REGULATION OF ORGANIC URBANISM

Search for principles to come to sustainable and vital private commissioned urban development.

CASE OOSTERWOLD

Plan Oosterwold Source: MVRDV
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1. Graffiti: "Here you have your participation state" as a reaction on the participation state. Source: www.telegraaf.nl

Never a closed door with online participation Source: www.flickr.com Photograph by: nVolve

Development in Homeruskwartier Almere Source: www.flickr.com Photograph by: geertfotografeert
In the king’s speech of 2013 the need for more participation of citizens is pronounced. This is a result of the globalizing network and information society in combination with the reduction of the deficit of the government.

Source: ANP
Photographer: Lex van Lieshout

KING’S SPEECH

“...It is undeniable that people in our current network and information society are more assertive and independent than before. In combination with the need to reduce the deficit of the government, this means that the traditional welfare state is slowly but surely turning into a participatory society. Anyone who is capable, will be asked to take responsibility for his or her own life and environment.”

1.1 From welfare state to participation state
This graduation project is titled “Regulation of organic urbanism: Search for principles to come to sustainable and vital private urban development”. In the Netherlands, there has been a shift towards more participation of citizens in the society. One of the main reasons for this shift is that residents do not want the government to solve all of their problems with standardized solutions. Citizens ask for customized solutions and a government who is thinking along with them. This can be called engaged citizenship or citizen participation. (Rijksoverheid, 2014) In the beginning this demand for participation, or a voice in the making of decisions, was mainly advocated by the residents themselves. Finally this resulted in a shift of policy, from welfare state to participation state. Were the welfare state would make people too dependent on the state, the participation state is a clear alternative: citizens are responsible for their participation and contribution to society. Where necessary, the government supports them to actually realize their contribution. (Uitermark & van Beek, 2010) In the king’s speech of 2013 the need for participation is emphasized by King Willem Alexander as a confirmation of the shift of policy: “The more citizens themselves take responsibility for their own environment, the smaller the role of the government can (and must) be. However, the role of the government/municipality in the traditional Dutch building process of the welfare state was large. Due to land policy the municipality could have influence on the end result of a building project with two main purposes: the first one is to obtain the desired usage of space and to obtain spatial quality the second purpose is to obtain a fair distribution of costs and revenues. This land speculation had a high financial risk for the municipality. Due to the credit crisis this instrument of the municipality, to influence the build environment, was not longer possible. The declining role of the municipality in the building process laid down the building task by the professional developers. Because of the lack of fund by banks the professional parties had to set a lot of properties beforehand to the end users to start a new development. This declined the scale of new developments. Besides, the lack of participation of the end users in the old building projects created a large gap between residents and professional developers really big. Without prejudice to the special housing projects that have been developed in the period of the welfare state, it is not a secret that the development was strongly supply focused, which rarely met to the desired quality and durability of end users in new developments. As a reaction on the demand for more voice in the building process, private developers started to accommodate more participation by letting the end user choose between different pre designed ‘catalogue’ possibilities for the dwellings. For some residents there was still not enough voice in this new approach. The wish to build and design their own building was found in the so called (Collective) Private Commissioning projects. Here the end user is in full control of the building process. Exit developer, welcome private client.

1.2 (Collective) Private Commissioning
Collective Private Commissioning (CPC) or in Dutch Collectief Privaat Opdrachtgeverschap (CPO) differs from the traditional Dutch building process in the fact that private parties can participate or commission in this building process. The policy document Mensen, Wensen, Wonen of the Dutch ministry of Housing (VROM, 2000a) is already mentioning the need for this building process in the building market. A target of 30 percent of the total building task is set to be private commissioned. This raises the question if private parties would be
capable to create or commission their own environment. Professional project developers and housing corporations became more and more experienced and prominent in the last decades. The quality of the buildings in the big Vinex expansion areas created before the crises is therefore very high. The lack of identity of ‘Vinex’ new towns makes these areas, although quality of housing is high, not popular. If professional parties can succeed in the creation of a vital and sustainable urban development, would a collection of individuals succeed?

Private commissioning is not a new phenomenon in the Netherlands. A rough distinction between three chronological periods of private commissioning can be made. The first period is the practice of private commissioning to survive in the unspoiled nature (‘natural jungle’), the second period is to survive in the social human culture (‘social jungle’) and the third period is to obtain the freedom of choice and the pursuit of comfort (‘angle of market and wealth’).

In the Netherlands before the Middle Ages the private commissioned dwelling was mainly focused to survive in nature. In the Middle Ages this changed slowly into private commissioned dwellings with the focus on life in a big human community. In the period after World War II the priority of the private commissioned building was more and more to obtain freedom of choice and comfort. The transition from one period to another is gradual and the aspirations of the previous period are included in the aspirations of the new period. (Helyk, Kroon, & Linssen, 2009)

In the globalizing world, there is a need for a strong identity and a sense of security. (Beynon and Bevan, 2005) quoted in Zandvoort et al., 2013). In other words a need for living environments that give a sense of owning the place. CPC (Collective Private Commissioning) or in Dutch CPO (Collectief Private Onder Private Opdrachterverwachings) seems to fit the needs for new social values and needs. (Zandvoort et al., 2013) Almost always a strong underlying urban plan is created by the municipality or project developer to facilitate the locations for (CPC) projects in the Netherlands. There can be much freedom in the aesthetics of a building, created or commissioned by the individuals, when the urban plan is strong.

1.3 Location Oosterwold

For the location Oosterwold, between the city of Almere and the village Zeewolde, a structure plan is made by the architecture firm MVRDV. The location will be developed piece by piece by the private commissioners. The freedom for the private parties is not limited to the building lot, also ‘water bodies, infrastructure and public spaces will be designed by the private developers. A set of simple principles are determined by MVRDV to steer the private developments. This is a new approach in the Dutch building process which raises the question what amount of rules and/or guiding lines have to be imposed on the private commissioner to obtain a sustainable and vital urban development.

1.4 Structure of the thesis plan

The thesis plan is divided into six sections. The first part will introduce the location of Oosterwold and the project of MVRDV. Conflicts between different private developments/porties will be examined and some large scale problems of the location will be introduced. Firstly the problem statement and the research questions for this graduation project are set in this section. The third chapter of this document describes the used theories for the graduation project. The six layers approach will be introduced together with the theory of levels and hierarchy. To research the amount of freedom for the private developer in the different layers of the urban fabric, the chronological historical shift from private to public and back to private is described for each layer. Due to the research of this shift, the capabilities and amount of freedom of the individuals in the different layers will become clear. This research ends in a theoretical framework and the project aim. In the fourth chapter the methods of the project are described. In this chapter the contribution of the chosen methods for the graduation projects will be mentioned. The fifth chapter is giving an overview on the results of the technical analyses done for the location. The technical analyses were done on the basis of six layers approach. The results have been put together in six layer specific SWOT’s analyses. The complete analysis is included in the appendices. Also the spatial analysis can be found in this chapter. The analyses results in the vision map.

In the sixth chapter the workshop is described in which the vision map is tested. This results in six new principles and a new green structure for the location Oosterwold. The seventh chapter will be the conclusion of this graduation project and will give answers to the research question.
The municipality of Almere and MVRDV present the vision for 2030

Source: www.mvrdv/projects/2030

2.

Agriculture in the Flevopolder

Source: http://i41.tinypic.com/2vhxkkg.jpg

Photograph by: recrotka

Aerial picture of the South Flevopolder

Source: www.flickr.com

Photograph by: recrotka
The city of Almere is one of the youngest cities of the Netherlands developed in the second half of the twentieth century and located in the youngest province of the Netherlands, Flevoland. Due to the fact that the province is a reclaimed lake, the ground level of polder and the city is around 2 - 3 meter below sea-level. The city has about 200,000 inhabitants which makes Almere one of the ten largest cities of the Netherlands. Because of the pioneering spirit of the inhabitants and the leadership of alderman Adri Duivensteijn, Almere became the national laboratory for (C)PC projects. The city of Almere is one of the five largest cities of our country. This includes a growth of 60,000 houses and 100,000 jobs in the coming decades. This development called “Schalpingsplan Almere” or “Almere 2.0, Stad van de Toekomst” is connected to the urban centre will remain its central location. This expansion area on the east side, Almere Oosterwold, has a construction task of 15,000 new dwellings. Both locations will be (higly) urban. By creating another expansion area on the other (west) side of Almere, the city centre will remain its central location. This expansion area on the east side, Almere Oosterwold, has a construction task of 15,000 new dwellings. The development will give space for a wide range of rural living as a counterpart of the west side of the city. This rural living in the proximity of an urban centre also matches with the qualities of the Gooi- en Vechtstreek. (Stuurraad almere 2030, 2009) 2.1.4 Oosterwold The expansion area Oosterwold will be an organic urban development. This means that the expansion area will not be developed at once by a complete blue print plan but step by step in small pieces. (Collective) Private Commissioners or project developers can choose the dimensions, form, and location of their own development and have to buy their land from the landowners with the municipality and farmers as main stakeholders. In the current situation, 85 percent of the land of Oosterwold is used for agricultural purposes. Building site preparation and creation of the public space will not be a task of the municipality in this development. This has to be done by the private commissioners. The municipality will have a restrained role. To give the (C)PC developers in the location Oosterwold as much freedom as possible, the amount of rules have to be limited. Completely ‘hands off’ rules is not possible as stated by Kruithof and Lenaerts (2004) because although every individual wants maximum freedom for themselves, this is not the amount of freedom we wish for our neighbors to have. Therefore the dutch architecture and urbanism office hvrDV designed an approach for this location. This is described in the next chapter:

2.1.3 Expansion areas| On the west side of Almere, outside the dikes, the expansion area Almere island is planned. This expansion will have a construction task of 10,000 dwellings. Next to this expansion area, inside the dikes, the development Almere Pampus is planned with a construction task of 13,000 dwellings. Both locations will be (highly) urban. By creating another expansion area on the other (east) side of Almere, the city centre will remain its central location. This expansion area on the east side, Almere Oosterwold, has a construction task of 15,000 new dwellings. The development will give space for a wide range of rural living as a counterpart of the west side of the city. This rural living in the proximity of an urban centre

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2.2.1 The art of letting go | Due to the financial crisis, the construction of new developments in the Netherlands is in a deep crisis. The government is not willing or is not capable to stimulate the building process anymore as stated by Molen (2012). The year 2015 will be memorable in the Dutch housing legislations. The governments have stimulated the housing in the Netherlands with billions of Euros since the Second World War. This government funding will be reduced to zero in the year 2015. (p.8). This makes the traditional Dutch way of developing in most cases impossible. Developers and municipalities cannot sell enough houses to individuals beforehand to start up a development. This has made the development of complete new neighborhoods a very difficult and risky process.

There has been a reversal in the building market from supply oriented to demand oriented. The enormous building task after the Second World War made the quantity of building projects more important than the quality. The influence of the consumer on the final product was minimal. Private commissioning was reserved for a small amount of people that had enough money, time and knowledge. This can be seen as a supply oriented building market, where the demand increased prosperity, individualization and the empowerment of citizens, the demand for individualized housing increased. The so called demand oriented building market.

Professional developers tried to respond to this trend by giving the end-user more voice in the building process. This is mainly done by letting consumers choose between some standard pre designed solutions to compose their own customized building. This responded to the needs of some consumers, but the amount of freedom is still limited. As stated by the government (VROM, 2000a) a share of thirty percent of the total building projects should be private commissioned. Instead of an increase of 12 percent the opposite did occur, the amount of private developments dropped down from 18 to 10 percent. Keers en Schwale-Goedhart (2008 quoted in Veldheer et al., 2012) state that not the interest of the inhabitants but the obstacles in the realization of the private commissioning projects are the reason for the dropping of the private commissioned developments. Especially the lack of land allocation in the Randstad makes a private commissioned project hard to realize. The building process in the Netherlands had its focus on the traditional project development and registered architecture. This culture has to change to give room for (C)PC projects. Therefore the government is stimulating the projects by the establishment of an information centre (ICEB), by subsidy and by promotion journals.

"What could be better than a once in a lifetime chance to build your own house? With an architect that draws directly for you, on the location of your wishes.

Looking at it like that, makes it tragic that the Dutch have lived for decades in the housing types designed by project developers. “ (Bleker, 2011)

2.2.2 Structure vision Oosterwold | The structure vision for the location Oosterwold is not a detailed blueprint as is common in the traditional Dutch building process. A simple framework and a set of ground rules form the basis for a great diversity of private commissioning projects. The development strategy for this location is giving maximum freedom to the private commissioners. The building rules are limited to a simple set of principles.

The development of Oosterwold is an example of a location where the possibilities for (C)PC projects are offered. The structure vision of MVRDV for this location is giving maximum freedom to the private commissioners. The freedom for the end-consumer to develop both his own private building and his public space like infrastructure and green-blue structures is new in the Netherlands. This makes the Oosterwold a unique expansion site.

The freedom for the end-consumer to develop both his own private building and its public space like infrastructure and green-blue structures is new in the Netherlands. This makes the Oosterwold a unique expansion site. In the vision of Oosterwold independency goes hand in hand with responsibility. Individuals that wants to develop have to facilitate different functions on their own building lot. To preserve the green and agricultural character of the location percentages of different functions on the building lot are predefined. This will be described on the next page.

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2.2.3 The five principles of MVRDV

Private parties that want to develop in the location Oosterwold have to design their building lot with the functions according the predefined percentages. These percentages are showed on the right. There are four different plots that can be developed in Oosterwold. Sixty percent of the location Oosterwold will be developed by the percentages of the generic plot, twenty percent by the agriculture plot, five percent by the high density plot and fifteen percent by the landscape plot. There are some small restrictions for the location of the development of a specific plot. All developments have to be composed by five principles:

1) A public road for connecting themselves and other to the main infrastructure (8 percent of the generic plot);
Private parties will develop the secondary roads. The main roads will be the responsibility of a governmental party. The dimensions of the roads are varied 8,5 meter, broad (1 x 5,5 meter road, 2 x 1,5 meter verge) and have to cover 25 percent of the building lot edge.

2) The building itself (18 percent of the generic plot);
There is much freedom in the building form and materialization. There are two main rules for the building, this is that the building must be situated in the middle of the building lot and that the building, inside the build area must have a FSI of 0.5.

3) Urban farming (59 percent of the generic plot);
One half of the location Oosterwold will keep its agricultural character. Each individual has to develop an amount of land for growing crops or livestock. This can vary in scale from vegetable garden to allotment to urban agriculture or even agricultural business.

4) Public green around the building lot to create a continuing green structure (2 percent of the generic plot);
A green zone must be developed around the building lot. Private developers can choose between parks, playgrounds, verges along bicycle and walking paths, forests to compose this public zone.

5) The implementation of gas, water and electricity in a sustainable way (2 percent of the generic plot);
Open water has to be created in Oosterwold. There is complete freedom about the form and location of the water body. Also the construction to get gas, drinking water and electricity must be commissioned or developed by the private developer.

(The percentages of the five different principles differ per plot)

Source: structuurvisie Oosterwold MVRDV
Development principles Oosterwold by MVRDV

The whole development of Oosterwold is based on the self-organized capacity of its individuals. Which stakeholders eventually will develop in the location is not defined by the municipality. The municipality is also not involved in the process of buying and selling the land.
There is a lot of freedom for private commissioners in the vision for Oosterwold of MVRDV. As described above, not only the buildings will be commissioned by private parties but also the public space, secondary infrastructure and the subsoil structures. Because the development of Oosterwold will be organic, the location will be developed in small pieces over time. This can lead to a fragmented development with several conflicts. This was also the result of a small research into the principles for Oosterwold by MVRDV. Some conflicts that could occur by implementing the principles:

- Bad quality of stagnant water
- Pollution due to precipitation and subsidence
- Fragmented infrastructure
- Lack of squares and public space
- Nuisance of windmills
- Aesthetic conflicts
- Cluster of polluting industries
- Destruction of archeological value
- Cluster of subsoil structures
- Lack of squares and public space

Next to this set of examples of conflicts that could occur, a part of the location has to deal with the biggest subsidence rate of the Netherlands. This, in combination with the expected increase of precipitation due to climate change, can result in water problems in the area. A forecast for the year 2050 shows that, without interventions, large parts of the location has to deal with water nuisance.

The structure vision of MVRDV states that developing in Oosterwold must be possible for everyone. This raises some questions about the ability of citizens which is described by Hoffand in his book “Het laatste Taboe” (2001) with three dogmas. The first dogma is that citizens in (C)PC projects are not capable of knowing how he would like to live, and that they will never reach this awareness. Secondly, “we know” for sure that all Dutch citizens will be most happy in an one storey house with a gabled roof, red tiles, a small garden at the front and the back with a pond and eventually garden gnomes around it. The third dogma consists of the absolute certainty that if the incapable residents could build without rules, the Netherlands would look like a country where children and madmen are in control. Summarized the dogmas emphasize problems of knowledge, aesthetics and cohesion. The question is the extend to which an individual has the knowledge and the possibility to deal with the conflicts and location specific problems and the complexity and hierarchy of its urban context.

Zoning rules, visual quality plans and visions made by professionals can guarantee aesthetic quality, cohesion and can prevent conflicts. However, these rules and plans are limiting the freedom of the private developer in Oosterwold and conflicts with the philosophy of a location where everything is possible.

Next to these ‘small scale’ problems there is the problem of the big scale. Is it possible for self-organization developments to come to a sustainable and coherent design in such a way that it does not only contributes to the qualities of their own lot, but also to the real qualities of the whole urban development? Dealing with big scale problems as subsidence and water nuisance.

The freedom for the individual developer in the structure vision of Oosterwold is large. This is an advantage for the developer but can also lead to conflicts in the development. Some of the conflicts that could occur are outlined.

Source: Own research drawings

CONFLICTS OOSTERWOLD

The freedom for the individual developer in the structure vision of Oosterwold is large. This is an advantage for the developer but can also lead to conflicts in the development. Some of the conflicts that could occur are outlined.
Non professional private parties can have a lack of knowledge to create their own urban environment in a vital and sustainable way. There are plenty of books for dummies to guide them in the design process. Source: Own collage

The problems described above shows that there is a need for rules, guiding elements or structuring lines to guide (C)PC organic urbanism. The question is how clever rules can take away the negative side, in the form of the mutual distrust between citizens, but also from urban planners and architects towards uncontrolled aesthetic cacophony. (Beunderman, 2010) And how much guiding, structuring and regulation is needed?

In the development principles of the structure vision of MVRDV the complexity, characteristics and chances of the landscape are not taken into account. Therefore the main question of the research will be:

2.4 RESEARCH QUESTIONS

How can the complexity of the subsurface be planned in (C)PC projects in organic urbanism in such a manner that it contributes to a resilient qualitative urban development?

To answer this question there are several sub questions that need to be answered:

• What is the role of the urbanist in the approach for designing a resilient qualitative development using the subsurface?
• How can the complexity of the subsoil be used in organic (C)PC developments and in what way can it solve problems due to climate change?
• How can several developments on the small scale contribute to a resilient qualitative big scale plan?
• What kind of regulation is needed for the development of resilient qualitative organic (C)PC developed cities?
• How can the maintenance of the (C)PC buildings and context be passed on to the future occupants?

What is resilient qualitative urban development?

My definition of resilient qualitative urban development is a development that contributes to the qualities of the location and is resilient to the positive or negative changes of the location in the future on the different aspects of urbanism going from climate change to the aging population. Especially in the location Oosterwold it is important to create a resilient urban development to adapt in the future to the subsidence and water nuisance.
THEORY

3.

Clay fields of Oosterwold
Source: www.sngfilm.nl/

Entrance from the Stichtse Brug to Oosterwold
Source: www.flickr.com
Photograph by: Chriszwolle

Tulip fields
Source: www.panoramio.com
Photograph by: Chris 10
3.1.1 Reductionism | The building process is getting more and more complex, this has several reasons according to the paper Beroepspraktijk Stedebouw NL (Pijpers van Esch et al., 2013). The amount of stakeholders in the building process is increased. Its context is changing faster and faster due to changes in social-economic conditions, demography, interest of inhabitants (ICPC), technological developments, climate change etc. The wish for a sustainable development, which is often seen in ICPC projects, is increasing this complexity even more which results in a multi-disciplinary design approach. To come to a resilient, vital and qualitative design, all the aspects of the city and its context have to be designed as a coherent whole. The question is how to understand and organize the complexity of the build environment. By the philosophy of reductionism, the complex whole can be reduced into smaller simpler components. This reductionism approach can also be applied to urban planning where organism and machines with all their small components are often been used as metaphors for the city. A city is a complex multilayered system, teeming with components, very much like a biological organism. Following the Second World War, architects and planners instituted a top-down approach to planning and constructing the city that reduced it to simplistic components. (Salingaros, 2000) In their essay Bhat and Salingaros (2013) do not advocate this reductionist approach: “For this reason, one has to respect the overall complexity of something that has evolved over time, be it a work of art, a city, or a traditional society and accept certain of its features that we cannot comprehend at the moment, given the limitation of the tools and methods available to us.” But what tools and methods to use? All the drawn maps, written stories or even taken photo’s are a reduction of reality. Every analysis, no matter how extensive, will be an interpretation, a personal reduction of realistic world.

