Playground design for children with movement disabilities: How can existing playgrounds be better adapted to different needs?

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Chalmers School of Architecture
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Abstract

Play is an essential part of childhood, but despite laws and regulations play is not equally accessible to children with movement disabilities. Previous research emphasizes the importance of play and explains the negative impact of lacking opportunities for play. Research shows that more equal play options are necessary, but suggested solutions are commonly centered around quantitative metrics or new playgrounds. Old playgrounds are often left partly or fully inaccessible to children with movement disabilities. The question is then: How can an existing playground be adapted to create more equal opportunities for play for children with movement disabilities?

This thesis uses literature studies and case studies in combination with interviews of key stakeholders to explore how to better accommodate children with movement disabilities. Playgrounds can be adapted to children in different ways, but there are three core design principles. The first is to even out the imbalance in play options between children with different abilities. The second is to work site specific, since every playground is different. The third is to provide opportunities for children with different abilities to play together.

To test these design principles, a design project was made in the playground in Nässjö city park. The aim is to seamlessly integrate opportunities for play for children with movement disabilities into an existing play landscape. To also consider the environment, changes will be made mainly with reused or natural materials. Two features of the current playground were chosen as the main focus and intervention points. The first is the obstacle course which circles the whole playground, inspired by nature play and playotopes design strategies. The second is the presence of water-themed elements around the playground. Neither of these main features are accessible to children with movement disabilities, especially not for those with mobility aids. By designing alternative routes for the obstacle course and building upon the water theme through new play equipment, opportunities are created for children with movement disabilities to participate in play related to some of the main activities in the playground. This creates more equal experience, as well as providing new play equipment which everyone can use.

Key words

Reuse. Equality. Park. Nature. Playotopes.

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The subject

Designing for people with different needs is something I have been interested in for a while, but I have not yet gotten the opportunity to deep-dive into the subject. Therefore, I see this master thesis as a good opportunity to learn more about designing for children, but also how to design inclusive public spaces for people with movement disabilities. There are of course a multitude of different perspectives to inclusive design, and I would love to learn more about all of them, but for this project I have chosen to work with movement disabilities specifically since it is a perspective I currently know very little about.

The area

I chose to do my design project in Nässjö since I grew up in a small town nearby. I went to school in Nässjö and took theater classes at Pigalle right next to the playground, so I have spent a lot of time in the area. I saw this master thesis as an opportunity to work with a project in a smaller city, as well as spending some time around home.

Design studios

Chosen design studios during the master program include Community Architecture, Dare to Build and Key projects. Community Architecture is a studio based on a participatory design process which consists of interviews, workshops and discussion with stakeholders. Our group worked together with Mixgården, Parklek and Young City Planners in Angered to create add-ons to one playground in Hammarkullen and one in Hjällbo. Dare to build focus on interdisciplinary collaboration, prototyping and practical understanding of how to work with reused wood, as well as interaction with stakeholders. These design studios provide a solid base for the choice of methods and subjects for this master thesis.

Art and story telling

In addition to my architecture studies at Chalmers university of technology, I have also studied sustainable art at Angereds folkhögskola. I used art to visualize and explore everyday challenges for children with ADHD. This work resulted in a children's book which was published on Hylleruds förlag during spring 2025 named Henrietta och draken, which translates to Henrietta and the dragon. I have worked with art and illustration parallel to my architecture studies and wish to use those skills as an essential part of my master thesis project.

Contents

01.
INTRODUCTION

Background and problem description

UNICEF (2021) explains how play is an essential part of childhood. Children practice things like motor skills, social skills and logical thinking through play, it also builds identity and independence. Article 31 in the conventions on the rights of the child (1989) states how every child has a right to play, culture and creativity. Article 23 speaks specifically about children with disabilities and their rights to support, a worthy life and being an active part of society. It is considered a human right for every child to have equal access to play as well as opportunities to be creative, learn and explore, either on their own or together with other children.

However, many playgrounds do not have the necessary accommodation for children with movement disabilities, and they therefore have less opportunities for everyday play. UNICEF (2021) explains that it is common for parents to not bring their disabled child to a playground due to feelings of exclusion and being socially distant. This affects how the child perceives themselves and their feeling of self-worth and self-esteem might be harmed. It might also affect how others view people with disabilities and it could reinforce harmful prejudice and increase social exclusion.

A playground made for children with different abilities will do two things, according to UNICEF (2021). The first is that the way the child perceives themselves will change and they will feel respected, taken care of and encouraged to explore play both with others and individually. The second effect is that the way others perceive people with disabilities will change, it will lessen prejudice and increase understanding. According to UNICEF, these two together might create a lasting change and create a society where people with disabilities are more likely to feel included and respected.

P4play (2025) is an international research organization focused on inclusive play. They define a universally designed playground as a space with both high play value and an equal sense of belonging. P4play explains that each playground should be designed in a way so people of different abilities can use it and be comfortable when moving around.

The question for this thesis is then: How can an existing playground be adapted to create more equal opportunities for play for children with movement disabilities?

First, it is important to look at how Swedish municipalities work with playground adaption for movement disabilities today. Harvard (2008) writes in the book *Mer åt fler på lekplatsen: Bra lekplats för barn med funktionshinder blir bättre lekplats för alla* about how the municipalities in Sweden work with inclusive playground design. Harvard explains how an inclusive space for children with different abilities will create a better playground for everyone. Harvard does however make the conclusion that accessible and inclusive playgrounds are often not the reality today, and that a lot of adjustments for children with different needs remain unexplored, including but not exclusive to children with movement disabilities.

Nässjö municipality today have limited options for children with movement disabilities, the only playground with some accessible options and suitable infrastructure is Nässjö city park playground, which is the largest playground in the city. The playground underwent renovations during the spring of 2026 with a major upgrade for movement, theme and overall cohesion. There is, however, room for improvement and some way left to go before the playground provides equal experience for children with movement disabilities. The playground is in central Nässjö and was used during this thesis to test out different design principles found through the theoretical studies.

Nässjö municipality does not currently have any guidelines for playground design and accessibility. A guide is currently under process but not yet available. Nässjö municipality have recently begun to prioritize playground renovations and to consider accessibility and inclusion while doing so. Since almost none of the 22 playgrounds in Nässjö provide any options for children with movement disabilities today there is much need for improvements, solutions and overall playground development. This makes Nässjö city a highly relevant project site.

Aim and research question

This thesis explores accessibility and inclusion in a playground context through literature studies, case studies and interviews of key stakeholders. The aim is to create a good overview of the subject and current research as well as to define design principles for a qualitative design approach and analyze different perspectives and key concepts necessary for good playground design.
The thesis also aims to analyze existing playground design in Nässjö city to explore how accessibility and inclusion for children with movement disabilities can be implemented in a site-specific context.

Design principles identified through literature studies, case studies and interviews will be used in a design project in Nässjö city park playground. The goal is to test the design principles in practice and create an example of what accessible and inclusive design for children with movement disabilities could look like in a site-specific context. The goal is to use small scale implementations to increase play opportunities for children with movement disabilities as well as create a more varied and equal play experience. Implementation should be well adapted to children with different types of movement difficulties but should also be fun and usable for children of any ability and create a good foundation for joint play and social interaction.

Thesis questions

Primary Research Question
How can an existing playground be adapted through reuse and nature materials to create more equal opportunities for play for children with movement disabilities?

Sub-questions
What does the playground selection look like today in Nässjö and how have the different playgrounds worked with inclusion and accessibility for children with movement disabilities?

How can the playground in Nässjö city park be improved to provide more equal and varied opportunities for play for children with movement disabilities?

Delimitations

Even though it is outside the scope of this master thesis, I do believe it is equally important to design playgrounds for other needs and disabilities as well. Cognitive disabilities, invisible disabilities, or other physical disabilities like blindness och deafness is of equal importance, and all children deserve to feel that sense of belonging. However, each of these alone could be the foundation for a whole master thesis, so I chose movement disabilities, not to disregard any other perspectives as less, but to be given the chance to deep dive into one piece of inclusive design.

This master thesis is therefore not necessarily a study in inclusive playground design, even though some findings are useful in more general terms as well.

Framework and methods

The framework for the thesis consists of three main theories: Social sustainability, circular economy and playground safety according to Swedish rules and regulations. These three forms the foundation for both interviews, literature studies, reference projects and the final design project.

Social sustainability

The first main area of this thesis is to explore how to improve inclusion of children with movement disabilities in a playground context and how architecture can influence social sustainability. Wenger (2022) describes the importance of creating playgrounds for children with different abilities and how it affects a child´s physical and mental health negatively to be given less options for play, or to be excluded from public playgrounds.

The aim is to redesign existing playgrounds to better accommodate children with movement disabilities, with the focus being on qualitative aspects and to create a better sense of belonging and inclusion rather than focusing on measurable quantitative aspects of an accessible space. The thesis explores in what ways architects can design for social inclusion and how playgrounds can be improved to provide better play opportunities for these children. It discusses different perspectives, explores what play can look like for children with different movement disabilities and how to create play where all children can play together after their own ability.

Circular economy

Climate change and overuse of resources is a constant challenge today and environmental sustainability needs to be a central focus in any design project. Stahel, W. R. (2019) describes in The circular economy: a user's guide how circular economy aims to recycle, reuse and build for long term use. Stahel also highlights the importance of using and preserving materials and built environments which already exist as well as avoiding consumerism and reducing the production of new products as much as possible.

This master thesis explores how to design playgrounds with the theory of circular economy by working with adapting existing playgrounds, designing with reuse and nature materials. It explores how accessible playground solutions can be achieved through small implementations which complement already existing playground landscapes.

Regulations

Sweden has plenty of laws and regulations surrounding playgrounds and design for children. The playground needs to be safe and designed in a way to avoid accidents according to, among others, Plan och byggförordningen (SFS 2011:338) chapter 3 paragraph 10. Regulations cover things like ground materials, avoidance of different safety hazards and accessibility.

Analyzing existing rules and regulations gives a good understanding of what the regulations cover, who benefits from them currently and helps with understanding the difference between existing playgrounds and new playgrounds and what rules apply to each. It explores what rules there are and how they impact accessibility in existing playgrounds compared to new playgrounds.

With the aim to explore the subject of playground design through the lens of social sustainability, circular economy and Swedish regulations, these are the main methods which has been used throughout this thesis.

Literature studies

The study of existing research explored topics like playground design, safety, how children experience inclusive playgrounds, social factors and ideas for reuse and playotope landscapes. These gave a good foundation for further exploration through reference projects and site analysis and provided key design principles for how to design according to the three main themes of this thesis.

