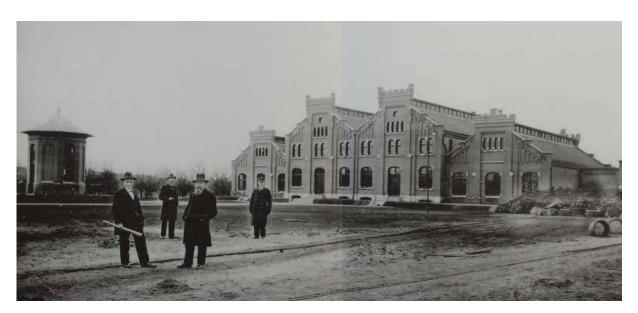


Factsheet 1: History of the Municipal Water Company (1851-1994)

Drinking water for Amsterdam

Between 1851 and 1994, the site was used for the provision of drinking water for Amsterdam. It all started in 1851 with the formation of the Duinwater-Maatschappij (Dune-Water Company, largely financed with British capital). This ensured the construction of a cast-iron pipe (23 km long; 50 cm diameter) with which fresh water could be transported from the coastal dunes (near Leiduin/Vogelenzang) to Amsterdam. Up till then, drinking water had been brought by the Verschwatersociëteit (Fresh Water Society) from the River Vecht to the south-east of the city in water barges. The new pipe ran as far as Haarlemmerpoort, at that time the western boundary of Amsterdam. This site was used as a storage place for pipes and accessories.

In 1896, the Duinwater-Maatschappij was taken over by the City of Amsterdam and the name was changed to the Municipal Water Company. As the number of inhabitants grew (in 1896 to 470,000 people) along with the wish to supply new urban districts with modern water mains, the demand for drinking water increased dramatically. Soon after, the city council took a decision, proposed by the director Van Hasselt, to build a water reservoir with a pumping station on the site. The low reservoir (clean-water cellar) constructed was able to hold 10,000 m3; the reservoir was by Haarlemmerweg, alongside the canal, the Haarlemmertrekvaart.



The Pump Engine Building was opened in 1900. Until 1941, it used (seven) steam engines; these were then replaced by electric motors.

This pumping station ensures the distribution of drinking water to households in Amsterdam. (There were two identical pumping stations: on Amstelveenseweg and on Van Hallstraat).

In the 20th century, in order to meet the growing need for drinking water in the city, three more clean-water cellars were added. In addition, over the years, buildings were added on the site such as storerooms, garage, a canteen, a workshop, meter workshop and various warehouses.



Buildings belonging to the Water Company have remained intact during construction of the residential area: the Machinepompgebouw (Pump Engine Building, 1896); The Magazijngebouw (The Warehouse, which came into use in 1909); the Windketelhuisje (that served to aerate the first cleanwater cellar); The Toegangshuisje (The Entrance House, that was the entrance to the cleanwater cellar). These date from the beginning of the 20th century. The Water Tower dating from 1966 is still functioning.

Plans for a residential area

Plans for a new pumping station date from the early 1980s (the old pumping station was obsolete, much still had to be done by hand). In the mid-1980s, it was decided that a new pumping station should be built. The water company preferred new construction on its own site. After extensive discussion with the local municipal officials for the Staatsliedenbuurt and Hugo de Grootbuurt, Alderman Jonker however decided to approve new construction on the adjoining site of the Was-, Schoonmaak, Bad- en Zweminrichting (Washhouse).

In this way, the site by the Van Hallstraat offered space for about 600 dwellings.

However before a decision could be taken by the Council about residential building on the location, a study was made into odour nuisance from the abattoir on Van Slingelandtstraat and from the Maggi factory and Blikemba on Haarlemmerweg. This investigation had a negative outcome (during the loading and unloading of offal, too much stench was emitted).

The working parties for business development and odour nuisance for the local community (that had for years supported residential development on the site) went along with the report and thought about measures to limit this "scent". It was suggested that the loading and unloading bays of the abattoir could be enclosed. Local council members were invited for talks at the local community centre. According to the local paper, the Staatskrant, in 1989: the councillors allowed themselves to be persuaded that the odour nuisance should not be decisive. They also saw the need for additional housing. The city council then decided to build the new pumping station on the former Washhouse site. The decision about moving offices and warehouse facilities was delayed to a later date.

In the years that followed, it was decided that several parts of the company (local office, customer service, garage, meter exchange, meter workshop, buying and warehouses) would move to the former Dico printing factory on Transformatorweg. Other parts went to Amstelveenseweg and to the pumping station in Weesperkarspel.

In 1991, the pumping station and wind boilerhouse were put on the Amsterdam historic buildings list.

