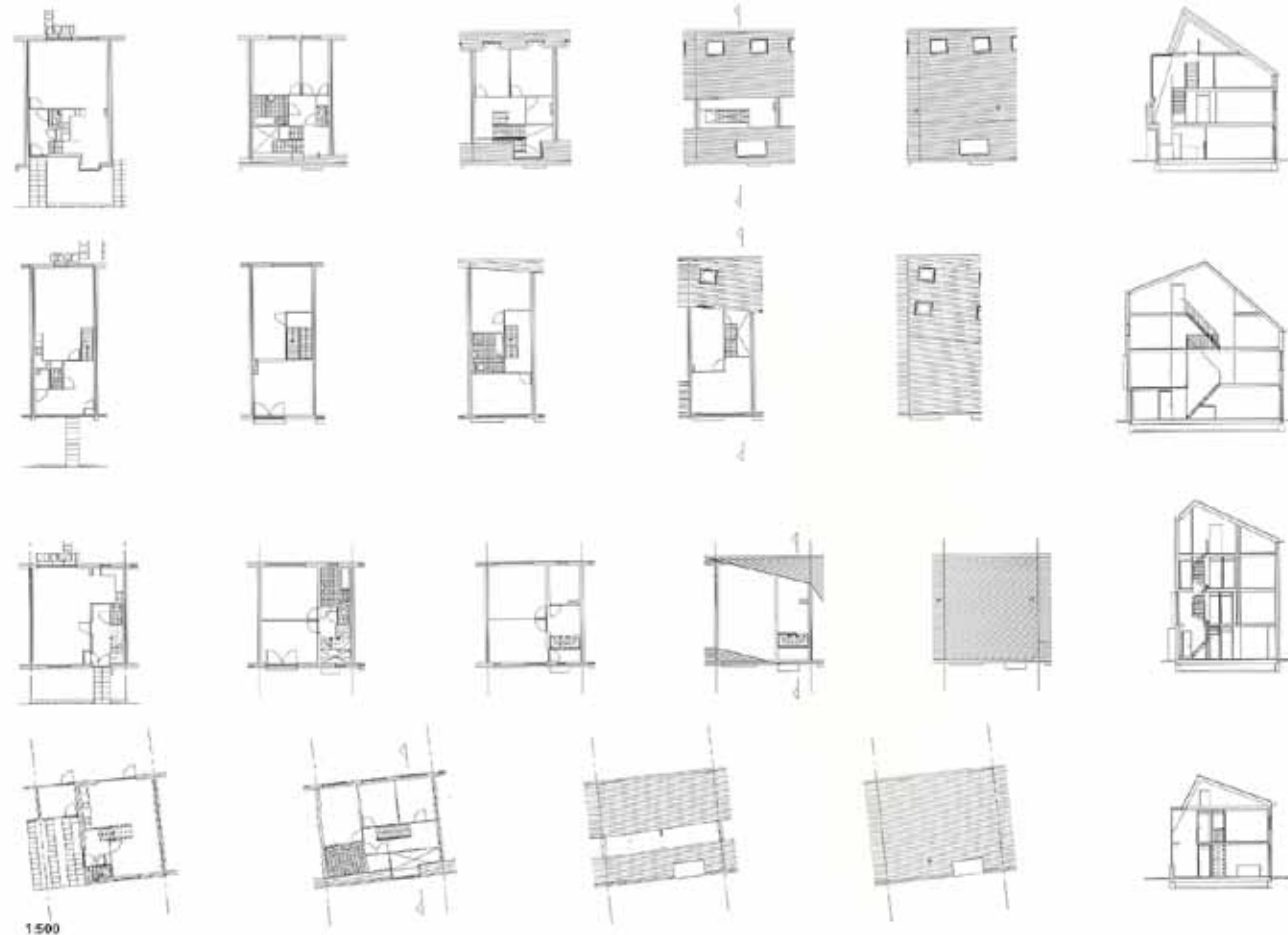
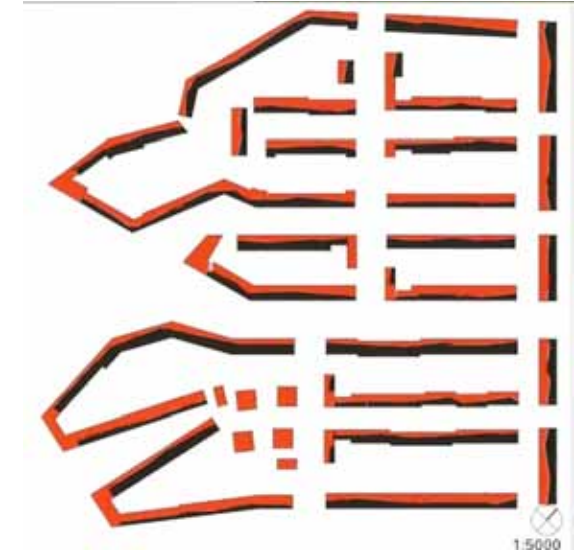
14,10 ha

78.000 m2

3 floors

no other uses/no parking

no basement

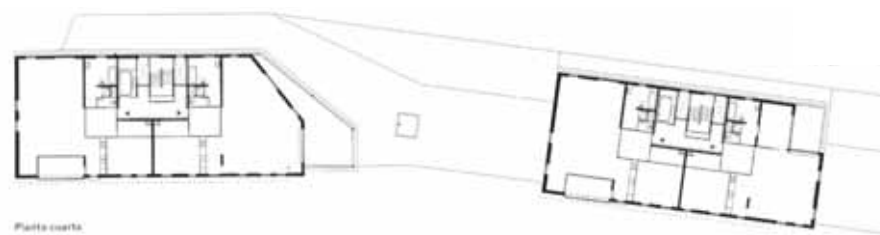
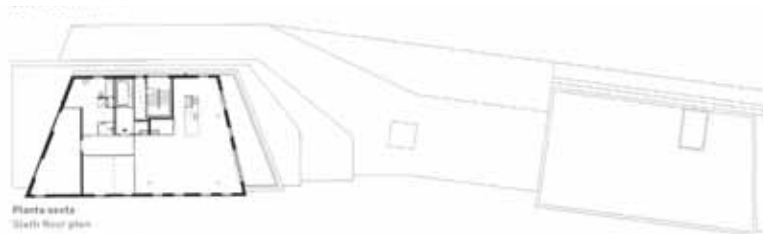
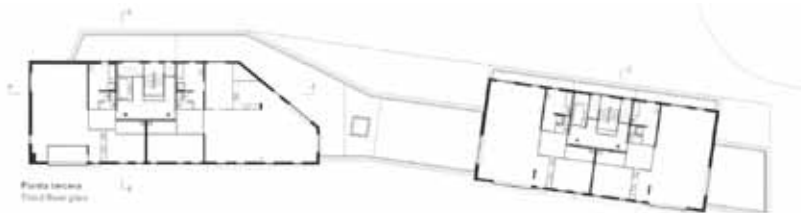




## Stepped Block and Row Housing

Architect: KCAP  
Location: Gouda.nl  
Date: 2002

52 dwelling	2-6 floors
1 ha	no other uses/no parking
6.070 m <sup>2</sup>	no basement



Linear Block

Architect: Zino Zucchi	20 dwelling	4 floors
Location: Venezia .IT	0,1 ha	no other uses/no parking
Date: 2003	2.134 m2	no basement



1:5000





topped by a prominent cornice, which frames the view towards the Laguna. On the side toward the canal the upper floors are treated in white stucco and large sliding shutters, while portals, which increase its visual permeability, pierce the brick base. The plan consists of three staircases that each offer access to two apartments. The plan also includes covered open spaces.

### References

- Mozas J., Fernandez P. A., 2006. Density, New Collective housing. Vitoria-Gasteiz: a+t editiones

### 5. Conclusion

According to the above analysis the station area through history was in a process of continuous transformation. As mentioned, before the coming of the railway, the centre of the village of Wormerveer was at the north-west part, developed around the old church. With the coming of the railway a new center was formed around the train station and a new period of urban development has started. According to the old maps the borders of the plot of intervention were defined by the water structure. Due to water flow a big piece of land in a trapezoid shape derived. With the coming of the station this plot which was usually only partly inhabited acquired a more important role. A number of public buildings were constructed on its periphery and small squares were formed there. This happened because the relationship with the road network was very important. However due to the big size of the plot the central space and the back side were always in an undefined state. For some period a gas factory was installed in the back part of the plot. Next to the plot, stationstraat, was acting as a linear square together with the area in front of the station. This situation changed after the coming of the cars and the provincial road. All these years the plot was a place not properly integrated in the urban fabric. Today is partly a left over place. Many of the buildings that used to define its borders were destroyed. In addition the area in front of the station was transformed to a busy intersection and the place is highly deteriorate.