Study rules and regulations

Swedish rules and regulations were studies to understand the difference between existing playgrounds, new playgrounds and what rules applied to each. It also showed what safety in a playground context entailed.

Site analysis

Studies of public playgrounds in Nässjö, 22 in total not counting school yards, made it possible to determine the choices children with disabilities have today and to explore the extent of the current lack of accessibility.

Reference projects

Visits were made to two main reference projects, Plikta in Gothenburg and Hjälmarviksparken in Örebro. Plikta is a newer playground which gave plenty of inspiration for how to work with accessible play in practice. Hjälmarviksparken worked as a reference for understanding playotope landscapes and how nature materials can be used in different ways in a playground context.

Interviews

Discussion with key stakeholders will give insights into playground design today, what obstacles there might be and what they see is lacking in terms of play opportunities for children with movement disabilities. Key stakeholders include people who work with children with different abilities, teachers with relevant experience and architects with understanding for accessible design.

Interviews made

Mirjam Alinder
Landscape architect and project manager for the transformation of Nässjö city park. Nässjö municipality, planning and urban development.
2025.10.25

Sports teacher
Teacher with experience of working with children with special needs, Gothenburg municipality.
2025.04.10

Mona Wårdmark
Primary school teacher with experience of working with children with special needs, Nässjö municipality.
2025.09.09 and 2025.10.11.

Teacher
Primary school teacher, Nässjö municipality.
2025.10.20

Thérese Sveitz
Architect and certified accessability expert. Glimt arkitektur och tillgänglighet.
2026.02.13

Limitations of the thesis's approach

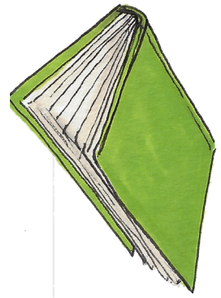
The first thing to discuss is the method chosen. Intentions were originally to work with a cross-disciplinary and participatory design approach to include the voices of children with movement disabilities and be able to more directly hear and learn from their own experiences. However, it quickly proved a challenge to find participants. In Sweden, the school system is only segregated if you also have a cognitive disability, which makes it more challenging to both plan the workshop and find a group of participants relevant to the topic. To gather children outside of a class would instead cause logistical challenges with finding and reaching potential participants with information, finding a space and holding a workshop without present teachers. This is why the decision was made to instead work with key informants who meet these children daily, in combination with case studies and text studies of already existing research.

Interviews were conducted with some stakeholders who were relevant to the area or the subject, but some important stakeholders are not represented among them. To get a more detailed and complete overview it would be better to also organize workshops or interviews with parents, children with movement disabilities and representatives from an association for people with disabilities. However, due to the difficulties finding participants within said categories, these interviews combined with earlier polls and workshops made by the municipality had to be deemed enough for this project. Workshops and further contact with key stakeholders would however be something to consider for future development of the project before implementation.

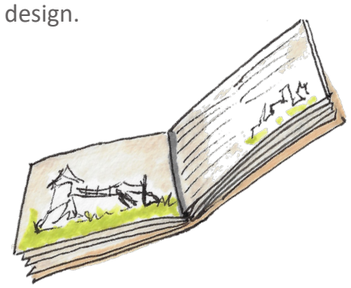
In addition, it is also important to note that I do not myself have a movement disability and I do not have firsthand experience with growing up with one. I do recognize there is a paradox in focusing on qualitative aspects and the experience of an inclusive space as a person without a movement disability, but I also think it´s vital for architects to be able to create spaces for everyone and consider many other perspectives than those we can relate to on a personal level.

Finally, architecture on its own does not create inclusion. The experience of inclusion is a combination of many factors such as social environment, health care, politics, access to support and tools as well as individual needs being met. Access to public space and play is a very basic right and an important piece in creating cities which are made for everyone. It is important to understand it will not provide inclusion in itself, but it will provide a better foundation.

02. THEORY AND LITERATURE STUDIES



To better understand the subject and the current situation it is important to make use of existing knowledge. Literature studies made through this project show the importance of play as well as difficulties which children with movement disabilities commonly face when they visit playgrounds. The studies explore different ways to meet their needs and how existing playgrounds can be better adapted for different abilities. Literature consists of research papers, organization websites, municipal websites and documents, documents from government agencies, laws and regulations and books about playground design.



Movement disabilities

Specialpedagogiska skolmyndigheten (2023) describes movement disabilities as a term which encompasses everything from minor difficulties to full loss of muscle control. Symptoms vary greatly between diagnoses, but also between people with the same diagnosis. The reduced movement ability could be related to muscles, nerve system or joints. It could affect a part of or the whole body as well as impact either or both gross motor skills and fine motor skills. It could also impact speech and make communication difficult.

Specialpedagogiska myndigheten also describes how the movement disability could be part of a condition related to the brain, which could cause co-existing disabilities. Such disabilities could impact sight and hearing abilities as well as cognitive abilities. A person can also have these conditions independently of the movement disability. Even though it is outside the scope of this master thesis it is important to remember that children with movement disabilities could have other conditions as well which would create additional needs that would need to be taken into consideration for them to use a playground. Specialpedagogiska myndigheten emphasizes that a person with a movement disability does not always have other existing medical conditions, and if co-existing disabilities exist they are not necessarily in proportion to the movement disability.

Mobility aids

Socialstyrelsen (2025) defines a disability aid as an individually adapted product which aims to assist a person in increasing activity, participation and autonomy by compensating for a disability. Mobility aids could come in the form of wheelchairs, walkers, canes or similar, or it could be fixed equipment. Socialpedagogiska myndigheten describes how not all movement disabilities require a mobility aid, but for some it is a necessary tool for everyday life.

Rules and regulations

There are many rules and regulations concerning playgrounds and accessibility in public spaces. To understand today´s lack of accessible playground design it is important to first analyze the current network of rules.

Children's rights

In Sweden, children´s rights are recognized as a fundamental part of our laws and society. The rights are stated in the constitution of the rights of the child (1989) and they include rights on access to play and equality. Article 31 specifically addresses the right to play as well as the right to recreation adapted to the age group of the child in question. All children have equal right to art, culture and free time activities. The constitution of the rights of the child clearly states in article 23 that children with disabilities of any kind are entitled to recreation, learning and being an active part of society. Children with disabilities have a right to help and support as well as opportunities for personal development and a meaningful everyday life.

Discrimination

Sweden has laws against discrimination. According to diskrimineringsombudsmannen (2026) there are seven grounds for discrimination, one of them is discrimination based on disability. Therefore, if a business, school or workplace fail to sufficiently accommodate a person with a disability they are responsible for discrimination. This law does not apply to every situation and exactly where the line is drawn for sufficient accommodation must be evaluated in each individual case. However, the core of these laws is to provide equal opportunities for everyone to live a fulfilling life as well as having access to work and education.

Laws

Plan och bygglagen (SFS 2010:900) chapter 8, paragraph 1, 4, 6, 7 and 9 addresses the topic of accessibility and the built environment in general terms. The law states that built environment should be usable by people with reduced ability to move or navigate. *Plan- och byggförordningen* (SFS 2011:338) chapter 3, paragraph 4, 18 and 23 address accessibility, but mostly in the context of buildings and their potential need for elevator or other lift systems to accommodate people with mobility aids.

Boverket

To better understand the above-mentioned laws there are implementation regulations called *Boverkets byggregler* (Boverket, 2025) which translates to Boverket´s building rules. Together with the laws, these form bare minimum requirements for which people need to adapt if they wish to construct or renovate built environment. Boverket mentions it is encouraged to build more accessible environments than the laws require, and how there are plenty of guides on the subject. Regulations are less strict for renovations and existing built environments compared to new constructions, which is why many new buildings and spaces accommodate people with disabilities to some degree.

Boverket´s rules on the topic of accessibility consists of two main parts (Boverket, 2025), the first one concerns existing public spaces and buildings (BFS 2013:9 - HIN 3). It includes changes which should be made to already existing spaces to create a more accessible environment. The second part concerns the construction of new public spaces or buildings and in which ways accessibility needs to be included in the design and building process (BFS 2011:5 ALM 2).

National guidlines

To complement existing laws there are several guidelines for how to create inclusive spaces for children with disabilities. One of those are *Mer åt fler på lekplatsen: Bra lekplats för barn med funktionshinder blir bättre lekplats för alla* (Harvard, 2006) which explains different needs in a playground context and how to meet them. The guidebook covers different disabilities, including children with movement difficulties, and discusses how to design spaces where these children can play on more equal terms. Harvard does recognize the flaws of the system today and explains that many solutions and design options remain unexplored.

Municipal guidlines

Several municipalities have their own guidelines for how to build playgrounds for children with disabilities. One of those are *Riktlinjer för tillgängliga lekplatser* (Kardemark, 2012), which provides rules and suggestions for parks and playgrounds in Gothenburg city. The guide covers how to design new playgrounds, and what to consider during renovation or adaptation of existing play structures. It also contains checklists for common features and components. The city building office in Lund (2020) has compiled practical advice for creating accessible playgrounds. The guide lists existing regulations and provide ideas for how to use those rules in practice. The guide brings up topics such as the need to provide sufficient information about the playground online, making it easy to reach the playground, safety and how to work with ground material. The guide provides checklists for each topic and summarizes aspects which need to be considered during the design process.

Nässjö municipality is currently writing a guide which will create a standard on how to work with accessibility in a playground context.

Safety

Plan och bygglagen (SFS 2010:900) chapter 8, paragraph 4, states that a playground needs to be safe. The playground must be designed with security measures in case of fire, play equipment needs load-bearing capacity, stability and durability and the design must be user-friendly. The playground needs to adapt to excessive noise pollution in the nearby vicinity and make sure children are protected from it. The playground also needs to be safe concerning hygiene, health and environment, without harmful components.

Plan och byggförordningen (SFS 2011:338) chapter 3 paragraph 10 states that the built environment should not contain unacceptable risk for slipping, falling, collision, burns, contact with electricity or other accidents.

Boverkets föreskrifter om krav på tomter m.m. (BFS 2024:13) focus on fixed play equipment. According to the regulation, fixed play equipment must be positioned in a way to avoid injuries, ground materials were falling is a risk should be of shock absorbing character.

There are other rules and regulations as well, like Produktsäkerhetsförordningen (2004:469) or Produktsäkerhetslagen (2004:451) which concerns individual play equipment products and the need for safe design. The summary and conclusion from the laws and regulations mentioned is that playgrounds need to be designed and constructed in a safe manner to avoid injuries and accidents when using the playground, with specific focus on safe equipment and chock absorbing ground materials.

