Land inSight
A Landscape Architectonic Investigation of Locus
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Publication date
2009

Document Version
Final published version

Citation (APA)

Important note
To cite this publication, please use the final published version (if applicable). Please check the document version above.

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Land inSight

A LANDSCAPE ARCHITECTONIC INVESTIGATION OF LOCUS
Land inSight –
a landscape architectonic investigation of locus
The discovery, exploration and development of a space, when used as inspiration for original designs, can be considered part of the nature of architecture as an open discipline. An architectural design assumes a thorough knowledge of the characteristics and possibilities of a space in a material, formal and cultural sense. Designers use this knowledge to assimilate the landscape, choose a standpoint, and realise new qualities, interpretations or accents in their design.

Research and education carried out by the Chair of Landscape Architecture of TU Delft's Faculty of Architecture is oriented towards this creative interaction between architecture and landscape. Using our knowledge of the principles and form instruments of landscape architecture, our goal is to help our students develop broad and inventive design skills, and to contribute to the discussions on current landscape architectural issues.

We develop this knowledge conducting both design research and designing research. Land InSight - a landscape architectural investigation of place, is one of a series of research projects. The main goal of this series is to contribute to a rich and architecturally differentiated understanding of landscape, in particular in the Netherlands.

Many designers have left their mark on the Dutch lowlands via land reclamation, building construction and cultivation. The endless variations of lowland forms make up a challenging 'archive of landscape images'. The present study is concerned with the discovery of typical spaces and basic landscape 'building blocks' which offer an opening for a new and creative way of thinking about architecture, landscape and the city.

Architectural landscape development is not only steeped in tradition, but also remains a current topic. The building blocks that can play a role in this development are specified and classified in this book, making it an inspirational tool for designers. In particular, it is a source of inspiration and a tool for design teaching; not only as a way to become acquainted with the many faces landscapes can have, but also to learn to look at the landscape through the eyes of a designer.

Clemens M. Steenbergen
LAND INSIGHT

A LANDSCAPE ARCHITECTONIC INVESTIGATION OF LOCUS
Thinking of Holland
I picture broad rivers
meandering through
unending lowland:
rows of incredibly
lanky poplars, huge
plumes that linger
at the edge of the world;
in the astounding
distance small-holdings
that recede into space
throughout the country;
clumps of trees, town-lands,
stumpy towers, churches
and elms that contribute
to the grand design;
a low sky, and the sun
smothering slowly in mists, pearl-gray,
mother-of-pearl;
and in every county
the water's warning
of more catastrophes
heard and heeded

Hendrik Marsman, 1936
Translated by Irish poet Michael Longley
(* Belfast, 1939).
Subject

Land InSight is about recognising landscapes and the relationship between buildings and their surrounding environment.

This book describes and explains ten prototypical Dutch landscapes using analytical drawings. The landscapes contain elements, such as a dyke, a field, a flood plain, a path and a brook, which are sketched one for one and localised using a situation photograph. Overview photos are used to highlight the elements in the landscape and elaborate these, with the aid of maps and drawings that describe the relationships between the elements in an area.

Research Aims

The aim of the research is to make the landscape visible and understandable so as to be able to indicate which elements belong to which landscape. The selection is incomplete and, moreover, is only a snapshot of the landscape, because the landscape is continuously changing. The landscapes described in this book are intended to serve as inspiration for further exploration of the subject.

After the locations have been described and thus made readable, the book will use architectural examples – old and new, anonymous or designed by an architect, plans or scale models – to reveal a wide range of architecturally developed relationships between buildings and their surrounding environment.

Land InSight - a landscape-architectonic investigation of place, of which the present book is a revised edition of the first Dutch edition (in 2004) and now for the first time translated into English, forms a series of pictorial books together with ‘Tussen haard en horizon, landschapsarchitectonische bouwstenen’, not yet translated. Forthcoming titles in the series will discuss water and vegetation in landscape architecture.

The most important aim of this series is to contribute to a richer and more differentiated understanding, in the landscape-architectonic sense, of spatial design assignments in landscape, explained by mainly Dutch examples. This series forms part of the research portfolio carried out at the Chair of Landscape Architecture of the Delft University of Technology.

Problem definition

At the present time, 800,000 houses are nearing completion in the Netherlands. These so-called VINEX locations are situated nearby the main cities and are developed primarily for housing purposes. Because there is great urgency behind these huge building projects, the building sites are prepared using the fast method of pumping layers of sand onto the existing landscape. All the residential locations are thus built on an identical substratum and thus display many similarities. Although there is increasing attention in urban planning for particular landscape elements, such as a quay or a ribbon of farms along a watercourse or road, the houses themselves appear to take very little account of the genius loci, the essence of the place in which they are built.

In contrast, the prettiest and most expensive housing locations in the Netherlands are always to be found in prominent landscapes, such as the Vecht region, the coastal dune area, the Veluwe, a well designed polders, etc.

A Belvedère map, introduced in the Belvedère Memorandum in 1999, aims to document important and beautiful landscapes in the Netherlands. Sadly, this inventory gives only a fragmented picture of important cultural-historical landscapes and thus only brushes the surface. It fails to describe the correlation in the landscape. What is the story of those landscapes not described in Belvedère? Have their qualities been explored?

The lack of correlation can be put right by moving the focus to regional differences. In the Fifth Memorandum on Spatial Planning, under the name of Belvedère, a larger role has been set aside for cultural-historical aspects and archaeological, urban planning and geographical values. Four Dutch ministries, being Education, Culture and Science (OCW); Agriculture, Nature and Food Quality (LNV); Housing, Spatial Planning and the Environment (VROM) and Transport, Public Works and Water Management (VWS), wish to promote history as a source of inspiration so that regional identities can be developed. A Belvedère chair was instigated at TU Delft and three other universities in 2005 with the explicit task of making a contribution to the Netherlands’ cultural-historical heritage. The idea behind TU Delft’s Belvedère chair is that cultural-historical structures, landscapes and buildings must play an important role in spatial interventions at every scale. This is beneficial to both the preservation of cultural history as well as the quality of the landscape. The initially paradoxical sounding strategy, preservation through development, is the starting
The importance of context
A design, whether it be an architectonic design, an urban planning design or a landscape-architectonic design, is usually made for a specific site; a specific environment with its own obscure or highly conspicuous history. The characteristics of this site - the situational preconditions - form the context of the design. Tangible data such as topography, existing buildings, vegetation, altitude or existing functional relationships can all influence the design. Other factors, such as soil condition and orientation in relation to sun, wind, rain and views also play a role.

Because the context of a site is not a univocal statistic, the characteristics of a location must be interpreted. To this end, knowledge and understanding of the situation and its history are indispensable. This understanding makes it possible to define the design assignment more clearly and formulate design principles.

The interpretation of the place, genius loci, and a spatial and landscape architectonic translation of the programme form the inspiration for the design.

The scale series
Another design component is the scale series, the change in scale from building, via garden and/or public spaces to the landscape. This component requires thorough consideration of the correlations between the elements of the built environment throughout the various scales, from building interior to open space. This also leads to issues in relation to the boundary between private and public space. The design of private open space around a house is just as important as the design of the public spaces between the buildings.

A more thorough analysis of these landscape-architectonic aspects is thus required. The qualities of these spaces must be inventoried and understood. It is unimportant whether these spaces concern natural, agricultural or urban landscapes. A designer with understanding of the context should be able to architecturally adapt a programme so that landscape-architectonic quality is created.

Method
The ‘landscape’ is understood in the present work to be a universal concept and is defined as follows:
The outward appearance of an area with a scale of some few square kilometres, which area is characterised by a unique combination of elements and patterns.

This definition is the result of a desire to describe the landscape as a dynamic, developing system, requiring the continuous attention of designers, rather than the simple result of geographic processes - a static condition that must be preserved. Not as a landscape that is already beautiful (or not), but as a landscape that must become beautiful.

This entails that the concept of landscape is not limited to natural or cultural landscapes, but also can include urban areas, industrial zones, gardens and parks, hybrid landscapes between city and country and even the roofs of buildings.

The landscapes contain elements that are described and labelled. Only prototypes are studied; the diversity of forms of an element within a single landscape is not discussed. The Beemster, a lake bed polder (1612), for example, is a polder based on an architectonic adaptation for optimum farmland use, carried through into the farm build-
ings themselves (see ‘De Eenhoorn’ example project). In contrast, the Haarlemmermeerpolder (1840), impressive in size thanks to the rise of steam turbines, which could take the water out off the lake had a much more technical outward appearance. This most recent land reclamation created room for the national airport Schiphol, a programme that dominated the appearance of the polder landscape ever since. Although the land reclamation areas are thus very different, it is the common elements of these landscapes, such as the grid, the ditch, the ring dyke, etc., that are discussed in this book.

To understand how the present day appearance of the various landscapes came about, it is necessary to break them down in time layers. Using so-called layer drawings, the ten landscapes are analysed and the development process of these areas is explained. Some of the landscapes have the same origin but are differently developed through interference of man.

The layered landscape
Landscapes can be seen as a stack of layers, which are layered over each other in time; the under laying layer forms the physical context for the layer above it. The natural layer is the result of the natural processes of living and dead matter, such as the various types of vegetation on sand and clay soils. The cultural layer is the effect of artificial manipulation on the underlying natural system, such as water management and agricultural land use. The urban layer is the effect of urban civil engineering, such as sewer systems, traffic systems, parks, squares and city blocks, on the underlying artificial or natural landscape.

The natural layer
The natural layer is made up of various components: geomorphology (the physical features of the earth’s surface), soil, water and vegetation. In the Netherlands the soils are typically made up of layers of sand, peat and clay, alongside and on top of each other. The vegetation mirrors this abiotic layer. Birches, for example, flourish on poor sandy soils. In contrast, peat is wet and swampy of origin and forms the basis for grazing land. Clay soils typically contain ample nutrients, ideal land for cropping.

There are relatively few differences in elevation in our country, but this makes it all the more special. The southern Netherlands and the Veluwe are influenced by undulating landscapes. The lowlands are better described as ‘rippling’.

Strictly speaking, natural landscapes are non-existent in the present day Netherlands, with the exception of the Wadden Sea region. Seemingly natural landscapes, such as the dunes, have actually been completely developed, adapted and utilised by man. However, thanks to increasing population pressure and more free time, the demand for more nature is increasing. This New Nature is thus also being created. Efforts are being made to stimulate natural processes and to limit artificial interference as much as possible. The underlying layer, however, will always remain a cultural or urban layer.
The cultural layer

In the Middle Ages, man began to develop and cultivate the Dutch lowlands. The groundwater level was lowered by draining water from the soil using ditches and channels. This led to land subsidence (soil compaction), necessitating more drainage. Drainage is thus a continuous process, augmented by the rising sea level, so that adaptations and innovations are required for it to be successful. The will to survive, with eyes set on the future, determine the hydrological demands on the landscape and the way it is cultivated.

