



A DUTCH APPROACH
TO LANDSCAPE ARCHITECTURE

GARDENING THE DELTA

This essay is being published in this form to accompany a series of three lectures on 'A Dutch Approach', organized by H+N+S Landscape Architects to mark their 25th anniversary.

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H+N+S Landscape Architects (Hamhuis, Van Nieuwenhuijze and Sijmons) was set up in 1990. Jandirk Hoekstra succeeded Dick Hamhuis in 1999. In 2011 Nikol Dietz and Hank van Tilborg joined the Board of Directors, followed by Pieter Schengenga in 2014. Dirk Sijmons and Lodewijk van Nieuwenhuijze are now involved as advisors. Some 25 staff work at H+N+S. In its early stages, the practice focused on regional design and later on water management projects. After a period in which visions and explorations dominated the agenda, more and more of their projects now lead to implementations. In addition, new themes have been claimed and added to the oeuvre, such as cultural heritage, infrastructure, sustainable energy and climate change.

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INTRODUCTION

Wind energy, airports, river dikes. Not exactly the topics you normally associate with landscape architecture. Nevertheless they became my field of activity at H+N+S Landscape Architects when I joined in 1992. And to these topics I could add the rehabilitation of the Emscher River [*] in the Ruhr region of Germany¹. H+N+S was offered the opportunity of sketching an alternative future scenario for the Emscher – alternative because a *Renaturierung* had been set in motion, but the measures were insufficient to deal with the dangerous high water level peaks and the lack of space in the river profile. The alternative H+N+S plan offered a new cross-section which, with clever modifications, fitted into the existing, but restricted, space and yet constituted an enormous improvement, both ecologically and visually. In addition, the plan contained a much discussed idea for introducing meanders. Instead of taking the historical-topographical map as the point of departure, the idea was to calculate which meanders would be appropriate for the present-day Emscher, ensuring



1 Design sketch for the redevelopment of the Emscher River, H+N+S Landscape Architects

a lively and dynamic effect. But the alternative solution for the high water level peaks was even more important. Instead of inaccessible and dangerous ‘water parking places’, the team suggested creating extensive flooding areas, notably in the very areas that had fallen into disuse. This would enable a ‘leisure landscape’ to develop which was also suitable for water collection and storage. [ILL 1] Sadly, the plan was never implemented; it ended in a conflict about the direction to be taken. It is nevertheless mentioned in this introduction because the international experience with the Emscher has shown it is unwise to assume that everyone will understand and accept this approach to landscape. The essay further demonstrates – with five families of projects – how this approach took shape in the work of H+N+S. The clusters of projects underline the fact that they are not one-off cases; rather they form part of longer lines of development at this practice, where a succession of lectures, visions and master plans have crystallized into research and successfully implemented projects.

There is every reason now to focus on the work of H+N+S as it celebrates its 25 years of existence. This essay aims to draw attention to the ideology characteristic of H+N+S and to position it as a specific approach to landscape and landscape architecture. The achievements of H+N+S are relatively unknown outside the Netherlands. The result may be a splendid landscape but, more often, the product is groundbreaking research, an exploration, or a vision. In other words, such work does not have the well-defined iconic profile our present-day media culture demands; what is more, it has its own vocabulary, and that needs to be translated, literally and metaphorically, in order to extend familiarity with the work of H+N+S beyond the Dutch borders. The approach characterizing the work of H+N+S is, I believe, extremely relevant. The approach – and not so much H+N+S itself – is all-important here, plus the fact that a number of other designers share this approach. To some extent, that also reveals an opinion on where the future of the discipline of landscape architecture is to be found. The circumstances in which we live these days make the approach I sketch here even more relevant. The H+N+S team works on issues that are urgent both in the Netherlands and elsewhere in the world. The aim of this essay is to position the oeuvre of this team and to demonstrate a manner of working that offers a window on the challenges facing landscape architects worldwide.

A DUTCH APPROACH TO LANDSCAPE ARCHITECTURE

The plan for the Emscher is a good illustration of four of the main themes this approach encompasses, here condensed into four maxims: Scale is a matter of design / If it performs it is beautiful / Design is an invitation / Landscape is a process, a process is a landscape.

- *Scale is a matter of design:* In the case of the Emscher, the area to be tackled measured 20 by 60 kilometres. Such a large scale is mostly regarded as a subject for cartography and planning, but the standpoint here is that it is most certainly a landscape architectural design object. The design process is therefore pronounced to be a cultural assignment: good landscape architectural design seeks to link large assignments with the local topography and culture, and to play with this relationship. That applies to all scales, but can only work if a large scale is being explored. The object to be designed, in this case the Emscher, is understood to be a coherent whole that is to be tackled on the basis of a single all-encompassing thought.
- *If it performs it is beautiful:* We need to understand the functioning of the system, with all its layers, and to know which factors can influence that functioning. A landscape architect is like a mechanic who tunes an engine by adjusting the right knobs. That requires an insight into how things work and a strong feeling for priorities: how and where do we need to start in order to get the rest going? Implicit in this question is the assumption that beauty is inextricably linked to the way landscape architects solve design problems.

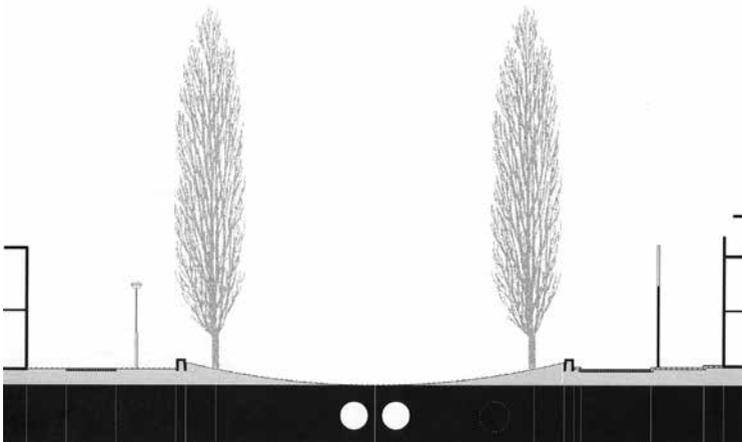
If the landscape works well and does what we expect of it, it will speak for itself and will possess natural beauty.

- *Design is an invitation.* A good design creates conditions in which natural processes and human activities can unfurl. We do not aim for a fixed end-result – in fact, designing means facing up to uncertainty. However, if we apply our knowledge of natural systems and human usage, the design can ‘predict’ what will happen and set things in motion. Some parts of a landscape are crucial, which is why they need stability; elsewhere, unforeseen events and changes may turn out to be beneficial. That is why a good design always contains fixed principal structures which allow for chance and spontaneity as well.
- *Landscape is a process, a process is a landscape.* Landscape is a compilation of themes and a constellation of interests. Designing is teamwork. In a multidisciplinary team, a landscape architect is well placed to take the lead while he draws his design. He explores the agenda, links topics in order to arrive at added value, forges coalitions, thinks strategically and keeps an eye on the long-term situation. He draws the options we have so that interested parties talk about the overarching concerns instead of their own. And a landscape architect focuses on implementation: ‘a plan that works’².

These four maxims together constitute a tentative definition of what I call in this essay a *Dutch approach to landscape architecture*. The major idea implicit in these four themes – that landscape can be made – is probably one of the most distinctive characteristics of Dutch landscape architecture. The second implication is that these themes greatly stretch the normal definition of landscape architecture, in terms of both scale and the issues addressed.

Designations comparable to the ‘Dutch approach’ include ‘a fine Dutch tradition’ and ‘engineering art’³. But that word ‘approach’ is crucial as far as I am concerned. The work of H+N+S is often too radical to be regarded as a tradition, perhaps too ‘rough’ to be ‘fine’, and insufficiently focused on form to be called art. Not style, opinion or ideology, but the way of looking is paramount. This is driven by an unceasing interest in how a landscape functions; what the short-

comings are; and how the spoken word and the design drawing can contribute to the whole. In other words, it is contributing to solving a conflict or problem, but even more so to achieving a richer landscape and to involving people in that landscape. To clarify the Dutch approach you have to emphasize largeness of scale, systems and problems. That might suggest that architectural beauty is not important and, by stating that beauty is much more of an added bonus than a goal, I reinforce that idea. However, the project for Rijnkennemerlaan [*] in Utrecht Leidsche Rijn proves that ‘the Dutch approach’ and ‘beauty’ are not necessarily in conflict with each other. There, a solution had to be found for a kilometres-long, double water mains which ran through the middle of the already planned residential development Leidsche Rijn. H+N+S designed a long avenue of baroque proportions, but with a restrained Dutch resonance: a strip of grass lying in a hollow delimited by two rows of Italian poplars. [ILL2, 3] This example clearly shows that a beautiful design and the Dutch approach do not need to be in conflict with each other, but equally it confirms that it often involves giving the matter a different twist: can we translate a thorny problem into an opportunity?



