Westergasfabriek

A Case Study Into Adaptive Reuse of post-industrial Heritage

by

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Abstract

Adaptive reuse can be defined in a multitude of ways, but in this case it refers to the renovation and revitalisation of a building or site into a new purpose brought forth by societal and urban needs. This concerns many different projects, yet this paper aims to explore the nature of post-industrial designs and how they may be developed into something new. A rather broad concept narrowed down through the use of previously established research and a focus on a specific case study; The Westergas factory in Amsterdam.

Being the first large-scale municipal-owned gas factory in the Netherlands, it bears a heavy identity among the rest of the city. It also happens to be a prime example of effective post-industrial redevelopment in a way this thesis aims to explore. Thus, the primary question proposed is as follows:

“How does the adaptive reuse of the post-industrial redevelopment project ‘Westergasfabriek’ in Amsterdam realise the preservation of industrial heritage while meeting contemporary urban needs?”

A brief theoretical study was performed to establish a framework to answer such a question. This delves into previously researched adaptive reuse, defining optimal renovation requirements for heritage and multiple case-study in papers to narrow down the scope of this thesis. Secondly, the main case study is explored while using this framework, going through the development of the chosen project and identifying key aspects of its success into its revitalization. This is done using primary sources in the form of archival research and municipal documents, aided by secondary sources such as papers, books, photographs and official websites.

Acknowledgements

It is a learning experience to use primary sources and emphasise the importance of the origin of certain research. It is something I have admittedly, much like my fellow students, not paid enough attention to in my prior years of education. I would like to thank my tutor and guide Jean-Paul Baeten for nudging me in the right direction at times, from choosing a realistic research subject to using his knowledge of archival research to help me find all that I needed to finalise this thesis. Also for bearing with me during troubling times, I will hold this learning experience in high regard thanks to you.

Table of contents

Literature review

This is an overview of the literature used during research, which will be outlined and compared. To keep it organised, the literature has been thematically categorised into two different types: Literature about the Westergas factory itself and literature about post-industrial redevelopment. The research focuses on establishing a coherent timeline in which the whole history and journey of the factory is depicted, while also aiming to establish what good adaptive reuse is. The information which these researches contain will be kept brief as this will be expanded upon in the body.

The following research articles and sources focused on the history of the project and aid in solidifying a timeline from construction to the present state. The city archive in Amsterdam has many types of documents and drawings to detail fully the start and functioning of the first gas factories[1]. Spanning from 1888 when the factories were exploited by the municipality to 1945 at the end of the Second World War, these records show the foundation of the site. The document types contained within the archives are namely: Pictures, maps, floor plans, yearly reports, financial reports, permit requests and approvals and letters to and from contractors. Given that the factory had a set function it needed to uphold, the documents reflect changes and renovations suiting that function. This basis serves to emphasise the gravity of the transition to a social hub. Specifically for this transition to the venue it is now, the destination plan for the site made by the municipality in 2013 delves into this thoroughly[2]. The report follows the before-approved destination plan named Westergas ABC back in the early 21st century.

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1 Stadsarchief Amsterdam. (z.d.). Inventarissen. https://archief.amsterdam/inventarissen/details/5248

2 Gemeente Amsterdam. (z.d.). Bestemmingsplan Westergasfabriek: Ontwerp, 18 oktober 2013. Gemeente Amsterdam Stadsdeel West. https://www.planviewer.nl/imro/files/NL.IMRO.0363.E1209BPSTD-OW02/t_NL.IMRO.0363.E1209BP-STD-OW02.pdf

It goes over a detailed history preceding the archival data and adds more context for the neighbourhood, railway and nearby bodies of water. The before-mentioned Westergas ABC destination plan, set up in the year 2000 and afterwards revised with minor changes in 2004, is also used. Even though this plan has been revised into a new plan, some remnants of its makeup are still available at the MER milieu expert's archives[3].

These sources can be used to create a full timeline, but there are other sources for a deeper focus on the redevelopment aspect of the project. The official website gives a clear overview of the current state of affairs on the project site[4]. With an interactive map showcasing information about every building on the site and an overview of events and statistics it is a good source of information on current affairs.

Similarly, the official website of the municipality of Amsterdam has provided official information on every single building on the site[5]. Furthermore, the official development nota, also known as Ontwikkelingsnota, for the Westergasfabriek gives new insights into the development Grondel[6]. Written by the daily management bureau of the municipality, it adds information and perspectives which the official destination plan does not. Another insight into the latest permits and layout of the large silo is the account that's on the name of the former factory on Yumpu[7].

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3 Adviezen - commissiemer.nl. (z.d.). https://www.commissiemer.nl/adviezen/1338

4 Map - Westergas. (2019, 10 april). Westergas. https://westergas.nl/en/map/?noredirect=en_US

5 Data en informatie. (z.d.). https://data.amsterdam.nl/data/gebieden/bouwblok/03630012096700/?center=52.3868251%2C4.868055&term=Westergasfabriek+%28buurt%29&zoom=14

6 Stadsdeel Westerpark. (1996). Ontwikkelingsplan voor de Westergasfabriek. Stadsdeel Westerpark. https://creativecities.nl/wp-content/uploads/2013/12/19960319-scan-van-ontwikkelingsnota-westergasfabriek.pdf

7 Yumpu.com. (z.d.). 10 free Magazines from WESTERGASFABRIEK.NL. yumpu.com. https://www.yumpu.com/user/westergasfabriek.nl

Furthermore, several books have been written about the topic of industrial renovation which help with the theoretical information for the topic. Koos Bosma and Jan Kolen provide great insight into the renovation of sites like Westergas by providing urban and architectural information from years of experience.

Victor Ackerman does a good job as well, depicting research from multiple case studies relevant to his architectural firm and experience to show his ideas and insights. Koos Havelaar plays a vital role in the setup of the theory behind adaptive reuse, as he shows multiple key aspects each highlighted with its own industrial renovated heritage. It is insightful and very useful in further research.

For the site Westerpark itself, Niessen does a good job of appraising the new offices and depicting them as an example for the success of the project. Michael Stratton adds the stakeholder interest into the discussion and writes about the interests surrounding a repurposing project, which becomes very relevant in this kind of research. For a more extensive collection of similar case studies, Nijhof is very helpful with their collection of 60 different case studies

Finally, several dissertations and research papers have been written on this particular subject which were very useful in determining proper adaptive reuse in the Westerpark. Bullen and Love provide such information, considering economic and cultural aspects. Cramer and Breitling aim to provide a guide to successfully repurposing and renovating existing structures. Aranđelović and his colleagues were very informative in their analysis of adaptive reuse through case studies, because they showed what could go wrong without proper contextual preparation.

Sugden provides a dissertation, aiming to look at industrial heritage through the lens of many case studies. This work is broader in its examples and considers their success, which made it interesting to define proper adaptive reuse and then look back at their examples.

Introduction

In the narrative of urban development, among the growing influences of city densification and the opportunity to create vibrant social and cultural hubs, the adaptive reuse of post-industrial sites appears as a powerful tool to reconcile the past with the demands of contemporary urban life. Within the centre of Amsterdam lies one such site which now serves as a prime example of this aspect: The Westergas Factory. Once the first gas factory in the Netherlands providing a pivotal service to the municipality and surrounding area, it now serves a different function.

Built in 1835 and owned by private corporations, its sole purpose was to capitalise the on gas production from coal. It was on the 23rd of July 1883 that a concession was made by the Imperial Continental Gas Association (ICGA) based in London to build and expand these factories on the Haarlemmertrekvaart and Linnaeusstraat. It was not until 1898 that the municipality entered new concession discussions and took the factories under their wing. From then on, following a long run of expansions and additions to the site finally, with the demand to stop producing gas from coal as well as the city-wide gas network, the factory closed its doors in 1967. That is, until 1993 when the location was being used for events and recreation where the potential of the site was revealed. Finally, in 2000 the municipality made a redevelopment plan to give the factory an official new purpose.

While presently its site is completely redeveloped into a recreational hub providing a place rich in art, culture and community building, it does in no way relinquish its industrial past. This crossroads of past and present is what makes it ideal for exploring this duality and how it stemmed from urban needs. The primary question is therefore as follows:

“How does the adaptive reuse of the post-industrial redevelopment project ‘Westergasfabriek’ in Amsterdam realise the preservation of industrial heritage while meeting contemporary urban needs?”

To explore this optimally, a framework for proper adaptive reuse must be established. Fortunately, there is a large variety of research done on the subject, from papers to books and dissertations. The first chapter will therefore be a brief overview of the resulting key aspects of optimal adaptive reuse by combining the results of several research articles. The following chapter will delve into the Westergas Factory. Whilst using the established framework the project will be used to highlight its success in maintaining its industrial heritage through its attempt to achieve its new purpose. This is where archival research and municipal documents will help paint a clear picture, in addition to books and articles written on the project. Lastly, the results will be discussed and appropriated accordingly.

Chapter 1

To analyse the Westergas Factory appropriately, it is important to fully understand how proper adaptive reuse is implemented while maintaining the heritage of the project. The most efficient way to do this is by establishing a model to which a project can then be tested. Through previously done research it is possible to do this before delving into the case study of the thesis. First, a brief overview of the findings of the research will be depicted, upon which a model will be made with key points needed to achieve proper

Establishing the framework

adaptive reuse.

There are a multitude of different perspectives on what exactly (proper) adaptive reuse is. It is naturally perceived differently by various scholars, having different educational and professional backgrounds as well as different scopes of experience. Instead of looking for a common consensus in their produced works, a synopsis consisting of multiple key aspects of their findings will be of use in creating a realistic standard for defining optimal adaptive reuse. Through research in primarily Het Nieuwe Instituut Rotterdam where many books and works go over the subject in great detail, as well as several papers and dissertations the framework can be produced.

