

# Design strategies for Maritime Ruins

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## Introduction

Throughout history, ruins have captured our imagination. They remind us of past civilizations. While famous buildings like the Parthenon and the Colosseum showcase great achievements in architecture, maritime ruins are often ignored while they give us special insights into the culture and economy of communities that lived by the water. These remains, found all over the world, tell stories of shipbuilding, trade, and the changing nature of maritime life.

Over the past 50 years, industrial ruins in general have evolved from neglected sites to valued historical assets, mirroring a growing appreciation for their cultural and architectural significance. This shift reflects a broader understanding of ruins not only as remains of the industrial past but as dynamic spaces capable of encouraging community, memory, and innovation. Architectural design solutions for such sites have also advanced, aiming to balance preservation with adaptation, allowing for both functional use and heritage conservation. The transformation of a ruin involves diverse stakeholders, from architects and heritage professionals to local communities and outsiders like tourists, each bringing unique perspectives and priorities that underscore the multifaceted value of these sites.

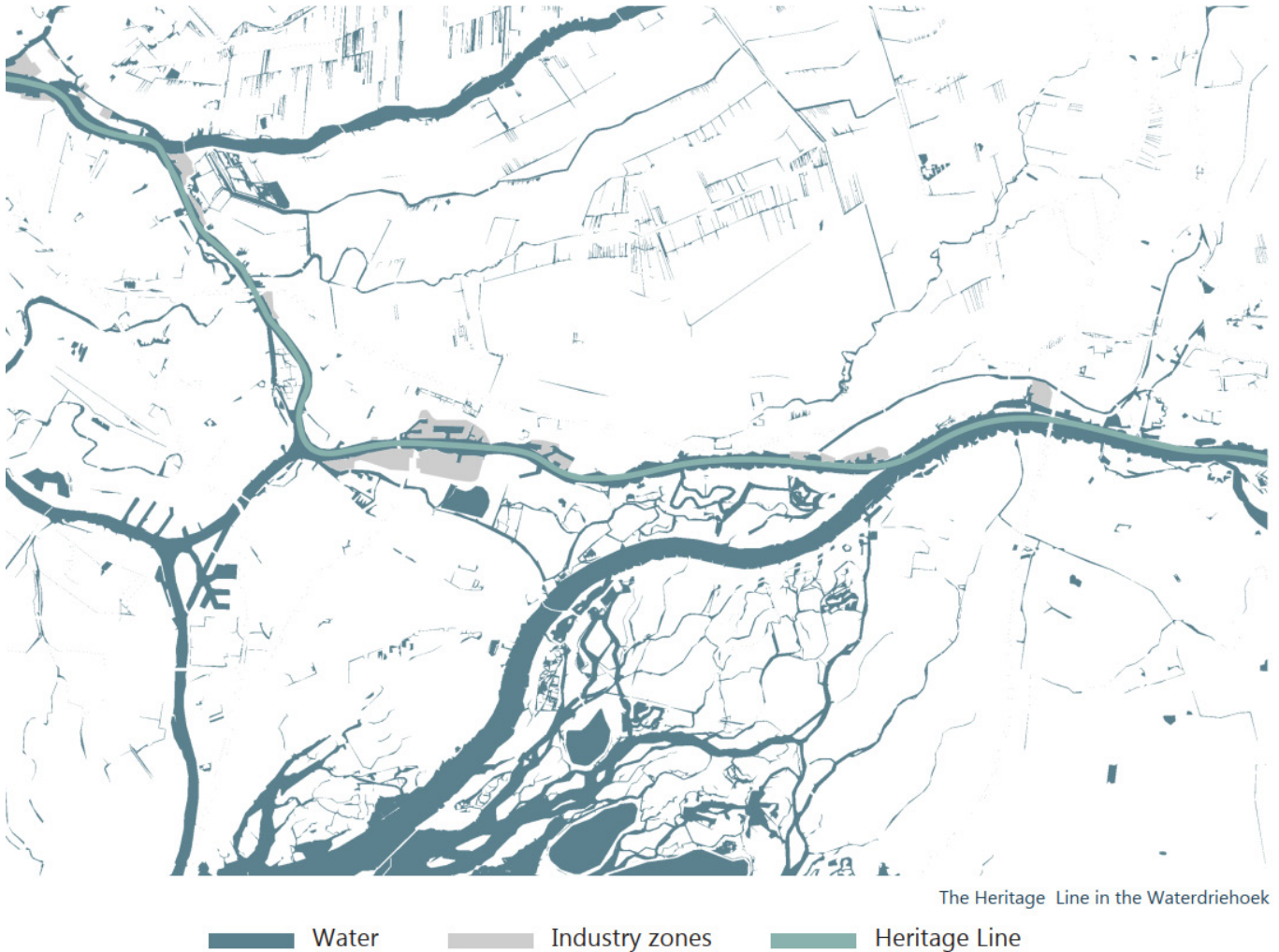
A ruin is generally defined as what is left of a structure that has fallen apart or been destroyed. Maritime ruins are marked by crumbling walls, broken materials, and the faded shapes of once-great ships. They evoke feelings of nostalgia and mystery. Their beauty comes from their imperfections, as nature slowly takes back what was built by humans. The weathered look of these sites encourages us to think about their original purpose and the lives that once filled them.