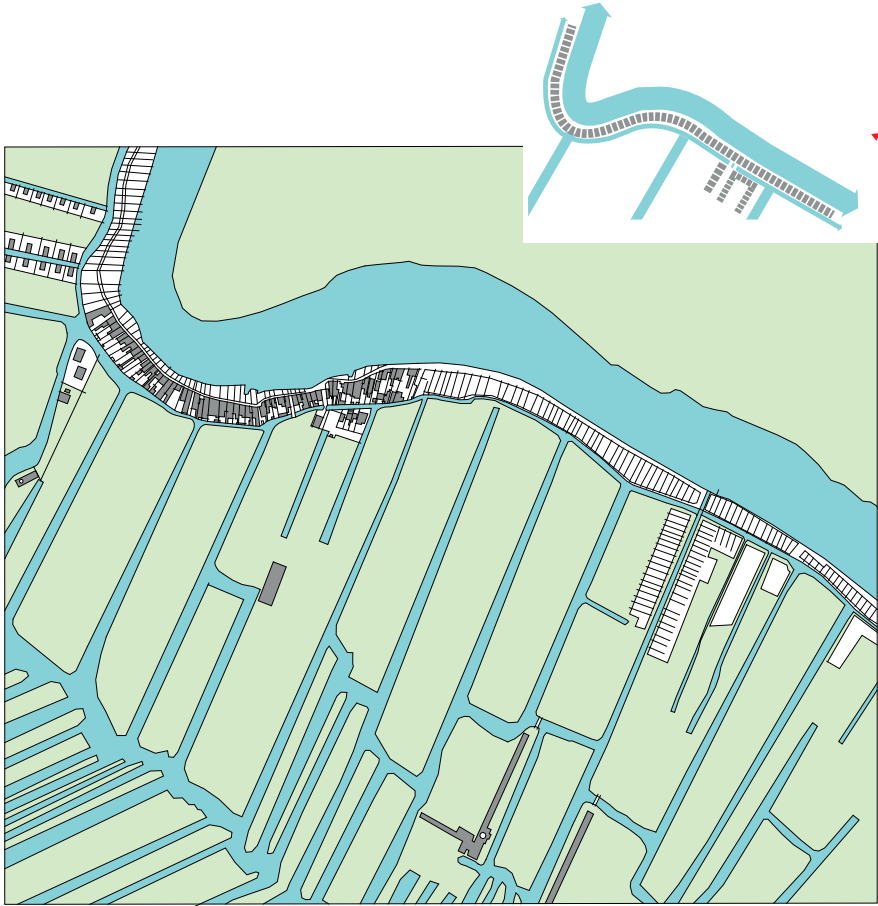
The current urban structure of Wormerveer allows a linear movement of pedestrians next to the Zaan, however there is no place that can act as a core of public activity. This quality that used to be developed in front of the station in old times is absent at the moment. Station square was an organic element of the urban fabric, essential for the development of social life. Today,

in that place, only some traces of the past have left. Old memory can then be used for making a new start and reactivate public action. It is important with a contemporary intervention to give again the opportunity to visitors to identify with the station area. The north area next to station can then act as a motivation for people to insert, react with area and further explore it. In addition, station can become a place not restricted to its main function but it can have additional extensions. It can also produce a relation with the natural landscape next to it. The intentions of the graduation project is to transform the location to an important destination for the neighbourhood areas as well as to open the opportunity for distant visitors to come. Wormerveer can act again as a reception place where a number of public activities can happen. Station area can then acquire an outstanding meaning and role throughout Zaanlijn.

To answer to the research question and to the secondary questions that the location of intervention poses, a number of urban and architectural decisions were taken. The station was decided to be redesigned together with the empty plot in front of it. The left over space was chosen to host public and residential functions. The public functions are divided in two categories. The first concerns recreational and community activities. The other is related with functions that already exist within the area of intervention and are going to be reaccommodated. These concern office functions and functions related to the natural qualities of the place (natuur monumenten). The proposal also includes the designing of a public square. This public space can function in relation to the station and can act as a place of reception for local people and visitors.

To deal with the aims of the proposal a number of buildings inside the plot was decided to be removed. These buildings concerned mainly constructions with no architectural interest that were placed without a total scheme inside the plot. The natuur monumenten building, and KLC offices belong to that category and are constructions dating after 70s. Also some houses and an old fire station are going to be removed. There was an initial effort to integrate the fire station building to the solution as it is the only one that has an architectural value, but its position was quite disturbing for taking advantage of the possibilities that the plot offer.

The proposal aims to improve the urban quality. For that reason a volumetric study was made for the empty plot. By using various configurations there was



