



The Senior Farm

- Where You Grow Young -

The farm where senior housing meets a kindergarten

Master Thesis Project
Emelie Stenhammar, 2023

Department of Architecture & Civil Engineering
Chalmers University of Technology

Examiner: Johanna Eriksson
Supervisor: Susanne Clase
Healthcare



CHALMERS
UNIVERSITY OF TECHNOLOGY

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Abstract

The population in Sweden is estimated to increase from 10 million to 12 million by 2060. It is expected that 25% of the population will be over 65 at that time. Even though the older population is essentially healthier, stronger, and more active than ever before, many elderly experience loneliness and live more isolated. Loneliness is sometimes referred to as a national disease that can give severe physical and emotional symptoms. Therefore, loneliness must be taken seriously as it concerns one of the building blocks for achieving the sustainable development goal: good health and well-being.

The thesis aims to investigate and answer the questions: *how can an environment support the interactions between children, animals, and the elderly, at the same time as it fights loneliness among the older generation? What type of housing and what characteristics of the surrounding environment can be used to promote well-being?* The project uses research, interviews, and study visits to support the thesis concept of intergenerational activities and human and animal interaction. Research shows that these initiatives can have a major positive impact on the health and well-being of the elderly, kids, and the community at large.

The thesis is structured into five parts where several methods have been used. First, we have the theoretical part, covering the concept of the elderly, loneliness, health-promoting design, animal therapy, and intergenerational meetings. The second part, covers site analysis, interviews, and SWOT analysis. In the third part, the vision and design strategies are presented. In the fourth part, a site-specific project proposal is showcased by program, drawings, and renders. In the end, the author reflects and gives final comments on the process and final results.

The design proposal ends up suggesting senior housing in combination with a preschool and a farm located in the Råda Mosse area of the city of Lidköping. The thesis hopes to inspire others on how one can use design as a tool to support a physical environment and contribute to increased well-being and a decreased sense of loneliness in the older generation

Keywords: intergenerational, elderly, loneliness, health-promoting design, animal therapy

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**Thank you,
Emelie**



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Prologue

In the song *7 years*, Lucas Graham sings: *once, I was seven years old, my mama told me "go make yourself some friends, or you'll be lonely"*.

In the summer of 2011, I had the opportunity to work in home care for elderly in Lidkopings municipality. During this summer I got the chance to meet Kerstin, an elderly woman close to 90, who claimed she needed help with different things in her daily life. I quickly realized that Kerstin was actually quite healthy, alert and able to live her daily life on her own. The problem with Kerstin wasn't her physical condition due to her age. Kerstin was lonely and needed company. The home care time, around 15 minutes twice a week, was all the interaction Kerstin had.

Grayham continues his song: *soon, I'll be 60 years old, will I think the world is cold? Or will I have a lot of children who can warm me?* This master thesis is my way of highlighting the issues regarding loneliness and isolation. I hope to inspirer others in how one can use design to create healthy environments, fight loneliness and bring enjoyment of life to people like Kerstin.



"You're never too old to be young,
and never too young to be old"

- Michael Rennie -

Table of content

How to cure loneliness	08	Project actors	41
Aim & Research questions	10	Sustainability	42
Method	11	Introduction to checklists	43
Delimitations	12	entrance	44
		laundry room and restroom	46
		living room	48
		double and single bedroom	50
		other spaces	52
Theory			
<hr/>			
Elderly people and their living situation	15	Project proposal	
Different living	16	<hr/>	
Consequences of loneliness	18	Siteplan	56
Intergenerational meetingplaces	20	Proposed program	58
Designing for interaction	21	Zoomed-in siteplan	59
Human-Animal bond	22	Concept of meeting spaces	60
Good housing & Health-promoting design	24	Main meeting space	64
		Senior Housing	66
		Flows & Zones	67
		Plans & Section	68
		Exteriors	70
		Zoomed-in plan	72
		Axonometry	73
		Zoomed-in plan	74
		Axonometry	75
		Revisiting the targets groups	76
Analysis			
<hr/>			
Municipal context	29		
Introduction to the Råda Mosse area	30		
Introduction to Stadsnära Lantgård	32		
Site analysis	34		
Interviews	36		
SWOT-analysis	37		
Vision		Reflections	
<hr/>			
Architectural references	39	Why Senior Farm?	80
Study visits	40	Bibliography	81
Targets groups	41		

How to cure loneliness

A national disease

Around 900 000 Swedish people live alone, which is around 35 percent of the population (SCB, 2022). The problem of loneliness has received a lot of attention in recent years. The report, *Ensamhet bland äldre personer i Norden by Nordiska Ministerrådet*, estimates that the number of people living alone will continue to increase until 2030, making the problems of loneliness highly relevant for future public health. One can read about how the United Kingdom was the first country to hire the world's first loneliness minister who came up with a national strategy on how to reduce loneliness. Among many things, the strategy advocates social activities and facilitate meetings between people (Dahlberg et al.).

Lonely or alone elderly

The Swedish radio show, *Vetenskapsradion*, explains the word *alone* as having no company and *lonely* as a subjective feeling. A feeling of feeling alone (Sveriges Radio, 2023). The report, *Ensamhetens karta*, mentions how older people often become socially isolated as old friends pass away, various health problems start to occur and impaired hearing and vision make it harder to participate actively in social events (Ensamhetskommisionen, 2021).

Children and elderly

The Swedish television show, *Fyraåringarna på äldreboendet* (*the four-year-olds at the nursing home, own translation*), highlights the problem of loneliness among the elderly at nursing homes. In 2020, could the Swedish people watch how a social experiment took place as a group of preschool children entered an elderly home in the hope to make some new friends. At the beginning of the show, the elderly's mental and physical health was measured and it was clear that they were in pretty bad mental and physical shape. After the examinations, the elderly and the kids started to take part in all sorts of activities together which trained both their mental and physical capacity (TV4, 2019). After a few weeks of common activities, the elderly's health was measured again. According to the article in *Aftonbladet*, *Här får kidsen fart på de äldre*, the results showed sensational

Perceived loneliness among people over 65 years of age

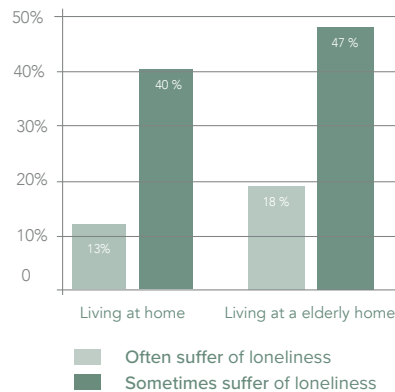


Figure 1 (Ensamhetskommisionen, 2021)

improvements and far beyond what could ever have been predicted (Aftonbladet, 2020). Once again, an example of the effects generational meetings bring and how they improve the mental and physical health of the elderly. The common activities ended up creating meaningful friendships which brought joy and a sense of being needed to the elderly who participated in the experiment.

Animals and humans

Research indicates that animals have a major positive impact on people's well-being. According to the website *Folkhälsa*, animals, evoke memories and feelings. Animals have positive health effects, such as lowering people's blood pressure and creating the feel-good hormone oxytocin (Folkhälsan, 2023). An example of an initiative with animals used as a health treatment method can be read about in SVT's article, *Djur och natur får dementa att må bättre; vård i Hasslöv prisas av drottningen*, where a small farm invites people with dementia or cognitive impairment (SVT, 2023, January 7). Another example can be read about in SVT Nyheter's article, *Ukrainska soldater rehabiliteras med delfiner*. In the dolphinarium in Odessa, dolphins are used to treat soldiers returning from the war with post-traumatic stress. In the article, one soldier even claims that the dolphins help him forget bad memories and make his worries disappear (SVT, 2023, May 2)



”A fifth of Sweden’s elderly
experience loneliness”

- Quote from the report *Ensamhetens karta* -
Ensamhetskommissionen, 2021,
Own translation

Aim

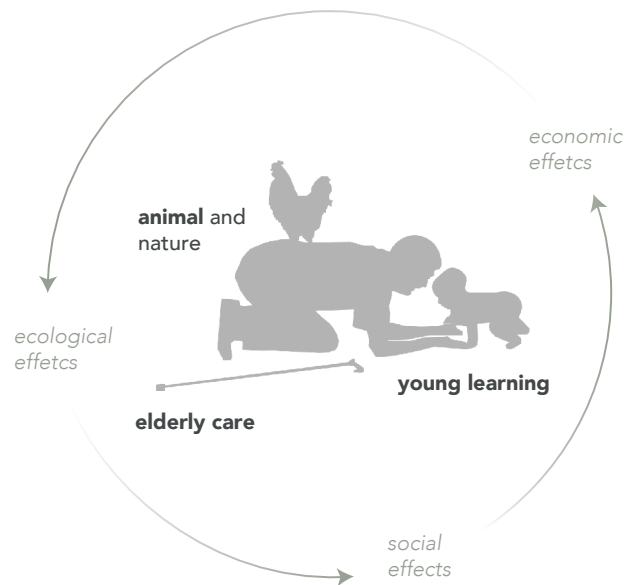
Increased well-being and a decreased sense of loneliness

The Senior Farm project aims to increase knowledge about the effects of loneliness and underline the challenges it brings to public health. The global trends indicate a future increased and older population. One of the biggest challenges ahead for politicians and city planners will be to make our cities more resilient to face the challenges these trends bring. Loneliness, which concerns a fifth of the Swedens population, is a threat to public health which is one of the building blocks for achieving the sustainable development goal: good health and well-being (Ensamhetskommisionen, 2021).

The thesis targets to investigate how design can be used in a local context to increase well-being and decrease the sense of loneliness of the older generation. The project aims to create a place where the elderly choose to move to, in contrast to being forced to move somewhere due to age-related ailments.

The project aims to investigate the type of housing that would be suitable to support the concept in the local context. Moreover, the project does not only consider the building, it also investigates what characteristics that can be applied in the surrounding environment to promote well-being.

The project site for this investigation is in the Råda Mosse area, located in the city Lidköping by lake Vänern. However, the concept is meant to be applied in other places. The project wishes to inspire other municipalities, architects, politicians, and actors in how design can be used as a tool to support intergenerational meetings in combination with animals. In that way, the thesis aspires to improve the physical and mental health of our elderly.



Research questions

How can an environment support the interactions between children, animals, and the elderly, at the same time as it fights loneliness among the older generation?

- Research Question 1 -

What type of housing and what characteristics of the surrounding environment can be used to promote well being?

- Research Question 2 -

Method

Five parts with several methods

The essay starts with a theoretical part, covering the concept of the elderly, loneliness, health-promoting design, animal therapy, and intergenerational meetings which helped formulate a framework or design guideline for the project proposal. Statistics and graphs have been taken from various sources to increase reliability.

The second part manifests the analysis which covers site analysis, study visits, interviews, and SWOT-analysis. The reader gets some insights about the project site around the public farm, Stadsnära Lantgård, at Råda Mosse Lidköping. The interviews were conducted with the business manager of the farm and stakeholders from Lidkopings municipality: a city planning architect, a public health strategist, and the area manager of the health care department. In addition, study visits were carried out to an elderly home with a public meeting place in Tolsjö, Lidköping as well as to a new senior housing in Fristad, Borås designed by Tengbom Arkitekter. In addition, the new dementia center in Lidköping called Villa Videbäck, designed by LINK Arkitektur was visited. In short, the second part provides useful information about the project site as well as inspiration for what senior housing can represent.

The third part states the thesis vision, and the design strategies being used. The vision of the project is based on the research and on three reference projects: two senior housing for the elderly and the concept from the SVT show, earlier mentioned. However, the main vision is to create an environment where the elderly, children and animals can meet.

In the fourth part, a site-specific project proposal is visualized in the form of four senior housing and a preschool integrated into the existing environment around Stadsnära Lantgård, Råda Mosse.

In the end, the author reflects and gives comments on the project proposal and final results.



Delimitations

Boundaries and limitations

Others experience loneliness

The thesis aims to investigate the effects of loneliness among the elderly rather than physical or psychological unwellness; however, they are connected. Other age categories stand out in the loneliness statistics, especially young people, but this will not be further investigated in this report.

Animal therapy

The chapter discusses animal therapy; however, the field is narrowed down and deals with the animals used for increased well-being of children and elderly. The chapter does not cover animal therapy used to treat various traumas or diagnoses. The animals that are talked about are animals that many people have in their vicinity.

Challenges with concept

Most of the literature focus on the benefits of meeting between humans and animals, likewise elderly and children. The thesis focuses on the benefits of these initiatives. However, the work has identified difficulties such as allergies to animals and plants, fear of animals, and safety issues regarding meetings between the elderly and children, safety issues regarding meetings between elderly, children, and animals.

A proposed vision

The project is adapted to the local situation around the Råda Mosse area in Lidköping. The proposal is adapted according to Lidköpings municipality's master plan; however, there is no current detailed plan of the area today. Consequently, further analyses need to be done and a detailed plan for the area needs to be developed.

A proposed vision of actors

A proposal for which actors possibly can finance and run the business is suggested; however, this is based on the authors own opinion.

Design adapted after Swedish regulation

Design strategies are developed based on various Swedish literature about good housing, good housing for seniors, and accessibility adaptation of housing. In that way, the thesis proposal are based on Swedish legislation. In other countries, one might think differently about good and accessible housing for seniors.

The design proposal

The proposed senior housing is designed based on a checklist developed in the theoretical part of the report. Suggestions for design factors are given in the checklist, but not all of them are applied in the project proposal.

Material and Daylight

The proposal suggests a facade material and coloring of doors, window frames, and entrance areas. Daylight calculations are recommended to be carried out more in detail to give the residents of the senior homes the optimal daylight factor. Moreover, the proposal envisages that solar cells could be applied to the roofs of senior homes, but they are not shown in the drawings.



Theory

This section covers background information about the elderly population, their living situation, different types of senior housing, consequences of loneliness, intergenerational meeting spaces, human and animal bonds, and factors of health-promoting design. These facts are the framework the project relies on.

Elderly people & their living situation

Increased life expectancy requires more homes

Elderly increase in number and age

The average life expectancy has increased steadily since the middle of the 19th century (SCB, 2022). The book, *Bra Bostäder För Seniorer*, explains how the population in Sweden has increased from seven to ten million since the 1950s (Ahlström et al., 2023). In 2020, there are more than 2.6 million people in Sweden who are 60 years of age or older. It is the age group that has increased more than the population as a whole due to that more people die of an older age. In 2020-2060, the population in Sweden is estimated to increase from 10 million to 12 million. The elderly are expected to increase in number and 25% of the population will be over 65 (SCB, 2022).

Elderly are healthier and more active

The elderly are not just older, they are essentially healthier, stronger, and more active. Studies show that a 70-year-old today is as healthy as a 50 year old was 50 years ago. Three out of four in the ages 60-69 have good general health but that seems to change when turning 80. Statistics indicate that good general health decreases and the activity capacity reduces for people older than 80. Studies also show that about

50 percent keep their good health when getting older than 80. However, with aging comes possible functional variations, possible needs for technical aids, and increasing dependence on the support and help of others in everyday life (Ahlström et al., 2023).

Not one homogeneous group

When we talk about the elderly we tend to refer to them as one group of people. It is important not to see them as a homogeneous group. Aging is very individual (SCB, 2022). However, elderly might have certain common requirements for example when it comes to what a good and healthy environment suggests (Sveriges Kommuner och Landsting, 2018).

Elderly's living situation

It is most common for people over 65 to live with a partner, around 60 percent do so. There are more women than men that live alone, around 600 000 to just over 300 000 (SCB, 2022).

Life expectancy at 65 years of age

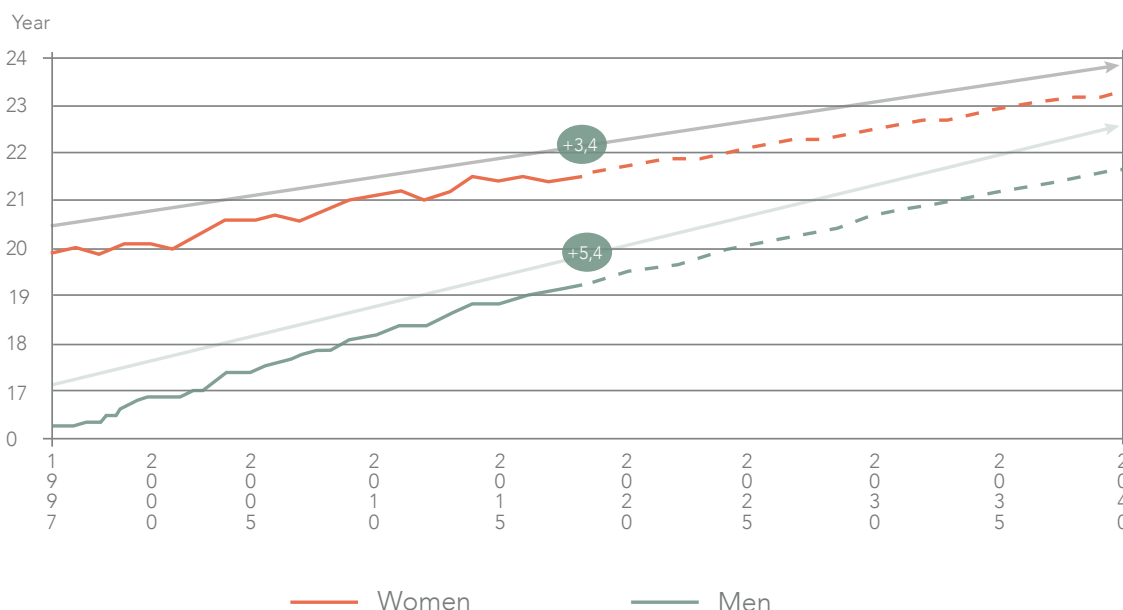


Figure 2 (Socialstyrelsen, 2020)

Different living

Housing available for seniors on the Swedish market

Future need of housing for seniors

The population in Sweden is getting larger and older. It is the group 80 and over that will increase in particular. The expansion will put pressure on the Swedish senior housing market to a greater extent. Statistics covering the whole country indicates that the accommodation we offer elderly today will not be enough to cover future needs (Sveriges Kommuner och Landsting, 2018).

Ordinary accommodation

Today, over half of those aged over 60 live in a single-family house belonging to the ordinary housing group. Compared to living in an apartment, single housing requires a greater effort to look after when it comes to the garden and the maintenance of the home. However, many elderly choose to live as long as they can in their single housing and some do not move until they are forced to (Boverket, 2022). In the book, *Vårdmiljöns betydelse*, a home is described as part of a person's identity, and some might be scared it will get lost if moving

to a nursing home (Wijk, 2014). The average number of square meters per person aged over 60 is 61 square meters, which can be compared to the entire population's average of 42 square meters. Statistics covering the number of seniors at elderly homes from 2020 show that people 90 years or older are the most represented (SCB, 2022).

Different types of housing offered to seniors in Sweden today:

Senior housing

Senior housing, or *Seniorbostäder*, is ordinary housing on the market except that they need to be comfortable and offer a greater chance for social interaction. The design of these housings varies, but they all belong and are adapted to a certain age group (Boverket, 2022)

Senior housing with close care

Senior housing with close care, or *Trygghetsboende*, for the elderly, is a relatively new form of housing that offers older people

Calculated volume changes within municipal operations

Index 2028 = 100, fixed price

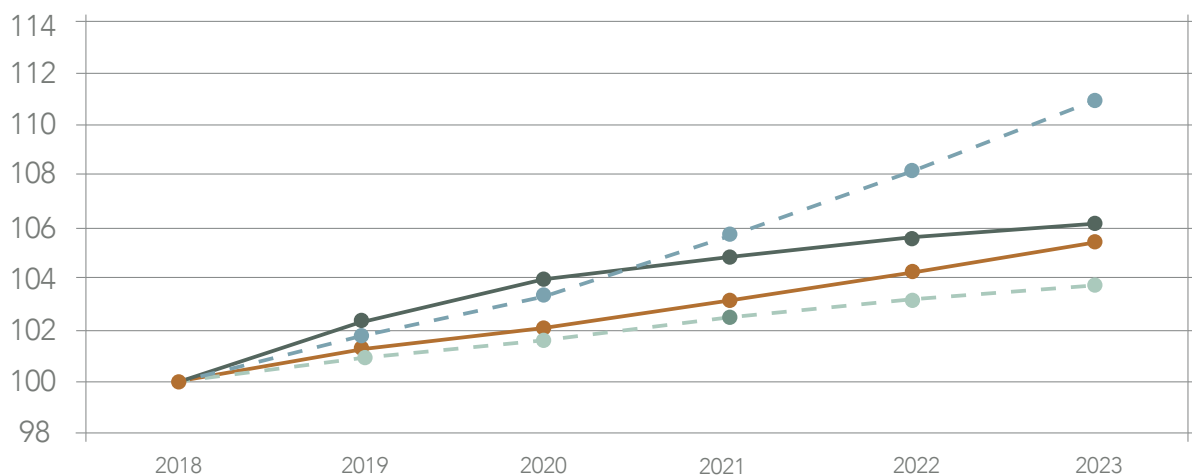


Figure 3 (Sveriges Kommuner och Landsting, 2019)

- Elderly care
- Interventions for people with disabilities
- Individual and family care
- Total

a greater safety and community sense. This form of accommodation is similar to senior housing but it is supposed to be an "in-between alternative" between Care and nursery housing and Senior housing. The resident living in these houses can apply for nursing services at home if they need extra support. Today there are approximately senior homes in 55% of the country's municipalities and more than half are saying that they need to build more to meet future needs (Boverket 2, 2022).