Land developments were first carried out by individuals and later on organised by wealthy landowners for large tracts of land. Today, the regular patterns of the land development are still visible in large parts of the country. Dykes are also inherently part of this system. These dykes introduce striking, artificial elevations in the flat landscape. Traditional buildings such as farmhouses, dyke houses, turf huts or windmills are directly related to the cultural layer because of their function. All these elements determine the appearance of the Dutch lowlands.

The issue of water is once again very topical thanks to rising sea levels, drought, higher peak loads in the rivers and other problems. During the coming decades, the Dutch lowlands in particular will need to be redesigned to meet these threats.
The urban layer

Human settlements can arise in areas where the conditions for human existence are favourable: on high-lying and dry land, along land and water routes, nearby a crossroads, a natural harbour or a landing stage. These settlements are part of the urban layer of the landscape.

Because these settlements are subject to spatial planning - the spatial translation of an idea leading to a rational design - they become an urban landscape. The rise of systematic planning as a design approach - inspired by the perfect form: the perfectly functioning trading town, the perfectly defended city (whether or not to demonstrate that city's power) - lead to the projection of urban models onto the surrounding area, without any adaptation. Only later, from the sixteenth century onwards, did these abstract forms prove to be highly flexible and adaptable to specific situations: Amsterdam's canal belt is a good example.

Due to the increase in scale of the present occupation, through urban expansions, infrastructure, business and industrial zones, it has become more difficult to sustain this growth simply by transforming the underlying layer. Often, because of administrative borders (municipal and private property boundaries, etc.), an internal dynamic grows with its own spatial patterns.

Architectonic adaptations

Architectonic adaptations can be found in all three layers. A particular landscape may well have undergone various subsequent transformations in appearance. Architectonic adapted landscapes, where the implicit characteristics of the natural, cultural and urban layers have been made explicit, can be considered architectural compositions.

An architectural adaptation of the underlying layer, whereby the foundation is formed by aesthetical and ideological factors alongside functional considerations, can be found in the design of a country estate. From the sixteenth century onwards, the well-to-do left the city. They built villas on scenic locations and, later on, on newly developed land - the land reclamation areas. These country homes were connected to the city by cart roads, barge canals and waterways which were important transport routes in those days. These orderly villas were usually surrounded by gardens, which were designed according to the current vogue. The planning scheme, the ideal plan for the design, was projected onto and adapted for the location and so embedded in the landscape. Because the country estate was primarily intended for entertainment and relaxation, the genius loci - the essence of the place - played an important role. A country estate can thus be described as a landscape observatory within the context of landscape architecture.

In the dialogue with the underlying layers, the physical context, the situation and the programme, factors such as orientation, view, routing, form, size, scale and materialisation all play a role in the design. The relationship between building, garden, property and landscape is given form with the aid of architectonic links. All these composi-
tion elements are discussed in the analysis of the example projects. Drawings and descriptions are used to explain the relationship between building, occasionally the garden and the property and one or more aspects of the landscape form.

situation
Is to situate a building in relation to the context, the influence of the surrounding environment and its history and requires knowledge of the genius loci. The planning scheme - the design idea - is altered in some way during this confrontation with the underlying layer, the relief of the land or the land’s surface.

Example: A fort is designed purely with its function in mind. On location, the ideal plan will be adapted to the landscape for optimum effect.

programme
The programme can underpin the relationship with the landscape and, through a diversity of functions, can make a variety of experiences possible.

Example: A boat house has a direct relationship with the watery surroundings, if only because of its function.

orientation: sun, wind, rain and light
Thanks to more stringent environmental requirements, designs that use the power of the sun are becoming increasingly important.

Example: In the Netherlands, a south-facing wall made of glass allows a house to be heated via solar radiation. North-facing walls, however, should be made using as few windows as possible. In the flattest regions, such as the polder, obstacles that can reduce the wind’s speed are essential.

Example: In the North-east Polder, farms and roads are protected by shelterbelts. Our climate is characterised by seasons with heavy rainfall. This requires architectural adaptations.

Example: The facades of canal-side houses in Amsterdam were often built with a forward incline to prevent them getting rained on. The incidence of light is important for atmosphere and changes constantly throughout the seasons and during the course of a day.

Because of our situation close to the sea, and the consequent enormous amount of wind and its influence on the cloud cover, light can be very dramatic in this country.

Example: In a forest of deciduous trees, light is filtered through the leaves in the summer, while in the winter this effect is absent.

view
Visual relationships can be used to embed a building in its surrounding.

Example: A window with a panoramic view provides a different visual effect than a long and narrow window providing a view of a village church tower.

By staging the route to a building, the surrounding environment is linked to the property using visual relationships. Within a building, too, movement can be an important starting point of the design.

Example: A well designed, winding path steers the user in a particular direction and determines what he or she sees on the way and so highlights certain aspects of the surrounding environment.
**proportion, form and scale**
There is a particular pattern at the basis of every design, often based on technical or aesthetical considerations. Repetition and interpretation of the forms in the design can embed the building in its surrounding environment.

*Example: In the dunes near Bergen aan Zee there are a number of detached houses in the Amsterdam School style. Their plastic architecture mirrors the forms of the dunes.*

*Example: By placing a small structure in a large space, a feeling of endlessness is suggested; the space instinctively feels larger.*

**materialisation**
Using local building materials can stimulate a strong connection with the surrounding landscape. Traditional materials can be used in new ways. Materials carry meaning and are therefore important in the design.

*Example: Robust materials are often used for buildings on the sea, necessary to face the rough climate.*

**images**
The relationship between building, garden, property and landscape is given form with the aid of architectonic links such as a terrace, a gate or an avenue.

*Example: Two trees at the entrance to a property mark the border between private and public land. They form a gate and are visible from far off.*

**The structure of this book**
The choice of landscapes is mainly limited to the Dutch lowlands, with the exception of the forest landscape. There are a number of reasons behind this choice. In the first place, the Dutch cities were historically to be found in the lowlands and this part of the country is urbanising at the fastest pace. Efficient use of the characteristics of the landscape in urban and architectonic designs has the highest priority in these regions. In the second place, water management places a crucial role in this part of our country. It is important that water management is not only seen as a technical problem, but that the landscape-architectural dimension of this issue is also studied. In the third place, this delineation offers the chance to study a series of highly diverse landscape types and their mutual correlations.

The Dutch lowlands are made up of a barrier dune coastline with a peat bog in its hinterland extending to the higher lying sand plateaus in the east and criss-crossed by rivers. The development of the lowland techniques of drainage, discharge and protection from the sea was necessary for regulating and containing the dynamics of the water in this region - the delta. Water thus played an important role in the formation of the various landscapes.

The organisation and form of the landscape have also always had a large influence on urbanisation in the Netherlands. This has led to strong correlations between natural and artificial forms, urban and rural landscapes and natural and cultural influences: a continuing process of change.

The following ten landscape forms have been distinguished (many others are possible), each of which is discussed in a separate chapter:

- barrier dune landscape
- greenhouse landscape
- river landscape
- harbour landscape
- motorway landscape
- peat meadow landscape
- lake landscape
- lake bed landscape
- forest landscape
- roof landscape
For each landscape, the geographical situation, the structure of the layering and the characteristic elements are discussed. Using a systematic analysis of existing situations and striking design examples, the architectural potential of each landscape is studied and revealed.

The projects are not analysed completely, but instead specifically in relation to their landscape-architectonic qualities - their contextual relationships - using comprehensible sketches.

The examples have not been included because of their beauty, but because they offer a series of opportunities; they show how the relationship between building, sometimes garden, property and landscape in a design can be altered.

The previous two pages of each project analysis display striking or particular landscape elements and other interesting examples as inspiration – impression pages.

In the final chapter of the book, conclusions are reached about this specific form of landscape research. What is the value of the landscape definition used here for design teaching and practice? In what sense does the analysis method used here shed light on the importance and applicability of landscape-architectonic design instruments?
The three polder landscapes, the peat meadow, the lake and the lake bed landscape are divided into layers and positioned next to each other. By then it becomes very obvious that mankind created these landscapes. The swampy delta area formed the starting point of all of them.

By reading the sections it becomes clear that draining and the excavation of peat had a great impact on the land. Only with the help of technique the artificial relief can be kept.

The polder is a construction, which has to be maintained like a building. Because of this reality the Dutch (low)land asks for a landscape architectural approach. Looking at historical examples can teach much, where the arrangement of landscape and the development of settlements were strongly connected.
<table>
<thead>
<tr>
<th>Development of:</th>
<th>Dune Barrier Landscape</th>
<th>Lake Bed Landscape</th>
<th>Lake Landscape</th>
<th>Peat Meadow Landscape</th>
<th>River Landscape</th>
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<tr>
<td>Cultural phase (19th century)</td>
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<td>drying the lake</td>
<td>lake</td>
<td>need of pumping</td>
<td>summer and winter dikes</td>
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<td>Cultural phase (17th century)</td>
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<tr>
<td>Cultural phase (13th century)</td>
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<td>windlakes</td>
<td>digging ditches</td>
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<td>free flow river</td>
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<td>Natural phase</td>
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relief / view / soft ground / dynamic picture / long lines / noise of waves / constant threat / light, sandy colours / idea of the natural landscape / salt-sweet boarder
Barrier dune landscape

The Dutch coastline can be described as a curve in which three different regions can be distinguished. Friesland and Zeeland both have a convex coastline. Islands form the Friesian coast. Behind them lies a shallow lagoon which is exposed at low tide, the Wadden Sea. The Zeeland coast is broken by sea arms, which lie perpendicular to the coastline; an estuary coast. The coastline of Holland is very different. The barrier coastline is concave and enclosed. A quieter sea and an age-old balance between sedimentation and erosion have formed this coast. It is a dynamic landscape, formed by wind and water and characterised by endless dunes running parallel to the coast, sometimes flat or softly undulating, sometimes with much more relief. Valleys (blinkert) and ridges typify these dunes.

The dunes gradually merged to become an enclosed barrier coastline and a swamp was formed behind it. The first inhabitants built their homes on the higher lying areas and subsisted on fishing and hunting. Young dunes - higher dunes thrown up right on the tideline - were formed from the year thousand. They offered the inhabitants protection from the waves.

In the sixteenth century, many country estates were built on the older, lower lying barrier dunes; the inland dunes. These estates benefited from the relief of the dunes and the inland facing view. In the late Middle Ages, sand fences were constructed to hold the sand in place by planting reeds or laying mats of branches. The seaward facing side of the dune landscape thus acquired a pronounced form as a sea wall. The landward dunes were continuously being disturbed by the prevailing west winds and threatened to cover the clay and peat soils which lay behind them. These
Dunes were secured by planting marram grass and forests and thus artificially fixed. From the seventeenth century onwards, sand was extracted from the inland dunes and used for the new housing projects on the peatlands. The soils that were left behind (geestgronden) proved ideal for flower bulb cultivation, whose prodigious flowering still dominates the Dutch landscape every spring.