The importance of playing and why play is often less accessible for children with movement disabilities

Play as main occupation

Most researchers agree that play is an essential part of childhood. Wenger (2020) explains how play is necessary for developing social, cognitive and physical abilities and how it impacts the child´s general health in a positive manner. Wenger explains that since play is the main occupation for children, having limited access to it may lead to occupational deprivation. This in turn might affect the child´s self-esteem, health and overall well-being. Children with movement disabilities have an increased risk of missing out on play since, as Wenger points out, many playgrounds lack resources or equipment to accommodate them. This leaves them with a higher risk of occupational deprivation and thus also related health issues.

Independence

Play is an opportunity for children to learn and explore, alone or together with friends. Gill (2021) writes in *Urban playground: How child-friendly planning and design can save cities* how the ability to roam and play on their own is important for independence and development of identity. Spaces for play is a vital part of the city design and Gill points to the importance of creating cities where children have their own spaces and that the infrastructure has to accommodate their need to move around independently. Having access to places to play, and preferably the possibility to go there on their own, creates a sense of autonomy. It improves the child´s sense of identity, self-esteem and confidence. Gill also describes how children´s ability to roam around freely has been heavily reduced, partly due to traffic and other dangers but also because of a social shift. This means it is very important to have access to play close to home where children can meet friends and hang out. A playground close to home might be the only area for play which the children are allowed to freely visit, or the only playground to which the parents have time to take their children on a day-to-day basis.

Gill (2021 describes how playgrounds therefore should have a universal design approach, with no exclusion due to age, gender, economic situation or disability. It is important to have accessible play in preferably every playground, since that might be the only playground children in the area have access to regularly (Gill 2021). It takes more time, effort and planning for parents to bring their children to destination playgrounds, especially if there are special needs or mobility aids to consider. Gill describes how it is important to consider both the local playgrounds but also place destination playgrounds strategically with good connections. According to Gill (2021) children need freedom, play and social engagement outside of school. To accommodate the need for play and independence it is therefore necessary to provide accessible play options also in small, local playgrounds, and to always have a universal perspective when designing.

Identity and relations

Wenger (2021) explains that inclusive playground design is needed to provide opportunities for children with disabilities to independently take part in and maintain social interactions. Wenger defines an inclusive playground as a space which goes beyond the physical aspects of accessibility, with the aim of creating a good foundation for inclusion and social interaction. According to Wenger, inclusive playgrounds could be a good way to support and encourage children with disabilities so they can actively participate in society. Universally designed playgrounds will offer children with disabilities better opportunities to develop relationships through play and in the long run it might create wider acceptance in society.

Age, play and challenges

Hughes writes in Evolutionary playwork (2011) about different types of play and their role in different stages of childhood. As children grow older, they need different types of play as well as new challenges. Hughes describes how young children focus more on exploring textures, colors and basic motor skills. Older children need more opportunities to develop social skills, collaborative play and imaginative scenarios. As children grow, they need more challenges as well as a larger variety of play to develop more complex skills.

There are several challenges when it comes to movement disabilities and access to play adapted to their own age group. Wenger (2021) explains how the importance of universal and inclusive playground design is a recently recognized subject, which means many playgrounds are not yet properly adapted. One challenge is therefore the common lack of play equipment adapted to different needs, which in turn creates a lack of new challenges made for different ages. Many playgrounds might only have equipment for one type of play or age which can accommodate movement disabilities. When they grow older, they therefore do not have the same option as other children to try new things in the playground.

Another challenge is the increased need for independence combined with the challenge for caretakers to assist the child. When the child is young it is easier for a parent or caretaker to lift the child between their mobility aid and a slide, swing or merry go around for example. Frequent heavy lifts could cause back pain and damage to the caretaker. If the playground does not have access to disability-friendly equipment which the child can use together with the mobility aid they need constant help from adults to play. When a child cannot play on their own it can impact their sense of independence and autonomy according to Gill (2021).

In addition, there is sometimes an overlap between movement disabilities and cognitive disabilities according to Specialpedagogiska skolmyndigheten (2023). These combinations can cause unique challenges since the child in question might need play equipment adapted for younger children, but the equipment also needs to accommodate a physically older body and larger mobility aid compared to a young child.

These challenges can often cause children with movement disabilities to miss out on opportunities to develop things like motor skills, strength, cognitive abilities and coordination. It might also hinder them from participating in play together with their peers or connecting with others of their own age group.

Develop essential skills

Hughes explains in Evolutionary playwork (2011) how he would categorize play types and why each type of play is essential to a child´s development. The text divides play into 16 core groups: Communication play, creative play, deep play, dramatic play, exploratory play, fantasy play, imaginative play, locomotor play, mastery play, object play, recapitulative play, role play, rough and tumble play, social play, socio-dramatic play and symbolic play. The author clarifies that these categories are not definitive, but it is one of many ways to define how children play and why.

Hughes (2011) explains through his text how a child needs this variation of play. Different plays give different skills. The challenge comes when a child is not provided with sufficient challenge or variety. The child might then miss out on developing skills which are necessary later in life, or it might affect the child´s general well-being.

Qualitative design theories

Designing for movement disabilities through the principle of equal experience

Qualitative aspects are harder to define standards for since they might be site specific or focus on the experience of a space rather than measurements. They are hard to regulate with rules since they are more abstract, individual and about the experience of those using the playground. Qualitative aspects concern how you turn necessary quantitative components for accessibility into a part of the design and aesthetics so they can become more than checkboxes in a list. Wenger (2021) describes how it is necessary to think of an inclusive public playground as a place which creates a sense of common belonging and goes beyond measurable metrics.

Equal entrence

Statens fastighetsverk (2016) describes in *Värdig entré: Tillgänglighet i kulturarvsmiljö* how everyone should have the right to a worthy experience of public space. The government agency describes through practical examples how entrances can be adapted to create equal experiences for people with disabilities. They acknowledge how each project is site specific and how each building therefore requires a unique solution, which leads to both challenges and innovations. The agency describes challenges with buying solutions which do not yet exist but also explains the worth of exploring new ways of designing.

Statens fastighetsverk (2016) do not specifically explore playground design, the project is instead about culturally and historically important buildings. However, their design principles and innovative process are appliable to any public space. Their main point is that people with disabilities deserve to enter and use public spaces with the same dignity as everyone else, and any public space should be designed thereafter.

Playground design and social aspects

In *Designing inclusive playgrounds in Switzerland: why is it so complex?* Wenger (2022) explores the complexity of designing inclusive playgrounds. Wenger states that the physical environment and the design of the playground is only a small part of what makes an inclusive space. The right equipment, ground materials and spatial adaptations are vital to create good conditions for an accessible space, but social aspects must be considered to truly create an inclusive playground. Wenger describes how factors like a divided school system, social pressure, prejudice or lack of communication can create invisible barriers where children with disabilities do not feel like they are welcome. The social pressure affects both the children and their parents who might avoid an area where they do not feel welcome.

UNICEF (2021) explains that an inclusive playground primarily is a space where children with and without disabilities can play together. The author stresses that a separate playground for children with disabilities do in fact create segregation, not inclusion, and it could further contribute to things like prejudice and lack of understanding. It is therefore important to create play opportunities for children with disabilities within common public playgrounds.

Invisible borders

Wenger (2021) explores invisible borders when studying different playgrounds and how children interact with each other. Geographic placement has a significant role in how the playground is perceived, one example Wenger gives is a school yard with an inclusive playground. The playground is situated close to a school unit for special needs with a larger distance to the rest of the school. The gap creates a clear divide where abled children only play in the playground when no children with disabilities are present. It´s placement creates an invisible line and reinforces the feeling that one space belong to one group and not the other. That in combination with an already divided school system, creates reinforced prejudice between the children. The social inclusion in this situation does not exist in the same way as playgrounds placed somewhere more public.

Parents perspective

UNICEF (2021) explains how inclusive playgrounds are not only important for the child, but also for the parent. A playground is a space to meet other parents, network and hang out when the children play. It is also an opportunity to build and improve relationships between parents and children through joint play. UNICEF explains that when a playground excludes the child, it also excludes the parent. It can be socially taxing for the parent as well as the child not to feel welcome in public spaces on the same terms as others. It could reinforce harmful prejudice and judgement towards both the child, but also the parent.

It is also possible that the parent is the one with a movement disability. If playgrounds are not adapted to mobility aids it means the parent might miss out on the experience of playing with their child. It might even be impossible to independently bring the child to the playground without another adult present to provide support.

Even out the imbalance in play options

A reoccurring theme is the lack of play options for children with movement disabilities compared to children without a disability. Research like Wenger (2021) show that all children need variation as well as new challenges when they grow, it also shows that children in general need the same types of play, but only some of them are usually available to children with movement disabilities.

In addition, qualitative research like Statens fastighetsverk (2016) clearly states that everyone should have the opportunity to have a similar experience with the same dignity. However, not all playgrounds are large or need to provide everything, and Statens fastighetsverk among others also draws the conclusion that every site is unique with its on set of qualities.

The solution should therefore be to evaluate the playground in question from its own set of qualities, experiences and play opportunities, then compare what children of different abilities can access. That data can then be used to lessen the gap between what a child with a disability is able to do and experience and what abled children can already access. Modifications, small implementations or extra equipment can then be added to provide similar experiences to those who currently do not have them. This would create more equal experiences in the playground and create a better foundation for inclusion and belonging.

Create integrated play for different abilities to play together

The second reoccurring theme is the necessity to create integrated play for children of different abilities in one playground. UNICEF (2021) states very clearly that you should never make a playground only for children with movement disabilities since it will reinforce prejudice and exclusion. Wenger (2021) sees playgrounds as a possibility for children to build relationships and explore together despite differences and Harvard (2006) describes how a playground accessible to all is better for everyone. Architecture cannot affect all social aspects, like politics, prejudice and social division, but it can create a good foundation for inclusion which signals that every child is equally important, as well as providing opportunities for different children to play together.

The design strategy should therefore be to add strategic implementations which provide new or improved existing opportunities for children to play together in different ways despite differences in physical ability. Implementations can add new play or create better connections between already available options.

Circular economy

Circular economy includes topics such as reuse, nature materials and consuming less material (Stahel, 2019). The first part is to preserve the value of the already built environment and use what is already there. This is why it is important to preserve and work with existing playgrounds rather than building new ones.

Small interventions

Play equipment and new additions are commonly time-consuming and costly, but they do not have to be. A playground can be improved by working with small implementations and adding to what is already there. The theory of circular economy according to Stahel, W. R. (2019) explains how the value of existing build environment should be preserved rather than replaced by new structures, which could be achieved with the use of adding and adapting rather than full renovation and replacement.