Care and nursery housing

According to Boverket, the municipality is responsible for developing forms of accommodation to support people that need special support. *Särskilt boende*, or *Care and Nursery Housing*, can sometimes be referred to as elderly homes (Boverket, own translation). These accommodations offer round-the-clock service, support, and personal care and are usually designed as several private rooms surrounding a bigger common area such as a dining room or a living room (Boverket, 2022).

Senior housing

Example: Trygghetsboende Kvarnkullen
White Arkitekter



Senior housing with close care

Example: Drömstan
Fastighets AB Drömstan



Care and nursery housing

Example: Villa Videbeck
Link Arkitektur



Pictures: (Clase), (Drömstan), (Lidköpings kommun 2021)

Concept map with connection to the HAPPI report

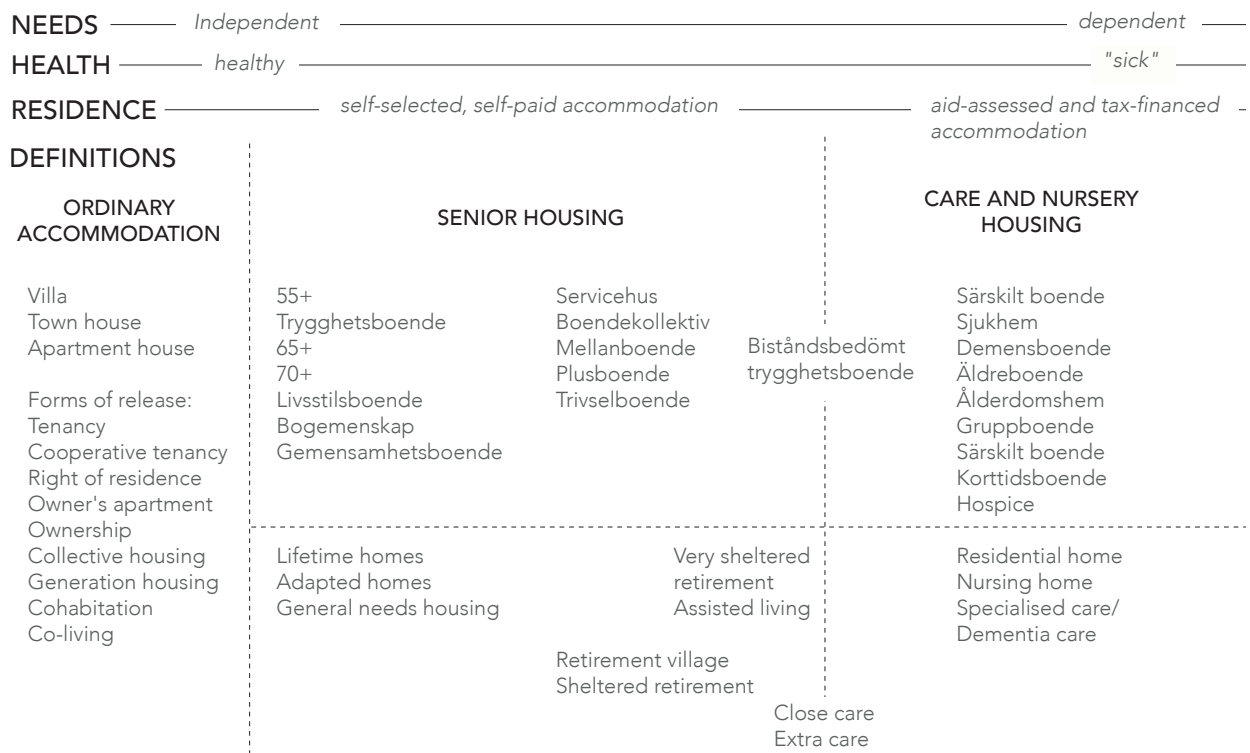


Figure 4 (Ahlström et al., 2023).

Consequences of loneliness

Loneliness cost society huge sums of money

Social distancing as reality

Having meaningful relationships is important at any age as it brings a meaningful and healthy life (Socialstyrelsen, 2021). Social distancing became familiar to us all during the pandemic. For most of us, the restrictions the pandemic brought was only a phase before we could return to our normal life with social exchanges. However, for a large group of people, social distancing is the reality of every day (SCB, 2022). In fact, in Sweden, we have the most single households in the world (Sveriges Radio, 2023).

Call Alarms

Many elderly who live alone have a security alarm and a button that is connected to a central unit they can call if they need help. Statistics from the Swedish alarm center show that about 1 percent of the alarms are so-called "call alarms". A call where the person presses the button not because they need help, but because they want to talk to someone (SCB, 2022).

Loneliness among elderly

Older people are often alone because social isolation increases with age as old friends pass away, various health problems make it harder to get out, impaired hearing and vision make it harder to participate actively in social events,

and the disappearance of social contact after retirement. However, the biggest reason why the elderly being alone is the death of a life partner, according to a study by the Karolinska Institutet. This is also why older women are more lonely than older men, as the men often pass away first. In contrast, middle-aged men are more isolated than middle-aged women, because they do not cultivate as many social contacts (SCB, 2022).

In the UK, loneliness causes one in five visits to the health center. Here is a list of health risks that loneliness can lead to:

1. A chronic, low-intensity stress attack
2. Depression and other mental illnesses
3. Cardiovascular problems
4. Stroke
5. Dementia
6. Inflammation
7. Increased physical pain
8. Cognitive impairment
9. Premature death

All these challenges cost society huge sums of money. Several researchers, therefore, believe that loneliness should be considered as an equally important health and lifestyle factor as food, sleep, and exercise (SCB, 2022).

"Every day around 125 people in Sweden see the alarm button as their only opportunity for human interaction"

- Quote from the report *Ensamhetens karta* - Ensamhetskommissionen, 2021, Own translation

The percentage of elderly who are socially isolated of those who live alone

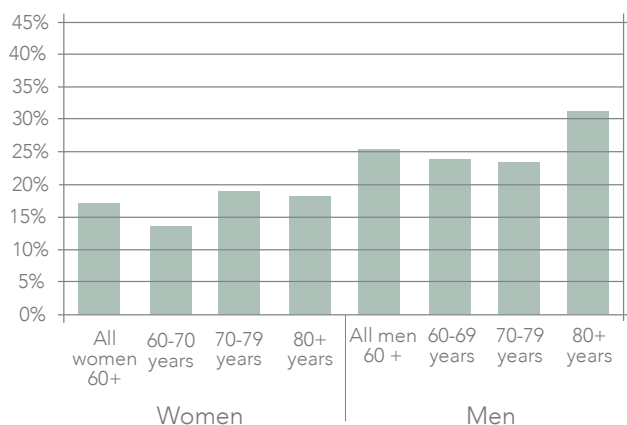


Figure 5 (Ahlström et al., 2023). Picture: Crying elderly women (Jeremy Wong, 2017) >



"Loneliness costs society billions Swedish crowns a year and many of those who seek care at our health centers actually seek it for ailments linked to involuntary loneliness"

- Anna Stadig Pihlgen -
Public Health Strategist for the Region and Lidköping
Municipality

Intergenerational meetingplaces

Interaction between members of different generational groups

"In the western world, young people live in separate world from older people. Apart from family members they don't come into contact with older people. I believe that intergenerational activities have the power of bringing young and old together again, in a relationship that brings both generations new energy and lots of learning opportunities".

Leif, IGL mediator, "the Dice:young meet old", Netherlands

Definition of intergenerational learning

The book, *Intergenerational Learning in Practice*, explains the method of intergenerational learning as building on the positive resources that come with the interaction between members of different generational groups, most commonly the young and old. In the same book, Beth Johnsson describes the concept as bringing people together in purposeful, mutually beneficial activities which promote greater understanding and respect between generations (Kernan et al, 2020).

The previously mentioned book highlights the benefits of intergenerational meetings for...

... children by:

- having a variety of role model
- having a positive and realistic portrait of aging
- reducing fear of disabilities
- reducing fear of older adults
- having the opportunity to feel needed
- having more knowledge about the elderly

... seniors by:

- the opportunity to be a role model
- reintegration into family life
- the opportunity to feel needed
- the sense of wonder and humor rekindled
- a sense of purpose and normalcy
- stimulation of their cognitive abilities

... and for the community as a whole:

- closer ties and friendships within the community
- breaking down stereotypes and barriers that exist between generations
- enhancing traditions and culture of communities

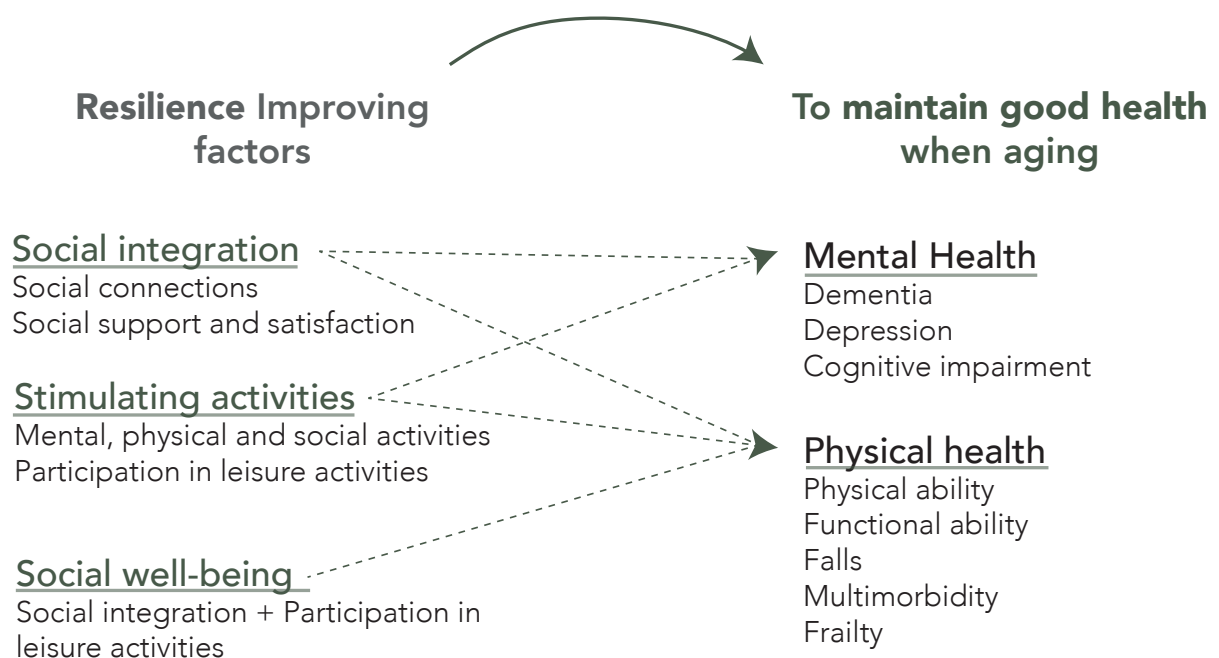


Figure 6 (Ahlinström et al., 2023).

Designing for interaction

Despite cognitive or physical condition, interactions will be beneficial

All degrees of engagement are beneficial

Australia is one country with several intergenerational initiatives going on. This includes activities where the elderly and children eat, create, sing, laugh, play, and dance together. Many activities include encouragement to physical movement and physical touch such as a handshake or a high five. The children and elderly must participate voluntarily. However, if they prefer not to participate in the activity they are still allowed to engage by watching, smiling, laughing, and clapping along. Research indicates that despite what the elderly's cognitive or physical condition might be, the interaction will still be beneficial. According to Anna Sift, the director of Adult Day Care & Care Management, 90 percent of the elderlies attending an activity for 30 minutes increases their euphoria and well-being.

When designing spaces that are supposed to support the interaction of young and old, one can think about including:

- Large openable windows that enable the elderly to look out the outdoor area and observe the kid's play when they are outside.
- Designing larger outdoor playgrounds with adapted accessible footpaths for the elder's wheelchairs or walkers.
- Larger room sizes that allow extra adults or make the rooms wheelchair accessible.
- To add park benches in the playground making it easier for elders to sit or encourage them to interact with the children.
- Adding raised plant boxes to make it easier for the elderly to participate in growing activities with the kids.



Pictures: Fyraåringarna på äldreboendet (TV4, 2019)

Human & Animal bond

Animals are natural therapists and motivators for activities and social interaction

The importance of animals for children

Going through childhood people experience human-animal connection for instance family pets, stuffed animals, or trips to the zoo. The book, *Animal Assisted Therapy*, addresses how children's books often are written either from the perspective of animals or with animals as the primary storyteller. In these stories, animals often teach about life's important lessons such as truth, kindness, honor, and empathy. Most children are excited about interacting with animals. There are examples of how animals such as guinea pigs, brighten up a classroom environment and made more children want to come to school. Even more, animals can teach kids about awareness of their surroundings, and their behavior, and listen to instructions. The kids learn to feel the impact of their behaviors and others (Aubrey H. Fine, 2015).

A long history of therapeutic use

The history of the therapeutic use of animals goes many years back. In ancient times, the Egyptian and Greek societies used dogs for healing practices. They believed a person that got licked by a dog could be healed or cured of his or her injury or disease. Today animal therapy involves using animals to assist the psychological and emotional problems rather than as a source of antibiotics. Animals are perceived as natural therapists. They listen, support, and show empathy through nonverbal communication. This idea was initially brought up during World War II as they discovered how dogs had a positive effect on injured soldiers (Aubrey H. Fine, 2015).

Animal Assisted Therapy

Animal Assisted Therapy, AAT, aims to improve mental, physical and social, and emotional functions. Both individually or in groups. Animal Assisted Activities, AAA, involves a general activation of patients through the presence of animals. An example of this practice is when an employee takes his or her dog to a Care and Nursery Housing or when an animal visits someone at a hospital (Aubrey H. Fine, 2015)

Health outcomes

Different activities provide different stimulation. Activities in which a person collaborates with an animal provide all-round stimulation through physical activity and cognitive challenges. Even more, several studies demonstrate that animals are a motivator for being outdoors, daily activity, and social interaction (Aubrey H. Fine, 2015). Moreover, these interactions stimulate people's senses which are necessary to help them interpret their surroundings. Therefore, it can be said that some animals contribute to fulfilling the overall national goal by having a positive impact on people's health (Wijk, 2014).

Bringing animals into businesses

Examples of benefits of having people interact with animals are many. For example, aquariums in patient rooms have been shown to lower the stress levels of patients. Another example is patients interacting with dogs before going into surgery reduce the state of pain from severe to a moderate level after the procedure. In addition, science indicates that patients suffering from dementia felt an increased quality of life after interacting with a dog (Aubrey H. Fine, 2015). Physical contact with a dog is assumed to satisfy the basic needs of closeness and care, intimacy, and touch (Wijk, 2014). Many facilities where older adults reside have pet visitation programs. Research supports that the presence of pets provides a source of direction and novelty. Most visitation programs use companion animals such as dogs, cats, rabbits, and pigs (Aubrey H. Fine, 2015).



"There are great values in meeting animals. It doesn't have to be that you have to go and look at exotic animals at an animal park. There is value in observing and visiting animals we have in our vicinity"

- Bengt Göran Nilsson -
Planning Architect, Lidköping Municipality

Good housing & Health-promoting design

Health-promoting design strategies and qualities of good housing

In addition to the impact children and animals have on humans well-being, there are other known factors that seem to come into play when designing care environments. According to several studies, the physical care environment can facilitate and contribute to people's recovery in connection with illness or injury. If so, the architects has an impact on people's health and well-being and be part of the treatment and recovery of a patient (Wijk, 2014). Here is a selection of factors that are considered to play a role in creating an health-promoting environment.



Private & Public

When a senior leaves his or her previous home, it is not only about leaving family and its safe surrounding, it is also about entering a new foreign environment. Therefore, it is very important that senior homes offers a safe and protected feeling at the same time it conveys a homely feeling. The private sphere of the accommodation fulfills an important function as ones home as it might be a place for person-centered care and the opportunity for personal conversations. However, it is important to be close to a social contexts and interaction with others. In short, when designing housings and health facilities one have to find a balance between public and private areas as they both are needed (Wijk, 2014).



Resident, not Patient

Health care is about supporting people with an environment that is healing and stimulating. Factors such as gardens, animals, furnitures and color choices are factors that come into

play in feeling home, in contrast to medicine, corridors, similar furniture and strangers which are associated with institutions. It is important to be able to decide for yourself. For example, if a resident at a nursing home no longer has the opportunity to decide for his or herself daily routine, the home might end up feeling like a prison and the seniors might feel deprived of their freedom (Wijk, 2014).

"Factors such as gardens, animals, furniture and color choice are said to be factors that play a role in feeling at home. Medicine, corridors, similar furniture and strangers are associated with institutions"



Home follow need

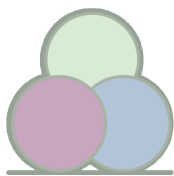
Different people have different ideas of what gives a sense of home. Therefore, one needs to take the differences that exist in different geographical, ethnic, socio-economic affiliations and different generations, into account. The elderly group varies between 65 to 100 years old which means their needs might vary a lot. In summary, it is important to review different types of needs and preferences.



Accessibility

An accessible building implies that a disabled person is less dependent on others and can manage on his or her own. A person's self-image and identity are strongly associated with being able to be independent. An environment where it is easy to do the right thing builds self-esteem and confidence. This can be done by not using thresholds and by using electronic door locks (Wijk, 2014).

"Coloring can be used as a communication tool, for example, by telling an elderly to sit down on the blue sofa or enter the dining room with the green wall"



Color & Contrast

Colors stimulate health, activity, and quality of life and affect the sense of control and orientation. When designing homes for seniors it is important to avoid bright colors; however, colors can be used as a tool to support the activity that takes place in a room. For example, by telling an elderly to sit down on the blue sofa or enter the dining room with the green wall. Colors can help them understand their environment and support or hinder their orientation and recognition. An eye of a 60-year-old needs more light than a 20-year-old. Therefore needs the color intensity and contrasts differ by at least 0,4. It is especially important when it comes to signs, steps, furniture, doors, door frames, and handles (Wijk, 2014).



Interplay between inside and outside

Windows show activity, nature and encourage people to go outside and meet others. The size of the window sets an atmosphere of a room and lets fresh air in when needed. When placing windows one has to consider the interplay between open and closed, as it is a question of feeling secure and curious about what is outside. Bright window frames reduce the risk of dazzle. Windows with low parapets allow wheelchair users and those lying in bed to see out (max 0.8m for sitting and max 0.6 for lying in bed) (Wijk, 2014).

A west-oriented balcony is high on the wish list of seniors; however, the floor level needs to be at the same level as the apartment floor (Kärnekull, 2011). It is also preferable to offer a balcony that is protected against rain and wind (Sveriges Kommuner och Landsting, 2018). The balcony railing should be partially transparent so that a person sitting in a wheelchair can see out/down; however, not all glass. There is also great quality in offering two balconies with different directions (Wijk, 2014).



