

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Marc Kremer
Student number	5011868

Studio		
Name / Theme	Revitalising Maritime Heritage	
Main mentor	Nol Hermkens	Architecture/Design
Second mentor	Thijs Bennebroek	Building Technology
Third mentor	Ivan Nevzgodin	Research
Argumentation of choice of the studio	Since starting my studies at TU Delft I have been intrigued by the relation between old and new, something that is very present in Heritage studios. However, as I never did such a studio, now seemed the right time. The relation between the maritime theme and the attractive design region solidified my choice, as well as the freedom provided within the studio to develop your own direction in relation to the theme.	

Graduation project	
Title of the graduation project	'Hidden' Harbours Revitalising the Traces of Former Small-scale Harbours in the Water Triangle.
Goal	
Location:	Papegat, Dordrecht
The posed problem,	Small-scale former harbours have not been researched as much as large harbours, which discredits their regional significance. Because of this, their stories appear to fade, while traces of their past still remain.
research questions and	Main Question: In what ways can the significant regional maritime heritage of a small scale <i>'hidden' harbour</i> in the <i>Water Triangle</i> be revitalised through architectural design in the present-day built environment?

	<p>Sub-Questions:</p> <p>1. Historical Development Area How has the area developed physically over time, from 1500 until now, and which harbours can be identified in size and function?</p> <p>2. Harbour Development How has the specific area of an identified '<i>hidden</i>' harbour developed from 1500 until now, particularly in relation to its functional heritage and maritime identity?</p> <p>3. Traces and Significance What maritime traces (tangible and intangible) of the '<i>hidden</i>' harbour's functional heritage still exist, and why are they significant for understanding the region's historical and cultural identity?</p> <p>4. Design Potential How can these remaining maritime traces (tangible and intangible) be used to inspire new architectural design interventions that communicate the area's historical maritime past?</p>
<p>design assignment in which these result.</p>	<p>The aim of the research and ultimately the design is: educate and confront people and make them understand relevant past developments to strengthen their local identity, through bringing the stories of hidden harbours back to life by designing striking spaces with and from their remains and traces.</p>

Full problem statement and aim:

The *Water Triangle* has a dynamic history, where land and water battled each other which caused local centres to emerge and decline. The access to the sea for many centuries shaped the area in what it is today, with changing water depths, courses of tidal rivers, and the coming and going of liveable land. Because of this dynamic background, towns and villages continuously adapted and changed. This is also true in relation to harbours—the places where land, water and people come together. Changing conditions allowed some harbours to continue existing to this day, while others, somewhat mysteriously, disappeared. Most often, when discussing the topic of harbours or ports, the attention goes to the large scale, with examples such as the ports of Rotterdam, Antwerp and Shanghai. The abundance of papers in relation to these illustrates this (e.g. Hein, 2020). After all, because of their size and importance on fronts such as trade and politics, they have a large influence on the development of many. However, overshadowed by such large scale harbours and ports, not much attention goes to the smaller scale harbours that once were important, but which stories have been neglected or forgotten, as they lost their function over time. Therefore there is not much research done into such smaller scale harbours, which discredits their local historic, social and cultural value, while traces in the built environment still emanate the stories of their past. They have become *'hidden' harbours*.

The primary aim of this research is to explore the historical significance of several *'hidden' harbours* in the *Water Triangle* area of South Holland, with the goal of bringing their stories back to life through a design project. These former harbours still leave traces in the built environment—often in the form of neglected, voided, or underused spaces, whereas, some former harbour sites have since been redeveloped, which does not take away their significance—worthwhile investigation into their traces too. This project seeks to investigate how these spaces originally developed, investigate their remnants and remains, understand their historical and cultural significance, and propose ways to reflect and integrate this heritage into architectural design.

Process**Method description****Sub question 1: Historical development area**

- Analysis of Maps: Analyse historical maps and architectural plans to understand the evolution of land, water, and presence of harbours and their functions in the region over time. Also map out a gradual timeline from 1500-now to present (e.g. Topotijdreis) **PLAN B**: if too much, pick an area within the *Water Triangle*.

- Inventory of Functions: Make a table of all functions, of found harbours to identify which 'survived' and which did not, and why. **PLAN B**: if not available, base functions on assumptions of spatial layout and urban relation. Also, if too many, pick an area within the *Water Triangle*.

Sub-question 2: Historical Development

- Archival Research: Select three relevant sites. Investigate local archives and Image Banks, including those in Dordrecht and Hoeksche Waard, to trace the history of the harbours and their associated architecture and reasons for decline, focusing on maps, architectural drawings, and maritime documents and records. **PLAN B**: Relate to development of reference cases that can have an assumptively similar development (Rotterdam) when not enough information on development.
- Analysis of Maps: Analyse historical maps and architectural plans to understand the layout, structures, and evolution of harbour spaces over time and present a timeline from 1500-now.

Sub-question 3: Traces and Significance:

- Site Visits: Conduct field visits to document the architectural remnants of the harbours, using photographs, sketches, and detailed measurements. Identify significant architectural elements that remain in situ. **PLAN B**: If inaccessible, interpret based on assumption and other sources.
- Google Maps & GIS Tools: Use geographic information systems (GIS) and Google Maps to visualise historical and contemporary architectural landscapes, overlaying past and present to understand the site's architectural evolution and their significance. **PLAN B**: If unclear, interpret based on assumption and other sources.