1811 Ribon structure



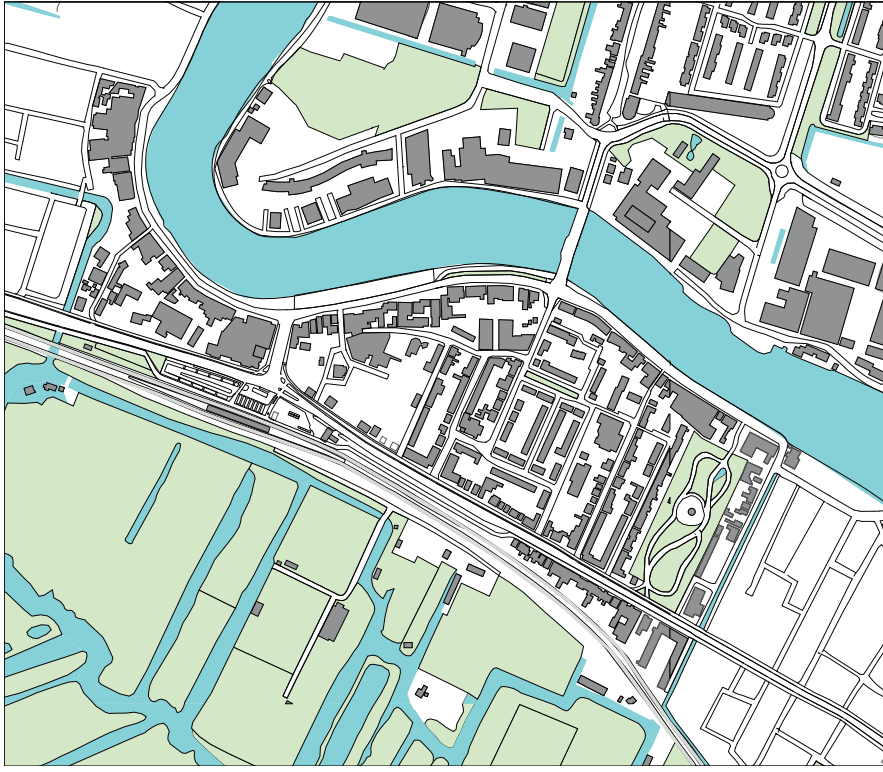
1878 Trainstation



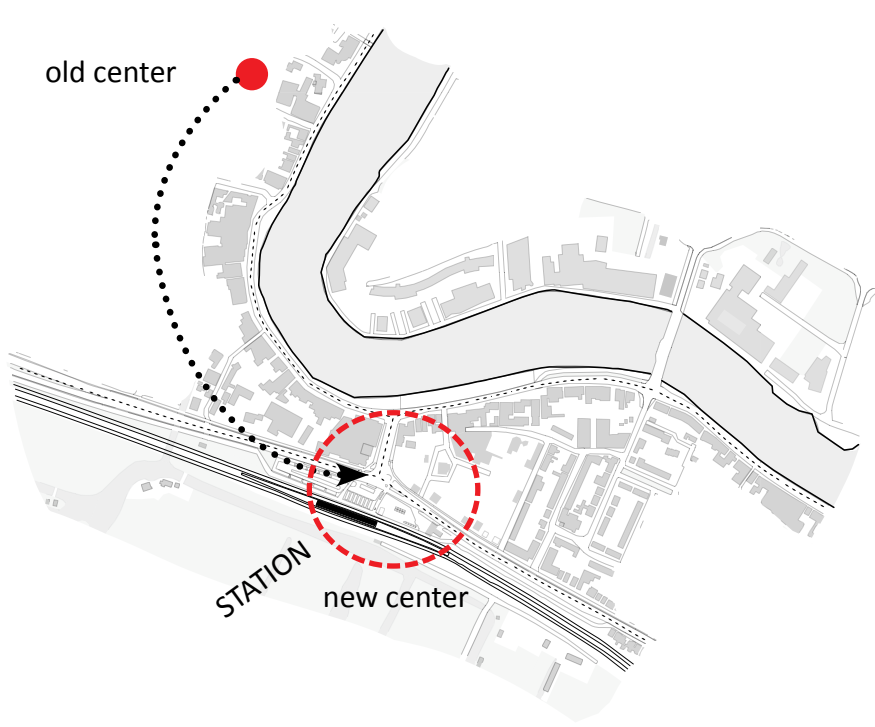
1894 Bridge connection to Wormer



1964 Factory Installations

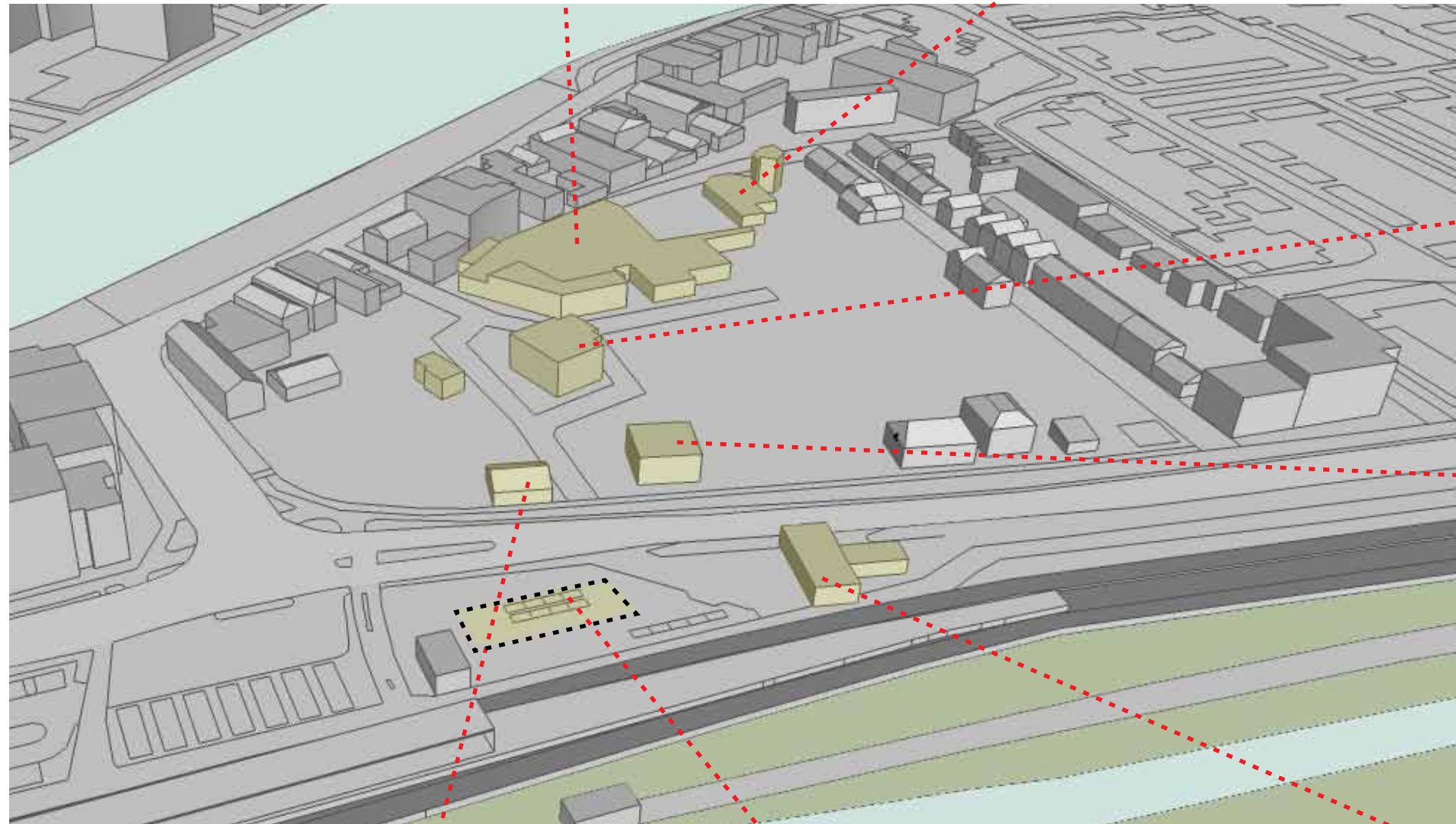


2012 Left over area



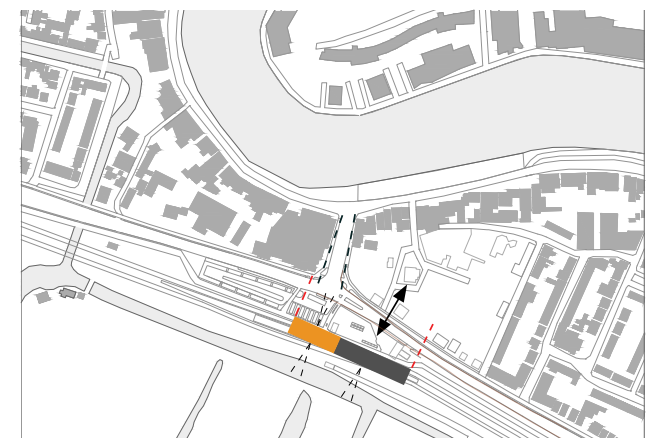
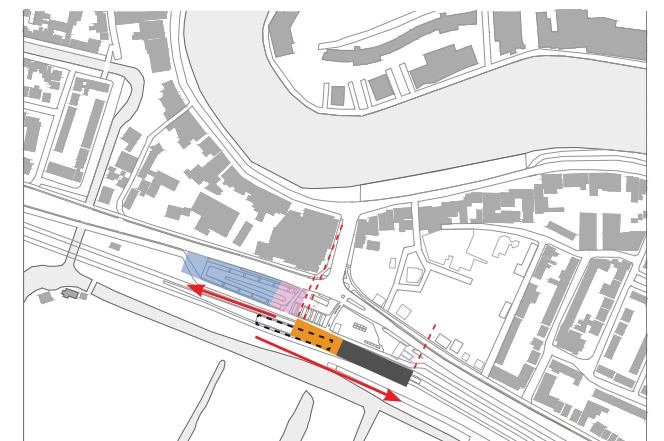
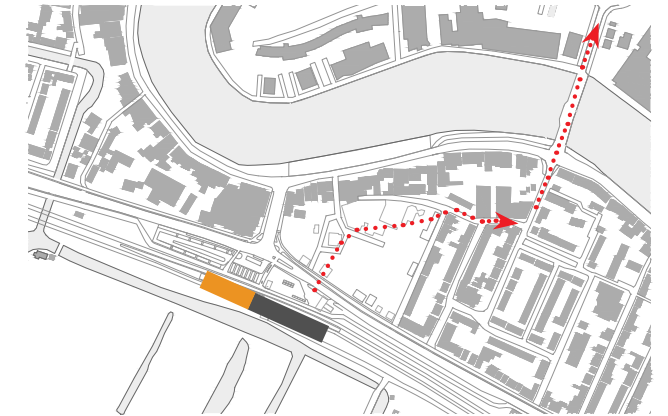
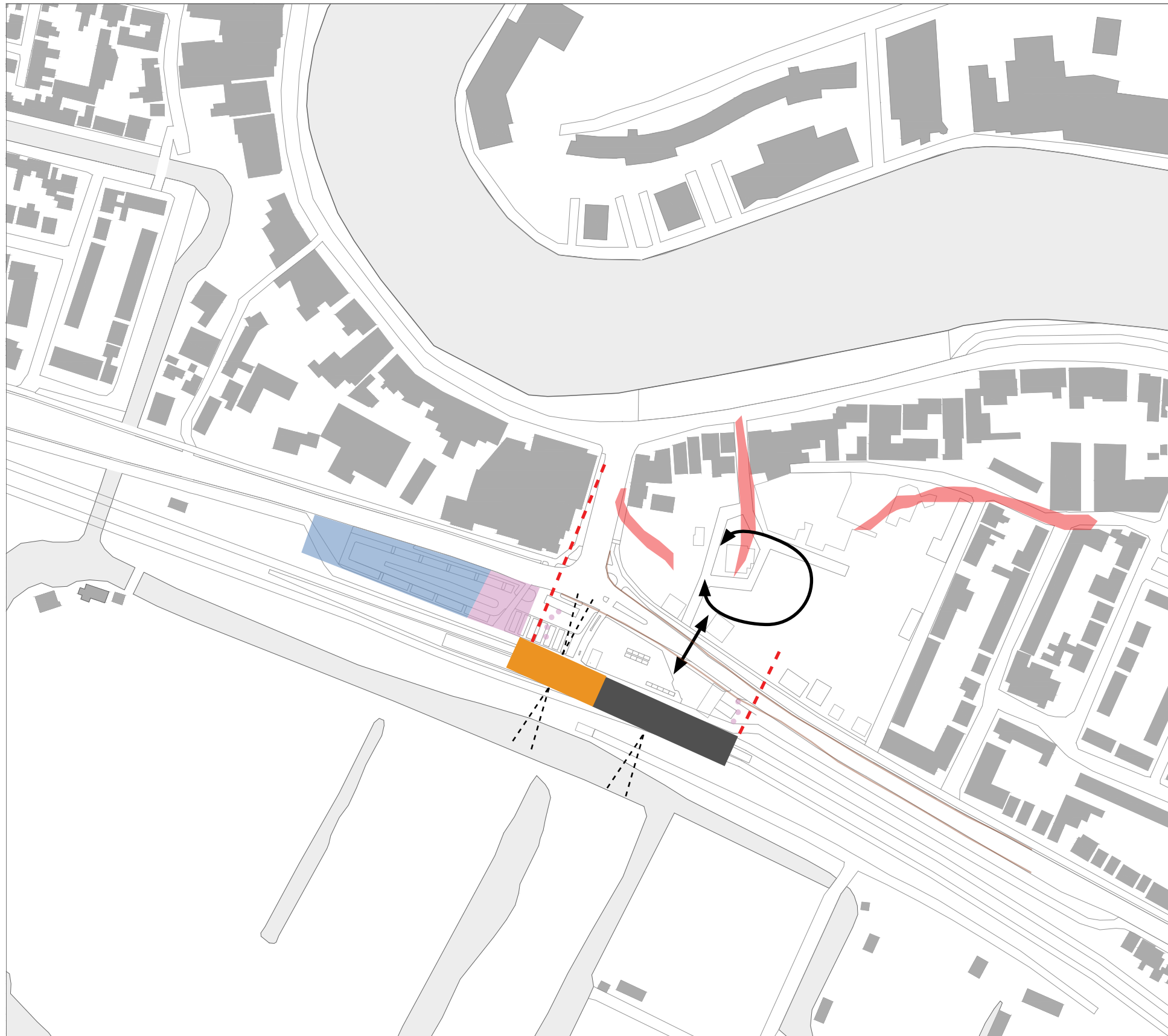