Nature

Nature's beneficial effects on our health and well-being are probably one of the most explored fields when it comes to the impact of the physical environment. It is therefore important to give opportunities for views, daylight, and outdoor environments when designing health care environments. The garden is efficient when reducing stress levels and effective when stimulating our senses. When designing gardens for health facilities one should consider that the garden stimulates several senses (Sveriges Kommuner och Landsting, 2018).



The importance of aesthetics

A healthcare environment must convey a positive message that helps shift the focus from darkness to light. Flowers, views of nature, pets, gardens, fireplaces, coloring, materials, furniture, decoration, arrangement, exterior design, scale, context, and surrounding buildings are factors that come into play in the experience of a physical environment (Wijk, 2014). Many seniors have extensive living experience and appreciate the attention to detail and craftsmanship. Wood is a desirable material (Kärnekull, 2011).



Acoustics

Decoration and design should give a feeling of harmony and relaxation. Noise from an activity can be stressful and something one are not used to when living at their previous home. This means sounds and lights must be stimulating and not disturbing or frightening for the residents. One way to work with this is with sound-absorbing walls, building pipes with unnecessary noise into walls, and working with sound-absorbing elements in the room when furnishing.



Safety

The challenges with safety are important when it comes to housing for the elderly. For example, it is crucial with a clear plan layout and plan orientation. The building must be easy to navigate as it facilitates the senior's autonomy and everyday life. It is also important to be able to see and decide who is entering one's home.

This can be done by applying a keyhole in the door or through a digital intercom with a screen. Moreover, senior housing must also have the possibility of safety measures such as stove timer, sprinkler system, fire alarm, fire escape, and home care alarm.



Symbolism

Symbols are powerful communication tools. Needles and drips are often associated with treatments, procedures, and pain. The bed is often associated with a place of rest, comfort, and security. A home is a place with great symbolic value and is a source for people's life stories. Many elderly need extra support in interpreting and understanding their surroundings, both in terms of information provided by signs and abstract symbols.



Plan layout

A flexible plan layout offers the possibility of different furnishing formations. Axiality and visibility contribute to the room organization feeling clear and easy to read. Plan circulation offers to move around the home in several ways. Boundaries between rooms and areas contribute to separating outside and inside as well as private and common areas. Corridors in apartments should be at least 1,30 m wide to be accessible and one should avoid narrow and long corridors. For shorter passages, only a 0,9-1,0 m wide corridor is required. It is preferable if a person who is in no need of care can move freely in the apartment without being disturbed. The care situation should not go past the zone of food or social activity.



Picture from a study visit to the center for people suffering from dementia, Villa Videbeck, Lidköping. A great example in how to work with health-promoting design. The picture demonstrates the senior shop.

Architect firm: LINK Arkitektur

Analysis

This section explores the municipal context, the site area, background information about the existing farm, site analysis, SWOT-analysis, and interviews. This analysis was later combined with the theoretical framework and helped out to set the program for the project proposal.

Municipal context

Lidköping requires 200 more senior housing within 10 years

The city of Lidköping by Lake Vänern has a long history, which is reflected in the buildings, street system, parks and urban nature. Although the city has grown, it has retained its small-town character that attracts both residents and visitors from all over the country. The city population is growing which is in line with the municipality's goal of increasing from 40 457 (2022) to 45,000 in 2030 (Ekonomifakta) (Lidköpings kommun, 2018).

Ordinary accommodations in Lidköping

When achieving the ambition of a growing population, more housing and workplaces are needed. More specifically, approximately 3,000 housing should be added. Today Lidköping municipality offers 18,000 housings. Compared to Sweden as a whole, the amount of single-family houses is significantly larger than the amount of multi-family houses (Lidköpings kommun, 2018).

Seniors in Lidköping

About 22 percent of Lidköping municipality's population is older than 65 years of age.

According to a forecast made in 2015, the proportion of elderly will have increased by 1,500 people by 2030 (Lidköpings kommun, 2018).

Seniors housing in Lidköping

In the municipality, there are around 425 Care and nursery housings, and the assessment is that within five years a further 30-40 places will be needed (Lidköpings kommun, 2018). The municipality offers 315 senior housings and the demand is high for more similar housing. According to the local newspaper, Nya Lidköpings Tidningen, 200 more senior housing are needed within the next 10-year period. In the same newspaper, one can read an article about Inga, 79 years of age, who has been waiting for senior housing within the municipality borders for ten years. The article mentions that in ten years there will be 4,000 people in Lidköping who are 80 years or older, and a large proportion of them are too healthy and active to live in nursing homes with 24-hour care (NLT, 2022).



There are
315
senior housings in
Lidköping.

- NLT 020523 -



Introduction to the Råda Mosse area

When the sand deposit operation stops, new housing can take place

Housing at Råda Mosse

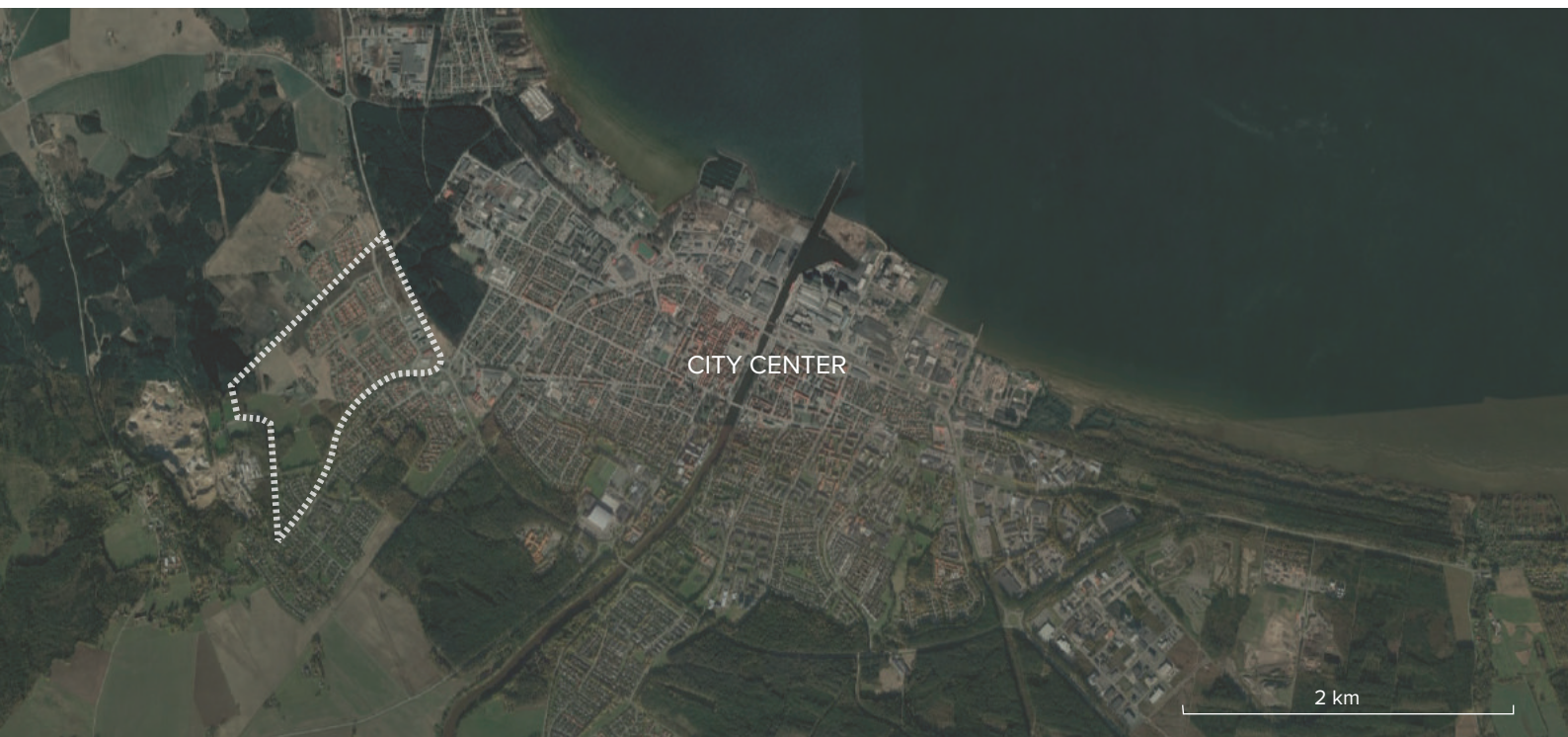
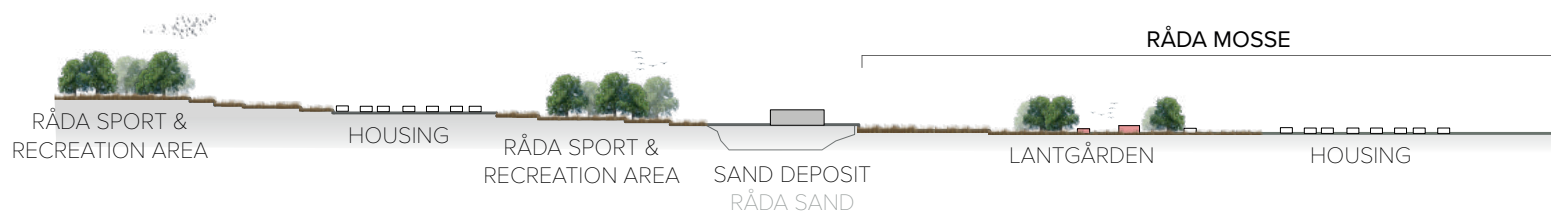
Lidköping municipality is planning for new housing in the area of Askeslätt and Silverbyn located around the Råda area. The areas are estimated to provide an additional 200-250 housing and 500 new apartments. The reason there is no detail plan over the eastern part of Råda Mosse is due to the sand deposit operation taking place in the outskirts. The operation is said to be done by the year 2028. According to the over all plan for the city, is this new area expected to bring another 100 homes. In summary, a total of approximately 850 new housing is therefore to be expected around Råda Mosse. The master plan also mentions that it should be planned with a mixed typology of housing and municipal services such as leisure facilities, schools, preschools, and nursing homes (Lidköpings kommun, 2018)

Nature conservation

The nature and outdoor area in Råda is well visited and appreciated by Lidköping's residents. There are 3 tracks, an outdoor gym, a good view over the city, and four hiking

trails. At this viewpoint, there are information signs about the culture, nature, and geology in the neighborhood. The fourth hiking trail, Lantgårdsleden, invites people to stop by the farm, Stadsnära Lantgård, for a coffee or to visit the animals there (Läckö Kinnekulle). The nature around Råda functions as local recreation and as a nature conservation area that supports ecosystem services which has great value for the city and its inhabitants. It is therefore a key biotope that plays an important role in the preservation of the species that live there (Lidköpings kommun, 2018).

The overview plan highlights the importance of the city's surrounding forests and that they should be left untouched. As a consequence, this means that new housing will have to take valuable agricultural land to develop future housing close to the city (Lidköpings kommun, 2018).





Introduction to Stadsnära Lantgård

The public farm which brings stay at home people out in nature with animals

The farm in town

Stadsnära lantgård is a public farm run by an economic association with animals, a cafe and children and garden activities. The location is strategically well placed as it is central yet close to the walking trails of the Råda sport and recreation area. Many people end up at the farm for that reason (Stadsnära Lantgård, 2022).

Visitors come to the farm to pet animals, stroll around in the idyllic country environment, or have a coffee in the garden. At times, there are markets, garden days, and other events taking place at the farm. In the cafe area, one can buy homemade products based on crops from the farm (Stadsnära Lantgård, 2022) The rural natural environment brings qualities that might contribute to rehabilitation, recovery, and other factors that increase peoples well being. These factors might be seen as great values for other operations such as elderly care, the education department, or as a tourist attraction (Interview with Josefina).

The daily operation

There are currently 5 employees and around 11-20 trainees and volunteers who help out with the garden, markets, fencing, etc. Moreover, the farm receives people from Daglig verksamhet, support and service for certain disabled people, but also job trainers, students, and homesitters. In addition, the farm receives a lot of school visits where the students get offered a guided tour to meet the animals, and get insight into different vegetables and grain crops.

"The operation of Lantgården targets the schools, the elderly, stay-at-home people, the general public and is a potential tourist attraction. Lidköping needs alternative tourism industries for all groups of people"

- Josefina Guttman -
Business manager, Lantgården

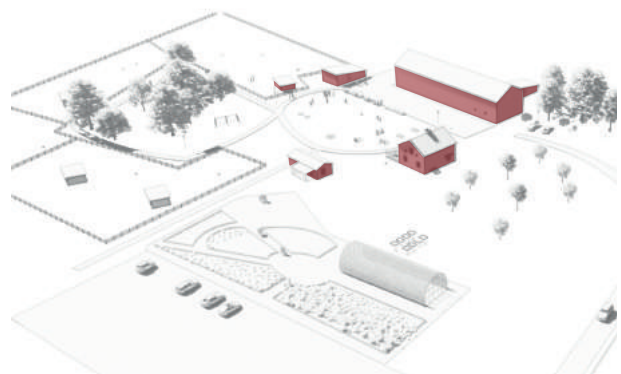
Sometimes, they look at movies from LRF for educational purposes (Interview with Josefina).

The animals

The farm contains a lot of animals such as chickens, goats, sheep, horses, rabbits, guinea pigs, cats, and pigs. Lantgården sees a potential in the encounters between horses and humans. The farm wishes to develop the interactions between horses and younger girls who prefer to stay at home or who feel mentally ill. Furthermore, the staff at Lantgården arrange trips to care and nursery housings where the elderly get to meet mini-pigs, guinea pigs, chickens, and a pony. Visits, are usually very much appreciated by both elderly and staff (Interview with Josefina).

The potential of the farm

The municipality of Lidköping is about to invest 2,3 million Swedish crowns in methods for people that are staying at home in an attempt to try to get them out. These can potentially happen in connection to animals and nature. Lantgården carries out very important work. There are many examples of students who have passed school after an internship on the farm. It can be a way to reach young people at an early stage. In that way, the farm can be a way to teach in places other than the classroom at the same time as it includes nature and animals in the way of teaching (Interview with Josefina).





Site analysis

Lynchanalysis

The site is surrounded by the protected sport and recreation area, Råda friluftsområde, and the sand deposit area in the west. These areas act as landmarks and attract both resident and tourist to the area. Moreover, the farm itself is a landmark. The sand deposit area, located approximately 300 meters from the site, has delayed the future planning of the area. There is also farmland located north of the farm and it is surrounded by a new housing area in the east. However, today there is a hill acting as a barrier between the farm and the housing area.

- ▲ Landmark
- ▨ Barrier
- ~ Flows
- Area of Lantgården
- ▨ Project area



Site analysis

Flows to consider when designing new project site

Today, the farm's location is a bit anonymous. The farm is not a place one accidentally discovers as it is not well connected to other main flows. The main flow is coming from the main road, Kartegårdsvägen. Even though the farms lack connections, it has great potential to be so due to the infrastructure surrounding it. Today, there are biking and walking lanes connecting the area to the city center and there is a bus stop very nearby.

Project site

The idea is to build on to the infrastructure already existing. Keeping the countryside atmosphere in the north of Lantgården and placing the project site to keep the flow of cars in the south and as close to the main road as possible. The idea is to connect Lantgården to the new project site. The project expects further development of the area and recommends that it will take place in a western direction. The selected project area is today designated as an area for housing development.



Interviews

Keyaspects of Råda Mosse from interviews with different actors

Keep in mind...

... it is important to have a mixed typology that attracts all groups of people.

... "bridging" between generations is good.

... there are restrooms available close to meeting spaces. Many choose to stay at home because of this uncertainty.

... it is desirable with public transport nearby with good connections to the city center and service.

... creating social contexts, and meeting spaces with activities.

... to adapt to individual needs.

... proximity to forest and nature is desirable.

... food attracts visitors.

... the value for animals.

... review guidelines and laws regarding interactions with children, elderly, and animals.

... make sure politics are involved. Many of us need to help each other to make this vision possible.

... safe senior housing, is a great thing. Same lifestyle and needs. We need more of this housing in Lidköping.

... to add homes with more connection to animals.

... a preschool and senior housing may be relevant to involve in the next phase of planning Råda Mosse.

... if Lantgården is to be kept, it must be integrated into the residential area.

... the risk of flooding due to extreme weather is no more troublesome than in any other area. It can be taken care of.

... the farm can be a value/node/destination.

... that there are guidelines for allergies when it comes to housing. Shouldn't be a problem if the farm stays small.

... that it is important to preserve the rural character and atmosphere at Lantgården.

... that Lantgården is a place where most people want to be.

... early initiatives with children can change life directions.

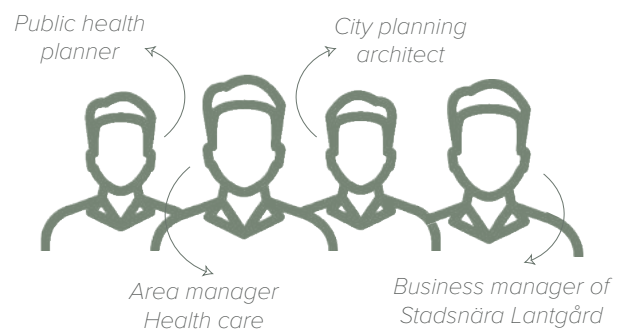
... the farm could be a place for smaller public allotment gardens.

... to develop a possible local café for winter time.

... there are activities where the elderly and children can interact. Both outside and inside.

... there is a meeting space where lectures and music performances can take place at the farm.

... it is adapted for people with disabilities such as difficulty moving or impaired hearing or vision.



SWOT-analysis

Site and concept



Strengths

- Undeveloped project site area. Free to plan and investigate
- A project site already planned for housing
- Good transportation options, to and from the city center
- Lantgården, already an existing destination
- Beneficial concept: young and old
- Beneficial concept: people and animals
- Meetingplace for all groups of people
- Strong social and ecological values
- Potential tourist attraction for Lidköping municipality
- Lantgården as a way to strengthen the community



Weaknesses

- Råda Sand. The sand deposit business delaying the planning for a future development
- Not all people enjoy being around children
- Not all people enjoy being around animals



Opportunities

- Potential in building on to the holistic sustainable values that already exist
- Potential in creating an environment that prevents loneliness among elderly
- Strengthen the relationship between the younger and older generation
- Potential in becoming a great meeting place, helping to fight loneliness
- Potential in adding on to activities that attract a wider range of a group of people
- Offering a new type of housing community for seniors in Lidköping
- Offering a healthy and higher quality of life by health promoted design
- Need for more senior housing



Threats

- Extreme weather due to climate change. Heavy rain in combination with flat terrain can be a problem
- The municipality choosing to close down Lantgården
- These types of housing can potentially be expensive and not affordable for all people
- Allergies to seeds or animals
- Need of trained staff to cover both needs (animals and humans)
- Possibility of project and concepts with regulations and laws

Vision

The vision section shows the architectural references and the site visits which ended up being the inspiration for the project proposal. It continues by stating the target groups and project actors. In addition, room-specific checklists, based on the theory of health-promoting design, are shown and will be used as a guideline and design strategy for the project. The section ends with the sustainable approach for this project.

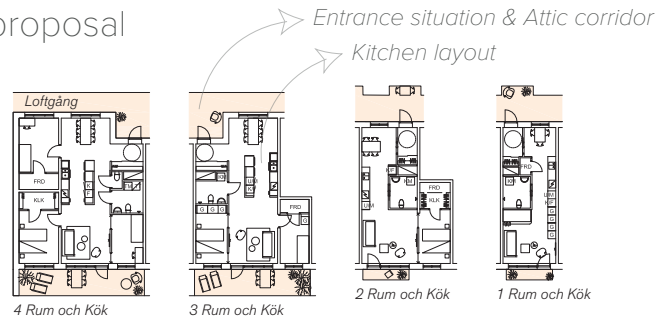
Architectural references

Key references that inspired the project proposal

Residens Simrishamn

White Arkitekter

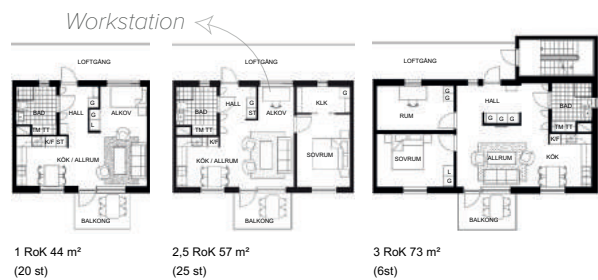
White Arkitekter proposed a new neighborhood for seniors called *Residens Simrishamn*. The idea was to offer an exciting environment where seniors can live an active and independent life together. The housing was supposed to offer good opportunities for daily physical activity to maintain good health. The apartments were specially designed for seniors and therefore slightly larger and more luxurious. In addition, the common space was designed with a flexible plan layout that could be divided by sliding doors and it was also supposed to offer a common kitchen towards the square area (White Arkitekter).