3.1.2 System approaches | The reductionism thinking is frequently used in the existing planning doctrine which resulted in non synergetic designs e.g. in a water safety project there is not taken into account the spatial effects or ecological consequences. (Mayes, 2012). A system approach makes it possible to understand the city and the issues of climate change in relation to each other. The use of system approaches emerged in 1950’s as a reaction on the reductionist approach where the issues were de-contextualized and reduced to their essence but made complexity too simple. (Flood, 2001) The Dutch layer approach originates in a model constructed between 1996 - 1998 by De Haag, Sijmons and Verschuuren. (Van Schelik and Klaassen, 2011) In this graduation project the six layer approach of TNO and Deltares will be used. The two approaches will be described in the next paragraph.
3 AND 6 LAYER APPROACH

3.1.3 Three layers approach | In the context of the research project "Het Metropolitane Debatt" ("The metropolitan debate"), professional designers and planners were asked to create a base for the strategic choices that had to be made regarding the future spatial development of the Netherlands in the light of climate change, water management, the economic position of the Netherlands in international networks, urban dynamics in relation to the values and attractiveness of the landscape, and the need for integral planning. (Frieling, 1998; De Hoog, Sijmons & Verschuuren 1998a; 1998b) Over their answer to this question and based on their criticism regarding blue print types of plans that show little concern for the process of transformation, they proposed a stratified model, on a regional level of scale, which connected planning tasks to different time scales of spatial dynamics. (Van Schaik and Klaassen, 2011)

With the three layers model a location can be distinguished in different layers or levels that show different time frames to transform. The lower layers will set conditions and priorities for the layer above. The classification of different layers that show a different time frames to transform. The lower layers will set conditions and priorities for the layer above. The classification of different layers or levels is not a new phenomenal. We already say, for instance, that the urban designer ‘operates on another level’ than the architect. (Habraken, 1988)

3.1.4 Six layer approach | As Einstein states: ‘A scientific theory should be as simple as possible, but no simpler’. In relation to climate change, the original layer approach is a good starting point but not refined enough for the complex urban system. (Döpp et al., 2011) Therefore the three layers public space, metabolism and people are added. This six layers approach, developed by TNO and Deltares will be used to structure the multi-disciplinary project of Oosterwold. The six layers approach defines the layers: Subsoil, Infrastructure, Public space, Buildings/Occupation, Metabolism and People. These layers differ in time frame, but also physically in dynamics, scale knowledge and professions. To come to a resilient, sustainable, vital and qualitative design, all the layers have to be taken into account in a coherent whole. The layers should not be seen separately but as levels that interrelate e.g. when the street network changes this will give new conditions for the form and location of the building blocks and the subsoil will be influenced.

This hierarchical relation which is shown in the figure below will be discussed in chapter 3.2. The six layer approach will not only be used for the analysis of the location, but will also be used as a design tool.

The 3 layer approach of De Hoog, Sijmons and Verschuuren on the left and the 5 layer approach of TNO and Deltares is shown on the right.

Source figure left: www.soilpedia.nl
Source figure right: TNO and Deltares
Source figure left: www.open-building.org
### 3.2 Hierarchy

#### 3.2.1 Levels

As discussed in the previous chapter, it is important to search for interrelations between the different layers of the urban context to come to a resilient and vital urban development. But in what way do these layers relate to each other? What is the scale at which the layer and what are the professionals that play a role in it?

To examine the relations between the layers of the six layer approach, this layer structure has been compared to the hierarchic system of levels which is described by Habraken (1998). Habraken states about his levels: "The concept of levels is of prime importance because it provides a way to discuss environmental organization in concrete ways, presenting a real and observable concept of levels." In his system this levels show a hierarchical relation.

#### 3.2.2 Hierarchy

The six different levels, derived from the six layer approach which is discussed in the previous chapter, are put in the hierarchic level scheme. The hierarchic structure and differences in amount of collectivity, time frame and scale are derived from the level system by Habraken also see also Beunderman (2010). The levels will differ in time, scale and actors. The levels will have an amount of control over the previous levels. For example a transformation in the building layer can result in a change of the amount of traffic which will influence the infrastructure layer. This control of level transformation of different levels occur changes. This is directly giving restrictions on the actors that have control of certain levels. Public parties of organic (C)PC projects cannot change levels like subsoil, infrastructure and public space on their own. Collaboration is needed to change this large scale levels.

#### 3.2.4 Complexity

Another issue for the (C)PC project Oosterwold is the complexity of the built environment. In the scheme on the left the different levels are drawn. Each level can be divided into several sublevels. All these sublevels have their own complexity and experts and will control or influence other levels. By modeling just a few sublevels in the scheme, the complexity and multidisciplinary of new development becomes clear. This can be challenging for private parties who do not have the knowledge and expertise to come up with solutions for the problems of their building lot. Experts can be consulted for advice, but this advice will be multifunctional and at the scale of the individual development. This can lead to conflicts between different solutions in the different private developments. Besides, the multidisciplinary solutions that can create synergy will be untapped opportunities. What is the approach for leading this self-organizing developments to coherent solutions for the whole neighborhood in stead of for the building lot itself?
3.3 Shifting context

3.3.1 Changing government

The layers of the six layers approach show a difference in the amount of parties that are involved by a development in this layer. Where the layer subsoil has in general a large collective which will be involved by changes in this layer, the layer people will mainly influence the personal level. The amount of governmental influence is therefore also bigger in the layers that have a more collective character. There is a shift going on from a large governmental influence (in each layer) of the welfare state towards more influence of the society and the market in the participation state. Privatization of the building process with a small influence of the government is not a new phenomenon. Regulations like the founding of the water boards, the constitution of 1848, the industrial revolution, the housing act of 1901 and the establishment of housing corporations increased the influence of the government in the Netherlands more and more resulting in the welfare state. Before the implementation of these acts and rules the developments on the different layers/livelihoods where mainly commissioned by private parties. High governmental costs of this welfare state and the demand for more voice of the individual resulted in the need to change this government. This change is also described by de Haan (2011): “The shift in participation of the end-user has happened right due to the transition from quantity to quality in housing provision. Because people want more influence on the design of their living environment and on the program in the surrounding areas with public space, work space and facilities, the local authorities, housing corporations, developers and dwellers have started to follow different strategies that could give more power to the client.”

The consequence of less governmental influence is that the commissioning of building projects has to be done by the market in the form of professional developers or by the society in the form of (C)PC. The amount of participation of residents in the building process is growing. This has a big influence on the building process. To accommodate this shift in demand the professional developers are now involving the future residents by letting them influence the end result. The amount of influence that is given to the end-user varies from the selection of different ‘catalog’ design solutions that can be implemented in the design of a professional developer to the development of the whole building and context by the commissioning of the end-user.

3.3.2 Privatization

Research of Felling, Peters and Scheepers (2000) showed that Dutch citizens attach greater importance to the amount of freedom and autonomy of the individual. But at which layers is this freedom and autonomy of the individual feasible? The collective and large scale character of the layers subsoil, infrastructure and more or less also the layer public space does not seem to match with the wish for more freedom. Nevertheless, also in these layers there is a tendency towards more privatization. This shift from collective to private commissioning and the role of the urban designer will be examined next in chapter.

3.3.3 Relevance

The development of the location Almere Oosterwold is the first organic urbanistic project in the Netherlands where public functions as water bodies and infrastructure also have to be built by the private commissioners. Almere has always been characterized as a city with a pioneer and innovative mentality. (partners van het stadsontwerp, 2005) This in combination with the guideline of the olderman Adt van der Meulen has made Almere the national laboratory of (C)PC projects. Therefore Almere is a suitable location for this urban ‘experiment’.

The first big organic urban developments of Almere where a complete district is developed by private commissioners had a strong pre designed urban structure e.g. the development Homeruskwartier where the public space is designed by OMA. The strong public plan is making a coherent whole of all the individual private developed buildings.

As described above the City of Almere has the ambition to grow from nearly 200.000 inhabitants to 350.000 inhabitants in the project called ‘Almere 2.0’ or ‘De Schaalsprong’ in the year 2030. The design for Oosterwold, which is one of the three expansion areas of ‘De Schaalsprong’ has to be the framework in which the private developments can take place. This confirms the relevance of the graduation project.
This drawing illustrated the chaotic situation of the subsoil. Multiple actors with different interests participate in the subsoil. This in combination with the lack of a structuring plan can lead to conflicts.

This drawing illustrated the chaotic situation of the subsoil. Multiple actors with different interests participate in the subsoil. This in combination with the lack of a structuring plan can lead to conflicts.

Book: Underground

Drawing: David Macaulay

3.4.2 Subsoil

The subsoil layer as used in the six layer approach consists of four different elements: Civil constructions, Soil conditions, Energy and Water. This subsoil plays an important role for the qualities of the city above the ground. As described by Berendsen (1997), “the geological values of the Dutch soil have been neglected for centuries.” This is strongly related with the lack of spectacular and interesting landscapes in the Netherlands. In the 12th century, peat and coal were newly introduced as a source for heating houses. The private mining became to an end with the French mining law of 1810. This made the government the owner of mineral resources and thereby increased the governmental control over the subsoil. Contamination was not included in the law. The soil protection act of 1986 gave the government more control over contamination. Utility companies of the government developed a network of cables and pipes. A shift toward more autonomy in the subsoil was the liberalization of the utility network. The large amount of cables and pipes made the structuring of the subsoil very difficult. Therefore the WION law was introduced in 2008 to map the different structures. Nevertheless, there is uncertainty about which constructions belong to the WION and which do not. For example foundation piles, other civil constructions or tree stumps are not implemented in the law. The introduction of cold-heat storage systems, that can be commissioned by individuals was a shift towards a decentralized access to energy and results in more autonomy of the subsoil.

3.4 PRIVATIZATION OF LAYERS

3.4.1 Changing layers

As mentioned in the previous chapters the wish for privatization is influencing society, market and government. This affects every level of the six layer approach. Nowadays there are strict rules for all the layers of the living environment but in the early 19th century this was not the case. With just two million inhabitants in an empty Netherlands with large uninhabitable parts of land, the government did not interfere in matters that had to do with living space or environment. The shift from private commissioning in the middle ages towards the big governmental influence of the welfare state and back again towards more private commissioning is noticeable in all the different layers of the six layer approach. This will be examined in this chapter to understand on which ground the private commissioning culture of the 19th century has changed into the collective culture of the welfare state, what does this teach us for the future?

“History cannot give us a program for the future, but it can give us a fuller understanding of ourselves, and of our common humanity, so that we can better face the future.” (Robert Penn Warren)

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“History cannot give us a program for the future, but it can give us a fuller understanding of ourselves, and of our common humanity, so that we can better face the future.” (Robert Penn Warren)
One of the views remained high peat areas of the Netherlands. Before the cultivation of the land, big parts of the Netherlands have looked like this. By draining of this peat soil the soil subsided and the peat disappeared.

Source: Naturalis
Photograph: Ans Molenkamp

Subsidence in the Netherlands

This shift is also noticeable in the water management. As described by the water board Zuiderzeeland (Geschiedenis van de waterschappen, 2014) the Netherlands has a long tradition of cultivation the land to make the soil dry and workable. The water management was in that time controlled by the villagers themselves. Because of the drainage of the peat, oxidation of this peat occurred. This resulted in the subsidence of the soil. The level of the peat became that low, that the water level of the rivers became higher than the polder.

Because the natural draining of the land was not possible anymore, dikes, sluices and pumping facilities were introduced. Landowners were not capable to pay, build, maintain and serve all these structures by themselves. This resulted in collaborations between landowners which can be seen as the precursors of the water boards.

The small water boards of the polders that were located along rivers or the sea could not bring up the costs and maintenance for the river or sea dikes. The water boards that had their location in between land did not have these costs. The storm flood of 1675 showed the failure of the fragmented water system of all the different water boards.

In the 16th and 17th century, the water boards changed their system. Tax was paid by the landowners, mainly farmers, to the water board. The water boards took care for the maintenance and construction of the water management system. In the 19th century, the windmills were replaced by mechanical pumps which made the scale of the water management system even larger. For several years farmers and landowners had a big influence on the waterboards. This was logical because they had the most interest and, what is the most important, they paid the bill.

By the introduction of the Waterschapswet in 1992 not only landowners but every inhabitant of the Netherlands pays taxes and could vote for his water board management. This changes the relation of the citizens with the water task. Especially the enormous governmental construction projects of the Deltaworks and Zuiderzee works created a gap between water management and residents.

Also in water management is a demand for privatization. Developers are responsible for the water task of their own lot. This task is redistributable by the municipality. More privatization is because of the large scale and artificiality hard to apply. Portugali (2012) agrees with this. ‘In the (C)PC projects individuality is desirable but the abolition of the involvement of the central state in the water management is not possible. The system of interrelated aspects of urbanization and water-management has become so artificial that it is impossible to simply substitute it with another system.’

Source: designingthecity.files.wordpress.com

Deltaworks, Oosterscheldekering

Source: designingthecity.files.wordpress.com
The junction of the A6 - A27 separated by a green stroke from the districts Almere Stad and Almere Buiten. Inside the junction are five elephants constructed which form a piece of Art along the infrastructure.

Source: www.flickr.com
Photograph: Dawei_nl

3.4.3 Infrastructure | As described in the book ‘Een nieuwe wereld’ (Van Der Woud, 2006) the road network in the Netherlands of before the 18th century consisted mostly of unpaved sand paths and cart tracks. Especially these cart tracks did not have a fixed location. Once a track was worn too far, the carts created a new trail. (Natuurmonumenten, 2014) Because of all the unpaved roads, the transportation by road was very weather dependent. The main transportation mode for long distances was by boat.

In the 18th century, under French regime, the policy of the roads changed. Imperial roads were determined which were of importance for the consistency of the state. After the French period the institute called “Waterstaat” was remained and in 1814 King Willem I presented a new national road network which corresponds with the French plan. From this period the state was responsible for the national road network. For streets and alleys inside the city the role of the government was different. As described by van Ravesteyn (1933), the construction of streets and alleys was mainly done by private parties. The freedom of the private parties was only limited when the fire safety of the city decreased by the new development. More influence of the government came by a revision of the constitution in 1860. The provinces were constitutionally obliged to monitor the construction and maintenance of roads. In practice the provinces made a regulation that was more of an inventory of what was happening in real life. Landowners and nearby residents knew exactly what was expected from them to maintain the road network. Building permission was not only taking into account the conditions of the building, but also the context of the building and its influence for the public health and safety. When a road was to constructed too narrow, no building permission was given.

A lot of roads and bridges where destroyed during the Second World War. This resulted in an enormous reconstruction task of the roads. The government took up this enormous building task, where a total of 100 km highway network in 1945 was increased to 600 km in 1965. Highways where constructed along and through cities, resulting in the resistance of citizens. Since the 1970s the relation between government and citizen changed. Rijkswaterstaat was no longer all decisive in the infrastructure but more and more like a team player in collaboration with private parties. In report “Op de goede weg en het juist spoor” (2008), more private development of infrastructure is advised.

The movement from private- towards governmental commissioned and back to private is also noticeable in the railroad network. The first railway tracks where constructed by private parties. From 1860 the government started to build also railroad tracks. In the year 1930 multiple less used train tracks where demolished and from 1938 the government in the form of the Nederlandse Spoorweg was in control of the rail network. This changed in 1991 with the privatization of the rail transport company and in 1995 with the privatization of the railroad construction and maintenance. The state still has the supervision of the railroad network.
3.4.4 Public space

When people realized that living in groups offered a greater safety and trade opportunities towns and cities arose. Streets and squares were under the authority of city councils or the elite in the city. There was not much power and financial resources to maintain the public domain. Often private parties usurped public space for their private development e.g. a new development was built in a former alley. Because the public space was created by and for the citizens, there was a strong social bonding. As described by Van Der Wouden (1999): “the urban order in the city was watched over by the elite which were economically and physically bound to the city and therefore had a vested interest in a stable order. Without this stability, the city could not function as a marketplace. The rights, duties and codes of conduct for the urban citizenship was more than just an economic interest regulation. They covered the culture of the civil society or, in terms of Zijderveld, an urban ethos, which consisted of a mixture of cosmopolitanism and localism (Zijderveld, 1998)”

The big migration to the cities in the industrial revolution created problems for the private commissioned city. Hygiene, diseases and overpopulation were problems that had to be solved. The building act of 1901 gave municipalities the instruments to solve these problems. The law made it possible for cities to ban constructions on specific locations. Next to that there was the obligation for the bigger cities to create an expansion plan. This resulted in a great control of municipalities for the public space by creating zoning plans, visions, visual quality reports, and aesthetics committees. Citizens were seen as clients or consumers of public space. This resulted in a reduction of social cohesion between residents and their public environment. The modernistic public space is often characterized as ‘no-man’s-land’. Cities did lose hereby their specific urban culture and their active citizenship.

Nowadays there are hundreds of examples where residents, businesses, schools or visitors actively contribute to improve public space and the livability of their own city, neighborhood or street. This is done by clearing up litter, maintaining a green belt, setting up urban farming for the neighborhood or by the participation in the design process for the public space. Governments and municipalities in the Netherlands are promoting and supporting this kind of participation initiatives. This also corresponds with the shift from welfare state towards participation state.

“Citizens oppose ‘naturally’ against things that are imposed, and tend to support that which they help create” (Vincent Pfaff)
Change in the commissioning of buildings coincides more or less with the development of public space. Before the building act of 1901 there was no to almost none governmental interference in the building industry. Only when public safety or public health became in danger the municipality could intervene. The big immigration to the city of the industrial revolution caused this health problems. Small associations were founded by benefactors or employers to provide acceptable qualitative housing. With the building act of 1901 this quality of housing was obliged by governmental instruments like building rules, zoning plans, visual quality plans and the aesthetics committee sets rules for the use, the location, the aesthetics and the density of buildings.

After the crisis of the 30s, the Dutch government installed building corporations as an important instrument to supply housing. The rapid population growth and reconstruction of cities in the period after the Second World War, resulted in an enormous building task. The government had a mayor role in this building task by stimulating the construction of qualitative and affordable housing by providing funds. Between 1947 and 1985 the ownership of housing corporations increased from 196,000 to 1,607,000 dwellings. Due to the experience of the enormous building task, corporations and project developers became professional institutes that thought to ‘know’ the citizens building demand. This created a gap between the resident and the corporation and project developers. (C)PC projects were mainly developed by the wealthy citizens in that time.

The market changed from a supply orientated market to a demand orientated market. The participation movement and the credit crisis resulted in a change of the building process. There came a wish for more influence of the end user in the building (process), in contrast with the stagnated big building projects of professionals, the (Collective) Private Commissioning developments were feasible. The wish for more participation, identity and owning a place seems to be found in (C)PC. Also the government stimulates this form of commission e.g. the government of Almere is developing with different parties methods to make private commissioning accessible for its current and future citizens.
3.4.6 Metabolism | The use of resources has also shifted in time. Before the industrial revolution there was as good as no waste because of the reuse and careful handling of private goods. Also packaging of goods was sustainable because plastic was not a conventional material. People were working in and around their houses and were mostly self sufficient. With the industrial revolution the use of resources increased rapidly, however, the Netherlands was far behind in the technological developments. Van Der Woud (2006) describes this in his book ‘Van nieuw wereld’.

Where the neighboring countries like Britain and Germany were using machines for their heavy lifting operations, the Netherlands were still using manual labor. Also the mining of coal was done on a very small scale, peat was still the most important fuel in the Netherlands. Step by step, the industrial revolution also took place in the Netherlands in the second half of the 19th century e.g. fifty years later than neighboring country Belgium. Machines brought comfort and enabled people to consume massively (see the diagram on the left).

Due to the polluting industry the river water became more and more contaminated. Drinking this water became dangerous for the health of the people. The government stated that this had to be solved by the private parties. The beer brewers of Amsterdam needed clear water and were stimulating the construction of the drinking water pipeline network. With this development it become clear that it was important to separate the sewer water from the drinking water. The first electricity became available for private parties in 1884. The electricity network was constructed in the subsoil and started in Kinderdijk with 350 connections. (Hermens, 2014) Electricity was mainly used to replace oil lamps. Gas connections became available around 1920. Also the waste production of residents grew. The municipality took care of the waste by collection and processing. Also in metabolism a shift towards more private commissioning is noticeable. Worldwide there is the awareness that we have to change our consuming behavior. The growing costs of energy resources and the technical development result in private sustainable solutions in the building e.g. electric cars, solar panels or storage and use of runoff water.

Since the 13th century peat is being excavated. The peat was being used as a fuel. The most peat was excavated in the beginning of the industrial revolution in the 19th century until it was replaced by coal. Large lakes were dug out by the excavating of the peat e.g. the Loosdrechtse plassen and the Nieuweveense plassen.

Source: www.the-netherlands.nl

Diagram by: Haberl, H

Amount of metabolism over the years

Since the 13th century peat is being excavated.

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Source: www.the-netherlands.nl

Diagram by: Haberl, H

Since the 13th century peat is being excavated.

The peat was being used as a fuel. The most peat was excavated in the beginning of the industrial revolution in the 19th century until it was replaced by coal. Large lakes were dug out by the excavating of the peat e.g. the Loosdrechtse plassen and the Nieuweveense plassen.

Source: www.the-netherlands.nl

Diagram by: Haberl, H
The welfare state was extended till 1980. The high costs of this governmental construction resulted in a large governmental budget deficit. Big reform of this welfare state were done by the Cabinet Lubbers I, II and III from 1980 till 1994. The participation state of Rutte II is further declining the role of the government.