## Buildings to be removed



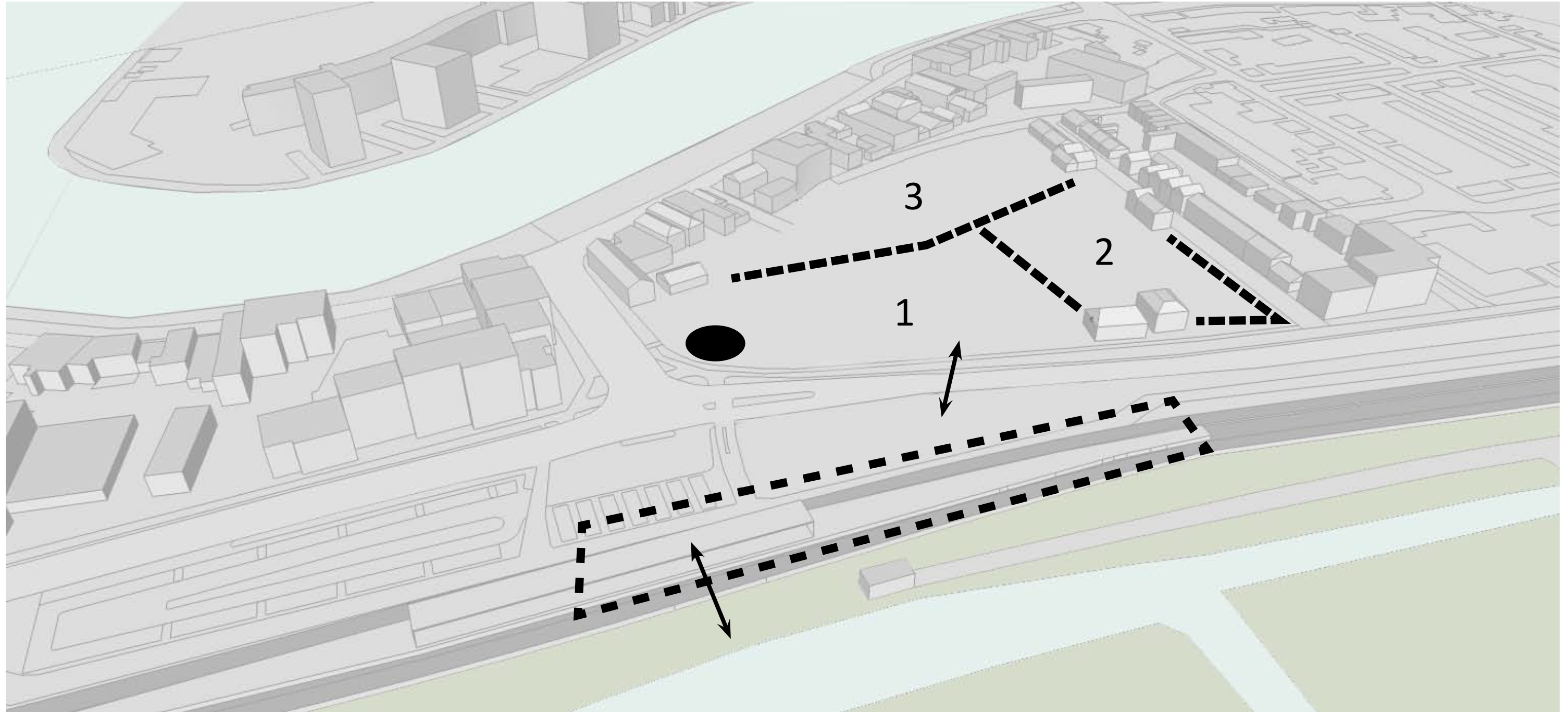


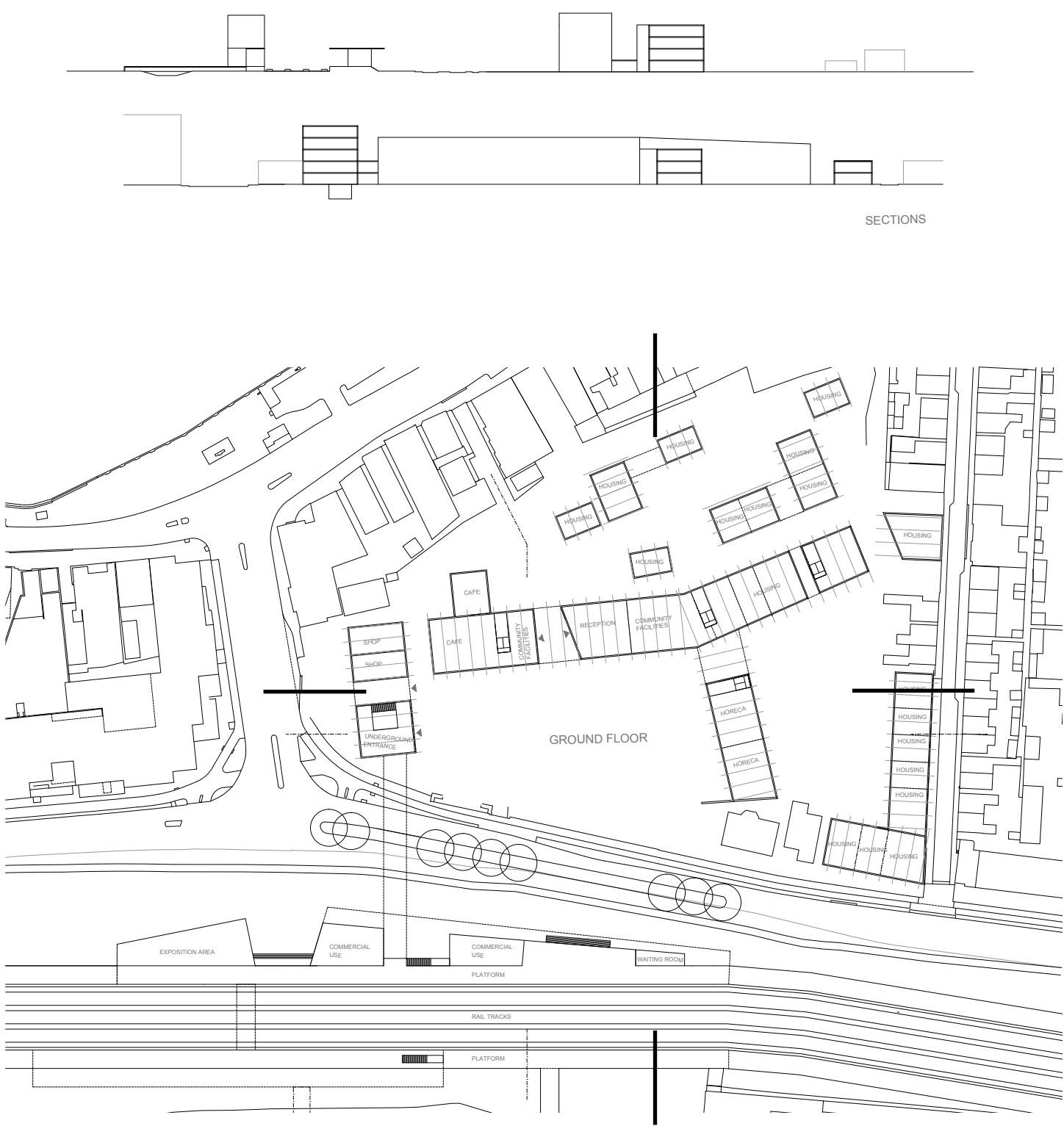
## Spatial objectives of intervention



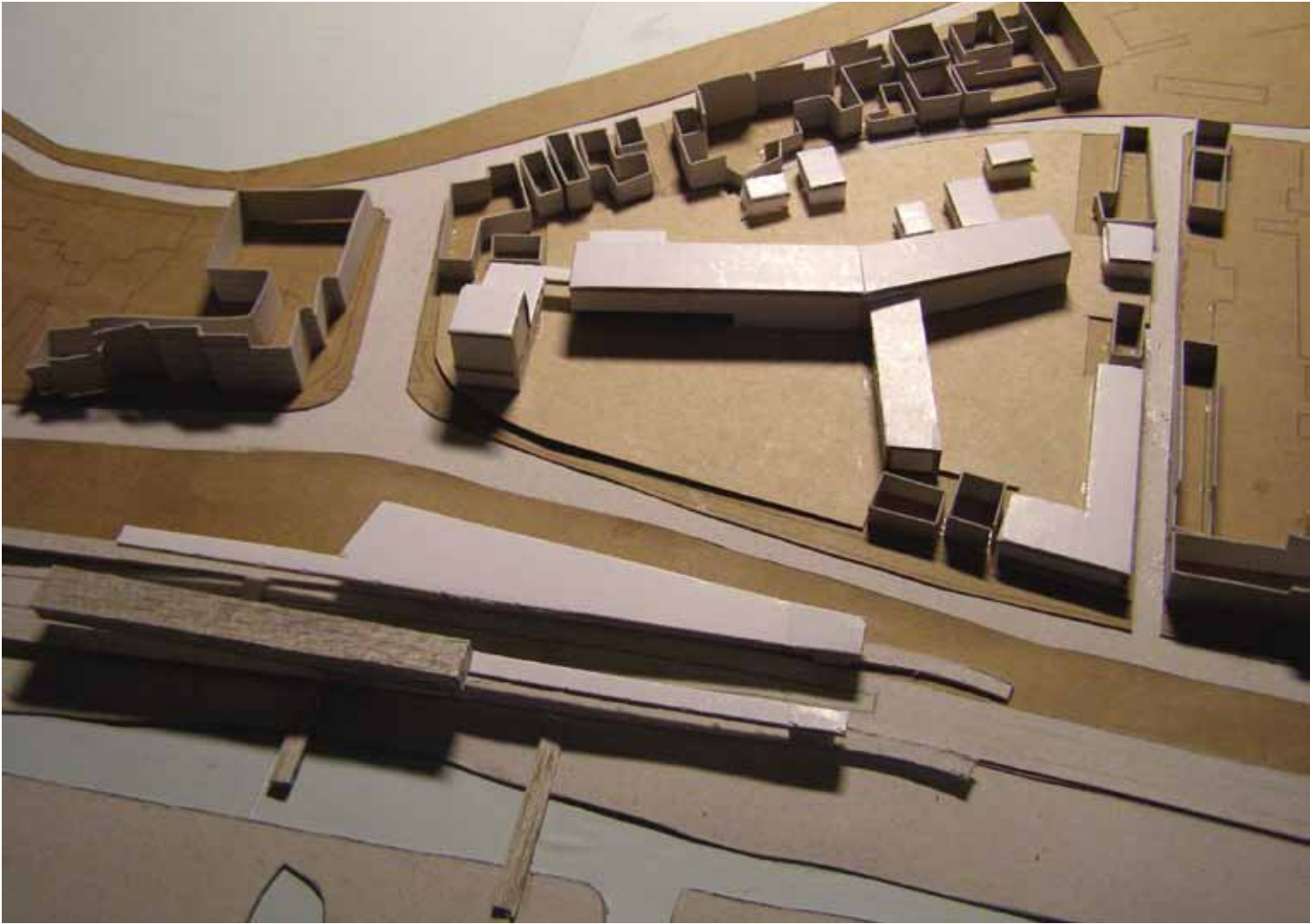


## Concept diagram





Initial Plan



Initial Model



an effort to see how the new building mass can establish a good relationship with open space, with the existing old buildings and how it can give to the empty plot the potential to integrate harmoniously in the urban tissue. The architectural decisions aimed at reconstructing the destroyed pattern of old buildings in the periphery of the plot and in dividing it, in three areas of different nature. One more public that can establish a relationship with the station, one more enclosed and private. The third space is a space with free standing small scale residential buildings that tries to define the border of the plot with the backyard of the houses next to the Zaan. This is a space with a loose configuration that contrast the densed row of houses in Zaanweg. This division intend to give to a clear definition in the plot and to adapt it's scale to the scale of the urban environment. The way that the area is divided doesn't create impermeable borders between the three sub areas. In contrast passages allow the transition from the one area to the other. In that sense, the plot can act as a transitional space for visitors coming from the train station towards the inner area of Wormerveer. Especially the diagonal movement can lead to the bridge that connects the two sides of Zaan.