Seawards of the bulb fields lies a range of highly porous dunes where only a very particular vegetation can survive. This region is used for filtering drinking water and more and more of it is converted into a nature reserve.

The access roads to the beach run perpendicular to the coastline and are spaced apart. Some of them lead to villages lying directly on the sea. High-rise apartment buildings and boulevards typify these villages. The villages on the old barrier dunes have expanded to the extent that they now appear as a practically unbroken urban strip parallel to the coastline. Huge car parks have been built in the dune valleys to cater for the huge flow of visitors. The beach itself changes in the summer months from an empty space into a crowded strip complete with temporary buildings.

The threat of rising sea levels has made it necessary to redesign the barrier dune landscape, often using the method of sand supplementation.
beach-seascape

clear view to the horizon; the North Sea is tidal; high and low tide alternate every six hours; the dimensions of the beach change; the sun sets into the sea

dunes and dune slacks

accumulations of fine tidal sand blown up by the wind; several dunes form a dune ridge; artificially fixed using coast protection; dune slacks are moist valleys between the dune ridges, protected from the wind; typically in designated nature reserves; unique biotopes

marram grass and other vegetation

needed to fix the sand, and thus the dunes, in place; hardy vegetation, often sand-green in colour; vegetation becoming increasingly thicker and higher from the sea to the inland dune ridge

dune forests

natural or planted mixed forests; found on the low-lying ancient barrier dunes; protected from the sea wind by the higher lying foremost dune ridges; relatively low forests
paths that wind through the dune region — usually a nature reserve — made of sand, wood chips or shells; magnificent views on the tops alternate with intimate spaces in the hollows.

Free-standing buildings, mainly on top of the young dunes, with a view of the sea; typically holiday homes; because the dunes function as sea defence, building permits for new buildings are rarely given.

Large plains of asphalt, stamped into the relief of the dunes; their appearance fluctuates strongly with the seasons and the weather; multi-coloured cars contrast with the grey-green sand coloured environment.

Artificial pedestrian promenade on the top of the foremost dune ridge with a view of the beach and the water; pavilions line the boulevard with facilities for the visitors; tourism.
wind vanes and flags

vanes and flags clearly show the prevailing sea winds; seaward wind is dangerous for swimmers

beach pavilions and beach houses

usually wooden, portable buildings built on piles on the beach; seasonal; large sun decks protected by glass windscreens with informal seating arrangements; built right up against the foremost dune ridge

piers and dams

long, narrow elements in the sea, perpendicular to the coastline; breakwaters; found at river mouths; gradual transition from river current to sea current; prevent sand deposition; popular with sport fishermen
impressions of barrier dune landscape
impressions of barrier dune landscape
as with the dune area itself, the villa can not be taken in with a single glance: spatial disorientation; the drive is flanked by two sand mounds; the house and garage lie on the highest point in the hollow

the villa harmonises with the morphology of the dune area in its angular displacement; by designing the house with various levels, the relief of the landscape is accentuated; the garage is dug into the sand

entrance: direct relationship with the dune; stairs: the hinge of the angular displacement; connect the various levels; roof terrace: view over the dunes to the sea; balcony on pergola: panoramic view of the garden, dunes and the sea
dune captured in a fixed, rectangular form; the museum extension is in the dune itself; the sea is not kept back by a narrow line of dunes, but by forceful, convex retaining walls

a succession of unexpected experiences: the visitor gains entry to caverns under the sand dunes via seemingly casually made openings in the wall under the dunes

the experience of being underground is heightened by the light shining in from above; the clouds passing over throw a mottled, dramatic pattern on the smooth walls
the old villa stands on the crest of the dune; in the heart of the museum, the grotto, there where old and new come together, the view is from dark to light

the panorama window frames the constantly changing relief of the dunes; a rest area in the museum which continuously provides new views of the dunes

the visitor gradually rises above the exhibition spaces; the view of the sky and sea gradually opens out via patios and walled in terraces
the uppermost terrace - an enormous plain with a panoramic view - connects the view of the sea with the view across the dunes towards the city
plain / closed / monoculture /
mirroring / spending light / labyrinth /
enclosed
Greenhouse landscape

In the nineteenth century, the Westland farmers started specialising in horticulture. To make this possible, glasshouses were erected on a huge scale, forming the greenhouse region. There were formally many monasteries and country estates in this area, which had acquired much knowledge of vegetable and fruit cultivation. The first planned horticulture came about in the eighteenth century when the owner of the ‘Endeldijk’ country estate partitioned his lands. On each parcel of land a house was built of the hall house type (hollenhuis) and the land was let out on lease. The location was chosen because of the locally available knowledge, the geest soils, the peat and clay soils, the mild sea climate and the bright coastal light.

This horticultural region has developed into a greenhouse landscape, an immense, mirroring plain. Among the glasshouses lie ribbon villages of freestanding houses built on mounds (terpen). Each domain is some four hectares large and includes the house, greenhouses, water catchment basin and central heating system. Water is stored in basins for irrigation in the greenhouses. Much energy is required for growing crops in greenhouses. The greenhouse must be heated and the crops require light. To get the optimum yield the greenhouses are often lighted at night. The greenhouse landscape is then bathed in light and visible from far away.

The underlying landscape is covered by glass under which crops grow that, in this age, are no longer soil dependent. There is some memory of the soil, however: in the older greenhouses complexes, the roof ridges follow the property lines of the old developed landscape. Dykes, waterways and ribbon villages are the only irregularities in
this endless plain of glass. The broad waterways are characteristic for the region. Not only do they regulate the polder water, but during rainfall they are also required to distribute the rainwater. The rain has no other way of getting to the soil. Standing on the dyke, you can see over the roofs of the greenhouses, which typically are only one story high. Newer greenhouses tower above the dykes. They are changing the spatial appearance of the region at a fast rate. An efficient infrastructure, warehouses and auction halls are required for the distribution of the products. Each company is easily accessible via broad roads. Huge main corridors, designed for big trucks, criss-cross the region. The through-roads run along the tops of the dykes, which are part of the underlying polder landscape.

Because it is almost completely asphaltered, the region suffers from flooding during rains. New solutions need to be found for this problem. New methods of production – today crops are grown on substrates under artificial light and can be stacked, for example – make it possible to look for new combinations or the addition of new elements to the greenhouse landscape. Because of the continuous development of new technologies, this landscape is constantly changing, with the results perceptible within a single generation. Greenhouses are no longer soil dependent and they are being moved and expanded throughout the country, as for example the Zuidplas polder, North Holland and the Ijsselmeer polders.
greenhouses

rows of glass houses with skylights for ventilation; transparent and translucent; lightly constructed; always saddle roofs; infinitely extendable building kits; due to the sun's radiation, the air is warmed to the extent that a tropical climate is created; glass sometimes white-washed to prevent overheating; greenhouses becoming increasingly larger

waterway

a wide channel meant to quickly carry off large amounts of water during rain, necessary because most of the land is sealed off by the greenhouses; in former times, the waterways were also used as a means of transport for produce from the greenhouses

water basins

reservoirs for storing rainwater for irrigating the crops; extremely good water quality; the round or square basin is placed at ground level; made of sheet material or an earthen wall lined with plastic; each grower has its own basin

heating systems

to increase production, heat and light are artificially added to the greenhouse; the heating system and smokestack are placed outside; gradually vanishing from the landscape due to new energy efficient and high-tech systems which are placed inside the greenhouses
Huge halls with a purely functional design; basis of the design is the scale of the transport vehicle – the truck; requires good access to the road network.

determined by the size of the trucks; the road network in the greenhouse region is much denser than in other regions; many dead end roads with turning spaces; large plains of asphalt, particularly nearby the distribution centres; much activity.

Houses built on elevations; typically catalogue houses surrounded by a garden; the garden and property design display the latest trends in garden architecture; house surrounded by greenhouses.

Long street with houses; enclosed trough glass houses; only a few hall-houses are left.
impressions greenhouse landscape
in the middle of the greenhouse landscape, greenhouse space has been confiscated and an open space created by adding an extension on to a house and placing a second dividing wall.

a long row of lights, fitted to the ceiling in the living room (the pergola) gives the impression of living in a greenhouse; these lights connect inside with outside.

open space: a large patio, or courtyard, is framed by greenhouses and walls; they are all of the same height and form an enclosed, intimate space.
Re-development greenhouse area, Madestein
monoculture with little diversity; the area has many water related problems; it is impossible for rainwater to enter the soil directly where greenhouses are placed one against the other

by creating openings in the landscape and removing greenhouses, a new programme could be created: water storage, living space and recreation; combining functions

greenhouse landscape elements: land parcels, ribbons of buildings and waterways are the starting points for gradual transformation of the area: widening the waterways, low density habitation on islands, creating room for nature development
long lines / dynamic picture /
changes in spring and autumn /
views from the dike / relief /
mirroring / open
River landscape

Catchments are made up of three zones: The upper course (the source of the river), the middle course and the lower course. The river landscape of the low-lying Netherlands is formed by the lower course, flowing from east to west, of two great rivers; the delta. This zone is characterised by a very slight gradient – fall – and a river with many branches. The volumes of water that these rivers must process vary considerably because of meltwater from the mountains in the spring and increased rainfall in the spring and autumn.

This led to the creation of natural levees, abandoned riverbed ridges and flood plains. High water levels caused course materials to be deposited along the riverbanks, which eventually built up to become levees. The finer grained material was deposited further away in flood plains. Peat soils developed on or next to the clay sediments, which were reclaimed just as they were elsewhere. A peat pasture landscape in the river region is called a waard. The river itself sometimes became clogged with sediment and breached its banks to create a new channel. The abandoned riverbed is a form of alluvial ridge. It is now visible as a rise in the landscape, due to subsidence of the surrounding peatlands following the extraction of water from them.

Along natural levees, predominately ribbon-formed hamlets arose. On the wider levees and abandoned riverbed ridges the inhabitants built circular villages, farms loosely arranged around a village square (brink), where stock markets etc. were held. The cropping land was also to be found on these higher lying areas.

From the twelfth century, the separate river dykes were joined together and various river branches were dammed. Where buildings had f
Formerly been built on the flood plains and took twice yearly floods into account, they were now built on the dykes, because if a dyke was breached the consequences for the land behind the dykes were graver than before. This led to the creation of a new building type, the dyke house. The flood plains were the ideal areas for pastures and later for duck decoys. New land was reclaimed from the river with the construction of the first small groynes at right angles to the river. The riparian land – land inside the dykes – was used for grazing and haymaking.

Later on, the clay sediments in the riverbed were dug up and used to make bricks in the brick factories, which were often built on a mound (terp). The presence of the rivers is thus the reason that bricks are so often used in Dutch construction.