Bron: Cor Jansma, 1995: Rode en Gouden banden; Van Hallstraat 4 sinds 1851, *Gemeentewaterleidingen Amsterdam*

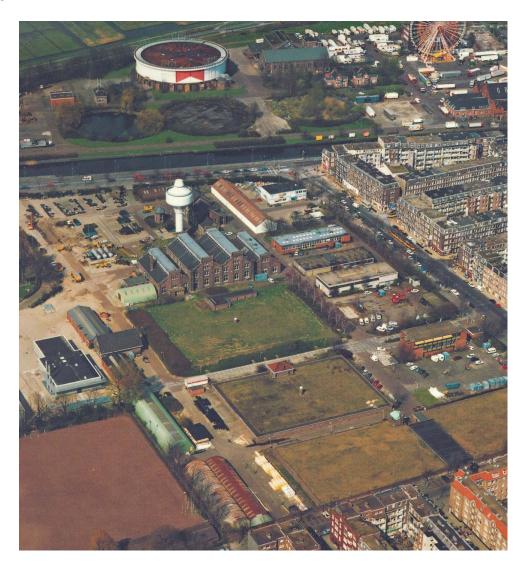


Factsheet 2:

Origins and construction of the eco-district

Initiative phase: Urban Planning Schedule of Requirements (1989 – summer 1993)

In 1989, Amsterdam city council decided that the site of the Municipal Water Company on Van Hallstraat, which was to be abandoned by the company, should be zoned for housing. This step was preceded by a lobby by activists in the local area (Staatsliedenbuurt). Companies operating nearby would have preferred an industrial zoning, but this desire finally lost out to the call for residential building.



The inhabitants appealed to the newly-formed urban district Westerpark for a car-free eco-district. In 1991, civil servants from the urban district were commissioned to investigate whether this was possible on the site. The International Institute for Urban Environment looked into whether the four environmental themes of water, energy, waste and vegetation could be realised on the watercompany site. The 2000 Working Party investigated the possibilities for a car-free district. The



ideas that emerged received a warm reception from inhabitants, politicians and the local community centre. In November 1992, the ideas were formulated in a memorandum of terms of reference.

The basic principles: On the 6 hectare site, 600 dwellings were to be built. It had to be a car-free area. The urban district planned to discourage car ownership and use by ensuring good public transport, optimal attention for cyclists and the right selection of inhabitants. Aims were also laid down for environmental missions. An important target was to reduce water and energy consumption. In addition, environmentally-conscious building materials would be used, the garbage systems would be separated and an environmental centre would be set up for inhabitants (this last element was never realised). In addition, it was decided how many dwellings to realise, for which target audiences and which price. In July 1993, all of this was laid down in an Urban Planning Schedule of Requirements (SPvE).



Urban plan (November 1993)

Two architecture bureaus were commissioned in 1993 by the Westerpark Urban District to make an idea sketch for the water-company site, based on the Urban Planning Schedule of Requirements.

In August 1993, the plan made by architect Kees Christiaanse (and landscape designer Adriaan Geuze) was chosen by the consultation group that included several inhabitants alongside representatives of the urban district and the project developer.

In close cooperation with the consultation group, Christiaanse worked out his idea sketch into an Urban Plan. This was completed in November 1993. The Environmental Advisory Bureau BOOM provided advice and, on behalf of the urban district, it kept an eye on the environmental aspects of the Urban Planning Schedule of Requirements.

Alongside the environmental aspects, from the very start an attempt was made to involve future inhabitants as much as possible both in the urban plan and the layout. In the architecture, this can be seen in the fact that as many dwellings as possible have an entrance at street level and as few as possible along anonymous deck-access walkways. In the layout, the space has been divided into three kinds: as many dwellings as possible have their own garden. In addition there is a public space, partly

filled by shared allotments where people from higher floors can have their own area. An important aim was to prevent the public space becoming an anonymous area where no one felt responsible.



At the same time, the 2000 Working Party investigated the interests and opinions of inhabitants of the local neighbourhood for the water-company site through a questionnaire. This had an enormous response from about 3000 people, half of whom indicated they would like to live on the watercompany site. This made it possible for the urban district and the project developer to pursue the plans.

Finance and commissioning; Formation of the Ecoplan Foundation (January 1994)

Because private project developers were not interested in the ambitious environmental plans, housing corporations with dwellings in the area were approached for the project. Using the distribution arrangement of the Association of housing corporations, in 1992 the Protestant Housing Association (PWV) and the Rochdale Housing Association were appointed to commission the project. At the suggestion of inhabitants (who were closely involved in the developments as participants in the consultation group) these were in 1993 joined by the Zomers Buiten Housing Association as third commissioning party. As fourth commissioning party, the Doelen Housing Foundation (after a merger renamed De Key Housing Foundation) was asked by the urban district because of its experience with developing and selling owner-occupied dwellings. For this project, the four corporations set up the joint venture the Ecoplan Foundation, that was to coordinate and finance the development. In January 1994, Ecoplan was officially registered. The Algemene Woningbouwvereniging (AWV Housing Association) was added a few months later.