Trygghetsboende Kvarnkullen

White Arkitekter

White Arkitekter has designed the senior housing *Kvarnkullen* for people over 70 years of age. The project contains 51 apartments and common spaces with focus on attractiveness, autonomy, community, and function. The residents seem to appreciate the proximity to the center, the attic passages, the common spaces, the location, and the well-planned environment (Clase, Susanne).



Fyraåringarna på äldreboendet TV-show

The previously mentioned TV-show, *Fyraåringarna på äldreboendet*, was a social experiment that took place when a group of preschool children integrated with some elders at a nursing home. Some of the activities the elderly and children participated in together were: dancing, eating, playing, painting, feeding chickens, and excursions (TV4, 2019). After a couple of weeks of interactions and common activities, the elderly's health was measured and showed sensational improvements (Aftonbladet, 2020).



Activities

Pictures: (White Arkitekter), (Clase, Susanne) and (TV4, 2019).

Study visits

Study visits that inspired the project proposal

Tolsjöhemmet

Nursing home, Senior homes & Meeting place

Tolsjöhemmet in Tolsjö is located in a beautiful setting in the countryside outside Lidköping's inner city. *Tolsjöhemmet* consists of four departments and every resident has access to a balcony, a patio, and a beautiful garden. There are 40 apartments in total and several common areas such as a separate big kitchen, a meeting place, an assembly hall and premises for hair and foot care. *Tolsjöhemmet* attracts many visitors to its public meeting place where they organize various activities being: bingo, singing sessions, gymnastics, theme days, fika sessions, and animal encounters (Lidköpings kommun, 2020).



Connection to the outdoor area

Two-story house



Meeting space

Animals visiting

Villa Videbeck

Center for people suffering from dementia

Link Arkitekter

Villa Videbeck is a new accommodation located in the center of Lidköping. Here, people with dementia are offered a calm and peaceful environment that highlights the feeling of freedom, security, and being able to decide for themselves. Major investments have been made in health-promoting design both in the indoor and outdoor environment offering several social areas, conservatories, a room for experiencing our senses etc. The private apartments are one-room apartments of 30 square meters. There are also nursing staff, occupational therapists, doctors, foot care specialists, and hairdressers connected to the building (Lidköpings kommun, 2022).



Art as acoustic elements



Room specific activity rooms

Senior Housing in Fristad, Borås

Tengbom Arkitekter

The new senior housing in Fristad, built in timber, will soon be offering 21 beautiful apartments with one generous common rooftop apartment with a roof terrace, intended for social gatherings. The large glassed entrance highlights a timber staircase that is supposed to invite residents to use it rather than the elevator. The architect has worked with colors highlighting the entrances and has used light as a way to guide the residents. The apartments offers generous window openings and a depth that enables seating space by the windows.

Low window sill height



Color design for orientation

Pictures: Man with dog (Instagram, 2023) and the rest taken by author

Target groups

Introducing the three targets groups affecting the design of senior housing



Bertil
Single

Bertil is 84 years old and lost his wife two years ago when she passed away after a period of illness. He feels lonely in his large villa and Bertils relatives feel a certain concern about him being alone as they no longer live in Lidköping.



Kerstin
Wheelchair bound

Kerstin is 79 years of age and has been in a wheelchair for a few years now. Kerstin has some difficulty managing herself in her current apartment and this has also caused Kerstin to become isolated and stay at home.



Ingvar & Tora
Couple

Ingvar and his wife Tora live in a residential area in a typical 1,5-story house built in 1970. Ingvar had a stroke two years ago, and after that, the steep stairs have become a dangerous adventure when he has to climb up for them. He is often forced to do so as they are required to reach functions such as bedrooms and bathrooms. Ingvar is against moving. He loves their house and the house's garden where he can enjoy his coffee.

Project actors

A suggestion of project actors for the project proposal

Presently, there is a discussion going on about who will take over the operation of the farm Stadsnära Lantgård in Lidköping. Today, an economic association runs the business and sells its services to the municipality such as job-training, study visits, etc. If the municipality decides to take over the responsibility of Lantgården, other actors will be involved. Here follows a suggestion of actors if a municipality-owned farm would be a reality.

The welfare sector

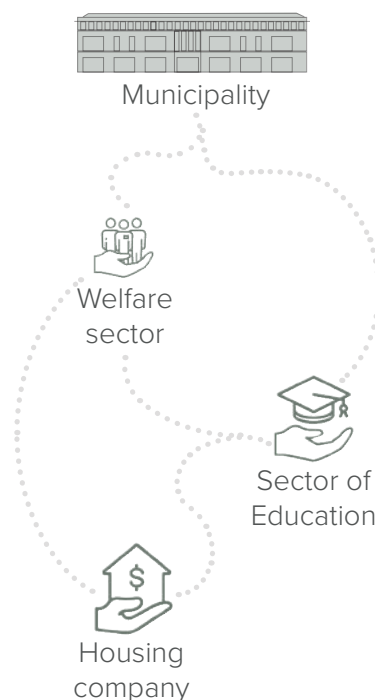
The welfare sector could potentially be running the meeting place at Lantgården and some of the common meeting spaces in the senior housing. If so, there is a potential to deepen the cooperation of seniors, children, and animals.

The sector of education

The sector of education would be those who run the operation of the farm, offering employment and hosting study visits for the schools in the municipality. The sector of education could also function as the connector between the farm and the surrounding outdoor life. In addition, the sector would be in charge of a new local preschool.

Housing company

The senior housing could be run and operated by the municipal housing company AB Bostäder or another actor from the private sector. The apartments could be rented out or bought by elderly over 65 years of age. Furthermore, the common spaces could also be rented out to the welfare sector.



Introduction to checklists

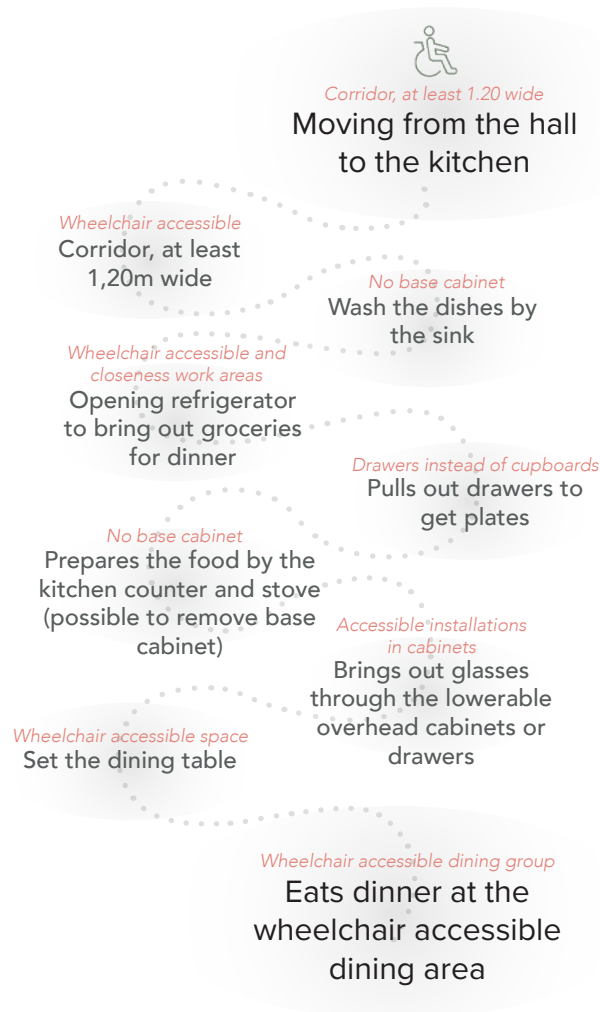
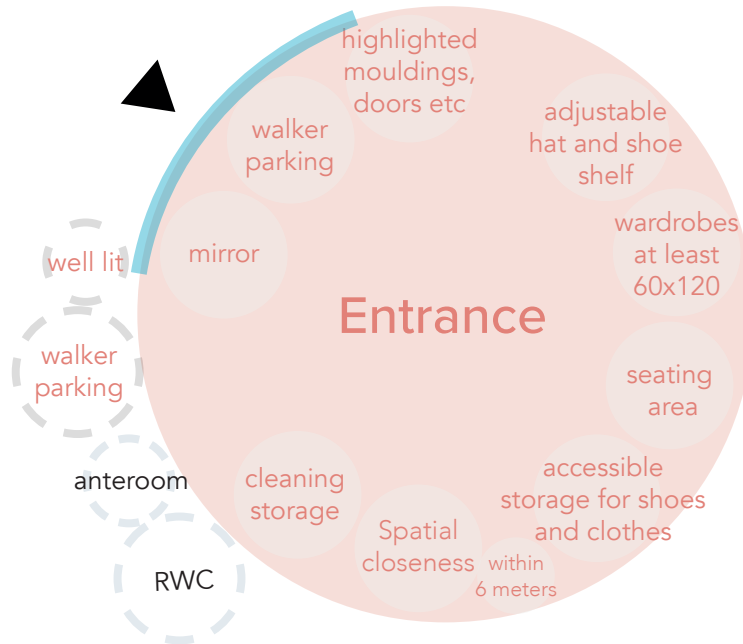
for senior housing proposal

The following pages cover room-specific functional concepts and checklists when designing the apartments for seniors. The checklist is based on the literature from, *Bygg i kapp*, *Vårdmiljöns betydelse*, *Senior bostäder* and *Bra bostäder för seniorer*.

Functional concept

Entrance

Diagrams describing room specific functions and sequence of events and which design actions that might be helpful to support that event.



Checklist when designing Entrance

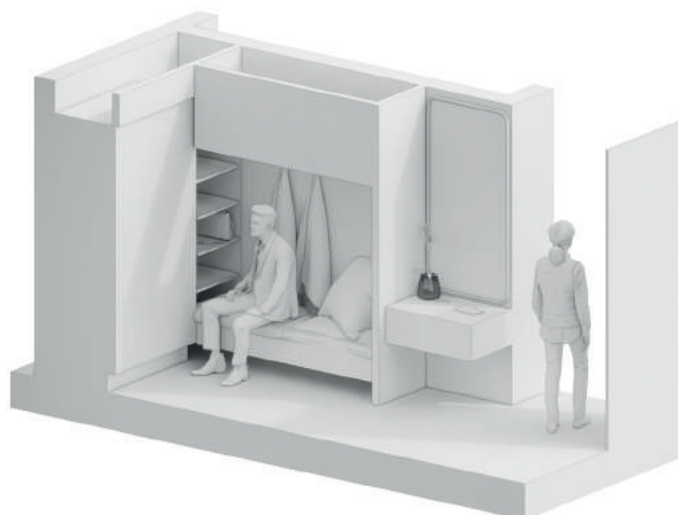
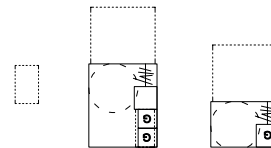
The checked boxes are the measures applied in the project proposal

- Access to disabled parking with in 25 meters. Desirable if the parking is visible from the home so one can see if someone is waiting.
- Possibility to drive a car to the entrance of the building.
- At least one accessible parking for bicycle per apartment.
- Boards with information regarding the activities that takes place.
- Generous communication areas by the entrances.
- Automatic door opener at the adapted height: 0,8m above floor height.
- The ground painted to highlight the movement of the door swing.
- Mailboxes at a comfortable height with accessible space in front. The bottom of the mailbox should not be more than 0.7m above the floor.
- Use of mailboxes with colors that make it easier to find ones own box.

- Well lit and welcoming entrance situations which makes them easy to find.
- Outdoor wheelchair parking with possible charging facility and seating area close to entrance.

- Roof above the arrival and entrance situations.
- No thresholds.
- Cleaning cabinets without bottoms are preferable.

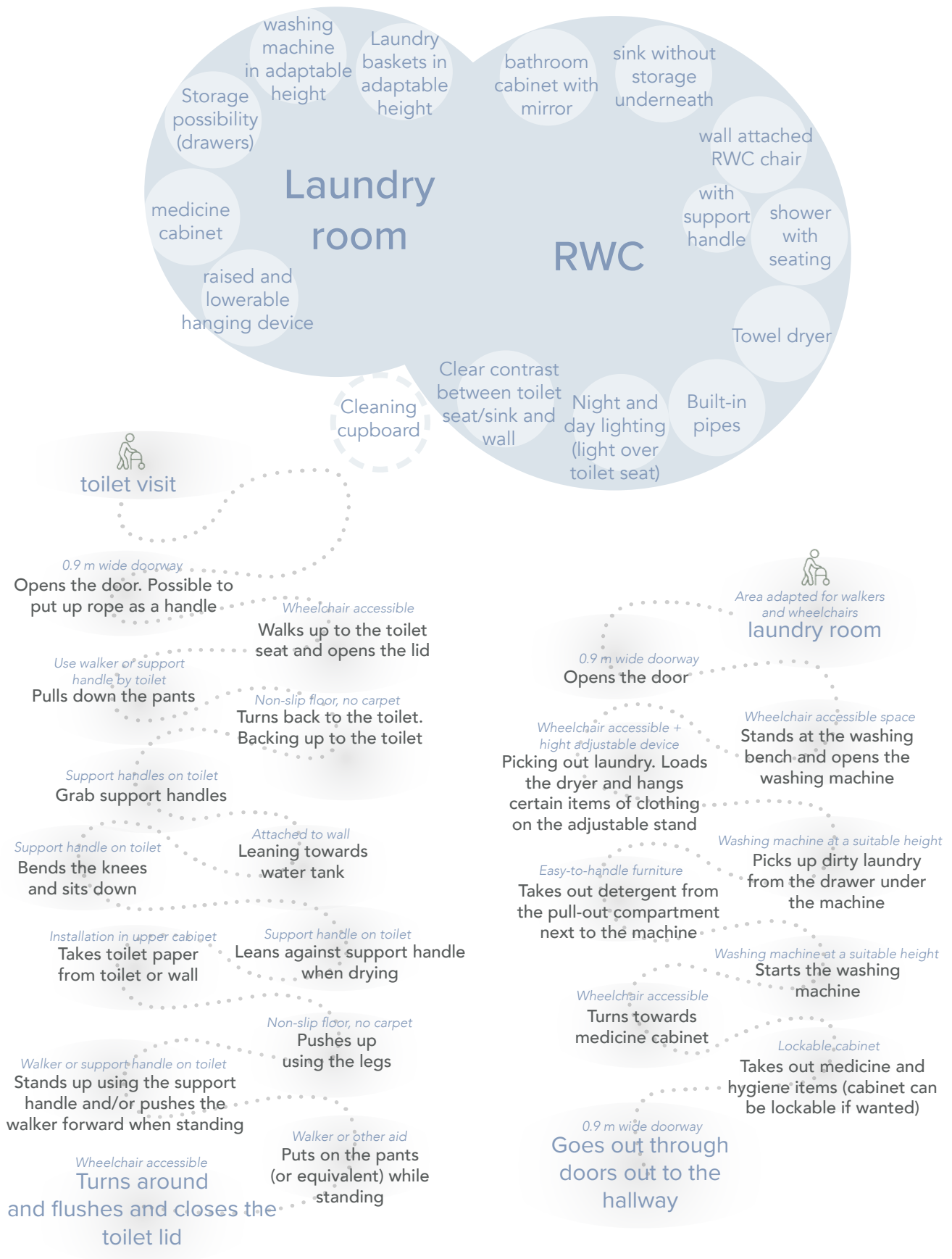
- Indoor wheelchair/walker parking.
- Highlighted moldings, thresholds, doors and handles.
- Wardrobes or cloak room, at least 60x120cm.
- Cloakrooms must be at least 1.7m or preferably 1.9m wide for single-sided storage.
- Seating area close to entrance.
- Accessible storage for shoes and clothes.
- Mirror or place for reminder board.
- Spatial proximity to entrance, bedroom, bathroom and storage (within 6m).
- Cleaning area and restroom by the main entrance.
- Possibility to add a personal touch to the entrance situation.
- An intercom with display is preferable.
- Hight adjustable hat and shoe shelf.
- Cleaning cabinet (do not necessarily need to be close to the entrance)
- Sound class A according to SS 252 67 in stairwells and corridors.



Functional concept

Laundry room & RWC

Diagrams describing room specific functions and sequence of events and which design actions that might be helpful to support that event.



Checklist when designing Laundry room & RWC

The checked boxes are the measures applied in the project proposal.

Bathroom 3 R

Laundry room

- Laundry machines in accessible height.
- Laundry baskets in accessible height.
- Storage possibility as drawers.
- Medicine cabinet.
- Towel dryer or similar.

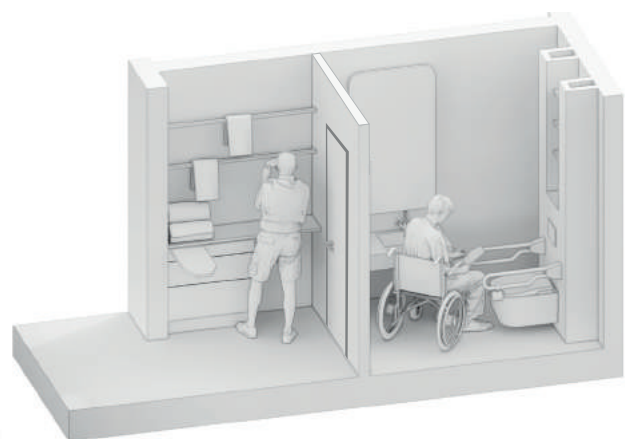
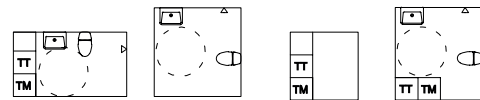
RWC

- Bathroom cabinet with mirror.
- Height adjustable washbasin without base cabins.
- Wall attached RWC chair with support handles.
- Room which is easy to get into, use and clean.
- Offering support through handles or furnishes.
- Shower with support handles and seating.
- Towel rail 110-130 cm above floor level.
- Built-in pipes.
- Good lighting.
- Preferable night and day lighting (light above toilet seat).
- Clear contrast between toilet seat/sink and wall.
- Storage possibility.
- Non-slippery floor.
- Floor drain, placed as far from the door as possible.



Bathroom 2 RA

- Laundry and dryer machine in accessible height.
- Laundry baskets in accessible height (if possible).
- Medicine cabinet.
- Bathroom cabinet with mirror.
- Height adjustable washbasin without base cabins.
- Wall attached RWC chair with support handles.
- Shower with support handles and seating.
- Towel dryer.
- Built-in pipes.
- Night and day lighting (light over toilet).
- Standard mått: 2,40x2,20, 3,50x2,50, 2,40x2,70.
- Preferably with floor heating.



Functional concept

Kitchen & Living room

Diagrams describing room specific functions and sequence of events and which design actions that might be helpful to support that event.



Checklist when designing Kitchen & living room

The checked boxes are the measures applied in the project proposal.