2 Cross-section Rijnkennemerlaan, H+N+S Landscape Architects

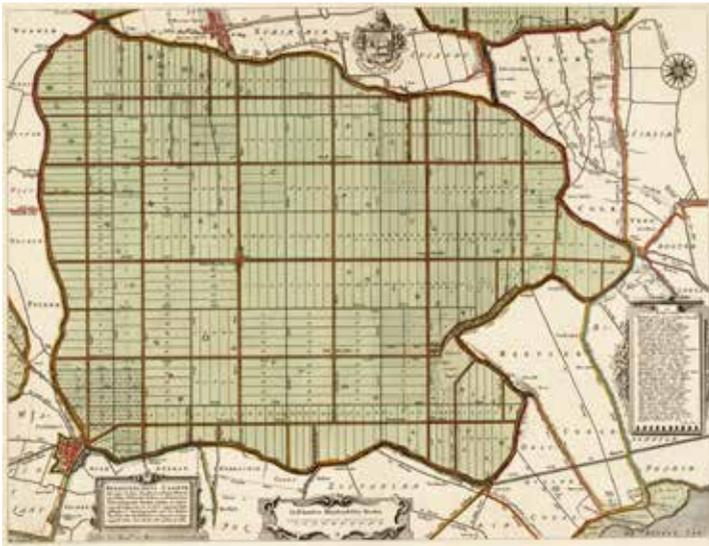
I have linked the title of this essay ‘A Dutch approach to landscape architecture’ to ‘gardening the delta’. ‘Gardening’ and ‘delta’ might seem to be totally at odds with each other but that is also the intention. That single word, ‘delta’, encapsulates as much as possible of the idea of the Dutch landscape condition on a national scale, where water forms the basis. By this term, we mean a landscape which is a fertile, extremely dynamic natural system as well as the hub of urban human activity. I use the term ‘gardening’ to mean a goal-oriented, design-based adaptation of that natural system, but also to mean the patient activities of intervention, reclamation and just waiting to see what happens. Every gardener is an engineer on a small scale, trying to improve the condition of his infertile land. In the same way, H+N+S gardens the delta system, deciding where the priorities should lie for creating the right conditions; in other words, making the ground suitable.



3 Rijnkennemerlaan Avenue

ROOTS

Over the last three decades much attention has been devoted in various publications about Dutch landscape architecture (and also urbanism) to the presumed roots of these disciplines in water management projects such as the creation of polders⁴. It goes without saying that the design of a polder is a large-scale operation, an operation that demands to be understood as a single big idea – otherwise the polder would not be able to keep the water out. Even though landscape architecture did not exist at the time, you could say that polders such as the Beemster are designed landscapes and that such designs were partly based on aesthetic considerations. [ILL 4] The well-proportioned grid of roads and canals illustrates this. Because the main shape of most polders is nowhere near orthogonal, the grid always ‘meets up with’ the natural shape of the previously existing lake. The work of H+N+S and similar designers constantly explores this grey area between efficient, rational, straight-lined order and



4 Concept for the Beemster, Daniël van Breen (1658), 'Geheugen van Nederland, Kaartencollectie Provinciale Atlas'

the irregularity of landscape. A process, once set in motion, plays with the rational order. [ILL 5] Eric Luiten, for many years part of H+N+S, addresses in *Oorden van onthouding. Nieuwe natuur in verstedelijkend Nederland* (Places of non-intervention. New nature in the increasingly urbanized Dutch situation) the presumed conflict of interests between landscape conservation and nature development. He introduces the landscape architect as a 'neutral mediator', standing above all interests. As Rik Herngreen in the same book formulates it, a nature development assignment then becomes one of 'cultural politics'⁵.

A topic related to polder-forming is the constant reallocation and modernization of land taking place in rural Dutch landscapes. This was originally meant to increase agricultural production, but over the course of the last few decades, themes such as nature and recreation have been added to this modernization programme. In contrast to the creation of polders, the work done on land reallocation and also on roadside planting occurred in parallel with the advent of landscape architecture in the Netherlands, being a domain in which a systematic design tradition arose, with the ingredients – such as roads, dikes

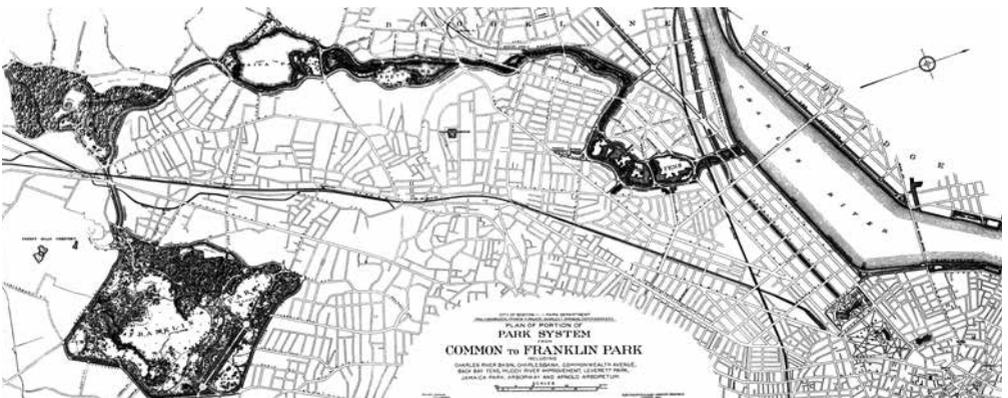


and rows of trees – we still see in the work of H+N+S. A good example of this tradition is the design made for Kethel in 1942 by Jan Bijhouwer, who was appointed to Wageningen University in 1948 as the very first professor of landscape architecture. Strictly speaking, this is not land reallocation but the ideology is very similar. This design in Schiedam is important because the soil conditions were a determining parameter. The land was wet, with traces of old river courses. Bijhouwer took these facts and used them to determine the principal lines of his design. He commented: ‘The appealing aspect of this plan as far as I was concerned was the logical and pleasant ‘garden village’ and park layout obtained by following the natural features as closely as possible. This result would never have been obtained if the layout had borne the stamp of the designers’ own visions’⁶. A H+N+S plan is seldom solely based on independent design ideas or ‘the stamp of the designers’ own visions’; most of the designs ‘arise out of’ soil and topography.

Jan Bijhouwer was also responsible for another precedent regarding the Dutch approach. In an era in which ‘making nature’ was still not really an option, Bijhouwer claimed in 1924 in his dissertation on plant geography: ‘When reclaiming land from the Zuiderzee it is important to reserve complexes for studying the succession of the plant communities’⁷. This is a very early example of creating conditions and of design as an invitation when, *nota bene*, making a completely new polder. Some years later it became obvious that this had not merely been a stroke of luck. At a meeting of biologists he speaks about the loss of certain valuable sites in the natural environment, and urges them to do more forward-thinking. If all existing areas are threatened, we need to intervene: ‘We have to look ahead; if there are no longer any low-lying areas of peatland in a good condition, like the one in Soesterveen, we will just have to look for a suitable place, stop farming it, and create the conditions which within twenty or thirty years will lead to recovery of peatland growth’⁸.

A good example of a Dutch approach *avant la lettre* is to be found not in the Netherlands but in the United States. Mainly known as a designer of parks, Frederick Law Olmsted was also a gifted writer, and his collected texts are a source of information on little-known parks such as *Back Bay Fens* near Boston, a design I believe exemplifies the Dutch approach⁹. [ILL 6] The piece of ground the local community had

purchased to make this large park was extremely ill-chosen. It was subject to ebb and flow, and two small rivers emptied sewage water into it. Because the natural topography formed a sort of basin, rather large quantities of water always remained behind: ‘exceedingly filthy water which even eels could not live in’ – not an ideal starting position for a park. Olmsted thought ‘the whole scheme of a park ill-considered’, but did not allow himself to be put off. He chose his words carefully; instead of ‘park’, the operation was to be called a ‘sanitary improvement’ so that people would not expect too much. This ‘sanitary improvement’ was only possible if the designer worked closely with engineers. Interestingly, Olmsted, the landscape architect, clearly took the lead. In a paper for the Boston Society of Architects he described his plan primarily as a clever technological solution: a basin with gently sloping dikes, the soiled water being diverted around them; the greening came second: ‘The further treatment of the banks became then an ordinary question of landscape gardening’. Olmsted expected the natural processes to ensure that the eventual impression would be far from artificial. In other words: ‘Nature will come to our aid’, a variation on the theme *Design as an invitation*. The term ‘sanitary improvement’ could be applied to a number of H+N+S designs but it is worth noting how precisely Olmsted weighed his



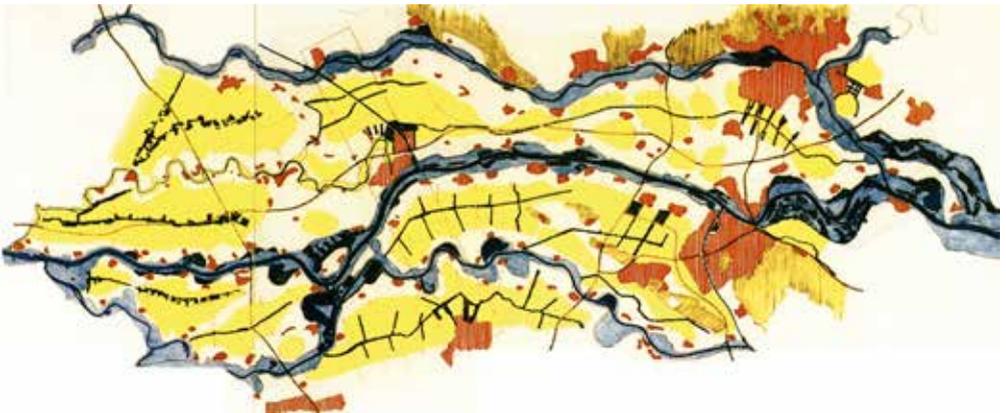
6 Plan of Back Bay Fens, Courtesy of the United State Department of the Interior, National Park Service, Frederick Law Olmsted National Historic Site

words regarding the essence of a plan and how it should be understood by the commissioning party and the general public. H+N+S plans also strive for carefully weighed-up words. The text often aims to set out what we actually can strive for and the sketches made in the first phase are cartographic explorations of the various options, as a preparation for the process of choosing.