It was decided (in the urban planning programme of demands) that half of the dwellings would be social housing for rent. The other half were to be sold, two thirds of which were to be grant-aided owner-occupier dwellings. Local inhabitants were to have priority in applying for dwellings.

Choice of architects (February 1994)

After completion of the urban plan (November 1993), Kees Christiaanse, the urban district and the Ecoplan Foundation selected 10 architects, from which four architecture bureaux were chosen alongside Christiaanse: Meyer & Van Schooten, Liesbeth van de Pol, Willem Jan Neutelings and DKV (Dobbelaar De Kovel De Vroom). The architects were chosen because they were idiosyncratic and innovative. They had little or no experience with environmentally friendly construction. This was however not regarded as a disadvantage, because people didn't want to build a standard environmental district.

For the layout, the landscape architect Adriaan Geuze of West 8 in Rotterdam was chosen. In February 1994, the architects received their commission.

It was decided to form five design teams each with an architect and several inhabitants. The environmental advisory bureau BOOM advised the design teams about the environmental aspects.

Design teams with inhabitants (December 1993- June 1994)

Through the local neighbourhood centre, two independent architects were asked to accompany the inhabitants in the design teams. Each design team had to work out a plan of demands within six months and using sketch and provisional designs reach a final design. In December 1993, the architect started with a high-speed course for inhabitants in reading building drawings, procedures accompanying building projects and an insight into the role of the different parties involved. In the end, in June 1994, the (more or less) final building plans were completed.

Executive phase: building and completing the dwellings (May 1994 – February 1998)

After the departure of the water company in 1994, a start was made with preparations for building. The construction of the district took place in three phases.



The first phase – that started in May 1994 (approval of the provisional design) – involved block 1 and blocks 4 to 17. Building started in September 1995. In November 1996, the first block (block 14) was completed. In May 1997, the last block (block 4). The contractor was the Muwi van Gent building company.

The second phase concerned block 2. The contractor was Dura Bouw Amsterdam bv. The provisional design was completed in January 1995; building started in June 1996. Completion was between August 1997 and February 1998.

The third phase involved block 3. In the existing – historic – Warehouse, nine living/working units were realised. In March 1996 the provisional design was approved, the conversion started in May 1997 and the building was completed in February 1998.

The clients: Westerpark Urban District and Ecoplan

Westerpark Urban District had taken the initiative together with inhabitants to realise a car-free ecodistrict. Until the Urban Planning Schedule of Requirements, the urban district was in addition the only motor behind the plan. During the urban plan, corporation was sought with Ecoplan, which became the client from the design (SP) phase. As the accent shifted from planning to execution, the contribution of the urban district became smaller and that of Ecoplan greater. After completion of the area, the contribution of Ecoplan was gradually reduced.



Sources:

GWL site (information brochure of the Ecoplan Foundation Amsterdam, intended for buyers of new apartments; date of publication: unknown)



Factsheet 3: Architecture on the WaterCompany Site







the inner side.

Block 1

Owner: Alliantie Housing

Association

Number: 129 rental dwellings **Architect:** Dobbelaar de Kovel de

Vroom Architects (DKV)

Dwelling type: 20 different dwelling types (apartments, maisonettes, 3room apartments, dwellings for handicapped). The basic type has a kitchen block in the centre, living on the street side and dining room on

Special features: Elongated (186 metre), snake shaped and geniculated building with a facade rising (from 5 to 9 layers). The first five layers can be reached through porticos (6 to 8 dwellings per portico). Two staircases run to the top layer and link up the top apartments. The dwellings on the first floor are linked by a central corridor. The ground floor dwellings have private gardens on the inner side; the apartments and maisonettes have loggias, balconies or roof gardens.



Block 2A

Owner: VVE Block 2A

Architect: Neutelings Riedijk

Architecten BV

Number: 54 owner-occupier dwellings (subsidised) Dwelling type: 80% 3-room apartments

Special features: split-level apartments. The commission to make apartments with their own front doors was taken seriously by

Neutelings/Riedijk. This resulted in a building with many stairs and a facade with a series of doors. Each apartment has its own staircases with the stairs forming a central feature in the dwelling. As a result, the different rooms in the apartments are relatively far apart and on different floors. The lower four layers are reached from the ground. The dwellings on the top four floors are reached through the passage on the eighth floor. The lifts are at the bends in the block.





Block 2B

Owner: VVE Block 2B

Architect: Neutelings Riedijk

Architecten BV

Number: 59 owner-occupier

dwellings (subsidised)

Dwelling type: 80% 3-room

apartments, communal housing run by Cordaan for people with mental

handicaps.

