

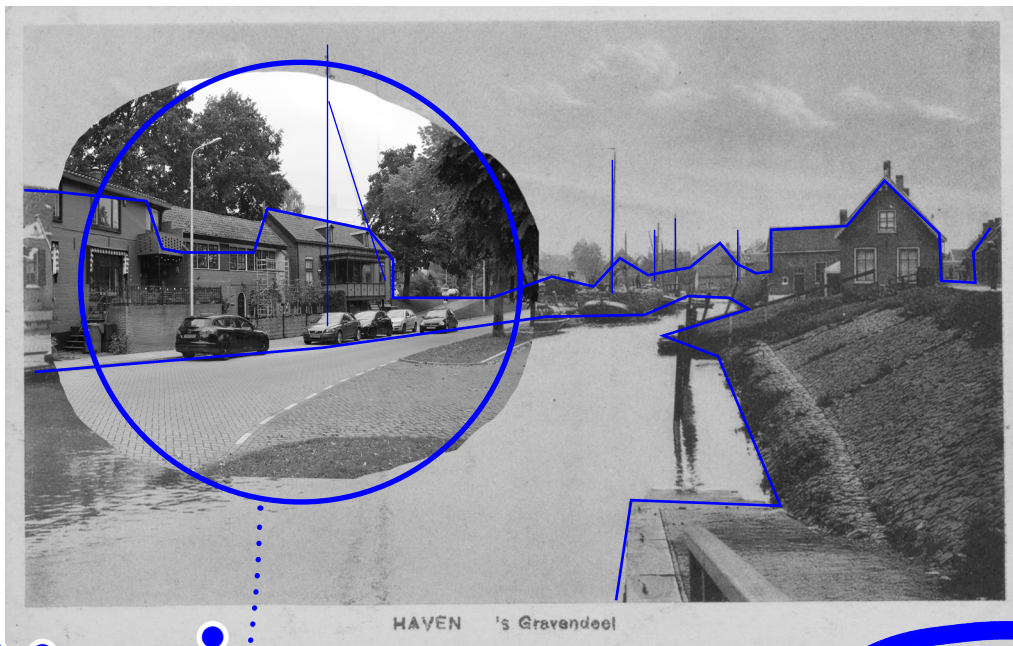
'hidden' harbours

research plan

Revitalising the Traces of Former Small-scale Harbours in the Water Triangle

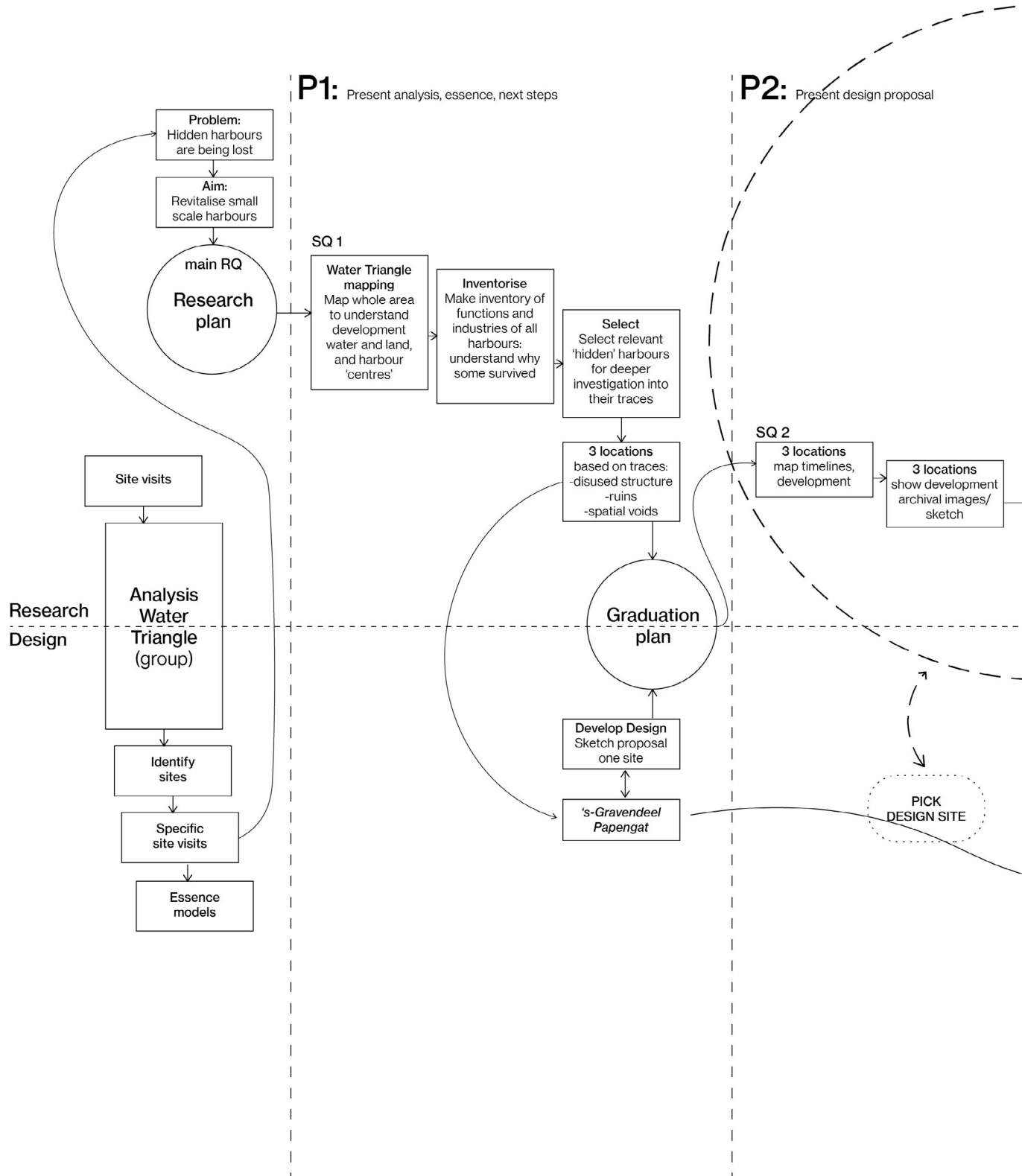