The river landscape has changed dramatically through the centuries. The river itself was allowed much less room. In the past years, disastrous floods occurred in the Rhine and Maas river basins, because in the upper courses of the rivers the forests, that retained the water, were felled and because more and more buildings arose in the riparian land. Water management in the flood plains also proved a problem. This all means that the river region will need to be redesigned and the river landscape will once again have to undergo a dramatic transformation. The recent dyke heightening affects the dyke house as well.
network of channels that constantly carry meltwater and/or rainwater to the North Sea; flow from east to west; water levels are seasonal; river enclosed by summer and winter dykes

dam-formed structures perpendicular to the river for channelling currents; effectively narrows the river bed - navigation channel is constantly scoured and so kept open for boats; the earthen foundation is strengthened with basalt

flood plain between a river bed and dyke; the riparian land must be kept free of obstacles to allow unimpeded flow of the river; buildings are situated on mounds; grassland; some riparian forests: mainly set aside for new nature development

lowered dyke section or quay where water can be discharged in a controlled manner during floods; can also be a stepped concrete channel, allowing water to flow back to the river when the flood is over
locks

large civil engineering works; adjustable water barrier; useful for shipping; natural fall of the river is artificially stepped; water management

ferries and ship berthing

boat connecting the banks of a river without hindering shipping; berth for ships protected by dams; dug out of the flood plain

dyke

separates the land inside the dyke (riverside) from the land outside the dyke; uninterrupted line parallel to the river; summer dyke sufficient for average summer water levels; the higher winter dyke lies behind the summer dyke as extra protection; usually unplanted; the main access road follows the ridge of the dyke

floodwater pool (wielen)

deep, round or oval pool formed during a dyke breach; the dyke is rebuilt around the edge of the pool, because the pool itself is too deep to rebuild the dyke over
flood plain

Area behind the dyke; made up of clay and peat lying between the natural levees; open, developed landscape; duck decoys can be found here: traps for catching wild ducks; now important nature reserves for many bird species.

orchard

Fenced off piece of land with fruit trees; plantation; uses the fertile soils on the river bed ridges; trees in flower from mid April.

dyke buildings

A ribbon of houses, usually free-standing buildings built directly against the edge of the dyke; two-storey houses, whereby the top storey protrudes above the dyke providing a view of the river.

bridge

Direct means of connecting river banks; visible from far away; the bridge ends lie in the land outside of the dykes; the bridge needs to be high if the river section is navigable to prevent hindrance to shipping; bridge ramps are built on the slope of the dyke.
impressions river landscape
impressions river landscape
house in the flood plain: the linear landscape is emphasised in the rectangular forms of the two mutually displaced building volumes; water comes right up to the house during floods.

from the roof there is a view of the river across the two grassed roof surfaces; the first volume is placed on a small elongated mound.

the swimming pool between the two volumes brings the river into the house.
Expansion – living in the river area, Heeselte – Ophemert
orientation

high and low water levels are made clearly visible in the landscape by placing new water expansion tanks and, in connection with these, new housing forms in the land inside the dykes.

situation

housing units are placed on barges; the boats lie in the artificial lakes outside of the dykes; during flooding they join the river; the boats do not hinder the river's flow; they are mobile and can move to a new location.

view

the old and new dykes form the boundaries of a new residential area; the water level changes twice a year: the buildings rise and fall with the water; for certain periods they will have views of the river.
Dyke houses along the river

situation

the property around the house is lower than the dyke; the difference in elevation is accentuated by the stairs to the side and/or back entrances
the south wall (heated by the sun) is more open than the north wall (see situation photo); the living area offers a view of the river across the dyke; the stalls are placed on the edge of the paddocks

the bridge and/or balcony functions as an autonomous link between the dyke and the building; the stately house is thus unfettered from the dyke

several panoramic buildings are placed at strategic locations along the river in this design; in river bends, accentuating tributaries, or having sight line relationships with each other; the entire river landscape can be viewed from the panorama windows
without scale / enormous / windy /
open / expression in silhouette /
solid
Harbour landscape

The harbour landscape is an adaptation of the river landscape. As with all other large infrastructural works, the harbour landscape is strongly influenced by its programme. Cities in Holland were always built near rivers, which made transport possible. Ships could moor in the outside bends, where the river is deeper because of the faster current. Dams were built where tributaries or peat streams flowed into the river. In these areas cities arose, such as Rotterdam and Amsterdam. The dams were used as cargo transfer points for shipping - exchange stations between inland and seagoing shipping. Up to the middle of the nineteenth century, goods were stored, traded and distributed on the quay or in warehouses. From the middle of the twentieth century, many goods were processed directly in the harbour and thus more space was required.

The expanding harbours moved further away from the city towards the sea. A good example is Rotterdam, where pumping sand into the sea has even developed new harbours offshore. The harbour basins have been constructed to take the size of the ships, their turning circle and the flow direction of the river into account. The banks, or quays, were paved with stone and very wide. Cranes tower high above them. Behind the quays lie rationally ordered storage and processing areas which are connected to the hinterland by road and rail, over which the goods are transported.

Harbour basins nearer to the cities are no longer used because they are too small. Moreover, industrial activity is no longer desirable in the city. New housing and commercial developments are built around the old harbour basins. They offer the city the opportunity of forming a new relationship with the river. Warehouses are transformed into
apartments or offices. Water is no longer seen as a barrier, whose single purpose is to provide transport, but as a public recreational space in the middle of the city. The banks of the rivers are connected to each other physically and visually thanks to bridges and high-rise buildings. The design of the river front area plays an increasingly important role in these developments.
natural or artificial berths for shipping in a river or canal; the right angled basins are usually made up of a main channel with side channels; oblique position in relation to the river; designed according to the size of the ships

broad, unconnected paved levees with steep sides around harbour basins or a river; used for loading and unloading goods; bollards on the quay for tying up ships; in the city, the quay has been transformed into a boulevard

a seagoing ship is gigantic, comparable in scale to an apartment building; often loaded with colourful containers; a barge is a river-going ship with a flat bottom

steel box for transporting goods; international standard size; a container can be moved directly from the ship onto the quay, a truck or a train carriage
metres high lifting equipment made of steel, mounted on the quayside and used for loading and unloading ships; usually designed for container transport; visible from far away

storage spaces for goods; from the storehouse via the warehouse to the distribution centre; increasing scale; storehouses are typical of the old harbours and are often redeveloped as residential or office buildings

industries completely or partially process goods; can be harmful to the environment; road network is designed for goods transport; goods from around the world are trans-shipped here; the goods take up huge amounts of space

barrier built of stone perpendicular or parallel to the water; barrages regulate currents and aid navigation out of the river mouth; they mark the entrance to the river and the harbour area
impressions harbour landscape
Housing block Piraeus, KNSM-island Amsterdam
a harbour building is assimilated by an apartment block; the building has similar dimensions to the ships in the harbour

robust; the dark-coloured bricks are typical of the storehouses; the large windows are another example of typical storehouse architecture

the double facade can be closed off against the elements; the windows on the waterside can be slid open: behind them lies a loggia, an internal gallery, used as a heat buffer
Bridge keeper house and banks, Rotterdam
highlighting harbour-specific elements; the bollards function as seats; a small bridge – a pergola – does not connect the banks, but instead stands on the square as a piece of street furniture.

it is as if the surrounding landscape has taken bites out of the volume of the bridge keeper’s house; interesting lines of sight are thus framed in this expressive manner.

the river and skyline of Rotterdam can be viewed from several levels; the public experiences how it feels to be a bridge keeper; the land bridge, another pergola, frames the view.
linear / dynamic / gray / dominantly / regional / turbulent / noisy
Highway landscape

The Netherlands is the most densely populated country in the world. Trade and transport of goods are, and always have been, an important source of income. Water has always been the chief means of transport, whether by lake, river or, from the seventeenth century, a system of artificial barge canals. Because this transport system over water was so efficient, the construction of a road network developed more slowly than in the rest of Europe.

The automobile appeared on the scene in the 20th century and this finally stimulated the rise of a network of sealed roads. To make this network possible, infrastructural works such as bridges, tunnels and aqueducts were necessary to bridge all the waterways that criss-crossed the land. This allowed the north and south part of Holland, which were separated by the main rivers to come closer together.

Roads have undergone striking changes over the years. When gravel, bricks and stones were used and only the occasional car travelled them, the roads were a part of the landscape. These roads were often flanked by rows of trees and were part of an equal network of streets connected villages and cities.

The phenomenon known as the highway has a completely different logic in relation to the landscape. Cities must be connected by the shortest route possible and the road must be kept at a distance from inhabited areas because of noise and exhaust pollution. The underlying landscape is pretty much ignored. The designers do try to bisect the existing agricultural sections as little as possible and incorporate the road in the existing polder grid.
Elshout

Nieuwkuijk

Vliemien

Vught

'S-HERTOGENBOSCH
The highway is often raised on a cunette, an artificial sand embankment lying partly on and partly under the ground. This foundation of sand is a technical necessity for building on swampy peatlands. The requisite sand was preferably dredged locally, which is the reason why large artificial lakes are to be found nearby highways. These lakes were often redeveloped for recreational purposes later on.

To allow for the unimpeded flow of traffic, roads at intersections are layered on top of each other in two or three dimensions. A combination of softly undulating slopes, streamlined on and off ramps and bridges and viaducts allow for a continuous flow of traffic.

Today, the highway has become a magnet for all kinds of activities and the requisite buildings, such as business parks, car sales yards, megastores, amusement parks and mega shopping complexes. These locations are ideal for these functions mainly because of their accessibility and for the visibility of the businesses. The west of the Netherlands is so heavily built up that there are few places left where you can get an uninterrupted view of the landscape from the road. The cinematic experience of watching the landscape unfold as you drive through it is limited more and more by sound barriers, billboards, thick vegetation and buildings. The highway has become a giant built-up ribbon.