Sometimes there are good options for play equipment already, and then it can be enough to improve ground materials, pathways and sidewalks to make it accessible to children with movement disabilities. A sand table, a flat surface for racing or logical puzzles are all small things which could be added to a local, small playground to provide some measure of accessible play options for children with disabilities. Small implementations are less costly, take less time and require less material and maintenance.

Reuse

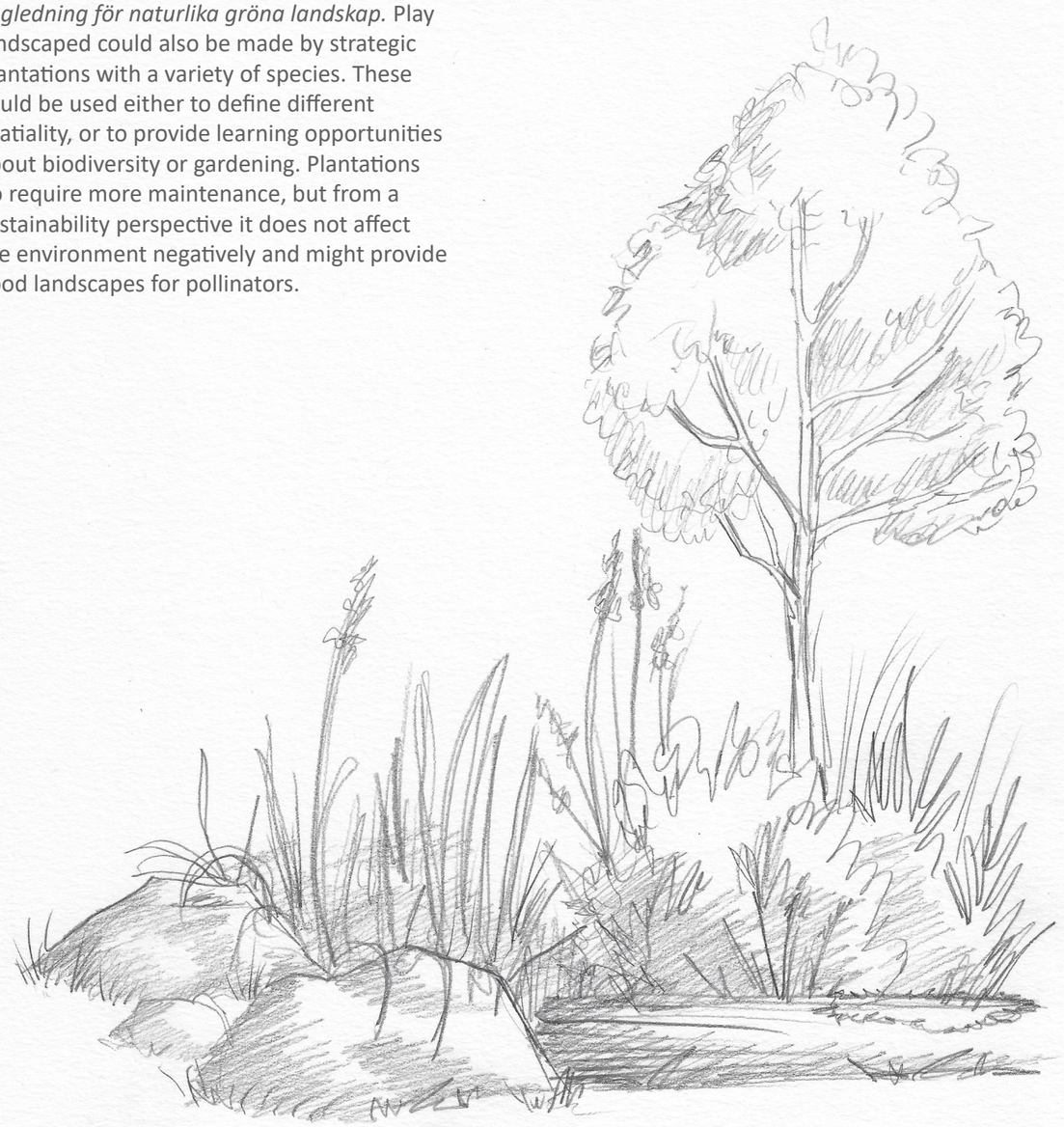
Reuse is another way of contributing to a sustainable shift in the building industry according to Stahel (2019). Using recycled materials is also an option, but reusing material requires less processing, and it preserves the original quality and integrity of the material which makes it favorable. Recycling can usually only be done for a limited amount of time since materials break down and lose their quality after a while and might create waste. Reused materials come with their own challenges, but it is preferable to recycling or building with new materials.

De Wolf and Gordon (2024) break down different aspects of working with reused wood in their article Optimization goals for efficient construction from reused materials towards a circular built environment. They discuss the importance of a circular mindset as well as challenges to be aware of. One such challenge is the time-consuming task of finding and preparing material. The construction will be cheaper in material, but more expensive due to a process based on trial and error. It might also take more time, require more manpower and therefore get more expensive in the end. De Wolf and Gordon do make the point that a circular mindset is necessary, despite challenges, to steer our society towards a more sustainable lifestyle.

Sjölander, E. (2025) describes in Återbruk i lekmiljöer: en guide för kommuner that using reused material could also be an opportunity to teach children about climate and sustainability. One example she mentions is Trädgårdslandskapets playground in Trollhättan. This playground has a focus on biological diversity and reused material according to Sjölander (2025). The name roughly translates to “the garden playground” and its design aims to inspire and teach children about biological diversity. 60% of the playground consists of reused materials and what started as a local fun challenge has since then grown into a national role model for how to handle reuse in a playground context. As a result, Trollhättan decided to collaborate with Örebro and Helsingsborg to create the guide Återbruk i lekmiljöer (Sjölander, 2025). The guide gives practical advice on how to build playgrounds with a circular and sustainable focus, with the hope to inspire others to build with similar techniques and make reuse a future norm.

Nature materials

Another sustainable option to reused materials is natural materials, like rocks, logs or wood like Beckman (2022) suggests in *Lekotoper: En vägledning för naturlika gröna landskap.* Play landscaped could also be made by strategic plantations with a variety of species. These could be used either to define different spatiality, or to provide learning opportunities about biodiversity or gardening. Plantations do require more maintenance, but from a sustainability perspective it does not affect the environment negatively and might provide good landscapes for pollinators.



Conclusions from literature studies

Rules and regulations

The constitution of the right of the child (1989) states that all children have a right to play no matter their ability. Regulations for public spaces, however, do mostly concern wheelchair users and they do only provide bare minimum requirements. Rules are stricter for new playgrounds which is why many older playgrounds are not adapted to children with movement disabilities.

Social aspects

Every child has the right to play and it is an important part of childhood. It is necessary to learn skills, build relations and identity and it plays a key role in the childs mental and physical health. Access to play on equal terms is important for the child´s self esteem, and lack of play options could lead to a feeling of being left out. It is therefore necessary to provide opportunities for play for everyone.

Several factors make play less accessible to children with movement disabilities. Lack of equipment, lack of proper infrastructure, lack of accessible service facilities and lack of well adapted local playgrounds are all obstacles which could create less opportunities for play. In addition, social factors such as prejudice, invisible borders or architecture which reinforce exclusion can all keep a child from enjoying the playground.

Different social structures can affect how the playground is used, those factors need to be considered during the design process. The architect needs to consider the placement of the playground and invisible social borders. It is important to never design play for children with movement disabilities as a separate area, or in similar ways reinforce harmful social patterns. A playground needs to provide integrated play opportunities where children with different abilities can play together. Social factors such as prejudice, invisible borders or architecture which reinforce exclusion can all keep a child from enjoying the playground.

Circular economy

First, sustainable development of playgrounds must include existing playgrounds. It is necessary to use the existing built environment to avoid unnecessary consumption and waste. Secondly it is preferable to adapt playgrounds with small implementations and adding rather than replacing or doing full renovations. In addition, a circular mindset means avoiding new materials and instead work with reuse or nature materials as much as possible.

03.
INTERVIEWS

Site analysis and literature studies give a good understanding of the situation today as well as design principles for playground design. Interviews make sure to anchor theory and research to everyday life in Nässjö and Sweden for children with movement disabilities. They focus on key stakeholders who work with accessibility, or who work with children with disabilities directly. They see many of their perspectives daily and are familiar with struggles and inequalities.

Interviews

Teacher

Primary school teacher, Nässjö municipality.
2025.10.20

The interview mainly centered around school yards in Nässjö municipality and how to handle children with movement disabilities in a normal school environment. The teacher explained the struggle for one student in particular who used a wheelchair.

“I have always considered our playground to be quite amazing, with a lot of different options for play, good climbing structures and a variety of options, there is always something for the children to explore. One day, however, we got a student with a wheelchair, and I looked around and realized there is almost not a single thing the child can play with. He can play King, he loves to play King with the others. But what if he loses interest in that someday and get bored, then what?”

Mona Wårdmark

Primary school teacher with experience of working with children with special needs, Nässjö municipality.
2025.09.09 and 2025.10.11.

The first interview was made to get an initial understanding for the subject, what play options there are today in Nässjö and to understand needs that are commonly not met in a playground context. The interview concluded that, even though children with any disability are usually less prioritized, children with movement disabilities and children with autism were most affected by the lack of adapted play options. The interview also pointed to a lack of inclusion of relevant key stake holders during the design processes which sometimes causes easily avoided mistakes.

The second interview circulated around Nässjö city park and movement disabilities specifically, brainstorming ideas for how to create more varied play for children with mobility aids and how existing play equipment could be improved through small means. The interview also showed how there is not just a need for a couple accessible play options, but how there needs to be variety, challenges and new experiences for these children too. The discussion concluded that better play options for children with special needs usually means a better playground for everyone, with more opportunities to socialize, play and have fun together.

Sports teacher

Teacher with experience of working with children with special needs, Gothenburg municipality.
2025.04.10

The interview included thoughts on how playgrounds can be better adapted to suit more children. One strategy which came up is to make sure that large climbing structures have alternative paths. If there is one challenging way and one simple way to reach the slide it will be usable for more children, both when it comes to movement disabilities but also in general. The more alternative paths the better, children can then pick the one that best suits their own ability.

Children with special needs all have different sets of skills and challenges, especially when they have other coexisting conditions. The most important is therefore variety around the playground. The interview concluded that another way to work with variety is to build rooms in the room, to have many different stations with different play so you can both do your own thing and be part of a bigger context. It provides options and helps with keeping the attention of the child who can switch whenever they get bored or wish to explore something else. It is therefore a quality to work with details and space to provide variety and inspire exploration.

The interview concluded that it is great for many children to be given challenging and different play structures, but it is important to have different degrees of difficulty. This mindset is useful both when designing for movement disabilities, but also for children with neuropsychiatric or cognitive disabilities and it provides everyone with more play options.