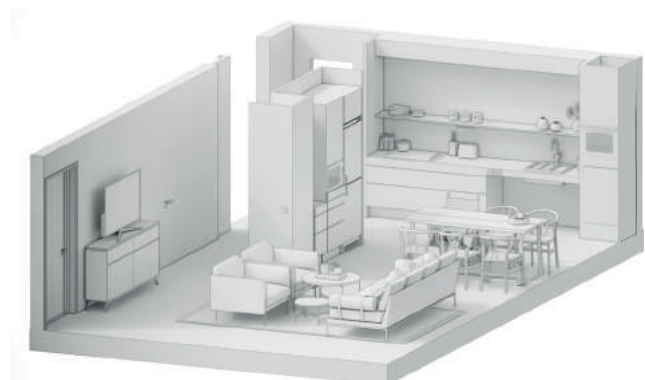
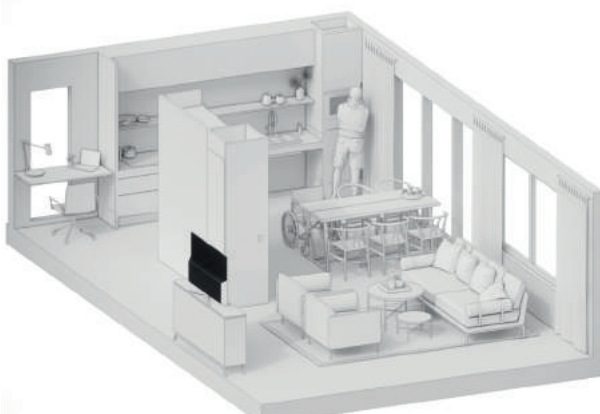
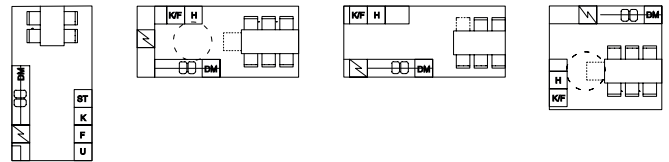
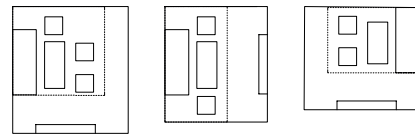
Kitchen

Kitchens are designed with straight, angular, parallel or U-shaped layout. If chosen a kitchen island, it must be adapted for preparation of food.

- Recessed plinth (20 cm)
- Dishwasher at accessible height.
- Possibility to adapt the sink for a wheelchair by removing base cabinet or dishwasher.
- Pull-out drawers instead of cabinets.
- Place the fridge and oven 20 cm from the wall, the freezer can be placed with a 5 cm distance.
- Protection for stains, placed 15 cm above workbench.
- Microwave and oven in cabinet.
- Height of upper cupboard should be up to ceiling as it makes cleaning easier.
- Storage area by the fridge and oven.
- Stove timer placed 80-90 cm above floor.
- Preferable to have stoves with rotary panels instead of touch screen.
- Oven with side-hung door.
- Pull-out working areas.
- Grip-friendly handles.
- Electrical outlets at waist height.
- Preferable with floor plan circulation.
- Low parapet of windows.
- No thresholds or level differences.
- Accessible dining group for 3-4 people.
- Preferably a daylight-illuminated work surface
- Preferably flexible surfaces on wheels

Living room

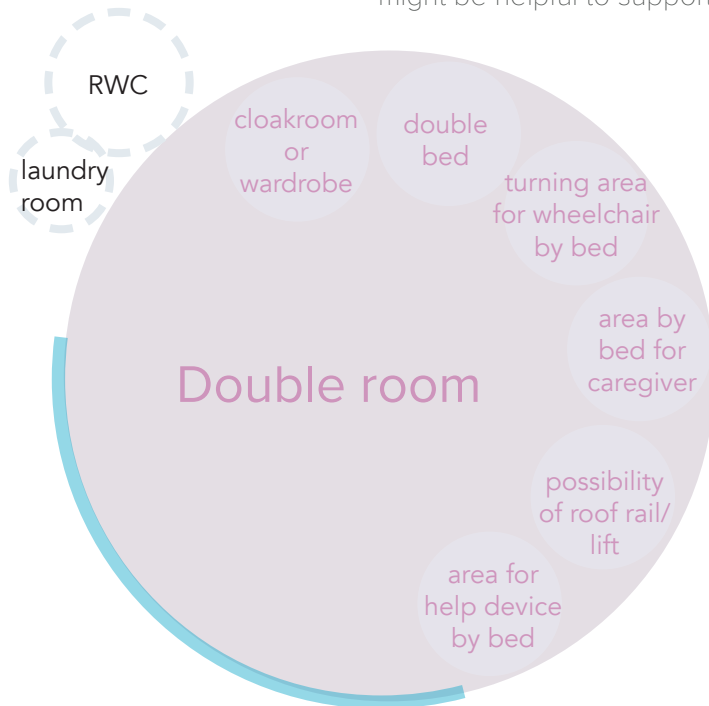
- Space for a bookshelf.
- Accessible sofa group for 3-4 people.
- Preferably with the possibility of space for a desk and chair.
- Own balcony, preferably private and protected from sun. At least 1.5m deep.



Functional concept

Single & Double room

Diagrams describing room specific functions and sequence of events and which design actions that might be helpful to support that event.



Checklist when designing

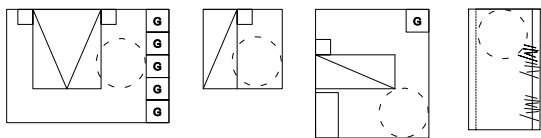
Single & Double bedroom

The checked boxes are the measures applied in the project proposal.

Double bedroom

The bedroom is a private room, where one can retreat and feel undisturbed.

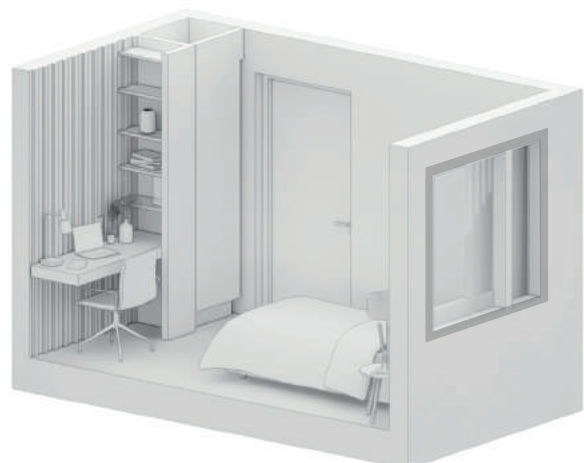
- Double bed - where one can reach the bed with a wheelchair from at least one side.
- Turning radius for wheelchair by bed and door, 130 cm + 80 cm for helper.
- Free furniture area in bedroom so that equipment is accessible from both sides of the bed.
- Dressing room or wardrobe. Preferably with sliding doors and 1.7 m as well as 1.9 m wide for single-sided storage.
- Prepare electrical outlets next to the bed. At least two.
- Low window sills so you can see out even if you are lying in bed. Preferably 0,6 m.
- Openable window for ventilation purposes.
- Possibility to install a roof rail with lift.
- Closeness to restroom.
- Preferably led lighting from the bedroom to the bathroom which is switched on if necessary at night.



Single bedroom/ Work room

The bedroom can also be used as a workplace or extra storage. A quality with this room is that a person who lives with someone who is in need of help but is not in need themselves, do not need to be disturbed if help is needed at night.

- Wardrobe and storage.
- Single bed that may stand against the wall if it is a three room apartment or larger.
- Cupboard doors must be able to be fitted with a stirrup handles and to be opened at least 90 degrees.
- Workplace.
- Feel free to place electrical cabinets in storage (out of sight)
- Cabinets are placed some distance from corners



Other spaces

The checked boxes are the measures applied in the project proposal.

Garbage room

- The waste room should be accessible via indoor connection, otherwise no more than 25m from home, (general waste room is an exception)
- Preferably a recycling shelf where residents can leave things they do not need but someone else might want.
- Accessible with a wheelchair.
- The more fractions the better.
- The fraction wholes is placed 0.8-1m above ground.
- The threshold height of external doors should not exceed 15mm in common rooms, garbage rooms and storage rooms.

Storage

- Seasonal storage, preferably possible to reach from the inside.
- Privacy-protected and burglar-proof.
- Presence-controlled lighting.
- Wheelchair and walker storage
- Shelves can be placed at any height

Stairs

- Stairs must be inviting so that people choose it as much often as possible.
- This can be done through daylight, spaciousness, and making it safe and well lit.
- Straight stairs are safer than curved ones.
- All stairs should have handrails on both sides (designed extended by at least 30 cm).
- Presence-controlled and acoustically controlled lighting.
- Highlighting the first at the top step.

Elevator

- The lift should have seating, support handles and mirror.
- Good lighting
- Accessible and well-placed buttons. 0.8-1.0 m above the floor.
- Handrail around all walls.
- Floor number must be raised in relief.
- Door openers and other devices must be made in a different design in relation to the floor buttons.
- Automatic door opening (sliding doors).
- The lift must accommodate stretcher transport (clear passage dimension 0.9 m).
- The size of the lift must be at least 1.10-1.40 m

Project proposal

The project proposal starts with describing the program, showing the site plan, and the new proposed activities and meeting spaces in the area. The proposal continues with showing the plan layout of the apartments and the exterior of the senior homes.



”The operation of Lantgården targets the schools, the elderly, stay-at-home people, the general public and it is also a potential tourist attraction. Lidköping needs alternative tourism industries for all groups of people”

- Josefina Guttman -
Business manager, Lantgården



Siteplan Råda Mosse

1:1000





Program

for design proposal

Buildings

4 Senior Housing
1 Preschool with 6 units

House type

Senior Housing with close care
Residents need to be 65 years or older

48 apartments

66% 2-room-apartments: - 71,2 sqm
33% 3-room-apartments: 77 sqm

3 target groups

Single
Wheelchair-bound
Couples

2-room-apartments: 32 in total

Entrance: 5,6 sqm
WC / Hygienic room: 6,9 sqm
Double room: 12,8 sqm
Kitchen: 19 sqm
Living room: 19,5 sqm
Balcony: 11 sqm

3-room-apartments: 16 in total

Entrance: 7,2 sqm
WC/Hygiene room: 9,3 sqm

Double room: 12,8 sqm

Kitchen: 19,4 sqm

Living room: 19,8 sqm

Smaller bedroom: 7,5 sqm

Balcony: 11 sqm

Other spaces (per house)

Common space: 60,9 sqm

Bicycle storage: 21,1 sqm

Guest apartment: 46,5

Number of garbage stations: 4

Number of garbage rooms: 1

Technical room: 25,8 sqm

Cleaning storage: 2,9 sqm

AWC: 4,8 sqm

Number of indoor staircases: 2

Number of indoor elevators: 1

Number of outside stairway: 1

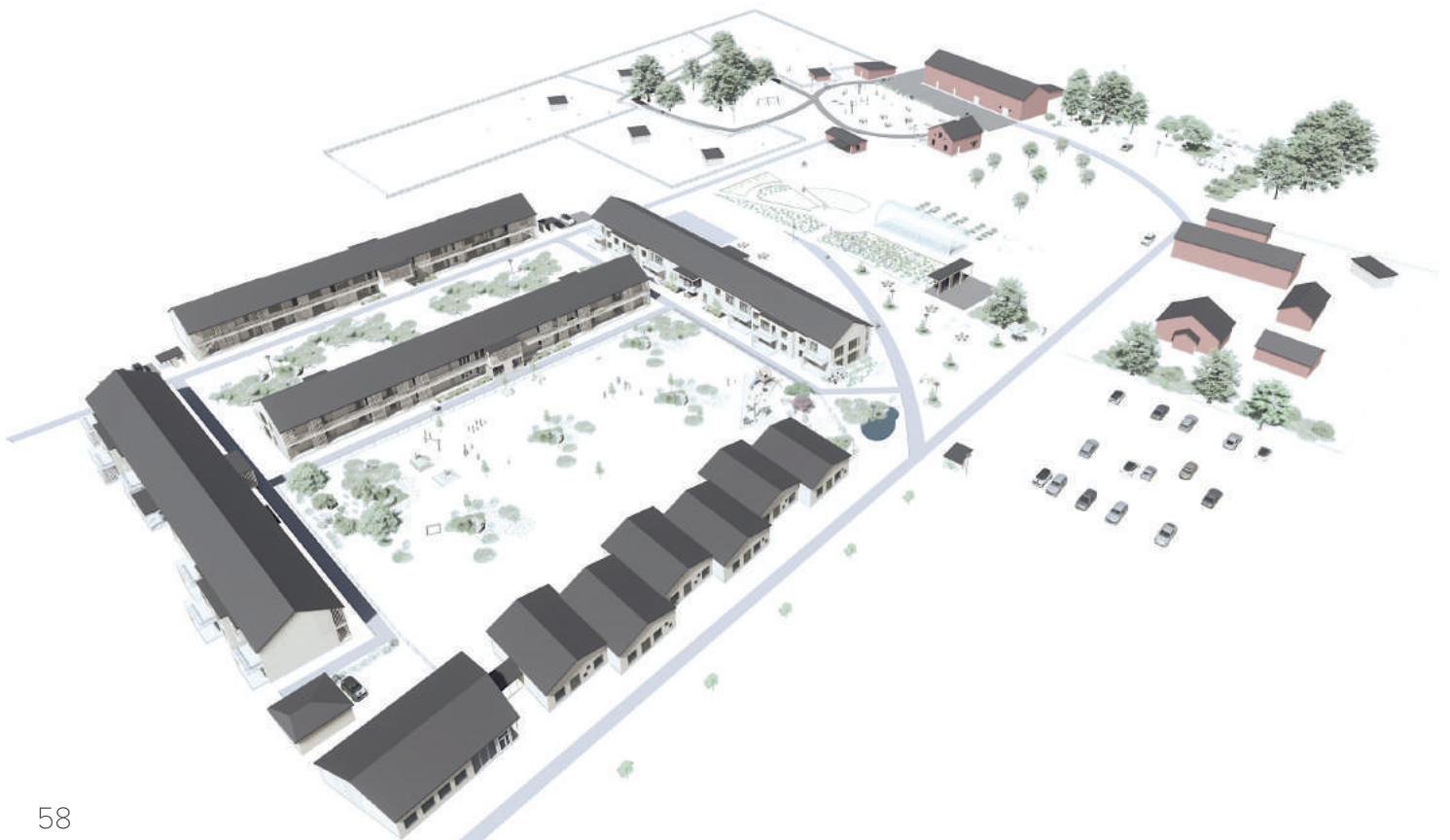
Common spaces

Conservatory

Atelier

Gym & sauna

Activity room



Zoomed-in siteplan

1:500



STADSNÄRA
LANTGÅRD

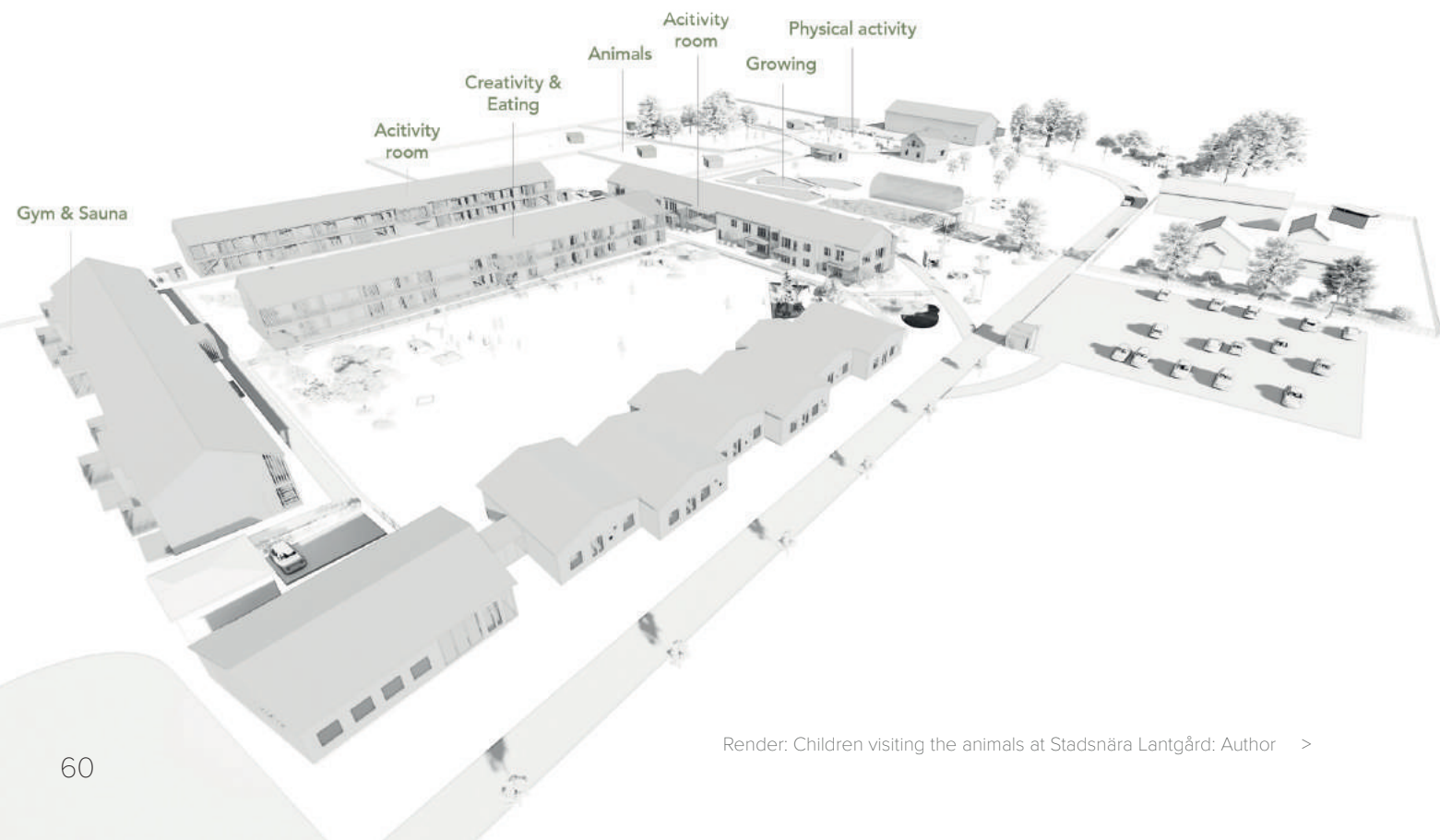
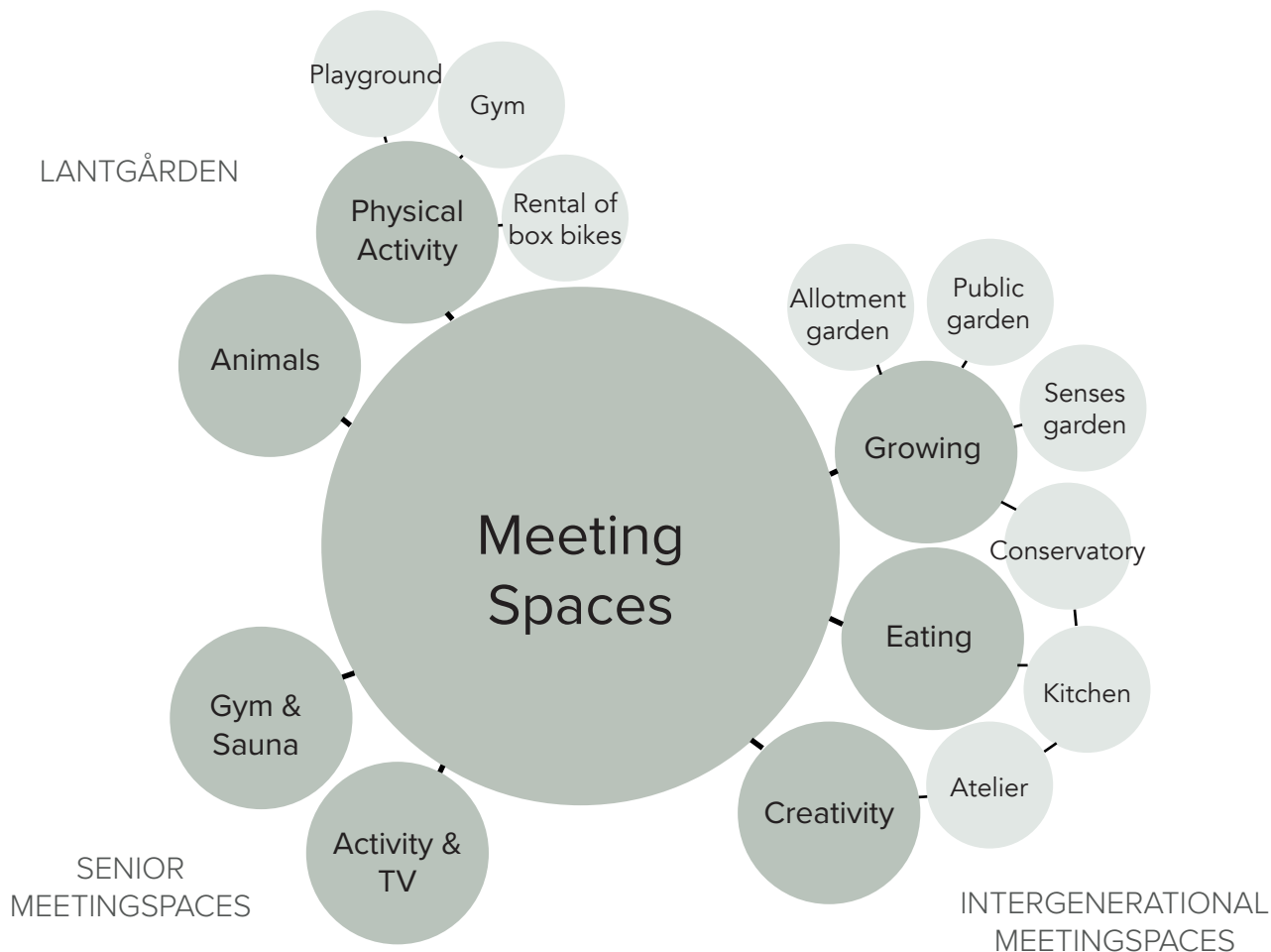
SENIOR COURTYARD