In recent years, urban planners, landscape architects and artists have been working together, at the request of the government, to stop the cluttering of the landscape. The highway design is a crucial element of this plan.
multi-lane road with hard shoulder

cars, trucks and motorbikes

two to four lanes with hard shoulder for both directions; uniform and continuous traffic pattern; asphalt with stripes: strong and closed character; colours: black, grey and white

the road was built for these vehicles; the appearance of the road landscape changes every few years thanks to changing tastes and technological developments in the automobile industry; when the vehicles are lined up in a queue the highway becomes a ribbon

elements highway landscape

crash barriers, signs, roadside emergency telephones

striking elements which increase safety and provide drivers with information; crash barriers are placed between the opposing traffic lanes to separate them from each other; the increase in signs with texts and traffic control elements are cluttering the appearance of the road landscape

noise barriers and screens

method of reducing noise pollution: usually three or four meters high; spatial delineation of the road; screen: reflective, hard materials and easy to maintain: glass, concrete or sheet material; the barrier is higher and uses more space: built of earth and planted
petrol station and road restaurant

off-ramps and flyovers

bridges and tunnels

aqueduct

large tarmacked surfaces with mainly functional buildings resembling advertising structures; located directly on the road; recognisability and fast sales of petrol and snacks are paramount; placed at regular distances along the road

changes in speed and direction; curved and often raised roads, resulting in new views and perspectives of the surrounding environment

civil engineering structures prominent in the flat landscape; material: steel or cement; bridge ramp: road on a slope; filtered light in tunnels, eases transition from dark to light

occasionally the highway will duck under a canal following its course high above the surrounding landscape – a typically Dutch polder experience; the canal crosses the road in a huge, broad concrete channel
artificial lake

up to more than 30 metres deep
lake excavated nearby the road; cre-
ated by sand excavation for building
and road construction; now mainly
used for recreational purposes

vegetation

rows of trees make the highway visi-
ble in three dimensions; they
increase the tunnel effect of the road
and break the wind; because they
are planted in rhythmical patterns
they provide variety and as well as a
framework for the surrounding area;
groups of trees or shrubs can be
found at highway intersections such
as cloverleaf intersections

billboards

large and visible boards placed
alongside the highway which sell
products and services; this advertis-
ing function is sometimes also
directly coupled to buildings;
sometimes fluorescent and with
moving images

lighting

the rhythmic pattern of the lighting is
clearer at night, when it transforms
into a ribbon of lights, than during
the day; highway lighting is mainly
used in the Randstad conurbation in
the Netherlands, there where the
highway is permanently in use
impressions highway landscape
impressions highway landscape
impressions highway landscape
Office building ING, Amsterdam
situation and form

the building as an icon of speed; resembles a car or the engine of a TGV train; vehicles drive alongside the building; the building functions as a huge billboard for ING Bank; the volume interacts with the surrounding environment

view

the building is elevated above ground level; offices hang above the highway; from the inside you have an exciting, dynamic view of the highway

materialisation

aerodynamic form; facade cladding: anodised aluminium and glass; materials join together seamlessly; as smooth as silk
Sound barrier houses, Utrecht

proportion and scale

linear building; houses lie directly on the highway and function as sound barrier; modern version of a city wall; smoothly finished walls with little detail on the highway side
between two barriers, a smooth wall and an open arcade on the city side, lie two-storey houses; the building blocks have the same dimensions as the existing buildings.

with the use of patios and the arcade, gradual transitions from inside to outside are created; the patios allow light to enter, function as garden and allowed the existing trees to remain standing.
Malie tower, Den Haag

Gateway to the city; technical appearance due to arch and bridge construction; the two concrete side walls are supported by the steel structural work: together they form a cylinder.
cars in a queue are easy to observe; this is even easier if they are placed vertically; these glass towers mark the highway from afar
strong perspective in one direction /
intense green / black lines / open
and vast / rural
Peat meadow landscape

Eight thousand years ago, in the lagoon behind the dune barriers, reeds began to grow. Later on, when the land ceased to be flooded by the sea and the rivers, peat moss grew here in metres-high cushions. Peat, a spongy and unstable soil type, is formed of semi-decomposed plant matter that is sealed off from open air by water. The borders of a peatland shift both horizontally and vertically through the addition or extraction of water. Excess water flows via a network of meandering rivers, called peat streams, to the main rivers.

The peat land was drained as early as the eighth century through the construction of equidistant and straight ditches and made suitable for agriculture and habitation. The peat pasture is thus a cultivated landscape; a cultural landscape. The elongated form of the sections follows from the manner in which they were allocated, via the recht van opstrek, the right of ownership of any swamp-land adjoining the section, which could be reclaimed and so developed into more pasture. A small river or artificial watercourse formed the basis of the development. The drainage direction was determined before development began and later the property boundaries were also predetermined.

Initially, the peat developments made use of natural drainage patterns; the water flowed from the higher lying peatland into a peat stream or watercourse. As the peat level gradually compacted due to water extraction, the ditches were fitted with floodgates (klepduikers). These gates closed automatically during floods so that no water could flow back onto the land. When the water level was low enough the ditches could discharge the water. The reclaimed land was first used for cropping, but as the peat subsided further the land became swamplier and was only suitable for grazing.
In the fifteenth century the windmill was invented, so that the inhabitants were able to pump the water off the land. To prevent flooding from the yet unclaimed peatland, peat embankments and later peat dykes were constructed. The development landscape was transformed into a polder system, a piece of land surrounded by water barriers - dykes - behind which the water level could be regulated independently of the surrounding land and a certain water level could be maintained using a pump. The windmills, which have characterised the Dutch landscape for many centuries, were increasingly replaced by steam pumping stations from the eighteenth century onwards.

The technique of pumping, first driven by steam, later by diesel and today by electricity, had a large influence on the size and scale of the land developments. The culmination was that the peat landscape, thanks to new technologies allowing more and more water to be extracted from the land, finally fell below sea level. On average, the peat pasture is 1 to 2.5 metres below NAP (Amsterdam Ordnance Datum).

The landscape has an open character and is bisected by unidirectional water lines, which have a strong perspective effect. These days, the water level in the ditches is kept high to keep the land wet and so prevent further consolidation. Ribbon villages lie on elevations in the landscape at right angles to the development lines.

Peat, when dried becomes turf, proved suitable as a fuel. The peatlands were dug up on a huge scale, often to below the groundwater level. Pools were formed (lake landscape) and some of these were reclaimed (lake bed landscape).
peatland; elongated parcels called cope, systematically developed by the colonists; separated by ditches, which also drain the land; dimensions 1200 to 1350m long by 95 to 115m wide; grassland for cows and increasingly more for birds

quay: extremity of the cope during reclamation; protection against the water in the swamp behind it; quay road: embankment with a path with trees on each side (pollard willows, ashes or alders), roots prevent soil being washed away; the quay roads now lie in the middle of a peat landscape

dyke: earthwork of clay and sand covered by grass; functions as breakwater; sometimes the dyke will have a channel in it to carry water out of the polder; if the level of the land has dropped considerably (subsidence), the dyke will be high and clearly visible; often a former enclosing quay

a ditch is a dug channel, that carries water out of the polder; the ditches are parallel to each other and divide the plain into parcels; the ditches drain the water into the watercourses - wide canals perpendicular to the ditches; the watercourse carries the water to a higher 'outer water' system, the outlet waterway, via pumps
| A structure used to drain excess water out of the polder by pumping water up to an outlet waterway up to a predetermined outer water level; activated as soon as the groundwater rises above the desired water level in the polder; thanks to technical innovations in pump driving systems, via wind, steam and diesel to electricity, the structure is increasingly less visible in the landscape. |
|———|———|———|———|
| Windmills and pumping stations | Locks, culverts, weirs and mini-dams | Dam gates | Farmyard and farmyard bridge |
| Wooden gates on dams between paddocks; gate and ditch together enclose the paddock; built by the farmers; are continuously maintained; entrance to a paddock.
| Countless hydrological structures, necessary for managing a polder unit; inconspicuous; typically maintained by farmers; describe the micro relief in the polder. |
| Each property – a field with farmhouse or free-standing house with garden and orchard – is connected to the road by a bridge across a ditch; delineates the property and the entrance; creates a rhythmical pattern along the roadside. |

![Windmill](image1.png)

![Locks and Weirs](image2.png)

![Dam Gates](image3.png)

![Farmyard Bridge](image4.png)
hall house (halenhuis) most common in the peatlands; consists of two narrow aisles and a wide central nave; stall and living area lie one behind the other under a single roof; alternatively: perpendicular hall house (dwarstype), the living area is perpendicular to the stall, typically having flood doors

farms lie alongside the road; the buildings are alternated with open land; the ribbon is becoming increasingly more crowded with new houses; lines of sight to the open landscape are becoming blocked; strong contrast between open and enclosed areas
impressions peat meadow landscape
impressions peat meadow landscape
impressions peat meadow landscape
Villa Den Doel, Ilpendam
the villa does not lie directly on the road, as part of the ribbon of buildings, but is built at the back of the property; the building is embedded in the surroundings using low walls and terraces at various levels. The building is made up of several single storey, horizontal volumes; the block forms have different colours and denote the flatness and endlessness of the landscape. The view is of an endless, picturesque landscape, oriented towards the polder; it forms a gap in the row of trees; the wrap-around window in the living room provides the optimum view.
the house is made of sections of a windmill; the stone foundation has been reused, the body of the windmill has been removed and the thatched roof is derived from a windmill cap.
extension: sunroom with veranda above the water of the molengang (windmill canal), formerly where the screw pump was located; the roof overhang functions as a sunscreen; the sunroom is light while the house is dark; strong contrast from inside the house
mirroring / open and vast / rough / islands / small scale / romantic
Lake landscape

The lake landscape was created by the extraction of peat that was dried and used as a fuel, or by the flooding of polders for nature development or water storage. The structure of the underlying landscape of pools created by peat extraction is still clearly visible. Peat was extracted on a small scale in the Netherlands, as early as the first century and from the sixteenth century it became a commercial activity. ‘Dry’ peat extraction was carried out above ground water level and ‘wet’ peat extraction below.

Examples of dry peat extraction are the peat colonies in Groningen and Drenthe. The spatial infrastructure - the canals and roads that were constructed to transport the commercially extracted peat to the big cities - has come to dominate the appearance of this landscape (peat colony landscape).

Large areas of the Dutch peat pasture have been developed too. Up until the beginning of the sixteenth century, only dry peat extraction was carried out. This led to the creation of low-lying land that was unsuitable for agriculture. In the sixteenth century the demand for fuel increased rapidly because of the growth of the cities. Thanks to the invention of the dredging net (the baggerbeugel) it became possible to extract peat from below the water level.

Large areas of South Holland were soon changed into a watery wasteland. Because many of these pools were growing larger and larger, they posed a danger to city and country and were therefore controlled with dykes. This had also occurred earlier in North Holland, where the natural lakes had grown through wind erosion. After the dykes were built, new land was developed, the reclaimed landscape. In the pools, which were
created through turf production, small strips of land can still be seen, the so-called legakkers, where the peat was laid to dry into turf. These islands have the width of a single parcel of land and have been saved from inundation over the years by means of bank protection. Ribbon-formed villages lie in the water as if they were an afterthought, connected by roads and canals. Each house has water and a road facing. Only rarely one can catch a glimpse of the open water between the ribbons of buildings.

The lake landscape today is a highly valued recreational area with holiday homes situated on their own islands. The region is used for all kinds of water sports. The former peat drying islands are only accessible by boat and this is what makes them so unique. Another function of the pools is the storage of rainwater, so that rain that falls on the surrounding lands can drain into them and does not have to be pumped up out into the discharge water network (boezem) to the rivers and/or the sea.