Mirjam Alinder

Landscape architect and project manager for the transformation of Nässjö city park. Nässjö municipality, planning and urban development.
2025.10.25

This interview was made to better understand the city park playground and in what ways the municipality has worked to improve play and accessibility for children with movement disabilities. Alinder explained how Nässjö municipality engage with these perspectives in general and which plans there are for other playgrounds in the city. The playground has undergone recent renovations during the spring of 2026 so there were also some updates on what is being changed, improved and built. Improvements include more defined entrances, ground materials better suited for strollers or mobility aids, more focus on nature play and removing damaged equipment. There are also more benches and tables being built with some accessible options for wheelchair users. Extra play options like a sand table have been added to make sand play accessible to wheelchair users. Movement through the playground is greatly improved with paths that are both more dynamic, broader and with better connections.

The interview concluded that there is a strong will and plans to improve playgrounds for children with movement disabilities. Accessibility as well as actively designing playgrounds in a coordinated and intentional way is a relatively new focus which is why play options today are still limited for children with movement disabilities.

Thérese Sveitz

Architect and certified accessability expert.
Glimt arkitektur och tillgänglighet.
2026.02.13

Glimt architecture is a small firm with focus on accessibility and inclusion. The interview focused on topics such as laws, the definition of accessibility and how to give people an equal opportunity to use and experience the built environment. The discussion also touched upon accessibility from specifically a playground perspective, pros and cons with different ground materials and rules for outdoor public spaces.

Key point for the conversation was whether existing laws are enough to provide accessible environment or if there is room for improvement. According to Thérese, most laws focus mainly on wheelchairs and provide bare minimums for being able to use a space or building, but it ignores many other needs as well as general accessibility for people without disabilities. Invisible disabilities are often ignored completely. Thérese also pointed out that attitudes from clients vary a lot depending on whether the project is private or municipal. Municipalities usually have more willingness to go beyond minimal expectations and try to create a good space for everyone and understand the importance of building for inclusion.

Thérese described an accessible space as a place everyone can use on equal terms. The design process should take extra care to consider different disabilities and needs. Public pace should preferably be both functional and beautiful, integrating accessible solutions into the design to create pleasant spaces.

The interview concluded that important aspects to consider when making a public playground is to choose the right ground material in the right places, to consider elevations and make sure the space is easy to maneuver, and to integrate more equal play opportunities for everyone.

Conclusions

Themes and conclusions

The first theme identified within the interviews is the common experience that accessible playgrounds is not a certainty today. There are many public spaces which are not designed for people with movement disabilities despite existing laws and regulations. Many playgrounds are not usable for children with movement disabilities, and those which are accessible lack variation or only meet needs to a certain extent. Children with movement disabilities must travel to a different city to experience basic play like swinging and they have considerably less options compared to their peers.

All interviews confirm the importance of play, challenges and exploration for children, no matter their ability. They also confirm that children with movement disabilities are often forgotten in the planning process for playgrounds and public spaces in general. All agreed that playgrounds designed for children with movement disabilities provide better opportunities for all children, and a well-designed playground will benefit those who are not disabled as well. Well planned infrastructure, ground materials and movement flows will make it easier both for those with a mobility aid, but also for those with a stroller, older people or those with temporary movement difficulty. It might also be the case that parents have a movement disability and wish to play together with the child. There are therefore many reasons to design playgrounds for children with movement disabilities.

Interviews with the municipality and Glimt Architects show there is generally a strong will among municipalities in general to design for children with different abilities. When asked what could still prevent good design for children with movement disabilities interviewees mentioned challenges like lack of local guidelines, lack of funds, lack of laws and rules regulating already built environment, lack of political policies and discussion or lack of communication with the right stakeholders.

When it comes to laws and regulations, interviewees concluded that they mostly cover the bare minimum, such as being able to reach the playground, and they mostly focus on wheelchair users. Laws do not have requirements for other disabilities or variations. Invisible disabilities, cognitive disabilities or people with movement disabilities with other needs do not get the same support by the laws. In addition, these laws only state the absolute bare minimum, and they therefore do not guarantee equal use of public spaces for people with wheelchairs either. Regulations for new playgrounds are stricter, and many newly built ones are good for children of all ages and abilities. Several interviewees reflected on how older playgrounds are less well-adapted for different needs, especially for children with movement disabilities.

A reoccurring suggestion to design for different abilities is to have variation. It could mean different paths in a climbing structure, different levels of difficulty, different types of play and different things to do in the same space. The more variety, the more opportunities for children of different abilities to play together or on their own, to improve skills and have fun exploring. This provides all children with more play opportunities and is therefore valuable to everyone.

04. REFERENCE PROJECTS

Two study visits were made to gather inspiration from playgrounds in Sweden. The first was Plikta, a playground in Gothenburg, a newer large playground which has worked with accessibility and inclusive perspectives. The second was Hjälmarviksparken in Örebro, a playground based on playotopes and nature play.

Plikta, Gothenburg

Plikta is a playground in Slottsskogen in Gothenburg which is adapted to children with mobility disabilities according to Gothenburg city (n.d). The area is mostly flat ground with few edges as well as a conscious choice of ground materials to make it easier to reach equipment. The playground has large flat areas to bike or run, a merry go around adapted to wheelchairs and sand tables you can reach with a mobility aid. There are also slopes with ropes where you can crawl or climb. Children without a mobility disability do have notably more variation and options, but overall, it is possible to take part in most types of play around the playground no matter your ability. The playground acts as an example of how accessible solutions can be integrated into the design, and how both equipment and the area can be adapted to better accommodate children with mobility disabilities.

Hjälmarviksparken Örebro

Hjälmarviksparken is a playground in Örebro. It is situated in a nature reserve area called Oset and Rynningeviken according to Örebro municipality (2026). The nature reserve is part of a European network of areas which are essential for biological diversity. The area contains nature with large variety, lookout towers, cafés, barbecue areas, hideouts, cabins and shelters, wetlands, gracing animals and viewpoints. Örebro municipality describes how the nature reserve has become a lively and a popular place for both residents and as visitors.

The site is an inspiration source for the playground in Nässjö city park. The reason for the visit was to explore how this playground works with nature play, and to look for potential solutions or challenges related to accessibility and nature play.

Playotopes

A playotope is a playground design strategy for creating a nature-like play areas, usually through natural materials like logs or stone. Beckman (2022) describes in Lekotoper: En vägledning för naturlika gröna landskap how a playotope avoids defining the type of play which should occur. Instead, it provides different spatialities where children can make up their own stories. Playotope playgrounds are more abstract than traditional play equipment. Playotopes also aim to give good opportunities to interact with nature elements and learn about gardening or wildlife.

Hjälmarviksparken focuses on nature and biodiversity. One example of how the playotope design strategy is implemented is an area called the pond. It consists of water, a thick layer of fine gravel and sand and a diverse selection of plants which thrive in a wet landscape. The pond is then complemented with ocean themed decorations spread out in the landscape, like a boat, a squid, a treasure chest, a shipwreck and logs. Children can then explore, investigate and invent their own scenarios.

Accessibility

Conclusions from the site visit is that the playground mostly lacks accessible solutions. Much of the play equipment is placed on steep slopes or with barriers in the form of rocks or logs. The gravel by the pond is rather deep and could prove a challenge for a child with a mobility aid. The kitchen garden is in concept and theory very accessible, with a lot of paths to explore and diverse plantations, but many of the passages are narrow and could be hard to enter and navigate with larger mobility aids. A thin layer of gravel, however, makes it possible to both reach the garden and explore parts of it, so the choice of ground material works very well.

Nature, however, is not flat and easily accessible in general, which is normally a quality, but it creates challenges for children with mobility aids. Wider wooden trails could have been used to provide an alternative path for children who cannot balance on the many wooden boards which goes through the landscape and wet areas, and more equipment could have been placed in a flat area to provide an alternative. Further, handholds could provide enough support for some children to be able to use many of the wooden paths or other equipment. Apart from that, the concept of themed objects, wooden carvings and so on work very well for exploration even with a mobility aid. There are a lot of creatures to find, plants to investigate and hills to climb. It creates many layers where you can keep exploring for a long time and still find new things.

05.
The Site

To later be able to properly explore how findings from text and case studies could be implemented in practice it is necessary to work with a specific site. The place chosen for the design project is the city park in Nässjö, which is the only place with a larger public playground outside of school yards. The playground includes a variety of swings, climbing structures and toy vehicles. It is surrounded by a park with the lake Ingsbergssjön in the center. The park is located central in the city, with Pigalle, the cultural center, situated right by the water. Food stores, restaurants and the central station is just minutes away. The playground and the park is a popular place all year round and the area is well used by those who live in Nässjö or go to school nearby. This chapter will explain the initial analysis of the area as well as explore what playground options there are and what opportunities children with movement disabilities have today.

Introduction to Nässjö

Short history

Nässjö is a relatively young city which exists primarily due to its large train network were tracks from six different directions connect at the central station. Nässjö was first mentioned as early as 1286 according to Franzén (2008) but mainly consisted of farmland for a long time. It later grew into a village but did not gain city right until 1914 according to Ortshistoria (2008). The city today is growing and expanding, creating new opportunities for urban planning, as well as an increased need for improved public spaces and playgrounds.

Play resources today

An initial study visit was made in Nässjö with the aim to map existing play opportunities for children with movement disabilities. According to Nässjö municipality (n.d), there are 22 public playgrounds, school yards not included. All 22 playgrounds were visited to get a proper overview of the current situation. The playgrounds vary in size, type and equipment. Most of them are small, local and framed by either villas or apartments. All playgrounds have limited options for children with a mobility aid. Most of them do not have any reachable play option due to sand or grass, and almost none of the play equipment is adapted or usable for someone with a movement disability of any kind. If you have an electric wheelchair or other mobility aid made for terrain you may reach some of the playgrounds, but almost no equipment is made for wheelchair users.

The project site

The playground in Nässjö citypark is the largest and most diverse playground in the city, it is also the most central playground. It is the only playground with an outspoken focus on inclusive design and accessibility, which is mentioned on the municipality website (Nässjö municipality, n.d). The playground contains a variety of play options, including climbing nets, swings, large toy vehicles, jungle gyms, slides and water play. There is currently one jungle gym with a ramp for mobility aids, it does not, however, lead to anything of interest and there is not a lot of space to turn around. There are swings made for children who need back support which you can use if the child is small enough to lift. Roads and ground material work well for someone with a proper wheelchair which can handle terrain, or with someone to help them. Edges, grass and slopes might make it challenging to maneuver the playground independently for someone who does not have access to a mobility aid which can handle it. There is also a racing track made with paint on the asphalt which both provide a specific activity, but also an open asphalt area which is suitable for a lot of different games.

