

# Final reflection

## Heritage and Architecture - Hembrug

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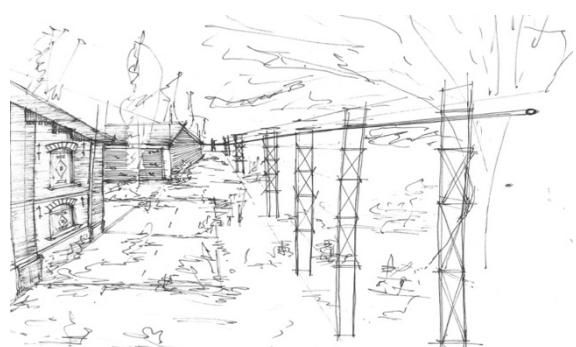
### *What is/was the influence of the research of the study of the 2 urban plans; KNSM, Willemsoord?*

The KNSM-Island and Willemsoord proved to contain two very different approaches towards their urban redesign. The KNSM-Island has been massively influenced by the huge housing need of Amsterdam, leading to immense densification of the area: completely abandoning size and scale of the existing structures and thus creating a reinterpreted character of the island. The Willemsoord took a different approach. Here, the redesign was done more subtly in its expression; preserving most of the existing buildings and only amplifying those with small interventions such as small connections of building volumes or glass extensions. This way, the existing character of the marine harbour was maintained much better than the industrial freight port of KNSM-island.

Where the KNSM proved to be dense, the Willemsoord remained too diluted with its preservative attitude. Perhaps the atmosphere felt too "dead" because of the lack of activity and remaining open space. So the lesson I learned from visiting these places was to find the right balance between preservation, character, and densification. Three main subjects which I've heavily studied on the Plofbos redesign as well. Initially finding a suitable program that would provide a solution for my target group, answering the societal problem. But more attention was brought upon finding what the character of the place was, in order to know what to preserve. These "genius loci" have given me a collection of design rules, such as the experience of transitioning into a contrasting forest, created by the in-between space. But also scale, proportion, height et cetera gave me a sense on how to approach the design. Lastly, densification has been a large study of the research for the Plofbos. How much can you densify without losing this unique character of the ensemble? By no means densification means something bad. In fact, KNSM Island proved how densification brings activity with it, making spaces feel more alive (which I think the Willemsoord lacked; at least when we visited it). Understanding that the character lied in the natural in-between spaces, the transitional experience of walking into a completely new world of the natural environment (unlike the industrial surroundings), which made this ensemble so unique. It directed me into a more respectful attitude to redesigning the existing structures, just as in Willemsoord. I have opted to densify very little on plots that remained unbuilt (not the in-between spaces), reasoning that it would be wise to densify Hembrug on the morphology where it is already dense so the unique in-between space quality of the Plofbos can be preserved. Adding public facilities (cafe, restaurant, artisans workshop, contemplation hall), together with the mixed residencies to the ensemble, I think that I have found the right balance between densifying the site for a lively activity, while preserving the distinctive character of the Plofbos itself (with spaces structured in lanes of trees, densely grown dark plots, light, and open plots).

### **Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.**

During the beginning of this course a thorough investigation on the site of Hembrug had taken place. Not knowing where to start exactly, I endeavoured to read and gather as much information I could get. The studio mentors asked us to draw the site, the scenes of Hembrug that affected you, describe your visit in one word and more architectural tricks which I was not being entirely sure what to do this for yet. Looking back at this process these 5 minute tasks appeared to become quite useful for my research later on; by sketching certain sceneries of the Plofbos, the nature, pipeline systems connecting buildings, canals, trees.. Looking back at these sketches I've made in the first week helped me determine what intrigued me about the site; the first steps determining character.

