



Port of
Rotterdam

PROJECT ORGANIZATION
MAASVLAKTE 2

Newsletter

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MAPS NEED TO BE ADEPTED

THE NETHERLANDS HAS GROWN IN SIZE

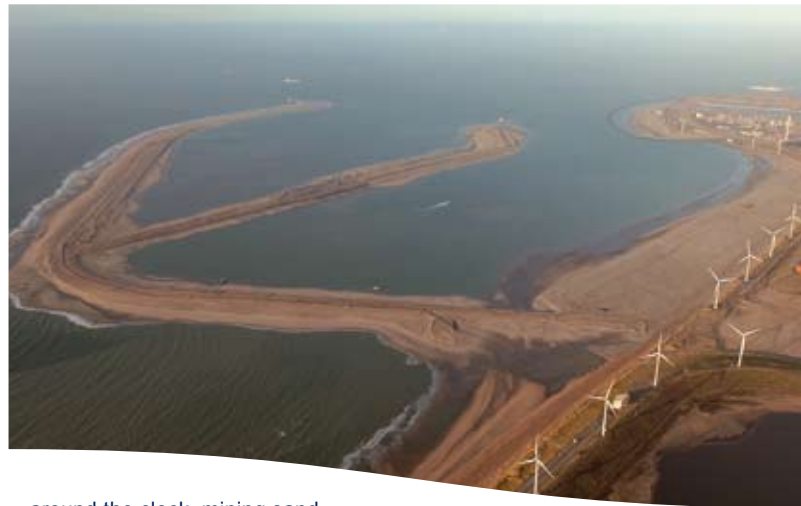
Since November 2009, the Netherlands has expanded by a few square kilometres. An over 4-km long dike has been attached to the mainland off the coast of Rotterdam.

The dike forms the contour of Maasvlakte 2, the new expansion of the Rotterdam port. As the coastline presently looks different, the Dutch maps will need to be adapted. Maasvlakte 2 will have a total surface area of some 2,000 hectares. About half of this is reserved for port basins, waterways, railways and roads and the seawall. The other 1,000 hectares will accommodate allocatable industrial sites directly on deep water. Things have gone fast: on 1 September 2008, then Mayor Opstelten gave the official

go-ahead for the construction of Maasvlakte 2. In April 2009, the first land emerged from the water. In November, the outer contours were connected to the existing coastline.

HOPPER DREDGERS

In 2009, over a quarter of the required sand was moved in by the PUMA consortium. Phase 1 requires 240 million cubic metres of sand to allow Maasvlakte 2 to emerge from the sea. On average, seven trailing suction hopper dredgers are working



around the clock, mining sand from the North Sea seabed some 12 kilometres off the coast and transporting it to Maasvlakte 2. In February 2010, construction will start on the first quay wall for a container terminal. Work on

the hard seawall on the north-western rim will also get underway at that point. The first container ships will unload their cargo at Maasvlakte 2 in 2013. ■

BLASTING, CRUSHING AND SCREENING

NORWEGIAN QUARRY STONE REINFORCES DUTCH COAST

Every two weeks, a bulk carrier unloads 90,000 tons of stone at the project site of the PUMA consortium in the Yangtzehaven. The quarry stone comes from Bremanger, some 200 km to the north of the Norwegian town of Bergen. The stone is needed to protect Maasvlakte from the sea, particularly when the waves pound the coast from the North West.

In the Yangtzehaven, a special docking area has been constructed for the heavy bulk carrier, which for the next two years will be visiting the site every two

weeks. A conveyor belt transports the quarry stone to the shore. Here, the stone is distributed across the site via a swingbelt. This unloading process costs

around 36 hours. Over the course of two weeks, dumpers ('tipper trucks') transfer the quarry stone to a screening installation. The quarry stone rocks are used in the



4-km long hard seadefence around Maasvlakte 2. This will consist of a stony dune and a block dam. The stony dune will be constructed from the Norwegian quarry stone. For the block dam, which will lie in the water off the coast, the contractors will recycle the large blocks of the present Maasvlakte seawall. ■

COUNCIL OF STATE APPROVES ZONING PLAN

On 4 November 2009, the Administrative Law department of the Council of State upheld the approval decision of the Province of Zuid-Holland regarding the Maasvlakte 2 Zoning Plan of the Municipality of Rotterdam. This means that the Maasvlakte 2 Zoning Plan is presently irrevocable. The construction permits for Maasvlakte 2 had already become definite at an earlier date.