Guidlines

According to initial interviews, there are efforts to write guidelines for accessible playgrounds, as well as plans to adapt and improve other playgrounds in the city. This shows there is a drive for exploring more inclusive playground options. The conclusion of the study visits and initial research into the area is that there are some options for play for children with movement disabilities, but there is also a lot of potential for improvement.

Playground analysis

To explore existing play options, visits were made to 22 of Nässjö's playgrounds. The intent was to see what options there are for children with movement disabilities and which playgrounds are available to them. The playgrounds were first analyzed from five key aspects based on parts of P4play´s (2025) definition of inclusive play; ground materials, the ability to reach the playground, the ability to use the equipment, which types of different play children with movement disabilities could potentially engage in compared to children without movement disabilities, and if there are any available functions such as accessible fika tables to make a longer stay more possible. In addition, there are also some notes on information available online for the playgrounds, since many wish to know beforehand if they can use the playground or not.

However, these criteria were later mainly used to analyze the main playground, mostly since the rest contained such a complete lack of design for mobility disabilities that it became easier to simply note down the few things which could provide a play opportunity and then create a common summary of issues which most of them have.

One thing that should be mentioned is that all playgrounds, except the chosen project site, are small playgrounds. They all contain a variation of the same things, which are one simple climbing structure, a swing, a sandbox and sometimes a rocking horse. Most climbing structures are unique rather than copied between the different sites, but in general they have one ladder up and one slide down plus some additional obstacles. Some playgrounds have one or two additional types of equipment, like a merry go around, a train or other simple addition. Almost all play equipment is placed in sand, with some exceptions where grass is the main ground material.

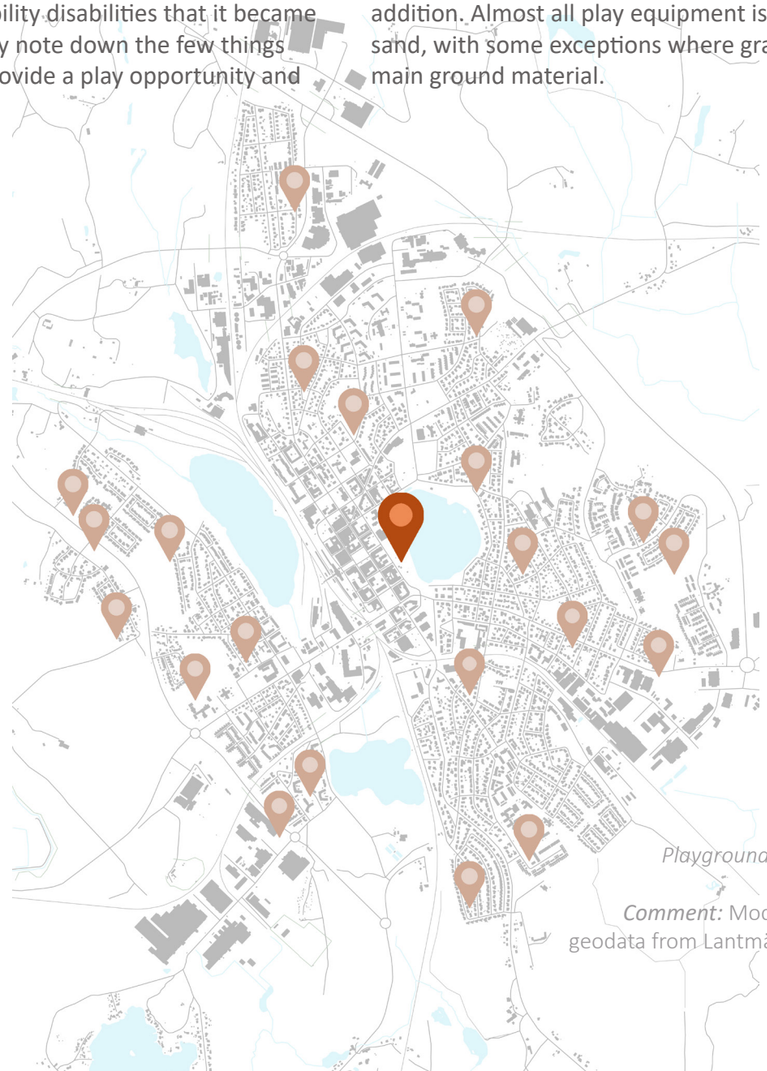


Figure 1

Playgrounds in Nässjö city.

Comment: Modified. Based on geodata from Lantmäteriet and SLU.

Playground analysis

Reaching the playground

Several playgrounds have challenges regarding access. One playground has a fence with a passage too narrow to enter unless you can walk. Some have narrow sidewalks or lack of bevel to access it. The playground shown in the picture is surrounded by grass slopes. All these small things prevent people with movement disabilities from even reaching the playgrounds. Most playgrounds are small, local and not meant for long stays for anyone, so lack of facilities like toilets is expected.

Ground materials

All playgrounds have ground materials which could prevent someone with a mobility aid to reach play equipment. Sand is suitable for play in general, but it can be very heavy to drive a mobility aid through a thick layer of it. In a couple of cases materials like asphalt, rubber granules or stone pavements were used in some parts of the play area, but in all cases, they were too worn down or not taken care of properly. This resulted in edges, slopes or uneven ground like shown in the picture.

The equipment

All playgrounds, except the city park playground, have a lack of play equipment which could work for a child with a movement disability. Climbing structures have steep steps or ladders which makes it hard even for those with a less severe movement disability. The playground shown in the picture has an alternative to a ladder and could be used if the child can crawl or climb with assistance. Some swings, rocking horses and so on could be used if the child is small enough to lift.

Play value

All playgrounds have access to common play such as running, swinging, climbing and sliding. Several have access to greenery and open fields for football, running or inventing different imaginary scenarios. Some also have access to forests, paths to explore and nature play in the form of sticks, trees, stones or water close by. If you can walk, or have a walker, you can access most of them to some degree. If you, for example, need handholds, have weaker muscles or use a wheelchair you have almost no options.

Staying in the area

Playgrounds around Nässjö are small, local playgrounds and not suitable for prolonged stay. None have adapted tables or any existing toilets. The exception is the city park playground where accessible toilets can be reached through the library, some tables are made for wheelchair users, and it is possible to find some measure of shelter from the weather.

Information

Online information is a valuable tool which makes it possible to know the level of accessibility before a visit. All 22 playgrounds can be found at the municipal website (Nässjö kommun, n.d), but there is no additional information about them. Only 7 of them are shown on google maps when you search for playgrounds. 6 of those are marked as accessible for wheelchair users, even though they cannot use or reach the play equipment.

The park

Nässjö city park consists of the playground, the library and culture house Pigalle, the central lake and paths around it were People frequently run, play, walk the dog and go for strolls. The park is mainly framed by villas and row houses, with their gardens and wooden decks facing the water.

There are several spots around the lake with wooden seating areas stretching out over the water to provide spaces to rest or socialize. Those are usually very appreciated during warm, sunny days. There is also an assortment garden with a large variety of different flowers, plants and herbs. Even though it is not huge it gives something interesting and exciting to explore.

Around the lake there are also a few art installations, light installations during winter and a dog yard. The lake attracts rich birdlife with several different species living in the area. There are technical installations which keep part of the lake ice free during winter for some of them.

The park's central placement makes it a well-used and popular space, both for residents, schools and preschools, but also for people who live in surrounding towns. The position of the playground close to Pigalle, parking lots and the minigolf makes it a main area for movement, activity and social interactions. It is well connected to the road network and there are both parking lots and bus stops nearby, including parking lots for people with disabilities.

Figure 2

Nässjö city park.

Comment: Modified. Based on geodata from Lantmäteriet and SLU.

The city park playground

The playground has recently undergone renovations. According to interviews, the aim was to create a more coherent theme, improve movement through the playground, define and frame entrances and create new play opportunities through nature materials. Remaking the playground also aimed to repair or replace damaged and worn-down equipment, provide more benches and seating areas and add new play elements to the playground.