Special features: split-level apartments. The commission to make apartments with their own

front doors was taken seriously by Neutelings/Riedijk. This resulted in a building with many stairs and a facade with a series of doors. Each apartment has its own staircases with the stairs forming a central feature in the dwelling. As a result, the different rooms in the apartments are relatively far apart and on different floors. The lower four layers are reached from the ground. The dwellings on the top four floors are reached through the passage on the eighth floor. The lifts are at the bends in the block.



Block 2C

Owner: VVE Block 2C

Architect: Kees Christiaanse Achitects & Planners (KCAP) Number: 99 owner-occupiers dwellings (79 grant-aided and 20

free sector)

Dwelling type: 46 3-room apartment is, 33 4-room apartments, 20 5-room apartments.

The lower dwellings or on one floor,

in the rest of the block the dwellings have one or two floors. The living rooms are on the south side with a view of the water-company site. Most bedrooms and some kitchens are on the north side. All the dwellings have a balcony.

Special features: The lower four layers are reached from porticos in the central part of the building. The higher apartments are reached with two lifts at the ends of the blocks. On the fourth floor is a glass way with front doors for dwellings with two floors. On the seventh floor is an internal walkway with front doors for the higher floors.

The association of owners has its own website and a regular newsletter (EnBloc).





Block 3 Het Magazijn/The Warehouse

Owner: VVE Het Magazijn
Architect: Siem Goede (CASA

Architects)

Number: 9 owner-occupier

dwellings, 2 commercial spaces and a communal space for cultural-

social activities.

Special features: National historic building. Successful example of a collective private Restoration commission. Original warehouse of the Municipal Water Company. Converted to a complex of apartments in 1997. The dwellings were designed by the inhabitants in cooperation with the architect. Het Magazijn Foundation (see the website http://www.hetmagazijn.eu/) organises monthly cultural-social activities in the Central Hall that is open to the public.



Hotel De Windketel

Owner: Coöperatie de Windketel (10 owners/neighbours) Architect: Paul Westerman Number: 1 completely furnished apartment with living room, bedroom, kitchen, bath and garden,

48 m2.

Special features: National historic building. Original 'Windketelhuis' (Water-Company Aeration House). In 2003 it was converted to short-stay accommodation for the 10 neighbours who joined together in the Windketel Cooperative. It can be rented for periods of between one night and several months. For two adults and possibly a small child.





De watertoren/ The Water Tower

The Water Tower is much newer than other buildings on the site and was built in 1967. The tower is still in use, albeit not in its former function to provide water pressure in the local area. This is done these days with pumps. The water in the tower is intended as a buffer to ensure supplies during peaks in demand for drinking water.

The Water Tower is the landmark of the district on the old water-company site, just as the gasometer is the symbol of the Westerpark on the other side of Haarlemmerweg, which used to provide gas for the city of Amsterdam.



Het machinepomp-gebouw/The Pump Engine Building

Ever since 1853, water was pumped by the Duinwater Maatschappij from the dunes

near the sea through a system of pipes to Haarlemmerpoort. For 1 cent a litre, people could buy the soft dune water. Because the existing pump installation was no longer able to provide enough pressure, in 1897 a decision was taken to build the Pump Engine Building. It came into service in 1900. Elsewhere on the water-company site were four underground water reservoirs each for about 10,000 cubic meters, filled with dune water. From the Pump Engine Building, four steam-driven pumps were responsible for pumping the water into the city. At present, the building is used by a gym, an advertising agency and Grand Café Amsterdam.





Owner: VVE Block 4

Architect: Meyer & Van Schooten

Architects BV

Number: 22 owner-occupier dwellings (subsidised)

Dwelling type: 12 3-room

apartments, 10 4-room apartments,

7 business spaces. Living

accommodation on the south, bedrooms on the north side.

Special features: Business spaces on the ground floor adjoining Waterspiegelplein. The north façade is smooth with small windows. The southern façade is open with lots of glass and balconies. The dwellings are on an interior street that is linked at each end by two staircases. The interior street is light and two floors high. Daylight enters from above.



Block 5

Owner: Woningbouwvereniging

Stadgenoot

Architect: Meyer & Van Schooten

Architects BV

Number: 24 rental dwellings **Dwelling type:** 24 dwellings for the

aged with special facilities

Special features: This communal accommodation for the elderly is made up of 24 independent dwellings and a communal space.
This is also rented regularly by local

inhabitants for meetings. Block 5 was given official exemplary status by the Ministry of Housing. Block 5 has galleries protected with glass, having a positive effect on the interior climate and paintwork. The result is a kind of indoor street. Block 5 has five 2000-litre tanks to store rainwater that is used to flush the toilets. This helps realise a 50% saving on household drinking water usage.