PLAYGROUND



Concept of meetingplaces

for animals, children & seniors

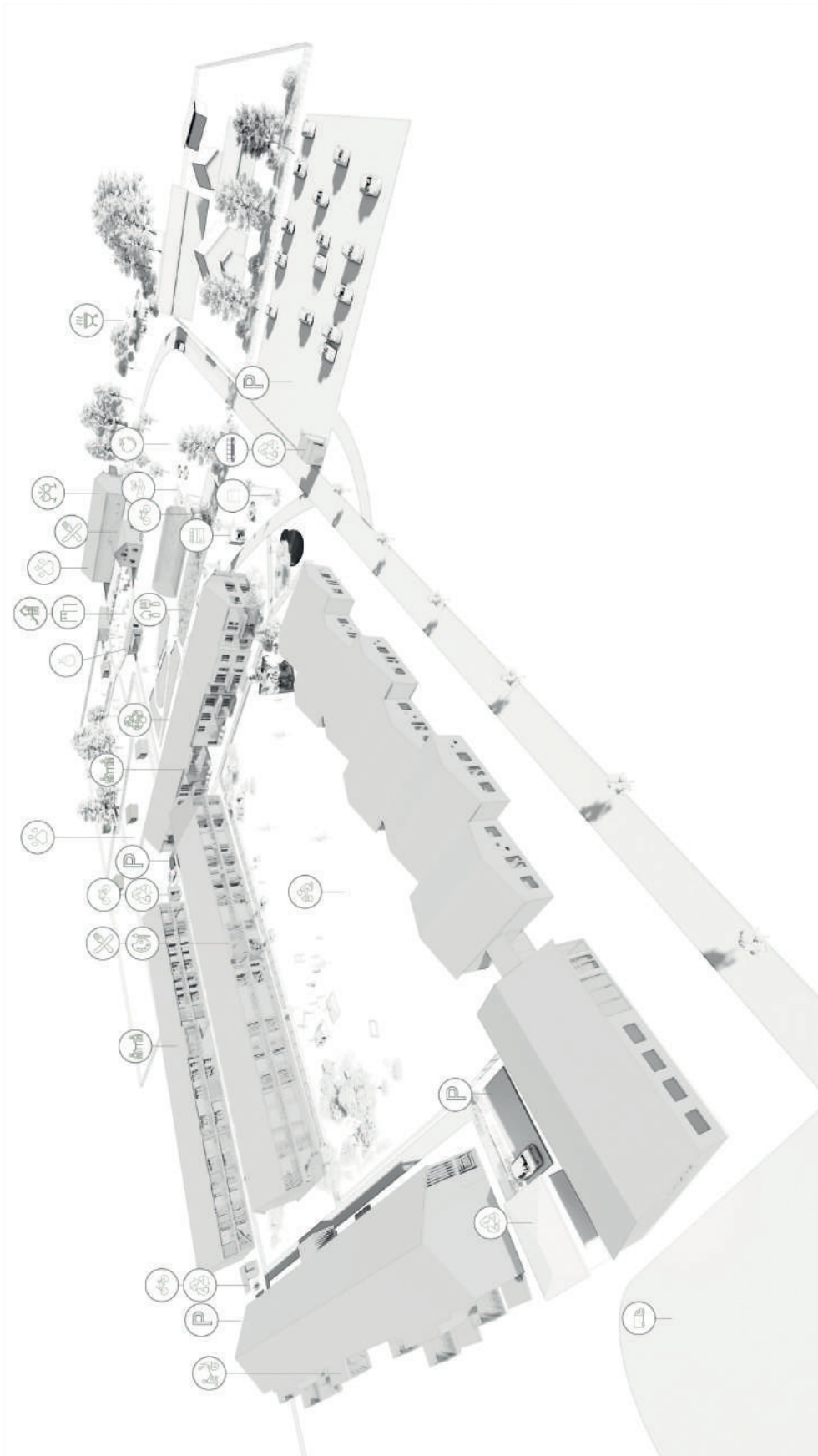


”Many elderly do not have any relatives living in the same city. Not all children have an older relative. Children are a joy of life. I would like to see more contact between elderly and children at our senior homes”

- Christina Thimgren -
Area Manager, Health Care Department,
Lidköping Municipality

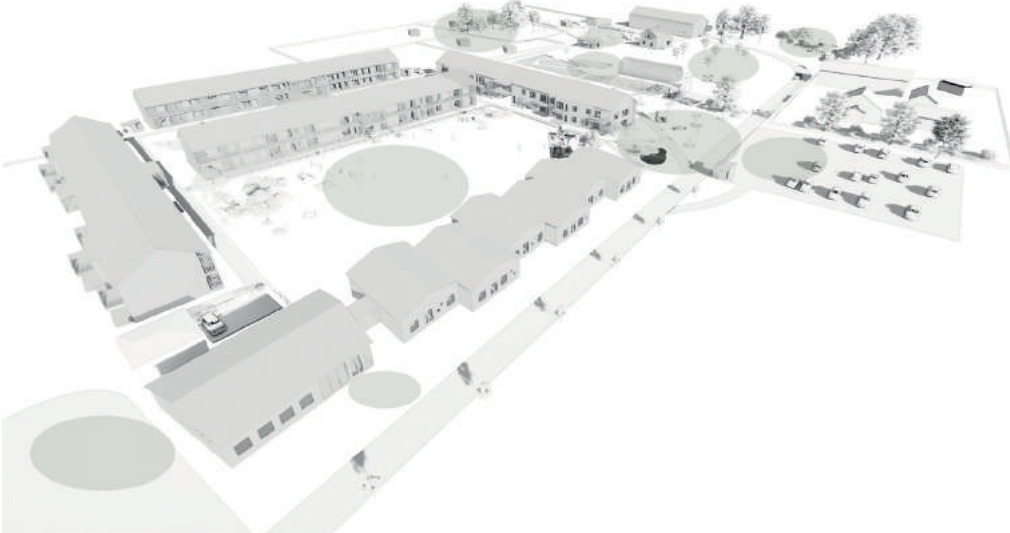
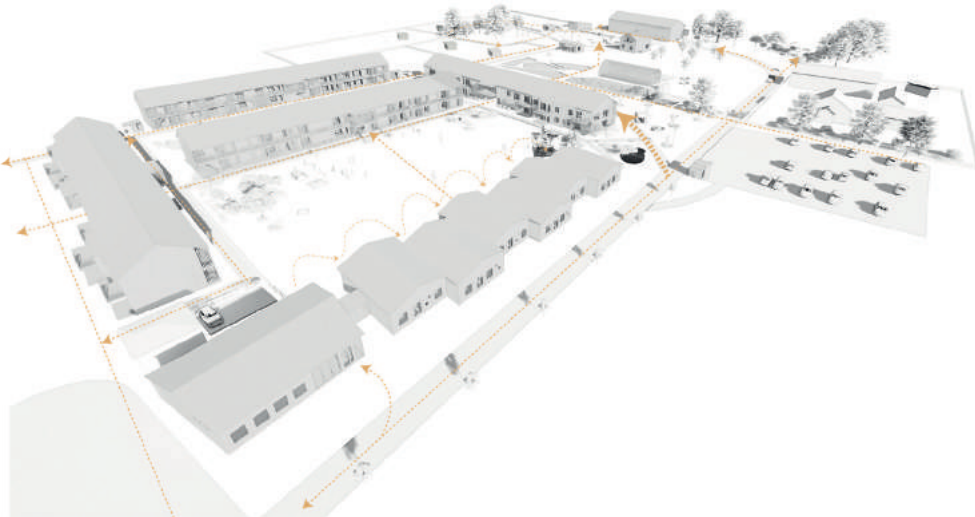
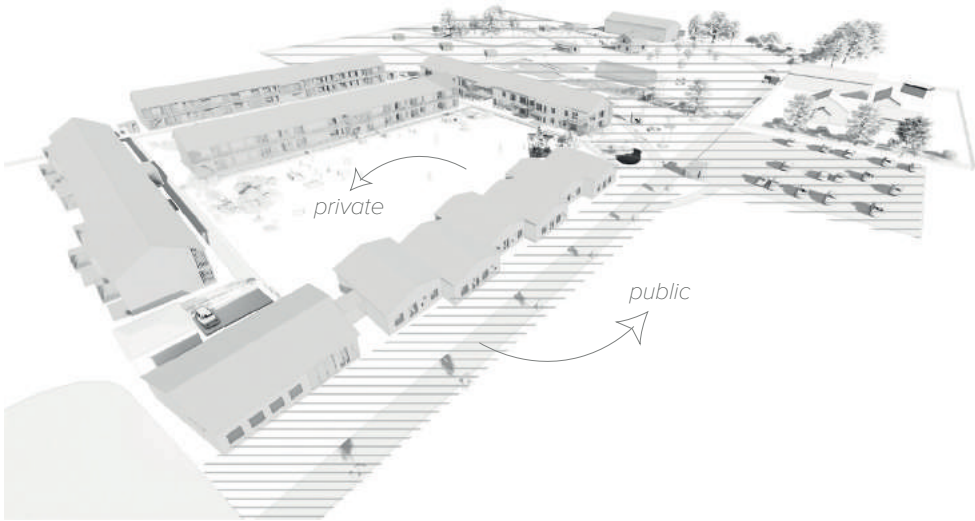