Opposite to the empty plot is the train station, which now has an island structure. It is accessible by a tunnel that is in front of it, but doesn't offer a connection with the side next to the high way. The station is decided to turn to a double platform station as to be more accessible. At the same time is decided to be connected underground with the opposite side. This type of connection was considered more preferable as a more district way of connection in the densed urban environment. . Today Wormerveer station is highly inattractive due to the huge parking area in front of it and the absence of a good access. By making this intervention the character of the station is going to change. Station will become part of public life and activity and stop considered a transitional non-place.

#### ***P4 Development***

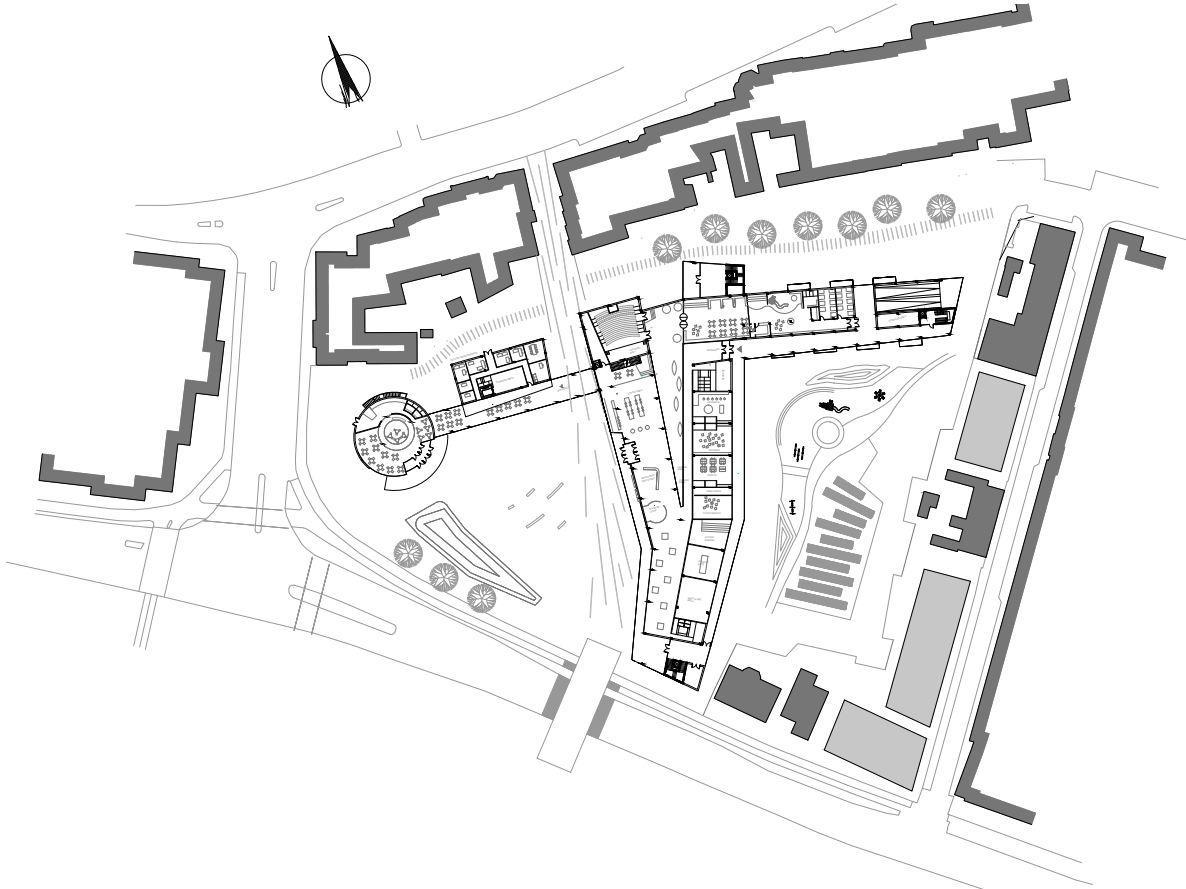
##### **Master plan development**

Based on the above analysis the master plan proposal tries to deal with the various issues that the area poses. The master plan includes the redesign of the station area, the densification within the radius of 800m around the station and the main theme of the graduation assignment which concern the development of the plot in the opposite of the station area. The train station proposed act as a shelter within the city fabric, as a generous gesture within a