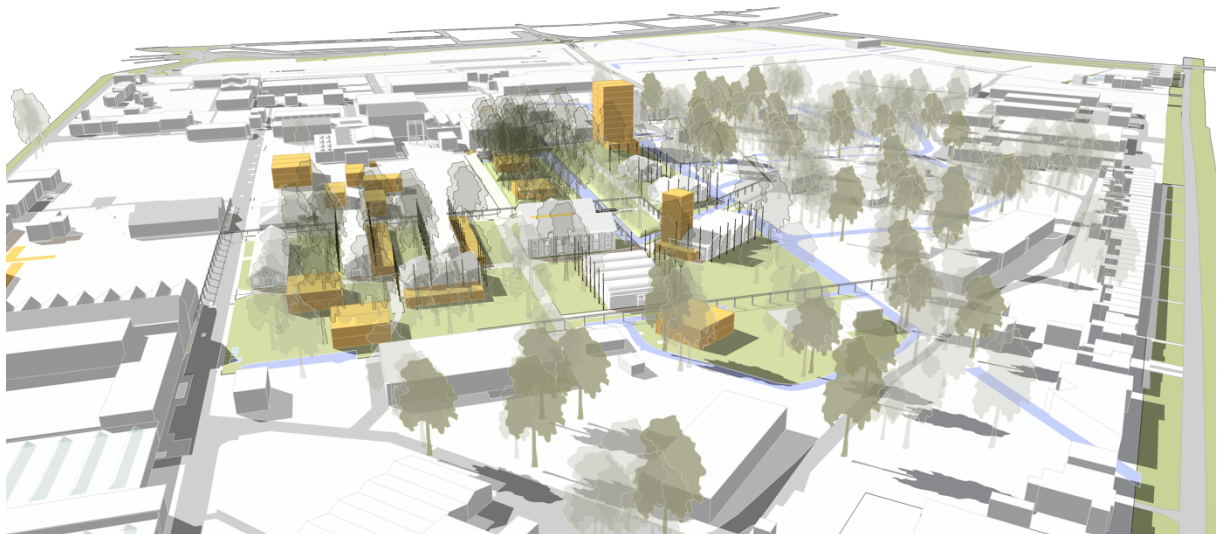


The studio demanded us after the P1 stage to choose a target group and a problem in society to focus on. Of course there were certain ideas already during the analysis on what the Plofbos could become, while we as a team were still determining what the site was about, the activity of the past, the history, how this formed the qualities and genius loci. Anyway, this choice of target group felt on the one hand quite rushed, giving you no theoretical basis on why to focus on my chosen target group rather than trusting on my instinct. Of course I understand the studio as well, making us just choose in order to continue on the design itself.

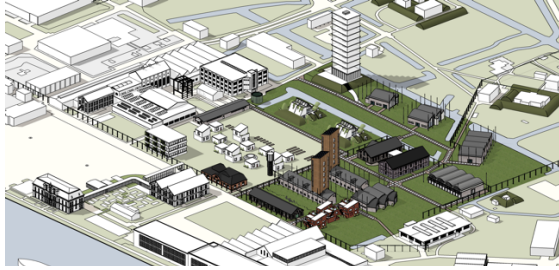
With this research, I endeavoured to find an architectural solution that deals with a huge societal problem; lonely elderly. A target group that is being forced to live longer on their own while they're physically aren't able to. Living in a natural environment stimulates exercise, breathe cleaner air and reduces stress. It seemed a logical starting point to turn the Plofbos ensemble into a sustainable living environment because architecture can help to connect people by linking program, spaces, and activities. This is important to combat loneliness amongst the elderly, but also younger inhabitants. But intelligent architectural interventions could also make it possible to help the elderly live longer at home, with less required medical assistance. However, this will require a living environment where empathy and compassion amongst the community can be stimulated through a set of facilities that assist the new self-supporting community, allowing the inhabitants to benefit from each other. The main research question I am trying to find a solution for with this graduation project is as follows:

*“How can the existing buildings of the Plofbos be transformed sustainably, where elderly can live more independently and which stimulates the settlement of a self-supporting community?”*

Studying references of new living concepts such as the Who cares competition, helped me to determine a suitable program for the site. The greater course of Hembrug (adding a thousand residences to the site) had also been a strong driving force to investigate density, which heavily influences character. The more you add, the more nature (and therefore quality and character) you sacrifice. These studies were either done in SketchUP or 1:1000 models to quickly judge the effect of added mass. Abusively done in the form of experimentation and intuition, this research through design allowed me to make strong design statements to determine a vision on the long term direction of the site.