Source: http://blog.meervrijheid.nl
Drawer: Silvia Morandotti

3.4.7 People | Before 1870 the function of the government of the Netherlands was like a night watchman, with the main function to protect private properties. Due to the industrial revolution the welfare state emerged and completed in 1970 with the AOW (general elderly pensions) and the Bijstandswet (social assistance act). There is a lot of disagreement on his welfare state and the costs of this governmental structure are too high to maintain this structure. Also there is the wish for more voice for the residents, the participation movement. The government Rutte II is introducing the participation state. This is a shift to more privatization of governmental task. The growth of world population will go along with a migration to the cities. To reach sustainable, resilient and vital cities a new role of the citizen is required. This does not require a big and influential government. As described by Hajer & Hoiting (2012) the idea of the makable society in a rigid plan like Plan Voisin by Corbusier is from the past. The strength of the 21st century city should be sought in the in new relationship of the government with citizens and businesses. A relation of collaboration and letting go. The 21st century could mean the return of older social forms of cooperation, such as cooperatives and associations, in a new guise. Associations of citizens who try make their own sustainable environment. Such initiatives are supported by the online exchange of knowledge and ideas.

In such cases, governments and administrators have to do what they find most difficult: as little as possible. Governments need to let things happen and limit themselves to minimal intervention for maximum effect (De Jong, 2011)
The participation movement and the participation estate and back to private commissioning with large influence of the government in the welfare missioning with a small government towards a

CONCLUSION PRIVATIZATION

The industrial revolution had a great influence to all of the layers in the roads.

and laws like the mining law of 1803 and the plan of important ‘Imperial’ ascribed to the hard work conditions, poor hygiene and several wars. Especially in the cities there was a low life expectancy which can be period can inspire. Nevertheless, this period should not be romanticized. Although this period differs in multiple aspects from the contemporary life, the third important reason that should be mentioned is the urban large scale.

The second important reason is that in this time the technology was very primitive. People were working in and around their own houses and were self sufficient. Men worked on the field and women wove wool at home. Because of this primitive life and technology, the scale of the private commissioned change was small. Therefore it could not lead to conflicts on the self-sufficiency of old agricultural settlements disappeared. National improvements grew and the landscape became more and more artificial in the revitalizing of the housing market. In countries such as Belgium and France, the liberalization of the energy market or the corporations that do not get government were being presented very negatively. From the year 2000 on, the privatization plans of the building process this can be seen as governmental policy influences all the layers with the same governmental vision.

If we look at the past, the period before the Batavian-French era (1785–1815), there is much freedom for private developers and little governmental influence in all the layers of the six layers. This has several reasons. The first important reason is that the Netherlands became a “patrician republic” based an self-government of the elite. In this time there was no national government to define national laws, the liberalization Welfare state is getting too expensive. To save money, big governmental bodies were liberalized. This was noticeable in all the layers e.g. by the liberalization of the energy market or the corporations that do not get governmental funding anymore. It is remarkable that the downsizing of the government, in the 1980th, was mainly done by privatizing governmental bodies into professional market organizations. This did not gave the consumer more voice in the processes of its urban environment. Therefore the privatization plans of the government were being presented very negatively. From the year 2000 on, the discussion increasingly noted that market forces and privatization of the government should be of public interest rather than being a goal in itself.

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The industrial revolution had a great influence to all of the layers in the build environment. The large migration towards the cities resulted in bad living conditions. The constitution law of 1848 and the housing act of 1901 were large steps in the governmental influence in all the six layers of the urban environment. The complexity of the city due to technological improvements was enormous. This spacial complexity which asked for collaboration in order to achieve large scale solutions. The self-sufficiency of old agricultural settlements disappeared. National improvements grew and the landscape became more and more artificial in the revitalizing of the housing market. In countries such as Belgium and France, the liberalization of the energy market or the corporations that do not get governmental funding anymore. It is remarkable that the downsizing of the government, in the 1980th, was mainly done by privatizing governmental bodies into professional market organizations. This did not gave the consumer more voice in the processes of its urban environment. Therefore the privatization plans of the government were being presented very negatively. From the year 2000 on, the discussion increasingly noted that market forces and privatization of the government should be of public interest rather than being a goal in itself.

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What can be the freedom of the individual in private commissioned projects? In which layers is this freedom possible and what must be the role of the urbanist? In which layers can the role of the urbanist be given to the private commissioners to make the wishes of the individual possible and demand of their development possible. Which set of rules have to be given to the self-planned city to come to a sustainable and resilient development? What is the role of the urban designer to come to a sustainable, vital and resilient developments in private commissioning? What is the hierarchy of the different level will play a large role in this process.

As described in the previous chapters, there is a shift noticeable towards a participatory society. This is also being undertaken by Ultermann & van Beek (2010): “Participation is undisputed, but in the current participation state it are mainly the professionals who are directing, controlling and conditioning. The result is that the ability of citizens to solve problems is undermined instead of stimulated, that consultation and participation are increasingly becoming an extension of power and that ‘citizen knowledge’ is undermined.”

Currently nearly 90 percent of the total housing in the Netherlands is still realized by professionals. (SEV, 2006) With a market changing from supply orientated to demand orientated private developers, professionals and corporations try to meet the wishes and demands of the end-user. There is a trend towards more participation of the user in the building process of corporations and project developers. Despite of this movement, the demand for (Collective) Private Commissioning projects is growing. Also the government states that in the future a 30 percent of the total building developments have to be private commissioned. A lack of knowledge, the amount of paperwork and costs are some examples of issues that holds private commissioners back. Also the lack of building ground due to the land policy of the governments is a struggle for developers. (SEV, 2006) With a market changing from supply orientated to demand orientated private developers, professionals and corporations try to meet the wishes and demands of the end-user.

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VOGELHORST

Vogelhorst, a location next to the plan location of Oosterwold, gives space for (C)PC projects. Building lots can be achieved to build your ‘dreamhouse’. The taut form of the building lot and the cacophony of different styles results in a strange neighborhood.

Source: Own photo

VOGELHORST

3.6.1 Project aim | This research concentrates on (Collective) Private Commissioning projects in organic urbanism developments. Despite the amount of residents that want to develop a dwelling under private commissioning, the amount of (C)PC projects is lagging behind. This has several reasons like:

- Lack of building lots for (C)PC
- Lack of knowledge, know how and experience
- Start-up costs without a mortgage
- Uncertainty about the process
- Time and energy of the commissioner
(SEV, 2006)

The government is declining its influence on the housing market. This changes the relation between resident and government in the building process. This is also changing the role of the urban designer.

The aim of this research project is to examine the new role of the urban designer to come to resilient, qualitative, sustainable and vital organic urbanism.

The research part consist of the following aims:

- Research the role of the urban designer in (C)PC projects in organic urbanism.
- Create a principle or framework for private commissioned organic urbanism that results in urban quality.

The design part consist of the following aims:

- Redesign Oosterwold, or its framework of rules, in such a way that it does not limit the freedom of self-build projects, but that coherence and relation between water- and sustainable solutions is implemented.
- The design approach can be an example, a showcase for other self-organization (soft soil) locations.

The aim of the design is to contribute to the body of knowledge of the sustainable technical implementation of self-organization planning.

3.6.2 Ethical question | The development of (C)PC projects also adjust an ethical questions. Private parties like to have as much freedom as possible to create the house of their dreams. But the amount of freedom private parties allow for their neighbors is substantially different. A difference of opinion, perception or vision does not always have to lead to conflicts. We can speak of a conflict when one party feels opposed in pursuing its goal, by one or more parties. Conflicts always arise in dependencies of other parties, the more private parties need each other to achieve goals, the greater the probability of the occurrence of conflicts. (Bouazzaoui, 2014)

In (C)PC project, in de layers of the big scale, their is always the dependency of other parties. How to realize the greatest amount of freedom for private parties, but at the same time preserve from conflicts. And when maximum freedom is given to private parties, what is the amount of freedom that must be given to a minority or (religious) group?

3.6.3 Relation with Delta Interventions | The development of Oosterwold is planned to be developed in the Nieuwpolder. This former IJsselmeer lake is the polder with the largest amount of subsidence, of the Netherlands. This raises the question how the subsoil of organic urbanism can be designed in such a way that subsidence will not cause large problems in the future due to climate change and the increase of precipitation in the winter and drought in the summer.
3.7.1 Role of the urban designer

To understand the role of the urban designer in the development of Oosterwold, the metaphors of the tree and the rhizome will give more clarity. The organization of the government can be seen as the hierarchical structure as described in chapter 3.2. As mentioned by Douglas & Widasvky (1982) there was for a long time the vision of an hierarchical predictable society. By compartmentalization, the relation between different (main) actors or social groups in the society was predetermined. In such a society everybody knows his place, as is the case in hierarchical relations.

The society does not seem to evolve in this hierarchical structure but rather unpredictable and not according to a specific ‘design’ or an inevitable logic. The sum of the actions of all individuals and all groups in a society cannot be predicted, but can only be retrospectively understood. (Steen, Peeters, & Twist, 2010) The government is more and more struggling with the differences between the organizational structure of the government with its hierarchical ‘tree’ structure and the society with its ‘rhizomatous’ structure. In “A city is not a tree” (1965), Alexander criticizes the tree diagram that governed the planning of the time. Alexander shows the difference in planning between the tree and the rhizome by two diagrams. The first diagram has a tree structure where all the aspects of the urban environment show a hierarchical and pyramidal relationship. This is an artificial way to visualize the urban environment.

In opposition to this deterministic diagram at the base of the “artificial” cities, Alexander proposes the model of the “natural” city. Such a city settles over time and is structured as a “semi-lattice”, an open structure, where the parts are connected to each other by several orders of relationships, and the elements of a smaller scale may interact with others without being subjected to an inflexible hierarchy. (Corabini, 2013)

The semi-lattice (rhizomatous) structure of Alexander is much more complex and subtle than the tree structure. Alexander states: “This enormously greater variety is an index of the great structural complexity a semi-lattice can have when compared with the structural simplicity of a tree. It is this lack of structural complexity, characteristic of trees, which is crippling our conceptions of the city.” (1965)

The struggle to find methods or procedures for organic rhizomatic urban developments is examined by Boonstra, Vogel and Slob (2014). In their report the two different worlds of the governmental tree and the individual initiatives as a rhizome is acknowledged. Although the worlds of the tree and rhizome show some fundamental differences, they overlap and conflict all the time. Therefore it is important that municipalities and individuals are able to switch between these two worlds.
ROLE OF THE URBANIST

The different roles that the urbanist can have in more rhizomatic or more tree-like developments.

Every design project is located somewhere in between the worlds of complete regulation, and the world of complete freedom. The world of complete regulation has the metaphor ‘tree’, which imagines the governmental hierarchical structure. By failure of the regulation of the government, the trunk of the tree, the whole society will collapse. This view on society is that of the makable society with the government as important player. A complete tree approach resulted in the makeable city like plan “Vogel” by de Corte. The connection with the residents is completely lost in this approach.

The world of complete freedom has the metaphor ‘Rhizoom’ which imagines the different small private developments without any structure. By failure of a little piece of the rhizomatic network, the remaining network will continue. A complete rhizomatic approach resulted in the private development of Kavloon Walled City. The connection with the government was completely lost in this approach.

In every project needs a little bit of both worlds. In some cases this can be more rhizomatic and in other cases more tree like. This depends on the different actors in a project and the policies of the government. By the positioning of a project, between the discipline tree world of the government and the freedom rhizome world of the initiative, different roles are introduced by Boonstra, Vogel and Slab (2014) hits the role the initiator, the navigator, the trailblazer and the disciplinarian.

- The initiator is crucial for the initiation of a development. This actor is the one with a dream or a passion that shouts: “We can do this”.
- The navigator is adapting the information and experiences gathered in the design process to structure further developments. “We find out gradually how to develop”. 
- The trailblazer takes information from the past and other developments as the base for new developments: “This is the way we have to develop in the future”. 
- The disciplinarian can be seen as the traditional government. With spatial elements as tools structuring governmental structures are applied. The disciplinarian is more strict and regulated: “Do not develop outside these rules”.
4.

Kathedralenbos
Almere-Hout
Source: siebeswart.photoshelter.com
Photograph by: Siebe Swart

Kasteel almere
Rode Donders Almere Buiten
Source: www.acenpblog.nl/wp-content/uploads/2012/12/p1030091.jpg
Own Photo
4.1 Methodology scheme | The left diagram shows the used methods in the graduation project and the way the methods relate to each other. The scheme must not be seen as the representation of the chronological order of the methods, like a phasing model. The whole urban process can be roughly distinguished into four different phases namely Theory, Analysis, Concept and Design. The graduation process is been a continuing shift between these different phases. The phases and the used methods will be described below.

4.1.1 Methodology scheme | The left diagram shows the used methods in the graduation project and the way the methods relate to each other. The scheme must not be seen as the representation of the chronological order of the methods, like a phasing model. The whole urban process can be roughly distinguished into four different phases namely Theory, Analysis, Concept and Design. The graduation process is been a continuing shift between these different phases. The phases namely Theory, Analysis, Concept and Design. The graduation project are:

1) Theory | Preliminary analysis
2) Analysis | Case studies, research, interviews
3) Concept | Literature study, consultation
4) Design | Workshops, planning, simulations

4.1.2 Literature | To research organic urbanism and private development a literature study is done. The result of this literature study is the theory paper which can be found at appendix III of this document. The literature study forms the theoretical background of the graduation project. The selection of the books that have been important for the graduation project are:

- Habraken (2000). Een nieuwe wereld als nieuw systeem. Urban Jazz, were sometimes just the rhythm is established, sometimes only the harmony, contained in a chord progression, and sometimes just a melodic line is needed to ensure quality, vitality and sustainability in the organic urbanism.


- Boelens and Visser (1980). Literature study - the role of the urban designer in self planned city is examined. The ideas of Habraken were important for the structure and design of Oosterwold.

- De Haan (1981). The structure of the ordinary. The hierarchy of levels is described by Habraken in this book. The ideas of Habraken were important for the structure and design of Oosterwold.

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- Habraken in this book. The ideas of Habraken were important for the structure and design of Oosterwold. Complexity theories of cities have come to age. This book describes the complex, historical evolution of knowledge, desires and technology and the ever changing layers of the city structuring other layers or being structured by other layers. Newer it is not possible to grab the morphology or patterns of the city. Especially in organic urbanism this morphology or patterns is changing constantly. Especially the contributions of Meyer and Portugali have been important for the graduation project.

- Urban Jazz: This book is a tribute to the organic urbanism and describes how organic urbanism can be planned. Urban Jazz, were sometimes just the rhythm is established, sometimes only the harmony, contained in a chord progression, and sometimes just a melodic line is needed to ensure quality, vitality and sustainability in the organic urbanism.

- Urban Jazz: This book is a tribute to the organic urbanism and describes how organic urbanism can be planned. Urban Jazz, were sometimes just the rhythm is established, sometimes only the harmony, contained in a chord progression, and sometimes just a melodic line is needed to ensure quality, vitality and sustainability in the organic urbanism. The spontaneous city: Making room for People: This leading book of urhahn URBAN DESIGN describes the change in commissioning of the building process.

4.1 THEORY | The spontaneous city: Making room for People: This leading book of urhahn URBAN DESIGN describes the change in commissioning of the building process.
The analysis of the location Oosterwold consists of two parts. The first part is the technical analysis. In this analysis the physical elements of the location are analyzed. The second part of the analysis is the visual analysis which shows the qualities, characteristic elements and identity of the location. The results of these two analyzes are combined in the vision.

4.2.1 Technical analysis | The technical analysis is done with the use of the six layers approach. This is done to get a grip on the complexity of the location. By analyzing step by step all the different layers, a complete analysis will be formed that creates as much as possible technical aspects of the location. A lot of research is done by maps, tables, diagrams and reports.

4.2.2 Visual analysis | In the visual analysis photos, images and drawings are used to search for the characteristics, the structuring elements, the qualities and the identity of the location Oosterwold. This analysis differs from the technical analysis in the way that it uses the observable elements of the location. Qualities and characteristic elements derived from this analysis are combined with the SWOT’s analyzes of the technical analysis.

4.2.3 Case studies | Different case studies are done to examine the amount of rules needed to facilitate organic urbanism. All the urban developments in the case studies show a different amount of rules and freedom for the (Collective) Private Commissioners.

All the private developers can improvise on this rhythm, harmony or melodic line. The aim of the case studies is to find out of the development in Oosterwold needs rhythm, harmony or the melodic line.

4.2.3 SWOT | An extensive analysis is made for the location Oosterwold (the analysis can be found at appendix II). The analysis deals with all the six layers separately. The strengths, weaknesses, opportunities and treats of all the different analyzed layers are put into six different SWOT analyses. This gives a good overview of the chances and obstacles of the location. The SWOT matrices, in combination with the visual analysis, forms the base of the Vision.

4.2.4 Morphological matrix | The morphological matrix tool is used to search for design principles for the different zones of the location Oosterwold. The morphological matrix breaks down the design ideas into essential subconcepts which are place in a multi-dimensional matrix. To find (new) design ideas for the location, combinations between the different concepts can be made. Some combinations will already exist, some will result in new insights and some combinations of concepts will not be possible because they conflict. The morphological matrix is used mainly in the industrial design profession but can also be very useful for the complex design problems of city.
4.3 DESIGN

4.3.1 Vision | The vision of the location will be created by trying to use the strengths and opportunities, solve the weaknesses and threats of the different SWOT’s and taking into account the important qualities and characteristics of the location. This will result in different subareas inside the location Oosterwold. Because all these subareas show their own characteristics, strengths and problems, the approach on these areas will be different. The vision will divide the location in areas with the same issues and will draw the structuring elements to connect all the subareas with each other. The vision will sketch the rough approaches for the location, the building rules and the amount of freedom for private developers will be described more precisely in a later stadium. The vision will being tested in a workshop first before the regulation of the different areas will be defined precisely.

4.3.2 Principles | New design principles will be made for all the zones that are defined in the vision plan. The new principles will stimulate the use of the strengths of the location and tries to solve the weaknesses and threats of the location. The choices which are made for the principles in all the different layers of the six layer approach are by putting them in the morphological matrices.

4.3.3 Workshop | Finally, the vision and the principles are tested in a workshop done with Msc Urbanism students. The workshop is done in three groups. Every group consisted of five students with different design tasks. All the three groups get a different amount of regulation and/or principles. This is done to examine the effect of more rules on the private designs for the location Oosterwold. The result of the workshop is used as a feedback for the vision and the principles. After the workshop these vision and principles are revised.
5.

Oostvaarderse plassen

Source: own photo

Almere centre

Source: Jeroen Hillenga

ANALYSIS

Agriculture

Source: www.flickr.com

Photographer: Ferry Streng
The main structuring elements of the location Oosterwold combined in one map. Source: www.playthecity.nl

5.1 SWOT ANALYSIS

5.1.1 Technical analysis | As described in the chapter methodology, the six layers approach is used in the technical analysis to structure the complexity of the location. By analyzing each layer separately a more or less complete picture of the technical conditions of the location is formed. For each layer the strengths, weaknesses, opportunities and treats are combined in a SWOT for the location. The SWOT’s for the six different layers result in a technical vision for the location. In this way the vision is taking 'all the aspects' of the location into account. In this chapter only the SWOT will be discussed. The complete analysis is added to this document on appendix II.

5.1.2 SWOT Subsoil | The SWOT of the subsoil which is derived from the analysis of the layer subsoil is shown on the right. Important strengths of the area are the qualities of the agricultural soil for growing crops and the aesthetic qualities of the two large main waterways, the Hoge Vaart and Lage Vaart with its large panoramic views of poldered nature. A weakness of the area is that nearly the whole area is a drill free zone for the water extraction by the company Vittel, this gives restrictions for the foundation of height buildings. Also the quality of the soil is declining. Opportunities of the subsoil is the contour of the creeks of the old Eem valley which is until now covered by the agricultural land. Because this creek does constribute more as the surrounding land, the location of the Eem valley has the chance to become a public route through the location. A big treat for the future is the expected subsidence of 80 centimeters at some places in combination with water nuisance.