The zoning plan regulates the utilisation of Maasvlakte 2 and specifies in detail where the various functions such as the port basins, waterways, railways and roads will be located. The construction and subsequent development of the new port area will take the air quality and the accessibility of the area into serious account. Three interest groups had appealed against the Maasvlakte 2 Zoning Plan: the Association against Environmental Deterioration in and around the New Waterway

Area (VTM), the Association of Concerned Citizens (VVB) and the Vlinderstrik Foundation. The appeals were declared partially inadmissible. The appeals that were held maintainable were disallowed by the Council of State. The fact that only three parties appealed against the zoning plan, is primarily thanks to the consultation at an early stage and widely supported coordination with the various interest groups with respect to the sustainable development of Maasvlakte 2. ■

HOPPER DREDGERS FIND MAMMOTH BONES AND TUSKS

The North Sea occasionally surrenders some of its secrets. The PUMA hopper dredgers don't just bring up sand; they sometimes also dredge up by-catch: airplane bombs and mammoth bones. The southern section of the North Sea is known as the largest mammoth graveyard in the world, so it comes as no surprise that the bones of these prehistoric animals are regularly found here.

During the sand mining activities for Maasvlakte 2 in the North Sea, the deeper soil layers of the seabed regularly yield the bones of mammoths, Megaloceros and other animals.

Rhinoceros, European bison, reindeer and felines.

WOOLLY MAMMOTHS

The trailing suction hopper dredgers dredge the large bones and molars together with the sand. Grids in the suction drag head ensure that large objects are not transferred into the ship itself. The dredgers bring the material on shore to be studied. In October, a cutter with a fishing net was deployed to collect bones on the floor of the sand

During different ice ages, the sea level was so low that you could walk from the present Netherlands to England. There was no North Sea: there was a steppe-like area with low vegetation - the habitat of among others mammoths, Woolly

IMPROVED SEADEFENCE

SAFE, ECONOMICAL AND GOOD NEWS FOR NATURE

The design of the hard seawall for Maasvlakte 2 had already been approved, but the contractor PUMA and the Port of Rotterdam Authority continued to work on further improvements. Is there a more economical way to construct Maasvlakte 2?

Can the maintenance costs be cut? And also: how can nature be better accommodated? After a lot of thinking and lab tests, the partners came up with a safe and sustainable construction that is also good news for nature and for the budget. The trick lies in the clever combination of a block dam and a stony dune.

The basic design outlined a hard seadeffence in the north, made from heavy quarry stone and concrete cubes.

It is necessary to develop a hard seadeffence here because due to the depth of the water and the north-western location (heavier storms!), the waves are the highest in this area. In the south, the construction can make do

with a soft seadeffence of beach and dunes. The transition between the two would consist of a cobble beach.