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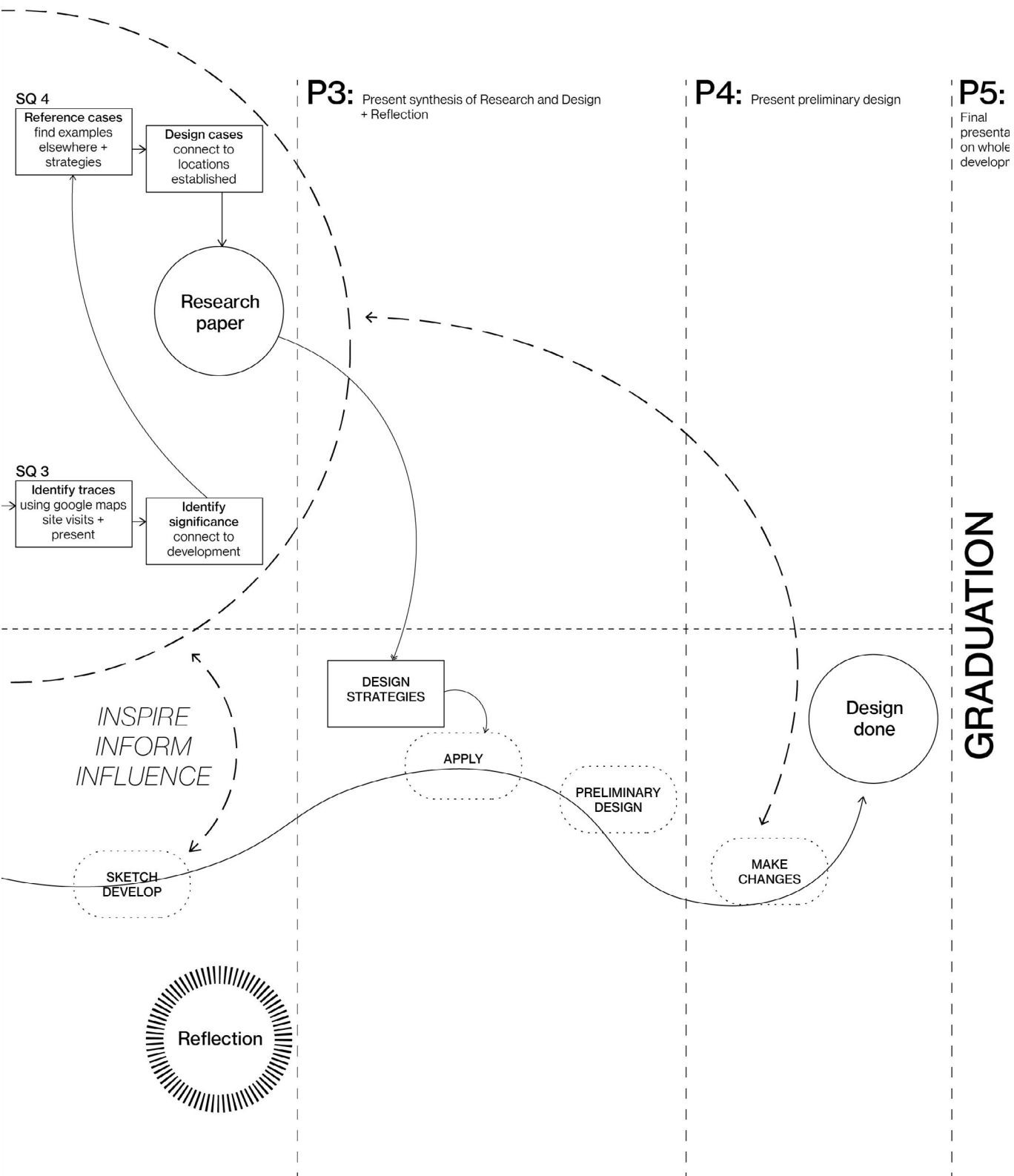
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Studio: Revitalising Maritime Heritage