5.1.3 SWOT Infrastructure | The strength of the layer infrastructure is that the area is well accessible by car and by bike. Also the clear grid of windmills are structuring the landscape. A weakness is that although the area is well accessible by bike, the distances to facilities are too long. Another weakness is the highway as barrier with its noise contour and finally the long straight boring roads of Oosterwold. A opportunity for the area is a sustainable traffic connection with Amsterdam in the form of a bus, public transport or ebike. To promote public transport a expansion of the coverage of accessible public transport stations is needed. A treat for the location are capacity problems of the two highways and the random spread of new developed windmills.
5.1.4 Public space | The strengths of the public space are the green spaces which surround the different districts of Almere. These strips of grass fields, artificial forests and waterways separate the different districts but also make the green space accessible for everyone. In the location Oosterwold the green zone Almere MOnt which is a recreational zone in the south is a strength for the location. This green zone is flown into the location Oosterwold by five ‘rooms’ surrounded by forests. Next to that, the distinctions of open and closed zones are driven to the extreme. Small clustered agricultural Settlements enclosed by trees contrasts by the enormous open fields around it. This open space character on the one hand and an open character can be found in a larger scale by the central open fields and the enclosing forests. A weakness of the area is the neglected structure of the Eemvalley. The rigid structure of the felder grid denies any historical aspect of the Flevopolder. An opportunity for the location Oosterwold is to become the area for housing in a low density area surrounded by forests and agricultural fields in the vicinity of the Randstad. By developing this area, the green zone ‘Groene Hart’ in the middle of the Randstad can be left as it is. An important ecological network nodes like the Eemvalley. The strengths of the public space are the green spaces which surround the different districts of Almere. The configuration of the agricultural plots in Oosterwold is a strength. The representative side of the building plot is located along the public access roads. Sheds and storage silos which do have a high esthetical value are placed in the back of the building lot covered by surrounding trees. In the front a representative garden is developed. A weakness of Oosterwold is that nearly 85 percent of the total area is used for agricultural purposes. This gives the area a monofunctional, empty and boring character. Therefore an opportunity for the location is the implementation of different functions to Linking different functions to exchange energy and resources. Another opportunity is to connect to important ecological network nodes like the Eemvalley. The rigid structure of the felder grid denies any historical aspect of the Flevopolder. An opportunity for the location Oosterwold is to become the area for housing in a low density area surrounded by forests and agricultural fields in the vicinity of the Randstad. By developing this area, the green zone ‘Groene Hart’ in the middle of the Randstad can be left as it is. An important ecological network nodes like the Eemvalley. 5.1.5 Buildings | The configuration of the agricultural plots in Oosterwold is a strength. The representative side of the building plot is located along the public access roads. Sheds and storage silos which do have a high esthetical value are placed in the back of the building lot covered by surrounding trees. In the front a representative garden is developed. A weakness of Oosterwold is that nearly 85 percent of the total area is used for agricultural purposes. This gives the area a monofunctional, empty and boring character. Therefore an opportunity for the location is the implementation of different functions. Private parties can build a house of their dreams. A mix of function makes the population more liveable and vital. This also creates some treats. A variety of functions can conflict. The already existing agricultural functions can give nuisance to functions like living and working by plant pesticides and odor. 5.1.6 SWOT Metabolism | By the analysis on metabolism the use of resources a strength of the location Oosterwold is that the current inhabitants are used to the windfarms in their neighborhood. A lot of sustainable energy is generated in this area. The pioneering spirit of the citizens enables the construction of sustainable solutions such as solar panel parks. A weakness of metabolism is that the location Oosterwold is mainly designed for his use of the car. Facilities are on an large distance which discourages the use of sustainable traffic methods as the bike. An opportunity for the location Oosterwold is the exchange of energy and resources. By introducing new functions like industry, housing and greenhouses heat and cold could be exchanged. A big gas tank can be used to supply several households of energy. A treat for the metabolism in Oosterwold is the huge amount of resources that are needed to construct the developments one by one. By constructing a whole neighborhood at once the economies of scale has less waste products. 5.1.7 SWOT People | The analysis of the last layer of the six layer approach, the layer people, shows a young and vital population of Almere. Because of this young population there are no aging problems in Almere yet. Almere is the number one in the top ten of governments with a low aging problem. The young homogeneous population of Almere is also a weakness. Many single parent families live in Almere. Often the children of these families cause vandalism. This results in combination with a large unemployment rate causes a lot of social problems and poverty. Another weakness is that the inhabitants of Oosterwold all are agricultural families. This also makes the population homogeneous. An opportunity for the location is the introduction of other target groups such as wealthy elderly and students. The big building task of the ‘Schaalsprong Almere’ described in chapter 2.1 can give room for the two target groups. The development Almere Pampus could focus mainly on student housing and Young Urban Professionals. The development Oosterwold could mainly focus on elderly. This does not mean that these areas have to be homogeneous in their population, it is more about the focus. A treat for the population of Almere is that children of the young families will move out of Almere. Elderly become more and more location stable which means that they will mainly not move out of Almere. In 2040 a triple of the amount of elderly is expected.
5.2 Spatial Analysis

5.2.1 Polynuclear Newtown Almere | The analysis on the left shows the aerial perspective of the city of Almere. This polynuclear city consists of four different districts surrounded by green zones. These green zones in between the districts give the inhabitants of Almere the possibility to enter and enjoy the green. The whole western strip of the Southern Flevopolder was meant as urban strip. Because a business district was not realized on the North of Almere, the Oostvaardersplassen arose.

5.2.2 Farms along the road | The farms in Oosterwold are clustered in a rigid way along the polder roads. Most of the farms are surrounded by dikes and have a windmill. The farms and dikes form a low and dense cluster which touches the horizon. The clusters alternate with the windmills which cross the horizon. The windmills centre the view. Because of the large scale of the polder fields the originally designed polder grid was divided into more plots. This resulted in forms which are not located along the road. They are scattered and ‘lost’ in the landscape.

5.2.3 Polder grid | The polder grid of the Flevopolder is really taut and rigid. Every road, yard, roof direction and waterway follows the two main directions of the polder grid. Also the access paths towards the windmills follow the two directions of the polder grid. The access paths of the windmills end up in the public road or in the private yard. This depends on the developer of the windmill. Because of the variety of crops and flowers fields the polder becomes a palette of colors.
5.2.4 Organization of the farm yard | The agricultural farm yards are organized with a representative part on the front side of the yard. This living house with large garden is surrounded by trees and located along the public road. The sheds and other less representative parts are in the backyard of the yard. Trees hide the sheds from the public road. On the backside of the plot the entrance toward the fields is situated. There is a great contrast between the enclosed yard and the open field. Around to four different farms are clustered together.

5.2.5 Open fields surrounded by trees | In the location Oosterwold are five different ‘rooms’ which are surrounded by trees. Windmills overlook the trees and give away the development behind the trees. The lines in the agricultural fields gives direction to the location. Vistas between the surrounded trees gives a view on the developments which are behind the field.

5.2.6 Vogelweg | The vogelweg cuts straight through the agricultural fields. A cycle path and road are both located inside two rows of poplar trees. This enclosed road can be easily be seen from the open fields. The clusters of farms and line of poplars are pinned into the open field like links on a circuit board.

5.2.7 Artificial forest | The polder grid is also present in the artificial forest around Oosterwold. Trees focus the view and align the polder grid direction. The steep slopes with low ground water level and the trees that are planted in strict rows show the artificiality of the nature of the Flevopolder.

5.2.8 Relation yard - field | There is a big difference between the closed farm yard and the open field. Both private space, but the agricultural field does not have a private appearance. A small ditch forms the edge between the yard and the field. A grass stroke of 1,5 meter is between the field and the water has to protect the water from pollution due to pesticides. Very long sight lines end in a line of trees far back on the horizon.

5.2.9 Road organization Oosterwold | The main roads inside the location Oosterwold are aligned by two verges which are public domain. Trees are planted in the verges to guide the road. Especially where the road makes a turn, the line of trees steer the view. The roads are not marked and transforms smoothly into the driveways of the farms.

5.2.10 Decor Oosterwold | driving trough Oosterwold gives a view on the field through the trees that are placed in the verges. Because of the large distances in the polder on atmospheric perspective occurs. Reeds, windmills, forms with their clusters of trees are like pieces on the podium. Trees on the foreground work like a repoussoir. This gives the landscape even more depth.
Walk in the Kathedralenbos

This series of images shows the sequence of open and closed landscapes of the Almeerse Hoog near Oosterwold. Starting with a view at the Hoge Vaart as far as the eye reaches, the views and paths become smaller by going more into the forest. The waterways that follow the polder grid and the strict in line planted trees show the artificiality of the forest. Because the subsoil of this location is so fertile, the forest does not look like it is just a few decades old. Art projects like the trees in the form of the cathedral of Rheims are placed in the old. The views and paths become more or less in the polder grid, but with a lot of freedom. The yard is clearly distinguished from the field by a row of trees.

Water plays a more important role in the old land. The water level of the old polder land is high to reduce the subsidence also the dimension of the water is much bigger. The ground water level is high to reduce the subsidence also. The yard is surrounded by water but the form is not as rational as in the new polder land. Not only the scale but also the configuration of the building plot differs in the two polders. In the new Flevopolder the residential house is the smallest building on the plot. The sheds are much bigger and are separated from the residential house. The house and sheds are placed strictly in the polder grid. The yard is clearly distinguished from the field by a row of trees.

In the old polder the living house is combined with the [jour]shed and the biggest volume on the building plot. Other sheds and haystacks are placed more or less in the polder grid, but with a lot of freedom. The yard is surrounded by water but the form is not as rational as in the new polder land.

Water plays a more important role in the old land. The water level of the old polder land is high to reduce the subsidence also the dimension of the water is much bigger. The ground water level of the Flevopolder is kept low to make the soil suitable to grow crops. This is also the main agricultural farm in the Flevopolder. The old polderland is mainly used for livestock. The Flevopolder has large strict fields with elements in the back. The old polder is more cluttered by little elements like trees, wooden fences and livestock. Also the roads differ, where the new polder road has large verges and a two small ditches, the old land has a large watercourse with small verges and separated road and cycle path.
### 5.3 COST ANALYSIS

#### 5.3.1 Property costs

It is necessary to predict which target group will and can develop in the location Oosterwold, therefore a cost study is done. In the vision document of MVRDV four different building plots are defined; the standard plot, the agriculture plot, the centre plot and the nature plot. All these plots have their own specific percentages of build area, infrastructure, public green, water and fields. The question is if target groups like starters can develop in Oosterwold, or that this has been intended for wealthy people or professional developers. When designing free standing (starters) houses, a problem with the paved surface occurred. Because the paved surface was limited to an amount of 6 percent of the total surface but its width of 3 meter was also predefined individual developers of small houses where obliged to construct very long stretched building lots. As can be seen in the design example right below, it stores building of 90 m² with a ground floor area of 43 m² requires a long stretched lot in order to comply to the predefined percentages of the standard lot. The costs for development of the house showed on the right, is a total of 190.000 euro for the building, paved surface, public green, water and fields. This is much compared to the already developed freestanding houses of 90 m² which are for sale. This calculation proves that private development in Oosterwold is affordable for starters. The big disadvantage of the lots with small houses is the inevitability of the long stretched form of the building lots. Building lots larger than 2300 m² can have square shape building lots. Developments on this scale requires an investment of approximately one million euro. Developers that have the wish for a free form plot need collaboration with other private developers or need to do a large investment. Developers can come in contact with each other by the building lot shop or by social media.

#### Cost calculation for private development Oosterwold

<table>
<thead>
<tr>
<th>Zoning Oosterwold by MVRDV</th>
<th>Standard plot</th>
<th>Cost calculation for private development Oosterwold</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>€ 190,535</td>
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#### Thesisplan

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<th>Case Oosterwold</th>
<th>Rolf Jonker</th>
<th>1383892</th>
<th>Master track urbanism</th>
<th>Studio Delta Interventions</th>
<th>May 2014</th>
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<td>2</td>
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</tbody>
</table>

#### Cost calculation for private development Oosterwold

- **Purchase land (500 m²):** € 6,100
- **Construct waterway (10 m):** € 1,245
- **Construct public green (65 m):** € 2,990
- **Construct house (90 m):** € 6,500
- **Construct school:** € 1,006
- **Construct a museum:** € 1,995
- **Construct community center:** € 1,270
- **Construction of shops with dwellings above:** € 957
- **Construction of industry:** € 600
- **Construction of elderly housing:** € 1,000
- **Construction of a apartment block:** € 1,000
- **Construction of a houseboat:** € 986
- **Construction of urban villa:** € 1,000
- **Construction of row houses (unique houses):** € 1,200
- **Construction of row houses (standard houses):** € 780
- **Construction of a semi detached house:** € 900
- **Construction of a detached villa:** € 1,100
- **Construction of a detached house:** € 1,000
- **Construction of a house:** € 1,000

#### Buildings

- **Construction of a standard house (building):** € 800
- **Construction of a simple house:** € 750
- **Construction of a new house (Standard house):** € 1,000
- **Construction of a house without roof:** € 600
- **Construction of a roof:** € 500
- **Construction of a floor:** € 400
- **Construction of a wall:** € 300
- **Construction of a cornice:** € 200
- **Construction of a window:** € 150
- **Construction of a door:** € 100

#### Energy

- **Cold/Heat storage (closed):** € 250
- **Geothermal heating system:** € 2,500
- **Solar panels (large area):** € 330
- **Solar panels (small):** € 150
- **Windturbine (small > 2 kW):** € 6,000
- **Windturbine (small < 2 kW):** € 8,000
- **Solar collector (6 m / 500 l):** € 3,202
- **Solar collector (3 m / 300 l):** € 1,985
- **Solar panel:** € 330

#### Public space

- **Construction of playgrounds:** € 300
- **Construction of bicycle racks:** € 217
- **Construction of public green (small park):** € 46
- **Construction of public green (neighborhood block):** € 14
- **Urban farming (vegetable mold):** € 20
- **Urban farming (buildings):** € 100

#### Maintenance

- **Maintenance squares (140 hectare):** € 1.30
- **Maintenance land:** € 28
- **Maintenance gardens:** € 28
- **Maintenance urban farming:** € 0
- **Maintenance public green:** € 28
- **Maintenance buildings:** € 0

<table>
<thead>
<tr>
<th>Development</th>
<th>Average warm water usage</th>
<th>Average energy usage</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>+/- 82 m day/hp</td>
<td>+/- 9,15 kWh day/hp</td>
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</table>

#### Analysis costs building plots

<table>
<thead>
<tr>
<th>Almere Overgooi</th>
<th>Almere Hout</th>
<th>Vogelhorst</th>
<th>Almere Hout Nobelhorst</th>
</tr>
</thead>
<tbody>
<tr>
<td>€ 217,- m</td>
<td>€ 196,- m</td>
<td>€ 196,- m</td>
<td></td>
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</tbody>
</table>

#### Light Consultant

- **Light Installations:** € 300

#### Topography

- **Topographic survey:** € 10,000

#### Water Consultant

- **Water measurements:** € 2,000

[Diagram of building plots and water ways]
5.3.2 Cost and benefits | With traditional project development the municipality is responsible for the site preparation. The surplus, earned by the municipality, was used to develop the public space of the development. Because project developers made a large profit on the development, not the surplus of the ground price but a percentage of the building price had to be paid to the municipality. Then this was used for the public space. In the location Oosterwold this is different. The municipality does not want to spend money or act as traditionally in building site preparation. Site preparation will be done by the private parties. Because individuals have to develop public space next to their private house, the question is whether the quality of the public space will be “public”. To tackle this issue the municipality can be introduced. The consumer can pay a percentage of the building value to the municipality from which the municipality could develop and maintain the public space. This is common in the Netherlands by the building value tax (WOZ, belasting). Because the municipality does not want to participate, this task could be given to the owners association. When there is enough funding available, public facilities could be built. Public facilities will then only be developed when there is enough money of the collective. For some public facilities this is not possible who will be the first one to develop infrastructure and cables and pipes? When every inhabitant pays a percentage of the building value to the saving fund of the owners association, public space can be created. Also the pre investment of the municipality for the cables and pipes can be paid back. Also to set up this owned association, the negotiation of the municipality is needed. Without the help of the municipality the large pre investment will hold private parties back.

5.3.3 Cost of cables and pipes | The calculation of costs on the previous page was limited to the private building lot (property management). But the private developments of the location Oosterwold is not limited to the property management, also the land exploitation is done by the private developer. The cables and pipes have to be organized and paid for by the private parties. A matrix for the costs of cables and pipes on the right shows the costs Sustainable solutions like a improved separated sewer system is much more expensive than a combined sewer system. The location of Oosterwold is mainly free from cables, pipes and sewer. When every inhabitant pays a percentage of the building value to the saving fund of the owners association, public space can be created. Also the pre investment of the municipality for the cables and pipes can be paid back. Also to set up this owned association, the negotiation of the municipality is needed. Without the help of the municipality the large pre investment will hold private parties back.
5.4.1 Zoning Oosterwold by MVRDV

In the urban plan for the location Oosterwold by MVRDV a distinction is made between four different plots. Individual developers can only realize a plot type on the indicated areas. The diagram on the left shows the different plots and the area where these plots can be realized. The most important existing and future infrastructure are taken into account, it is not possible to develop in these areas. The standard and centre plots can be realized on every spot on the map excluding the location of the Eem valley. The nature plot can be built only be built in this Eem valley. Finally the agricultural plot can be realized in the whole area.

The four different plots of MVRDV are introduced as an one size fits all solution for the whole location of Oosterwold. But, as is shown in the analyses, there is a difference in the urban context with its strengths, weaknesses, opportunities, treats and spatial quality of the sublocations of Oosterwold. Aspects like the noise contours of the highway, subsidence, water nuisance, visual characteristics of the sub-locations in Oosterwold are not taken into account in this zoning plan by MVRDV. Because these aspects are important to regulate on the large scale a new zoning plan is made: Zoningplan Oosterwold 2.0.

5.4.2 New Zoning Plan

The SWOT analyses and the spatial analyses distinguish seven different areas that have the same conditions for private developments. The introduction of more zones is done to give individual developers direction to handle with the location specific problems or opportunities. The zone of the Eemvalley, which was meant for nature and agricultural developments in the plan of MVRDV stays more or less the same. The six other zones have their own location specific principles for developments. For example, the north-west part of the location Oosterwold has to deal with water nuisance problems in the year 2050. By realizing enough water for the future in this area the private developers, or future owners, will not come into trouble. The different zones will be discussed briefly on the next page of this chapter. The differences between the zones and the building rules will be discussed later in this report.

5.4 CONCLUSION

The scheme below shows the four different plots that can be developed in Oosterwold by the design of MVRDV. Also the location

ZONING OOSTERWOLD

The scheme below shows the four different plots that can be developed in Oosterwold by the design of MVRDV. Also the location

Source: Structuurvisie Oosterwold by MVRDV

Area for standard plots
Area for agriculture plots
Area for centre plots
Area for nature plots

Source: Structures Oosterwold by MVRDV
5.4.3 Seven zones  
As mentioned earlier, the zone of the Eem valley will remain the same in the new zoning plan Oosterwold 2.0. Because the old gully of the river Eem is still present in the subsoil, this soil is not suitable for heavy structures. Also the archeological value of this structure is important for the identity and historical culture of the location.

The zone of the Eem valley will be a zone for nature, leisure and recreation. Large part of the zone green structure is already there, surrounding and dividing the location Oosterwold. By adding a few green strokes the connection with important ecological structures, such as the Oostvaardersdijk, Oostvaardersplassen and Horsterwold, are made. On the Southside of the A27 highway, several strokes of trees create five different inner spaces. By extending the strokes of trees toward the highway, five different ‘rooms’ are created.

Because the green structure around zone ‘the five rooms’ is very strong, the development inside these rooms can have a lot of freedom. The five rooms can also be an alternative for developers that want to settle in the Gooi en Vechtstreek.

The Centre zone will be concentrated along the junction of the A27 and the Vogelweg. Facilities like a cinema or museum can develop in this area. A centre at this location will make the distances to facilities, for the inhabitants of Oosterwold, much shorter. The choice for making a centre zone is been made to cluster facilities in the area.

The energetic zone is a zone inside the noise contour of the highway. This stroke of land is very suitable for windmills and industries but does not need to become a monofunctional area.

The legakkers zone is the zone with the most subsidence and water nuisance. To protect the developers from damage to their developments, special guiding rules are made for this zone.

The last zone, living in the fields, is the zone which will stay the most agricultural. Developments in this zone have to be realized according to the polder grid of the connecting agricultural fields.
6. Windmill with characterizing access path.

Source: Own picture

Geese in Vogelhorst, Almere Hout

Source: awd-bossie.blogspot.com

Verspreide huizen Almere Hout

Source: Funda
## 6.1 Morphological Matrix

### 6.1.1 Morphological Matrix

The morphological matrix tool is used to search for design principles for the different zones of the location Oosterwold. The morphological matrix breaks down the design ideas into essential subconcepts which are placed in a multi-dimensional matrix. To find (new) design ideas for the location, combinations between the different concepts can be made. Some combinations will already exist, some will have new insights and some combinations of concepts will not be possible because they conflict. The morphological matrix is used mainly in the design profession but can also be very useful for the complex design problems. A consult to use and understand the morphological matrix is done by S. Hoogendoorn-Nagel, MSc graduated at the Industrial Design faculty at the TU Delft.

The result of the morphological analysis of the different zones will be the first step towards the building rules for the different subareas in the location Oosterwold. Seven different morphological matrixes are made. The matrixes distinguish different aspects of the polder. All the matrixes distinguish different aspects of the polder. A decision for an idea of approach in one of the aspects of the layer will influence the choice for an idea of approach in the other aspect of the same layer. Besides, the choice made in one of the layers will also influence the choices in the other layers e.g. a certain road structure in the infrastructure layer influences the urban form on the public space layer or the choice for a specific target group on the people layer can influence the approach for the zoning functions in the public space layer.

### 6.1.2 Aspects and choices

The choices that are made in the morphological matrixes depends on the location specific qualities, problems and chances. For example the zone ‘Legakker’ is an area with subsall problems such as a large subsidence rate and water nuisance in the future. The problem with the subsidence of this area can be solved by creating water living districts. This forms a good combination with the creation of water bodies, which solves the water nuisance. These floating houses can also be urban solution for the drill free zone. Archeological findings need to be protected, which works better with high groundwater levels. The described approach for the location ‘Legakker’ is creating benefits on multiple aspects of the layer sublatt.

The choices made in this layer influences the choices on all the other layers. By conflicting aspects, concessions have to be made.

Because the location specific qualities, problems and chances of all the defined zones differ, the choices for the design principles for this zones will also be different e.g. the zone ‘Legakker’ will differ from the other zones mainly by its water structure, the zone ‘Living in the fields’ will adapt to the existing polder. The next matrixes will bring a lot of freedom to the local developers.

In this way the plan differs from the plan by MVRDV. In their design the location specific elements are not taken into account. Only the structure of the Eemvalley is introduced and less more location specific rules. This Eemvalley is remaining in the new plan.