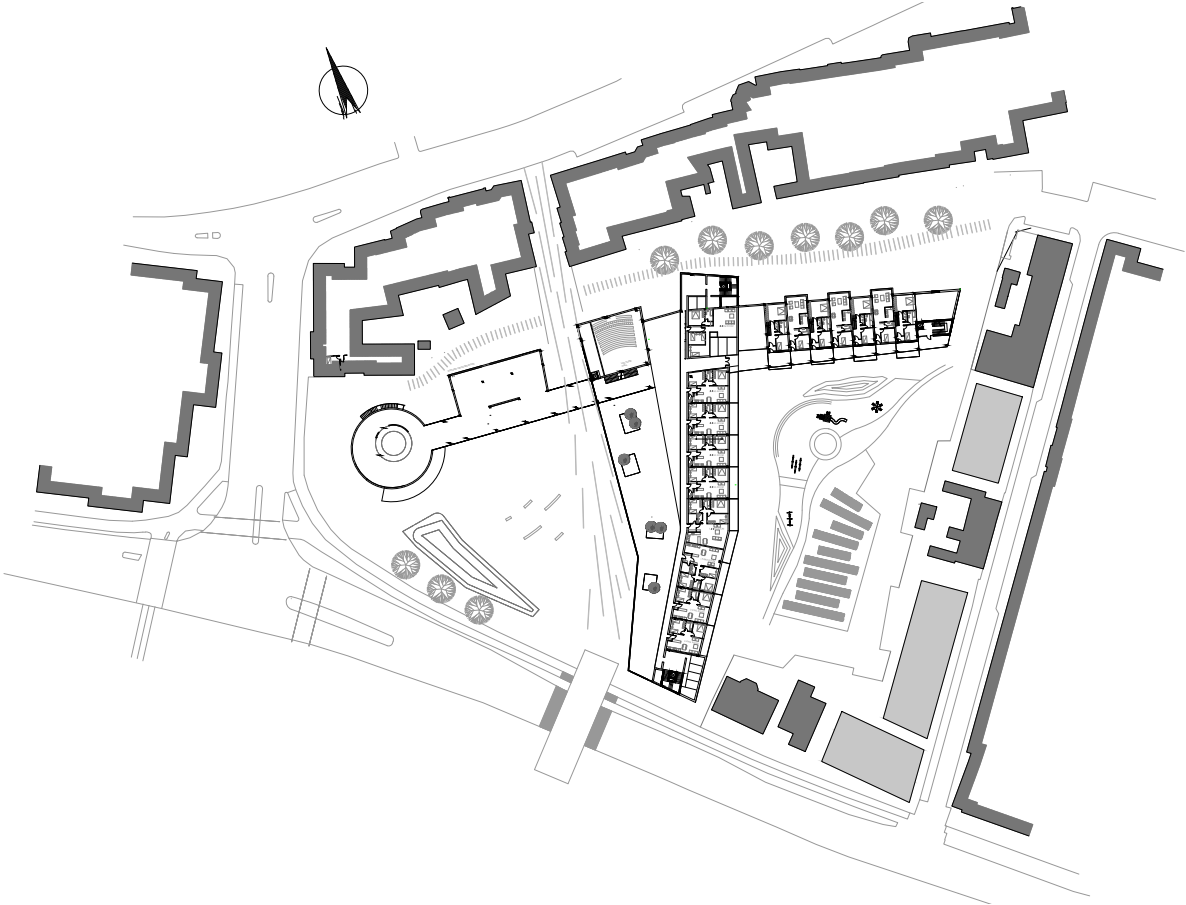
context that is becoming more and more dense. This choice is related as well with the position of the station next to the natural lanscape. The station is then transformed to a point of nature observation. The urban decisions taken in relation to the station was to give priority to the movement of pedestrians and to the way that they experience the urban enviroment. Based on this idea, the parking areas for cars and bicycles where totaly removed from the front of the station, which was previously designed by giving priority to the traffic. Bus stations, cars and bicycles parkings were reacomondated. However, provision was given as to cover the needs of car parking and the increasing ones for the bicycles. The old bicycle road in front of the station was tranfered next to the natural landscape as to enforce the contact with nature and to give access to the sport activities developed at that side. A pedestrian connection was designed between the front of the station area and the opposite plot where the new project for dwelling and public functions is proposed. The station keeps it's relation with the old station straat as well and becomes more extrovert and accessible to passengers.



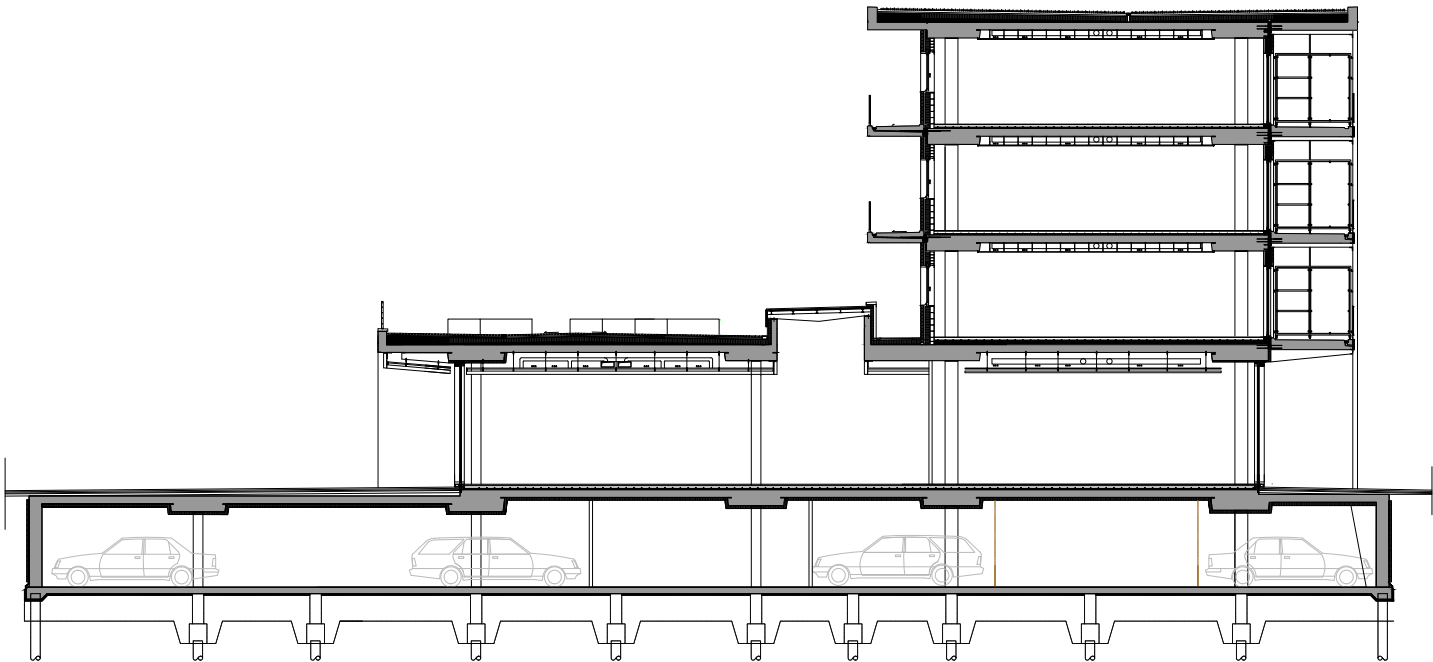
Master plan.



Ground floor plan



Typical floor plan



Section Detail



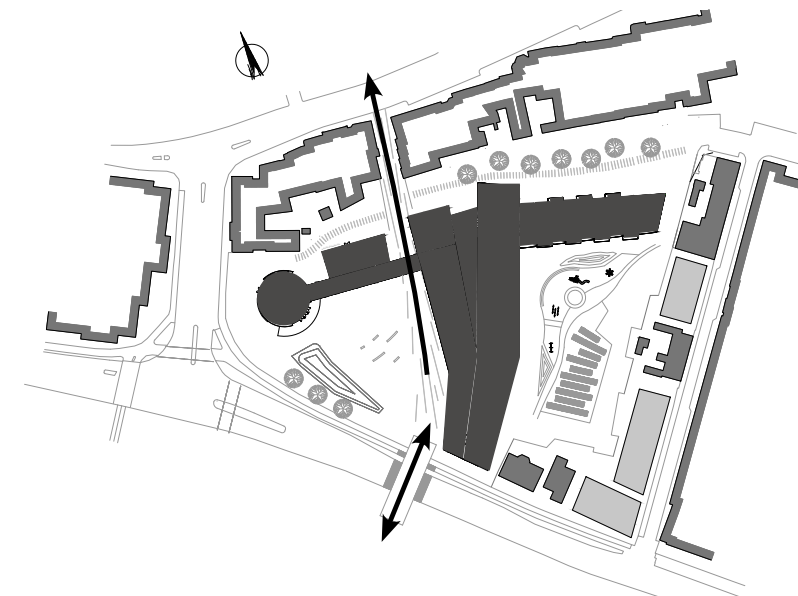
### Graduation project analysis

The starting point for dealing with the specific plot was the relationship with the station area, the surrounding urban environment and the need to create a relation with the inner city of Wormerveer. Thus the form of the building is strongly related with the open space and the desire to heal the existing urban fabric. The aim is to try to transform the plot that was acting as a backyard all these years to a frontyard. Moreover, to create a threshold for the transition to the banks of Zaan where the historical value of the place unfolds. The main concept is based on dividing the plot through the mass of the building to three distinctive areas of different character. One area more public, forming a square working together with the front of the station area. One related with the neighbourhood that acts as a communal garden. And a third one forming a green passage and a border with the back of the houses forming the front of the river Zaan. The form of the building is important to be able to reflect and betray some of the historical aspects of the place. On the other hand, it is important to adapt to the small scale of the area and to its functional character. Thus there was a need to find a balance between the modest character of the place as being a village and the need to reflect the monumental side of it. The form of the building as it developed is trying to establish a connection with the sculptural character and the typology of the houses developing at the front of the river Zaan. A round volume reminiscent of the form of a mill that was very common in the area during the old times is one of the elements of the composition that gives to the whole a dimension of monumentality. A glass connecting bridge reflects the industrial side of the place. Also the materials used are connected to the materials found in the place from the old times.