diagram

graduation planning research & design





introduction

theme introduction

This research plan aims to organise the steps to take in order to complete research into the concept of *'hidden' harbours* in the *Water Triangle*. Related to the graduation studio: *Revitalising Heritage*, where the goal is to research and design for a former maritime site, focusing on its heritage. The previously mentioned *'hidden' harbours* are herefrom defined as a harbour(-structure) that once existed, but no longer does in today's built environment. This brings along many questions into their historic development, their value and possible futures, especially when investigating smaller-scale harbours which is the main focus in the research. Not much is known into this subject, as the focus often goes to large-scale harbours' development, reflected in McLoughlin's (2000) paper on Sydney Harbour, creating an opportunity to fill the research gap.

The small scale is reflected in the research area: the *Water Triangle*, which consists of the confluence of several rivers, and the influence of the North Sea in the South Holland province of the Netherlands. In other words; a dynamic delta region. Here, for many centuries, maritime activities were abundant and essential, allowing the development of many places where such activities and the water came together: harbours. Because of a dynamic history, portrayed in Sigmond's *'Dutch Sea Harbours between 1500 and 1800'* (1989), these harbours went through many developments, making some unable to stand the test of time.

Initial investigation and analysis into the region offers insight into about two dozen harbours that once existed, but did not survive to this day. Some still contain water but are no longer serve their former function, others are muted and urban structures such as dykes are the only reminders of their existence. The local significance of such structures therefore is threatened to be lost. Offering design strategies through this research may allow their heritage and stories to remain present for the time to come.

The elements above raise the main research question for the research:

In what ways can the significant regional maritime heritage of a 'hidden' harbour in the Water Triangle be revitalised through architectural design in the present-day built environment?