Owner: VVE Block 6

Adres: Waterleliegracht 150 to 172 **Architect:** Atelier Zeinstra, van der

Pol

Number: 12 owner-occupier dwellings (free sector) **Dwelling type:** 12 3-room

apartments

Special features: A combination of

back-to-back dwellings and zigzag dwellings. All of them have their own entrances. One half has the entrance on the north side, the other half on the south side. Two dwellings each over four floors are intertwined (zigzag). As a result, the plans of the apartments differ from one apartment to the next. As a result, one has a garden on the south and a roof garden on the north, for the next the situation is reversed. The storage spaces have been placed below the middle of the block. As a result, the living room-kitchens are extra high. A relatively large amount of room is used as traffic spaces because each apartment has its own entrance and stairs.



Block 7

Owner: Woningstichting Rochdale **Architect:** Meyer & Van Schooten

Architects BV

Number: 19 rental dwellings **Dwelling type:** 3- and 4-room apartments and a commune.

Special features: A relatively large number of small dwellings on the ground floor so many dwellings have a garden. The upper

apartments are linked to a staircase on the eastern side by an indoor street. The living rooms are on the south, the bedrooms on the north.





Owner: Woningbouwvereniging

Stadgenoot

Architect: Neutelings Riedijk

Architects BV

Number: 16 rental dwellings **Dwelling type:** 3- and 4-room apartments, communal group apartment, studio apartment

Special features: Apartments with

staircases. The front doors are on the north side, on the ground floor, but are barely visible because they are covered by an outdoor staircase leading to the living room on the first floor. Each staircase includes storage space for two dwellings. As a result, neighbours share a terrace on the first floor looking out over the garden. The living rooms are on the south, the bedrooms to the north and the service spaces (bathroom, kitchen and toilet) and the stairs are in the middle of the dwelling. Half of them have a garden, the other half has a roof garden. Three dwellings have been linked together to form a communal apartment. In the long wall of the communal space of this apartment are three doors leading to their own stairs.



Het toegangshuisje/ The Entrance House

The Entrance House was the entrance to the clean-water cellars of the Water Company. In the house, the wheel used to open the cellars is still present.

At present, the Entrance House is used as an office for the concierge of the Water Company site.





Owner: Woningstichting Rochdale **Architect:** Meyer & Van Schooten

Architects BV

Number: 18 rental dwellings **Dwelling type:** 3– and 4-room

apartments

Special features: A relatively large number of small dwellings on the ground floor so many dwellings have a garden. The living rooms are on the south side. The southern façade varies per floor in its form,

the northern side is smooth with small windows. The upper apartments on the west can be reached using a separate glass staircase. The staircase is connected to a covered indoor street with the front doors. On the eastern side, block 9 is linked via a suspension bridge to block 10. If you go along the indoor street, you reach block 10 via a separate stairwell (the small tower) on the east side, by Van Hallstraat.



Block 10

Owner: Woningstichting Rochdale **Architect:** Meyer & Van Schooten

Architecten BV

Number: 17 huurwoningen **Dwelling type:** 3- en 4-room

apartments

Special features: A relatively large number of small dwellings on the ground floor so many dwellings have a garden. The living rooms are

on the south side. The southern façade varies per floor in its form, the northern side is smooth with small windows. The upper apartments are linked through a separate stairwell (a small tower) by Van Hallstraat. This emerges the via an open bridge to the covered indoor street with front doors. On the west side, blocked 10 is linked by a suspension bridge to block nine. If you go down the indoor street, then you emerge again on the west side via the glass staircase of block 9 and find yourself in the middle of the site.





Owner: VVE Block 11 & 13
Architect: Kees Christiaanse
Architects & Planners (KCAP)
Number: 20 owner-occupier
dwellings (free sector)
Dwelling type: 8 3-room

apartments, 12 4-room apartments

Special features: All the dwellings have an outdoor space. The ones on the ground floor have a garden on the south side, the ones at the top have a roof garden and the

middle ones have a covered balcony, so the building is recessed. The level of the terraces in the garden is raised slightly. In order to save money for a lift, blocks 11 and 13 share one. The lift is in block 11. The blocks are connected on the third floor by a pedestrian bridge.



Block 12

Owner: VVE Blok 12

Architect: Meyer & Van Schooten

Architects BV

Number: 19 owner-occupier dwellings (free sector) **Dwelling type:** 4 3-room

apartments, 14 4-room apartments,

one 5-room apartment

Special features: The dwellings on the ground floor have a garden to the south. The ones above are connected on the east side by a

communal staircase and emerge in the middle of the block in an indoor street. This street is covered, with plenty of daylight coming from above.





Owner: VVE Block 11 & 13
Architect: Kees Christiaanse
Architects & Planners (KCAP)
Number: 16 owner-occupier
dwellings (free sector)
Dwelling type: 5 3-room

apartments, 11 4-room apartments

Special features: All the dwellings have an outdoor space. The ones on the ground floor have a garden on the south side, the ones at the top have a roof garden and the

middle ones have a covered balcony, so the building is recessed. The level of the terraces in the garden is raised slightly. In order to save money for a lift, blocks 11 and 13 share one. The lift is in Block 11. The blocks are connected on the third floor by a pedestrian bridge.