### *The Aesthetic and Emotional Appeal of Ruins*

Scholars such as Edensor (2005) and Sandler (2011) have highlighted the aesthetic appeal of ruins, emphasizing the tension between past and present, completeness and fragmentation. Maritime ruins, in particular, reveal the interplay between human innovation and nature's relentless force. These structures bear witness to the ambitions of shipbuilders and traders, yet they also reflect the vulnerability of human efforts in the face of time and environmental change. Their surroundings, whether side by side against modern developments or set in the quiet landscapes, offer a lens through which we can examine the dual narratives of preservation and transformation.

The allure of maritime ruins often lies in their narrative potential. Each decaying structure tells a story not only of its construction and use but also of the community that relied on it. For instance, a abandoned shipyard may evoke memories of bustling activity, skilled craftsmanship, and economic prosperity, now faded into silence. This narrative quality invites viewers to engage imaginatively with the site, pondering its past significance and envisioning its possible futures.





### *The Waterdriehoek*

This research focuses on the Waterdriehoek, a region in the Netherlands nestled between Dordrecht, Papendrecht, and Sliedrecht, rich in maritime history. Located at the confluence of the Merwede, Noord, and Oude Maas rivers, this area flourished as a center of shipbuilding and trade, shaped by the rhythms of river-based life. In the medieval period, settlements thrived as these rivers became vital trade routes. Dordrecht emerged as a key trading hub, while Sliedrecht and Papendrecht supported the fast-growing shipbuilding industry.

During the 18th century, the construction of dredging ships marked a turning point in the region's maritime history. Initially designed for local use, these vessels eventually gained recognition abroad, leading to a surge in the size and number of shipyards. The Industrial Revolution in the 19th century further transformed the landscape, introducing steam-powered vessels and iron shipbuilding techniques. These advancements positioned the Waterdriehoek at the forefront of maritime innovation, promoting a vibrant industry that shaped the region's identity.



However, by the 20th century, shipbuilding in the area began to decline. The emergence of larger ports, particularly Rotterdam, shifted the dynamics of maritime commerce, leading to the abandonment of shipyards. This decline not only marked an end to an era of local industry but also left a landscape dotted with ruins, reminders of a once-thriving maritime heritage. In recent decades, the destruction of much of this heritage to accommodate housing developments has further eroded the Waterdriehoek's historical significance.

The waterways of the Waterdriehoek are essential to understanding the current condition of its maritime ruins. The Merwede, Noord, and Oude Maas rivers not only spurred the region's historical growth but continue to influence its heritage sites. While many of these abandoned shipyards and structures were built with water resilience in mind, prolonged exposure to moisture and periodic flooding have impacted their stability. River currents and seasonal changes accelerate material decay, weakening foundations and eroding structural integrity over time. This persistent interaction with water complicates conservation efforts, demanding preservation strategies that respect the historic riverine setting while addressing the ongoing environmental effects on these fragile ruins.