The demand for houses in or on the water is growing and could stimulate a new way of using and expanding the lake landscape. An extra stimulant for the area is the great water challenge (de grote wateropgave), which advises, among others, that water is stored in the low-lying Netherlands, so that water for agriculture will not have to be imported into the area. The more lakes that are interconnected the more attractive the water network will become, particularly for recreation.
small lakes

large bodies of water, caused by peat extraction; 1.5 to 4m deep; irregular form with islands; the large lakes are generally well connected by an efficient water infrastructure; winter appearance: mirror surfaced; summer appearance: recreational activity

peat drying island

a small strip of land in the water (island); left over from peat digging; the cut peat was stacked and dried on these islands; if the banks have not been protected, they slowly erode away

ribbon village

ribbon villages criss-cross the lake; the lake is mostly hidden from the road; the buildings face onto the road while their rear walls actually touch the water

holiday homes and house boats

free-standing house on island, often made of wood; only accessible by boat; house boat lies in the water; usually one storey high and mobile; feeling of 'getting close to nature'; peace
the irregular banks of the lake are an ideal habitat for reeds and other grasses characteristic of watery environments; they purify the water of the lake; offer cover to bird life; increasing awareness of biodiversity

more and more people are using the lakes for swimming and boating; sailboats, speedboats, canoes, rowing boats, surfboards and guided tour boats dominate the appearance of the lakes in the summer; dynamic and full of activity

berthing place for boats; parallel to the banks or jutting out into the lake; if landing stages are populated by sailing boats, these dominate the view from far off; usually wooden and floating on the water
impressions lake landscape
impressions lake landscape
the route follows a slightly raised wooden platform and connects the entrance, house, garden, boathouse and lake with each other; the house is not built directly on the water.

the view through the open corner of the living room is optimised and framed by the horizontal roof overhang of the veranda; gradual transition from inside to outside; the view to the lake is indirect, diverted by the boat house and the inlet.

the wooden boat house resembles a boat tied to the stage; this impression is emphasised by the oblique positioning of the building; small, round windows such as these are typically used in ship-building.
situation

the building forms a part of the ribbon of buildings; each house has its own bridge across the ditch; the houses lie on parcels which are separated from each other by ditches: islands

orientation

the house is not directly in contact with the lake; between the house and the lake lies an island covered with vegetation and dotted with holiday homes; by building skywards, there is a view of the lake from the tower room

materialisation

the building blends into the environment like a chameleon, thanks to the colour of the African slate; the reeds, the trees and the water display the same pallet of colour
Summer house Verrijn Stuart, Breukelen
the wooden house rests on piles in the water; this compensates for changes in water level; the interior is accessible over a long platform (bridge) via the veranda; the living room has views in every direction.
flat / view until the horizon / structured / windy / brown fields / seasons are visible / objects become landmarks / view from the dike
Lake bed landscape

A lake bed landscape is a polder that has been created by pumping inundated land dry. Windmills from the sixteenth century onwards pumped natural lakes and, later on, artificial lakes caused by peat extraction, dry. From the eighteenth century, steam-powered pumping stations took over the work of pumping water up to higher lying land. By the innovation of the technique larger bodies of water, such as the Haarlemmermeer, a lake, could be pumped dry.

Land reclamation works as follows: A dyke is constructed around a lake or pool containing a so-called ring canal which is connected to the surrounding water system. Water is then pumped out of the lake into the ring canal using windmills. A windmill can pump up to a height of maximum 1.5 meters. If the difference in level is greater, several windmills are built in rows one behind the other (molengang). The main polder waterways are dug as soon as the pumps have been built on the edge of the polder. Drainage channels are dug in the reclaimed land, which carry water to the main waterway and also serve as section boundaries.

The main waterways are typically found in the centre of the polder and follow its longitudinal and/or latitudinal axis. The canals are connected to a pumping station which itself is connected to a higher-lying system of outlet waterways; the discharge system. The water is carried via the ring canal and/or storage lakes to the main rivers and, finally, the sea. This is an eternal process, because the land in the polders is lower than the groundwater level of the surrounding land and would quickly become inundated if the water were not continuously pumped out. Today, the water level in the reclaimed lands is kept at the desired level using electricity-powered pumps. The deepest
Meerpolder

tocht

-4.3

-4.0
polder in the Netherlands is approximately six meters under NAP.

The reclaimed land is divided according to strictly rational, geometrical and functional designs. The earliest land reclaims were planned for agricultural use. In the design, the optimum section size was projected on the lake bottom. The soil, mostly made up of clay, was highly suited to cropping as the unsuitable peat had already been removed. The dark brown soil and the crops that grow on it highlight the seasonal changes in the polder. Farms are built in the middle of the great plains and are often surrounded by shelter belts. They are situated along tree-lined roads, so that the structure of the polder therefore is visible as a three-dimensional picture. The trees function as windbreaks.

Polders, created in sea arms or in sea adjoining the coastland, are also among the land reclaimation areas. The process of land reclaimation here is one of accretion of sediments. Sediments are carried in by the tides and settle on the sea bottom in layers. Once these areas have been sufficiently raised in this manner, dykes are built around them. These dykes served as the basis for the following land reclaimation, so that a pattern of overlapping polders is created.

The most lake bed polder, and a world heritage site, is the Beemster Polder in North Holland. The design of the polder, with its rational square grid, is seen as a Gesamtkunstwerk, a collective artwork, and expresses the beauty of sensibility, simplicity and down-to-earthness in the Fine Dutch Tradition.

In recent times, critics have arisen around the issue of building on reclaimed land. The question of whether land that lies several meters under sea level can provide a safe and sustainable living and working environment plays an important role in this discussion. Sadly, the subject is hardly studied from a spatial perspective. It would be interesting to find out whether such a thing as a 'polder city' exists.
<table>
<thead>
<tr>
<th>dyke</th>
<th>ring canals</th>
<th>parcels</th>
<th>ditches</th>
</tr>
</thead>
<tbody>
<tr>
<td>earthwork intended as breakwater; delineates a polder unit; higher than peat dykes and with a steeper slope; completely encloses a lake bed polder; barrier between two polders of different elevations; may have buildings on it; elevation offers a view of the surrounding landscape.</td>
<td>these canals lie above the polder plain, in or behind the dyke; broad waterline, visible in the landscape; lies at outlet waterway level; carries excess water out of the polder to a river or the sea via a pumping station; part of the water network.</td>
<td>smallest units of agricultural land in the polder; building blocks for allotment by surveyors in the geometrical reclamation plan; parcel size increases over the years to a maximum of 500 x 1700 meters.</td>
<td>land development lines between the parcels; narrow and deep; surface of the water is often deep down and barely visible from eye level; connected to canal from which the water is pumped out of the polder using a pumping station.</td>
</tr>
</tbody>
</table>
canal

broad, longitudinal or latitudinal drainage canal; connected to ditches and pumping stations; highly obvious structural element; often 'framed' by rows of trees

windmills or pumping stations

pump, nowadays mostly electric, removes excess water from the polder from a low to a higher lying outlet waterway level; the outlet waterway discharges the water into the outer water system; modern pumping stations are inconspicuous in comparison to their predecessors, the windmills

outlet waterways

buffer to compensate for changes in water levels due to varying rainfall; usually outside of the lake bed polder and forms a water network which eventually connects with the outer water system; water buffer areas can also be found inside of the polder, called lower outlet waterways

tree rows

usually poplars, although other species are also planted in the polder as windbreaks; the tree rows are often transparent, so that the openness of the polder landscape is preserved; if a road has been planted with trees on both sides, we refer to a tree lane or tunnel
alongside rows of trees there are also blocks of trees around buildings; they dot the plain like islands and shelter the house from the wind, as well as giving it privacy.

for example the 'stolp', The traditional North-Holland farmhouse: a cube form with the top sliced off at one third of its height with an elongated pyramid as roof; archetype: haystack; the farmhouse and stalls are grouped closely together in the farmyard; surrounded by a shelter belt.
impressions lake bed landscape
impressions lake bed landscape

[Images of various lake bed landscapes, including power lines, wind turbines, trees, and a modern building.]
Farm De Eenhoorn, Beemster
the Beemster is one of the most architecturally developed lake bed polders in the Netherlands; the farms lie in ribbons along the main polder access road, just as the Eenhoorn, and form part of its rational order.

the basic geometry of the 'stolp', the prevailing farmhouse type, is based on the rationality of the polder design; the building stands on a square parcel of land, divided into quadrants, each having a specific function; the property is surrounded by a shelter belt to protect it from the wind.

the archetype of the stolp form is the haystack; hay was formerly stored in the 'stolp', the square barn in the centre of the building, while the living areas were built around it; high, open space.
an imposing, elongated building, visible from afar and made even more pronounced by a prolonging row of trees; together with rows of trees perpendicular to this line it mirrors the spatial layout of the polder grid.

the lower part of the building is literally designed as a dyke cross-section; not symmetrical, because it is less steep on the water side; the substructure of the museum was pulled down to make room for an extension and replaced by a block form (see large picture opposite).

the superstructure resembles a large telescope; raised above the ground and pointed in the direction of the harbour mouth to gaze over the endless expanse that is Lake IJssel.
the house stands at an oblique angle on the property; this underlines the impression that the building is temporary and can be dismantled; the rationality and dimensional relationships of the polder are mirrored in the steel structure and form of the building
the view of the polder plain is uninterrupted
because the building is raised above it; there is a
sunken winter garden behind a screen of glass in
the middle of the house; this creates a microcli-
mate for plant life

the living areas in the house are all found on the
first floor; the view from the living room is
focused, via the balcony, towards the lake bed
polder: emptiness; the view extends to the horizon
vertical / green, yellow, brown /
strong influenced by seasons /
light and dark / contrast / relief /
protection
Forest landscape

Under natural conditions, the final stage of growth in any landscape is a forest. A forest is formed predominately of trees with a layer of undergrowth of bushes and other plants. A forest is officially a forest if the canopy has 64% crown cover and has a size of at least a square kilometre. Only 10% of Netherlands surface is covered by forest.

During the time of the Roman Empire, the greater part of the Netherlands was a wilderness: swamps, sand drifts, heaths and forests. The first buildings were built of wood, then a widely available material. The original forests had already started disappearing by the sixteenth century due to encroachment by humans. More and more land was cultivated and the forests were felled to provide timber.

From the nineteenth century, new forests were planted systematically on the various soil types. The Holland territories, however, had subsided to the extent that they had become too wet to plant forests. Large uninterrupted tracts of forest can be found today only on the higher lying sandy soils, the Utrechtse Heuvelrug and the Hoge Veluwe. The forests here are made up of fast-growing exotics, pine trees such as Scots Pine, Norway Spruce and one third native deciduous trees such as oaks, beaches and birches, all planted to hold down the drifting sand. Later fast-growing exotic poplars were planted in the polders, especially in the new IJsselmeer polders. The poplar forests grow well on the wet soils but are rather monotonous.