Activity maps for residents and visitors



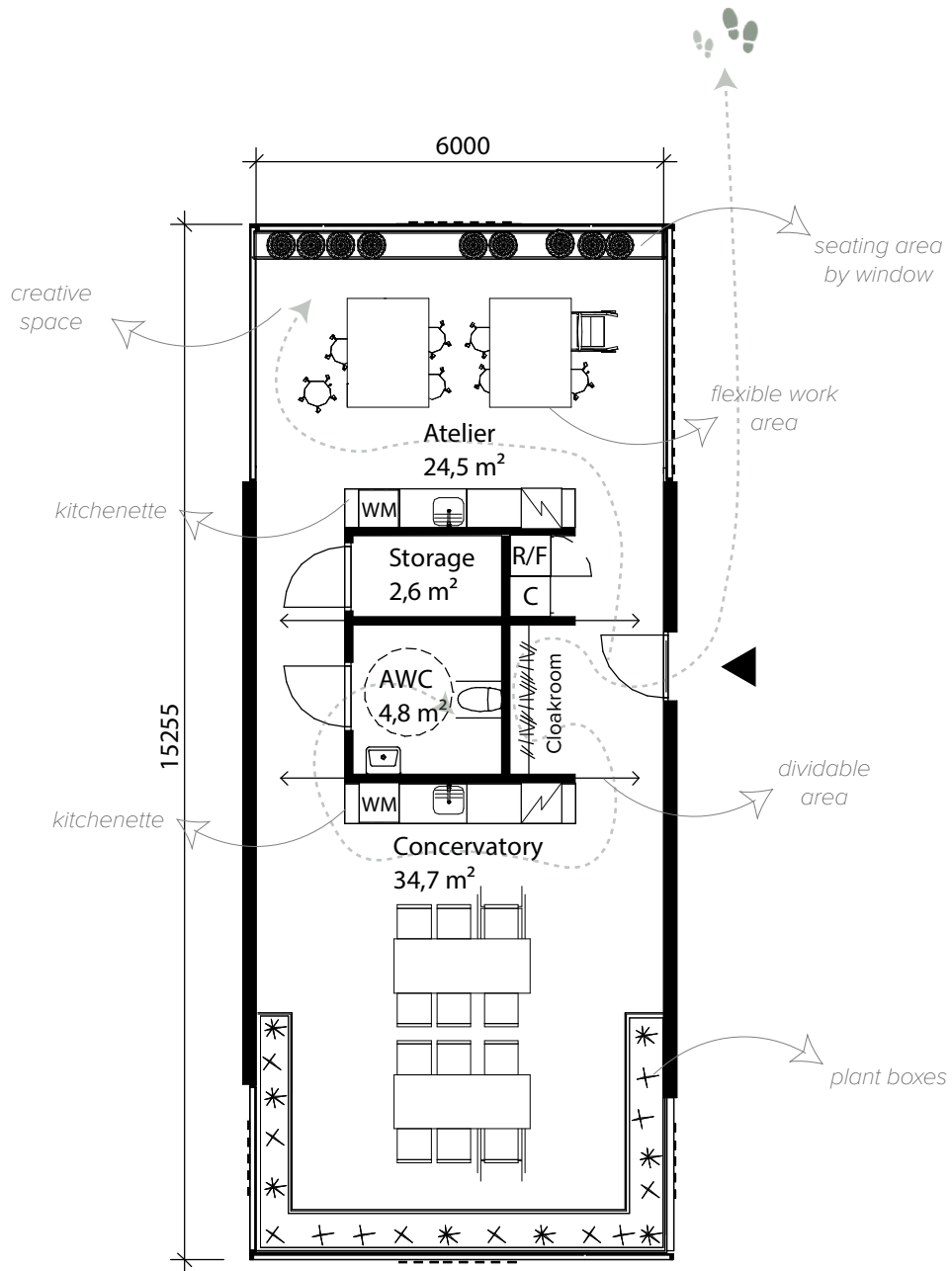
Maps

private and public flows and different zones

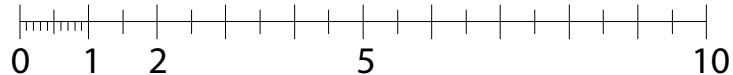


Zoomed-in plan of main common space

Combined atelier and conservatory for children and elderly



SCALE 1:100

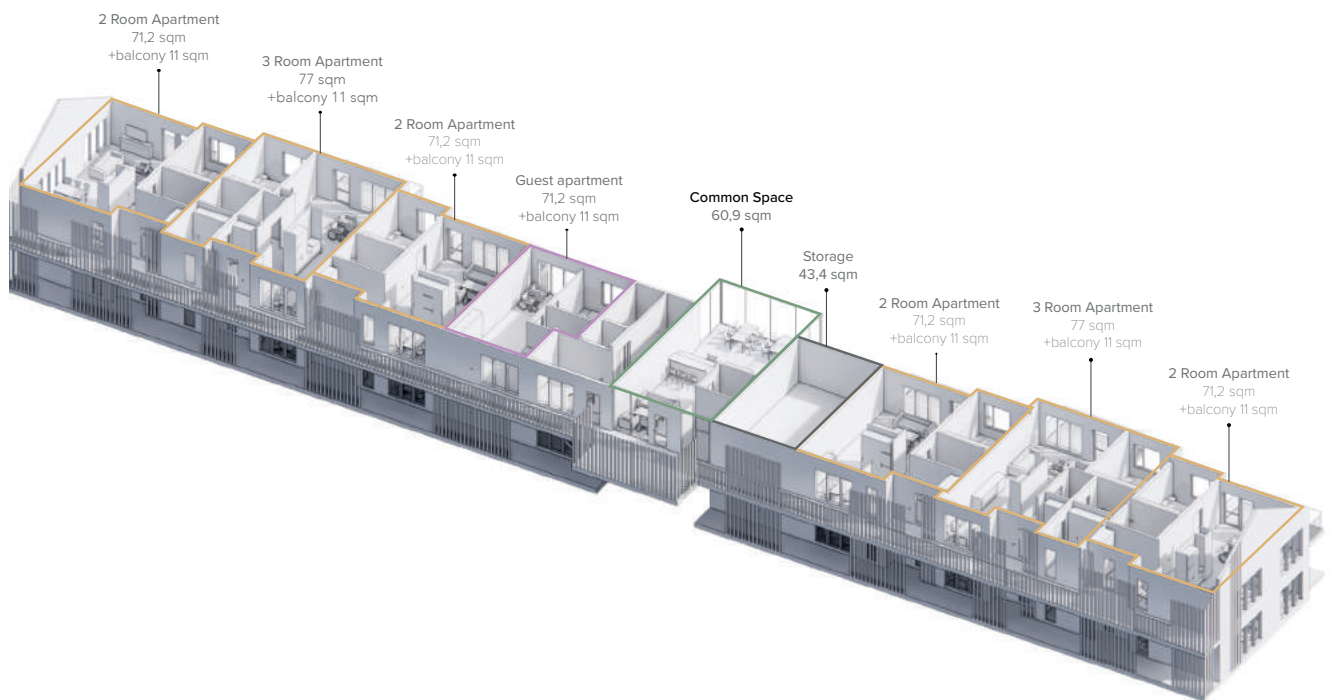


METER



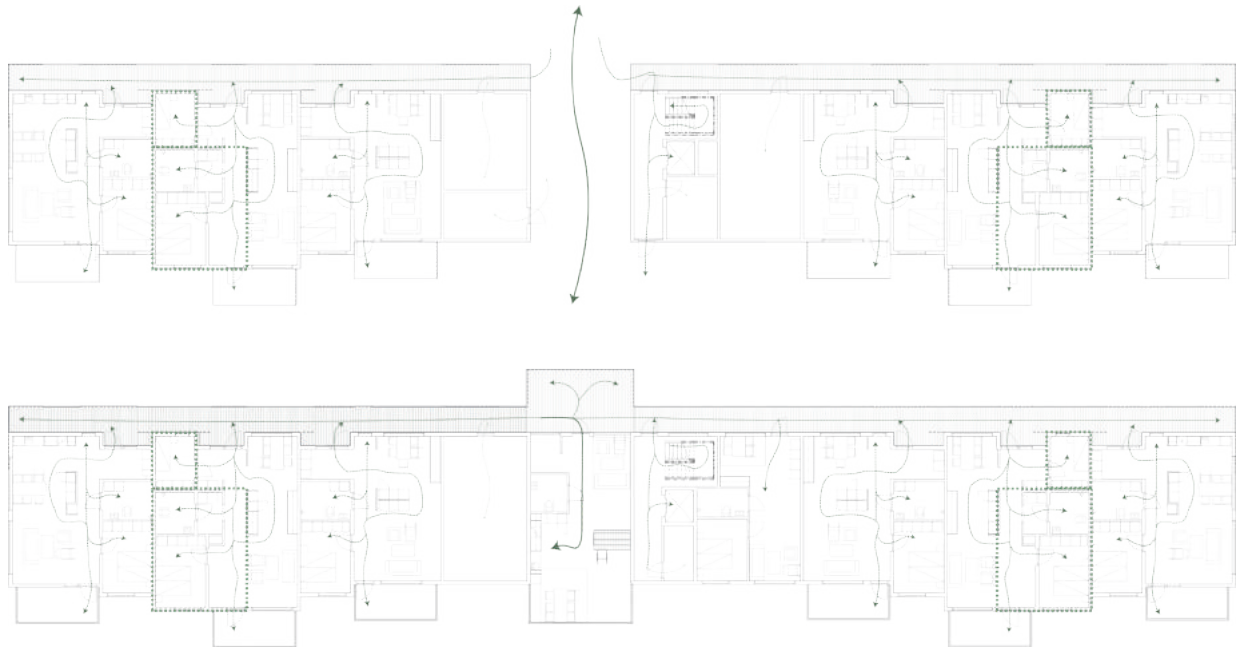
Senior Housing

with close care



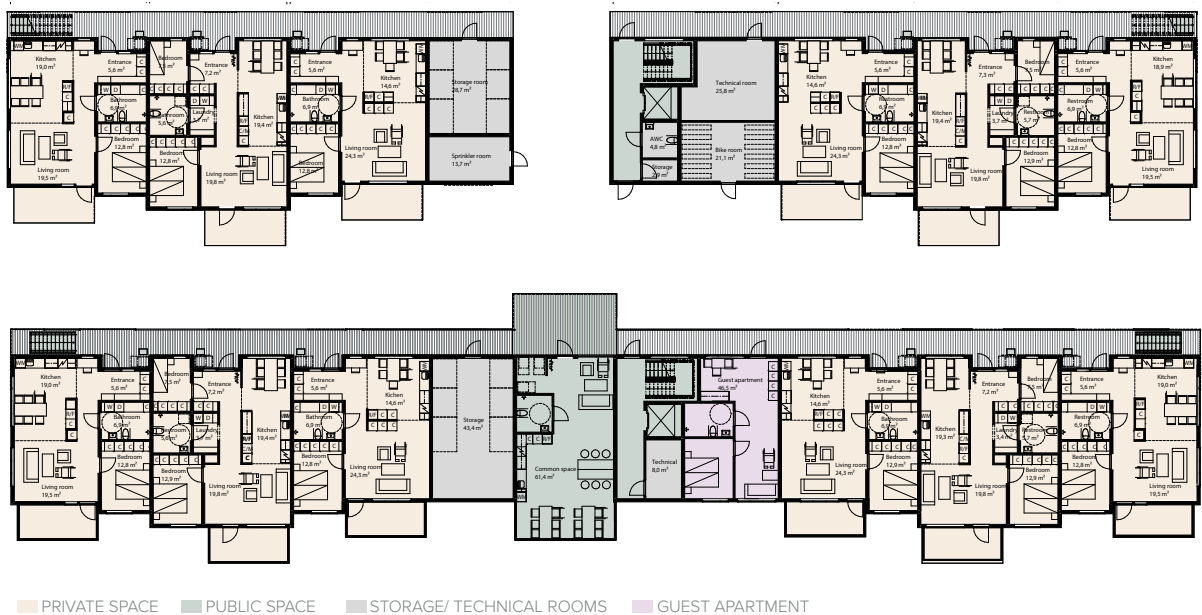
Flows

of senior housing



Zoned areas

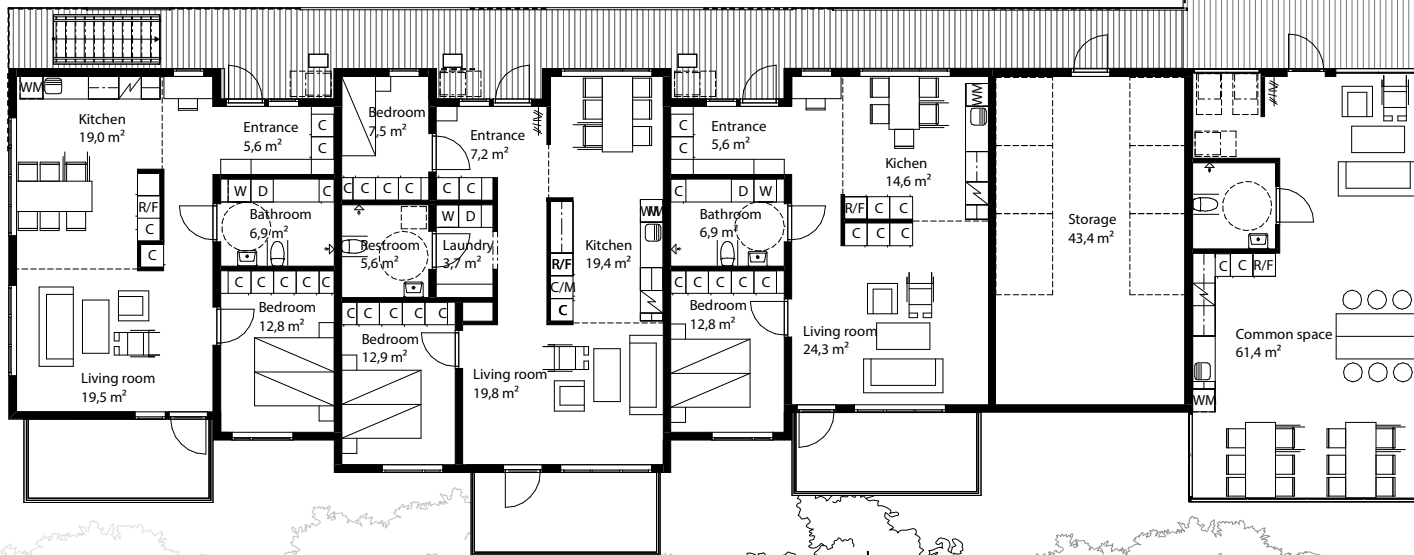
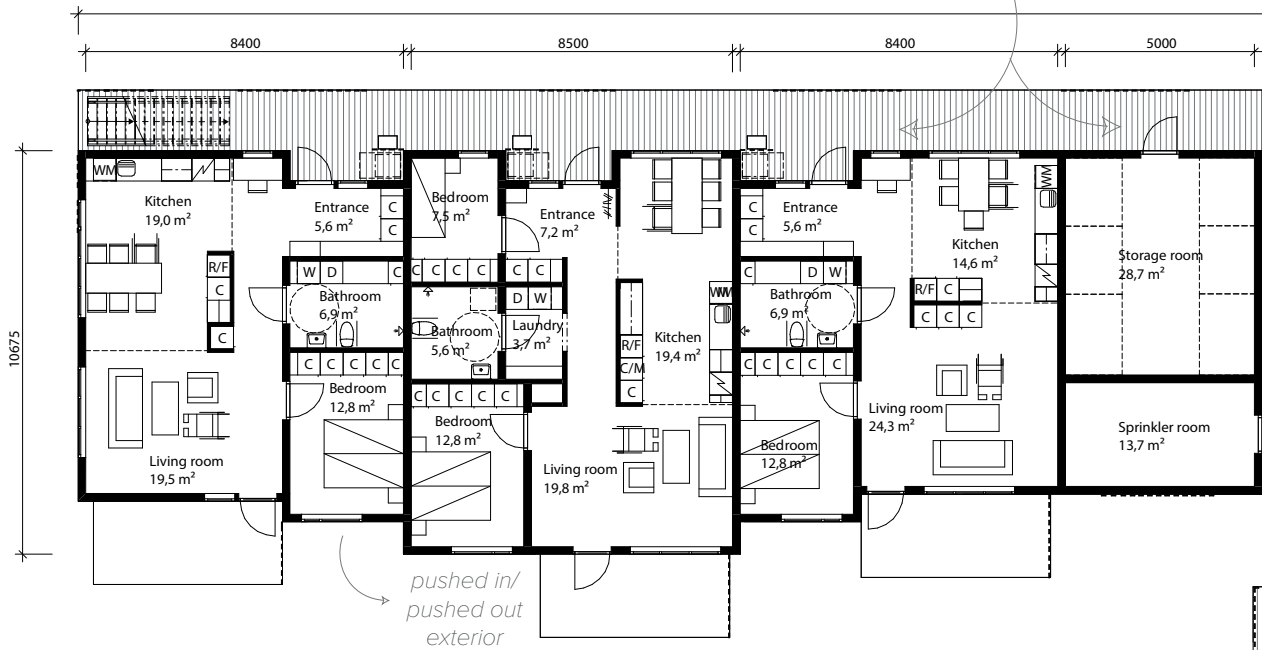
of senior housing

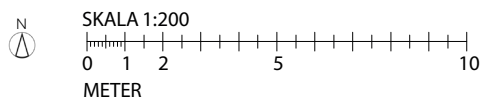
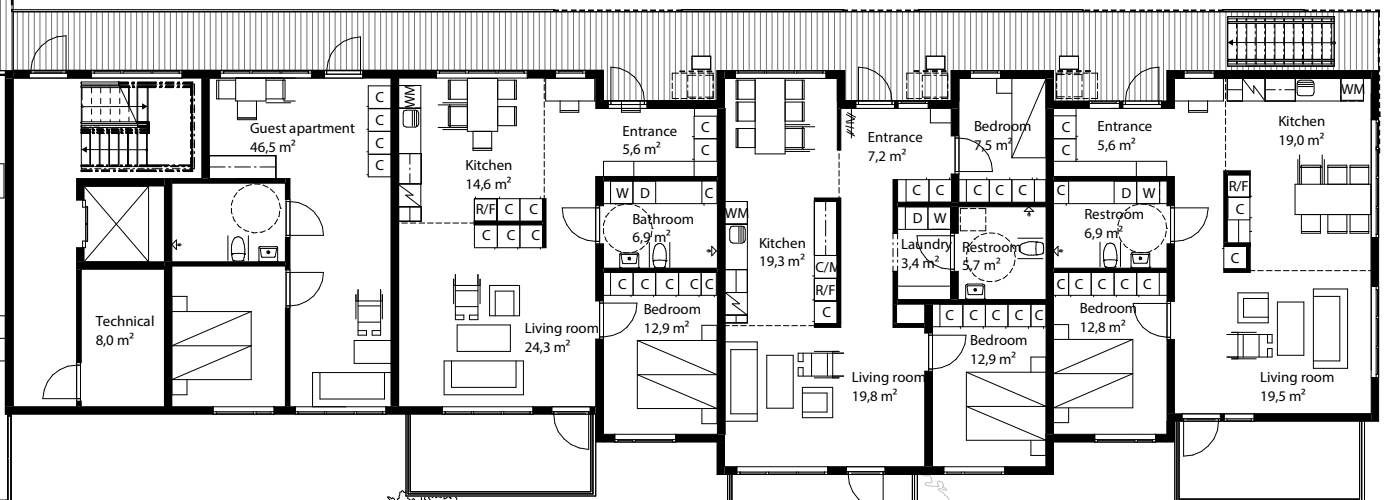
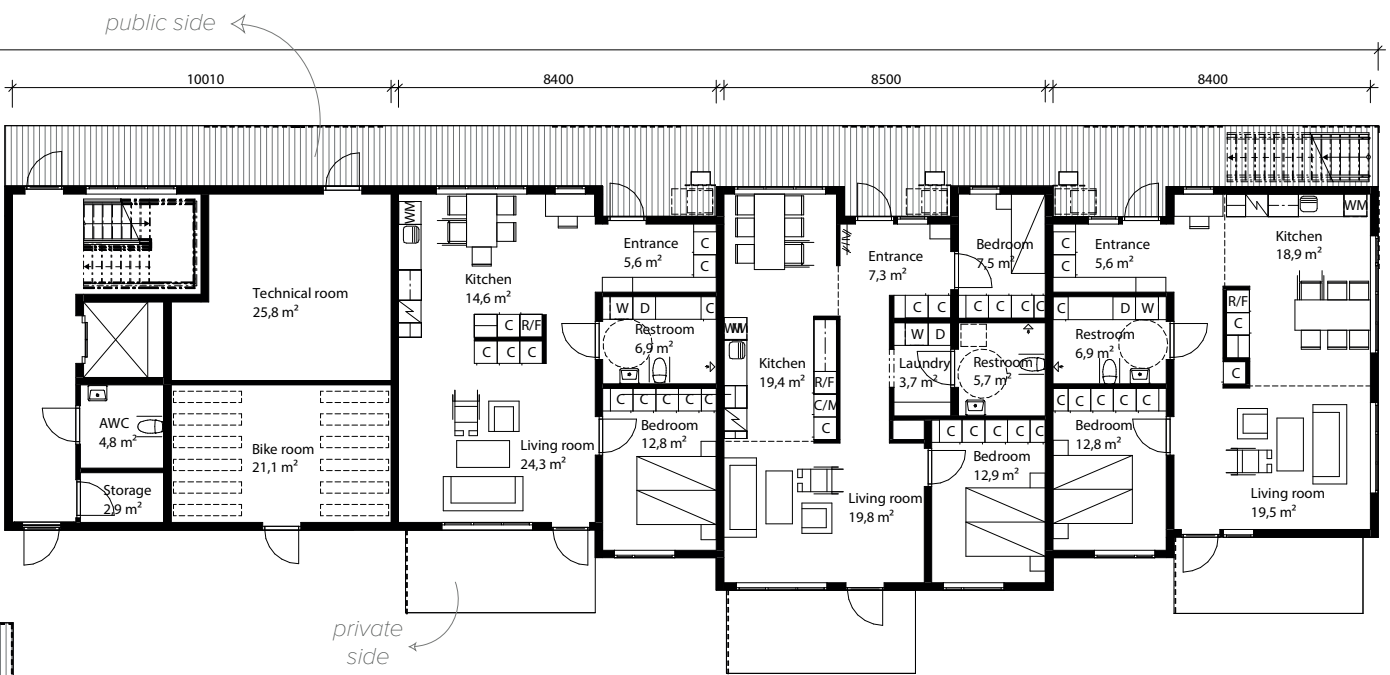