The traces and remains present on the sites will form an important element in understanding their tangible and intangible values and using them for design strategies, which is reflected in the sub-questions. Through mapping, inventorising, reviewing literature and reference cases, this research tries to understand the development of several locations in the *Water Triangle*, and offer design strategies for their revitalisation.

Marking just one telling example of a *'hidden' harbour* found in the *Water Triangle* is the former harbour of 's-Gravendeel. Founded around 1500 in the polder near the muddy regions around Dordrecht, the town was a vital harbour for Dutch East India (VOC) ships attempting to ship goods to Dordrecht. The shallow waters called for said goods to be transferred onto smaller ships, in order to continue their way. The harbour facilitated this activity, but eventually was lost to time. The images of the next page illustrate the dynamic development and the remarkable disappearance of its memory in the built environment of today, as well as several visual other examples in the region.

's-Gravendeel (1500-1970)



Around 1950 the harbour was still accesible, although not for VOC purposes anymore (Reg. Archive Dordrecht)



Today a voided space remains with the dykes and homes being the only reminders (own picture)

'hidden' harbours

's-Gravendeel (1500-1970)

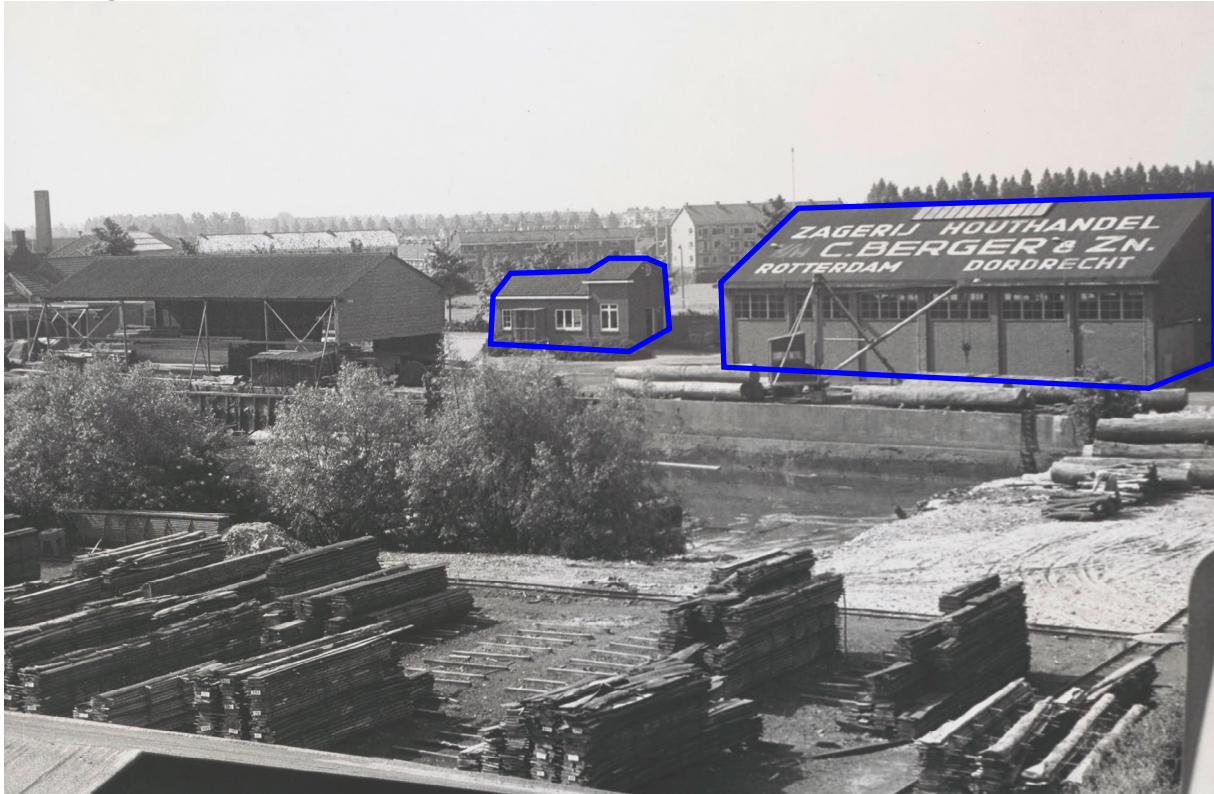


Around 1950 the harbour was still accesible, although not for VOC purposes anymore (Reg. Archive Dordrecht)