...did it work?



Left: former stage of the project with vertical accents, towers in the plot.

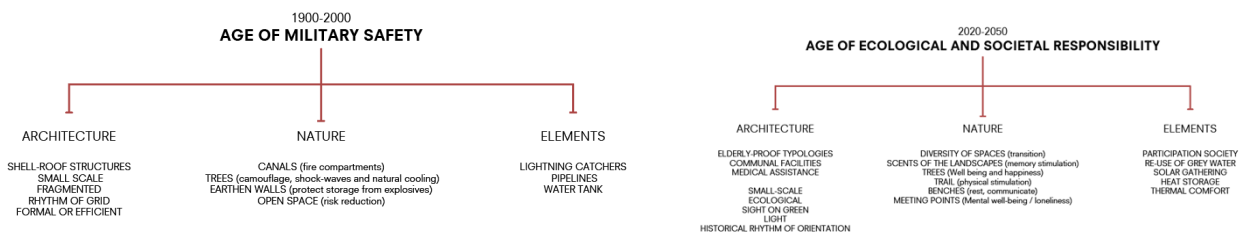
Right: re-evaluation between density and character, where I took a step back from adding residencies in new towers; which completely take away the sense of small-human scale which makes the Plofbos so unique.

Not necessarily. The computer design helped me to quickly attempt how certain design ideas look, but I also realise you can quickly forget the sense of reality as well; you don't see the atmosphere determined by lighter spaces, dark, the trees, shadow, material et cetera. All factors you don't see right in the computer. Revisiting the site after many design and density attempts made me re-evaluate what the site was about, and building tall units on top of existing heritage would not be the right idea as it took away the sense of human scale (turning to be much more important than I expected). Even standing right next to the wall of the shell roofs, it proved to be super tall, while in the computer you can quickly forget about this sense of proportion.

...So what is this character?

My design focusses on the transformation of this former military test site and explosive storage zone, by the name of the Plofbos. A space that contrasts tremendously to the surrounding industrial zone; a site characterised by its natural spaces, with buildings under the trees, its restful ambiance, small-scale structures with many idyllic scenes created by open space in between the buildings. An atmosphere created by the stunning colour palettes of the changing seasons or the fallen leaves suddenly opening new sight lines towards the large structures of Hembrug. It is the role of this experience of transition, together with the presence of historical evidence that makes the Plofbos so interesting and unique. It is the objective to preserve and enhance that role of experience in future redesign. What intrigued me about this area is that it is not only the role of vision that defined the experience of the area, but also the elements that unlocked the other human senses that were at play.

By making a strong definition on character and quality of the existing, it helped me to determine what path exactly not to go towards with the Plofbos, and focus much more on what is already there, by preserving and finding small interventions that have a stronger impact, you could actually acquire much more out of the heritage. Therefore I've determined a set of design rules such as maintaining the in-between distance between the buildings. Following the small human scale of the proportions, making sure all buildings are positioned to have their sight on green. But more importantly, leaving space untouched, letting nature continue the formation its own ambiance by wild foliage and uncontrolled growth. A simple bench or path would already determine the use of such space. In the end a balance between making places and letting places be has been found.



### **What is your position in Heritage for this design project?**

I am convinced that most of the existing structures can provide an excellent basis for adaptation. It is a good solution on a sustainable viewpoint; as the redesign of existing built structures saves money on production costs, material usage, and CO2 emissions and waste. Why demolish and rebuild while much of the existing framework already allows space and structure for new facilities? During the course of Heritage and Architecture, my position on dealing with existing architecture has changed a lot. At the beginning of the course, I've had the tendency to add "wild" new volumes to the existing, attempting to achieve an impressive contrast between the old and the new. However, during a deeper analysis of the existing buildings, I realized that the extra qualities I've tried to achieve are already present in the existing. They only needed to be unlocked in a certain way. So why spend a lot of money, material, and effort attempting to achieve the same result? Buildings proved to be spacious and contain a lot of light within it already. Therefore, I am now trying to build from within the existing, by making minimal interventions but have a strong impact on defined space, quality and light, while sustaining the existing qualities such as form, material or space by letting them be or even amplifying them. Only when the required program demands so, expansions can be made through strong argumentation. The buildings on the Plofbos ensemble proved to be very large in space already and extending the volume did not seem to be the first priority, as qualities I attempted to achieve already existed within the existing buildings. It is more about finding and then enhancing or amplifying these qualities further, instead of trying to achieve the same result with new structures. This position on heritage made me take steps back from earlier designs I've had for the Plofbos buildings.