### Morphological matrices

**public space, building, metabolism and people**

<table>
<thead>
<tr>
<th>Road structure function</th>
<th>Main transportation mode</th>
<th>energy transportation</th>
<th>energy production</th>
<th>Main vessel organisation</th>
<th>Most important archetypology</th>
<th>Green layer</th>
<th>Blue layer</th>
<th>Landscapes layer</th>
<th>Archeology layer</th>
<th>Legakker zone</th>
<th>Living in the fields</th>
<th>Centre zone</th>
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</table>
6.1.3 Greenstructure and Eemvalley | The two zones ‘Greenstructure’ and ‘Eemvalley’ are only mentioned in some aspects of the matrices. Because the layer ‘Greenstructure’ is formed completely by public space, and has no buildings, this zone is missing in some matrices. Especially in the layers buildings, metabolism and people. The layer ‘Eemvalley’ which is composed by facilities, nature, recreation and public space is not applicable on every morphological matrix.

6.1.4 Introduction tool | As stated by Kuenzly and Lengkeek (2004):

“...although every individual wants maximum freedom for themselves, not every individual wishes the same for his neighbors. So there is a demand for a form of collectivity and rules that ensure the quality of the urban structure and the public space. This is essentially the role of the public authorities.”

Every individual has its own wish for an amount of freedom of its own (CPC projects, but also of the ones of its neighbors. By clustering the people with the same ambitions, conflicts in these areas will occur less and will be solved faster and more easy because the mind-set of the developers will be the same. The morphological matrix can be used as an introduction tool by making the different topics and choices understandable for developers. Private parties could make a choice on how to deal with different aspects. The zone that matches the most to the choices made by the individual developer will be given as advice for development.
Private developed housing Almere Poort
Source: poort.almere.nl

Information centre Oostvaardersplassen
Source: own picture

Bulb fields in Almere Oosterwold
Source: own picture
7.1 Principles for the different zones

As described in the conclusion of the analyses, seven new zones are constructed to facilitate private development in Oosterwold. The principles for Oosterwold by MVRDV counts for the whole location as a one size fits all solution. In the new design for Oosterwold, all the seven sublocations will have their location specific principles. These principles are introduced to created coherence in the different private, small scale developments. The principles also help to solve the problems of the big scale.

All the zones are surrounded by a strong green structure. A large part of this green structure is already existing in the location. Just a few extensions of this green structure has to be realized by the municipality to create a framework in which the different zones can be realized. The green structure is also important for the ecological network of the region.

The different zones inside the green structure will be connected by the zone Eem valley. This zone is meanders trough the location, following the former waterway of the river Eem. Because of the bad baring capacity and high archeological value of this soil, this location is suitable as a recreational strip. Walking and bicycle paths can make all the zones good accessible for these more sustainable transportation modes.

The developments in the zone Five Rooms will have much freedom for their designs. These rooms, enclosed by the green structures being the wall of the room, have such a strong urban structure that there can be a lot of freedom by the individual. The zones that allow a higher density rate are the Centre zone and the Energetic Zone. These zones are located along the highway A27. The developments in this zones will form a noise barrier for the zones behind them.

The zone ‘Legakker’ in the North West of the location will have serious subsidence and water nuisance in the future. The principles for this location are made to preserve inhabitants from water problems. The disadvantage of this zone is that the freedom for the private developers will be smaller.

The last zone is called ‘living in the fields’. Some principles are added in this zone to remain the strict agricultural character. The density in this zone will be very low to connect to the agricultural openness. Private developers in all the different zones can connect to the existing roads in the location. This road structure will not change. The agricultural development along the Wulpweg and Gruttoweg will be remained in the future developments to preserve the strict agricultural culture of the location.

Windmills can be developed in two clear lines in the location. One line accompanies the A27 Highway. The other line is located along the Wulpweg and Gruttoweg. A lot of the windmills are already existing in the structuring lines. This will make the implementation of cables easy.
7.1.2 Greenstructure | A strong green network is proposed to heighten the adaptation potential for extraordinary developments. The network connects important green structures to realize an ecological network. Especially on the North side where the Oostvaarderveld forms the ecological corridor for the Oostvaarderplassen and the Horsterwold will be important. The recreational green structure Akmere Hout on the South of Oosterwold will be connected to the Oostvaarderveld by small green stripes on the edges of Oosterwold. This intervention will create a ecological structure that completely surrounds Oosterwold.

One of the areas of conflicts between different private developments is the border of the developments. There are two types of borders namely the border of the private building lot and the borders of the district. For the private building lot, the rules of MVRDV are already solving conflicts by the principle of public green around the private building lot. For the pesticides which are used on the agricultural fields and the private space. This is applicable on the small, building lot scale. For large scale conflicts this principle is not sufficient.

To create coherence in the green structures of the different private parties the use of location specific flora is proposed. Because of the short history of the Flevopolder, there are no native plant species. Every green structure in the Flevopolder is artificial. Although there are no native plant species, there are typical trees and bushes around the clustered farm yards, that have the ability to grow on a clay soil with a low ground water level.

By using this kind of trees and bushes in the new development of Oosterwold, the private parties are assured of a good growing flora. Furthermore the location specific flora will create coherence between the private developments. An overview is made of all the location specific trees and bushes that can be used on the clay soil of Oosterwold (see page 94).
7.1.3 Eem valley | The zone of the Eem valley was also introduced in the plan of Oosterwold by MVRDV. This curving stroke on the location of the old river ‘Eem’ is an formal gully. The soil underneath this stroke is very unstable. Civil constructions will therefore be avoided in this zone. Next to the agriculture and nature functions that can be realised in this zone, according the plan of MVRDV, it will also be possible to develop recreational functions. The form of the building lot will follow the form of the ‘Eem valley’. This structure will connect all the different zones in Oosterwold. Also, cycle and walking paths can be realised in this area. Individual developments in the zone ‘Eem valley’ have to make a border of public green along their recreational, agricultural or nature plots. The form of the Eem valley conflicts with the tour polder grid of the zones that surround the Eem valley. This conflicting structure through the polder makes the rigid polder grid interesting again. The grid becomes visible by the contrasting element. The water-ways of the polder will continue in the Eem valley.

The three different plots, the recreational, the agricultural and the nature, will have a small percentage of built and paved surface. This is done to preserve the open and public character of the Eem Valley. The amount of nature, fields or water differs for each type of plot. The principles for this zone are mainly following the original plan of MVRDV with two additions for the cables and pipes and water structure. The cables and pipes have to loop to guarantee the supply of energy and water by a branch of this cables or pipes. Another addition is made for the water bodies which are dug by private developers. These need to be connected to the larger water structure to ensure that water will not be stagnant. In stead of a spread of little private developed windmills, a structured line of large windmills will be created. This can be realised in collaboration. This can be done by a ESCO network.

The high groundwater level in the zone will be connected to the larger water structure to ensure that water will not be stagnant. Floating houses will be made possible in the zone. This can be realised in collaboration with private developers. These need to be connected to the larger water structure to ensure that water will not be stagnant. Floating houses will be made possible in the zone. This can be realised in collaboration with private developers. These need to be connected to the larger water structure to ensure that water will not be stagnant.
The five rooms

7.1.4 The Five rooms | This zone consists of five different rooms which are surrounded by forests zones. The centro-form of the U-form forests are the five rooms enclosed by the highway A27. The green main structure enables the private developments to be very different without losing a coherent whole. The location can therefore be developed with a smaller amount of regulating elements and principles. The zone will give the possibility to private parties to live in an open and forested area with a close connection to the Randstad. The zone of the five rooms can be a good alternative for people that want to settle in the ‘Gooi and Vecht’ area. Three rooms connects to existing structures: the villa district ‘Vogelhorst’, city district ‘Nobelhorst’, and a golf course. This already defines the character of the rooms. The rules for the rooms will be the same.

The energetic zone and centre zone shields the zone five rooms. The addition on the principles for the loop of cables and pipes, connection of water bodies to the water network and the solar panels for private development and large windmills in straight lines are also needed in this area.

The percentages of build area and paved area is larger than in the plots of the zone of the ‘Eem valley’ but is still a small percentage of the total building plot. This will ensure the open character of the five rooms in contrast with the closed character of the surrounding forests.

The principles of MVRDV will be applied in this areas. This means that the infrastructure can be developed in an organic tree form. The form of tree building lots and the buildings is also much more flexible.

The addition on the principles for the loop of cables and pipes, connection of water bodies to the water network and the solar panels for private development and large windmills in straight lines are also needed in this area.
7.1.5 The centre zone | This zone is located at the junction of the highway A27 and Vogelweg can become the commercial centre of Oosterwold due to it's good accessibility and central position. This centre can have some higher buildings to block the noise contour of the A27 and so the centre is noticeable from the surrounding zones. The centre zone will have a point on the North- and South-side of the Highway. The building lots on the south side of the highway connect the Five Rooms zone and can have a free form building lot. The private developments on the North-side of the highway will connect to the agricultural areas and will follow the polder grid. The Highway A27 forms a barrier in the centre zone. The connection of the North- and South-side shopping areas will be realised by the Vogelpoel along the viaduct of the Vogelweg and the Kathedralenpad with a tunnel for pedestrians and cyclists. The ‘Eem valley’ facilitates the accessibility of the commercial centre for cyclists and pedestrians.

The percentages of build area and paved surface is high in this zone. Public green, fields and water will have a small percentage in this location. In this location the public space will not be realized in the form of public green, but by a public square. To make the development of commercial functions possible the first floor has to be designed with a minimal height of 3 meters. To connect to the principles of the urban farming, this can be realised on the roofs of the commercial buildings. Sustainable energy is created by big windmills that guide the highway on the North side. The vertical lines of the waterways of the polder grid will continue in the city centre. The waterways can be broadened to create terraces.
7.1.6 The energetic zone | This zone has a lot dynamics. It is located along the highway A27 and in between the windmills that guide the shape of the highway. Even as the centre zone, the energetic zone is located on the South- and North side of the A27. On the South side the development can have a free form of the building plot. The building plots on the North side of the location have to follow vertical lines of the polder grid.

This zone will be very suitable for industry and offices. The energetic zone is closed to the business district Sallandsekaart and has good accessibility by the highways A6 and A27. The energetic zone is completely located in the noise contour of the highway. The buildings in this zone will block the noise of the highway for the zone the ‘Five Rooms’ and the zone ‘Legakkers’. The buildings will be aligned along the highway.

The percentages of build surface and water are large in this zone. The large water percentage will be used for water storage of rainwater runoff to protect to area for the expected water nuisance of 2050. The principles in this zone differ from the principles of AKVEND. The road structure will be a series of dead end streets. The building has to be aligned along the A27 highway. The facade which faces the highway has to be sound proof facade. The small amount of fields, in the form of urban farming can be realized on the roofs of these buildings. Public green structures will form a transition zone between the building and the verges of the highway. On the other side, the big water structure will form the border between the ‘Energetic’ zone and the zone ‘ Five Rooms’. Big windmills can be combined in this zone.

The energetic zone is directly connected to the water system, because the water storage of rainwater and rainwater runoff is large. The energetic zone has a large water percentage which will be used for water storage of rainwater to protect area for the expected water nuisance of 2050.
7.1.7 The Legakkers zone | This zone has the largest subsoil problems which can not be solved by the individual private developers. By defining structuring principles the subsoil problem can be solved and at the same time extra quality is added. The zone is located in the open agricultural fields and intersects by the zone ‘Eem valley’. The legakkers principle, of the old polder land can be used to reduce subsidence, to reduce the scale of the building lots and solve the water problems. A legakker is a stroke of land in between water where excavates peat is dried. The waterways of the polders will be broadened. The excavated soil can be stored in a ground depot to heighten the agricultural land in a later stage.

The form of the building lot in this zone has to be rectangular to connect to the existing form of the forms. The edages on the North and South side of this zone connect to the green structure Oostvaardersveld and the Energetic zone. The transition zone between these different structures will be formed by water bodies. The middle of the zone will mainly be formed by land. Here the ‘Legakkers’ zone connects to the ‘Eem valley’.

The base for the percentages of the elements for the building lots in this zone is the standard plot of MVRDV. To solve the problems of subsidence and water nuisance in these area a large percentage of fields will be interchanged by water.

To obtain the ‘Legakker’ structure in this zone, the following principles are introduced.

The main road Vlieweg will be the main road to which dead end street can connect. These dead end streets are following the vertical lines of the polder structure. The buildings are placed randomly on the building lot, but the roof direction of the building has to follow the directions of the polder. The principles for urban forming and public green are conform the principles of MVRDV. The water principle is completely different. The long side of the rectangular plot has to be aligned along the existing water ways. By digging out a large part of the building lot a small part of the ‘Legakker’ structure is made. Slowly the agricultural fields will transform into a water rich area with two big lakes.

Source: www.palmbout.nl

Source: www.loosdrechtplein.nl

Photo by: Waldo Gadellaa

Diagram by: Wessel Wessels
7.1.8 Living in the fields | The last zone is called living in the fields because of the open and agricultural character of the location. This zone will adjust to the polder grid more than the other zones. The developments in this area refer to the clustered low-rise forms surrounded by trees and bushes and the contrasting solitary windmill in the open landscape.

Private developers can choose to develop a clustered low-rise development or a high-rise solitary tower. These developments will be placed in the landscape like links on a circuit board. In order to retain the image of the clustered small developments, the urban farming is placed outside the surrounding green structure of the building lot.

The percentages of the low-rise developments is the same as the standard plot of MVRDV. The high-rise plot really differs in the way that there is no need for public green in this plot. Just one high-rise plot in 1 square kilometer is allowed. The principles for the low-rise development of the private plot are mainly following the MVRDV principles with the additional rules that the infrastructure and the roof directions has to follow the polder grid.

Developers that want to develop a high-rise plot have to realize a high and small tower in the open field. In stead of public green, more urban farming must be realized in this building plot.
WORKSHOP

8.

Scale model of Oosterwold made for the workshop
Source: own photo

Water body Vogelhorst
Source: own photo

Private commissioned dwelling Vogelhorst
Source: own photo
8.1 Approaches for the workshop

In order to examine the amount of regulation that is needed to obtain a vital and sustainable urban development, a workshop has been held. Four approaches for organic urbanism that differ from more ‘rhizomatous’ to more tree-like can be distinguished.

The first approach is the carte blanche. In this approach there is complete freedom for the private developer to develop anything he wants. There are no rules for infrastructure, building lots, or zoning. The connecting factor in this approach will be the current situation, the existing context. In the location Oosterwold this will be the taut grid of the polderstructure, the emptiness of the rectangular agricultural fields and the enclosed clusters of the farms. This is the approach of the development by MVRDV.

The second approach is to define the infrastructure. A coherent network of roads and cables and pipes will be formed when this network is defined beforehand. Because the infrastructure in the carte blanche approach will be developed ‘random’ by individual developers, a maze of dead end streets can be the end result.

The freedom for the individual developer is limited in the third approach where the infrastructure network and the location and form of the building plot is already designed. Because borders and functions are predefined, conflicts due to opposing interests can be solved beforehand.

In the last approach the infrastructure, the building lot and the location and volume of the building lot have been determined. The amount of control of the government to establish coherence is in this approach very large. Public space and centres can be designed beforehand.

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8.1.2 Workshop

Three different approaches have been tested in the workshop to examine the outcomes of the different approaches. Fifteen first year master students of the studio Aqua Terra Urban Design participated in the workshop. The area of Almere Oosterwold was the test location for the workshop. Groups of five students were formed. The amount of rules differed per group from more ‘rhizomatous’ to more ‘tree’ like. The students received different characters and building tasks to realize. The individual design had to be designed without consultation or by taking into account the developments realized by other students. The final product of the mid-presentation of the workshop was a coherent plan or drawing in the scale 1 to 10,000. Each student received a short description of his private result. By combining all the different individual designs into the large scale model conflicts and coherence between different developments came into sight. The second part of the workshop was intended to create coherence in the five different designs. The combined coherent plans have been presented in the large scale model.

The goal of the workshop was to research whether the amount of rules is making the task to create coherence in the different private developments more easy, or that more rules just limits the creativity of the individual.

Source: Own pictures

ZONING OOSTERWOLD

Different fragments of the scale model of the location Oosterwold. In this scale model the drawings and little sketch models were presented.

SCALE MODEL

Different approaches of urbanism (source: own drawing)
8.1.3 Groups | The three different groups of the workshop did receive a different amount of regulating rules and structure for their private design. The first group received the principles for the location Oosterwold by MVRDV. These principles contain regulation for the building plot like the percentages of pavement, build area, urban forming, public green and water. Because these principles do not take into account the connection of private water sources to the water network to avoid stagnant water, this rule is added to the principles of MVRDV. Also the rule to connect cables in a looping pattern to avoid occlusion of sources by cable damages is added. The urban structure and location of functions in the designs of the students of group I is completely free. The only urban structures that have to be left out from the ‘standard’ building principles is the structure of Eem valley and important infrastructures like the highway A27.

The second group also received a zoning plan in addition to the principles of MVRDV. The purposes of the different zones have been disclosed to the members of group II. By zoning, location with the same purposes and problems are distinguished. This will also result in the cluster of target groups e.g. a cluster of shops can create a shopping centre on the junction of the A27 highway and the Vogelweg, a spread of shops will make the attraction of customers much smaller. The different zones will also increase the diversity of the different districts. All the different zones have the same principles for the development of the private lots. The third group did receive the principles of MVRDV, the zoning plan and the vision for the different zones. The vision gives specific principles for the different zones. These principles help to solve the big scale problems of the different zones e.g. the principle of the water structure of the zone ‘Legakkers’ in the North West of Oosterwold helps to solve the problem of subsidence and water nuisance. Because of the design principle all the ‘Legakkers’ in the North West of Oosterwold helps to solve the problem of subsidence and water nuisance. Because of the design principle all the individual developments in this region have to solve this kind of problems in the same way. This results in a coherent whole on the big scale problems but leavens freedom for the individual developments on topics like the color and form of the building.

8.1.4 Building tasks and characters | To simulate the organic development of the location, different actors and building tasks where given to the members of the three different group. For every group the characters and building tasks are the same, namely:

- **Role I:** Property developer
  - Building task: Villa park
  - Area: 300 ha

- **Role II:** Property developer
  - Building task: Business/industry district
  - Area: 300 ha

- **Role III:** Property developer
  - Building task: Centre/shops
  - Area: 100 ha

- **Role IV:** Property developer
  - Building task: Neighborhood/district
  - Area: 300 ha

- **Role V:** Private developers (ICPC)
  - Building task: Neighborhood/district
  - Area: 300 ha

I chose for large areas of the developments to ensure that developments would connect to each other. Especially at borders of the different areas that the students design conflicts can occur.
8.1.5 Individual design | The workshop started with a presentation about the problems and chances of the location. After this presentation the group was divided into three groups of five students. All the students had their own building tasks and a certain amount of rules. After the students had read the rules, the desired location was chosen. This location was reserved on a large map. Other members of the group had to choose a different location. This already caused some discussion. After everybody had chosen their location. Every individual had to design his private development confirm its character and building task. Little sketch models or drawing where used to explain the individual ideas. The results of the different groups are shown below.

Group I: The freedom for the private developers was the biggest for the first group. Only the guiding principles of MVRDV were steering their designs. Notable is the fact that despite the large amount of freedom, their designs seemed very ‘hold back’. Every individual of this group had searched for structure because of the lack of regulation. Result is a set of individual designs that all follow the structuring lines of the polder grid. Because of the lack of zoning, two competing shopping districts were created. This can lead to abandoned public spaces.

Group II: The second group, with the zoning plan in addition to the principles of MVRDV, already searched for more freedom in their designs. The transition of density was already included in the different designs. Interventions of a development in the middle of the area shows the largest conflicts because of the scale of the interventions are bigger than the building lot itself.

Group III: The group with the biggest amount of rules shows the most interesting designs. The private developments, although the rules do solve some big scale problems on forehand, are the most conflicting with each other. The little freedom that the members of this group has is used fully.
8.1.6 Combined designs | In the second part of the workshop, the students of the different groups had to design some interventions to come to a coherent design for the whole group. The collective design of group I, which had a little amount of rules for their private developments, was easy to realize. Because this group had search for structure in their designs, and found this in the polder grid, adjustment of the private developments was easy. Problems of the big scale like the noise contour of the Highways A6 and A27 and the subsidence and water nuisance of the west part of the location Oosterwold were not solved in the designs but the group invented some large top-down structures, especially in the layers soil, infrastructure and public space. The second group had large problems with two individual designs with different intentions. A centre located development was creating large water structures to connect to the Lage Vaart but to reach this water body the canal had to flow through another development. This caused a lot of conflicts. The intervention that resulted in the final design was to exchange these two developments. The zoning plan resulted in a clustering of functions in the middle of the location and a good transition between the more dense and the low dense areas. In this plan also large scale intervention where introduced as top-down elements to reach coherency in the layers soil and infrastructure. Interventions for the layer public space was not needed because it was already regulated in the zoning plan. The third group had a large struggle to come to a coherent design. Also in this collective design the solution to exchange two developments resulted in a coherent design. This is remarkable because the location specific principles that formed the base of the developments seemed to fit better in a different location. The reason for this solution is the adjustment of the polder grid which was done by a individual developer and conflicted with the given rules and principles. The different direction that was used by the private developer seemed to fit better in the zone of the ‘five rooms’. The private developer with the building task in this zone had used the existing polder grid and was fitting therefor better in the location of the ‘Legakkers’. By the exchange of these two developments problems for water nuisance that was already solved in the regulation for this group was made undone. The interchange of two of the developments was solving nearly all of the problems. This group did not had to introduce large structures in their collective design. These large structures where already included in the vision for the different zones.