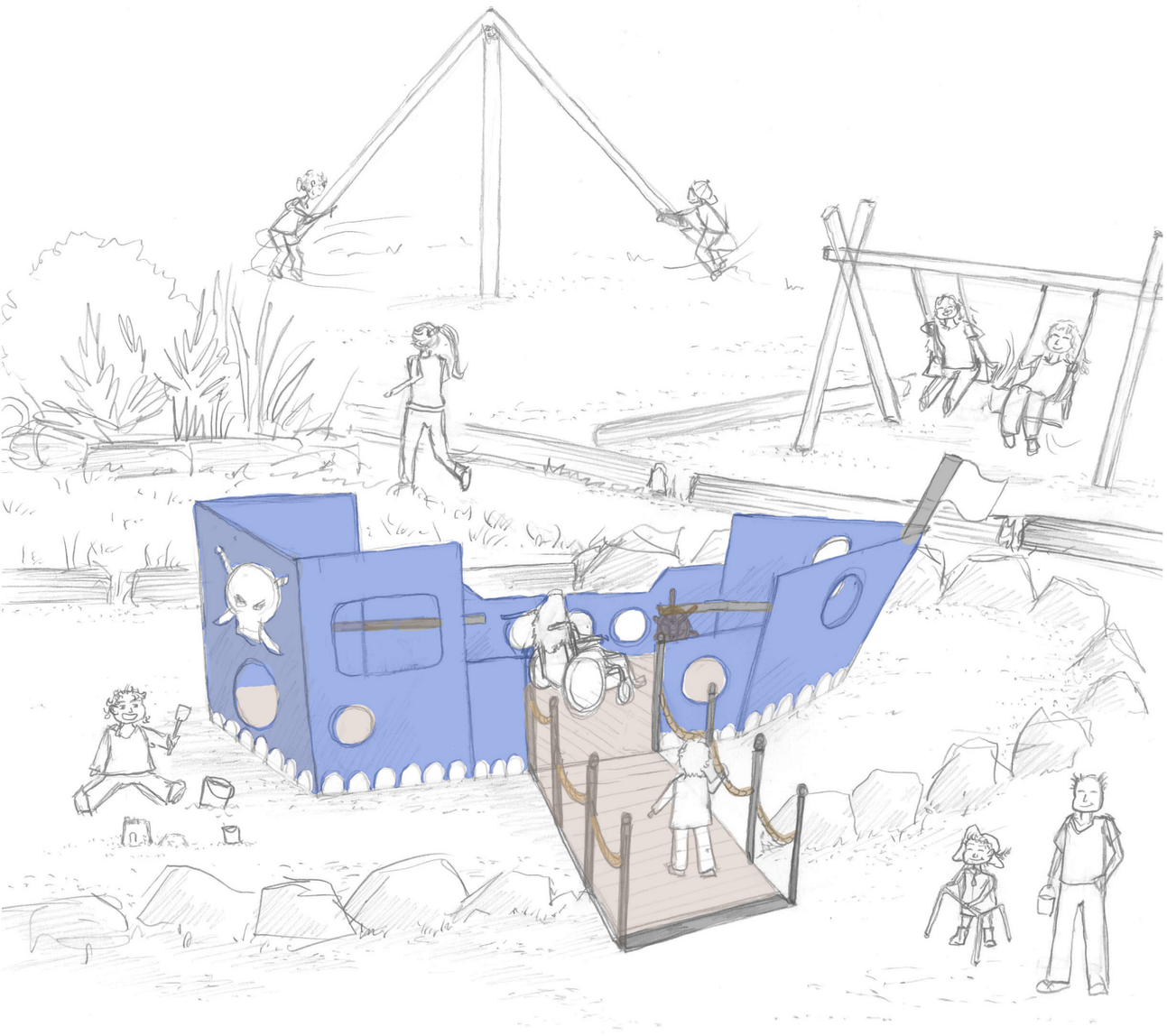
Accessibility

Some of the changes have, to a degree, been made with accessibility in mind. Additions include a new sandbox with a raised table for wheelchair users and new benches which will be easier to reach with a mobility aid. The new set of paths through the playground are wider, more dynamic and made of asphalt to make it easy to move through the playground. These changes in combination with some already existing equipment, like swings with extra back support and a racing track on asphalt, create a good foundation for further development with accessibility in focus.

Figure 3

Nässjö city park.

Comment: Modified. Based on construction documents from Nässjö municipality [Cartographic material], 2026.



06.
THE PROJECT

The design project focuses on the city park playground in central Nässjö and aims to explore how principles found in previous chapters could be implemented in practice. The project explores two main play concepts; the obstacle course and the water theme. These are two main features of the existing playground which are currently mostly inaccessible to children with movement disabilities. The goal is to increase and improve play opportunities for children with movement disabilities and make it possible to take part in play they currently cannot access to the same extent as abled children. The design project also aims to explore ideas and solutions for joint play for children with different abilities.

Design principles

Conclusions from the theory studies showed how the three main areas for the thesis can be used in practice. Here follows a summary of the main points which created the base for the design process and final project.

Social sustainability

The playground must be designed with integrated play for different abilities to play together. Literature studies and interviews explored how it is important for children of different abilities to have the opportunity to play together or alongside each other. New play structures will therefore provide the opportunity for children with movement disabilities to play together with children without, and for children with different degrees of movement disabilities to have fun together.

There is currently a large difference between what abled children can do and what types of play children with movement disabilities can explore in the playground. Implementations need to even out the imbalance in play options and provide new play opportunities. To provide more equal experience, implementation will aim to provide play options which are currently not available to children with movement disabilities, but which are available to children without. In this case, we will explore how alternative routes to the obstacle course and water themed play structures can increase the play value and add new opportunities for children with movement difficulties.

Circular economy

The design project focus on the city park playground in Nässjö. It is an older playground, even though there have been some recent renovations to improve infrastructure and some of the equipment. Circular economy, as explored through the theory studies, includes using built structures and urban environments which already exist, renovating and to preserve or increase value of those spaces for as long as possible to avoid having to build something completely new.

Implementations will be largely designed with reuse or natural materials. If this design principle conflicts with accessibility, then accessibility will be prioritized.

In addition, implementations will be small scale to show accessibility can be implemented into existing playground landscapes without expensive equipment or completely redoing parts of the playground. Implementations will add to existing equipment rather than replace them as far as it is possible to preserve current play options and avoid unnecessary waste.

Regulations

Literature studies explored how the playground needs to be safe for the children to use. This includes, for example, the use of chock absorbing materials, to avoid sharp edges and to avoid any safety hazards. The project explores how accessibility and reused material can be added while still being usable in a safe way, in addition it explores which limitations there are today when it comes to options for accessible play made with nature materials.

In addition, the project aims to go beyond the current regulations for existing playgrounds. Raising the bar for what accessible play should look like in any playground and explore what a playground can look like if we go beyond the basics of standard accessible measurements for slopes or the width of the road. It also aims to consider the broad spectrum of movement disabilities rather than design only based on wheelchair users, which is currently the focus of most regulations.

Concept

Water theme

First main feature chosen as focus for the design project is the existing nature and water themed play elements. The playground today is designed with a nature theme through playotope design principles. There are elements of water play and water themed play equipment. The playground is situated right by the lake and thus gives the additional play value of offering children the opportunity to interact with the water line or observing plant and bird life around the water edge. The playground has a water play station with running water during summer, and a pirate ship where children can create their own stories. The water play station is mostly accessible, but the pirate ship is not. By working with new water themed play elements designed to accommodate children with different abilities the imbalance in play options is reduced. In addition, it contributes to the nature theme which already exists, defining and expressing the theme while offering new interesting play opportunities for everyone.

The obstacle course

The second main feature chosen as the focus for the design project is the playotope inspired obstacle course which circles the playground area. To complement this obstacle course a few alternative paths will be added. These paths are designed with the same mindset and inspiration, but they add the opportunity for children with mobility aids to take part. These sections use the already improved flow of accessible roads through the playground and complement the existing play equipment.

The obstacle course gives children with mobility aids a chance to explore tunnels, different ground materials, slaloming between objects, going up and down and practice balance. The obstacle course significantly increases the variation of play children can experience in the playground while still mostly making use of nature materials, reused materials or what is already there. It also integrates play for different abilities without creating islands where one group plays in one way.

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Imaginary play and water theme

To provide children with movement disabilities good opportunity for imaginative play and to add alternative paths to the obstacle course a snake sculpture is added along with a second pirate ship which is better adapted for movement disabilities. The sea snake works both as an object for imaginary scenarios with a clear view to the pirate ship, but it also gives options for children to experience movement like slaloming, going under and encouraging general movement and coordination. The tail of the snake also doubles as a bench for parents or children who wish to take a break. The design for this area created a conflict between the design aspects of accessibility, safety and reuse. Safety demands that any area with risk of falling needs shock-absorbing ground materials. Most chock absorbing materials however, like thick layers of sand or bark, are not suitable for mobility aids, and using them would go against the main goal of inclusion of children with movement disabilities. An accessible alternative is rubber granules; a colorful ground material made of rubber which is flat enough to allow free movement for mobility aids. The material allows for wave patterns and a colorful basis for the water theme, and some of the existing rubber granules can be kept as it is. However, it does go against the design principle of reuse and natural materials. In this case, accessibility and safety were deemed the most important qualities.

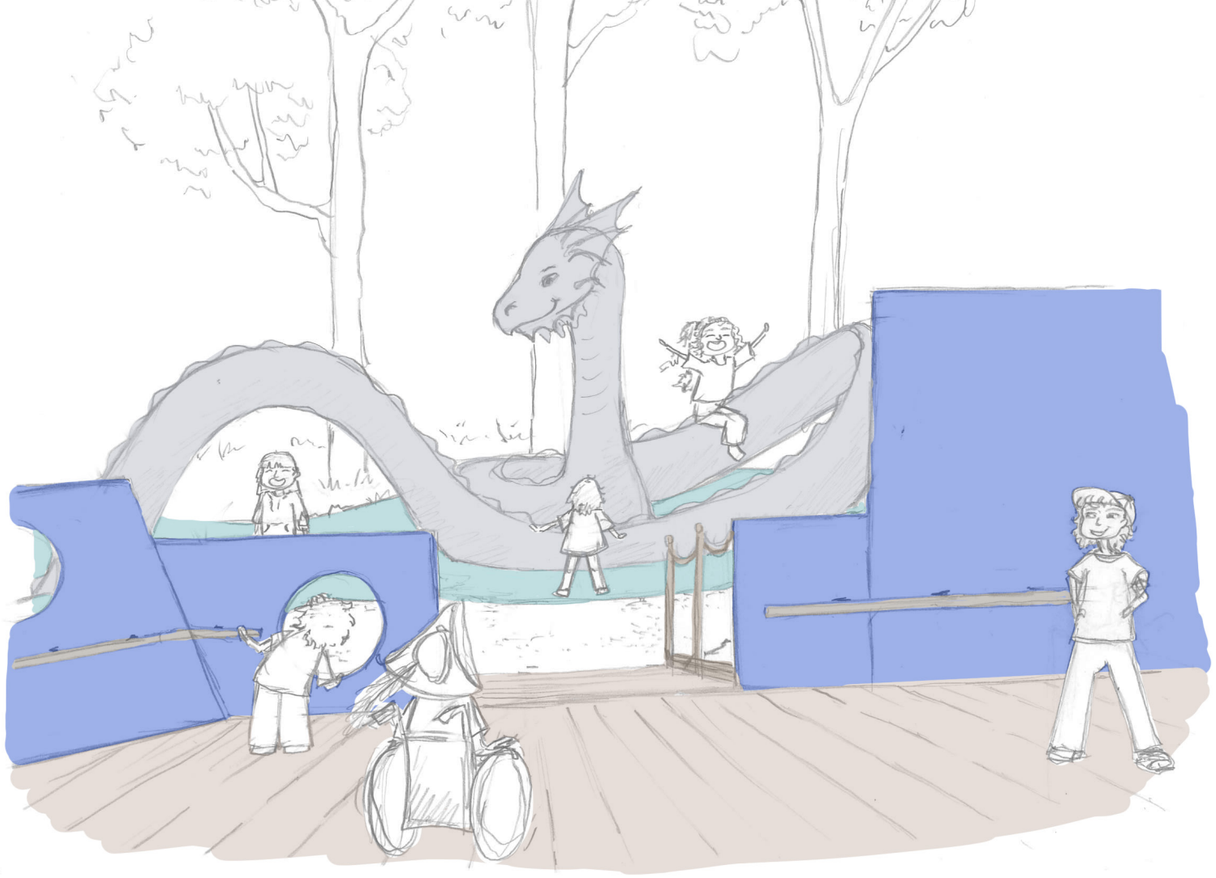


Figure 5

Nässjö city park.

Comment: Modified. Based on construction documents from Nässjö municipality [Cartographic material], 2026.