A FLYING START

Plan Ooievaar, put together by a team of six, won the first Eo Wijers Competition in 1985¹⁰. The three landscape architects in the team founded H+N+S several years later, in 1990. To say that the key drawing in *Plan Ooievaar* is famous is overstating the fact as it is doubtful whether anyone outside the Netherlands or outside landscape architecture would recognize it. [ILL 7] However, for the development of Dutch landscape architecture, it is a crucial drawing; one which announced a new era. The introduction mentions ‘scale’ as an aspect of the Dutch approach, and this plan is a clear manifestation of largeness of scale in a design assignment. This drawing was responsible for proclaiming the regional scale encompassing the whole Dutch river area as an object of a design. That was innovative, but it also expressed the spirit of the time: the Eo Wijers Competition was introduced to stimulate regional design – a term which is not easy to explain internationally, but in the Netherlands it was definitely seen as productive and as something worth striving for. And there is the other fact: *Ooievaar* is the Dutch word for stork, and the makers of this plan, relying on their ecological expertise, expected the interventions suggested in the plan to lead to new nature. And this newly created natural environment would appeal to the black

stork, a species which although characteristic of highly varied river ecosystems, had left the Netherlands a long time ago. So, there are two lines of argumentation in the design. Interventions as drawn in the design are carried out by huge excavators and cranes. These interventions change the water regime, giving the river dynamics free rein and bringing about a chain of transformations in which colonizing animal and plant species are given a chance and a new landscape arises – with the black stork as a bonus. This is essential for the Dutch approach in which a design comprises that which is constructed plus that which unfolds naturally. The one cannot exist without the other. The man-made part is drawn, described and calculated. The part that develops naturally is a matter of speculation, which does not mean it happens by chance. The very opposite is true: it is fed by expertise. However, this self-same expertise has taught us that the process is a game in which uncertainty and surprise are going to influence the outcome. It is a conscious decision to play that game: the designs made by H+N+S aim to set a process of transformation in motion, effected by natural forces such as erosion and sedimentation, by colonizing plants and animals, and by human usage.



The fact that some of the makers of *Plan Ooievaar* started up their own practice is in itself an expression of the enormous changes Dutch landscape architecture was undergoing. The founders of the practice had worked for the government, but transformed themselves into directors of a ‘commercial’ practice – a totally new environment for landscape architects. H+N+S was one of the first practices to work in a radically different manner. Until then, landscape architect practices had tackled the immediate area around buildings. The founders of H+N+S, having worked in government services such as the state forestry service, were familiar with formulating policy, developing long-term visions, thinking on a large scale and dealing with projects involving forests, the natural environment, water and infrastructure. Partly because of this background, the founders have had various functions both inside and external to the practice: as project supervisor, government adviser on landscape, or professor. This means equally, that the practice has often formed part of larger research and policy programmes. All this has been extremely important for H+N+S. Before the 1980s, only the newly set-up B+B had developed a leading role, but at the same time as or shortly after H+N+S, various other practices were starting up in the Netherlands. West 8, Karres & Brands, Lubbers, Okra, Quadrat and Hosper, to name but six, immediately took up a prominent position, which they have held to this day. This essay is not the place to consider that shift in more depth, but it is certainly a remarkable fact; more so, because the shift took place simultaneously with several other movements that greatly changed Dutch landscape architecture and determined the climate in which H+N+S was starting up. Showing no regrets whatsoever, Dutch landscape architects left their mainly green discipline and extended their area of interest into cities and what were called *stadslandschap-pen* or ‘urban landscapes’¹¹. Casting aside their modesty and grasping the initiative, they moved away from the discipline that dealt merely with the space left behind after architects and urbanists had finished. The landscape architects themselves began to deal the cards.

Independently of this, after years in which design had had a bad press, it again became usual to look via the designing process into the future – extremely *far* into the future. An example is the manifestation *Nederland Nu als Ontwerp* [The Netherlands now as a Design] from 1985, in which urbanists and landscape architects, in particular, explored a broad view of the Netherlands in 2050 by means of a

design¹². The culture of representation that developed, led by B+B and West 8, was clearly new. Their drawings – fresh and bold – competed favourably with architectural drawings. [ILL 8] The discipline of landscape architecture became broader as well. Plans were produced, the journal *Blauwe Kamer* was born, a yearbook was published, articles appeared about the history of the discipline, and there were many design initiatives which did not necessarily supply a buildable plan but which did explore the possibilities and an agenda for future work. There arose ‘a completely new culture of plan-making, with new names for ‘plan’, such as quality book, structure sketch or development vision’¹³. In this new culture, research and design steadily came closer together. H+N+S was ideally suited to shape this new culture, which in turn gave H+N+S its right to exist. The oeuvre comprises ‘clusters’ of research, visions, idea sketches, future scenarios and completed projects. The establishment of H+N+S was therefore made possible by these dynamic years of change but, equally, it stimulated that change.



8 Exploded view Kromhoutpark, Tilburg, B+B Landscape Architects

PROJECTS

River dikes, flood plains, channels: conquering a task

Dike reinforcement Afferden-Dreumel (1994 - 1998)

Ruimte voor de Rivier (Room for the River) (2002 - 2003)

Ruimte voor de Waal, iLent Nijmegen (2012 - now)

Dikes have been built and reinforced for centuries. Their design has been ‘conquered’ by landscape architects only fairly recently. The publication of *Een scherpe grens* (A Sharp Distinction) particularly marked this conquest¹⁴. That was a plea to regard a river dike not just as a technical operation, but also and, perhaps even primarily, as a landscape issue. The water management projects H+N+S tackles are a prime example of a continuous line from an exploration to a vision followed by concrete design projects and often a supervisory role in subsequent complex multidisciplinary plans. For example, H+N+S was asked in the early 1990’s to advise on the future of river dikes. It then wrote a manual for developing river dikes in general and later designed and implemented 20 kilometres of dike from Afferden to Dreumel [*]. Various other undertakings followed, for example Ruimte voor de Rivier [*] and most recently, supervising the iLent project near Nijmegen [*].

H+N+S works proactively: the landscape architect is the initiative taker, claiming an operation as a logical part of his discipline. Of course, that can only happen if the designers offer solutions which are technically reliable and which hit the right note with all stakeholders. An essential element of the plan for Afferden–Dreumel was its large scale, just as in the Emscher plan. Until then, dike reinforcements were carried out in manageable pieces, whereas H+N+S believed in long sections which coincided with ‘landscape units’. A good landscape analysis of that large scale was a way of steering the heated discussions with the stakeholders in the right direction. Dike reinforcement is a radical measure. Thinking on a large scale leads to

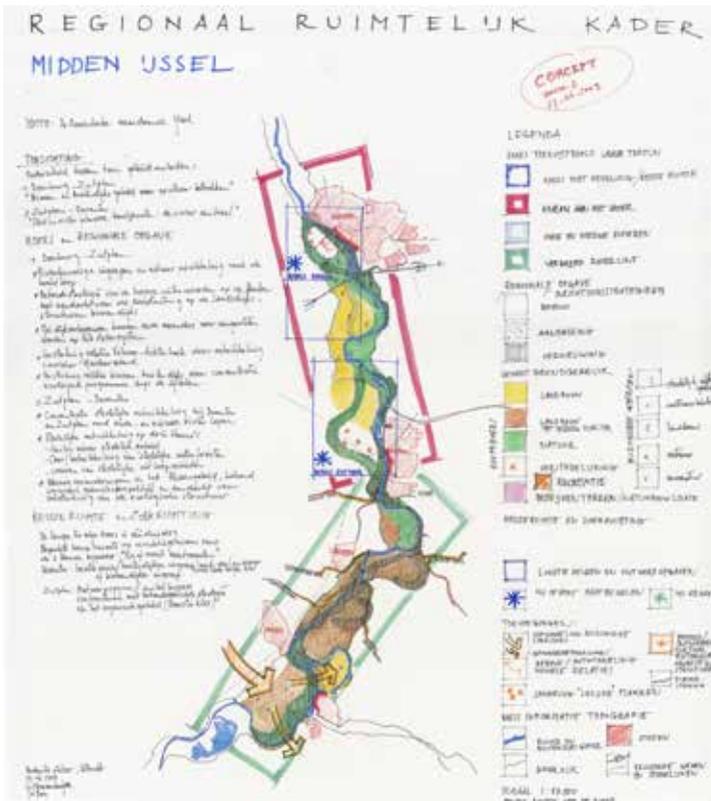
a methodical solution in the form of ‘standard profiles’ together with customized solutions to save, for example, a valuable tree or fine old farmhouse.

In the 1990’s dike reinforcements were characterized by increasingly broad dikes, with gentler slopes. [ILL 9] Afferden–Dreumel went against this trend; after intensive discussions with the engineers, H+N+S was able to suggest a slender dike with a gently sloping lower region and a waisted top. Technically, that is more efficient – a typical example of beauty emerging from performance. A rather drastic solution was needed to deal with *piping* – water that creeps under the dike. H+N+S suggested searching for the solution on the river side: a layer of clay in the floodplain. This meant sacrificing valuable areas of nature but, by shaping a layer of clay in such a way that it kept the water in check, the dynamic natural environment of the river stood a chance of recovering. And in fact, a river landscape developed within two years. A completely unsentimental but extremely convincing choice.