From this research the first predominant factor in achieving proper adaptive reuse points to being the relation the project has with its urban environment. More specifically, it is to consider the urban context, history and demands when prompting to repurpose something like the Westergas factory.

A project is reused most efficiently when a designer has a good understanding of this context and nearby urban fabric[8].

The success rate of a repurposing project is therefore directly related to the degree of knowledge and set of skills the designer in question has. This is relevant for the present interests of the site, but also the historical significance as well[9]. What is most striking about an industrial site is its long history, as it is usually after a long period of use that the idea of repurposing is brought up. How this significance is not just maintained but elevated is a crucial aspect to consider, which is especially relevant for old silos and factories with a strong historical footprint.

Miloš Aranđelović and his fellow Serbian scholars provide insight on this from another point of view[10]. Through their case study analysis of the Steam Mill repurposing project named Belgrade, they aim to show how being unprepared can lead to a project having a not so ideal new function. Some parts of the mill were inaccessible due to its new purpose and this is a missed opportunity according to Aranđelović. Preparation, research and understanding of the local urban fabric and history are therefore decisive in the success of a repurposing project.

8 Bosma, K. & Kolen, J. (2010). Geschiedenis en ontwerp. Een handboek voor de omgang met cultureel erfgoed. Vantilt, 9789460040504

9 Cramer, J. & Breitling, S. (2007). Architecture in Existing Fabric. Birkhäuser Basel

10 Aranđelović, M., Videnović, A., Gadžić, N., & Tomanović, D. (2022). Repurposing and the Impact of New Facilities on the Potential Presentation of Industrial Heritage. Sustainability, 14(10), 5915.

It is then a question of the degree the repurposing necessary to successfully revitalise a project while not suppressing its inherent post-industrial qualities[11]. In short: How much of a building or site is removed, added or remodelled to give it a new purpose while keeping its heritage. This balance is crucial, often at the heart of many renovation projects and has been a relevant topic of debate in major historical movements such as the restoration and anti-restoration movements of the 19th century[12].

It is desirable to maintain parts from the old construction, as well as renovate it as such that it meets modern standards and demands. In the case of post-industrial reuse projects, which among other heritage sites leave a strong historical impression, there are a lot of possibilities[13]. Silos and large storage units for instance are ideal for fitting in a new function such as an event space or recreational facility. Their large open space and recognizable historical features are unique and draw the attention of visitors purely on their own. Large-scale buildings, like factories or agricultural facilities, are cost-efficient and sustainable projects to be redeveloped for a new purpose[14].

Another important aspect is the involvement of projects which would otherwise not be taken into the urban development of the rest of the city. Old factories, silos, containers and storage facilities are not prone to be taken into account, upon which the gap between the heritage and the present urban fabric grows ever larger.

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11 Bosma, K., & Kolen, J. (2010). Geschiedenis en ontwerp. Een handboek voor de omgang met cultureel erfgoed. Vantilt, 9789460040504.

12 Lank, H., Price, N. S., Talley, M. K., & Vaccaro, A. M. (1997). Historical and philosophical issues in the conservation of cultural heritage. Studies in Conservation, 42(4), 307-321. https://doi.org/10.2307/1506756

13 Ackerman, V. (2010). Industrieel erfgoed : zes thema's voor hergebruik. DAAD Architecten.

14 Havelaar, K. (1970). Nieuw in oud. 20 jaar herbestemming Haags Industrieel Erfgoed. TIC, 30(124). https://doi.org/10.21825/tic.v30i124.8451.

By reusing the industrial structures in such a way as to fit them into the present urban design, the project will be ‘reactivated’ in a sense and be allowed to grow in the future[15]. Old factories can become offices and draw the attention of companies, like De Witte Dame did in the factory building previously owned by Phillips[16]. Repurposing has put it back on the map and encourages even public involvement. Westergas factory is no exception as it stopped being used as a factory after 1967, yet it reappeared when repurposing plans were made in 2000[17]. The project may not have realised its potential if left unattended, which is what adaptive reuse aims to achieve.

Lastly, there is the matter of community involvement. This is directly related to the notion that urban context is necessary to properly implement a new purpose, yet there is also the social aspect. Every successful redevelopment project must consider who the new building is intended for, how they will use it and most importantly what the user expresses as needs for the site[18]. This means that the decision for a site to turn into something else must come from the input of its intended users, as becomes apparent with what shape the Westerpark has taken. This also involves offices, theatres, even halls, art exhibitions and living spaces.

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15 Havelaar, K. (1970). Nieuw in oud. 20 jaar herbestemming Haags Industrieel Erfgoed. TIC, 30(124). https://doi.org/10.21825/tic.v30i124.8451.

16 Ferrill, M. F., & van Onna, N. O. (1998). Witte Dame: Herbestemming van een industrieel erfgoed/De Witte Dame: Redevelopment of an Industrial Monument. Designwarehouse.

17 Gemeente Amsterdam. (z.d.). Bestemmingsplan Westergasfabriek: Ontwerp, 18 oktober 2013. Gemeente Amsterdam Stadsdeel West. https://www.planviewer.nl/imro/files/NL.IMRO.0363.E1209BPSTD-OW02/t_NL.IMRO.0363.E1209BP-STD-OW02.pdf.

18 Bosma, K., & Kolen, J. (2010). Geschiedenis en ontwerp. Een handboek voor de omgang met cultureel erfgoed. Vantilt, 9789460040504.

Overview

With all the sources combined, now it is clear which key aspect one needs to pay attention to when evaluating the degree of success of an adaptively reused post-industrial site. This framework will be used as a guide when looking at the Westergas Factory. The sources used for this will of course be repeatedly used in the following chapter, but this makes it much more coherent. Below a graphical representation is given for which sources represent which aspect the best.

Figure 1: Graphical representation of the key points from each source of research

Chapter 2

With the framework and research on adaptive reuse in place, it is now possible to delve into the redevelopment process of the Westergas Factory. Considering the long history of the project and the large amount of changes it is first important to formulate a timeline of all these occurrences. Following this, a critical analysis of the degree of repurposing will be discussed upon which a proper conclusion can be drawn.

1700 - 1875 | The Landscape

The end of the 17th century is where the site had its earliest and most relevant development[19]. Up until this point in time, there was only a single means of connecting Haarlem with Amsterdam: Spaarndammerdijk, also known as Haarlemmerdijk. This dike served mainly to protect the IJ, which meant a constant risk of breaches and floods making this connection less than ideal. It was in 1631 that a decision was made to build a new connection, much safer yet not widely used due to the growing efficiency of road transportation. It remained active, however, until 1860 and despite many constructions on and surrounding the polder, its structure can still be seen on the north side of the Westergas site. It was used to transport excess water from then on out.

19 Gemeente Amsterdam. (z.d.). Bestemmingsplan Westergasfabriek: Ontwerp, 18 oktober 2013. Gemeente Amsterdam Stadsdeel West. https://www.planviewer.nl/imro/files/NL.IMRO.0363.E1209BPSTD-OW02/t_NL.IMRO.0363.E1209BP-STD-OW02.pdf

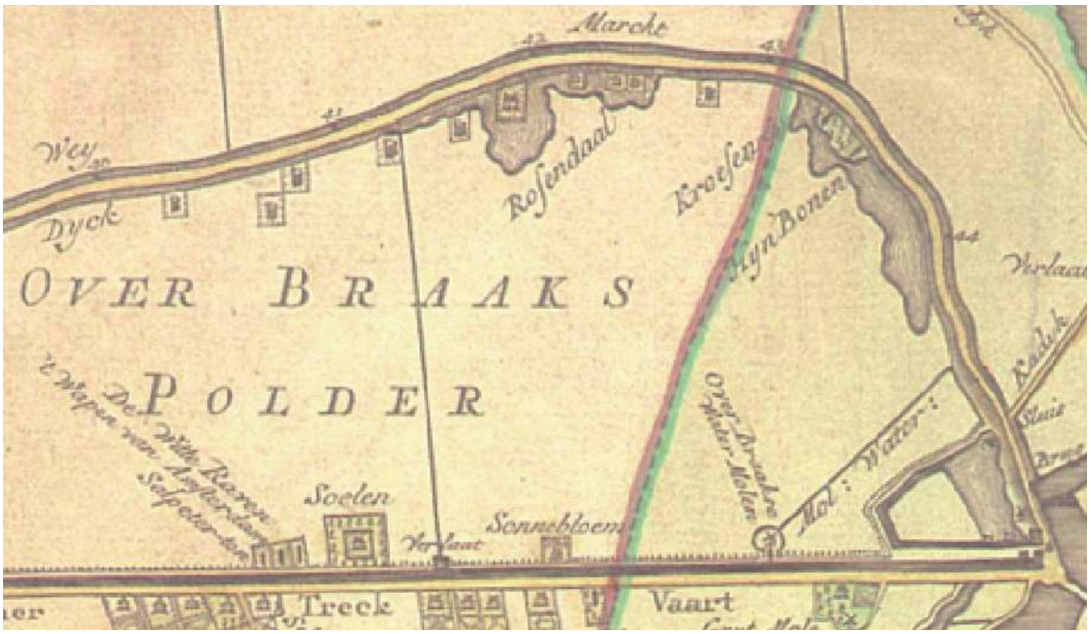

Figure 2: Map of Spaarndammerdijk from 1770 (Municipality Amsterdam, 2013)

A significant expansion was added during this time, in 1839, being the first railway in the Netherlands connecting Haarlem and Amsterdam. Owned by the Hollandse IJzeren Spoorweg-Maatschappij (HSM), it went right past the project site along the Haarlemmertrekvaart. Train station d'Eenhonderd Roe was positioned where the Westergas factory was to be placed. The station was operational until the forties before it was replaced by a station called Willemspoort in 1843. This new station was positioned at the now east entrance of the site location. It remained active until the Central station was officially built, upon which the station on the Westergas site was promptly demolished in 1880. Following this the train tracks were rerouted to the north, no longer following the Haarlemmertrekvaart. The space now free in between the waterway and the railway was promptly used to build the Westergas factory.