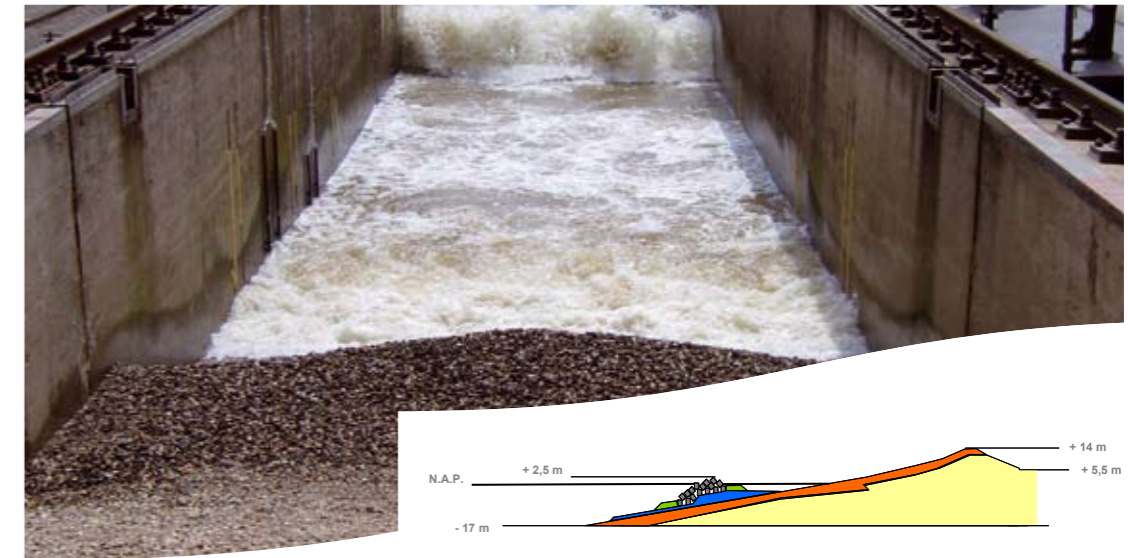
STONY DUNE

PUMA developed an alternative design for the hard seadeffence that also satisfies all the safety requirements. At the same time, the investment and maintenance

costs of the new design are lower and nature is provided with better opportunities to grow. If Rijkswaterstaat also approves the plans, the new hard seadeffence will consist of:

- A stony dune that extends to a height of +14 New Amsterdam Water Level (NAP), with a thick covering layer of light quarry stone (20 to 135 mm thick). This construction is called a cobble beach.

- A block dam that extends to a height of +2 New Amsterdam Water Level (NAP), constructed on the slope of the stony dune. This hard seadeffence provides optimum protection to people and buildings and complies with the safety norm stipulating that the chance of overflow should be less than once every 10,000 years.



BUFFER

The low block dam in the sea works like a kind of buffer. The waves break, so that the stony dune is battered by less forceful waves. In addition, the rebound (reflection) of the waves is also less strong, which is beneficial for local shipping traffic. As the stony dune is subjected to less stress, considerably less maintenance is

required. The construction costs are also lower than in the original design, because the stony dune is compiled from thick layers, instead of multiple thinner layers of different stone types. What is also good news is that the seadeffence of the present Maasvlakte can be recycled in its entirety in the new block dam. In other words, less expenditure

transporting quarry stone from other countries. The ecological value of the new solution is also greater: a relatively tranquil and shallow tidal area will be created between the block dam and the slope of the stony dune, where unique species get an opportunity to thrive. It's only a matter of time before nature will undoubtedly be able to conquer this area. ■



mining area. During this field work, researchers mainly found remains from woolly mammoths from the last part of the Pleistocene (up to 11,500 years

ago), but also the bones of Megaloceros, wild horses, reindeer, steppe bison and red deer.

BONES WITH BITE MARKS

An exceptional find are mammoth

bones with bite marks from hyenas. This serves as evidence that hyenas that fed on mammoth also lived in this area. Scientists had already suspected this, but never before had such clear evidence been found.

TRACES OF PEOPLE

Other finds that are of scientific value are an antler section and bones with traces of tooling by people: this shows that people lived in the area. And finally, the left thighbone of a woolly mammoth was found that measures 133 cm. As far as we know, this is the longest thighbone that has ever been found in the Netherlands of this animal. Experts from the Cultural Heritage Agency and the Natural History Museum Rotterdam will study and preserve these unique finds.

BONES ON SHOW AT FUTURELAND

The finest examples from the yield of bones, molars and teeth of mammoths will be cleaned. Those who want to see these remains from the past can take a look at the FutureLand visitor centre. ■

DRILLING UNDER YANGTZEHAVEN FINISHED

The last of six underground bores under the Yangtzehaven was successfully rounded off in November. Contractor Visser & Smit Hanab has extended a 36 inch gas pipeline - with a length of over 1,200 metres - through a borehole under the harbour. These bores were carried out to transfer the cables and pipelines that are presently still in the pipeline corridor along Europaweg, to a depth of over 40 metres

below NAP under the quay wall of the Euromax Terminal. Once the bores are completed, various utilities companies will connect the cables and pipelines to the existing infrastructure. The deep laying of the utilities is necessary to ensure that the Yangtzehaven can serve as the new entrance to Maasvlakte 2. It is expected that the dredging contractor will be able to dredge through the port basin in 2012. In any case, cables and pipelines will not lie in the way at that point. ■



2009: THE YEAR OF TRUTH

Over a year ago, then Mayor Opstelten turned open the sand valve on the beach near Slag Dobbelsteen. 'Maasvlakte 2 has been started,' his deep voice resounded on 1 September 2008. Those presently taking a look there - and over the past year, over 60,000 visitors to FutureLand did exactly that - can see the Netherlands and the port of Rotterdam growing day by day. The map of the Netherlands will need to be adapted, because the future seawall of the Maasvlakte has been connected to the mainland. At this site off the coast, the sea is some 17 m deep. It therefore comes as no surprise that the contractor PUMA processed some 80 million cubic metres of sand in 2009.