9 Dike reinforcement Afferden-Dreumel, H+N+S Landscape Architects

Afferden-Dreumel may be a large project, but with its twenty kilometres it is actually only a miniscule part of the Dutch river system. *Ruimte voor de rivier* is a huge strategic project in which several overarching concepts were developed for the safety of the Dutch river system as a whole. *Scale is a matter of design* applies in this case to the Netherlands as a whole. These concepts would then help facilitate discussions on a series of 600 potential projects for guaranteeing the safety of the country in 2015. Despite the high level of abstraction, Lodewijk van Nieuwenhuijze demonstrated with his hand drawings how we might imagine those concepts when applied in practice; the system may well be abstract but physical landscape concerns us all. [ILL 10] H+N+S were of the opinion that other programmes such as



10 Design sketch for Regional Spatial Framework Midden IJssel – Room for the River, H+N+S Landscape Architects

nature development or new urban waterfronts should clearly form part of these concepts. The practice expanded on this idea in the various projects that arose from *Ruimte voor de Rivier*.

One of those projects is *I-Lent* in Nijmegen. There is a sharp bend in the River Waal near Nijmegen; the space there is limited, creating a bottleneck situation at high water. The large-scale urban expansion of Nijmegen to the other side of the river has meant interventions in the whole Waal system. The river dike is being relocated and an extra channel will give the river more room. Moreover, the city is being given the chance to turn its face to the river. Because the project involves several bridges, forms part of a large urban design, and tackles a crucial link in the river, a whole team of engineers and architects are at work. H+N+S is supervising and has drawn the landscape design. This design comprises fixed, designed elements such as quays and an accessible system of paths but it caters in particular for the dynamics of the water. [ILL 11] *Design as invitation*: a dynamic natural river ecosystem can develop. In 2016 the engineering measures will be completed, and then time can do its work.

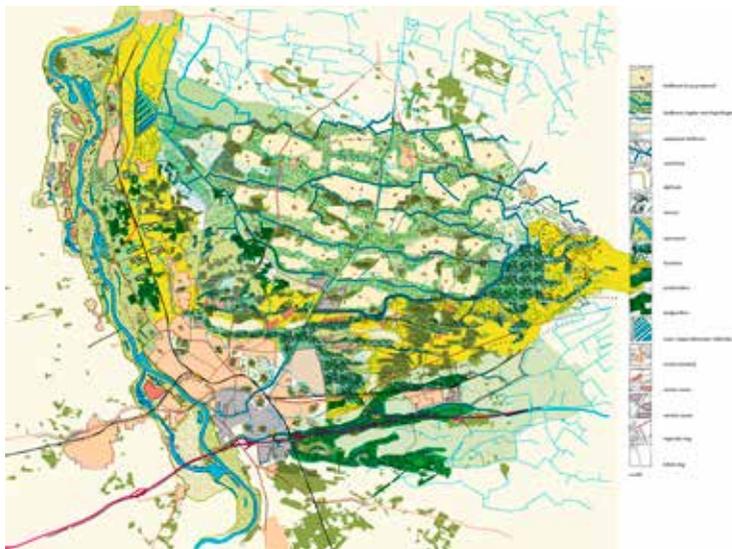


11 Room for the River project at Nijmegen under construction

Urban and rural, a single system

Meesurfen op de zondvloed (Surfing along with the flood) (2005)
Stromen in Landstad Deventer (Streams in 'Ruralcity Deventer') (2000)
De noodzaak van tuinieren (The need for gardening) (2002 - 2004)
KWh/m2 - Landscape and Energy. Designing for transition (2012 - 2014)

Plan Ooievaar had already revealed a focus on regional design, ahead of setting up the practice. Not that the design of local objects was considered irrelevant; it was more that only a regional scale level could facilitate an understanding of the whole system. After all, the *Rotterdam-Maaskant Prize* was awarded to Dirk Sijmons in 2002 partly because the jury 'wanted to support urban-regional design'¹⁵. A term often used these days, the 'layer approach', distinguishes between the substratum, networks and occupation, and redefines the government's spatial planning task, positioning it in between Europe and the assertive provinces and local authorities. H+N+S has contributed to the development of the layer approach. It is only on a regional scale that conflicts within and between the layers can be



12 Sketch for Deventer, Rural City, H+N+S Landscape Architects

made the subject of a design. The urban world then becomes part of the regional system, linked via layers of water, food supply, transport and energy. The project *Stromen in Landstad Deventer* [*] is a regional design *par excellence* because it aims to relate various systems and layers: agriculture, nature, water and access routes. Ever since its inception, H+N+S has been interested in the future of agriculture: how can agriculture play a role in an attractive cultural landscape and at the same time have the space to apply the newest techniques on a large scale? And how does that tie in with a good supply of drinking water, enabling the ecological potential of important seepage water areas to be tapped? Can a robust vegetation scheme enhance accessibility, in particular in relation to Deventer city? Dutch landscape architects like to speak of ‘plankaart’, a contraction of plan and map. This ‘plankaart’ is the primary means of demonstrating how the large scale can be organized and how all systems can be given a place in the whole. [ILL 12]

Meesurfen op de zondvloed [*] was submitted to the second Architecture Biennale Rotterdam as a regional design for the Randstad. In this low-lying conurbation in the western half of the Netherlands, the water layer is by definition the binding factor between urban and rural areas. How can the Randstad metropolis, lying largely below sea level, keep its head above water and adapt to climate change in the long term? The designers have identified a range of water system problems and translated them into suggestions for structuring this urban region in the future. One example is the answer they found for storing peak precipitation volumes; they interpolated a new component in the water system: the *tussenboezem*, a new type of polder outlet ¹⁶. A simple cross section explains how that works. [ILL 13]



13 Extension of the carrying capacity of polder outlets: the ‘tussenboezem’, H+N+S Landscape Architects

However, technical wizardry is not the ultimate goal. Only when that new piece of water system really has given a boost to the landscape and its use can you speak of good design. The new water infrastructure is being rolled out in the topography of the Randstad in a 'self-evident' way. The term 'self-evident' characterizes the Dutch approach, being a clever solution to a landscape problem, appropriate to the topography, and involving a design that could almost have originated without a designer. A large model made for *Meesurfen op de zondvloed* shows that rather drastic measures can easily be assimilated into an existing system. [ILL 14]

The project, *De noodzaak van tuinieren* [*] is characteristic of H+N+S in that it converts a presumed threat to the landscape into an opportunity. Here, progressive suburbanization is threatening what is called the Green Heart of Holland, situated between the four large Dutch cities. [ILL 15] Merely mentioning suburbanization does not do the project justice, however. Here, too, the key to success lies in bringing together a number of issues. In this case an adaptation of the water system is coupled with creating a recreational network, halting peatland degeneration, offering new opportunities for agriculture, and providing an optimistic view of suburbanization: precisely the



14 Model for a sustainable water system for the Randstad,
H+N+S Landscape Architects

components needed to sketch new prospects for the Green Heart.
Gardening the delta!

Recently H+N+S worked on a series of projects investigating the spatial impact of sustainable energy on the landscape. This culminated in a book, *KWh/m2 Landscape and Energy* [*] ¹⁷. Energy transition occurs at a regional scale, linking urban and rural areas. This is a significant task for landscape architects because with the transition from fossil energy to sustainable sources, the previously hidden energy landscape emerges into the open – ‘above ground’. Redesigning that system is a typical example of *If it performs it is beautiful*. Landscape architects need to understand precisely how energy production works and how it can be embedded in the landscape. One of the design studies described in the book is a regional solution for the province



15 Concept drawing for the project 'The need for gardening' a spatial strategy for the Green Heart Area, H+N+S Landscape Architects

of Groningen in which hot water pipes and CO₂ networks are the new components of the energy transport network. At the same time, they stimulate other activities such as greenhouse horticulture. Closed energy circuits result from bringing together solar energy collectors mounted on enormous sheds, wind energy from village windmills and energy supplied by agricultural waste. [ILL 16] In other words, energy production is going to create its own landscape layer, thereby helping to create attractive landscape. Moreover, it is a good example of how committed people are to their landscape – energy production on their own ground!



16 Sustainable energy strategy for the Groningen Region: re-use of industrial warmth in greenhouses,
H+N+S Landscape Architects

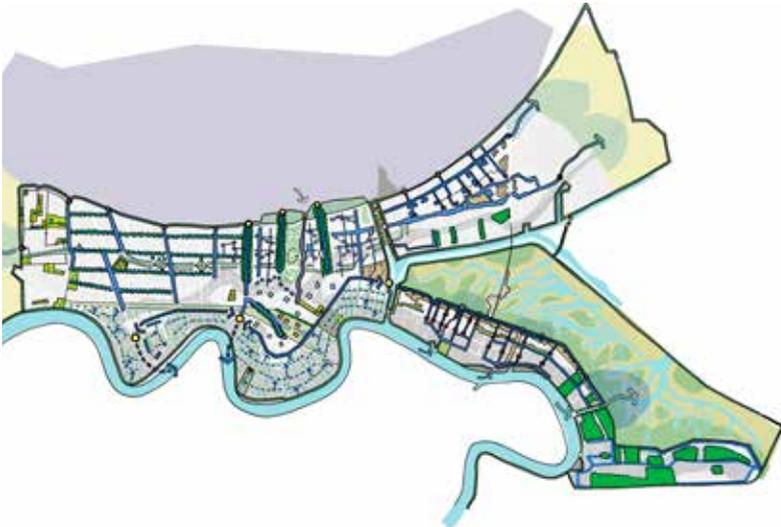
Water drives cities

Water system Leidsche Rijn, Utrecht (1997)
Urban Water Plan New Orleans (2009 - 2013)
Strategic Vision Arnavutköy, Istanbul (2011 - 2013)

The Dutch approach means that landscape architects may even pop up as designers or repair men for the city water system, but in such a way that they shape the city as well. The large-scale westwards expansion of Utrecht – the residential district Leidsche Rijn [*] – was started in 1997. Just as in the aforementioned changes in Dutch landscape architecture, this project, too, had a role for landscape architects at various scale levels and around various themes, from masterplan to park to water system. Urban expansion resulting in 25,000 new dwellings is certain to require alterations to the water supply system. The very first visions for Leidsche Rijn had already stated that the water system should not merely be technically appropriate but should help shape identity as well. In other words, where possible, it should be realized above ground. H+N+S designed the water system. Rainwater, instead of running off into sewers, would infiltrate the ground or be buffered in surface water. On a large scale, it was necessary to make a distinction between high-lying, dry parts of Leidsche Rijn, where water should infiltrate, and the low-lying wet areas where open water would need to accommodate water level changes. Water therefore had a *presence*, having been turned into a structural part of the urban plan, and the water system became a benchmark for the location, size and design of public green spaces. The Netherlands had already experimented with *wadis*, the dry rivers found in desert areas. In Leidsche Rijn the wadi has become a normal urban design feature in the green spaces. Now, 15 years after installation was begun, this water system is making a significant contribution to the quality of the young suburb.