### **What is the meaning of your design work in the professional/academic field of heritage?**

An architectural concept called Kangaroo housing has been studied, and with this graduation project, I've combined several strategies to existing heritage. My graduation project will prove that buildings from the past are able to provide architectural solutions for contemporary problems. Kangaroo housing is an idea where elderly people and younger generation families share the same roof but live in their own house. Through openings made by voids, windows, openings that are strategically positioned around circulation points and places of rest, the elder is provided with the awareness of safety. Knowing that somebody is around them and able to provide help, makes the aging elder able to live longer on their own, requiring less support from a medical professional. The elder is able to see that the younger generation is home by seeing the lights turned on or simple moving feet along the stairs. This demands unique architectural interventions where the puzzle of privacy and security is constantly at play, while also fitting the residence into special building regulations designed for the elderly.

The architectural design interventions in the Kangaroo residence; breaking open sight, light and acoustic borders between the residences is a relevant topic. In this electronic age we tend to trust more and more on computer devices, such as domotica sensors that scan the behaviour of the elder; noticing potential falls or irregularities and alerting third parties to come and help. However, completely trusting the safety of the elder on electronic has down sides as well. There exist refrigerators that recognise if it hasn't been opened for a certain amount of days. But it goes further. Everything is tracked and analysed, such as the amount of milk you consume; large scale information that could be sold to multinational companies such as Unilever, making profit out of your data. Therefore, it is a relevant focus and continue on this analog control of the elder, as it touches upon interaction and loneliness as well. Not trusting blindly on the digital interventions that contain dark sides not too many people are aware of yet. It is for this fact that Michien Susebeek, our climate design consultant wants to schedule a new appointment discussing technical challenges I face, because he is genuinely interested in the continuation of this design and the technical translation between the borders of the residences.

Secondly, I am creating a Contemplation Hall within the heart of Hembrug. An activity that becomes more and more significant in this fast-paced modern age we're living in right now. More and more we start to live a life where our mind is constantly disturbed; by the mobile telephone constantly demanding our attention. But also the increasing pressure from work, from school. Who does not find the time to contemplate and put things in perspective will remain with a busy mind. Something that could have potential negative health effects sooner or later, such as increased stress. I notice it amongst my fellow students as well, who speak about this new phenomenon called FOMO- "Fear of missing out". With social applications such as Instagram, Facebook et cetera, people are constantly witnessing the "best moments" pictures shared by their friends online, meaning they start to (unconsciously) compare it with their own boring life; putting more pressure on themselves to "fit in", but forgetting about what matters to themselves. What their own goals are. Contemplation could assist in such cases, for both young and old, to put your own life decisions into perspective and help to push forth striving for what matters to yourself. The design of the Contemplation activity will become an architectural challenge for me and is designed so that it will provide a space in the area where the visitor can rest the mind for a moment. After a long walk through the forest, the visitor can find intimate spaces created through light or dark or other architectural interventions. Here, the visitor is able to forget their daily struggles for a moment. To provoke the senses of the

visitor a number of architectural instruments will be used, such as light and dark, old and new, sequences between inside and outside, material, textures, the reflection of light, acoustics; all factors that affect the senses and the atmosphere within the building. Additionally, the vast space the existing structures provide allow communal gathering and collective events to be organized that will unite the community within Hembrug. This will stimulate the sense of unity amongst the community, helps to create a bond between each other but also battles loneliness in a way. With these two redesigns on a micro scale, together with the overall visions for the master plan on the meso and macro scale, it is aimed to prove that the existing architectural heritage provides an excellent basis to form a sustainable living environment, touching upon multiple societal problems we're facing right now.