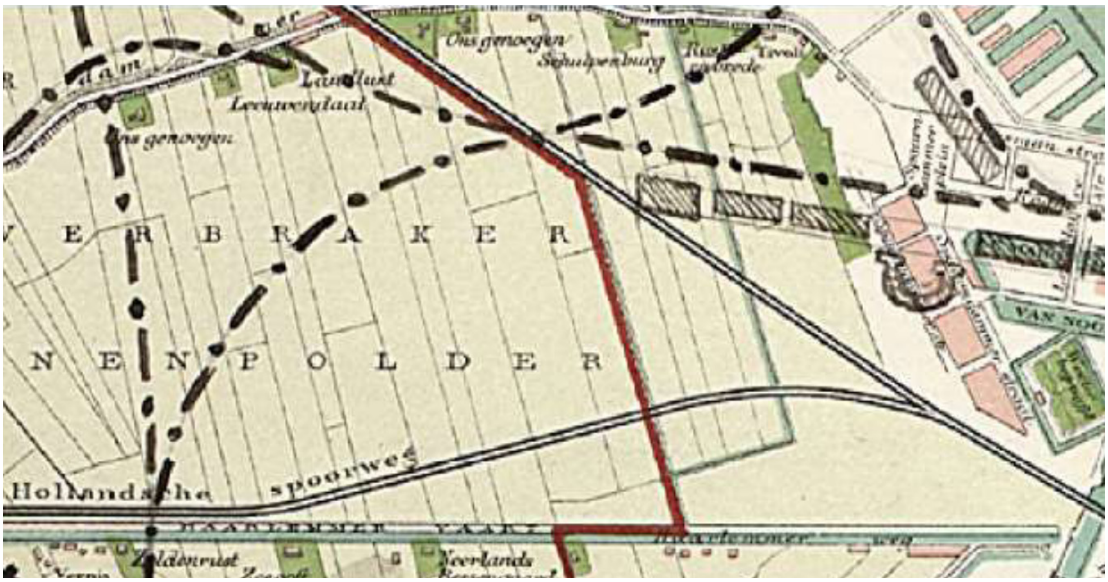

Figure 3: Map of redirection railway and site of Westergas factory 1881 (Municipality Amsterdam, 2013)

The first site plan for this new space, part of the Kalff plan designed by J. Kalff in 1975, aimed to create a new public park. This was meant to replace the old park from 1840, removed due to the recent changes in waterways and train tracks (Appendix A). Most of the site was to be used this way and the plan was released in 1891. It was modified however due to the location sharing the new biggest gas factory in the Netherlands, the Westergas factory.

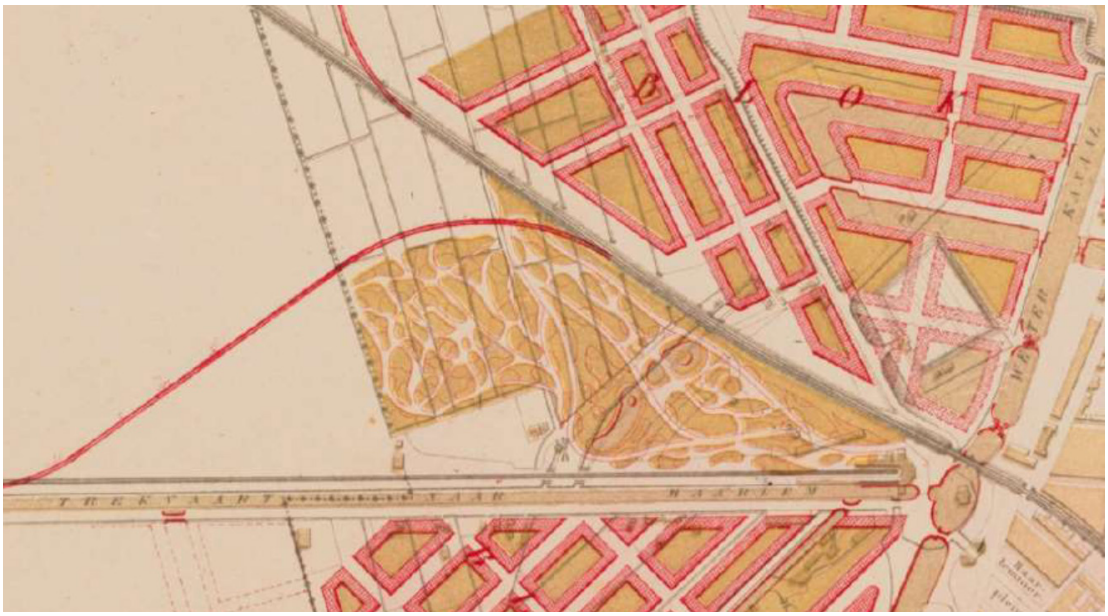

Figure 4: Map of plan public park from Plan Kalff, from 1877 (Municipality Amsterdam, 2013)

1876 - 1897 | Construction and Exploitation

It was in 1883 that the construction of the Westergas and Oostergas factories started[20]. They were not fully owned by the municipality at that time, but rather by the Imperial Continental Gas Association (ICGA). This association had previously owned two coal factories from 1935 onward, which was the main production of gas at the time. Concessions were made to allow the construction of two new factories and in 1885 the buildings and containers were finished. This concession was to last for 30 years, until 1915. Extracts can be found from 1975 requesting permits for the building of a new gas pipe infrastructure and several other smaller buildings (Appendix B, C and D). With the factories built, it was not until 1895 that the concessions were withdrawn and new negotiations were started. It took 2 years until the decision to exploit the two factories to the municipality was made, which was finalised in 1897. The new municipality-owned factories started to see many changes and expansions from this point onwards. It is important to focus on the Westergas factory in particular at this point, considering the Oostergas factory experienced its own set of changes.

1885 - 1967 | Constructions factory

The earliest depiction of the site plan with buildings belonging to the factory dates to the year 1904, upon which the factory was already municipally owned. The buildings initially constructed by the ICGA can still be identified as those added after the exploitation are highlighted in red (figure 5).

20 Stadsarchief Amsterdam. (z.d.). Inventarissen. https://archief.amsterdam/inventarissen/details/5248

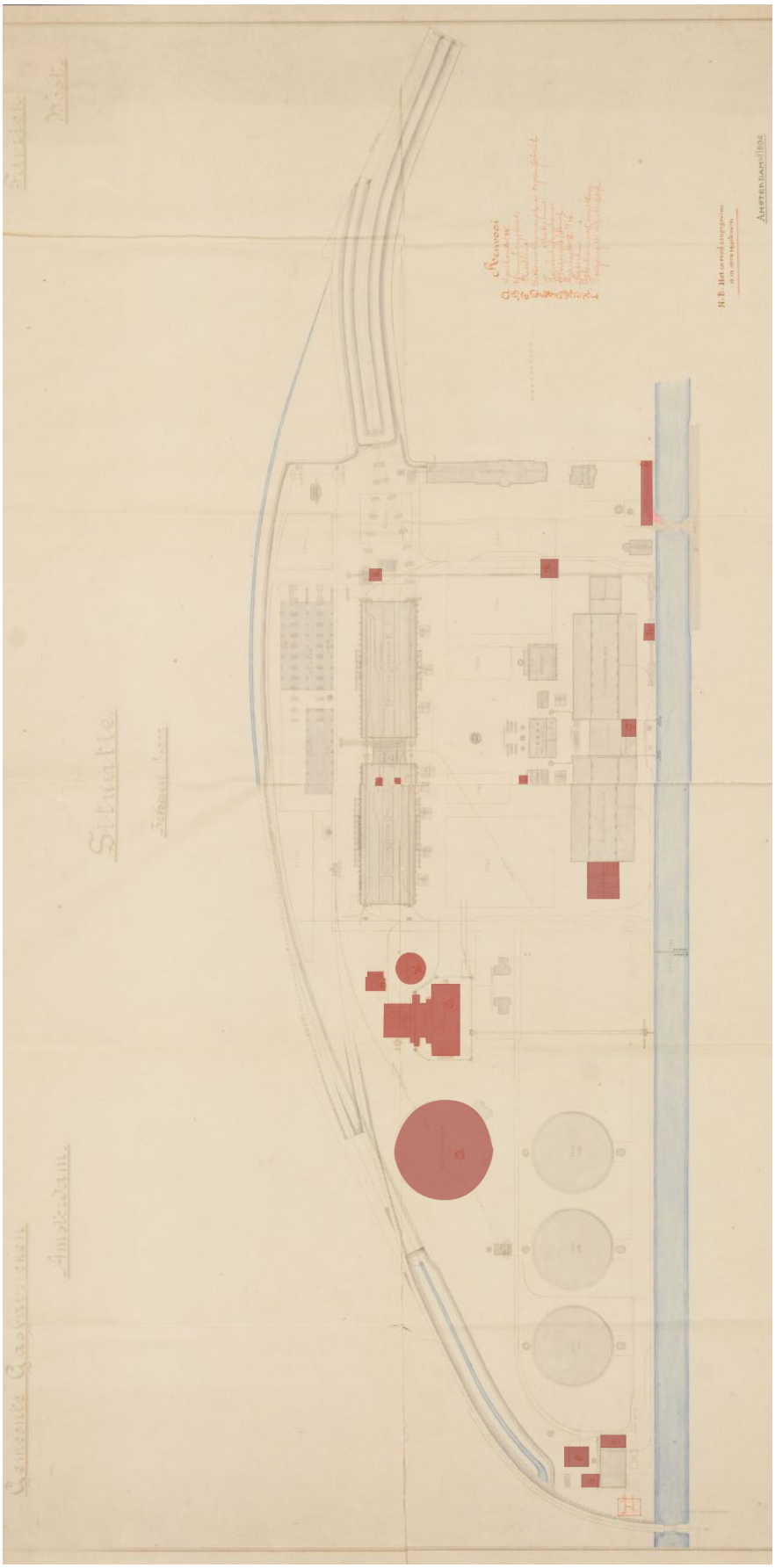

Figure 5: Situation of Westergas factory with municipally added constructions, 1904 (Stadsarchief Amsterdam, z.d.)