Sub-question 4: Design Potential:

- Literature Review: Review academic literature on maritime architecture, heritage preservation, and the architectural transformation of harbour spaces.
- Reference Case Studies: Analyse other global regions that have best and worst case references of former harbour space revitalisation through architectural design. Draw inspiration from innovative architectural interventions that integrate historical structures into modern environments. (*such as Vieux-Port, Marseille*) **PLAN B**: if no global references available, dutch only. Make it an experiment and apply general adaptive strategies. Also involve other former water structures in general (grachten, canals, lakes), or even other former urban structures such as railways, highways, etc for revitalisation strategies.
- Design Proposals: Develop conceptual architectural designs that propose strategies for the revitalisation of hidden harbours in the *Water Triangle*. These designs will focus on heritage preservation while addressing contemporary architectural needs, such as adaptive reuse, public space, and community engagement.

DESIGN: integrate the information found above related to Papegat,

Dordrecht. It should educate people, and confront them on the significant maritime heritage of the site, but also the greater region as a whole as this is currently lacking. The stories of past developments which were instrumental for the current state of the area, are threatened to be lost to time. The design should incorporate heritage traces of the site successfully, through inviting, striking - perhaps unusual, and educative spaces. This should be done based on design strategies found in the research, but can also be done experimentally, redefining the strategies and fuelling the research.

The design of the proposal takes the former shape of the harbour that used to be on the site as a basis, and reinterprets it as a park, mirroring its former function of log storage. Paths for slow traffic run through them, and closer to the river, shallow water features reflect its past function. The deeper one goes into the park, the higher the density of 'sporadic' greenery, which is free to develop between the borders of the harbour and the walk path. This space also includes wadi's, incorporating water in yet another sense, aligning with contemporary demands. Buildings are present around the border edge, of which a lot of housing. On the former sites of the windmills, small scale production (furniture makers, pottery, small construction companies, etc) returns through architectural structures reflecting their heritage. The current functions on the site will be replaced towards the centre of the plan, where large event/working/recreational spaces can be organised. Alongside, the area's main structure: a striking museum highlighting the harbour & wood production past in its architecture and intricate wooden technical structural details. The transparent ground level functions as wood storage for the local industries, and mirrors past usage. The first floor exhibits the developments of the Papegat specifically, while the top level exhibits the hidden harbours of the region. An observation deck allows people to view the shape of the park (and thus former harbour) from above, reflecting characteristic random shapes of the region's hidden harbours. Because of its location along major traffic routes, the urban proposal attempts to ease people to leave their car in P+R hubs and facilitates good alternative public transport (electric/hydrogen bus or trams) and slow traffic routes (cycling and pedestrian) around and through/over the design site.

Literature and general practical references

Development and Challenges

McLoughlin, L. C. (2000). *Shaping Sydney Harbour: sedimentation, dredging and reclamation 1788-1990s*. *Australian Geographer*, 31(2), 183-208.

Shotton, E., & Prizeman, O. (2024). *Documenting Maritime Heritage at Risk: Digital tools, communities, and institutions* (p. 120). Taylor & Francis.

Sigmond, J.P. (1989). *Nederlandse Zeehavens tussen 1500 en 1800*. De Bataafse Leeuw.

Warsewa, G. (2017). *The transformation of port cities: Local culture and the post-industrial maritime city*. *WIT transactions on the built environment*, 170, 149-159.

Morgan, J. R. (1988). *Ports and harbours*. In *Artificial Structures and Shorelines* (pp. 9-14). Dordrecht: Springer Netherlands.

Re-establishing Water Structures

Planning, I., & Grendelman, W. M. (2007) *Herstel van gedempte stadswateren*.

Sweijen, S. (2019) *Het Doorbraakplan en de cityring van Breda*.

Reusing and Revitalising Harbours

Christiaanse, K. (2003). *Housing in Harbours in Holland*. *The Planning Review*, 39(154), 4-10.

Hein, C. (2020). *Adaptive strategies for water heritage: Past, present and future* (p. 435). Springer Nature.

Unt, A. L., Travlou, P., & Bell, S. (2014). *Blank Space: Exploring the sublime qualities of urban wilderness at the former fishing harbour in Tallinn, Estonia*. *Landscape Research*, 39(3), 267-286.

Traces and Remains

Hudson, K. (1979). *World industrial archaeology*. Cambridge University Press.

Marriner, N., & Morhange, C. (2005). *Under the city centre, the ancient harbour. Tyre and Sidon: heritages to preserve*. *Journal of Cultural Heritage*, 6(2), 183-189.

General (web) sources

Topotijdreis.nl

Regional Archive Dordrecht

Museum Hoeksche Waard

Google Earth

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The relation between my topic of 'hidden' harbours and the studio is the maritime traces. While one might think of shipyards and halls initially, harbours themselves are a maritime structure, which in the case of my project, no longer exists or functions. The traces of this maritime heritage can be instrumental in revitalising the stories of the harbours that were lost and were important for regional development. The architectural design project relates to the master track of Architecture within the master programme.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

The significant history of the harbours that are no longer there deserves to be remembered and understood, both by locals and others. They have been instrumental for regional development and mirror similar developments elsewhere. Properly understanding this development, their significance and value and possible ways of revitalising them can be important, as it helps keep stories of the past alive and educate people on past developments.