Today a voided space remains with the dykes and homes being the only reminders (own picture)

Papegat Dordrecht (Wood Mill ca.1700 - 1970)

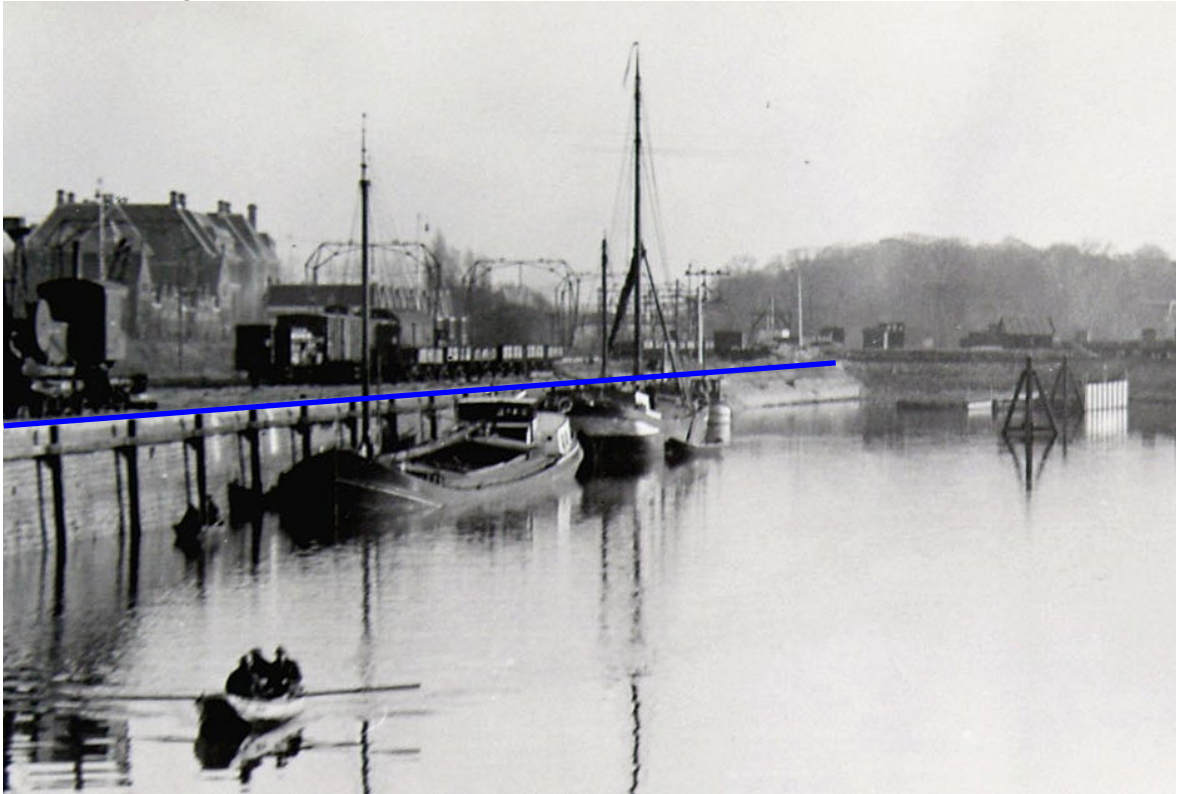


Around 1960 the original windmills had made way for sheds (Reg. Archive Dordrecht)



Today a voided space remains with some of the sheds (own picture)

Spoorweghaven Dordrecht (1850-1970)