It is of note that the smaller silos which were built first are positioned along the railway to the west, which was done in the case of an explosion or other harmful events. This railway was headed directly for a trash heap and less active connection to Haarlem. Given that the factory had a logistical and utility function the large open space was left free for cranes and transport of goods. There is a noticeable branch of the train tracks going into the site for this very purpose. Most administrative buildings are positioned to the east, right beside the Westerpark on the other half of the site. This was done for ease of access and a logical division of functions on the site.

The largest changes which happened starting in 1902 are the additions by the municipality, mainly the large gas silo and factory building. This happened at the same time as the rising of the ground level of the site due to it being placed on a polder landscape. This sectional process has been marked on a map in Appendix E. The large silo, at the time, was one of the largest ones constructed in Europe, with a 100.000 m3 volume. This made the factory internationally famous, with various sponsors and business partners in mainly England and Germany. A large water gas factory was constructed at the same time, east of the silo. The municipality expressed their desire to drastically increase the production of gas since its exploitation with the use of this method. The benefits of this method are the quick production of gas in short amounts of time, which the municipality wanted in response to the intense increase in demand. This increase in production is visible in Appendix F in the form of a graph. A steep increase is visible from the moment the municipality had exploited the factory.

Date	Employees in service	Production [M3]
1919	436	-
1920	492	-
1921	436	66.057.897
1922	410	75.189.538
1923	392	81.083.530
1924	357	83.214.373
1925	368	88.031.790
1926	374	93.654.490
1927	356	102.656.960
1928	355	108.994.990
1929	358	116.767.020
1930	365	116.404.350
1931	369	117.719.020
1932	353	115.081.340
1933	350	111.529.820
1934	343	98.649.790
1935	319	87.731.460
1936	283	84.126.610
1937	267	85.075.460
1938	257	85.435.700
1939	310	86.843.180

Figure 6: Table of total employees and total gas production between 1919 - 1939 (Stadsarchief Amsterdam, z.d.)

After these large renovations, steadily the site started to expand. In 1906, right after the additions, plans were made to add 2 more factories, which were built and operational in 1913. One of these was primarily made to produce ammonia. The large rise in demand increased, until 1917 with the start of the First World War. Demands plummeted, yet a new demand for lighting services rose. In the crisis, Oostergas and Noordergas factories had to stop production and turn into distribution centres in 1921 and 1924 respectively. They were being supplied gas from coal, which was less needed but still quite relevant, from the remaining two factories Westergas and Zuidergas. During this time the demand for street lighting, commercial lighting and residential cooking appliances rose. From 1924 on the demand started to rise again. In 1933 the ammonia factory was replaced by a compressor building for the nearby distillery.

Any information surrounding the developments of the factory is not visible in the archives, as they halted around 1945 due to a move of the archival data around that time. Many documents were destroyed or misplaced, and the municipal archives do not have any documentation readily available for this period. The destination plan of the municipality is clarified on a broader scale. Around 1955 a new water gas factory was added to the site to increase the short time production, along with the renewal of one of the gas silos. Despite these recent changes, the production of gas from coal was halted in 1960. This led to the demolition of several silos, excluding the largest one, as well as the main distilleries and some other smaller buildings. In 1967 the factory officially stopped its services due to the halting of city gas. This led to the final demolition of the large water towers and any other used buildings, excluding mainly the following[21]:

21 Gemeente Amsterdam. (z.d.). Bestemmingsplan Westergasfabriek: Ontwerp, 18 oktober 2013. Gemeente Amsterdam Stadsdeel West. https://www.planviewer.nl/imro/files/NL.IMRO.0363.E1209BPSTD-OW02/t_NL.IMRO.0363.E1209BP-STD-OW02.pdf

- The large silo
- Purification building
- Director and engineers buildings
- Office building
- The old and new water gas factory building
- The “Ladderhuis”
- The boiler house
- The meter houses
- The regulator house
- The sluice complex

1968 - 1997 | Initial plans repurposing

The municipality did not abandon the site completely and right after its closing and demolishing discussions and planning about how to repurpose it were being held. Several ideas such as tram depot or train washing station were being considered, all of which have a noticeable emphasis on industrial or logistical purposes. It seems the municipality still viewed this location as suited for such a purpose, but the general public was not amused. The nearby inhabitants openly voiced their distaste for the plans and after discussions, the site was made into a public park and recreational site. The previously mentioned Kalff plan was used by the public as a metric for how the site was meant to be used. In 1991 the final nail was hit and the site was appraised as a Rijksmonument, which protected it from demolition. Several governmental institutions were still using some of the buildings, such as the municipal energy company, but the buildings became officially part of the Westerpark in 1992. From then on, until the official new plans were to be set in motion, the site would be temporarily used for recreation and events.

1997 - Present | New plans

The first destination plan for Westergas was released in 1997, which aimed to reuse the site for something new[22]. With the growing demand for recreation from the public, and how it had been used as such for the past 5 years, it was decided that this would serve best as a new function. Westergas ABC was set up as the initial destination plan, which was compiled until 2003, upon which it received a renewal. The renewed destination plan is the one which was executed into the site it is today. Before it even started the ground needed to be checked, which as previously mentioned has remnants of the old polder structure as well as raised ground level work in the past. This however did not impede with allowing new projects to take place, with a slight warning to not dig too deep given the history of the ground.

As it stands, the site has completely been refurbished into a vibrant cultural hub[23]. There are a total of 39 new functions, but due to the flexible destination plan, this keeps ever-changing (appendix G). The biggest highlight of the location is the still-standing gas silo, which now holds events, weddings and concerts from a variety of artists and musicians. The structure, which applies to many of the existing buildings, is left to its original state with some additions for quality-of-life improvements. It is important for safety and comfort that the buildings are up to code, especially considering the large amount of visitors some of these buildings get. Naturally, this degree of renovation varies from function to function. For a cafe, it is necessary to have proper installations and conditions for the kitchen for example. There are plenty of such cafes in the area.

For theatres, it needs more changes, as it can house a multitude of people, provide comfort in seating and atmosphere as well as sound isolation. The offices on site require comfort indoors suitable for a workspace, cable management and ventilation.

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22 Adviezen - commissiemer.nl. (z.d.). https://www.commissiemer.nl/adviezen/1338

23 Map - Westergas. (2019, 10 april). Westergas.

The silo itself requires a neat strategy to redevelop which appears to be a large task, but its large structure was already suited for its intended purpose. It was intended to become a multifunctional space. Contrary to popular belief, as well as the name, the silo which stands today was not the part of the construction which held the gas. This is merely the support, it was on top of this that the gas was being stored. Much like other silos in the research done, it is more of a matter of filling in the current construction. The insulation was to be replaced and brick construction was to be cleaned and updated. A flat floor was needed, cleaning potential mould was needed as well as the addition of entrances and (emergency) exits.

As for the architect of it all, this was decided through a selection process[24]. 3 local stakeholders were allowed to sit down and together formulate a list of 12 possible architectural and landscape bureaus to redesign the new plans. These 12 bureaus would introduce themselves, propose their ideals and formulate their insights. From these, 5 would be chosen to start draft designing. These drafts would then be presented and discussed among each other and relevant parties. Note that these draft designs were very strict, where the budget and scope of the project had tight regulations the designs had to follow. After these plans were presented they would be allowed to receive input from the neighbourhood, as well as the project group.

After all this consideration a single architect was chosen and started finalising their design with the proper input.

24 Stadsdeel Westerpark. (1996). Ontwikkelingsplan voor de Westergasfabriek. Stadsdeel Westerpark. https://creativecities.nl/wp-content/uploads/2013/12/19960319-scan-van-ontwikkelingsnota-westergasfabriek.pdf

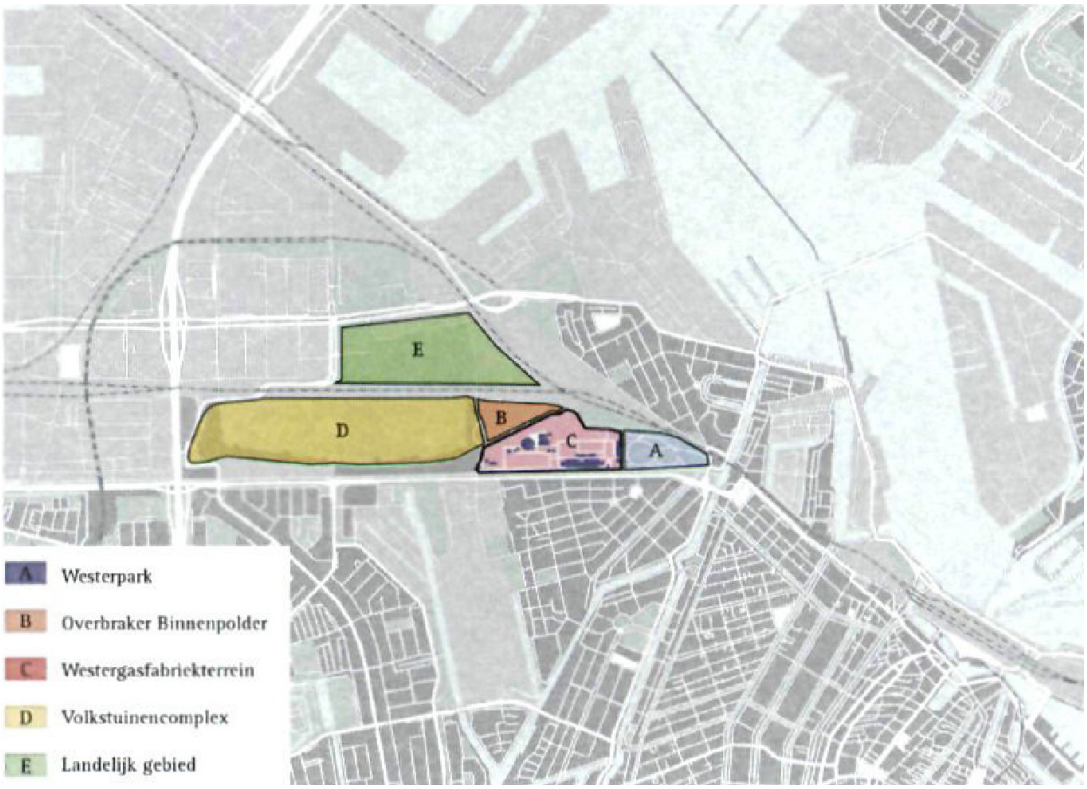


Figure 7: Location Westerpark in municipal plan margins (Adviezen - commissiemer.nl, z.d.)

