

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	Jelle van den Brink
Student number	4853598

Studio	
Name / Theme	Architectural Wood
Main mentor	Alex de Rijke
Second mentor	Pierre Jennen
Argumentation of choice of the studio	A lifelong interest in wood as a material that enables experimentation and education, combined with a strong belief in the potential this has for architecture from its smallest to biggest scale.

Graduation project	
Title of the graduation project	Strekplek: permanent nature and temporary housing
Goal	
Location:	Nieuwe Houthaven, Amsterdam
The posed problem,	<p>Housing on water offers great potential to aid the current housing crisis, but its development has come to a standstill due to the commodification and privatization of public waters.</p> <p>Collective self-built housing can overcome this impasse, through the absence of land-costs and easy relocation. The historic position that housing on water has taken in previous housing crises, should be re-interpreted for the dense urban landscape we face today.</p>
Research Question	<p>The thematic research was therefore formulated as:</p> <p><i>"How can light-weight timber construction be used to develop mobile</i></p>

	<p><i>multi-story self-built housing on water in the Netherlands?"</i></p> <p>This proved to be an exercise into exploring and defining the limits of self-built housing in an urban context, choosing to follow a self-provided (collective private commissioning or a cooperative) instead of strictly self-built approach.</p>
Design proposal in which this resulted.	To design a park on water in the Nieuwe Houthaven, where temporary self-provided housing can contribute to the creation of a permanent nature area.

To do so, the design should explore two main themes:

Permanent and temporary

Housing on water should propose a new scale of living that fits itself in between the waterline and the planned high-rise neighborhoods of Haven-Stad surrounding the site. The buildings should guide the phase in between the transformation from a port into a high-density residential area. Housing on water is seen as a temporary measurement that gives shape to this process and provide starters an alternative to the saturated housing market in the meantime. This method can offer a repeatable strategy to reshape the port-city relationship in further urban developments.

Maintenance and wilderness

To do so, it takes the natural processes of sedimentation and rewilding of port infrastructure as building blocks for creating a new landscape. Typical elements of the dutch cultivated landscape, such as the 'legakker' and the 'ooibos', will be introduced to question our productive relationship to nature and the urban longing to the wild. These elements and their temporary caretakers are connected by a network of piers and bridges, reminiscent of the previous industrial landscape of the Houthavens.

Process

Method description

AR > architecture

The design process will be conducted using several methods and disciplines. The design will have a strong landscape focus. For help in working and understanding this level of scale, Professor Inge Bobbink, the Port of Amsterdam, Waternet and consulting firm E.C.O.logical have been contacted. Cooperation with these parties should provide realistic input, and form a better understanding of the current actors in the area. The spatial vision and programmatic proposal of the P2, will be translated into a complete landscape design to the P3. The design of the houses on water and connecting piers will be done in strong connection with building technology and thematic research.

RE > research

The results of the thematic research will be used to propose a lightweight wooden construction method on multi-story water. Based on the recommendations from the research, a post-and-beam construction will be designed that allows for different levels of self-provision within a collective structure. Further research will be conducted to shape the questions of ownership and temporary land use associated with this design proposal. Research into current developments of this, as done by Rabo Smartbuilds, The New Makers and the national policy for 'flex living' will be formative for this. The final research will consist of the current research paper, supplemented by the technical and organizational implementation of the design.

BT > building technology

The technical realization of the design has several challenges. The archival work already done on old building types and port infrastructure must be reinterpreted, to reshape the combination between wood and water. The architecture must use the maintenance that always accompanies this combination as an educational tool. A strong interest is therefore in shaping the deterioration of the building, and the application of swell-to-fit connections and other traditional techniques from the shipbuilding and wood industries. The application of irregular timber would also like to be explored, to translate the theme of wilderniss and maintenance into architectural form.

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 graduation project explores the thematic of the Timber for Urban Density Studio, by investigating the potential of housing on water in an urban context. With it's focus on different timescales and landscape it aims to find a new answer to the studio's proposed theme. De studio is de ideale plek om de ambitie om binnen het afstudeerjaar nog zo veel mogelijk over houtbouw te kunnen leren werkelijk te maken. Het ontwerp omvat de verschillende schaalniveaus, van landschap, stad en gebouw die tijdens de bachelor en master in delft op verschillende wijzes aan bod gekomen zijn. Het vormgeven van een architectuur die in juiste relatie staat met deze andere disciplines, vormt volgens mij een waardige afsluitende afdaging voor de master Architectuur.

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

Despite many design proposals and initiatives for the large-scale development of housing on water, larger projects fail to be realized. This standstill seems to come from a stalled cooperation between different stakeholders, with the port authority and the municipality playing an important role as middlemen. By focusing on mobility, strengthening the construction market with self-build and integrating ecology, agenda items of these actors become main themes of this design. By doing so, I hope to fulfill a different design perspective that contributes to changing the professional and social perception of living on the water. The thematic research explores the possibilities of multi-level construction on water and self-building, and provides these insight for subsequent designers.

Literature and general practical references

The most important literature for this project is:

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Ruimtelijk Planbureau. (2017). *Particulier opdrachtgeverschap in de woningbouw*.
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Salzberger, M., Klein, T., Hemmerling, M., & Konstantinou, T. (2024). Shape-Changing wood joints in crafts and industry and their potential for building construction and wood culture. *International Journal of Wood Culture*, 4(1), 58–95.
<https://doi.org/10.1163/27723194-bja10031>

Swedish Wood. (2022). *Design of timber structures* (2nd ed., Vol. 1).
https://www.swedishwood.com/publications/list_of_swedish_woods_publications/design-of-timber-structures/

Taivainen, A. (2016). *Alternative Agency, Observations of changing architecture and Futures Studies* [MA thesis]. Aalto University.

Van Breen, L. G. (1921). *Hollands Rijshout: Het gebruik van rijsmaterialen bij stroomleidende werken en oeververdediging langs bovenrivieren en aan zee met 55 platen ruim 200 figuren* (1st ed.). Oosterbaan.