The Dutch expertise on water systems, rivers and dikes is esteemed in other countries, too. In New Orleans [*], H+N+S had the opportunity, as part of a larger team, to develop a strategy for the water system after hurricane Katrina had caused so much destruction in 2005. The first step in what were called the ‘Dutch Dialogues’, resulting in the Urban Water Plan, was to produce drawings which detailed the logic and coherence of the existing urban water system.

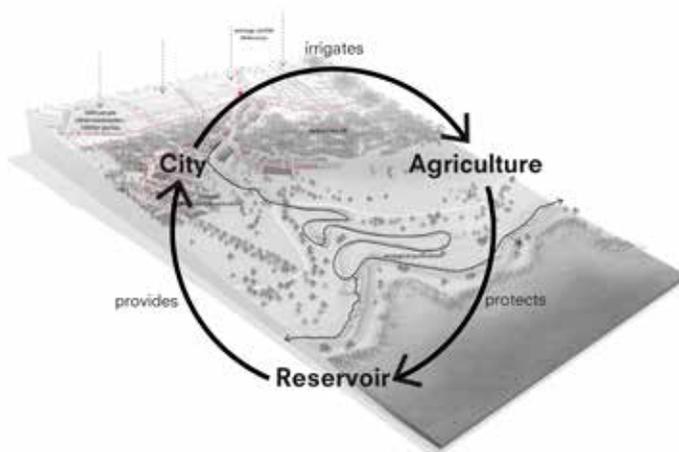
Although the effects of Katrina were catastrophic, the team argued that it was equally important to deal with the annual rainfall, as the existing drainage system relied too much on rapid drainage, leading to excess water in low-lying areas. New Orleans needed a package of measures at various scale levels. It was time to stop ‘putting out fires’ and start making the whole system sustainable, safe and reliable. The landscape architects involved need to have an excellent understanding of watercourses and the substratum. The plans concentrate on the urban water system and envision the city as a sponge. [ILL 17] The system is being redesigned, giving the substratum and groundwater a leading role, bearing in mind the preferred sequence: infiltration – storage – drainage. Land owners and residents will be affected at all scales and, unavoidably, the water system will become visible aboveground, a chance for water to help enrich public spaces. The New Orleans Urban Water Plan is also significant in terms of *Landscape is a process, a process is a landscape*. The plan can be realized only in the long term and demands enormous investments. That is why it is essential to distinguish between measures which can be carried out immediately without affecting any of the future stages and measures that require more time. All those involved have been approached directly: what can individual citizens do on their own



17 Components of a future water system for New Orleans, H+N+S Landscape Architects, Bosch Slabbers, Palmbout Urban Landscapes

plot, what needs to be tackled at the neighbourhood level and which are the interventions at city or even state level? New Orleans offers an excellent opportunity to apply the Dutch approach as this city is an urban delta where a balance needs to be sought between water, infrastructure and occupation and in such a way that the metropolis has lasting protection against high water and the urban quality receives a boost.

Surface water determines the agenda in Leidsche Rijn; in New Orleans the keyword is safety; but in the *Strategic Vision Arnavutköy, Istanbul* [*] the focus is on the supply of drinking water. This project was presented at the fifth Architecture Biennale Rotterdam, *Making City*. [ILL 18] H+N+S formed part of a larger team studying various aspects of the enormous growth of Istanbul. H+N+S saw drinking water as a way into thinking about urbanization; the ever-growing city threatened to endanger the centuries-old water facilities. The team looked at Istanbul in a different way, and observed that the topography creates a system of ridges and cups, which form the basis of the drinking water system. That also led to a new concept for the development of Istanbul: *Ridge City*. The dynamic urbanization process will carry on, no matter what, and so it is being actively invited



18 Organisation of functions corresponding to water quality principles in Arnavutkoy (Istanbul),
H+N+S Landscape Architects, 51NE

into certain identified zones on the ridges, parallel to the water basins. The essential step forwards in this project is that ‘forbidding’ has been replaced by ‘actively attracting’. The new strategic map deploys existing landscape elements and adds swathes of forest to demarcate the urban boundary. By including the reuse of waste water for irrigation in this concept, the ridges also become important for the agricultural land in the region. In other words, a closed circle is created together with a range of protective measures for the water basins. The outcome of the project is equivocal in that the growth of the city reinforces the role of the water basins instead of reducing it; the basins start to play a central role in the cycle of drinking water, wastewater and food supply. This exploration of ‘urban metabolism’ has been studied in more depth in *Urban by nature*, the most recent International Architecture Biennale in Rotterdam, which was curated by Dirk Sijmons.

Jointly looking far ahead

Stelling van Amsterdam (Defence Line of Amsterdam) (2001 - 2002)
Atelier Kustkwaliteit (Coastal Quality Atelier) (2011 - 2013)

The work of H+N+S, and the Dutch approach in general, shows that landscape architecture is more than just producing built landscapes. The Dutch landscape, anyway, is so complex, with so many different vested interests, that an important part of landscape design involves designing a process: how can all the stakeholders be given their say, how can they together explore the possibilities, and how can all this be translated into a project agenda? One of H+N+S’s specialities is ‘negotiation by drawing’. H+N+S describes the Stelling van Amsterdam [*], a 19th-century line of defence around Amsterdam, as a ‘spatial strategy’. Scale is a dominant factor: the 135-kilometre-long structure cuts through metropolitan Amsterdam. This project demonstrates how important drawings are, especially in the case of a process-oriented task. The drawings for this project were also the subject of an essay by the ethnographer Emilie Gomart¹⁸. The principal drawing is as simple as it is complex. [ILL 19] It is a sort of strip cartoon (a feature of the last two decades), consciously imprecise, with strong colours and a greatly simplified representation of the

reality. The drawing not only represents the physical landscape; it has a rhetorical nature as well, the idea being to use it in the dialogue with the stakeholders. Precisely what Gomart, in her capacity of ethnographer, focuses on. With a nod in the direction of Walter Benjamin she suggests in relation to the vigorous image content of this and other drawings that ‘visual techniques are therefore in no way to be regarded as an external corrupting force that undermines democracy, but as a manner of allowing politics to play a role’. *Land-
scape is a process, a process is a landscape* relates to the sort of customers that H+N+S started to serve. The commissioning party has increasingly become a complex entity, simultaneously representing political power, technical responsibility and public communication.

How can the Dutch coast be prepared for sea level rise, looking ahead to 2100? Can that increase a coastline’s potential, and strengthen its identity? Even more than the Stelling van Amsterdam, the Atelier Kustkwaliteit [*], dealing with coastal quality, focuses on creating dialogue between all parties or, as the designers themselves express it, an ‘independent workplace’ in which ideas are developed, discussed and disseminated. As in many of the water management projects taken on by H+N+S, coastal safety is a complex technical



19 Concept for the revitalization of the former defense line around Amsterdam,
H+N+S Landscape Architects

issue. Which factors are decisive in terms of safety; which natural processes can help in allowing another sort of coast to develop? Natural dynamics is one of the basic principles in achieving safe coastlines in this project, and there is a preference for ‘soft’, reversible measures rather than fixation. The landscape architect’s contribution lies primarily in not stopping at a purely technical solution but in looking at how technical solutions for coastal protection can contribute to essential improvements in the quality of beach resorts and to reinforcing the identity of the landscape. The atelier saw to it that there was a central point of direction so that long-term targets could be guaranteed, but it also ensured specific solutions at local level, involving close collaboration with local partners. This is not so much a question of drawing a plan as establishing a framework for tackling the coastal question – yet another example of *Landscape is a process, a process is a landscape*. [ILL 20]



Astonishment over an unforeseen course of development

Westpolder, Groningen (1996)

Ontgrondingen Brabant (Sand removal in Brabant) (1995)

Noorderbos, Tilburg (1995 - 2001)

Nationaal Militair Museum (National Military Museum),

Soesterberg (2010 - 2016)