In Drenthe, the state forest service had forests planted as a form of unemployment relief in the crisis years following the First World War. A highly rational road system was designed for these forests to enable ease of access for forestry.
In the seventeenth and eighteenth centuries, country estates were built on the rolling sandy hills alongside the production forests. The forest designs were inspired by the English Landscape style, where the visitor is encouraged to move about the space and explore the property. Exotics, often carried back from journeys to far-off lands, were planted near the house, while native oaks and beaches were planted further away. Conifers were planted for timber and ‘star forests’ (sterrenbossen), forests criss-crossed by broad lanes, were designed for hunting.

It became chic to live in the forest. The houses are typically free standing and lie hidden among the vegetation, becoming one with the surrounding environment. The forest gives a feeling of protection and safety. These forests are especially popular with visitors because of their open character. The deciduous forests are particularly beautiful in the autumn when the leaves change colour. Young forests are used primarily for recreation and are now often included in the National Ecological Network. To protect the diversity of plants and animals, these forests are often planted away from urban areas.

It seems that the forest - as a landscape in which buildings can be integrated, next to ecological richness has passed into obscurity.
deciduous forest

- deciduous tree species; usually native; beech, oak and birch; the appearance of the forest changes with seasons; presence of undergrowth depends on the species of tree; translucent; timber production; plantations increasingly less rigid in design; more room for nature development

Coniferous forest

- dark forest; no difference between summer and winter appearance; the trees and the needles on the forest floor stifle noise; undergrowth impossible because of the lack of light

Undergrowth

- bushes, herbs and flowers grow under deciduous trees; varied appearance; decreased visibility and freedom of movement; diversity of plants heightens nature experience

Dirt road

- typical of sandy soils; can be winding or straight as an arrow; sealing unnecessary because of efficient run-off – this makes the road inconspicuous
sunken road

a road or path that has been hollowed out of the land by the activity of rainfall or intensive use; can also be caused by excavation; sometimes meters deep; spatially delineated by the earth sides which are held by tree roots

creek

creeks ensure good drainage of forests on hilly terrain; fall and water velocity are controlled to drive paper mills; spring; waterways are dug in swampy ground

forest room and 'lichtung'

open space in forest; a 'forest room' will have a building in it; marked contrast in light between dense forest and open space; surrounding forest must be at least 10m thick for it to be experienced as a forest mass; this plays a role in determining the position of the building

lane

road, rigidly 'framed' with particularly majestic trees; often planted for spatial effect - particularly in country estates; makes it easier to find the way through the forest; park landscape design
picnic spot, seats, information boards

area to rest in the forest; most forests are used for recreation alongside production; boards describing walking routes are placed so as to be visible while remaining inconspicuous

forest house

earliest settlements were built on the higher lying, dry soils; free-standing house on a large parcel among the trees; forests are historically the reserve of the wealthier inhabitants, among others because there is so little forest in the Netherlands; provide protection and shadow from the sun
impressions forest landscape
the building reacts to the strongly undulating land with its slopes, terraces and substructure dug into the hillside.

in the interior in particular, wood is used in various unusual applications: as tree trunk slices on the floor; as leaves – thin slabs of wood hung from the ceiling; as rough tree trunks used to support the roof.

the building lies in a transition zone between open birch forest and heathland; it wraps itself around a tree.
Observation tower Ravenswoud, Fochteloerveen
the building is a giant periscope aimed at the open landscape; at the edge of the forest among the trees; the slender tower is composed of three segments which form three rooms: one connected to the ground, one at the height of the tree trunks and one in the crown of the trees with a view

the staircase in the tower resembles a three-dimensional boardwalk winding through the peatland; surrounded by branches instead of reeds; upon reaching the top, the panorama of the high peatlands, the open landscape, opens out

the steel construction is clad with square larch planks with open joints (or gaps) between them so that the material can dry; this gives the interior space a light and airy character; the building gradually adapts to its environment as the planks weather and turn from red to grey
Student project Birth Hotel, Bosch en Duin
an opening has been created in the thick deciduous forest in the form of a long line which gives structure to the plan; various buildings are connected to this line; the line is level and sometimes broadens into an open space; variations in height, caused by incisions in the building, are used as wall or bench

detached buildings, individual delivery rooms hiding among the relief, undergrowth and trees; childbirth taking place next to nature

the building's axis is bordered on the one side by an observation tower, which rises above the forest and on the other it merges into the forest
view from above / windy / lifted ground / all-around view / peace / distance from urban public life / unattainable / dramatic light
Roof landscape

Villages and cities are often characterised by uniformity in building materials, form and roof level. The traditionally used roof form is determined by the local climate and by locally available building materials. Up until the beginning of the twentieth century, the typical Dutch roof was a saddle roof, with red or grey roofing tiles baked from river clay. In the rural areas the roofs, particularly those of barns, were made of thatch.

In the twenties, the New Building (Nieuwe Bouwen) style of architecture introduced the flat roof, usually covered with bitumen. Because the Netherlands has relatively little relief, for a long time the aesthetics of the roof did not play a role: the roof was not visible from the ground.

In the sixties, new technologies allowed the construction of medium-rise buildings, particularly in the west of the country. High-rise developments began in the eighties. The view from these high buildings gave a new perspective, literally, of the surrounding roofs – the roof landscape.

Roofs are an interesting new habitable layer for living, working and recreating and they can contribute to climate change when used for gardens and as a base for solar panels. An attractive feature of roofs is, that they allow the users to escape the bustle of the city and commonly have an excellent, sometimes 360-degree view. The heavens seem within arm’s reach and there is plenty of light thanks to the ample space. Access ways to the roofs are through the buildings and thus spaced apart and individually owned.

A characteristic of additions to new buildings is the requirement that they must have a subtle design and be constructed of light materials. There are, of course, limitations to the building surface. Because the roof landscape is situated...
above the city, the difference between night and day is strongly accentuated. The perception of the roof landscape is influenced by variation in lighting of houses and streets, much as with the greenhouse landscape. When viewed from the dykes, the greenhouse region, too, is a roof landscape.

Flat roofs have recently been in the headlines because of concerns that they will not be able to withstand the predicted increase in rainstorms in the future. The roof, particularly in urban areas, could contribute to the solution of modern-day problems, such as air pollution, flooding, CO2 production and heat loss through the building itself. Roof landscapes could be transformed into a whole new 'green landscape' for the benefit of the urban citizen.
city centres dating from the seventeenth, eighteenth and nineteenth centuries are characterised by rows of saddle roofs; these make the city structure visible; varied appearance with relief; material: red, grey or black roofing tiles.

post-war architecture in particular is characterised by flat roofs; usually in rows of connected houses; material: black or grey bitumen or gravel layer; little character, do offer possibilities for new development.

small, mostly loose objects on the roof; the objects are low, the finishing is rough; dormer windows built in sloped roofs when the attic was put into use as living space.

towers and other large objects poke out above the roof landscape; striking landscape elements; have their place in the modern cityscape; make the city structure visible; points of orientation; provide shadow.
dramatic skies, change rapidly thanks to the influence of the nearby sea and winds; changes in light intensity - extremes in coloration of the landscape; strong influence on the seasons and the weather

dramatic skies, change rapidly thanks to the influence of the nearby sea and winds; changes in light intensity - extremes in coloration of the landscape; strong influence on the seasons and the weather

transition from inside to outside and vice versa; to gain access to roof level from below, an access way is required from the top storey; either via external stairway directly connected to the entrance way, or via a roof addition; private property

the foundation of the roof landscape; easily visible from the vantage point of the roof landscape; city structure may be ignored in the design; roof architecture is often individual (privately owned) and governed by few rules, as long as it is not visible from ground level

only applicable for flat roofs; load bearing capacity needs to be checked if much earth or plant matter is to be used; additional green space; wind barriers are required because of the height; stunning views; peace; can contribute to the city's water management
impressions roof landscape
the temporary building, made of solid wood, has been hung from the lift shaft of a storehouse; it appears massive, mirroring the robustness of the building it is attached to; striking due to the green colour which is visible from afar
This 'parasite' is hidden from the street; only accessible via the stair and lift well of the storehouse; once upstairs, an inconspicuous door leads to the new building's steep and long staircase; the staircase is the link between old and new.

The staircase hangs from a 'rock'; a skylight emphasises the narrowness of the space and provides a view of the sky; a long path which eventually provides a wonderful view of the river.

The locations of the windows and doors in the 'parasite' have been precisely chosen to offer fresh and differently framed views of fragments of the city and harbour.
the house has been built on an existing building and offers a view of the harbour and the sea; the penthouse has been made with a light, visible steel construction, as are the terraces, balconies and staircases on the building’s facade; the analogy with a ship’s bridge is unavoidable

the different heights of the volumes, terraces and balconies introduce new relief to the formerly flat roof; the corner of the building block ends with the highest volume and is accentuated by a balcony
the project, a part of the Floriade exhibition, is an example of how a city might look in 2010; the roof offers new space for living, gardens, landscaping elements, paths and play areas in an overcrowded city; in this project, these project components have been interconnected so that relief is introduced to the lowlands.

light constructions can be placed directly on the roofs with their own structural support or built from the ground up as a kind of bridge across existing buildings; the facade of the covered courtyard is covered with living plants - evergreen ivy.
This research has tried to reveal the individual elements in a landscape form and describe their landscape-architectonic significance when the aim is to create a design. The elements are not inextricably linked to any single landscape. A dyke, for example, can be a feature of a river landscape, of the polder technology of peat meadow areas, of a land reclamation area or, increasingly, of a highway. The type of landscape influences the way a building interacts with a dyke. In river landscapes, where buildings are constructed on the dykes themselves, dykes represent a safe place with a view of the river. In land reclamation areas, dykes are not suited for building on, but rather serve as a kind of backdrop. In highway landscapes, houses are built behind or even in the dykes. The same element is used for different purposes, for different functions and has different forms, depending on the location. A river dyke is high and winding, a peat dyke has a gentle slope and grows in breadth and height over time (due to the continual addition of soil as a result of subsidence), and sound barrier dykes are designed for a maximum of sound absorption.

To develop a relationship between a building or group of buildings and a landscape in a design, the specific correlations between the elements and its ingredients must be understood.

Contextual architecture
It is surprisingly difficult to find recent examples of architecture that have a clear relationship with the landscape. The same examples are cited again and again: works designed by good architects who are well known in their field. Alternatively, examples are given of buildings that were developed simultaneously with the landscape because of their programme and thus have, or had, a functional relationship, such as the Stolp (a farmhouse with a pyramidal roof) in the lake bed polder, the dyke house in the river landscape or a renovated windmill nearby Nieuwkoop. From here we can conclude that the process of finding a programme that relates to the landscape plays an important role in developing ‘contextuality’ in a design. A clear example is the Smart Tower, where the programme, the selling of cars, determines the form of the building. The tower is easily visible and accessible for the users of the highway landscape.