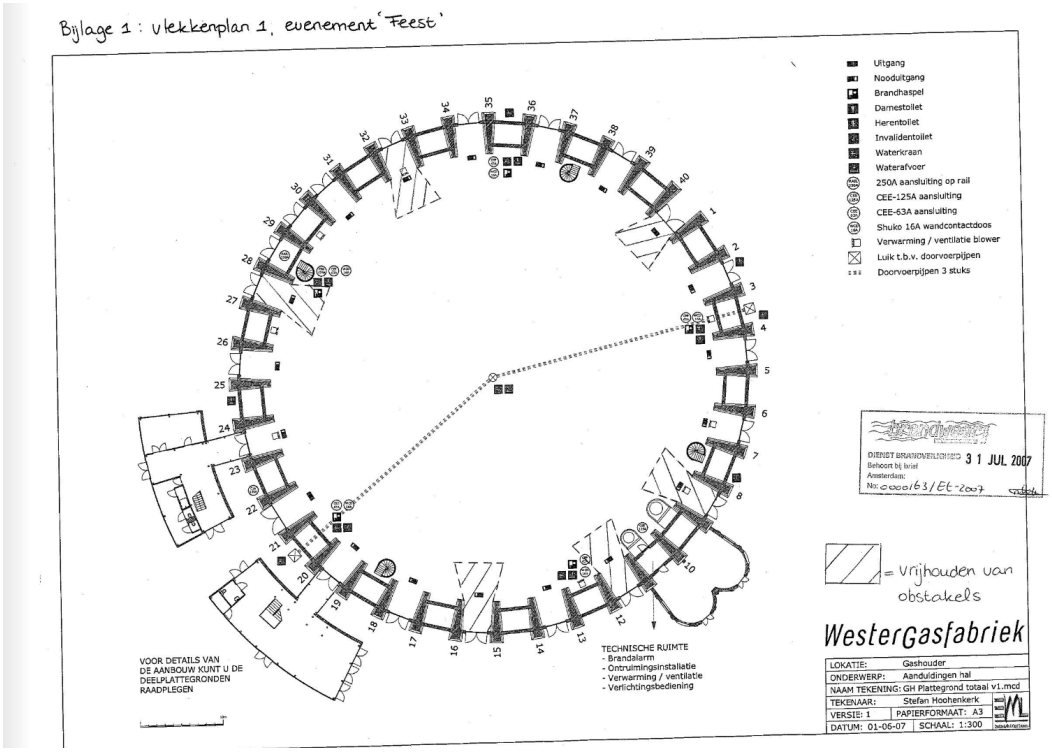


Figure 8: Floor plan of the newly constructed multifunctional silo (Yumpu.com, z.d.)

There are a few key points which were at the heart of the redesign:

Adaptability

In certain areas the old structure is left with room to expand should the need arise. This is unique for a building with such heritage and allows the site to get as big as it needs for certain facilities. It does however abide by strict greenery concessions, as the whole site apart from the existing buildings is seen as a ‘green’ space which should be constrained as little as possible. This is done in response to demands for it to be a park for recreation.

Green heart

The project is dominantly green. The only buildings present are those which were not demolished after the factory closed down. Now, the location leaves space for lots of greenery in the shape of parks, trees, walking paths and recreational fields. It is of most importance to the project that the removal of such greenery must be avoided unless strictly necessary.

Limited stores

Although it is allowed for shops to settle in the park in one of the existing buildings, the park association only allows a select few. It is not intended for the park to fill up with commercial outlets and stores, only those which are in a specific retail branch are carefully chosen to not impede in any way.

Water maintenance

There are three main bodies of water on the site, which need to be taken care of under strict regulations. For the longevity of the project, it is important to recognise the severity of clean and flowing water, as well as water supply and discharge. This is done through the establishment of a water management plan set up in 2010 which also includes regular inspections.

Cultural hotspot

The park now aims to become a beacon for expression in art, dance, music, architecture and landscape. The park has admitted that it is now, along with many other modern project sites, allowing its destination plan to be firmly present but not rigid. Rather, it applies a more flexible approach and allows for functions within the buildings to change to keep things creative and vibrant. Offices are present but can be combined or even temporarily house art exhibitions or music spaces. This allows for more development opportunities,and makes the site grow just as fast if not faster compared to the surrounding urban fabric.

Accessibility

The park is open to everyone, as the walking paths and Westerpark are available for recreation or exercise. It is commonly used by joggers, tourists, people walking their dogs or simply taking a stroll. With multiple bus stops along the Haarlemmertrekvaart, which directly connect to the relatively close Central Station, it is also emphasised to have a great ease of access. This is less apparent for visitors coming by car, who are not allowed on the premises without having business with one of the stores. There is a car park close by however.

For further pictures of the current state, taken personally, refer to Appendix H, I & J.

Conclusion

The timeline of the Westergas factory and the detailed repurposing plan can be used to properly identify how the park has produced a successful adaptive reuse project which meets current urban needs while maintaining its heritage. To do so, the research must be compared to the situation of Westerpark and its history and context. It is clear that the project appears successful, but also important to identify how it has done this.

The former Westergas factory, now Westerpark cultural hub has had a long history of changes, renovations, additions and constructions to get to this point in time. Now a vibrant and lively location which provides space for recreation and events, yet it has not let go of its past and represents it honourably. How has it achieved this balance, by meeting the social and urban needs demanded of it whilst displaying a strong connection to the past? When compared to the main principles of the framework, it is clear that it meets what scholars have determined as proper adaptive reuse. The main large silo still represents its previous intended purpose as it gives the impression that whatever event is taking place, it is taking place in an industrial silo. Yet this location does not feel unwelcome, quite the contrary it has been repurposed as such that it draws in visitors. The site itself also remains true to its original state, as a large amount of greenery represents the large public park from both 1940 and 1975 by J. Kalff. The buildings present are also left to their original appearance, with the insides refurbished into new functions. This gives the feeling that one is still walking through factory grounds.

This relates to the degree of change and renovation applied to the site, as it appears that it was of most importance to keep the aesthetics close to the originals. There is a distinct lack of added new constructions, safe from some structures added to the large silo. Material use has stayed the same, much like the large open space which the site used to make use of for logistical purposes. Westerpark, located to the east of the current buildings, has ‘seeped’ into the site through the use of walking paths and large fields. The interiors of the buildings have changed to suit the new demands of their current functions, yet many still represent their past.

These new functions and a large variety of park space, event halls and cafes make the site extremely accessible to the public. The adaptability of the buildings, as well as the intense community involvement and flexible destination plan allows for many opportunities for the site to grow and develop in the future. The site has ‘reactivated’ since its renewal and can grow along its surrounding urban fabric, and to a certain degree enhance it.

This large degree of community involvement is at the heart of the project, as this is what leads to the situation it is in. While the municipality had new industrial purposes in mind, the public had strongly voiced their distaste for the idea. Through protests and demonstrations, it is clear that they directed the site to what it is today. For the designers, architects and engineers it was important to consider this voice. It is what defines ‘adaptive’ reuse, which adapts to the situation at hand and considers context when repurposing.

Discussion

The success of the project is apparent for it represents the qualities needed according to the framework stated. This makes the former Westergas factory, now Westerpark, a prime example of good adaptive reuse. Through theoretical research, it was possible to identify and guide the assessment of the project with sufficient backing. Het Nieuwe Instituut was a resourceful place to find such research, as it had relevant books from renowned scholars. Getting access to these books was surprisingly straightforward and highly recommended for future research. The framework was brief due to the nature of the research topic being mainly historical.