### *Understanding the Nature of Ruins*

Ruins can arise from both natural and man-made processes. Natural decay occurs gradually over time or as a result of disasters such as floods or storms. In contrast, man-made ruins often stem from conflict, neglect, or the economic forces that drive development. Understanding the origins of these ruins is crucial for potential redesigns; some may serve as reminders of trauma, like the Berlin Wall, transforming into monuments that educate future generations about past mistakes and conflicts.

The distinction between natural and man-made ruins carries implications for how we engage with these sites. Natural ruins often evoke a sense of organic beauty, a harmonious decay that allows nature to reclaim human structures. Conversely, man-made ruins may carry a heavier emotional weight, symbolizing loss, destruction, and the consequences of human actions. This complexity enriches the narrative potential of maritime ruins, inviting diverse interpretations and responses from viewers.

*the natural process of decay OR human neglect OR destruction creates ruins*





*current ruins along the waterdriehoek*



### *The Fascination with Imperfection*

The fascination of ruins lies in their changing nature. They hold historical and archaeological value, representing not only solitary structures but also elements of a broader landscape (Aucker, 1961). Riegel (1903) emphasizes the emotional connection fostered by decay and imperfection. The physical characteristics of a ruin, its crumbling facade, overgrown vegetation, and weathered materials, invoke a sense of history that resonates deeply with viewers. Simmel (1958) discusses how these qualities can shift our perceptions, imbuing ruins with new meanings as they interact with the environment around them.

This relationship between decay and emotional impact is critical for understanding how we perceive maritime ruins. They are not static objects but dynamic entities that evolve over time, influenced by weather, human activity, and societal change. The “Adaptive reuse of the built heritage” (Plevoets & van Cleempoel, 2019) encapsulates this phenomenon, suggesting that the process of aging and deterioration can create a compelling aesthetic experience. This perspective invites a reconsideration of how we value and engage with ruins, challenging the notion that only pristine structures deserve our admiration.

### *Architectural Challenges and Opportunities*

A significant challenge in reusing maritime ruins involves harmonizing old structures with new architectural elements. Many of these sites, shaped by years of exposure and decay, demand careful interventions that respect their historical context while accommodating modern needs. The deteriorated materials, irregular forms, and unpredictable settling of ancient foundations often necessitate complex engineering solutions. This balance is crucial; inappropriate interventions can risk further damage to the ruins or compromise their historical authenticity.

Adaptive reuse of maritime ruins requires innovative architectural strategies that honor the site’s history while introducing functionality. Designers must consider the unique characteristics of each ruin, assessing its structural integrity and potential for integration with contemporary design elements. This process often involves a collaborative approach, engaging historians, engineers, and the local community to ensure that the new development resonates with the cultural heritage of the site.

Furthermore, successful architectural interventions can breathe new life into maritime ruins, transforming them into vibrant spaces that reflect their historical significance while serving contemporary needs. For example, an abandoned shipyard might be repurposed into a cultural center or community space, celebrating the region’s maritime legacy while fostering a sense of place and belonging among residents.

*challenges*



*Retrieved from [www.ironvalleytorino.it](http://www.ironvalleytorino.it)*

*opportunities*



*Retrieved from [www.italia.it](http://www.italia.it)*

This research aims to explore design approaches for the adaptive reuse of maritime ruins in the Waterdriehoek, focusing on how these strategies can both honor cultural heritage and create vibrant, functional spaces. By examining the intersection of history, architecture, and community engagement, we can gain insights into the potential of maritime ruins to contribute to contemporary urban landscapes. Ultimately, the preservation and reinterpretation of these sites not only safeguard our shared heritage but also enrich our understanding of the past, allowing us to navigate the complexities of history while embracing the possibilities of the future.



## Problem statement

The Waterdriehoek, historically shaped by centuries of maritime activities, is now marked by the remnants of its once-thriving shipyards and industries. As modern development encroaches upon these decaying structures, the region risks losing its cultural heritage, which is deeply tied to its river communities and shipbuilding history. Despite the growing interest in repurposing ruins globally, many maritime ruins in the Waterdriehoek remain neglected or demolished.

The challenge lies in preserving these maritime ruins while adapting them for contemporary use, ensuring that their historical and cultural significance is honored. Physical deterioration and environmental conditions in the region complicate recovery and preservation efforts. This research aims to explore architectural design strategies for repurposing these ruins, creating functional and aesthetically meaningful spaces that respect their past while delivering value to the present community. By investigating methods of ruin transformation alongside contemporary adaptive reuse techniques, this study seeks to provide solutions that harmonize preservation with innovation, ultimately contributing to the revitalization of the Waterdriehoek's maritime heritage.