The former airbase at Soesterberg [*] has been converted into a nature reserve. Ground covering 45 hectares has been set aside as external space around the National Military Museum. This is certainly a spectacular building and exhibition design, but here we are interested in one particular manifestation of the Dutch approach. To start with, the aspect of scale is all-important. Looked at on the map of the Netherlands, it is a design of very modest proportions, but in terms of planning the layout of the location, it is a gigantic task demanding a unique strategy. Simple interventions are needed to make the ground suitable for a colonization process, a typical example of *Design as invitation*. The fact that nature can be *made* is in itself a statement, but in practice it means reaching a precise and fundamental understanding of the conditions necessary for a certain type of natural environment to emerge. ‘Transplantations’ are used to help heathland growth, and a specific type of forestry plan allows an ecologically rich woodland to emerge – an interesting landscape, even when the trees are young. In his article for the *Bos4D*, Lodewijk van Nieuwenhuijze had already explained that designing a woodland should be seen as a cultural assignment in which the landscape architect not only designs the composition, paths and open space, but also ‘intervenes’ in the process of planting trees¹⁹. Traditionally in the Netherlands, trees and shrubs are planted densely and thinned out over the years. Working with forestry expert Ronald Buiting, H+N+S opted in an earlier project, Noorderbos [*] (and also in this Soesterberg project) for a radically different approach. Here, the required end result in terms of density, planting pattern and species choice is planted at the outset. [ILL 21] In so doing, a diversified woodland effect appears much more rapidly. In Soesterberg, the planting was done too recently for that effect to have become visible, but in

the woodland of Noorderbos, planted 10 years ago, it can be seen quite clearly. Even there, maturity has not been reached and yet you have the impression that a woodland has grown spontaneously. An emphasis on the large scale does not alter the fact that it is sometimes the small-scale aspects which are important for completing the whole. That applies in this case to a series of bomb craters which had become partially overgrown. They were localized and dug out once more. [ILL 22] Giving the cultural history of a location a helping hand is something which H+N+S subscribes to wholeheartedly. In this case the cultural history is effortlessly combined with aiding the development of an ecosystem because such bomb craters form an extreme and unusual biotope.

The interplay between what will be built, what is going to grow and the natural forces which have an impact on the main design over a period of time were researched in previous projects, too. *Ontgrondingen: een bijdrage aan natuurontwikkeling* (Sand removal: a contribution to the development of new nature) [*], is one of the practice's earlier projects, but it was not implemented. It produced a drawing that, according to present standards, may not be regarded as 'slick' but which provided a fascinating insight into the underlying ideology.



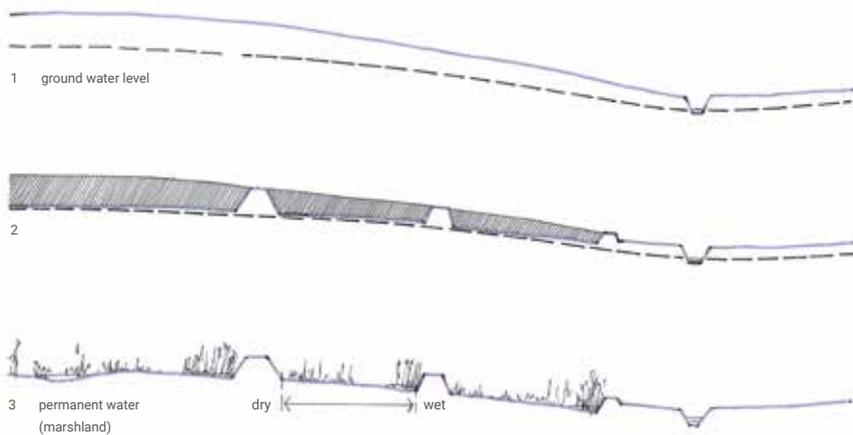
21 Plan for a diversified woodland
(Noorderbos, Tilburg),
H+N+S Landscape Architects

[ILL 23] It is actually a drawn argumentation in three steps: ‘If this is the situation as we find it (1) and if we alter it in a specific way (2), then we would expect the following to happen (3)’. The project involved removing the sand layer from stream valleys. In itself a remarkable task: sand removal is normally seen as an enemy of both landscape and the natural environment, but here the activity was aimed at driving the development of natural ecosystems. That is also the case in a related project *Westpolder* [*] in which the plan drawing tries to express the anticipated situation. [ILL 24] The wind, a natural force, is invited to play a game with the designed intervention. Dirk Sijmons suggests in his essay *Nieuwe avonturen tegemoet* (New adventures ahead) that such plans are rooted in the thinking on complexity, as the work of, for example, Ilya Prigogine shows²⁰. Chance is given free rein. But it is not a question of ‘anything goes’. The begin situation is well thought out and precisely stated, but thereafter ‘developments can occur by means of bifurcations in completely different directions’. Sijmons adds an essential element, namely, the chance that ‘self-organization’ will occur in larger areas. As a result we can be ‘amazed at an unforeseen development path’, a perspective in which the designer becomes the fascinated observer of his own design.



© Jeffrey Steenbergen

22 Recently constructed nature reserve at Soesterberg National Military Museum, heathland development and bomb crater



23 Principle for new nature development after sand mining



24 Development scheme for the Westpolder, H+N+S Landscape Architects

A LARGER CONTEXT

There is every reason to put the spotlight on H+N+S in 2015, the year the office celebrates its 25 years of existence. On the other hand, focusing solely on H+N+S is not appropriate for the nature of their work, given that almost all their projects result from collaboration with other practices. However, I am actually referring to something else here: the Dutch approach discussed in this essay is certainly quintessential to H+N+S, but is also to be found in the work of other Dutch designers, and not only landscape architects. And it is also related to developments outside the Netherlands. *A Dutch approach* does not point to a geographical category but to a way of working; something which may also be evident in the work of French or American landscape architects. I will demonstrate this by mentioning the Dutch landscape architects Vista and the French landscape architect Michel Desvigne, but also by pointing out a link with *landscape urbanism*. Perhaps the most unexpected link is the one with Louis Le Roy (1924-2012). ‘Ecotect’, gardener, writer and drawing teacher, Le Roy developed a unique oeuvre that is very different from the work of H+N+S, but touches the themes as spoken about here in a very familiar vocabulary. Le Roy aimed at a radically different approach to our direct surroundings, in which *debris* is essential to create ‘micro-climates’. Projects in public space in Heerenveen and Groningen and his famous Ecocathedral project show what literally grew out of the stacked debris over 50 years. Even if Le Roy positions himself consciously as outside the professional world of designers, his philosophy matches H+N+S reasoning surprisingly well. Nature is seen as a machine, in which human beings take part. Nature is offered conditions that are chances for colonization, and nature will react to these chances. No specific form is strived for – form is a result of the given circumstances. It is mainly time that is needed.

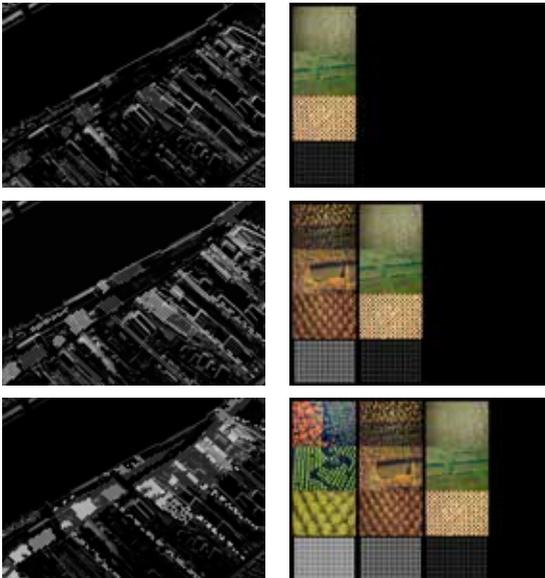
If we move back to the common practice of landscape architecture, I believe the project with the most evidently Dutch approach is

the design implemented for the Volgermeerpolder by Vista ²¹. The Volgermeerpolder was used in the 20th century as a rubbish tip until the discovery, made in 1980, that some of the material dumped there was extremely toxic. After years of discussion about an effective solution, the tip has now been carefully capped and wrapped. Vista was asked to make a landscape design for this area of 100 hectares: a higher-lying island in the surrounding peatland near Amsterdam. [ILL 25] Undoubtedly the designers had had their misgivings about capping heavily toxic material. It is a dilemma of the sort the Dutch approach frequently encounters. Is it the task for landscape architecture to resist such threats to the landscape? Or should landscape architects mobilize their design power to give such circumstances a positive twist? Vista's answer is clear, and characteristic of the Dutch approach: focus on the chances, not on your moral judgement. They regarded the capping of pollution as a given and observed that the capping material prevented rainwater sinking further, so that it was in fact a suitable starting point for developing high-level peatland. This radical new idea is now reality: the Volgermeer is a remarkable, high-level, wetland area where visitors can experience how a natural environment is developing.



25 Volgermeerpolder under construction, design VISTA (areal photo by Ewald Scholten)

A Dutch approach is not the exclusive preserve of the Netherlands. There are several interesting parallels with the work of practices in other countries. We could look at the work of Studio Urbane Landschaften in Germany, or Studio Vulkan in Switzerland. I have chosen Michel Desvigne in Paris because of the projects themselves, but also because of the introduction written by James Corner in Desvigne's oeuvre book *Intermediate natures*²². The transformation project *The right bank of Bordeaux* offers a development perspective for a disused industrial area²³. [ILL 26] A landscape strategy drawn up in outline is applied to every plot that is released, a strategy which in fact is based on forestry principles. To a certain extent, this project is mainly a designed process, the fourth maxim of the Dutch approach. There is no final picture, only a method which reacts to developments, playing a game with the factor of time. Not only does this make the project flexible; Desvigne also wants to address the quality of landscape as a growing promise more than as a final picture composed in detail. Desvigne does not focus on form, according to James Corner in his introduction. Rather than choosing 'design stylization' Desvigne goes for 'agricultural emphasis' and for 'infusing his landscapes with the capacity for growth, change, and adaptation over time, allowing



26 The right bank of Bordeaux (Bordeaux Parc aux Angéliques), three successive development stages, design: Michel Desvigne, Paysagiste

for a loose flexibility rather than an overly deterministic regime'. Landscape architecture then becomes 'work in process, never really attaining an ideal state at any moment in time, but always exceeding expectations when set in motion over time, when viewed as an active palimpsest accruing new properties, qualities and potentials in time.' That can only be secured by creating particular conditions, knowing the system, working on a large scale and designing the process.