## To what extent has the design/research question been answered doing this project?

### Kangaroo house

In the example projects that I have studied, visual connections between the elderly residents and the younger family residence (making them able to see each other between e.g. the kitchen/living room) initially gave me ethical doubts. Would you like to live in a house where you are constantly being watched? First, I could not imagine that it would be pleasant living in such a house. Additionally, I thought that this would only work between very good relations, such as families (so a small target group). However, it proved it to be effective to rely on analog visual relationships instead of digital home automated devices, as it increases the feeling of safety for the elder knowing that somebody is there for you, able to assist you with a small chore if necessary. Therefore, I've opted to make configurations where new inhabitants can determine themselves the sacrifice of privacy, in order to gain more private control over their aging elder. This level of adaptability provides this concept to be much more flexible and even work amongst a larger target group of unrelated elderly/younger generations. Secondly, the references displayed two single houses under the same roof, without any space for interaction. In this heritage project, it was considered to create spaces that provoked both young and old unite and interact with each other by generating places of occasional meeting in the residence, such as a shared hall-way, garden, and patio.

The final outcome of the Kangaroo house transformation has become sustainable as it offers a well-insulated residence, that performs according to the current building standards. It does not use gas and makes uses of solar energy to perform well on the required heating ventilation and electricity standards. Through analog control between young and old the elder will be assisted by its neighbours, allowing them to live much more independently than being put in a medical care center. The urban program within the Plofbos should stimulate the elder to participate in communal activities, exercises, and day-time activities, thus keeping them more vital and healthier individuals.

### Contemplation Hall

Living in a natural environment could improve the overall well-being of the individual, as opposed to living in an urban environment. It reduces stress, provokes physical activity (go for a stroll through the woods), breath cleaner air and thus making the inhabitant a healthier person overall. This is an offered quality that is already there. The challenge for the redesign was how this could be preserved while transforming the site to contemporary requirements. This has mainly been answered in the layout of the redesign of the ensemble. There have been masses added, sacrificing nature but only through very thorough consideration. Making sure the genius loci; the scale of the buildings, the rhythm, height, and in-between space character were preserved so nature could manifest accordingly, or even concluding to leave certain natural places untouched!

Secondly, (especially elderly) suffer from loneliness, fear or depression. These problems demand another solution from the transformation in the form of program definition that deals with the mental well-being of the individual. It can be contested by hosting communal activities for the elderly and the community, as well as to stimulate them to exercise and to do communal activities such as communal gardening, bike rides or hikes through the forest. The final masterplan has been designed with public facilities where the community is able to gather and meet, spend their day and additionally; find contemplation through nature and architecture. There will be an Artisans' workshop, where people could come and craft objects from wood, tailor with cloth or craft things with clay. The other structure provides a café, restaurant, reading room and offers multifunctional space upstairs where people could do physical exercises together in order to improve their balance, fitness and overall vitality. Additionally, they can make music, which improves their cognitive functioning and coordination and has a positive influence on speech and hearing. All together the defined program should help to prevent inhabitants from developing negative health effects.

Additionally, the space of contemplation will allow the inhabitants to find their inner rest again, improving their mental well-being, reducing fear and depression and making the inhabitant more healthy overall. Besides that, the large existing structure provides such a large space where occasionally, larger collective events could take place. Activities that could differ, such as funerals, weddings, celebrations, and parties. But also a place where lectures could be given, or collective dinners could take place. This multifunctional space touches upon bringing the community together.

### **Continuation of the research**

During this research, I have investigated the configurations with one single shell roof module. The research could continue a deeper investigation on using multiple modules, or even the full three-module building. This way, the idea of the shared living concept could be expanded; increasing the effectivity of the kangaroo concept. Examples that I have in mind are multiple elderly sharing a residence, with younger families centralized upon these residences and having the responsibility for multiple elderly in one go. It could also be interesting to design a residence where multiple elderly friends could share their apartment, caring for one another while being controlled by a younger generation using this configuration. Now that I know how to build this concept into the existing 1950 shell-roofed structure, a continued design on this approach could improve the effectivity of the kangaroo concept.