Around 1920 ships could unload goods onto trains (Reg. Archive Dordrecht)



Today a voided space remains with a rail shunting yard, urban layout is the only reminder (own picture)

problem & aim

problem statement

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 livable 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.

aim

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.

objective

To identify and analyse '*hidden*' harbours and propose design strategies that emphasise their historical importance, thereby contributing to research into this subject and to regional maritime heritage revitalisation and the development of meaningful architectural interventions in the *Water Triangle*.

research questions

main research question

In what ways can the significant regional maritime heritage of a small scale *'hidden' harbour* in the *Water Triangle* be revitalised through architectural design in the present-day built environment?

sub-questions

- **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?
- **Harbour Development**
How has the specific area of an identified *'hidden' harbour* developed from 1500 until now, particularly in relation to its functional heritage and maritime identity?
- **Traces and Significance**
What maritime traces (tangible and intangible) of the *'hidden' harbour's* functional heritage still exist, and why are they significant for understanding the region's historical and cultural identity?
- **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?

HARBOUR	HARBOR	port	dock
HIDDEN	former	lost/ disappeared	reclaimed
MARITIME	industrial		water
TRACES	REMNANTS	REMAINS	
INTANGIBLE		TANGIBLE	
Heritage			

Relation key words diagram shows importance and connections — captions, bigger, and bolder, the more relevant (*own work*).

water triangle

This is a recurring term in the research and calls for further explanation. It refers to the cultural triangle of rivers found in the South-eastern part of the South Holland province in the Netherlands, and is marked by its dynamic maritime and industrial development in relation to people, land, and water. Because of this, it forms the basic geographical backdrop for this research.

definition and role of harbours and ports

A harbour traditionally serves as a shelter for vessels and as a hub for trade, culture, and human interaction. It can be natural or man-made. Architecturally, harbours are characterised by their functional spaces – warehouses, docks, shipyards – and their integration into the urban fabric. However, other man-made structures such as dykes are also important. They represent nodes of exchange that shape the physical and cultural identity of a region. The terms ‘harbour’ and ‘port’ are related but have different meanings. While a harbour is a sheltered place for vessels, a port is a specific area within or near a harbour specific for trade and transport, mirroring its function. All ports are situated near harbours, while not all harbours serve as ports (Morgan, 1988). Within this research, the basic structure of a manmade harbour is key while its function is secondary, so this term will form the basis.

concept of ‘hidden’ harbours

The term “hidden” is paradoxical – while these mostly smaller scale harbours are no longer in active use, traces of their former existence can still be identified in the built environment. These may take the form of disused structures, ruins, or spatial voids. This research will focus on understanding these remaining traces and their potential for architectural interpretation, considering how they contribute to both the physical and cultural landscapes, based on the local maritime heritage.

definition of remnants and traces

The terms remnants and traces are both relevant to this research. However, when talking about remnants, it relates to more concrete, tangible remains; whereas traces are more faint and subtle, and could include the intangible remains. Since the location will become apparent at a later stage, remaining traces will be used as a main term.

definition revitalisation

Key to this research is the aim of revitalising the hidden harbours. This means to give a new life to these structures, essentially presenting a new layer in their historic development. This differs from ‘revival’ which aims to bring them back to life, restoring their original state. Although this might be relevant to some degree, it is not the main goal. Preservation is an important element in the process of revitalisation, as it can help support the relation to the past. Together, revival and preservation can help inform the revitalisation process.

criteria

case selection criteria

To select *'hidden'* harbour sites for study within the *Water Triangle*, the following criteria will be applied:

- **Former Harbour Structure**
The site contains an identifiable small scale maritime harbour structure (such as: urban shape, former dock, dyke, warehouse, factory, or pier) that is no longer in use, or *'hidden'*.
- **Visible Remnants**
Traces of the harbour's original structure are still present in the maritime landscape.
- **Research Availability:**
Adequate archival materials, historical documents, architectural drawings, and visual references are accessible for research.
- **Potential for Architectural Revitalisation:**
The site lends itself to an architectural intervention or narrative that can revitalise the space and communicate its historical importance through (new or adaptive) design.