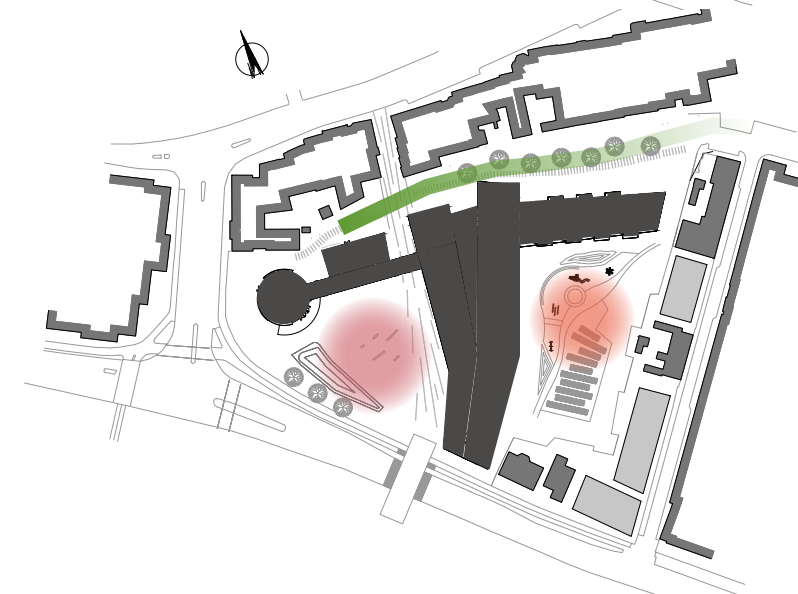
### Building program

In order to end up to the program of the building and to its functional character a study was made to the area to examine the already existing functions. Within the place commercial functions are common and small offices. Taking into account the fact that due to densification new needs for communal facilities are going to occur there was a choice of functions that concern communal activities such as exhibitions areas, a cultural center, a kindergarden, horeca, tourist point and a lecture hall. Since the area belongs to the municipality of Zaanstaad these types of functions are centralised to the south. The expected development of the place is going to create the need for such functions within Wormerveer. These functions can work well together with the open public space

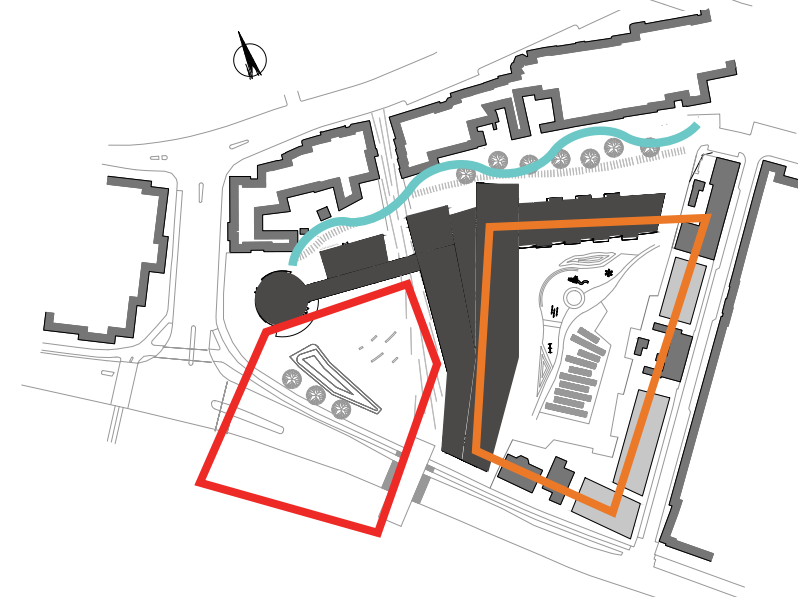
and revitalize the place. In addition as to deal with the problem of densification these public functions were combined with housing. Thus the building has a character that refers both to the neighbourhood as well as to a wider public.



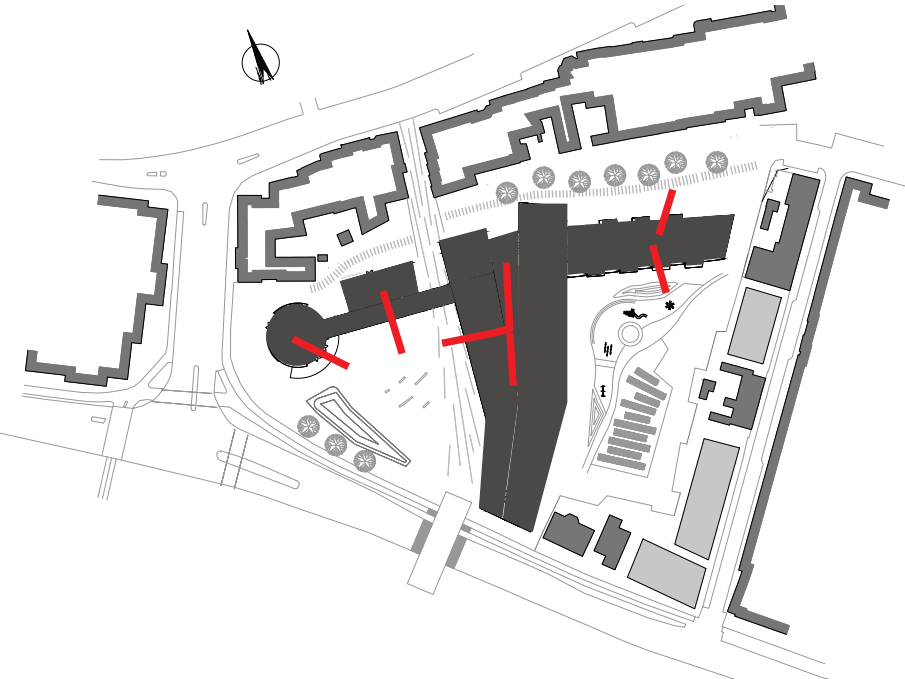
Concept diagram. Relation with the station and the inner area of Wormerveer.



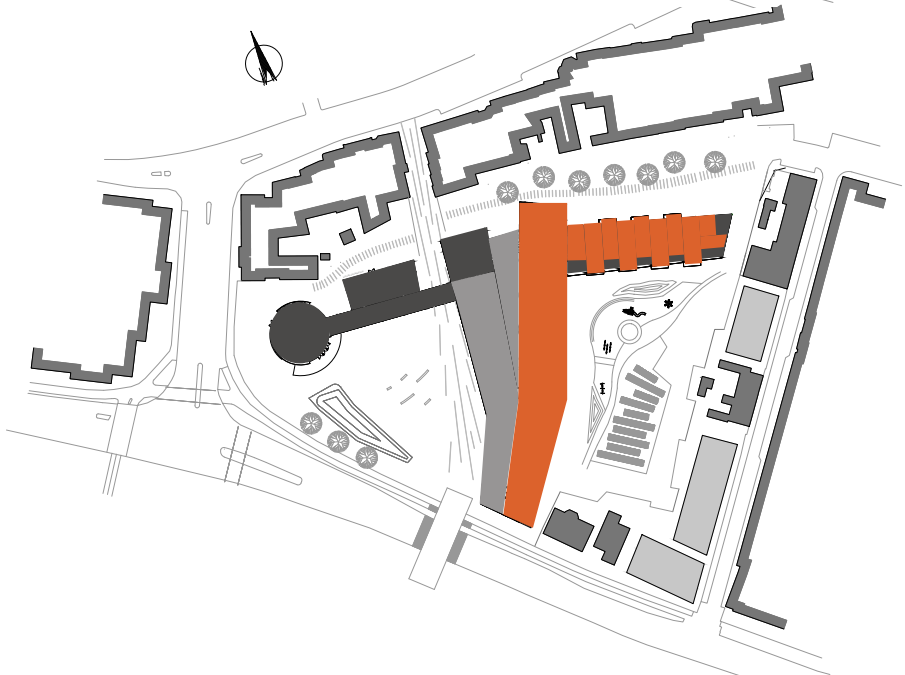
Concept diagram. Three areas of different character. Public square-Communal garden-Green passage.



Concept diagram. The building establishes a relation with the surrounding urban fabric.