Senior housing plans & section

good visibility

73610





Senior housing exterior



wood grid
for private
character

highlighted
entrance in
green color



dark gray
metal roof

common
space

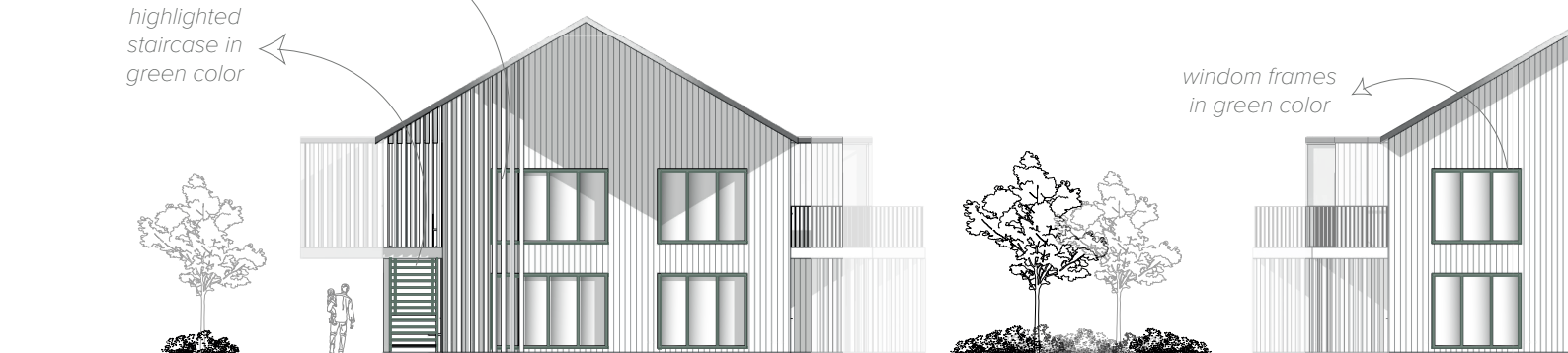


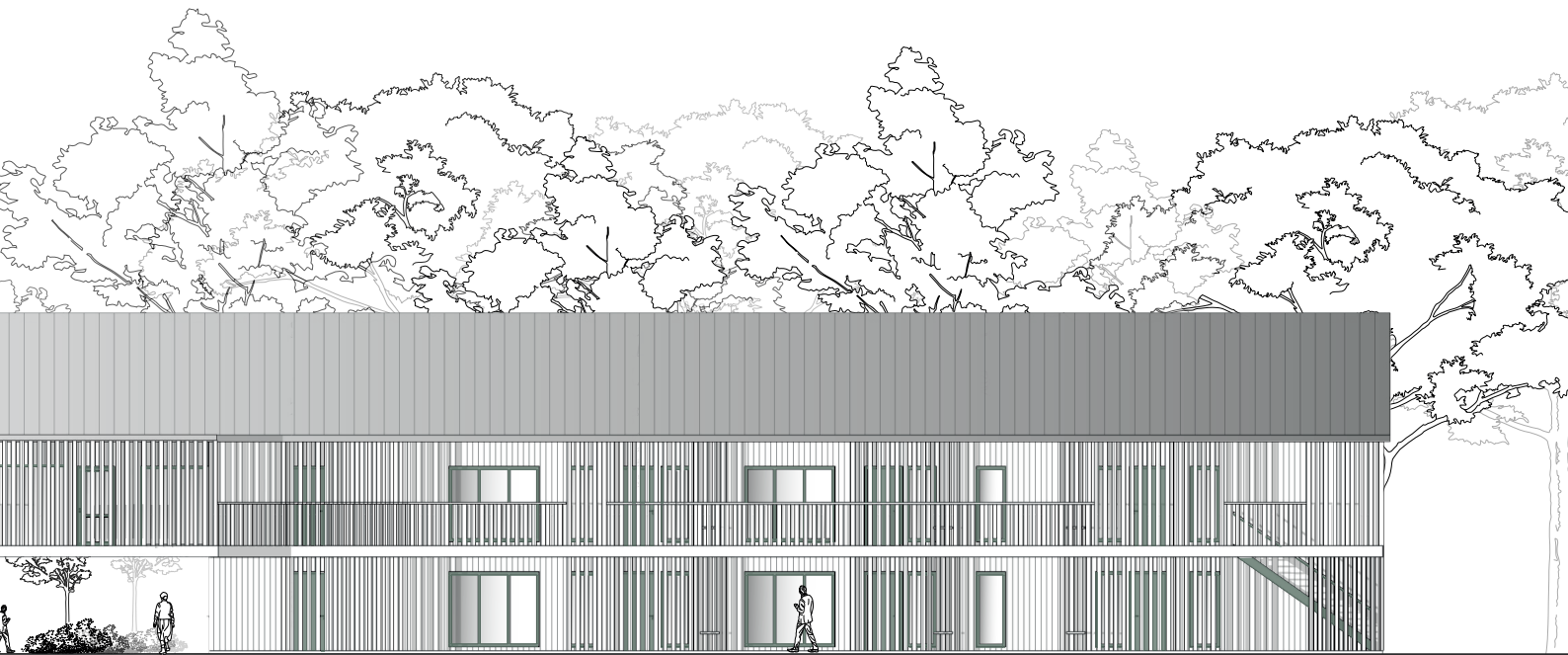
sun protecting
wood grid

highlighted
staircase in
green color

passage to
Stadsnära Lantgård

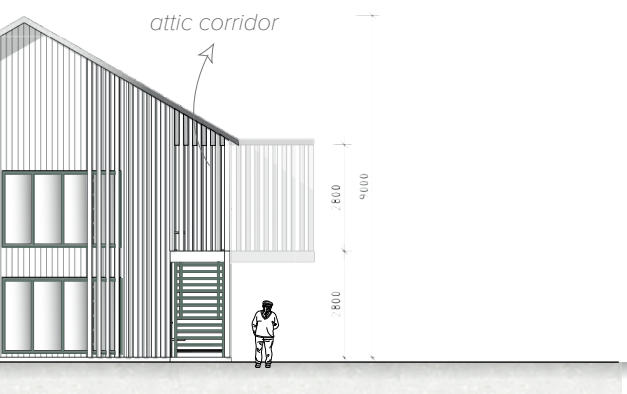
windom frames
in green color





passage to
senior courtyard

highlighted
entrance in
green color



attic corridor

0.016

0.012



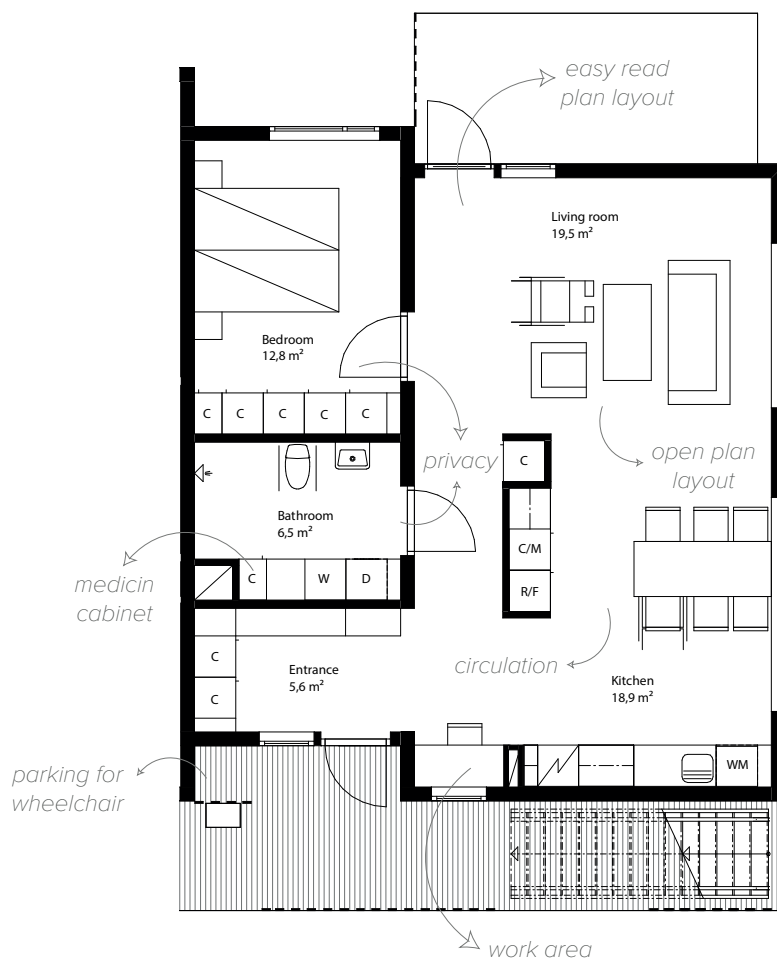
SCALE 1:200

0 1 2 5 10

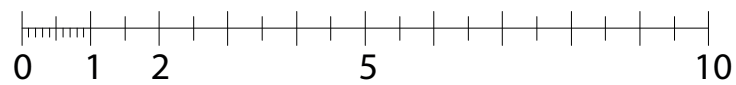
METER

Zoomed-in plans

Two-room-apartment



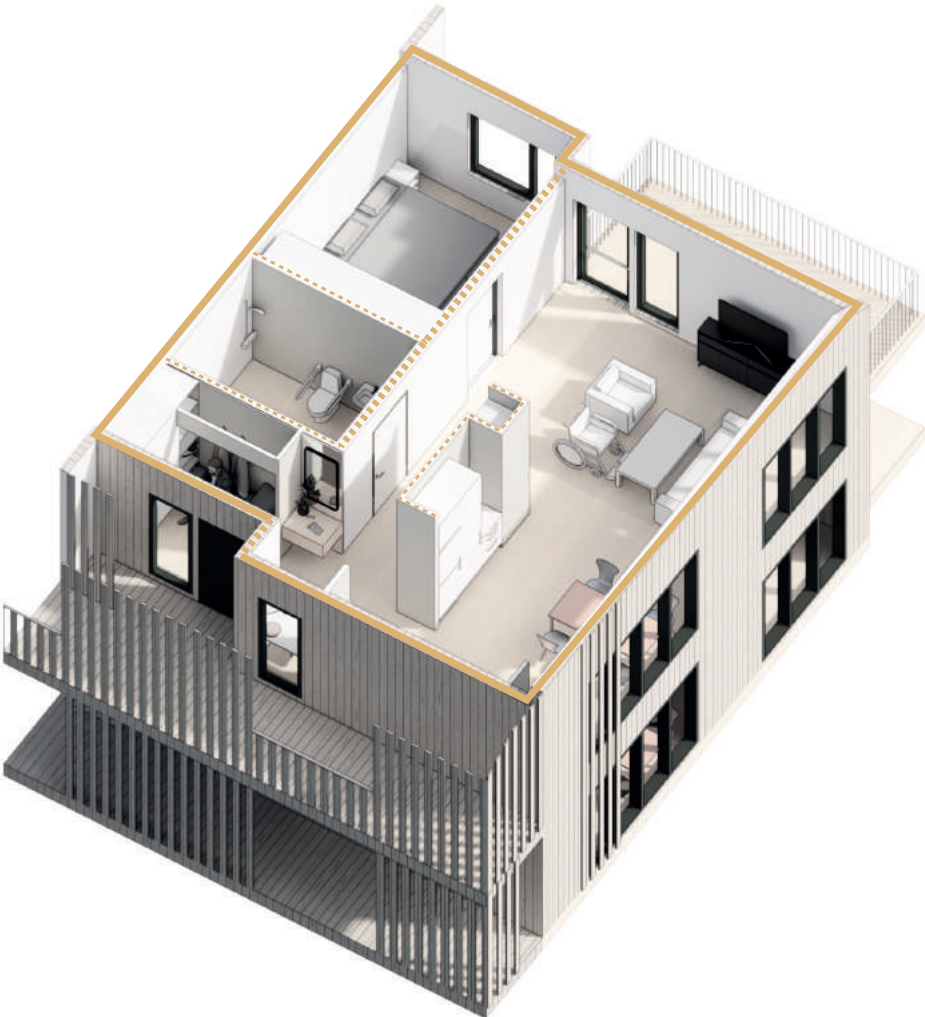
SCALE 1:100



METER

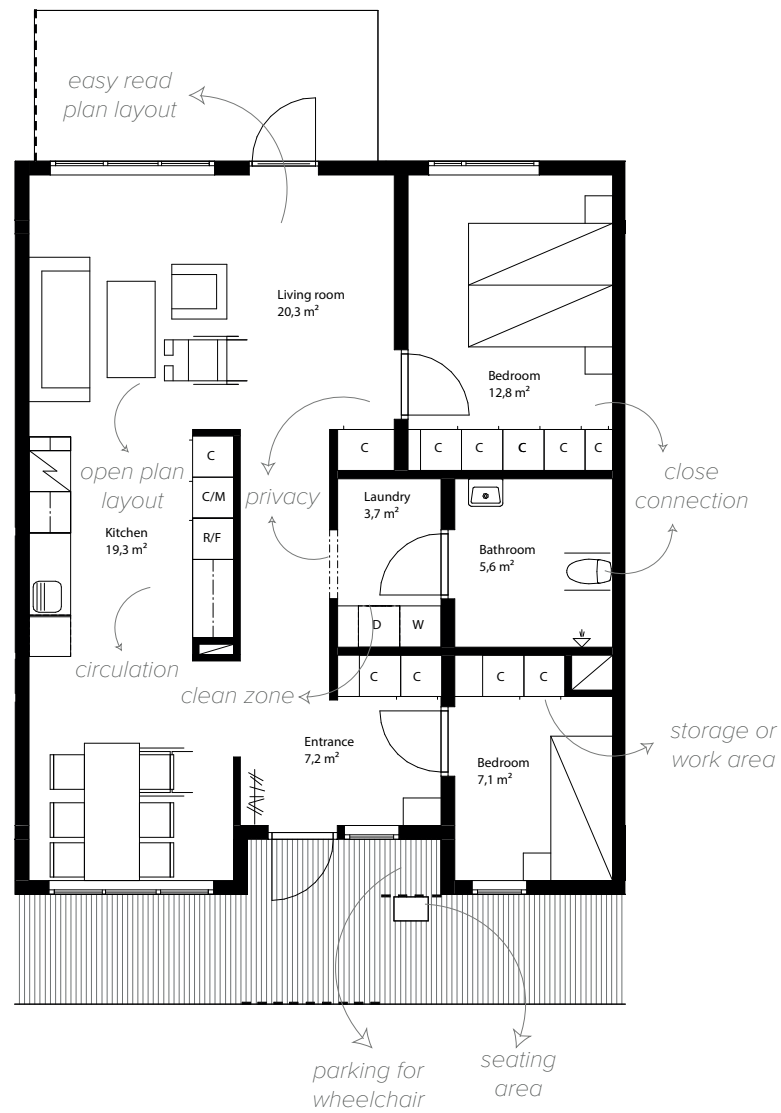
Axonometry

Two-room-apartment

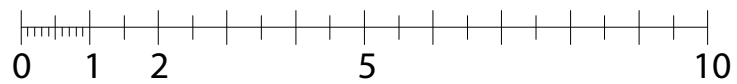


Zoomed-in plans

Three-room-apartment



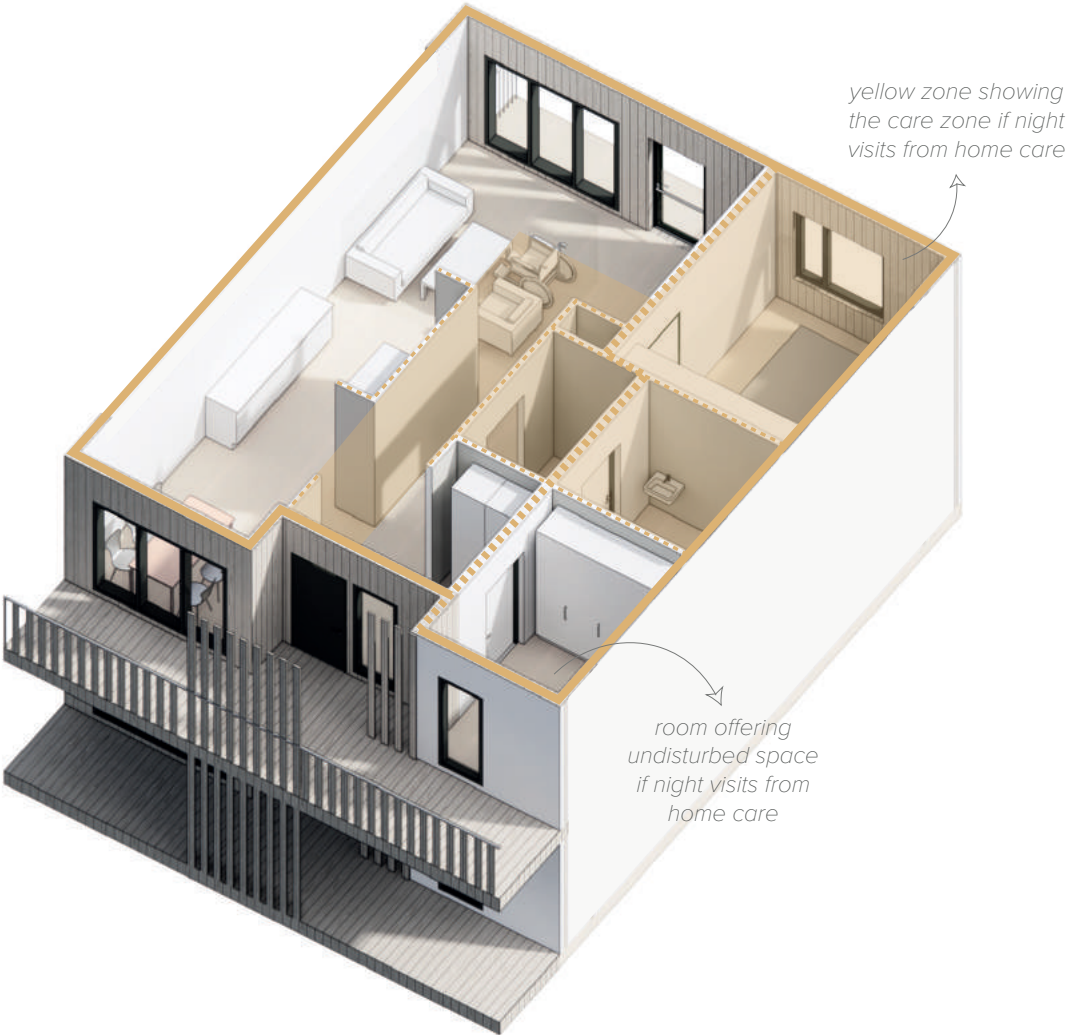
SCALE 1:100



METER

Axonometry

Three-room-apartment



Revisiting the target groups

Imagined effects after moving to Senior Farm



Bertil

After the move to the Senior Farm, Bertil has made several friends in the neighboring apartments. They usually go out and drink coffee and work out at the outdoor gym together. Sometimes they borrow the municipality's box bikes to cycle up to the outdoor area in Råda. Bertil is also involved in running several environmental projects on the farm. Among other things, he has two beehives that last year produced 60 kg of honey. His friends are engaged in growing activities and they have their allotment at Lantgården. Bertil is very happy about the move and thinks it is fantastic to live in a neighborhood where he experiences safety, togetherness, and comfort in a beautiful rural environment.



Kerstin

After the move, Kerstin feels that she has got her life back. Through the window she sees the lambs running and it warms her heart. Despite Kerstin's disability, it is smooth and easy to move around the building and the area completely independently. In the building, there are no level differences, wide doors, turning room for a wheelchair, a spacious bathroom, a stove guard in the kitchen, and other safe and comfortable details. The well-thought-out floor plan provides conditions for high accessibility, good daylight conditions, large balconies or patios, and the opportunity for social interaction. The outdoor environments were selected to be beautiful all year round. Good ground surfaces and seating areas also allowed the couple to participate in activities in the greenhouse, the hobby room, and exercise opportunities. The proximity to the animals has also meant that the grandchildren come to visit more frequently.



Ingvar & Tora

The move to the three-room apartment by Lantgården has done great wonders for Ingvar. He can now move freely and independently in and out of the home. Ingvar thinks it's fun with the school children who often come to visit the farm. Ingvar is involved in several activities. He says that the children are a "breath of fresh air". Tora appreciates what happens around the accommodation through the communal dining area, markets, performances, animals, lectures, and courses. Tora also appreciates the central location of the accommodation and the proximity to local services, nature, and communication. She also likes that it is possible to offer acquaintances an overnight apartment if someone comes to visit.



Reflections

Final reflections and thoughts from the author about the project proposal.



Why senior farm?

What different actors have to consider

The older population is increasing in age and number. Therefore, city planners, architects, housing developers, and politicians of our municipalities need to consider how our cities and homes have to be planned to meet future demands and challenges.

Even though elderly people are healthier and more active than ever before, numerous of them feel lonely and isolated. Many older people live in single housing and end up alone there when they reach an older age. Several researchers believe that loneliness should be considered an equally important health and lifestyle factor such as food, sleep, and exercise.

Studies indicate the factors to maintain good health when aging are, social integration, stimulating activities, and social well-being. A senior home with good design choices, and a surrounding social infrastructure might therefore be one way of dealing with one of the biggest threats to public health. Statistics indicate a shortage of housing for seniors in most municipalities, and the shortage is expected to increase. Therefore, social planners and politicians should see the need of developing environments that support that kind of living.

A vision of a potential future

The vision of the Senior Farm project is to create an environment that could break involuntary loneliness and create sustainable societies. The project suggests that this can be done by bringing the elderly, children, and animals together. The project highlights the current ideas of senior housing and brings a physical and social infrastructure in the surrounding environment that creates conditions for people's health, happiness, and experience of the meaning of life (Ahlström et. al. 2023).

Choice of housing

The decision of designing a senior house with close care was made as many seniors are too active and well to live in nursing homes. However, the seniors living there today might be too ill to participate in activities. Nevertheless, after reading about the benefits of interactions, it is worth remembering that animals and children bring benefits even to the sickest and oldest population.

The project visualizes what a potential future can look like in Lidköping but also in other municipalities in the hope to inspire politicians, municipal officials, and private developers who can make that vision a reality. Animals in combination with meeting spaces bring the potential of being a city destination that attracts many groups of people. A varied environment that can maintain the health and the joy of life.

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Aubrey H. Fine (2015). *Animal-assisted Therapy: Foundations and guidelines for animal-assisted interventions*. Digital Book. Chalmers Library.

Ahlström, Bjelke, Paulsson, Runsteen, Sandberg. (2023). *Bra Bostäder För Seniorer*.

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Kernan, M & Cortellesi, Gi. (2020) *Intergeneration learning in practice: Together old and young*. Routledge.

Kärnekull, Kerstin. (2011). *Bygga för seniorer*.

Wijk, Helle. (2014). *Vårdmiljöns betydelse*.

Diagrams & Statistics

Figure 1 - Bar diagram - Page 8

Remade graphics by author but based on: Ensamhetskommisionen. (2021). *Ensamhetens karta. En sammanställning om ensamheten i Sverige*. Retrieved May 5, 2023 from https://ensamhetskommisionen.se/wp-content/uploads/2021/04/Ensamhetens_karta.pdf

Figure 2 - Line graph - Page 15

Remade graphics by author but based on: Socialstyrelsen. (2020). *Vård och omsorg om äldre: Lägesrapport*. Page 29. Retrieved May 5, 2023 from <https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/ovrigt/2020-3-6603.pdf>

Figure 3 - Line graph - Page 16

Remade graphics by author but based on: Sveriges Kommuner och Landsting. (2019). *Prognos av särskilda boenden: Stöd för att prognostisera behov av särskilda boenden för äldre*. Page 7. Retrieved May 5, 2023 <https://skr.se/download/18.5627773817e39e979ef5b-fae/1642489104480/7585-733-6.pdf>

Figure 4 - Concept map with connection to the HAPPI report - Page 17

Remade graphics by author but based on: Ahlström, Bjelke, Paulsson, Runsteen, Sandberg. (2023). *Bra bostäder för seniorer*. Page 15. Print.

Figure 5 - Conceptual diagram - Page 21

Remade graphics by author but based on: Ahlström, Bjelke, Paulsson, Runsteen, Sandberg. (2023). *Bra bostäder för seniorer*. Page 50. Print.

Pictures

Page 9 - Man walking alone

David Sinclair (April 9, 2018). Digital photo. Unsplash.. <https://unsplash.com/photos/Jrzz1tymfgc>

Page 13 - Elderly man with cat

Pietro Schellino (October 9, 2020). Digital photo. Unsplash. <https://unsplash.com/s/photos/old-person-and-cat>

Page 17 - Kvarnkullen

Clase, Susanne. *Uppföljning av trygghetsboende Kvarnkullen*. White Arkitekter. Power Point.

Page 17 - Trygghetsboende: En del av Drömstan i Lidköping

Drömstan. *Trygghetsboende: En del av Drömstan i Lidköping*. Digital brochure. Retrieved May 7, 2023 from <https://dromstan.se/trygghetsboende/>

Page 17 - Villa Videbeck

Lidköpings kommun (December, 14, 2021). *Pressinbjudan: Villa Videbeck*. Retrieved May 23, 2023 from <https://newsroom.notified.com/lidkopings-kommun/posts/news/pressinbjudan---villa-videbeck>

Page 19 - Crying elderly women

Jeremy Wong. (July 1, 2017) Digital photo. Unplash. <https://unsplash.com/photos/1iP2NFMaMHU>

Page 20 - Pictures from the Tv-show on Swedish TV4.

TV4. (2019). *Fyra åringarna på äldreboendet*. Tv4Play. Documentary. Retrieved october, 2022 from <https://www.tv4play.se/program/fyraaringarna-pa-aldreboendet>

Page 23 - Human and pig

Ben Mater. (April 2, 2019) Digital photo. Unsplash. <https://unsplash.com/photos/ek56eeYMKoQ>

Page 23 - Five Sustainable Development Goals

United Nation. *Communication material*. <https://www.un.org/sustainabledevelopment/news/communications-material/>

Page 39 - Pictures of Trygghetsboendet Kvarnkullen

Clase, Susanne. *Uppföljning av trygghetsboende Kvarnkullen*. White Arkitekter. Power Point.

Page 39 - Pictures of Residents Simrishamn

White Arkitekter. *Residens Simrishamn*. Tävlingsförslag. Power Point.

Page 39 - Pictures from the Tv-show on Swedish TV4.

TV4. (2019). *Fyra åringarna på äldreboendet*. Tv4Play. Documentary. Retrieved october, 2022 from <https://www.tv4play.se/program/fyraaringarna-pa-aldreboendet>

Page 40 - Man with dog

Instagram (2023). *Tolsjotesplats_lidkopning*. Lidköpings Kommun. Posted 2022, December 29. Retrieved May 7, 2023 from <https://www.instagram.com/p/CmusDATN5O4/>

All other photos are taken by the author

Quotes

Page 9 & 18

Ensamhetskommisionen. (2021). Ensamhetens karta. *En sammanställning om ensamheten i Sverige*. Retrieved May 5, 2023 from https://ensamhetskommisionen.se/wp-content/uploads/2021/04/Ensamhetens_karta.pdf

Page 19

Stadig Pilhagen, A. Public Health Strategist for the Region and Lidköping Municipality. From interview conducted 20230207.

Page 23

Bengt Göran Nilsson. From interview conducted 20230209.

Page 32

Josefina Guttman. From interview conducted 20230208.

Page 71

Christina Thimgren. From interview conducted 20230203.

Renders 6 Illustrations

Made by the author

Webb

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"The last years of your life should be
as meaningful as your first"

- Emelie Stenhammar -

