

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan:

Studio	
Name / Theme	Paleis Soestdijk
Teachers / tutors	Prof.dr.ir. A.A.J.F. van den Dobbelsteen (1 st mentor) Dr.ir. N.M.J.D. Tillie (2 nd mentor)
Argumentation of choice of the studio	I have always been interested in heritage and wanted to combine this with my graduation. When I saw the topic of Paleis Soestdijk, I was immediately fascinated by the idea of combining topics such as circularity with transformation in heritage.

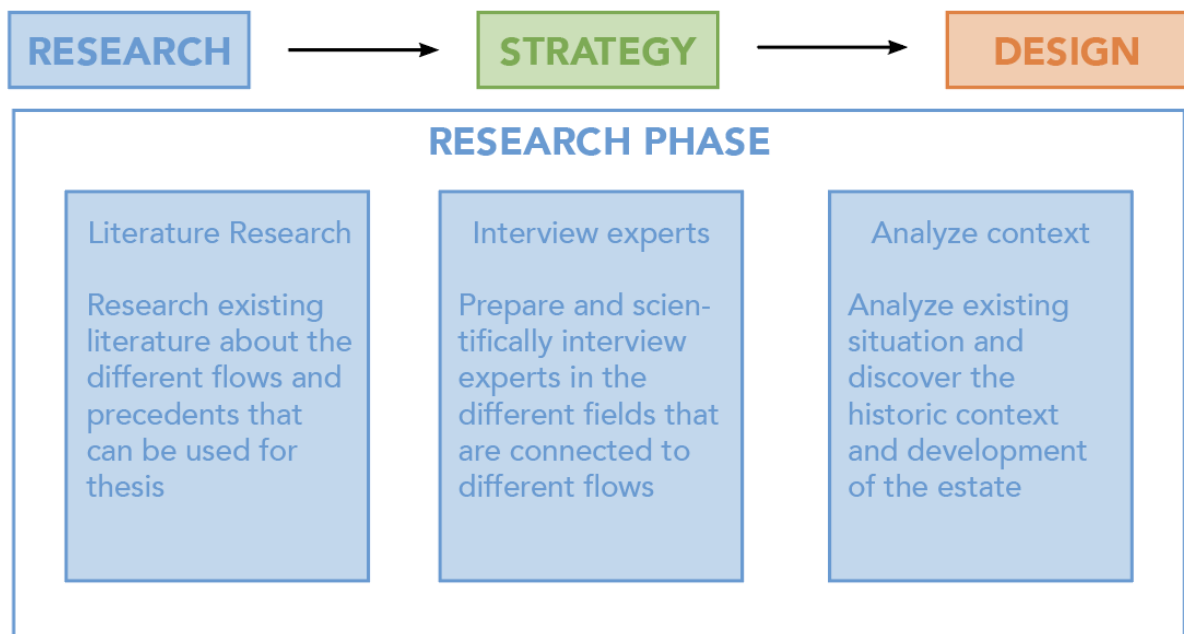
Graduation project	
Title of the graduation project	Transforming the estate of Paleis Soestdijk into a circular and self-sufficient estate, by connecting the flows of energy, water, food, materials and biomass (from the forest).
Goal	
Location:	Paleis Soestdijk Amsterdamsestraatweg 1 3744 AA Baarn
The posed problem,	Historically seen the Palace Soestdijk has been an autarkic estate. Everything that was consumed was harvested from the grounds of the estate. However, over the past 150 years the estate has become more reliant on outside sources, even though the estate is still rich with possibilities to solve demands locally. Therefore, the Palace Soestdijk should become a circular estate that can solve the demands locally and will be self-sufficient again. For the estate to become self-sufficient the following flows must be taken into account: Water, Energy, Food, Biomass and Materials.
research questions and	<p>Main research question: Can the estate of Paleis Soestdijk become self-sufficient by connecting the flows of water, energy, food, biomass and materials on the grounds of the palace?</p> <p>Subquestions: - How can the forest be used within the cycle, in terms of biomass and food production or perhaps even for harvesting materials and cleaning water? - The trees and wild-life inside the forest create the challenge that it is highly protected by law and activist</p>

	<p>groups, what effect does this have on the maintenance and revitalization of the forest?</p> <ul style="list-style-type: none"> - How can clean water be harvested on the estate, only in a technological way or also by using natural elements, such as plants? - Is water management on the estate important for the forest? - How can energy production and storage be integrated into the landscape of the estate? - Food can be produced for consumption and biomass in the greenhouses and garden, but how can it also be produced in for instance the forest?
design assignment in which these result.	As part of connecting the flows on the estate, the two large greenhouses (that used to be there in the past) will be rebuilt and re-designed in such a way that it will be part of the solution to create a circular estate.

Process

Method description

In order to structure my graduation planning, I have divided it into three phases: Research, Strategy and Design.



STRATEGY PHASE

Criteria

Set up criteria to which the strategy needs to comply as well as the rules/ viability principles it needs to meet

Scenarios

Create different scenarios and timelines that can be compared to each other in order to create the best strategy

Strategy

Create strategy for the circular estate Paleis Soestdijk

Test whether it meets all criteria

DESIGN PHASE

Concept

Work out different ideas for the greenhouses and create an overall concept

Design

Create a design for the greenhouses and work out how each flow (if present) is visible in the design

Detailing

Work out which parts of the design need detailing and make full plans/ sections/ elevations and 1:5 details

In a nutshell, the graduation will start with research of literature, precedents, interviews with experts and an in-depth analysis of the context. During the strategy phase different criteria and scenarios will be set up from which a strategy for the estate will derive. A part of the strategy, the implementation of the greenhouses, will be designed and detailed in the design phase of the graduation (which will be the final product of the graduation project).

Literature and general practical preference

The research for this graduation will be extracted from literature research, interviews with experts and documents provided by MeyerBergman.

- The literature research will be done in relation to the topics of Water, Energy, Biomass, Materials and Food, a few examples of search terms are listed below: Forest Management, Water-Energy nexus, Water-Energy-Food nexus, Water Management, Biomass from Forest, CLT production, Energy Production, Food production in Greenhouse, Circular Greenhouse, Circular Food Chain, Wild-Life protection in the Netherlands, Water Management in Forests, Food Production in Forest, Natural ways to clean water, Energy storage in ponds etc.

- In order to gain more in-depth knowledge, especially in the topic of the forest, I will interview experts in the field, like for example a WUR professor in Forest

Management. Next to that, the expertise of my mentors will be used as background information of my thesis.

- MeyerBergman, owner of Paleis Soestdijk, is aiding me with all the documents I need, however with the restriction that it is confidential and not spread. I am allowed to use for analysis and background data but cannot use exact numbers etc.

Reflection

Relevance

There has been already quite a lot of research into connecting flows on different levels, however there is not a lot of research on this including the forest as a source. Also, in relation to heritage, which can be a large constriction, there are not many precedents. Therefore, this research can be part of a new way of looking at the connection of flows and creating circular heritage.

Time planning

Below the time planning can be found with how an overview of what I expect to do during the coming time. As can be seen in this planning, I am postponing P3, P4 and P5 a bit, in order to give myself a little breathing time for other things (MOR, last ECTS I still need to obtain). I talked about this with the Student Counselor and she advised me to move everything from P3 with a quarter year (it was not possible to move P2, due to graduation rules). (readable A3 version will be attached separately)