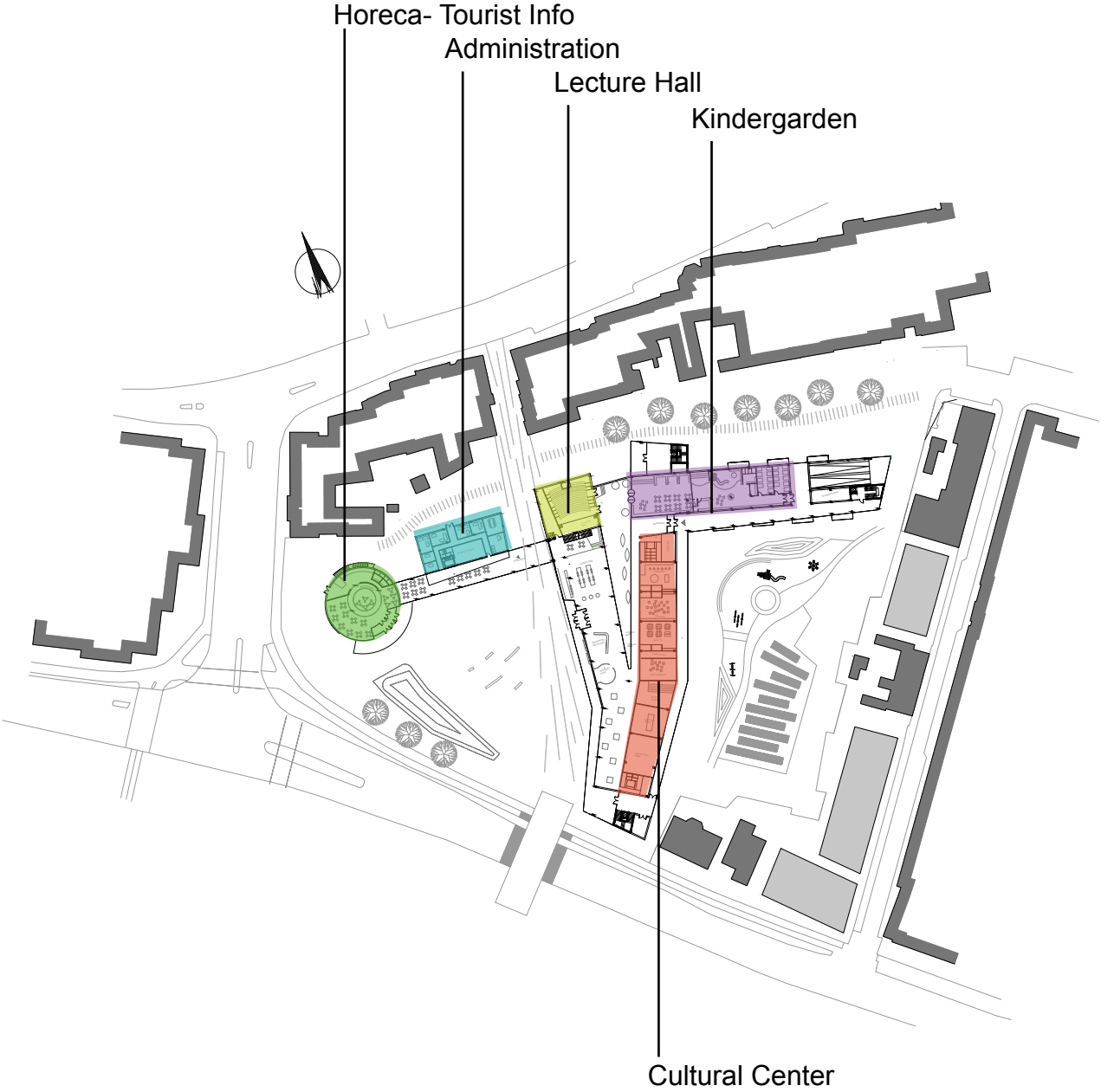
Important staircases



Housing development in the upper floors (orange). Public functions (dark grey). Roof (light grey)



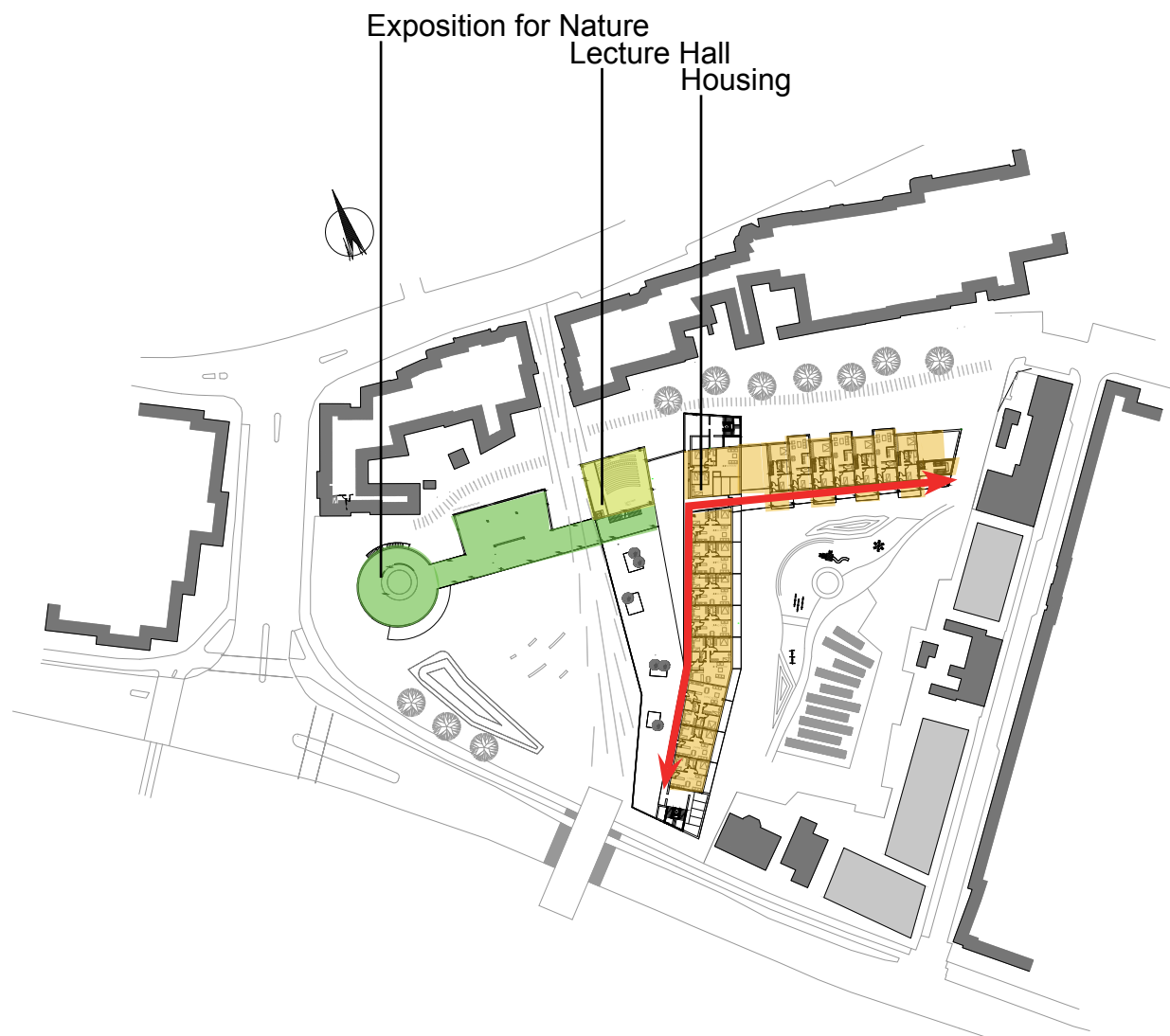
Circulation axis at floor levels





### Building typology and materials

The building is developing in a wing structure creating the borders of the open communal spaces. The wing at the northeast side is composed from more autonomous volumes that resemble to the typology of the place. While the perpendicular to that one, is a solid and taller volume. In the ground level different entrances provide access points to the interior and strengthen the role of the public square in the middle. The bigger scale public functions such as the lecture hall and the cultural center are accommodated in the bigger volume that divides the open space in the middle. Horeca and tourist point are located in the round volume and the function of kindergarden is connected with the communal garden. Administration area is accommodated autonomously in the volume next to the horeca. In the upper floor there is a clear distinction between the private part which consists of the housing program and the public part which refers to the nature organisation exposition space. The housing is developing in the bigger volume and the east wing while the exposition area is developing at the opposite side. Gallery corridors and a glass bridge are serving the circulation autonomously for these two functions. The access for the housing from the ground floor is achieved by three staircases placed at the edges of the wings while the exposition is accessible through a big hall in the ground floor of the bigger volume where the visitors can find the staircase. The materialization of the building is not related so much with the functional character as to the urban context. Thus for the side of the building overlooking the public square brick cladding is used which is common material of the old houses and for the other side overlooking the communal garden wood which is also characteristic of the place is used to create a more domestic atmosphere. This facade is also characterised by a repetition of vertical elements which is also refound again in other parts of the building adding more texture and rhythm to the whole composition.





south, bathroom in the warm core, double doors where needed, use of heat recovery systems are followed



External aspects of the building.

### Technical part

The structure of the building was kept as simple as possible to be compatible with the whole character of the building. The configuration of the parking area was crucial for the arrangement of the column grid. The main material used is concrete. In the bigger volume the building is divided to three zones. The middle based on concrete columns, the other one is cantilivered and the other one is based from the exterior side to slender metal vertical columns. To avoid using many beams in the skeleton of the building two big beams running along the building are receiving the loads and are working in the one direction and partly to the other because of their width. At the same time they are serving for supporting the cantilivered parts of the building and creating space for the installations of the roof. Due to the exposed concrete in balcony slabs many thermal bridges occur and thus special insulation with reinforcement is used in these points. In terms of ventilation the housing use a balanced ventilation system and floor heating. Low temperature system of floor heating is also used in the public space as the use of space can be programmed. Water is heated via heat pump system. In general bioclimatic principles such as using more openings in the south and less in the north, zoning of living space to



## 6. Discussion

The current research pose the problems of intervention in a sensitive urban environment due to the historical value of the place, the natural quality, the scale and the density of the surrounding buildings. All these factors create limitations and at the same time act as important incentives. What make this research difficult are questions such as how the intervention can have a contemporary character and at the same time bridge the gap between past and future? How bold the intervention should be as not to become aggressive to the existing urban environment? Which dimensions of the open public space can serve a provincial area? All these speculations are very important for dealing with this graduation project.

The design assignment can consist an answer on how architecture can become a catalyst able to revitalize a provincial area and awake memory. More specifically it can demonstrate how an architectural intervention can give potentials to a small place away from the influence of the metropolis, how it can deal with the characteristics of the rural and historical setting, the smaller scale and the composite morphological characteristics of the area. Furthermore the project assignment can pose the matter of intervention among old constructions and monumental buildings. In addition it can become an example of dealing with the design of local rail stations and questioning their role and their meaning within the provincial environment. Moreover, the proposal can give the motivation for examining composite aesthetic, technical and functional issues. It can also offer the motivation for dealing with the requirements of a contemporary compound architectural program.

## 7. Literature and general practical preference

For developing the graduation proposal there is a number of articles and literature that is already consulted and a research is still in progress for further material.

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