It is salient that very little specific architecture is being built in the more recently created landscapes, such as the greenhouse landscape. Most plans for this region, of which the Madestein Plan is an example, aim for complete transformation, whereby the old layers in the landscape hardly play a role. This is a pity for the region’s identity, but it also illustrates that not every landscape is equally successful at generating new architectonic quality.

Other projects described in this book do enter into a dialogue with the underlying layers of the landscape. This is also the reason why these projects were chosen and analysed. A number of thesis projects (designs that have remained on paper) have also been included in the book as examples to expand on the term ‘contextuality’.

**Situation**
The architectural alteration of the underlying layer is given various forms in the projects described. There where the route and the view have been staged, elements from the surrounding environment are incorporated in the building design. This has been done very subtly in the ‘Museum Beelden aan Zee’, designed by Wim Quist. The building itself is barely visible. The entrance is hidden and from the beach only the heads of the visitors can be seen, sticking up through the marram grass on the crest of the dune. This effect clearly delineates the relief of the dunes.

Innovative discoveries have been made in particular with regard to materialisation. An example is the Villa Straathof/de Bruin, where the building, which is made of many-coloured slate stones, blends into the environment like a chameleon. Or the thesis project Kraamhotel, where the material, wood, seems to have come straight from the forest and is used in the building in various different ways.

Landscape-architectonic links or forms, such as a loggia, a gate, a cave or a boathouse, can be found in almost all projects because they give form to the transition between inside and outside, light and dark, open and closed, and so anchor the architecture in its context.

In most projects, proportion, size and scale are directly related to the situation. Where long lines (flow forms) characterise the landscape, these are mirrored in the form of the building, such as in Villa Deys. The horizontal volumes in Villa Den Doel in Ilpendam flow together with the horizontal and panoramic landscape. This effect is
strengthened through the use of colour. The choices of cantilevered, double, open or closed façades are determined beside it by structural requirements. However, these forms also architecturally enrich the transition from indoors to outdoors, such as the double façade of the Piraeus housing block or the sunscreen at Villa Baneke, which opens and closes according to the weather conditions. These forms work because they have been specifically designed for the situation.

Implications of the method used
The analysis method used in this book is elementary and thus of a highly descriptive nature. However, this ‘construction kit’ is more than just a catalogue of interesting structures placed in various landscapes. The reduction drawings used in the analysis remove the noise from the image and thus bring the essence of the relationship between the building and its environment to the foreground. In fact, these drawings make it possible to recognise various kinds of spaces as landscapes and reveal the opportunities for links between the design and the landscape form.

This method was well received by students following the publication of the first edition of Land InSight and it has since been cited in various presentations. Building designs are thus not limited to a single space of no more than one hundred meters, but they involve the whole landscape, such as a lake bed polder, in the design. The landscape provides the arguments for the delineation of the design location.

Perspective
A landscape is a dynamic system, which continuously requires the attention of designers. This book wishes to make a contribution to this way of thinking. The knowledge of landscapes that has been revealed in this research, as well as the compositional elements that have been brought insight, present a wide range of starting points for design.

Dutch landscapes, thanks to their clear structure and the strong influence of systematic planning, serve as the ideal prototypes for the present research. The methods used can, with the help of further research, be applied to other, more complex landscape types. As such, Land InSight hopes to make a contribution to the discussion on the landscape-architectonic embedment of a building – wherever it may be in the world.
Literature

INTRODUCTION
Wit S.J. de, Steenbergen C.M., Typologie van het Nederlandse laagland, Delft 2003
Oerlemans H., Landschappen Zuid-Holland, Den Haag 1992
Reh W., Steenbergen C.M., Zee van Land, Delft 1999

1 BARRIER DUNE LANDSCAPE
Brujin M.F., de Nederlandse Landschappen, Utrecht/Antwerpen 1979
Hague L., Groot Haags Groenboek, Den Haag 1971
Oerlemans H., Landschappen Zuid-Holland, Den Haag 1992
Villa Looijen, Aerdenhout B., Bijvoet, G.H. Holt, 1950
Beelden aan Zee, Scheveningen, Wim Quist, 1994

2 GREENHOUSE LANDSCAPE
Groeneveld, Veranderend Nederland, een halve eeuw ontwikkelingen op het platteland, Amsterdam 1985
Oerlemans H., Landschappen Zuid-Holland, Den Haag 1992

Uitbreiding woonhuis, Bleiswijk ROW architectuur, 2000
Herontwikkeling kassengebied, Madestein, Buro Lubbers, study 2000

3 RIVER LANDSCAPE
Beek M., Kooiman M., Aan de dijk gezet, Rotterdam 1996
Villa Deys, Rhenen, Paul de Ruiter architectenbureau BV, 2001
Prijsvraag, expansielandschap, Bobbink & Monchen architecten, 1998
Dijkhuis ‘t Spiker aan de IJssel, Wilsum en andere architect onbekend

4 HARBOUR LANDSCAPE
Meijer H., De stad en de haven, Stedebouw als culturele opgave, Rotterdam 1996
Woonblok, KNSE-eiland, Amsterdam, H. Kollhoff Architecten, 1994
Brugwachterhuis en kade inrichting, Rotterdam, Bolles + Wilson, 1996
Smarttoren Utrecht architect onbekend, 2000

5 MOTORWAY LANDSCAPE
Hulsman B., NRC Webpagina, 1 februari 2001
ING kantoorgebouw, Amsterdam, Architecten Meyer en Van Schooten, 2002
Geluidswalwoningen, Utrecht, Koen van Velsen, 2003

Malistoren, Den Haag, Benthem en Crouwel architecten, 1996

6 PEAT MEADOW LANDSCAPE
Borger G. e.a., Het groene hart, een Hollands cultuurlandschap, Utrecht 2003
Landschap zeilen, Amsterdam 2001
Reh W., Steenbergen C.M., Zee van Land, Delft 1999
Villa Ilpendam, architect Gerrit Rietveld, 1958
Molen woonhuis, Nieuwkoop, architect onbekend

7 LAKE LANDSCAPE
Hoek S. van der, Het bruine oog, Konink van deturfgravers in Nederland, Amsterdam 1984
Borger G. e.a., Het groene hart, een Hollands cultuurlandschap, Utrecht 2003
Brand H., Brand J., De Haagse waterlinie, Utrecht 1986
Villa Straathof / de Bruin, Vinkeveen, Heren 5 architecten, BV, BNA, 1999
Villa Banke, Loosdrechts, van der Hoeven architecten, BNA, 1995
Zomerhuis Verrijn Stuart, Breukelen, Rietveld, 1940-41

8 LAKE BED LANDSCAPE
Reh W., Steenbergen C.M., Zee van Land, Delft 1999
Boerderij de Eenhoorn, Beemster, architect onbekend, 1682

Poldermuseum, Lelystad, Benthem & Crouwel architecten
Polderblik, Almere, TKA, 1990

9 FOREST LANDSCAPE
Baa H., Bruins S., Harde M. de, (e.a.), Jonge Landschappen 1800-1940, Utrecht 1994
Bouw 1990, nr. 23, november De architect 1990, jrg. 21, juni
Woonhuis Steeman, Epe, Borren Staalshoof, 2000
Theepaviljoen de Posbank, Rheden, Bjarne Mastenbroek, 2003
Afstudeerproject kraamhotel, Bos en Duin, Job van Straten, 2004
Uiltkijktoren, Fochteloeveren, Broers de Haan, 1998

10 ROOF LANDSCAPE
Galema W., Gids stad op straat, Rotterdam 2003
Ibelings H., Het kunstmatige landschap, Rotterdam 2003
Parasite, Rotterdam, Korteknie & Stuhrmacher, 2001
Penthouses Scheveningen, Archipelontwerpers, 1999
Gelaagde stad – Floriade, Haarlemmermeerpoeder, DP6 architecten, 2002
Beemster
Paris P., 2.1/00270 en 9.5/01310/NH
Middenbeemster
Polderblik, Almere,
Tijdschrift de Architect

9 FOREST LANDSCAPE
overview and maps
ANWB, Topografische Atlas, Den Haag 2002
Baas H., Bruines S., Harde
de M., Schoorl F., Stol T., Triest H. van,
Vernooij A., Jonge
Landschappen 1800-1940, Utrecht 1994

Brujin M.F., Benthem R.J.,
Atlas van de Nederlandse
Landschappen, Utrecht 1979

elements and maps
Backer A.M., Gids voor de Nederlandse Tuin- en
Landschapsarchitectuur, Rotterdam 1996
Blerck H. van, Nieuwe
Landgoederen – idee-
énprijsvraag, 's-
Gravenhage 1995
Deunk G.J., Nederlandse
tuin-en landschapsar-
chitectuur van de 20ste
eeuw, Rotterdam 2002
Mader G., Neubert-Mader L.,
BÄUME, Stuttgart 1996
Musch J., photography
www.jeroenmusch.nl
recreatie & tourisme, tijds-
schrift juni 2009
Woonhuis Durgaram en
Kaalarchitecten
Woonhuis Steeman, Epe,

Borren Staalenhoef, 2000, Pieter Kers
projects
Theepaviljoen de Posbank,
Rhenen, Wijk H. van
Afstudeerproject kraamhotel, Bos en Duin
Straten van Uitkijktoeren,
Fochteloeveen
Bouw 1990, nr. 23, November
De architect 1990, jaargang 21, juni

10 ROOF LANDSCAPE
overview and maps
ANWB, Topografische Atlas, Den Haag 2002
Galema W., Gids stad op
straat. Rotterdam 2003
Rotterdam Marketing, City
Map, Rotterdam 2004

elementen indrukken
Dakterras van de familie
Grolleman en Wilting,
Rotterdam
Roofgarden ASLA, van
Valkenburgh & associates,
Washington DC
De rokerij, Scheveningen
en penthouse Nautilus,
Archipelontwerpers,
Scheveningen
Ibelings, H., Het kunstmati-
gelandschap,
Rotterdam 2003

projects
Parasite, Rotterdam
Anne Bousema
Penthouse, Scheveningen,
Archipelontwerpers,
Scheveningen
This publication is part of the research portfolio of ‘Urban Landscape Architecture’ in the chair of Landscape Architecture at the faculty of Architecture in Delft, the Netherlands. Material, images and analytical drawings of ‘Villa Urbana’, a fourth year’s student course produced the fundamentals of this book. Next to that, colleagues contributed with photos and drawings, whereby some of them were not published before.

with thanks to:

Colophon

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ISBN: 9789085067818
NUR: 945, 648
Land InSight defines and unravels landscapes. Landscapes are always subject to change and can be conceived as stacks of horizontal layers that come to lie on top of or next to one another in the course of time. This book does not distinguish between natural landscape, cultural landscape or urban landscape: the motorway landscape is treated in the same way as the sand ridge landscape.

On the basis of architectural examples – old and new, anonymous or built as architecture, plans or scale models – a range of possible relations between a building and its surroundings are demonstrated and analysed. The projects are mainly presented in terms of their landscape architecture quality.

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ISBN 9789085067818