Block 14

Owner: Ymere Housing Association **Architect:** Atelier Zeinstra, van der

Pol

Number: 16 rental apartments **Dwelling type:** 3-room apartments

Special features: A combination of back-to-back dwellings and zigzag dwellings. All of them have their own entrances. One half has the

entrance on the north side, the other half on the south side. Two dwellings each over four floors are intertwined (zigzag). As a result, the plans of the apartments differ from one apartment to the next. As a result, one has a garden on the south and a roof garden on the north, for the next the situation is reversed. The storage spaces have been placed below the middle of the block. As a result, the living room-kitchens are extra high. A relatively large amount of room is used as traffic spaces because each apartment has its own entrance and stairs.





Owner: VVE Block 15

Architect: Neutelings Riedijk

Architecten BV

Number: 16 owner-occupier dwellings (vrije sector) **Dwelling type:** acht 3-room apartments, acht 4-room

apartments

Special features: I dwellings. The

dwellings all have their own entrance on the ground floor and on the first floor on the gallery. Each dwelling has its own staircase behind the front door. As a result, half of the houses have a connection to the garden, the other half to the roof garden. The dwellings are intertwined, none of them are the same. The storage spaces are in the cellar, as a result of which the dwellings are on a slightly higher level than the street. Because the bedrooms are at garden level, there is a split level. The difference is bridged in the dwellings by short staircases.



Block 16

Owner: Ymere Housing Association **Architect:** Atelier Zeinstra, van der

Pol

Number: 20 rental dwellings

Dwelling type: 3-room apartments





Owner: Ymere Housing Association **Architect:** Atelier Zeinstra, van der

Pol

Number: 14 rental dwellings, a

neighbourhood centre

Dwelling type: 3-room apartments



Factsheet 4: Environmental Measures

Green building

In designing and building the district, a choice was made for the principles of Green Building (at that time). The core concepts are: an integrated chain (raw materials are kept as far as possible within a circuit, wastage is combatted, recycling encouraged); energy extension (focusing on saving energy and improving efficiency) and encouraging quality (using as much durable material as possible). These so-called DCBA score list from the BOOM environmental advisory bureau, which was closely involved developing the plans, was used as guidance. The intention was to realise the highest possible score (A). In practice, the average score was slightly lower (around B), largely as a result of the higher costs of many environmental measures. Yet the district scored 8 out of 10 in a recent IVAM durability survey, indicating that the district is still easily complying with criteria for green building.

Environmental Criteria.

Five environmental themes were the focus of developments in the district: building materials, energy, water, vegetation and waste. In addition, the theme of traffic played an important role in the design of the district.

Material.

In its choice of building materials, Ecoplan made use of the environmental preference list of the City of Amsterdam (1993 version). This list includes all building materials (staircases, sanitary fittings, paintwork, frames) weighted per section from the most environmentally friendly to the least. If the budget allowed, then the most environmental friendly solution was chosen.

Examples of applications of this are:

The choice to use brick as facing instead of plastic insulation. Brick is more expensive but also more durable than other materials.

The use of 20% granulated concrete rubble in the dwellings (with rubble from the demolition of the former clean-water cellars).

The use of pine wood instead of tropical hardwood, aluminium or plastic for frames, doors, stairs and as finish. Frames (bottom- and side-hinged windows) are made of non-impregnated Norwegian pine, treated with water-based paints. Doors with glass are made of larch wood. For frontage, hemlock (a kind of pine) and Oregon pine are used.

Use of water-based paint (doors, frames).

Sewage pipes are not glued.

PVC tubing used in the dwellings is suitable for recycling.

Kitchen units (Bruynzeel, model Atlas) are design to be dismantled and 70% can be reused. Roofing, using the more environmentally friendly EPDM instead of bitumen.

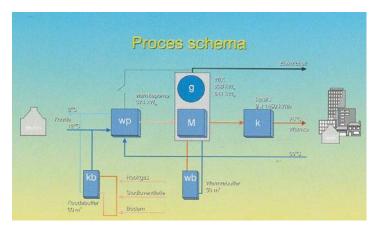
Energy.

The dwellings are built according to the energy performance norm (EPN) of 750 m3 (natural gas equivalent) per year. This compares favourably with the standard at the time of 1400 m3 (for an average single floor apartment) and offers a significant energy saving. This norm was realised by:

Insulation (installation of cavity walls, floors and roof).



Use of passive solar energy (north/south situation of the apartment blocks in the middle section, this does not apply for the high building on the west side).



Cogeneration (combined heat and power, CHP). The water company site has its own CHP station, located just to the west of the Machinepompgebouw, that supplies hot water to the houses. Application of CHP was an innovation at the time, there was very little experience with it in residential accommodation.