8.1.7 Questionnaire | In order to research the amount of freedom that was experienced by the different students a survey was done. In this survey students were asked to describe the problems of the area, the amount of rules, the interventions and the amount of freedom. The first group received a small amount of rules, was this also experienced by the students? Because of the small amount of rules, the largest problems with large scale problems occurred. Are these large scale topics also the problems for this group? The second group received a little more regulation in the form of a zoning plan. This will already solve some conflicts of the larger scale but is this also experienced by the members of the second group or are the rules experienced as creativity restricting rules? The last group received the most regulation by a zoning plan and a vision for the different zones. Because the problems of the larger scale are solved on forground by the structuring rules of the vision the problems that this group has to deal with should not be on the higher scales. Is this also experienced in this way by the individual developer? Finally the students were asked to define the amount of freedom in the different layers of the six layer approach. The three groups could have another opinion on the six different layers because of their different level of freedom. The outcome of the questionnaire is shown on the next page.
**Group**

**Green**

The rules for development by MVVD in combination with a zoning plan form the base for the individual designs.

- Use of the highway and road network design
- Transportation network, development of the natural area
- The design for the individual designs

**Red**

The rules for development by MVVD in combination with a zoning plan form the base for the individual designs.

- Use of the highway and road network design
- Transportation network
- Development of the natural area
- The design for the individual designs

**Blue**

The rules for development by MVVD in combination with a vision plan for the region form the base for the individual designs.

- Use of the highway and road network design
- Transportation network
- Development of the natural area
- The design for the individual designs

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**Question**

What were the problems of your building site?

- There were not that many rules, so no restrictions for the individual design.
- The rules for the individual design were restricting.
- The rules for development by MVVD in combination with a zoning plan forms the base for the individual designs.
- Easy but some people needed to give up their ideas.
- The rules for development by MVVD in combination with a vision plan for the region form the base for the individual designs.

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**Can you describe the freedom for the individual commissioner in the different layers of the six layers approach?**

**Green**

- A lot of freedom
- It isn’t designed that well
- A lot of freedom
- Able to steer a lot
- A lot of freedom

**Red**

- A lot although you don’t know your neighbors
- Freedom, it isn’t designed that well
- A lot, but some things are not free
- All the freedom
- A lot of freedom

**Blue**

- Most of the freedom
- Noise of the highway
- Less freedom than buildings, but own plot areas can be designed by small groups.
- Able to connect in different ways
- Most of the freedom

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**What was the most important building rule for your site?**

- By giving and taking some, try to turn a problem into a quality
- By interchanging the location of two developments
- Vision for the infrastructure of other designers
- Soil subsidence, water storage, sustainable energy
- The main structure shouldn’t provide freedom. Smaller structures

---

**What were the most important building rules for your site?**

- The structured my design but somehow restricted creative think
- Structure, also restricting butt made it more creative
- Soil subsidence, water storage, sustainable energy
- The rules for development by MVVD in combination with a zoning plan forms the base for the individual designs
- The structured my design but somehow restricted creative think

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**How did you create coherence in the different designs? Was this easy or hard?**

- It was really easy, we only had 1 hour so we decided fast
- No, it was hard. We switched a lot and made water the combining
- By giving and taking some, try to turn a problem into a quality
- Most of the freedom
- By giving and taking some, try to turn a problem into a quality

---

**How did you create coherence in the different designs?**

- Negotiating about placement of infrastructure
- It was relatively easy
- In the infrastructure, water and streets
- The main structure shouldn’t provide freedom. Smaller structures
- The main structure shouldn’t provide freedom. Smaller structures
8.1.8 Conclusion | The outcome of the workshop was different than expected. Especially the first group, which had the least rules, made individual designs that were a little bit ‘holding back’, almost boring. The freedom that is given to this developer does not seem to stimulate the creativity of the individual designers. Reason for this could be that everything is still open in the design, in search for starting points for the individual designs. The freedom that is given to this developer does not seem to stimulate the creativity of the individual designers. The reason for this could be that everything is still open in the design, in search for starting points for the individual designs. Although all the groups received the same essential information about problems and opportunities of the building site in the presentation at the start of the workshop, this is not taken into account in all the designs. Especially the individual designs of the first group did not have these interventions to solve the big scale problems of the area. In the mid-presentation these problems became visible. In the overall design the group tried more or less to solve these problems.

By questioning the main problems for making a coherent design, the reactions of the student are all different. Everyone is mentioning an aspect which applies for their own development. This inward view on the problems can be a result of the freedom of the private developers. Every student of the first group is defining the polder structure and infrastructure as elements that create coherence between the different designs. Remarkable is that two of the four questioned students have defined the rules as restricting for their designs. Maybe the lack of structuring elements made the rules seem restricting. None of the questioned students of the first group finds the rules structuring.

Despite the larger amount of regulation the creativity of the second group was a little larger than the first group. By asking the most important regulating elements for this group, half of the student names the zoning plan, the other half the structuring elements of MVRDV. This group was not only experiencing the rules as restricting, but also as structuring in some way. The main problems and solutions that was defined by the members of the second group for the collective design was more unambiguous. Presumably because the individuals in this group where from the beginning a part of a collective zoning plan, the consensus of a total design is implemented in an earlier stage which makes the different designs more collective. Also the second group had to introduce some large structures to obtain coherence. Remarkable is that none of the students mention the polder grid as structuring element to create coherence.

The third group received the highest level of regulation by zoning and the design. The creativity of this group was the largest despite of the large amount of regulation. Just one of the students is mentioning the principles of MVRDV as most important regulation for the development. The others mention the structuring elements of the vision. The amount of rules was restricting, but also structuring the projects. Because the vision prescribed a solution to solve the area specific problems, this is also taking into account in the private developments at an early stage. Although the principle of the water structure was predefined in the vision, this layer caused the biggest struggle in the collective design. At this point, the vision and principles for the different developments can be a little bit sharper.

The amount of freedom for private developers differs per layer of the six layers approach. This is also confirmed by the students. In the layer people, the freedom for individual developers is mainly big while the freedom in the layer subsoil is mainly small. The highest level of freedom in all the layers in the design of MVRDV seems to create less creativity in the developments. Because the rules and structuring elements give the developers some base and direction in the design. Because the large structures are embodied in the vision, private developers do not have to research and solve these structures by themselves. More freedom is taken by the private developers because the solutions for the big scale problems are already embedded.

A final conclusion of the workshop was that all the conflicts between different private developments had to be solved in the borders of the developments. By regulating these borders, a coherent whole would be more easy to realize.
Concrete elephants as a piece of art give identity to the junction A27 and A6

Photograph by: Sjaak Verboom

ELEPHANTS

9.

Photograph by: Jeroen Hillenga

Farms and windmills

Photograph by: Ferry Streng
Agricultural fields

Working on the land in one of the five ‘rooms’ in Oosterwold. Residential and agricultural functions can cause conflicts.
The amount of regulation, or in other words the place of the development in between the worlds of discipline and freedom, is linked to the conditions, proportions and qualities of the location. When the problems of a location are of a big scale and demands for collaboration to be solved. A more tree like organic development has to be created. When there are no principles for the location or when the problems are too small such a small scale that it can be solved by individuals on the building lot, the project can be more democratic. The role of the problem in the location Oosterwold was on such a large scale that more structuring elements and principles where introduced.

9.2 Freedom in different layers | To structure the complexity of the location the six layer approach is introduced. In the six layers a transition from collective, long term on more regulated layers to more individual, short term, freedom layers can be seen. There is on hierarchic relation between the six layers, this implies that the bottom layer has a kind of control on the layer above e.g. infrastructure networks can form the base for urban development. This does not mean that every layer above the subsoil is that free or free of restrictions. There is a kind amount of influence that the upper layer has on the one under itself. Therefore the character of the lowest layers (subsoil) makes it hard to give individuals total freedom. To come to a coherent whole of large structures, everybody has to have the same ideas. By giving more freedom in the lower layer the structure could fail. This is the result of the regulation of these layers by the government. Due to the enormous scales and artificiality of these structures it is nearly impossible to give more freedom in the lower layers. When principles and structuring elements are introduced in the design, the character and place of the development will be smaller. The role of the urban designer in organic urbanism is mainly focussing on the lower layers. Much conflict by private developers occurs in the edges of private developments. Principles and structure can be designed for this public strokes.

9.3 Breaking the rules | Complete freedom is not creating more creativity by private developers. Because there are no starting points for the development, there will be a search for context, to get a grip on the location and the new development. This has been tested in the workshop. The group that received the smallest amount of regulating elements for the location Oosterwold all used the polder grid as leading elements in the designs. All the designs where placed in the existing polder grid and where nearly boring. When principles and structuring elements are introduced in the design, the character and direction is already defined. Developers will build further on the principles and structuring elements and will search for the edges of the regulations, try to break the rules. Because some rules are already made, the freedom in the other aspects will be taken fully. This is creating much more creativity in the private designs and the perception of freedom for the private developers. Private developers of the workshop typified the rules as restricting but also stimulating. To get more grip on the process and to create more creativity in the location, an increase of the amount of principles and structuring elements is proposed. The structuring elements have to be created by the municipality.

9.4 Role Municipality | Some small interventions in the subsoil and public space will have a big influence on the development of Oosterwold. The municipality can set the standard for a complete zone. Private parties will like to connect to the existing context. By making this context sustainable, the private developers will follow. For example, it is expensive to fund the first development because cables and pipes and infrastructure has to be realized over a long distance. When the municipality realizes the first little development because cables and pipes and infrastructure has to be completed, the whole development will
The role of the urban designer is not mentioned in the traditional urbanism and organic urbanism. The role of the urban designer can have different roles in the design process. By a disciplinarian, trailblazer, navigator or an initiator.

Conclusions

How can the complexity of the subsurface be planned in (C)PC projects in organic urbanism in such a manner that is planned in (C)PC projects in organic urbanism in such a manner that is

t be done by the principles and/or structuring elements or by the supervision of an urban developer who searches for synergies between the different projects. The disadvantage of the latter is that designs can be modified during the organic development. This must be the task of a government or an urbanist.

Conflicts will occur the most in design goals that depend on multiple actors and are subjective. The context of the big scale will change over time with every small individual development. Therefore it is important for the government to monitor the location continuously. Building principles could be modified during the organic development. This must be the task of a government or an urbanist.

The urban designer can have different roles in the design process. By a disciplinarian, trailblazer, navigator or an initiator.

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CASE STUDIES

First buildings of development Nobelhorst
Almere
Source: www.nobelhorst.nl

Appendix I

Self-built shovel, Amsterdam
Source: http://www.partizanpublik.nl/wp-content/uploads/2012/05/zelfbouwschep1.jpg

Vogelhorst Almere
Source: www.bah-almerehout.nl
The locations on the left are used for the case study. All these locations give room for (Collective) Private Commissioners. The developments have a different amount of freedom for development. The preconditions for development in Waterrijk (Woerden) is so extensive that the creativity of the individual is restricted. The preconditions of the development of Oostenburg (Amsterdam) gives rules for the building height. The aesthetic of the building is not defined and left over to the end user. Creativity, coincidence and surprises can be the result.

For all the locations, a strong urban structure is the framework that turns the private commissioning projects into a coherent whole. None of this location is letting over the public space to the private developers. This differs from the development Oosterwold of MVRDV where these public space is developed by the Private Commissioners. Therefore a few case studies will be added. Examples from the liberal countries can give inspiration for the regulation of Oosterwold.

Private owned public space was introduced in New York Cities as a formal concept in 1961 zoning resolution. This so called Private Owned Public Open Space (POPOS) are plazas, terraces, atriums and small parks that are provided and maintained by private developers. Most of these POPOS appear in the business district. The reason for this development where voluntary, in exchange for a density bonus or as a condition of approval. The municipality approved legislation for these POPOS developments. This created a network of individual spaces. Visitors directly see that there is a rooftop or public interior.

The development of Bangkok and Tokyo will be used for case studies. In the book “Planning zonder overheid: een toekomst voor planning” the result of Bangkok, developed by a small group of developers, and the result of Tokyo, where big train companies also develop neighborhoods, are compared. This can also give inspiration for the plan Oosterwold.

Source: Own collage

Five different case studies are done to investigate the amount of rules that is needed to facilitate (Collective) Private Commissioning. Does a larger amount of rules result in better urban quality?

CASE STUDIES

<table>
<thead>
<tr>
<th>I.1 Case studies</th>
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<tbody>
<tr>
<td>Private developed public space, San Francisco Source: inhabitat.com/</td>
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EVA Lanxmeer is located in the south of Culemborg. Lanxmeer is a convenient location, situated nearby the train station, a swimming pool, a water tower and the access roads of Culemborg. Characteristics for EVA Lanxmeer are the river De Meer, a historical sand path and Roman archeology. Also grassy fields and typical yard plants of orchards give the location its characteristics. The development is realized above a protection area of a drinking water extraction area which gave restrictions for the development. The main goals of the development are:  
- Sustainable energy supply  
- Integral water management and biological water purification  
- Sustainable architecture and urbanism  
- Ecological city farming and nature  
- Consultation and participation in development and maintenance.  
- Diversity in residents and buildings.  

The elements energy, water, landscape and mobility created an ecological framework that forms the basis for the development. With the participation of the future residents, the programme of requirements is drawn. The development left space for (Cooperative) Private Commissioning. Maintenance is done by different actors including the inhabitants of EVA Lanxmeer. In a map, the responsibility of different areas is indicated.
I.3 WATERRIJK WOERDEN

Waterrijk is part of the city Woerden with the emphasis on water and green. The plan of West 8 consists of two different areas. The first one is located at the edge of the plan. Here is room for 175 villas or semi-detached houses.

The other area consists of four different islands with a more urban character. The main part of buildings constructed on this side are developed by project developers. A small part is developed by private commissioning.

To create coherence in the design, West 8 has stated a list of rules. Some of the rules for the villapark:

- The green character is the main characteristic of the Villapark Waterrijk Woerden. Long sight lines in the form of lanes with trees along gives a view on the water and green around the development. To ensure this lines, some rules for the building lot are made:
  - Hedges and trees | Privet hedges serve as the boundary between private and public, and also boundary between different building lots. Three trees (Robinia Pseudo-Acacia) are supplied by the municipality for every inhabitant to create a green character.
  - Variation | The maximum alignment is specified and differs for every different building lot to create variation.
  - Architecture | The supervision of an architect is obligated.
  - Visual quality | To ensure the visual quality of the development, materials and forms are predefined.
  - Storey height | A minimum storey height of three meter is required to give the development extra allure.

Stakeholders:
- Commissioner: Municipality Woerden
- Architect: West 8 urban design & landscape architecture
- Project leader: Frank Frijlink

Source: www.waterrijkwoerden.nl

Preconditions Waterrijk by West 8
Source: http://www.architectuurguide.nl

Canal housing identity Waterrijk
Source: http://www.architectuurguide.nl

Private commisioned villa's Waterrijk
Source: http://www.architectuurguide.nl
The development of the Anna’s Hoeve is a flexible development. The amount of houses that could be developed is therefore not knowable on forehand. The development has space for 600 - 650 dwellings. Sustainability is an important issue for the development. The so called DPL (Duurzaamsheids Profiel van een Locatie) - tool ‘measures’ the sustainability grade of a new development. The design and realization of public space is commissioned by the municipality.

Development Hanna’s Hoeve has a green character. There is a green stroke between the facade of the building and the edge of the building lot in order to achieve this green character.

The organic development with different private commissioners will lead to a diverse and unique urban area. (Collective) Private Commissioners have the freedom in the form of their building. A palette of colors is set to achieve coherence and prevent extreme colors.

Each building lot has a maximum building height. The building height is in relation with the amount of build area. Higher buildings require more open space in the building lot. Next to that, there are rules for alignment, hedges and edges of the building lot. The freedom of Anna’s Hoeve mainly in the building.

Stakeholders:
Commissioner: Municipality Hilversum
Architect: De Zwarte Hond

I.4 ANNA’S HOEVE HILVERSUM
The area Oostenburg is an industrial harbor area in Amsterdam. A lot of inhabitants want to live here due to its location in the centre and next to the water. Every entrepreneurial resident can join in the design of Urhahn for the commissioner and owner of the area (Stadsgenoot).

Because this project is a redevelopment, there has to be a vision for the existing building. These buildings will be retained in the basic framework. These buildings will be converted into intern public spaces.

The public space of the area is divided into three different strokes. Stroke 1: VOC – quay, with public functions as horeca, theater, and a mixture of work and living in the buildings. Stroke 2: The work-stroke, the main street of the area. Good accessibility gives opportunities for industries, urban living and parking. The big buildings in this street have to be opened up to the street to create a vital city. Stroke 3: The Lijnbaan, is the stroke along the inner harbor where a former rope braid er was located. The urban structure has a smaller scale. Living will be the main function of this location.

There are rules about the height of the buildings and there are 7 principles:

1. The building has to be open to the street
2. Buildings connect to each other
3. Buildings are more high then wide
4. Green on building lot is visible from street
5. Bonus for sustainable initiatives
6. Extra rules for building along public space
7. Dynamic legislation in the organic process

Source: www.oostenburg.nl
The development Nobelhorst is going to be a so-called "urban town". There is room for a small scale, and self-design and self-development in the development. The plan location, which is part of the district Almere Hout is enclosed by artificial forest and fields. The program of Nobelhorst will be mainly housing but also little shops, restaurants, village cafés, education and industries. The main structure of Nobelhorst consisting of green lanes, village greens, waterways en roads is defined. In Nobelhorst there is space for 4,300 dwellings. 1,400 of them will be designed as private commissioned. In Nobelhorst there are also building lots etc.

A place to play for children, a meeting centre, a camping area, a place to swim, a meeting place for the neighborhood. The ‘Buurtschuur’ is a meeting place for the neighborhood. This means that dwellings use as less energy as possible. Creating energy by the use of solar panels is promoted on the housing scale. On the urban scale the use of wind energy is supplying energy for the neighborhood.

The development Nobelhorst is going to be climate-neutral. The district is going to be climate-neutral. This means that dwellings use as less energy as possible. Creating energy by the use of solar panels is promoted on the housing scale. On the urban scale the use of wind energy is supplying energy for the neighborhood.

The ‘Buurtschuur’ is a meeting place for neighbors. They can also decide what the function of this ‘Buurtschuur’ is going to be. A place to play for children, a meeting centre for elderly... etc.

In Nobelhorst there are also building lots especially for entrepreneurs, so they can change ideas. Building rules give a lot of freedom.
The soil map of Flevoland shows that the whole area of Oosterwold has the same top layer of subsoil. This top layer is made highly suitable for agricultural purposes. Nearly 95 percent of the location is in use for growing crops.

As can be seen in the map and diagram on the bottom right, the province of Flevoland and the province of Zeeland differ in the agricultural use of space from the other provinces. In Flevoland and Zeeland most of the space is used for the growing of crops, the main purpose of the land of other provinces is grassland to grow livestock.

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The geological changes of the location have resulted in the different layers of the subsoil. The top-layer of the subsoil, from ground level till -0.5 m, is composed of clay and sandy clay. When looking at the soil before this top-layer, from -0.5 m till -10 m, a lot of peat soil is noticeable.

The Flevopolder is a big reclamation in the former Zuiderzee. The top-layer consists mainly of clay because as a result of the sedimentation in the Zuiderzee. By making a dike in the IJsselmeer a large part was closed off. These parts of the IJsselmeer, surrounded by dikes, where pumped dry. The bottom of the lake could be cultivated.

By controlling the groundwater level by pumps, the land of the Flevopolder can be kept dry. Low groundwater levels are needed to grow crops. The clay top-soil layer will push harder on the underlying layer when the groundwater level is low. The groundwater in the peat soil underneath the clay layer will be pushed out due to the weight of the clay. The peat is compressed like a sponge. This will cause subsidence. The lower the groundwater level, the higher the subsidence rate.

Due to the agricultural purposes discussed above, a low groundwater level is required. Subsidence of the agricultural soil results in a decrease of the distance between groundwater level and ground level. After several years of subsidence the ground level will have to be lowered again. This irreversible process will keep repeating.

As can be seen in the subsidence prospects of 2050 on the right, the subsidence rate of Almere is the highest. In the west of the plan location a decrease of more than 60 cm is expected. As shown in the more detailed subsidence map some small parts in the plan location will have a 20 cm decrease of the ground level.

The Flevopolder is one of the big reclamations in the Netherlands. Those reclamations are easily noticeable when looking at the height map of the IJsselmeer area. All these reclamations locations of former lakes share the characteristic that the ground level is very low. This makes these location very vulnerable for floods.

When looking at a more detailed height map of Oosterwold the old creeks of the river Eem can be seen. These historical structures punch through the subsiding landscape.
Archeology

The planlocation of Oosterwold is crossed by the border of the municipalities of Almere and Zeewolde. Two important roads, the Vogelweg and Tureluursweg are properties of the province Flevoland. The A6 Highway and a lot of agricultural soil is property of the state. The municipality Almere and the municipality Oosterwold do not own a lot of land in the location of the development. A water extraction area along the Grut toweg in the plan location is giving restrictions for subsid structures. A drill free zone is introduced to protect the drinking water from pollution. The depth of these drill free zone is drawn in the map on the right.

Despite the fact that Flevoland is the youngest province of the Netherlands, a lot of archeology can be found in the subsoil. Around 435 shipwrecks were found in the Flevopolder due to the fact that the location is a former sea. A lot of these shipwrecks are excavated by the construction of the polders. Since the 1980ies shipwrecks were remained in the ground to maintain its quality for investigation in the future.