Preliminary locations:

1. 's-Gravendeel
2. Papengat, Dordrecht
3. Spoorweghaven, Dordrecht
4. tbd (Zwijndrecht, Gorichem, etc)

methodology

methods

This research will employ both qualitative and quantitative methods, combining historical and architectural research with fieldwork, analysis, and design-based inquiry.

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.

maybe:

- (Interviews): Conduct interviews with local residents, architectural historians, and experts to supplement archival research and understand the cultural relevance of the 'hidden' harbours architecture.

methodology

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. **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. (such as *Vieux-Port, Marseille*)

expected outcomes

This research aims to:

- Provide a comprehensive historical and architectural understanding of the maritime heritage of the *Water Triangle*, focusing on 's-Gravendeel and other 'hidden' harbours.
- Highlight the architectural significance of harbour remnants, emphasising their role in shaping the region's cultural and physical identity.
- Develop practical architectural design strategies that integrate these historical spaces into today's built environment, preserving their heritage while revitalising underutilised urban/architectural areas.
- Inform an experimental design process for a 'hidden' harbour in the *Water Triangle*.

conclusion

By exploring the 'hidden' harbours of the *Water Triangle* through an architectural lens, this research seeks to contribute to both heritage preservation and architectural renewal; *Revitalisation*. The ultimate goal is to propose architectural design strategies that make the history of these harbours visible once again, creating built environments that honour the past and make it accessible to the world of today. These design interventions will not only preserve maritime heritage but also offer innovative solutions for revitalising disused architectural spaces, thus enriching the maritime landscape of South Holland.

bibliography

current bibliography

The references are organised by theme, in alphabetical order. Most of the following sources need to be read in further detail, but have shown promising elements.

development & challenges

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

Description: About the development of Sydney harbour and the challenges it faced, plus some revitalisation.

Relevance: Offers possible insight into challenges

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

Description: Talks about a large array of cases of maritime heritage that have challenges to face.

Relevance: could contain relevant information and sources as well as cases for further exploration. Such as the case of Ballydehob Quay near Cork, Ireland.

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

Description: Defines the underlying principles and general development of key areas within the Netherlands in different time frames. Zeeland, Cities on the Meuse (Dordrecht), and Zuiderzee harbours are explicitly analysed and visualised from 1500 to 1800.

Relevance: May help to understand the conditions for the cases, and help construct maps and visualise the timeline.

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.

Description: Discusses how port cities changed in the post industrial world and how it affected it.

Relevance: May give insights into motivations why harbours disappeared.

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

Description: Discusses ports and harbours, definitions and how they work

Relevance: insights into ports and harbours, definitions and how they work

bibliography

re-establishing water structures

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

Description: Discusses the reintroduction of water structures where they once were in Breda, Utrecht and Drachten.

Relevance: Could be of interest in the cases part of this research, also because of the Dutch context.

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

Description: More in depth about the reemergence of water for Breda.

Relevance: Could be of interest in the cases part of this research, also because of the Dutch context.

reusing & revitalising harbours

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

Description: Discusses Dutch Housing in former harbour areas in the Netherlands.

Relevance: Can serve as possible revitalisation strategy

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

Description: Discusses many ports and their dealings with heritage, many big scale.

Relevance: Shows focus on large ports and harbours, and some strategies for revitalisation.

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.

Description: Explains the current state of a former harbour in Tallinn.

Relevance: Might give insight into former harbours in general and strategies of revitalisation.

traces & remains

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

Description: Defines the basic understandings of industrial archaeology.

Relevance: Maritime remains might be hidden so much that it becomes archaeology to understand it fully. The book gives examples and context.

bibliography

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.

Description: Talks about ancient cities and their ports that have been buried under current built urban spaces.

Relevance: Despite it being very different timeframes, the fact something is hidden below 'the current layer' and has historical significance may give insight into steps to take relevant for water triangle.