CHP uses residual heat from generating electricity. CHP saves almost 50% on carbon-dioxide discharge; the yield is

about 10% higher than from a normal power station. The heated water – at a temperature between 55 and 60°C – is led to the dwelling is through underground pipes. Each apartment has a heat unit (heat exchanger), which provides hot water and heating in the dwelling. The owner of the CHP and the heat units in the dwelling is (and hence the supplier of heating) is the local energy company NUON. The station operates automatically and is monitored remotely.

Hot fill (washing machines, dishwashers) have been used on trial in some of the dwellings.

There is no energy production from sun or wind. Natural gas is used for cooking in the dwellings (which does not provide any energy advantage). There is mechanical ventilation, which uses between 20 and 100 watts of power per dwelling.

Water.

Saving on water use is an important theme that has led to several unusual technological solutions. The reason this aspect was emphasised relates to the fact that the district has been built on the former water-company site.

Gustavsberg toilet. This is a special toilet to save water that has been used in all the dwellings. When flushing, only 3.5 to 4 litres of water are used (instead of the standard 6 litres). To enable this, special flow enhancers were fitted to the interior sewers. These flow enhancers, that are located in the store rooms, collect at most 18 litres of waste water after which it is emptied in one go.

The use of grey (rain) water to flush the toilets (apart from in the high buildings, blocks 1 and 2). Rainwater is taken from the roof via rain pipes and filters to reservoirs beside the dwellings. From these reservoirs, the water is pumped into the toilets. This is augmented with drinking water when necessary.

In retrospect, this is one of the less successful environmental experiments. The system turns out to be vulnerable (the filters become blocked), needs a lot of maintenance and uses relatively large amounts of energy (to pump up the rainwater). In several blocks, the system is no longer in use.

Showerheads to save water and water limiters. Limiters on the supply provided an average saving of 30%.



Vegetation.

In laying out the site, the choice was made for a lots of vegetation, with public, private and shared gardens.

The various areas of the site are divided from each other by hedges. Hawthorns can be found along the borders between the parks and squares and the Green areas. They also surround the six areas on the site with shared gardens. Privet hedges separate the private gardens. It's been decided that the height of the hedges should be at most 1.4 m. The inhabitants are not allowed to use other boundaries (fences). Along the eastern edge of the site (Van Hallstraat) is a holly hedge. Hedges further nesting space to birds and routes for small animals. They do not use any material likely to damage the environment.

There are more than 60 fruit trees on the site (historic breeds of apple and pear trees). Other trees on the site include: elm trees (west side of Waterpoortweg and north side of the Pump Engine Building); acacias (in the area), chestnuts (in the squares).

There are 85 communal gardens on the site maintained by inhabitants.

Vegetation roofs.

The high buildings, blocks one and two, have a roof of vegetation that is unfortunately not visible to the surrounding area. The vegetation roofs were only possible here, because they cannot be combined with grey-water capture (see above). In the high buildings, grey-water capture was not feasible because of the large number of dwellings. The roofs are covered with moss, succulents, herbs and grasses. Precipitation is stored on the roof, evaporates or is used in growth. Chemical materials from the rain water are also stored and partly converted to materials that can be used by vegetation. This results in reducing the burden on the surface water. Other advantages: heat insulation, reducing heat loss, damping sound, cooling in hot weather, improving air quality.



Rainwater capture on the site.
About two thirds of the inner area is unpaved; rainwater is directly absorbed here into the ground and does not need to be removed. On the paved parts of the site, the rainwater is not lead to the sewer, but is stored in Waterleliegracht. The canal has an overspill to the Haarlemmer trekvaart (canal) on the other side of Haarlemmerweg. This limits the load on the sewer and surface water.

Swift nesting boxes have been built into part of the façades on the north and east side.



Refuse.

As one of the first districts in Amsterdam, the water-company site was fitted with a system for underground refuse collection. In the meantime, underground refuse collection is common in many towns and districts. The underground containers are along the edge of the site. Glass and paper are collected separately. Large refuses collected twice a week. Organic waste collection has now been stopped in the area.

Traffic.

The water-company site is unusual because of its entirely car-free inner area; only emergency services are allowed on to the site. The car-free ground level protects the area from exhaust gases, traffic noise and rows of parked cars. Children can play safely outside. The streets have been constructed for pedestrians and cyclists. They are not designed for heavy traffic. This makes owning and using a car a less natural step for inhabitants.

There is only limited parking space in the district. Only on the western side of the site (Waterpoortweg and Waterkeringweg) are some parking places. For 600 dwellings there are 129 parking places. Of these, five have been reserved for car sharing (via the car rental companies Diks and Green Wheels). Two spaces have been reserved for invalids (general). The parking norm of 0.3 is very low – especially for a new district.