## Research questions

What architectural design strategies can be applied for reusing maritime ruins in the Waterdriehoek to preserve the cultural heritage?

### *Part 1 Literature*

- What is the historical and cultural significance of the maritime ruins in the Waterdriehoek?
- How do the physical properties and deterioration processes of the maritime ruins influence the methods chosen for their preservation and recovery?

### *Part 2 Case studies*

- What strategies can be used to create functional and meaningful spaces within maritime ruins?
- What are throughout history in general the key aesthetic approaches for transforming a ruin?
- Which materials and techniques are most effective for transforming maritime ruins while maintaining their historical and environmental integrity?



# Methodology

## *Part 1: Literature*

This section of the research aims to explore the historical and cultural significance of the maritime ruins in the Waterdriehoek and to examine how their physical characteristics and deterioration impact preservation methods. A range of articles, books, and historical images provide insights into the importance of these maritime structures within their surroundings. Notably, the book *Dealing with Heritage: Assessment and Conservation* (2021) offers valuable information on the technical challenges and material-level solutions for integrating existing structures with new constructions.

## *Part 2: Case Studies*

This section of the research aims to identify effective architectural design strategies for reusing maritime ruins by examining relevant case studies that showcase successful repurposing and transformation efforts. The research will begin by selecting a series of case studies that illustrate various design strategies focused on creating functional spaces while respecting the historical context of the ruins. Furthermore, these case studies will be used to investigate which materials and techniques have proven most effective in transforming maritime ruins while preserving their historical and environmental integrity.

Key aesthetic approaches throughout history will be analyzed to highlight trends and innovations in the reuse of maritime ruins. This historical overview will provide a foundation for understanding the evolution of design strategies and their impact on contemporary practices.

To enhance the understanding of the context surrounding these structures, mapping will be utilized to visually represent the locations and conditions of maritime ruins in the Waterdriehoek. This mapping will reveal spatial relationships between the ruins, nearby developments, and historical sites, highlighting areas that may require targeted preservation efforts.

### *Criteria case studies:*

- Existing structure height around 9 metres
- Maritime heritage
- The building isn't surrounded by industry

Resources such as the website [www.boei.nl](http://www.boei.nl) and the book *A Second Life for Buildings* (2022) are full of reference case studies regarding the preservation and adaptive reuse of such heritage sites. These references offer a lot of information, showcasing successful case studies and strategies for revitalizing historical structures while honoring their past.

# Graduation studio planning





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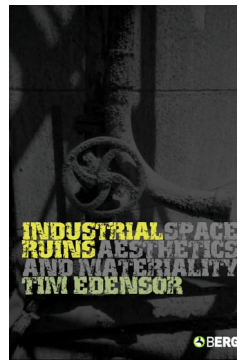
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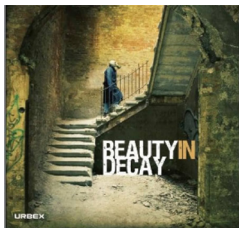
Title: Beauty redeemed

Relevance: Technologies on how to deal with combining existing and new materials. Also a reference on how to use existing materials.



Title: Industrial ruins

Relevance: The beauty of spaces inside a ruin, how aesthetics and materiality change our perception of a ruin.



Title: Beauty in decay

Relevance: Information about what are the beautiful aspects of a ruin and showing that when something isn't perfect it can still be good.



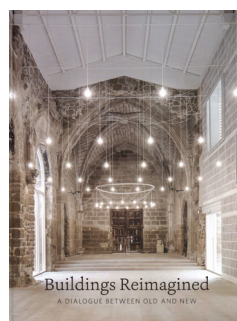
Title: Adaptive reuse of the built heritage

Relevance: Reusing ruins as a design strategy for the cultural memory, showing the potential of the existing.



Title: Dealing with heritage

Relevance: What to do with the existing materials/structures, when they are in good shape or bad.



Title: Buildings reimagined

Relevance: Full of potential reference on different design strategies for reusing ruins.