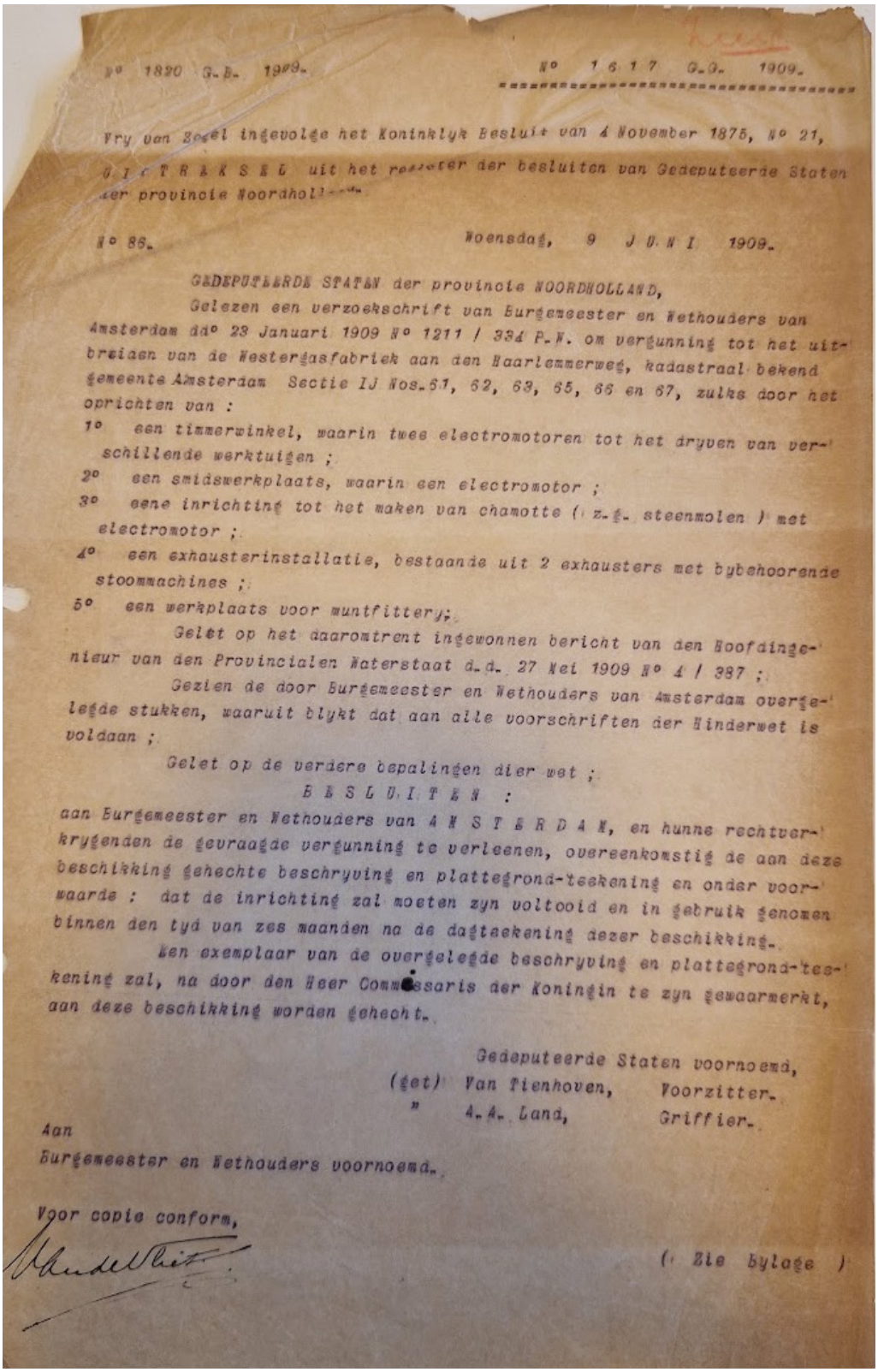
The national archives in Amsterdam were of a different kind of use, as they showed documents and books which were unbiased and provided first-hand information on the project. From permits to drawings, including yearly reports and communication transcripts. The large quantity of photographs taken also helped put the timeline in context and added a layer of depth to the findings. It was however quite the task to find the proper information, as most of the documents were degraded and large quantities were of no interest to the topic. Another difficulty was finding information related specifically to the Westergas factory and not the other three factories. A lot of information and documents had the Oostergas and Zuidergas factory as its subject rather than Westergas even though they were not filed as such. It therefore required careful inspection of documents before they were used. Another hurdle was the fact that the oldest documents, relating to permits and the construction of the factory were handwritten in cursive, in such a way that it made it near impossible to read. Luckily a picture-to-text recogniser program was useful in making out some key information.

The archives mainly had constructional, logistical and production information. Relevant for gas production research but less relevant for urban development or social aspects as this became more relevant after the closing of the factory. For this kind of information, the destination plan and advice report were really useful. While the destination plan provided an in-depth analysis of the renovation from the perspective of the municipality, the advice report gave insight into the initial Westerpark ABC destination plan and its context.

Appendix A

Appendix A: Plan J. Kalff for renovations and expansions Amsterdam, including Westerpark, 1877 (Stadsarchief Amsterdam, z.d.)

Appendix B



Vrij van Zegel ingevolge het Koninklijk Besluit van 4 November 1875, N° 21,

U I T T R E K S E L uit het register der besluiten van Gedeputeerde Staten der provincie Noordholland.

N° 86. Woensdag, 9 J U N I 1909.

GEDEPUTEERDE STATEN der provincie NOORDHOLLAND,

Gelezen een verzoekschrift van Burgemeester en Wethouders van Amsterdam dd° 23 Januari 1909 N° 1211 / 334 P.W. om vergunning tot het uitbreiden van de Westergasfabriek aan den Haarlemmerweg, kadastraal bekend gemeente Amsterdam Sectie IJ Nos. 61, 62, 63, 65, 66 en 67, zulks door het oprichten van :

1° een timmerwinkel, waarin twee electromotoren tot het dryven van verschillende werktuigen ;

2° een smidswerkplaats, waarin een electromotor ;

3° eene inrichting tot het maken van chamotte (z.g. steenmolen) met electromotor ;

4° een exhausterinstallatie, bestaande uit 2 exhausters met bybehoorende stoommachines ;

5° een werkplaats voor muntfittery;

Gelet op het daaromtrent ingewonnen bericht van den Hoofdingenieur van den Provincialen Waterstaat d.d. 27 Mei 1909 N° 4 / 387 ;

Gezien de door Burgemeester en Wethouders van Amsterdam overgelegde stukken, waaruit blykt dat aan alle voorschriften der Hinderwet is voldaan ;

Gelet op de verdere bepalingen dier wet ;

B E S L U I T E N :

aan Burgemeester en Wethouders van A M S T E R D A M, en hunne rechtverkrygenden de gevraagde vergunning te verleenen, overeenkomstig de aan deze beschikking gehechte beschryving en plattegrond-teekening en onder voorwaarde : dat de inrichting zal moeten zyn voltooid en in gebruik genomen binnen den tyd van zes maanden na de dagteekening dezer beschikking.

Een exemplaar van de overgelegde beschryving en plattegrond-teekening zal, na door den Heer Commissaris der Koningin te zyn gewaarmerkt, aan deze beschikking worden gehecht.

Gedeputeerde Staten voornoemd,

(get) Van Tienhoven, Voorzitter.

" A.A. Land, Griffier.

Aan

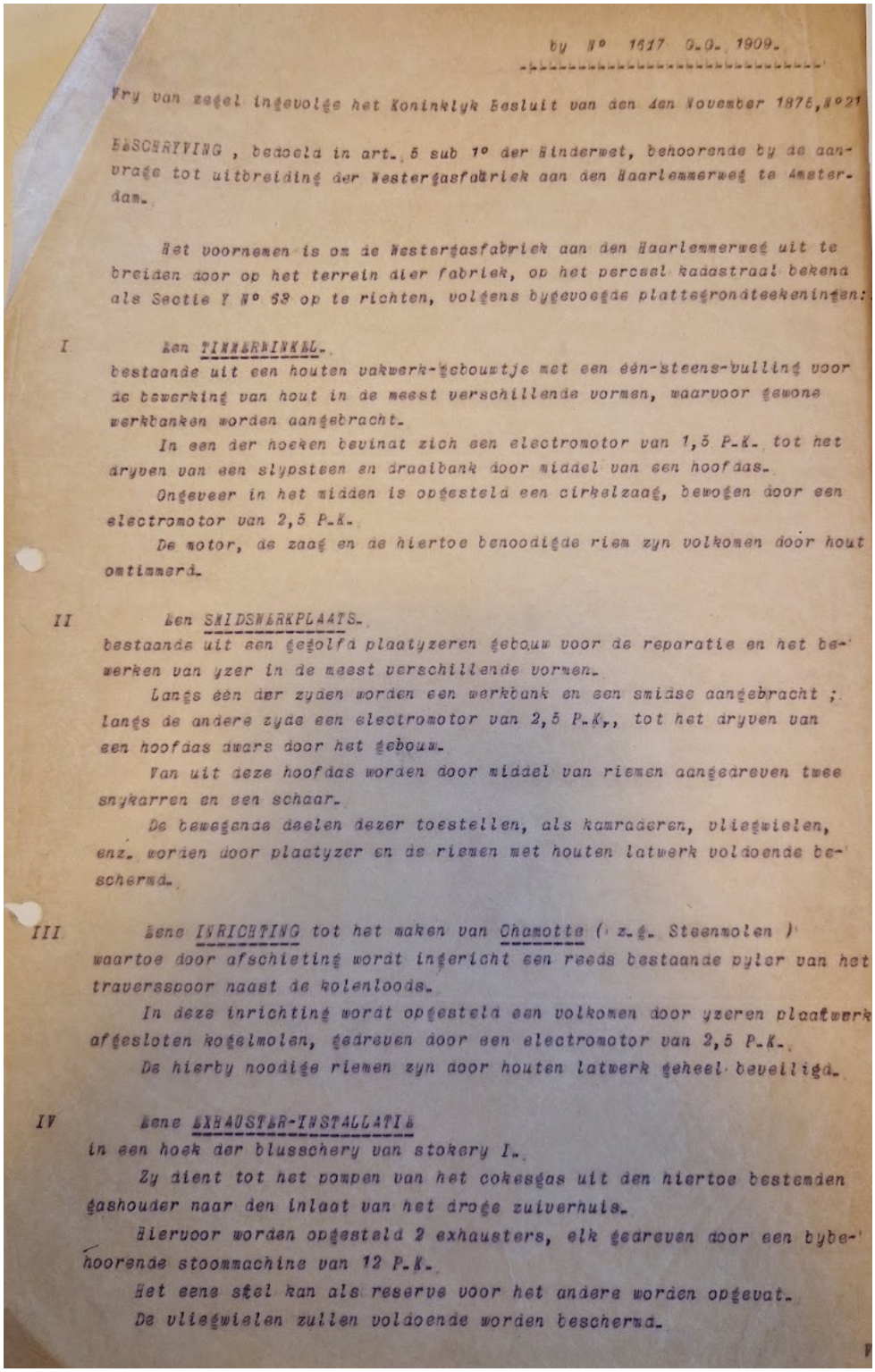
Burgemeester en Wethouders voornoemd.