The area was subject to paid parking when the district was built. It's very busy for parking, especially along Waterkeringweg. This is also because of the many visitors to e.g. café-restaurant Amsterdam and the nearby Westergasfabriek culture park.

The number of parking permits for inhabitants of the district is limited. The inhabitants who want to be considered for a parking permit are put on a waiting list. In the industrial area to the west of the district there is a multi-storey car park where inhabitants without parking permit can hire a parking place (more expensively). There is also a certain trade in parking permits, with which inhabitants with a 'borrowed' permit can park their car in one of the surrounding areas.

The cycle is the main means of transport for most inhabitants of the water-company site. This can also be seen in the large number of bicycles parked on and around the site.

For public transport, there are no extra facilities. Beside the district on Van Hallstraat are a tram halt (the terminus of tram 10) and bus stops (bus route 21, Van Hallstraat and Haarlemmerweg). There is a direct connection with Central Station (route 21) and with Sloterdijk Station (route 60).



Fact sheet 5: Maintenance, Administration and Quality of Life

Umbrella Association for the Water-Company Site

In 1996, even before the district was completed, an umbrella association for the Water-Company Site was founded. This is an association for house owners on the site (housing corporations and associations of owners), tenants (commissions of inhabitants) and – voluntarily – companies. The association aims to guard and encourage the green character of the site.

The umbrella association pays for the concierge and for the rental of a district administration space (the Entrance House) on the site. All households on the site, as well as the housing corporations and other members pay a fixed monthly contribution to the umbrella association.

Twice a year, the general meeting of members is held. In addition, the umbrella association regularly organises technical meetings for its members. The association also took the initiative for the symposium to mark the 10th anniversary of the Water-Company Site in February 2008. To mark this, a film was also made about the development of the site. In June 2009, a crowded meeting was held for the inhabitants, organised with Kees Christiaanse and Adriaan Geuze, the designer of the urban planning design and of the landscape plan. The theme of the meeting was a second round for the Water-Company Site (about the plans for further green and the possibilities of building an extra floor. The umbrella association organises guided tours of the site for groups from the Netherlands and abroad.

The umbrella association has its own website (<u>www.gwl-terrein.nl</u>) and inhabitants' newsletter, to which inhabitants and other interested parties can subscribe free of charge.

Coordination

The concierge keeps an eye on the site and the public spaces in the residential buildings. One of his tasks is to ensure the area remains car free. The concierge is paid by the umbrella association.

Urban district

The urban district is responsible for maintaining the public space. On the site, cleaners from the district council comes every day, clearing refuse and keeping the area clean. The cleaner uses an electric cart.

The hedges are trimmed twice a year. The grass is mown a very limited number of times each year. Waterleliegracht is occasionally cleaned (removing cress, wrecks and other pollution, maintaining the plants on the banks).

Housing Corporations.

The housing corporations with property on the site at this time are: De Alliantie (Block 1); Stadgenoot, Ymere and Rochdale.

Technical maintenance

The technical maintenance of all the rental blocks (owned by five housing associations) was originally the responsibility of the PWV Housing Corporation (now the Alliantie). This has now changed; each



housing corporation is now responsible for maintaining its own dwellings and buildings. Owneroccupied blocks on the site decide through their own owner association who is responsible for maintenance.

Through the umbrella association, there is contact between the different blocks in the field of maintenance. In this way know-how is maintained and experiences are shared.

Quality-of-life consultation

In the quality-of-life consultation, inhabitants, officials for the district council, police, the concierge and other parties talk about the Administration and quality of life in the area. Here, the most practical issues are discussed including nuisance, clearing cycle wrecks and maintaining the vegetation. Once a year the area is surveyed by a group.

Neighbourhood activities



An important effort ever since the first plans has been to encourage the involvement of the inhabitants with their area. Occasionally this is in a formal setting (quality-of-life consultation), but in addition there are all kinds of activities in a less formal setting.

Since 1999, there has been a street soccer tournament every year in June, organised by inhabitants. For several weeks, they battle for the GWL Trophy. After the finals, there's usually a large neighbourhood party. Inhabitants also regularly organise parties for their own block.

There is an annual Christmas choir session in Block 5; also, every year there's a New Year's Reception in the Local Warden's House.

Ever since 1996, the area has had its own independent local paper, de Waterspiegel. Publication ceased in 2009. Information is now provided through the website and the email newsletter.

Inhabitants' groups

A fruit-tree working party, made up of inhabitants, maintains the fruit trees on the site (an annual pruning day and harvest day).

An allotment association coordinates the allocation of the 80-odd allotments on the site. The association has added a clause that all gardening has to be environmentally friendly. No fertilizers or chemical weedkillers can be used.

The verges that have been added along the edges of many residential blocks are maintained by the inhabitants.

Since 2008, there has been a green-fingers working party involved with increasing amount of vegetation on the site.