Over the past decade, James Corner has also played an important role in a crucial discourse which most people will know about from the *Landscape urbanism reader*, for which Charles Waldheim was the editor²⁴. This essay is not the place to discuss the reader in depth and in fact Corner's introduction in Desvigne's book is the most effective manner of introducing landscape urbanism here. Landscape urbanism, which came into existence in the second half of the 1990s, proposes an alternative approach to urbanized areas; one that is more inspired by the landscape and therefore informed by dynamics and change. Thus, Waldheim distances himself from the American landscape architectural tradition of 'scenographic screening for environments engineered and instrumentalized by other disciplines'. I can see strong similarities between the ideology of landscape urbanism and that of the Dutch approach such as the importance of the large-scale. Waldheim believed it was all about 'deemphasizing the middle scale of decorative or architectural work and favoring instead the large scale infrastructural diagram and the small-scale material condition'. There are also differences, so an exchange of views is worthwhile. The Dutch approach, unlike landscape urbanism, is not rooted in architecture but is closely related to the progress that Dutch landscape architecture made around 1985. At the time, its position in relation to architecture and urbanism was given a new definition.

When describing Dutch counterparts of Landscape urbanism in the *Landscape urbanism reader*, Charles Waldheim et al. mainly mention the work of West 8. The Schiphol project by West 8 is indeed a very good example, but in general I would be more likely to nominate the work of Vista, H+N+S and Bosch Slabbers. Other conclusions may have been drawn because of the close connection of landscape urbanism to architecture, which makes West 8 a more likely choice. In the same way as Waldheim, Corner is well able to add a theoretical dimension. Landscape urbanism 'sows the seeds of future possibility,

staging the ground for both uncertainty and promise'. Thus the focus is shifting from 'compositional design' to 'operational logic'. The latter term is very close to 'performativity', much used in the American discourse, and that notion of course is also closely related to the second maxim which I put forward in this essay: *If it performs, it is beautiful*. During the latest International Architecture Biennale in Rotterdam, *Urban by nature*, there was a meeting between the proponents of *landscape urbanism* and what I describe here as the *Dutch approach*. I cannot imagine this being the only meeting: surely more will follow.

FUTURE PERSPECTIVES

A Dutch approach to landscape architecture transcends H+N+S and transcends the Netherlands. In the previous section I indicated that a small but exciting family of related initiatives, projects and approaches is gradually becoming apparent. They do not get in the way of each other; every player is greatly needed, as landscape architecture is still a discipline of modest proportions. Yet everywhere on this planet we see urgent landscape problems that landscape architecture should be taking on. I can call to mind a wonderful example of forestry in the Israeli desert or various landscape strategies to reduce landslides on the steep hills of Medellin²⁵. But the most unlikely place for applying the Dutch approach is high up in the Himalayas. In the *Journal of Landscape Architecture* Carey Clouse describes the serious problems affecting centuries-old, agricultural land at high altitude²⁶. The agriculture there is totally dependent on water from glaciers, but because of climate change, there is now less glacier build-up in winter and the melting of glaciers starts earlier every year. To deal with this water shortage, artificial glaciers are

being made by collecting water in basins in the autumn, thus forcing the creation of 'ice blocks'. Should we see these man-made basins as a landscape architectural task and proceed to organize that on a much larger scale? For me, there's absolutely no doubt: of course it's a landscape architectural task, and a splendid one at that, because it requires an extremely exact study of the local topography as well as the deployment of locally available building elements. Furthermore, a designed intervention would lead to new landscape with all sorts of extra usage opportunities in addition to the direct water supply programme. These are but a few of the many possible examples of current landscape issues that are crying out for more than just a technical solution. They relate to the Dutch approach as described here because they almost always involve a large scale, require an excellent knowledge of the system, are modest in their expression, target the basic conditions which need to be created and – together with stakeholders – get the process going bit by bit.

Gardens, parks and public spaces represent a continuous line of landscape architectural activities and will continue to do so in the future. Yet the work of H+N+S and others illustrates that the discipline of landscape architecture has something to offer beyond the traditional boundaries of its work. New Orleans exemplifies the category of deltas: densely populated and constantly changing areas under pressure from sea level rise. If landscape architecture understands a system well enough to take on technical tasks and give them a landscape dimension, it will make serious contributions to the quality of life on this planet. The Himalayan example shows that this can apply just as well in very sparsely populated and remote areas. There, too, urgent problems demand an insight into large systems and into technical solutions, but above all, they demand to be translated into human-scale applications and landscape designs.

In an era in which the self-possessed citizens of the world are becoming increasingly outspoken, the way of reaching agreement on the future of landscape is also changing. The process of making plans is itself turning into a design question, certainly at a time when governments are withdrawing to the background and demanding active participation from individuals and organizations or, conversely, when the reverse occurs and individuals demand their right to participate. It makes one think of Tom Poes, the young, inquisitive

and fearless adventurer in a popular Dutch strip cartoon, driven by the wish to solve problems that cross his path and always able ‘to think up a clever ruse’²⁷. The landscape architects of the Dutch approach with their relentless and investigative commitment may have driven the people around them to despair, but at the same time their unexpected twists and turns of thought always lead to surprising and crucial insights. By seeing new landscape questions not as one-dimensional technical tasks but rather as the start of a larger and extremely inviting process of change the Dutch approach is contributing to the main themes for the landscape of the 22nd century. For those who regard this outlook as much too long-term, the 22nd century is only 85 years away – approximately the time an oak tree needs to reach maturity. By its very nature, *Gardening the delta* relates to time horizons on this scale.

FOOTNOTES

- 1 Projects marked with a [*] in the text are included in the credits, with details of the commissioning party, project staff, project partners and relevant year.
- 2 Gomart, E. (2006) 'Politisering van de esthetiek: Een ethnografisch onderzoek naar het tekenen aan de Stelling van Amsterdam' in: Hajer, M., Sijmons, D. and Feddes, F. *Een plan dat werkt: Ontwerp en politiek in de regionale planvorming* (Rotterdam: NAI uitgevers).
- 3 Former Delft landscape architecture professor Clemens Steenbergen and associate professor Wouter Reh advocated 'A fine Dutch tradition' in books and lectures.
- 4 See for example Hooimeijer, F. (2014) *The Making of Polder Cities. A Fine Dutch Tradition* (Heijningen: Jap Sam books) and Nijhuis, S., Reh, W. and Steenbergen, C. (2009) *De Polderatlas van Nederland. Pantheon der Lage Landen* (Bussum: Uitgeverij Thoth).
- 5 Feddes, F., Hergreen, R., Jansen, S., Leeuwen, R. van and Sijmons, D. (1998) *Oorden van Onthouding. Nieuwe natuur in verstedelijkend Nederland* (Rotterdam: NAI Uitgevers): 156 and 198 [in Dutch only].
- 6 Andela, G. (2011), *J. T. P. Bijhouwer: Grensverleggend landschapsarchitect* (Rotterdam: Uitgeverij 010): 102
- 7 Bijhouwer, J. T. P. (1926) *Geobotanische studie van de Berger duinen* Proefschrift, Landbouwhogeschool Wageningen.
- 8 Andela 2011: 76
- 9 Beveridge, C.E. and Hoffman, C. F. (ed.) (1997) *The papers of Frederick Law Olmsted. Supplementary series volume 1. Writings on public parks, parkways and park systems* (Baltimore: The Johns Hopkins University Press): 437-459.
- 10 Plan Ooievaar was made by Dick de Bruin, Dick Hamhuis, Lodewijk van Nieuwenhuize, Willem Overmars, Dirk Sijmons and Frans Vera. See also Bruin, D. de et al. (1987), *Ooievaar. De toekomst van het rivierengebied* (Arnhem: Stichting Gelderse Milieufederatie) [in Dutch only].
- 11 The term 'stadslandschap' became a political reality with the *Visie Stadslandschappen* (1995), aiming to strengthen the coherence between cities and their green surroundings. This typically Dutch concept is normally translated into English as 'urban landscapes'.
- 12 The *Nederland Nu als Ontwerp* foundation aimed to explore the future spatial organization of the Netherlands. Four teams of designers worked