Voor copie conform,

(Zie bylage)

Appendix B: Request for permit new buildings Westergas factory 1909 (Stadsarchief Amsterdam, z.d.)

Appendix C



by N° 1817 G.G. 1909.

Vry van zegel ingevolge het Koninklyk Besluit van den den November 1875,N°21

BESCHRYVING , bedoeld in art. 5 sub 1° der Hinderwet, behoorende by de aanvrage tot uitbreiding der Westergasfabriek aan den Haarlemmerweg te Amsterdam.

Het voornemen is om de Westergasfabriek aan den Haarlemmerweg uit te breiden door op het terrein dier fabriek, op het perceel kadastraal bekend als Sectie Y N° 68 op te richten, volgens bygevoegde platte-gronden teekeningen:

I Een TIMMERWINKEL.
bestaande uit een houten vakwerk-gebouwtje met een één-steens-vulling voor de bewerking van hout in de meest verschillende vormen, waarvoor gewone werkbanken worden aangebracht.
In een der hoeken bevindt zich een electromotor van 1,5 P.K. tot het dryven van een slypsteen en draaibank door middel van een hoofdas.
Ongeveer in het midden is opgesteld een cirkelzaag, bewogen door een electromotor van 2,5 P.K.
De motor, de zaag en de hiertoe benoodigde riem zyn volkomen door hout omtimmerd.

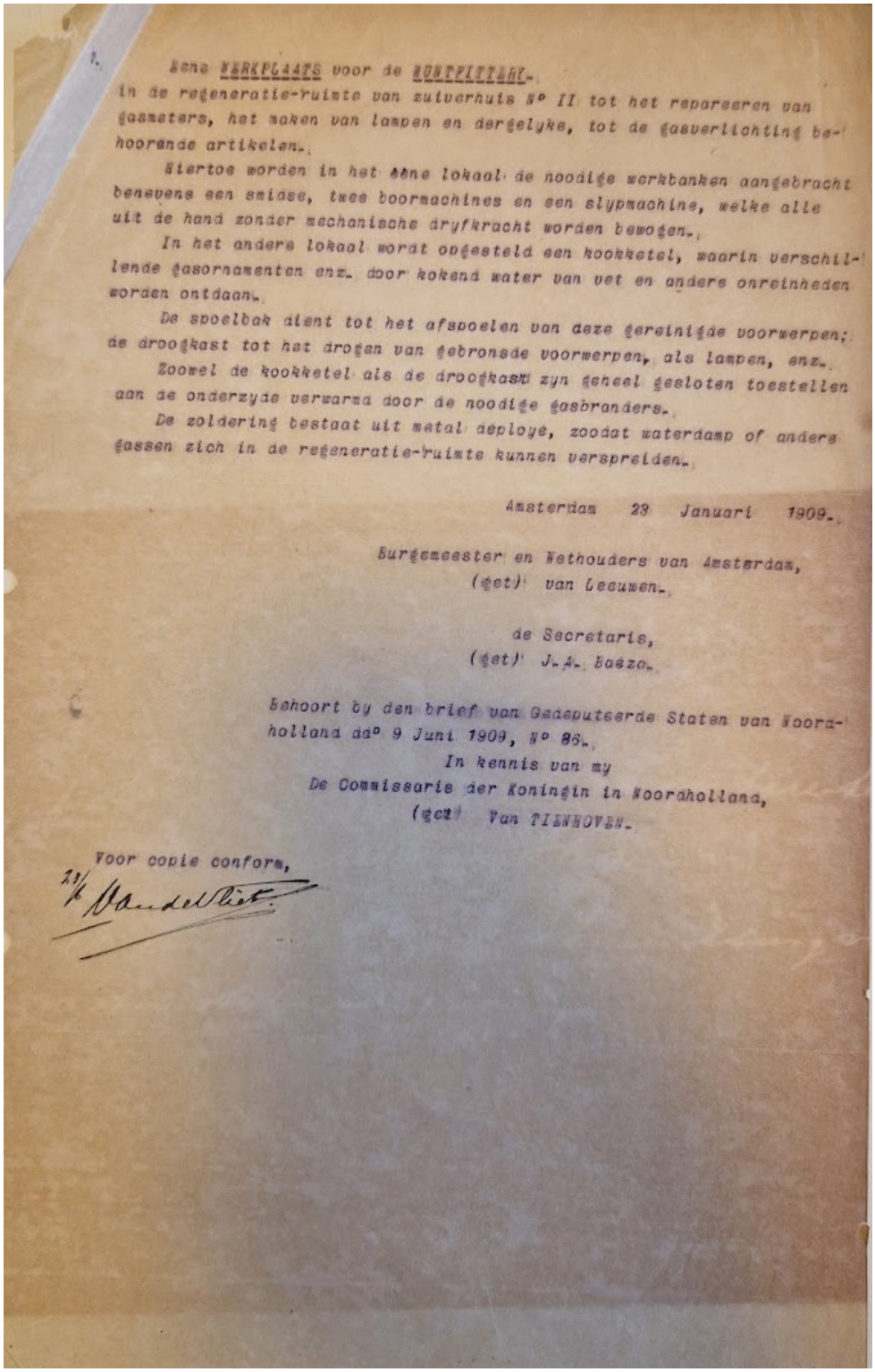
II Een SMIDSWERKPLAATS.
bestaande uit een gegolfd plaatyzeren gebouw voor de reparatie en het bewerken van yzer in de meest verschillende vormen.
Langs een der zyden worden een werkbank en een smidse aangebracht ; langs de andere zyde een electromotor van 2,5 P.K., tot het dryven van een hoofdas dwars door het gebouw.
Van uit deze hoofdas worden door middel van riemen aangedreven twee snykarren en een schaar.
De bewegende deelen dezer toestellen, als kamraderen, vliegwielen, enz. worden door plaatyzer en de riemen met houten latwerk voldoende beschermd.

III Eene INRICHTING tot het maken van Chamotte (z.g. Steenmolen)
waartoe door afschieting wordt ingericht een reeds bestaande pyler van het traversspoor naast de kolenloods.
In deze inrichting wordt opgesteld een volkomen door yzeren plaatwerk afgesloten kogelmolen, gedreven door een electromotor van 2,5 P.K.
De hierby noodige riemen zyn door houten latwerk geheel beveiligd.

IV Eene EXHAUSTER-INSTALLATIE
in een hoek der blusschery van stokery I.
Zy dient tot het pompen van het cokesgas uit den hiertoe bestemden gashouder naar den inlaat van het droge zuivernuis.
Hiervoor worden opgesteld 2 exhausters, elk gedreven door een bybehoorende stoommachine van 12 P.K.
Het eene stel kan als reserve voor het andere worden opgevat.
De vliegwielen zullen voldoende worden beschermd.

Appendix C: Request for permit new buildings Westergas factory 1909 (Stadsarchief Amsterdam, z.d.)

Appendix D



Een WERKPLAATS voor de KUNSTPITTERY.
in de regeneratie-ruimte van zuiverhuis N° II tot het repareeren van gasmeters, het maken van lampen en dergelyke, tot de gasverlichting behoorende artikelen.

Hiertoe worden in het eene lokaal de noodige werkbanken aangebracht benevens een smisse, twee boormachines en een slypmachine, welke alle uit de hand zonder mechanische dryfkracht worden bewogen.

In het andere lokaal wordt opgesteld een kookketel, waarin verschillende gasornamenten enz. door kokend water van vet en andere onreinheden worden ontdaan.

De spoelbak dient tot het afspoelen van deze gereinigde voorwerpen; de droogkast tot het drogen van gebronsde voorwerpen, als lampen, enz.

Zoowel de kookketel als de droogkast zyn geheel gesloten toestellen aan de onderzyde verwarmd door de noodige gasbranders.

De zoldering bestaat uit metal deployé, zoodat waterdamp of andere gassen zich in de regeneratie-ruimte kunnen verspreiden.

Amsterdam 23 Januari 1909.

Burgemeester en Wethouders van Amsterdam,
(get) van Lecuwen.