The old creeks of the river Eem are still recognizable in the plan location. The first developments of Almere, before the site turned into the Zuiderzee, were located along these river banks. The probability of archeological findings is the highest in the near these old creeks.

The municipality of Almere already did some research on archeological findings. When development is done in the brown striped zone inside the location of Oosterwold, a license is needed to guarantee the preservation of the archeological findings.

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Energy

The energy which is stored in the subsoil could be used to come to sustainable solutions for the energy demand of new developments. There are two main opportunities for extracting energy from the subsoil namely geothermal heat and cold-heat storage (KWO in Dutch). The suitability of the soil of Oosterwold for geothermal heat is not optimal. In addition, the drill free zone discussed before makes a geothermal solution for the development Oosterwold very difficult. Only in the western tip of the development drilling deeper than 50 meter is allowed. Unfortunately, this is the coldest geothermal spot of the location.

There is a high potential for the reduction of CO2 by applying cold-heat storage installations in new developments of Oosterwold. Also, the implementation of these installations the break of the drill free zone have to be taken into account. Open cold-heat storage systems require almost always one or more sources up to several hundred meters depth. This is not possible in the location of Oosterwold. The closed systems with a limited depth can be applied. There are not many important cables and pipes in the subsoil of Oosterwold. The few important cables and pipes in Oosterwold are the drinking water pipes, some old telecom cables and the sewer pipe towards the development Vogelhorst. When looking at the dangerous pipes network in the Netherlands, which consist mainly of gaspipes, there are no dangerous pipes in the subsoil of Oosterwold.

The map of the potential for cold-heat storage systems shows that the implementation of these systems is difficult in the area of the Oosterwold development. A large part of the location is a zone which is prohibited for cold-heat storage due to the existing water extraction installation. All the other parts of the location Oosterwold have the obligation for further research. This has to do with the archeological valuable objects in the subsoil. Also the geological value of the landscape can give limitations to the implementation of cold-heat storage installations.

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To understand the water situation of the location Oosterwold, we have to look at the historical transformation. Before the big reclamation the location Oosterwold was located in the so called IJsselmeer which was the former Zuiderzee.

This Zuiderzee was the connection for Amsterdam to become an important harbor city in the golden age. The dug of the Noordzeekanaal around 1900 made the waterway from Amsterdam to the Northsea much shorter. Ships no longer needed to go to Amsterdam by this Zuiderzee. Another intervention in this period was the reclamation of the Haarlemmermeer.

Due to the need for more agricultural land and the need to stop the Zuiderzee from taking more and more land several plans where made. The flood of 1916 can be seen as the catalyst to close off the Zuiderzee.

A dike towards the island Wieringen was the first intervention of the reclamation plan of Cornelis Lely. The Afsluitdijk was constructed in 1932 to prevent the IJsselmeer cities from floods. This changed the salt Zuiderzee into the fresh/brackish IJsselmeer.

The reclamation of the IJsselmeerpolders followed roughly the design of Cornelis Lely. Big differences are the omission of the South-East Polder because of the ecological value of the Markerwaard, and the border lakes of the South-West polder. The right straight dikes of the South-East polder differ from the irregular formed old dikes of the surrounding province. Some smaller dikes facilitate the infrastructure network.

The South-East polder has two dike rings, number seven and eight, which are both managed by the waterboard Zuidersland. Inhabitants of the waterboard region have to pay tax for maintaining dikes and water bodies. There is a large difference between the tax of the different water boards. The different amount of inhabitants and water task is the reason for these differences.

The Knardijk separates the two parts. In 1968 the south part of Flevoland was reclaimed, followed by the Houtribdijk in 1975. The Markerwaard is never been build due to ecologic issues.
Water

The water management of the South-East Flevopolder is regulated by four pumping stations. These pumps also made the land dry for the reclamation. Two canals called ‘Hoge Vaart’ and ‘Lage Vaart’ drain the water to the four pumping stations. The Hoge Vaart and Lage Vaart are also the main structures for the inland vessel. The polder is separated into two pieces by the ‘Knerrdijk’ which was also used by the construction of the polder in two phases. The Hoge Kruislaize and Lage Kruislaize prevent the polder from a total flood when a dike breaks. The Zuiderlakse and Ketelslakse are the entrances to the large lakes.

When looking at the waterstructure of South Flevoland more detailed there is a strict division of the land which drains towards the Hoge Vaart and the land that drains to the Lage Vaart. These border crosses the location of Oosterwold. Also several areas with a different water levels are noticeable secondary pumps maintain the desired groundwater level of these areas. The areas with a different groundwater level are mainly the urbanized areas and some forests.

The water structure is constructed as a strict and hierarchic structure. In the map of the waterbodies in the Flevopolder these hierarchy is drawn going from small to large. Of the waterbodies in the Flevopolder these hierarchy is drawn going from small to large. In the map the waterbodies in the Flevopolder these hierarchy is drawn going from small to large. In the map the waterbodies in the Flevopolder these hierarchy is drawn going from small to large. These pumps also made the land dry for the reclamation. Two canals called ‘Hoge Vaart’ and ‘Lage Vaart’ drain the water to the four pumping stations. The Hoge Vaart and Lage Vaart are also the main structures for the inland vessel. The polder is separated into two pieces by the ‘Knerrdijk’ which was also used by the construction of the polder in two phases. The Hoge Kruislaize and Lage Kruislaize prevent the polder from a total flood when a dike breaks. The Zuiderlakse and Ketelslakse are the entrances to the large lakes.

The simplified water structure of Oosterwold shows the hierarchy of the waterbodies as described before. The chance of a flood is low in Almere, but the vulnerability when a flood may occur is high. This makes Almere a vulnerable place. Because the Flevopolder is completely surrounded by water, the escape routes are limited and evacuation will be harder. More than the floodrisk due to a failure of the dikes of the IJsselmeer, the floodrisk due to precipitation will cause water nuisance. When drawing the scenario of 2050 with the future subsidence and climate changes taken into account, large parts of the plan location Oosterwold will have water nuisance. In a MEER report of Arcadis (2006) the water task of this area is seen as the largest of South and East Flevoland.
A strength of the location is the agricultural landscape which color palette will change with every season. The soil is highly suitable for growing crops and the two big water bodies have a high esthetical value.

A weakness of the soil is the declining quality of this agricultural soil and the restrictions of drilling because of the water extraction.

Opportunities in the subsoil is the archeological structure of the Eem valley which is located in the area. Also archeological findings are expected.

A treat of the location is the subsidence rate. Till 2050 the subsoil will subside with 60 cm. This, in combination with the climate change will cause water nuisance in the future.
The highway network is created from the 1960ies. The Flevopolder is designed to be used by cars as the main transportation method. By the construction of the Afsluitdijk, the distance between North Holland and Friesland became much shorter. The reclamations and the creation of the Houtribdijk made distances and travel times even more short.

The three big cities in the Flevopolder, Emmeloord, Lelystad and Almere are connected by the highway A6. This highway connects to the former A50 in Emmeloord. The A27 makes the connection of the Flevopolder with Utrecht and the Randstad better. Both highways give entrance to the Flevopolder by a bridge. For the A6 the Hollandse brug and for the A27 the Stichtsebrug. The location Oosterwold is crossed by the A6. An highway exit at the crossing of the A6 with the Vogelweg gives entrance for cars in the hart of planlocation Oosterwold. On the Westside one highway of the A6 gives entrance to the planlocation.

One airport is located in the Flevopolder called Lelystad airport. The airport was intended to serve the business market but this never succeeded. Therefore the airport is mainly used for flying trainings of the bigger airline companies and for flying for private purposes.
The construction of the railroad network was mainly done before the reclamation of the Flevopolder. This is one of the reasons why there is a small rail network in the Flevopolder.

The first railroad was privately established between Haarlem and Amsterdam. The development of a railroad network was tough and took a long time. In 1860 the government decided to create a state funded rail network. From that year also less intensive routes were constructed.

The urban development of the Zuiderzee was mainly focussed on the car instead of the train as transportation method. By the reclamation of the Flevopolders in the 60ies, the idea occurred to realize a better and faster train connection from the Northern Netherlands towards the Randstad. This train track is never executed. In the 80ies the plan arose to construct a train track from Amsterdam towards Lelystad and Zwolle. In 1988 the Flevolijn from Weesp towards Almere and Lelystad was built as the first part of this line. The station of Lelystad was built with the possibility to extend the railway line towards North.

In Almere several train stations serve the city with Almere centrum as big Intercity station. Except Almere Haven have all the districts of Almere an own train station.

A new train or metro connection called the IJmeerlijn was introduced with the schaalspring of Almere. This new line will connect the new Amsterdam, IJburg, Almere Pampus and Almere. For the new development Oosterwold there is no public transport planned.

Because the government could not agree on whether the railway track must be constructed toward Emmeloord, Heerenveen, Drachten and Groningen (Zuiderzeelijn) or towards Dronten, Kampen and Zwolle (Hanzelijn). From the year 2012 the Hanzelijn is in use.

As can be seen in the diagram below, from the 60ies is the length of roads rapidly increasing. The length of the rail network consolidates. The focus of transportation method in Flevoland is therefore mainly on the car.

Looking at the bus network in Zeewolde, there are two stations in the whole area located on the Vogelweg. Because of the low density of the area more bus stations are not feasible. With new developments this will be possible.
Bicycle

The city of Almere is nominated to become the bicycle city of 2014 by the Dutch cyclists association (Fietsersbond, 2013). Main reason is the separation of roads for cars and bicycle paths in the new city Almere. Multiple nodes create a good accessible bicycle network. A disadvantage of the bicycle paths is the bad condition of these paths. Height differences between path and bridge and cracks in the path due to tree roots and subsidence are the main issues.

Also a skelere route is located. These skelere route is not yet extended towards the development Oosterwold.

Energy

Two main power lines are located in the Flevopolder. Both cross the plan location Oosterwold. The capacity of these lines has to be extended. Therefore several variants are drawn. The Flevopolder is known for its landscape with a lot of windmills. Around 600 windmills are constructed at the moment. The province wants less windmills with more Megawatt. A reduce of 300 windmills is proposed.

A ray path crosses the plan location Oosterwold. This path is used to send and receive telephone, radio and television signals. A stroke of 200 meter has to kept free from high constructions as flats and windmills.

As can be seen on the map on the right. The potential for high windmills is much higher in Oosterwold. To reduce the amount of windmills with 300, the higher windmills can be a solution.

When looking at the locations of Windmills and power lines in the location Oosterwold the windmills are placed along the Gruttoweg and Wulpweg. Also the turn of the A6 is accompanied by an array of windmills. Also along the Schellevaanweg several windmills are installed.

Power lines are located at the edge of the plan location Almere Hout the powerlines are underground. This is a very costly intervention. Therefore the power lines in Oosterwold are above ground.
CONCLUSION

INFRASTRUCTURE SWOT

A strength for the layer infrastructure is the accessibility of the area for all modalities. Also the clear lines of windmills are a strength for the area. The noise barriers and large distances for cyclists are weaknesses for infrastructure even as the long, straight, boring roads.

An opportunity for the area is an electric vehicle highway towards Amsterdam. This highway is already developing, it could be connected to the location Oosterwold.

A treat for the location is the capacity of the highways A27 and A6. When Oosterwold is completed, the current capacity of the highways will not be sufficient.

Also the sprawl of private developed windmills can be seen as a treat.

The area is well accessible for bicycles, the bus stop and the cycle path are good options. The walking path is also well connected to the area.

The SWOT analysis shows that the area has a good accessibility for all modalities. The clear lines of windmills are a strength for the area. The noise barriers and large distances for cyclists are weaknesses for infrastructure even as the long, straight, boring roads.

An opportunity for the area is an electric vehicle highway towards Amsterdam. This highway is already developing, it could be connected to the location Oosterwold.

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Also the sprawl of private developed windmills can be seen as a treat.

Windmills and Powerlines in forests

Powerlines nearby Tureluursweg

Cycle path

Bus station

Walking path
When looking at the urban structure of the Netherlands around 1900, several small cities are settled with the city of Amsterdam as the most important one. More and more residents are migrating from the fields toward the cities which leads to a big growth of the cities. The urbanization of the Netherlands grows rapidly after the second world war. The cities of the reclaimed Flevopolder are typical new towns. In a few decades the cities of Almere and Lelystad grew up to respectively 150,000 and 75,000 inhabitants.

The reclamation of the Flevopolder was primarily intended for agricultural purposes. Because of this, there was no need for many cities. The urban structure of the Noordoostpolder follows the concept of C. J. A. P. Takes of 1948. A structure with a strict hierarchy of local, district and regional facilitating cities. In the Southern Flevopolder the urban structure can not be seen separately from the Randstad. An area was reserved for expansion of the Randstad, this area grew to the current Almere.

In the vision randstad 2040 there is a need for 200,000 new dwellings in the big cities. To keep the green area "Groene Hart" free from buildings these new developments are planned around the "Groene Hart". Almere has received the building task of 60,000 dwellings. Hereby the city of Almere will become the suburban counterpart of the more highly urban city of Amsterdam.

Almere is number eight of the biggest cities of the Netherlands. After the planned development Almere 2.0 the city of Almere will become number five of biggest cities of the Netherlands.

The first part of the city of Almere was Almere Haven in the south. After ten years Almere Haven grew and big parts of the current Almere stad was constructed. Also the first part of Almere busken was created and the first parts of the city Zaanstad. In 1950 the districts Almere stad and Almere Busken further expanded. In the year 2000 the first development of vogelhorst was done in Almere Hout. In the year 2010 the big self-built location Almere Poort was constructed. In the future the locations Almere Pampus and Almere Oostpoort are planned. In the structure visie Almere 2.0 these new locations in combination with the newly planned infrastructure are drawn.
**Green structure**

The location of Oosterwold is directly surrounded by the ecological network of the Netherlands. The Oostvaardersplassen and the Lepelaarplassen are two Nature 2000 areas which are located close by Almere. On the North of the planlocation a green stroke with the Wulpocht which connects the Hoge Vaart and Lage Vaart makes the connection between the Oostvaardersplassen and the Horsterwold. Plans for turning this small stroke into the Oostvaardersplassen are cancelled. Nevertheless the desire for more green towards the North-East side is drawn in the green structure vision of Almere.

On the South side of the plan location lies Almere Hout. These recreational areas consists several forests, a golf course and an urban country estate. One of the forests, the Kathedralenbos, is located inside the planarea. The tree lane along the Vogelweg connects the green area from South-West toward North-East. The Wulpocht which is described earlier connects in the South-East towards North-West.

Next to big green structures, all the farms in the plan location have green yards. All the farm owners can choose their own farmyard planting. Because the farms are structured in a straight and rigid way, the farms form a whole. The green verges along the roads connects the green of all the farms.

The designed rigid grid of the polder is still recognizable in the North of the polder. The proposed grid turned out to be too big for farmers to develop. In stead of four plots of 60 hectare, six smaller plots of around 40 hectare were created. This resulted in a scattered landscape with side ways perpendicular to the main access road.

There is a lack of facilities in Almere. As can be seen in the charts, all the different types of facilities stay behind with the facility level of Amsterdam. Because Amsterdam is the capital of the Netherlands and has more inhabitants than Almere Eindhoven is included in the comparison. Inside Oosterwold there are no facilities.
The rationality, and the open and closed relations of the location are strengths for the public space in Oosterwold. A weakness for the location is the denial of the history of the location. The Eem valley that does show this history is completely hidden by the extreme artificial polder grid.

An opportunity for Oosterwold is to live in a green, low density area nearby the Randstad. The expansion in Almere can keep the Green Hart empty. For the green structure Almere Hout could be connected to the Wulpocht. A treat for the location is that the location could become a monofunctional area. Or that mega factories will buy the land of the whole development.
The location of Oosterwold is located between different districts with different urban structures. In the middengebied up to four farmyards are clustered along a straight access road. The cluster is surrounded by green planting. Large barns for the for agricultural storage and livestock are build separate from the dwelling. In between the verges and the dwellings is the front garden, designed by the house owner. Private roads give access to the fields on the backside of the building cluster. The district Vogelhorst is a villapark developed in the 90ies at the south side of the location Oosterwold. The villapark is developed in two phases. The first phase, the south part, is constructed with a few private commissioned villas and catalog villas with little individual interventions. The second phase is the northern part of the location, which will be developed by private commissioners. The urban structure of this location is already constructed. Also the site preparation and the construction of cables, pipes and infrastructure is already done. De Meenten is a neighborhood in the district Almere Haven. The Almere Hout separates this district from plan location Oosterwold. De Meenten is a neighborhood with a lot of green. De Meenten is a typical 'Bloemkoolwijk' which is constructed in the 70ies and 80ies. A circular road with dead end entrance roads make this neighborhood a low traffic area. Walking paths, separated from the cartraffic makes this a safe living area. The disadvantage of this neighborhood are the average quality of the houses and the unclear infrastructure. This in combination with social and economical problems decreases the popularity of this neighborhood.

The industrial area Sallandse kant is the head of the district Almere Stad and is closest to the location Oosterwold. Large sheds and warehouses are located in this area. A stroke of trees forms a screen so this location cannot be seen from the A6. The district Almere Bulken is located on the west side of Oosterwold. The A6 and Lage Vaart separate these districts from Oosterwold. Along the Lage Vaart residential towers with a view on the big open polder are realized. The buildings behind these towers are realized in a grid that connects to the polder structure which can be found back in the Oostvaardersplassen. Every district is surrounded by a green stroke.
CONCLUSION

BUILDINGS

SWOT

Strength of the buildings in the location Oosterwold is the configuration of the building lot. There is a clear distinction between enclosed and open space. A weakness are the homogeneous buildings. Because 85 percent of the build area has an agricultural function, the buildings are all the same, more diversity will be a opportunity for the location. A treat for the location is the conflicts that will occur by introducing other functions in the agricultural location.

Variation in building form a whole by the green surrounding.

Monofunctional area, 85 percent is agricultural.

Build your own dreamhouse Build your own offices and industries Only houses with large sheds in the area.

Original agricultural buildings Mixed functions Area!

Conflicts between different functions

Strenght of the buildings in the location Oosterwold is the configuration of the building lot. There is a clear distinction between enclosed and open space. A weakness are the homogeneous buildings. Because 85 percent of the build area has an agricultural function, the buildings are all the same, more diversity will be a opportunity for the location. A treat for the location is the conflicts that will occur by introducing other functions in the agricultural location.

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Use of resources

In the year 2011 the so called ‘Duurzaamheidswinkel’ in the city of Almere opened its doors to stimulate private developers to develop in a sustainable way. With eight different topics nearly every topic of sustainable design is covered. In 2013 the retail building closed but the shop continued on the internet. All developments that had a sustainable label can join the online network of sustainable projects.

One of the topics for a sustainable Almere is traffic. Several projects contribute to make the traffic more sustainable. Electric cars, a bicycle highway from Almere toward Amsterdam and the promoting of the public transport are examples of these projects. Another sustainable way of transport is the bicycle. Almere tries to become the bicycle city of the Netherlands in 2014. This will save fossil fuels.

There are a lot of windmills located in and around Almere to supply sustainable energy. Also a big solar power park is developed to make Almere energy neutral. Next to this developments on the big scale, more and more individuals are installing solar panels and little wind turbines on roofs. This will save fossil fuels.

Sustainable food supplies the inhabitants of Almere with vegetables of the region and the season. In some cases these vegetables are also produced by the residents themselves. This will strengthen the awareness of the urban footprint of the resident. Because crops are farmed regionally, the resources for transportation can be saved.

Sustainable are the projects where the design is made by the recycling of products. This will reduce waste.

There are a lot of sustainable buildings in Almere. Especially the private developed building have a high level of sustainability. The ambition of the individual developer for sustainable solution seems to be higher than the ambition of the professional project developer.

Finally the topic sustainable urban development is one of the topics in the sustainable Almere topic. The underground waste collection system, Almere Duin and development Nobelhorst are examples of this topic.
Use of resources

All the buildings in the location Oosterwold have the same roof direction. This roof direction is suitable for solar panels and solar collectors. Windmills can supply the whole area with energy.

The different functions in the location Oosterwold can reduce the stream of materials. Windmills and solar panels could supply the building from energy. Warm water is supplied by solar collectors. Cold-heat storage can warm the dwelling in winter or cool the dwelling in summer. Grey water is being cleaned by a helophyte filter and waste water is transported into a biomass digester. This in combination with the organic waste from the green houses creates biogas for the greenhouses and manure to grow crops. The greenhouses will supply food for the inhabitants of the dwelling and will also put their surplus heat in the cold and heat storages of the dwellings.

On the right the different opportunities for energy supply and waste water treatment are drawn. Some of these interventions can be installed by a private developer, others have to be constructed in a collective collaboration. The diagram shows which amount of collectivity is required for the different interventions. The building plots of Oosterwold can be developed in a way, that autarkic living is possible. The direction of the roof is very suitable for solar energy.

The map on the right shows the network of the different sustainable projects in Almere. With the new development in Oosterwold individual projects can connect to these projects.

The scheme on the right shows the flows of the resources. This scheme can be inspiring for new developments in Oosterwold.
A lot of windmills and solar panels create sustainable energy in the Flevopolder. Almere centrum is 8 km away, Lelystad 26 km, Zeewolde centrum 21 km, Utrecht centrum 40 km, and Amsterdam centrum 35 km. All facilities are on long distances. Inhabitants will use the car instead of the bicycle.