- on different scenarios. Outcomes were presented at a major event in 1987. See also Cammen, H. van der (ed.) (1987) *Nieuw Nederland : onderwerp van ontwerp*. Deel 1 Achtergronden. Deel 2 Beeldverhalen (Den Haag; Staatsuitgeverij and Stichting Nederland Nu Als Ontwerp).
- 13 As expressed by Riek Bakker in *Jaarboek Landschapsarchitectuur en Stedenbouw* 97-99: 15.
 - 14 Feddes, Y. and Halenbeek, F. (1988) *Een scherpe grens; ontwerpstudie naar de ruimtelijke kwaliteit van verzwaarde rivierdijken* (Utrecht: Staatsbosbeheer).
 - 15 Sijmons, D. and Feddes, F. (2002) *Landkaartmos en andere beschouwingen over landschap* (Rotterdam: Uitgeverij 010): Juryrapport 6-9.
 - 16 The word 'tussenboezem' is hardly translatable. It refers to the existing system of polder outlets, in itself a very Dutch concept. Polder outlets aim to allow water in the deep-lying polders to drain into rivers and seas. The tussenboezem would be an in-between level, to create more capacity for storing water, instead of pumping it away.
 - 17 Sijmons, D., Feddes, F., Hoorn, A. van, Huchtenburg, J. (2014) *Landscape and energy. Designing transition* (Rotterdam: NAi010 publishers).
 - 18 See [2].
 - 19 The article can be found at http://www.hnsland.nl/files/BOS4D_feb2012.pdf [in Dutch only]. Part of the project *Bos4D. Ontwerpen met het levende bos* (2011).
 - 20 See Sijmons, D. et al. (1998) = *Landschap* (Amsterdam: Architecture et Natura Press): 87-98.
 - 21 Vista started the design for Volgermeerpolder in 2000, resulting in a final design in 2009. The design execution was completed in 2011.
 - 22 Anon. (2009), *Intermediate natures: The landscapes of Michel Desvigne* (Basel: Birkhäuser Verlag).
 - 23 Desvigne made a design for the Right bank of Bordeaux between 2000 and 2004. Realization is stepwise, and ongoing.
 - 24 See Waldheim, C. (ed.) (2006) *The Landscape Urbanism Reader* (New York: Princeton Architectural Press).
 - 25 Schlomo Aronson Architects, Tel Aviv, *National Afforestation Plan* (1986) and *Erosion control through 'Limanim' and Ravines* (1977). Christian Werthmann et al. *Shifting ground* Research project by ILA LUH, urbam EAFIT. See also Glaghorn J. and Werthmann C. (2015) 'Shifting ground: Landslide risk mitigation through community-based landscape interventions' in *Journal of Landscape Architecture* 1.
 - 26 Clouse, C. (2014) 'Learning from artificial glaciers in the Himalaya: design for climate change through low-tech infrastructural devices' in *Journal of Landscape Architecture* 3.

27 The first Tom Poes comic was published in 1941 in *De Telegraaf*, a Dutch newspaper. It was written by Phiny Dick and drawn by Marten Toonder. The last one, number 177 or *Het einde van eindeloos* was published in 1988. The image is taken from *De Slijtmijt* (1970).

PROJECT CREDITS

* **Die Umbau der Emscher (Rehabilitation of the Emscher River)**

H+N+S Landscape Architects (L. van Nieuwenhuijze, N. van Dooren) in coöperation with Dr. Dahlem, Ingolf Hahn, Architektur und Stadtplanung
Client: Emscher Genossenschaft
1998–2002

* **Rijnkennemerlaan, Leidsche Rijn**

H+N+S Landscape Architects (F. de Josselin de Jong, N. Dietz, A. Hinz)
Client: Projectbureau Leidsche Rijn
1998–2002

* **Dijkverbetering Afferden–Dreumel**

H+N+S Landscape Architects (L. v. Nieuwenhuijze, N. v. Dooren, H. Horlings) in cooperation with DHV Milieu en Infrastructuur
Client: Polderdistrict Groot Maas en Waal
1994–1998

* **Ruimte voor de Rivier (Room for the River), langetermijnvisie en regionaal kader**

H+N+S Landscape Architects (L. van Nieuwenhuijze, P. Schengenga) in cooperation with the Long-Term Plan Production Workshop
Client: Room for the River Project Office
2002–2003

*** Ruimte voor de Waal, iLent Nijmegen**

H+N+S Landscape Architects (L. van Nieuwenhuijze, P. Schengenga, J. van der Salm, J. Raith) in cooperation with Trafique, Dura Vermeer, Ploegam
Client: Rijkswaterstaat Ruimte voor de Rivier, Waterschap Rivierenland, Municipality of Nijmegen
2012 - now

*** Meesurfen op de zondvloed (Surfing along with the flood)**

H+N+S Landscape Architects (P. Schengenga, L. van Nieuwenhuijze, J. Hoekstra) in cooperation with K. Leclercq, S. Buissink
Client: Vereniging Delta Metropool, Leven met water
2005

*** Stromen in Landstad Deventer (Streams in Urbancity Deventer)**

H+N+S Landscape Architects (L. Van Nieuwenhuijze, R. de Koning)
Client: Provincie Overijssel, Gemeenten Bathmen, Deventer and Olst, Vereniging Plattelandsbeheer Issala, Waterleidingmaatschappij Overijssel NV, Keuning Instituut. With financial contributions from the Creative Industries Fund, the province of Overijssel and the ministry of Agriculture, Nature and Food Quality.
2000

*** De noodzaak van tuinieren (The need for gardening)**

H+N+S Landscape Architects (D. Sijmons, N. Dietz, R. van Paridon)
Client: Ministerie van VROM (Ministry of Spatial Planning and the Environment)
2002 - 2004

*** KWh/m2 Landscape and Energy. Designing for transition**

H+N+S Landscape Architects (D. Sijmons, N. Dietz, J. Hugtenburg, J. Veul) in cooperation with F. Feddes, A. van Hoorn, TU Delft, ECN, PBL
Client: Edgar Doncker Stichting, Prins Bernard Cultuurfonds, Gemeente Rotterdam, EU INTERREG IVc project MUSIC, Gemeente Arnhem, Provincie Groningen, Provincie Drenthe, Stadsregio Parkstad Limburg, Städteregion Aachen (D), Stad Genk (B), Stimuleringsfonds voor de Creatieve Industrie, RVO, Ministerie van Infrastructuur en Milieu, Rijksdienst voor Cultureel Erfgoed
2012-2014

*** Water System Leidsche Rijn**

H+N+S Landscape Architects (L. van Nieuwenhuijze, L. Tummers) in cooperation with IWACO, Ingenieursbureau Utrecht, Bureau Waardenburg | Client: Gemeenschappelijk Projectbureau Leidsche Rijn
1997

*** Greater New Orleans Urban Water Plan**

Waggonner & Ball Architects New Orleans, in cooperation with H+N+S Landscape Architects (L. van Nieuwenhuijze, P. Schengenga, J. van der Salm) Bosch Slabbers, Robbert de Koning landschapsarchitect, Palmbout Urban Landscapes, Manning Architects, Brown +Danos Landdesign, FutureProof, Bright Moments Geosyntec Consulting, Arcadis, Deltares, Royal Haskoning, TU Delft, City of Rotterdam, City of Amsterdam, CDM, GCR, KBR, Dewberry, Waldemar S. Nelson Engineers, Eustis Engineering, Sherwood Design Engineers
Client: Dutch Dialogues: Royal Dutch Embassy, NWP, APA, WB Architects, WMS, GNO inc.
2009 - 2013

*** Istanbul Arnavutköy**

H+N+S Landscape Architects (L. van Nieuwenhuijze, D. Sijmons, J. van der Salm) in cooperation with 51N4E
Client: International Architecture Biennale Rotterdam, Municipality of Arnavutköy
2011-2013

*** Stelling van Amsterdam (Defence Line of Amsterdam)**

H+N+S Landscape Architects (Y. Feddes, J. Raith, L. van Nieuwenhuijze)
Client: Province of North Holland
2001-2002

*** Atelier Kustkwaliteit (Coastal Quality Atelier)**

H+N+S Landscape Architects (J. Hoekstra) in cooperation with D. Dijkzeul (TU Delft), M. Hillen (RHDHV), J. van Bergen (Atelier 1:1), N. Brand (TU-Delft), I. Kersten (TU-Delft), R. Pot (Fugro), M. Warmerdam (TU-Delft), De.Facto, Fabric, van Paridon x de Groot, Feddes&Olthof, LINT, XML, Decisio, Steenhuis&Meurs, Bureau Landwijzer, Deltares | Client: Deltaprogramma Kust, Provincies Friesland, Noord-Holland, Zuid-Holland en Zeeland, Gemeente Den Haag, Van Oord BV, Technische Universiteit Delft, Creative Industries Fund NL
2011-2013

*** Slochteren, De Wolden, Groningen**

H+N+S Landscape Architects (Dirk Sijmons, Yttje Feddes)

Client: Keuningcongres

1996

*** Ontgrondingen Brabant (Sand removal and nature development in Brabant province)**

H+N+S Landscape Architects (L. van Nieuwenhuijze, B. Olthof) in cooperation with Stichting voor Toegepaste Landschapsecologie, Bureau van den Boogert

Client: Dienst Waterstaat, Milieu & Vervoer van de provincie Noord Brabant

1995

*** Noorderbos, Tilburg**

H+N+S Landscape Architects (B. Olthof, R. van Paridon, J. Raith) in cooperation with Bureau Buiting Bosontwikkeling

Client: City Tilburg

1995-2001

*** Nationaal Militair Museum (National Military Museum), Soesterberg**

H+N+S Landscape Architects (H. van Tilborg, A. Meeuwssen, J. Veul, D. Sijmons)

in cooperation with Heijmans, Felix Claus Dick van Wageningen Architecten,

Kossmann.DeJong, Mijksenaar, Buiting Advies

Client: Rijksvastgoedbedrijf, Ministry of Defense

2010-2016

*** Volgermeerpolder, Amsterdam**

Vista Landscape Architecture and Urbanism (Klaas Jan Wardenaar, Rik de Visser, Joost Koek, Paul van Hoek, Roel Wolters, Marjan van de Hulsbeek)

Client: Municipality of Amsterdam

2004-2009

*** The right bank of Bordeaux (Bordeaux Parc aux Angéliques), Bordeaux, France**

Michel Desvigne, Sophie Mourthé, Luc Chignier, Nam Le Toan,

Ana Marti-Baron, Enrico Ferraris, Bruno Fortier

Client: Bordeaux City Hall

2000-2004

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