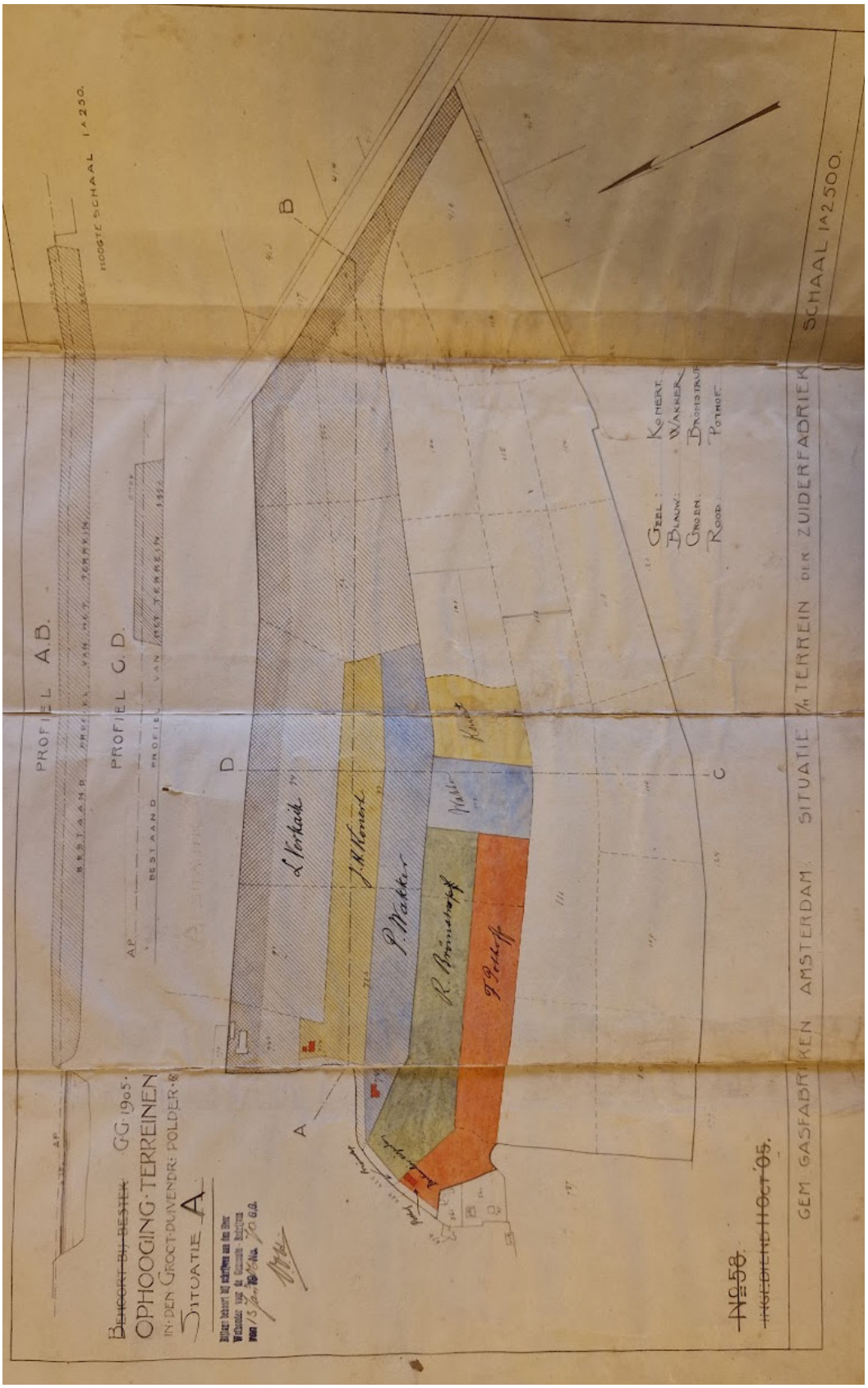
de Secretaris,
(get) J.A. Baeza.

Behoort by den brief van Gedeputeerde Staten van Noordholland dd° 9 Juni 1909, N° 86.
In kennis van my
De Commissaris der Koningin in Noordholland,
(get) Van TIENHOVEN.

Voor copie conform,
23/6 Vandel Klot

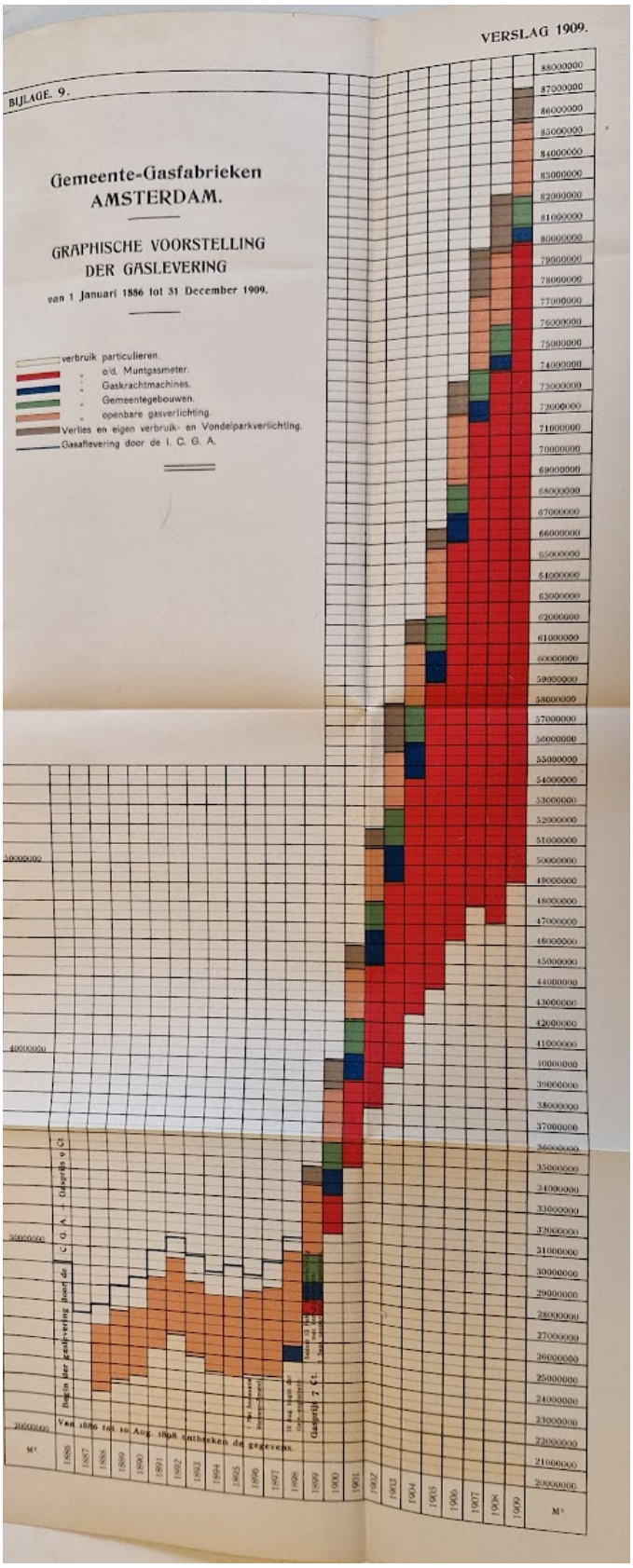
Appendix D: Request for permit new buildings Westergas factory 1909 (Stadsarchief Amsterdam, z.d.)

Appendix E



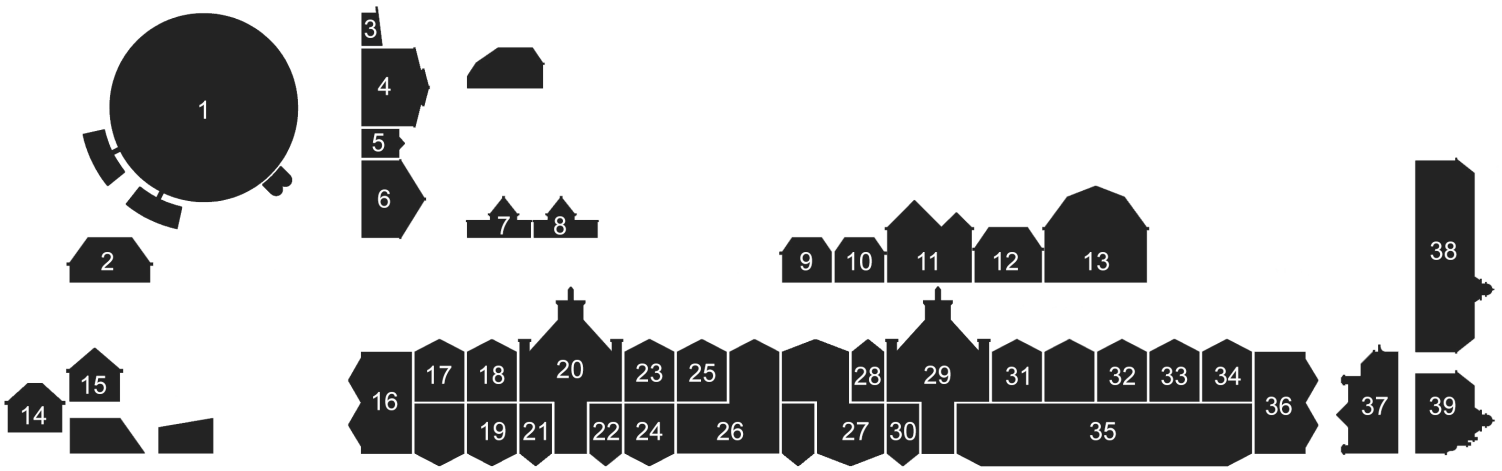
Appendix E: Sectional rising of the ground level due to instable polder structure (Stadsarchief Amsterdam, z.d.)

Appendix F



Appendix F: Increase in production of gas from the moment of exploitation compared to before (Stadsarchief Amsterdam, z.d.)

Appendix G



1. Gashouder
2. Mossel & Gin
3. WestergasTerras
4. Westerunie
5. WesterLiefde
6. Transformatorhuis
7. SamSam Westerpark
8. SamSam Westerpark
9. -
10. Bar Coco “ Vino e Pizza “
11. Machinegebouw / Cantine de Caron
12. Meterhuisje
13. Het Ketelhuis
14. Rainarai
15. TonTon Club
16. Pacific
17. Qicq
18. Espressofabriek
19. -
20. Fabrique des Lumieres
21. -
23. -
24. -
25. -
26. Brouwerij Troost
27. -
28. -
29. Theater de Krakeling
30. -
31. -
32. D.O.L.House
33. Amsterdam Flavours
34. RadioRadio
35. -
36. -
37. De Bakkerswinkel
38. Conscious Cafe
39. World Press Photo House / Westergas Office

Appendix G: Current situation and function on site Westerpark (own creation)

Appendix H

Appendix H: Pictures of Gashouder at present state (own creation)

Appendix I

Appendix I: Pictures of buildings on site at present state (own creation)

Appendix J

Appendix J: Pictures of Westerpark and walking/jogging route on site at present state (own creation)

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