**Greenhouses**
- Food
- Manure
- Biogas/CO
- Organic waste
- Surplus heat
- Cold/heat storage

**Biomass**
- Digester
- Biogass

**Waste water**
- Grey water
- Rain water

**Energy**
- Helophyte
- Filter
- Solar Collector
- Windmill
- Solar panels

**Road**
- Agriculture
- Green Water
- Building Water
- Green Plot

**Road Plot**

**Self sufficiency of building plots**

**Linking different functions to exchange energy**

**Sum of resources of individual developments is much bigger than when it is combined**

**SWOT**

**Strengths**
- Pioneering spirit in Almere
- A lot of windmills and solar panels are already installed

**Weakness**
- Mainly designed for cars
- Distances to facilities and shops are too large to go by bicycle

**Opportunity**
- Synergy between different functions in Oosterwold
- Combining all different functions can save resources

**Treat**
- All developments developed separately
- Increase use of resources of every individual dwelling because there is no economy of scale

Strengths of the location is the pioneering spirit in Almere. A lot of windmills and solar panels are already installed. The development of new windmills will therefore be easier.

A weakness is that the location is mainly designed for cars. The distances to facilities and shops are too large to go by bicycle. The opportunity is the synergy between the different functions in Oosterwold. By combining all the different functions, resources can be saved.

The treat for Oosterwold is that all the developments are developed separately. This will increase the use of resources of every individual dwelling because there is no economy of scale.
Demographics

Almere is a typical New Town and grew very fast in the past decades. Also for the next years a big building task is imposed by the government by the program Almere 2.0. As described in the stakeholder agenda by the Stuurgroep Almere 2030 (2009) the building task of the future can also strengthen the social quality of existing districts in Almere. Problems that occur in the existing city like high youth unemployment, the financial situation of several households, poor quality of education and the growing crime rate have to be stopped.

The promising citizens are moving out of Almere and the education level is declining. This will lower the average income rate and students will go study somewhere else. To get more diversity in the population of Almere there is a need for more living environments for people over 55, students and higher educated people. The lack of students and people over 55 is a result of the poor amount of facilities. A large part of the inhabitants of Almere comes from Amsterdam. This city has a lot more facilities to offer. Therfor students and elderly go back to Amsterdam to study or enjoy their retirement. The migration from Amsterdam to Almere is made primary by young families, that want to live in a green safe space to grow their kids. However, the residential attractiveness of Almere is very low.

Just a small percentage of the jobs in Almere lies in the sector agriculture/industry. In the plan location Oosterwold nearly 85% of the buildings has an agricultural function. The percentage of the agricultural jobs will be higher in this region.

There is a big difference in the population structures of Almere and the Netherlands. Students and elderly are underrepresented in Almere. There has never been an aging problem in Almere with just a 13,5 percent of the total working class as being older than 65. Almere has a young and dynamic population. The average of the Netherlands is much higher with a 28,0 percent of the total working class that is older than 65. The disadvantage for Almere is that until 2040 the amount of people over 65 will triple. The city of Almere has to respond on this by making more space for the (younger) elderly.
An analysis done by the research company Experian shows the different living environments in Almere. Ten different target groups are described in order to approximate the actual reality. This compartmentalized thinking is done to get a insight on how the different groups are divided in the area. In this way, patterns can be detected.

An analysis done by the research company Experian shows the different living environments in Almere. This map shows that the older districts have a lot of workers and average families. In these districts a life a lot singles, young and elder. The newer built outskirts of Almere have a large share of successful families and dynamic families. More than half of the inhabitants has an higher income than average.

There are not much districts where there is just one living environment. This has to do with the mixed urban development of Almere.
A strength of the location is that the location Oosterwold has a young and vital population.

The weaknesses of Oosterwold is the lack of students, high educated residents and elderly. There are a lot of single parent children that cause vandalism and the monofunctional area of Oosterwold also results in a homogenous population.

An opportunity for the location is the attraction of different target groups. Where Almere Pampus could be the high density urban development, Oosterwold could be the low density counter part.

A threat for the location Oosterwold is that Almere has the fastest aging population of the Netherlands. Without the attraction of new residents, the city will age rapidly.

Wealthy people settle nearby Oosterwold because of its spacious possibilities.

Multiple functions can make the population of Oosterwold (and Almere) diverse.
Conditions Oosterwold

Most of the element and conditions of the location Oosterwold are combined in the map on the right. This map, made by MVRDV shows the relations between individual aspects of the analysis. In the analysis the different aspects of the location are taken apart. Most of the parts are placed back into the map like a puzzle. This is done to understand whole by the relations between all the individual aspects. Not all the aspects of the analyses are combined in the map. Topics like water nuisance, archeology and metabolism are not taken into account in the map.

The analysis resulted in the zoning plan shown on the left. The zones are chosen by the conditions of the landscape. Strengths, Weaknesses, Opportunities and Treats inside a zone are the same. The zones can provide more location specific principles for the private developers in such a zone.

The zoning map shown on the left forms the basis for this vision map. In the vision the different principles of the zones are drawn. Also the structures that have to be maintained are drawn in the vision.
The analysis is done with the use of the six layer approach. All the Strengths, Weaknesses, Opportunities and Threats for the layer specific SWOT’s are placed in the overview on the left. This overview formed the base of the zoning and vision map.
THEORY PAPER

Appendix

Pumping station
Blocq van Kuffeler
Almere
Source: www.zuiderzeeland.nl

Kasteel almere
Source: www.acenpblog.nl/wp-content/uploads/2012/12/p1030091.jpg

Hoge vaart Almere
Source: Own Photo
Regulation of (C)PC projects

Role of the urban designer in self planned city

Course AR3U022, Theory of Urbanism

Abstract – This article is about the search for a new role of the urban designer in the new emerging urban developments with collective or private projects. Nowadays 90 percent of the total housing in the Netherlands is realized by professionals (SEV, 2006). With a market changing from supply oriented to demand oriented private developers, professionals and corporations try to meet the wishes and demands of the end-user. There is a trend towards more participation of the user in the building process. On the participation bachelor the role of the end-user is changing from choice to voice. Due to this movement, the demand for Collective Private commissioning projects is growing. The same counts for the subsoil system. What are the rules that have to be given to self-planned developers and builders in the different layers of the urban structure to make the private commissioning developments sustainable and resilient?

The traditional design with an end-image like a striking visualization or a taut master plan will never fit the needs for this new social values and needs (Zandvoort et al., 2013). In the next section the history and change of the role of private parties in the building process will be discussed. After that the different ways of private commissioning will be described. After this section the role of the urban designer will be examined with the use of the six layer approach followed by the conclusion and recommendations.

1 Introduction

Due to the financial crisis, the construction of new developments in the Netherlands is in a deep crisis. As stated by (Beek, 2012) ‘The year 2012 will be memorable in the Dutch housing legislations. The governments have stimulated the housing in the Netherlands with billions of Euros since the second world war. This government funding will be reduced to zero in the year 2015.’ (p.8). Because of this, the traditional way of the development of building projects will be even harder than it is today. New housing projects commissioned by developers and municipalities are not realized because developers cannot sell enough houses to individuals on forward to start up projects. Because the government does not supply the funding to stimulate housing, the money for developments have to be found by private parties. In the Netherlands, as described by (Beek and Visser, 2011) it seems to be quite normal for this private parties to take a passive role in the building process and to find accommodation to what is available on the market or what corporations allocate (p.165). This passive role is a trend towards more participation of the end-user in the building process. The agricultural crisis of 1880 and the industrial revolution caused a large migration towards Dutch cities. The government states that residents were responsible for their own housing. Nevertheless, the practices of landlords and the accompanying social and hygiene problems prompted the working classes to get organized. The first housing associations, which can be seen as the first Collective Private Commissioning (CPC) organizations and the precursors of the housing cooperation are the Mijnhuizen in Delft (1873) and De Goededooren in Amsterdam (1874). In other words a need for living environments that give a sense of owning the place. CPC (Collective Private Commissioning) or in Dutch CPC (Collectief Privaat Opdrachtgeverschap) seems to fit the needs for this new social values and needs (Zandvoort et al., 2013). In the next section the history and change of the role of private parties in the building process will be discussed. After that the different ways of private commissioning will be described. After this section the role of the urban designer will be examined with the use of the six layer approach followed by the conclusion and recommendations.

2 History of (Collective) Private Commissioning

Private Commissioning is not a new development. On the contrary, private commissioning was the main method of development before the second world war. It was typical for residents to build homes for themselves or their family members on land that they owned, heir or purchased, and to spend the rest of their lives there (Beek and Visser, 2011). As described in the history of housing or in Dutch De geschiedenis van de volkswoningen (Kruisvoegersweerd-Amsterdam, 2011) the role and influence some mentioned below of governments, municipalities and corporations changed over time.

In the second half of the 19th century, the governments take a passive role in the building process and to find accommodation to what is available on the market or what corporations allocate. It seems to be quite normal for this private parties to take a passive role in the building process and to find accommodation to what is available on the market or what corporations allocate (Beek and Visser, 2011). This passive role is a trend towards more participation of the end-user in the building process. The agricultural crisis of 1880 and the industrial revolution caused a large migration towards Dutch cities. The government states that residents were responsible for their own housing. Nevertheless, the practices of landlords and the accompanying social and hygiene problems prompted the working classes to get organized. The first housing associations, which can be seen as the first Collective Private Commissioning (CPC) organizations and the precursors of the housing cooperation are the Mijnhuizen in Delft (1873) and De Goededooren in Amsterdam (1874). In other words a need for living environments that give a sense of owning the place. CPC (Collective Private Commissioning) or in Dutch CPC (Collectief Privaat Opdrachtgeverschap) seems to fit the needs for this new social values and needs (Zandvoort et al., 2013). In the next section the history and change of the role of private parties in the building process will be discussed. After that the different ways of private commissioning will be described. After this section the role of the urban designer will be examined with the use of the six layer approach followed by the conclusion and recommendations.

January, 2014

13th Graduation Lab Urbanism Conference

Theory paper

Role of the urban designer in self planned city

Thesisplan | Case Oosterwold | Rolf Jonker | 1383892 | Master track urbanism | Studio Delta Interventions | May 2014

Regulation of (C)PC projects

Role of the urban designer in self planned city

Course AR3U022, Theory of Urbanism

Abstract – This article is about the search for a new role of the urban designer in the new emerging urban developments with collective or private projects. Nowadays 90 percent of the total housing in the Netherlands is realized by professionals (SEV, 2006). With a market changing from supply oriented to demand oriented private developers, professionals and corporations try to meet the wishes and demands of the end-user. There is a trend towards more participation of the user in the building process. On the participation bachelor the role of the end-user is changing from choice to voice. Due to this movement, the demand for Collective Private commissioning projects is growing. The same counts for the subsoil system. What are the rules that have to be given to self-planned developers and builders in the different layers of the urban structure to make the private commissioning developments sustainable and resilient?

The traditional design with an end-image like a striking visualization or a taut master plan will never fit the needs for this new social values and needs (Zandvoort et al., 2013). In the next section the history and change of the role of private parties in the building process will be discussed. After that the different ways of private commissioning will be described. After this section the role of the urban designer will be examined with the use of the six layer approach followed by the conclusion and recommendations.

1 Introduction

Due to the financial crisis, the construction of new developments in the Netherlands is in a deep crisis. As stated by (Beek, 2012) ‘The year 2012 will be memorable in the Dutch housing legislations. The governments have stimulated the housing in the Netherlands with billions of Euros since the second world war. This government funding will be reduced to zero in the year 2015.’ (p.8). Because of this, the traditional way of the development of building projects will be even harder than it is today. New housing projects commissioned by developers and municipalities are not realized because developers cannot sell enough houses to individuals on forward to start up projects. Because the government does not supply the funding to stimulate housing, the money for developments have to be found by private parties. In the Netherlands, as described by (Beek and Visser, 2011) it seems to be quite normal for this private parties to take a passive role in the building process and to find accommodation to what is available on the market or what corporations allocate (p.165). This passive role is a trend towards more participation of the end-user in the building process. The agricultural crisis of 1880 and the industrial revolution caused a large migration towards Dutch cities. The government states that residents were responsible for their own housing. Nevertheless, the practices of landlords and the accompanying social and hygiene problems prompted the working classes to get organized. The first housing associations, which can be seen as the first Collective Private Commissioning (CPC) organizations and the precursors of the housing cooperation are the Mijnhuizen in Delft (1873) and De Goededooren in Amsterdam (1874). In other words a need for living environments that give a sense of owning the place. CPC (Collective Private Commissioning) or in Dutch CPC (Collectief Privaat Opdrachtgeverschap) seems to fit the needs for this new social values and needs (Zandvoort et al., 2013). In the next section the history and change of the role of private parties in the building process will be discussed. After that the different ways of private commissioning will be described. After this section the role of the urban designer will be examined with the use of the six layer approach followed by the conclusion and recommendations.

2 History of (Collective) Private Commissioning

Private Commissioning is not a new development. On the contrary, private commissioning was the main method of development before the second world war. It was typical for residents to build homes for themselves or their family members on land that they owned, heir or purchased, and to spend the rest of their lives there (Beek and Visser, 2011). As described in the history of housing or in Dutch De geschiedenis van de volkswoningen (Kruisvoegersweerd-Amsterdam, 2011) the role and influence some mentioned below of governments, municipalities and corporations changed over time.

In the second half of the 19th century, the governments take a passive role in the building process and to find accommodation to what is available on the market or what corporations allocate. It seems to be quite normal for this private parties to take a passive role in the building process and to find accommodation to what is available on the market or what corporations allocate (Beek and Visser, 2011). This passive role is a trend towards more participation of the end-user in the building process. The agricultural crisis of 1880 and the industrial revolution caused a large migration towards Dutch cities. The government states that residents were responsible for their own housing. Nevertheless, the practices of landlords and the accompanying social and hygiene problems prompted the working classes to get organized. The first housing associations, which can be seen as the first Collective Private Commissioning (CPC) organizations and the precursors of the housing cooperation are the Mijnhuizen in Delft (1873) and De Goededooren in Amsterdam (1874). In other words a need for living environments that give a sense of owning the place. CPC (Collective Private Commissioning) or in Dutch CPC (Collectief Privaat Opdrachtgeverschap) seems to fit the needs for this new social values and needs (Zandvoort et al., 2013). In the next section the history and change of the role of private parties in the building process will be discussed. After that the different ways of private commissioning will be described. After this section the role of the urban designer will be examined with the use of the six layer approach followed by the conclusion and recommendations.
system and the uncontrollable river and sea. Meyer (2012) describes this as ‘a modern architecture. This culture has to change to give room for (C)PC projects.

The commissioning and participation in water management in the Netherlands had its focus on the traditional project development and registered project developers. Participatory Commissioning is a form of commissioning whereby the end-user is involved in the design of their home or homes, for their own use.

Private Commissioning (PC) is a building methodology whereby one or more private parties acquire the piece of land or pieces of land and determine themselves with which parties they wish to construct their home or homes, for their own use.

Commissioning (CPC) is a form of commissioning whereby a collective of like-minded private parties acquire the piece of land or pieces of land and decide how, with which parties the homes, private spaces and sometimes even public spaces are to be let out and constructed.

Participatory Commissioning is a form of commissioning whereby the end-user is invited by the initiating party (often a developer or corporation) at an early stage in order for them to make known their preferences regarding process, the design of the home and surroundings and construction.

The three different ways of commissioning have different relations with the actors in the building projects like architects, urban designers, municipalities and project developers. Participatory Commissioning is mainly focusing on a building lot that is already prepared for construction. The resident will have no (or less) influence on the urban situation around the building. The design and realization of the building will be mainly an architectural issue. The new design has to comply to the building regulation, building code and (eventually) the weeds committee. The amount of ‘building freedom’ for the private commissioner is regulated by documents of the municipality.

In many Collective Private Commissioning and Participatory Commissioning projects, the designs is not only limited to the building lot. Also the public space around the building has to be realized. This realization of the public space is an urban issue. The design and realization of the building and the public space is not only architectural but also an urban issue. In Participatory Commissioning projects the involvement of the end-user is essential in an urban structure, which is being realized by urban designers and developed by project developers or municipalities. By Participatory Commissioning projects the end-user has a voice in the design of the public space, but the design is realized by urban designers and developed by urban designers and project developers or municipalities.

In Collective Private Commissioning projects, the role of the project developer, urban designer and municipality is different. In some cases the project developer is not even involved in the reconstruction process. Wherein 1500 dwellings have been realized without a project developer. In the television series ‘De sleg om Nederland’ (Zuiderbouw, 10-12-2012) architect Pi Bruijik and project developer Rudy Stroink take position about the role of the project developer. Because of the success of the building project Roodezoom, de Bruijik is doubting the role of the project developer in the building process. According to Stroink, the role of the end-user has become the main role in the design and realization of the building. Plan makers like municipalities, private developers and urban designers came up with different types of building rules that ensure the quality of the urban structure and the public space. This is called National Autonomy.

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There is a need for laws and regulations in CPC projects, but not in old working method, with the urban designer who was already designing the end-result of a new development. The profession of urban design should make a turn from a design- to process method, with the urban designer who was already designing the end-result of a new development.
The role of the urban designer is also different for this reason. The urbanist designs no (C)PC. The main reason why residents do not start a self-built project is the lack of planning law would be that one is not allowed to locate a noisy factory in a residential area, whereas the location of an environmentally non-polluting high-tech factory in that area is allowed.

The urban designer can be like a kind of field director that guides the whole building process. The urban designer has a leading role in this process. The role of the urban designer is also different for this reason. The urbanist designs no (C)PC. The main reason why residents do not start a self-built project is the lack of a set of rules instead of a urban plan, to steer the development in the right direction and to set the parameters in which the form can occur. The planning law is essentially a land-use plan composed of rules and freedom for a access road and the rules and freedom for main roads. Access roads can be commissioned by a (C)PC structure, where main roads have to be realized based on the traffic the main roads will have. Hostemaker (2012) states that in a period in which the social planning makes a privatizing movement, the opposite counts for the subsoil. The incorporation of the underground organization is clearly an expectation of the public. In the search for what should be public and private, the subsoil is an additional subject. In the context of climate change, energy and economy, this is very acutely important. The issues that make it complicated to develop the subsoil contains the following points:

1) The costs and the benefits of the subsoil are often divided and have a public scale.
2) The subsoil is part of the environment that is not measurable in combination with the large amount of ads in the subsoil, and thereby a public task.
3) The knowledge and skills required for underground developments is not private. It has a public interest in it.
4) By its scale, the underground developments have to be developed by public enterprises.

Besides this, the amount of freedom for private commissioners for the realisation of underground structures will be less. This does not mean that the benefits of the subsoil should be used in (C)PC projects, and Vedder's (2015) experts. For each layers the level of freedom/regulation will be different. These six layers differ physically, but also differ in dynamics, scale, knowledge and experts. For each layer the level of freedom/regulation will be different. Subsoil

The layer subsoil consists of the sublayers soil conditions, water, energy and construction. Because the development of the different building layers in organic building projects in time, the relation between the building layers over time will be less. Hostemaker (2012) states that in a period in which the social planning makes a privatizing movement, the opposite counts for the subsoil. The incorporation of the underground organization is clearly an expectation of the public. In the search for what should be public and private, the subsoil is an additional subject. In the context of climate change, energy and economy, this is very acutely important. The issues that make it complicated to develop the subsoil contains the following points:

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less costs for the residents and a more sustainable development.

People This layer gives the most freedom to residents of (C)PC projects. The social structure of the development will be mainly a result of the other layers. Behavior of the social structure can be influenced by public services and facilities in the neighborhood. An urban designer or architect guide the demand of commissioners.

6 Conclusion

The traditional way of developing is outdated. Because of the financial crisis and the reluctance of the banks to supply loans, the big urban expansions and developments of the past done by private developers and corporations are not possible anymore. The housing market changed from supply driven to demand driven which also changed the role of the end-user on the participation ladder from choice to voice. The globalizing world is demanding individuality and a strong own identity which seems to be found in (C)PC. Because of its small scale of development, (C)PC is seen as the future way to develop in the Dutch housing market. Thereby also changing the role of the urban designer.

Regulation of the (C)PC projects in the form of guiding rules, structuring lines and starting points is needed. The amount of freedom is dependent of the layer that the intervention is influencing the most. An intervention in one layer will also influence other layers because they interrelate.

The subsoil layer with aspects like water management and designing of the subsoil cannot be solved only on the small (private) scale. Because of the artificial landscape of the Delta, autarky cannot be reached. Developments have to be found on the big (collective) scale. In lesser extent this also counts for the infrastructure layer. For the public space and building layer the amount of freedom will be a political issue. Smart structuring elements imposed by rules or drawn by urban designers must create urban quality and structure in the (C)PC projects with minimal restriction of freedom.

There is a need for a new balance between central coordination of the maintenance of an artificial national territory and the possibility of more variation and self-organisation of the local scale. (Meyer, 2012) With the organic urbanism, the regulation of this type of developments have to be found by performance based design instead of blueprints describing a clear end product. The role of the urban designer is not to design the primary form and the end image of the development, he is sketching the principles, first steps and guiding and structuring elements. In the beautiful visualizations made by urban designers for the end result of (C)PC projects, who is maintaining the public space?

6 Recommendations

In (C)PC projects the amount of freedom that is given to private parties in the six different layers, is important for the development of the location. This is mainly an political issue. Different amounts of freedom will result in different organic urban structures. More freedom for private parties will not directly result in more coincidence and surprise. Private commissioners with a lot of freedom seem to come up with neat, almost boring designs. The question is, what influence regulation will have for (C)PC projects. This needs for further research. This will be done in the graduation project.

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