SUSTAINABLE

During the past year, the sustainable approach to Maasvlakte 2 also enjoyed considerable interest. Regarding that theme, I believe 2009 was the year of truth. We put a lot of time and energy into thorough environmental research and consultation with local parties and interest groups. All to get the most feasible plan for the new port area on the table. We and many organisations with us think that we have made a success of this project.

WINNERS

For a long time, Milieudefensie (Friends of the Earth Netherlands) did not agree. But in early 2009, we concluded that the environment would not benefit from legal wrangling but rather from practical measures. The Port Authority and Milieudefensie found each other in the agreement to, on top of the existing sustainability plans for Maasvlakte 2, seek out measures that reduce the emissions of pollutants by another 10% by 2020. A great result, in which the economy and quality of life are

both winners. Whether this approach could be maintained, still had to be proven in the course of 2009.

IRREVOCABLE

On 4 November, the Administrative Law department of the Council of State announced that the zoning plan for Maasvlakte 2 had become irrevocable. The approval decision of the Province of Zuid-Holland regarding that plan had been upheld. The Council determined the three appeals against that decision to be inadmissible or disallowed them. For us, the year could not have ended in a better way. Our sustainable approach, developed in consultation with all stakeholders, has also convinced our highest court. That is good news for the port, good news for Rijnmond and good news for the Netherlands' future. ■



Ronald Paul
Director
Project
Organization
Maasvlakte 2

FUTURELAND WELCOMES

50,000th VISITOR

FutureLand, the information centre about the construction of Maasvlakte 2, received its 50,000th visitor six months after the opening. Arriving at the centre, the unsuspecting Christien van den Berghe from Spijkenisse was treated to flowers.

Together with her husband Louis and their two children Dylan and Julian, she wanted to see with her own eyes how Maasvlakte 2 is constructed. They were not only surprised by the flowers, but also by the interesting facts and the many activities that make FutureLand a great day out for young and old alike. In FutureLand, everyone can help to build Maasvlakte 2. The interactive model of the new port area allows visitors to stand at the wheel and shows how and when the land arises from the water. In the FutureFlightExperience, the visitor can take a virtual tour that passes over the Maasvlakte of 2033. See, do and experience: that's the central focus of FutureLand.

VIEW

FutureLand stands on the border of the present Maasvlakte and offers a splendid view of the sea



and of the developing second Maasvlakte. It's easy to survey the continuous coming and going of dredgers, as well as the first sections of the new Netherlands.

OPENING HOURS

FutureLand is open Tuesday through Friday from 10 a.m. to 4 p.m. and on Sunday from 11 a.m. to 4 p.m. For further information and the current programme, please visit www.futureland.nl

TAKING BUS 113 TO FUTURELAND

Since 14 December 2009, the new bus service 113 drives from the jetty of the Fast Ferry at Maasvlakte, via Distripark and Oostvoorne to Brielle. Bus 113 also stops at FutureLand, the Maasvlakte 2 information centre. The Fast Ferry transfers passengers between Hoek van Holland and Maasvlakte.

This combination of ferry and bus is a godsend for commuters. It allows them to avoid traffic jams and offers a relaxed way to travel from and to work. Day trippers also make increasing use of the ferry and the new bus. There's a lot to see along the way and FutureLand is definitely worth a visit.

For detailed travel recommendations, visit www.9292ov.nl.

For questions about the Fast Ferry, you can also call RET:

+31 (0)900 - 500 6010 (€ 0.10 p/m). For questions about bus

service 113, feel free to call Connexxion: +31 (0)900 - 2 666 399

(local rates apply).

COLOPHON

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