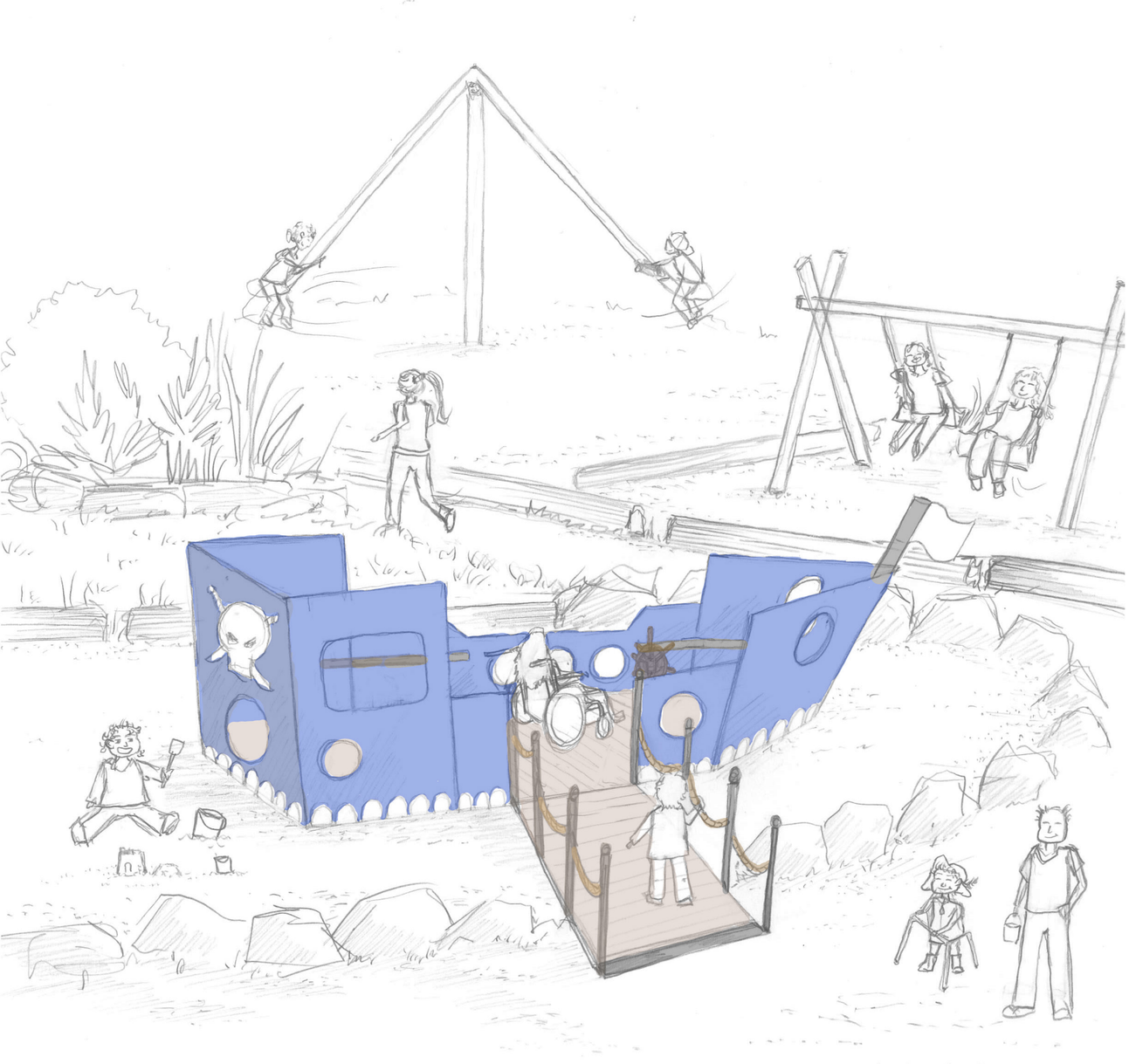
1 Seasnake

The sea snake is an installation somewhere between art and playground. It offers things to explore and plenty of options for imaginative play. The sculpture connects both to the water theme and acts as part of the obstacle course. It also contributes to interesting spatialities and opportunities for movement. It uses part of the principle of playotopes, creating space and possibilities for imaginative stories without defining which specific type of play that should occur.

The sculpture is designed with mosaic as the imagined method which gives the opportunity for reuse of ceramics. It makes the sculpture something in between play equipment and artwork, giving further opportunities to adapt and shape the sculpture to create a landmark for the playground as well as the city park.

2 The pirate ships

The pirate ship is designed with a similar design language to the existing pirate ship. The sides are made with different flat surfaces which makes it relatively easy to construct with reused wood. The ship has features such as round openings for windows in different heights, a wooden deck to accommodate a variety of mobility aids even though the ship is placed in sand and a gangway to be able to bord the boat from the path. Both the gangway and the ship have extra handrails along the sides to provide handholds to children who need some extra support for the balance. The flag is placed in the front together with a steering wheel to keep the rest of the ship as open as possible. The inside walls have plenty of space for puzzles or sensory play equipment.



Pipes for communication

A metal pipe is added between the two ships to create a connection and opportunity to communicate between the ships. The pipe is placed underground with the ends placed right by each ship. The construction makes it possible for the sound to travel between the ships, if you shout at one end you can hear it on the other. This gives children the opportunity to interact with sound as well as offering a way to interact between the different play structures. This can be applied to other areas as well where children might have a hard time reaching certain areas, for example large climbing structures.

Barrels for decoration

Barrels are added to further expand on the water and pirate theme. These are placed half buried in the ground to give the illusion of floating items. Depending on which reused materials are available, these could also consist of boxes, paddles or other wooden items which give the impression of something which could be found on a pirate ship. These gives children something to interact with, run in between, make up stories around them or climb. This is also something which could be added to other parts of the playground to connect to the water theme or provide objects where children can interact freely and create whichever play they like. To make them accessible, simply place them where the ground material allows children with mobility aids to move around freely.

Glow in the dark fishes

The pirate ship gets some extra details with glow in the dark paint, so when children explore the playground during evenings or during the darker seasons. This could be added to other parts of the playground to give children an extra opportunity to search for and explore different details. It creates an interesting visual landscape, which is especially important to children with full loss of muscle control. It gives something exciting to find and look at even when it is dark, which is extra important in Sweden.

3 Sensory path

A variety of ground materials is used to create a path where children can explore different textures. The path is placed right beside the current racing track and acts as an additional route to and from it. The path gives children with mobility aids or bikes an opportunity to practice balance and coordination. It gives the possibility to practice speed and for children with coordination difficulties it could work as a good challenge to improve strength and gross motor skills.

The path runs parallel to the current obstacle course, creating the option to race each other or create joint play. The path might also be a fun way for very young children in a stroller to experience different ground textures.

The path can be designed with stones, slabs or ground material left over from other projects, making it easy to design with reuse in mind. The important thing is that there is variety and that the path is still flat enough for a mobility aid. Gravel, sand or bark can be used as well if the layer is thin.

The existing balance obstacle gets upgraded with a handrail and extra footholds at the ends to make it easier for children with movement difficulties to access and use the existing structure.

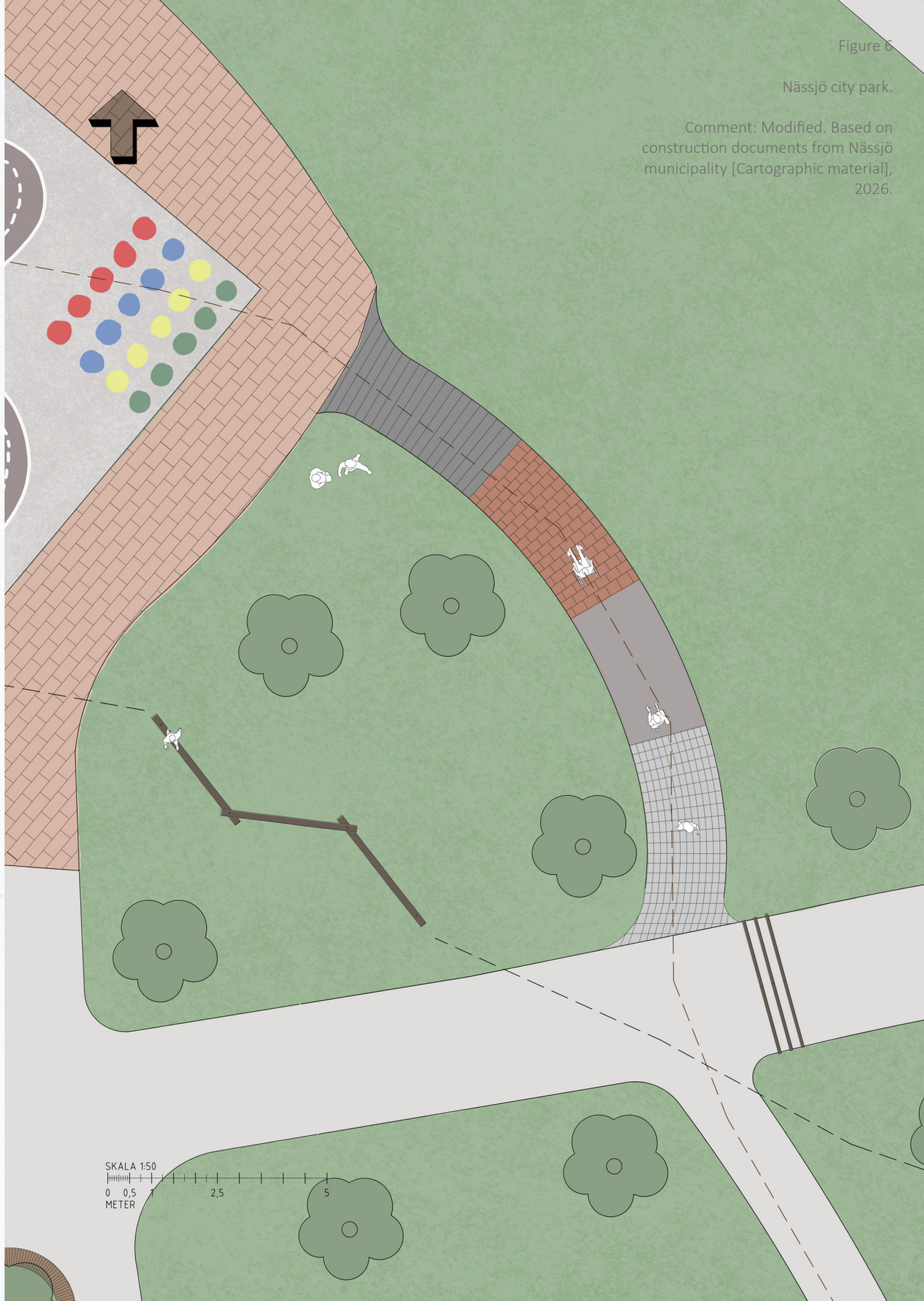


Figure 6.

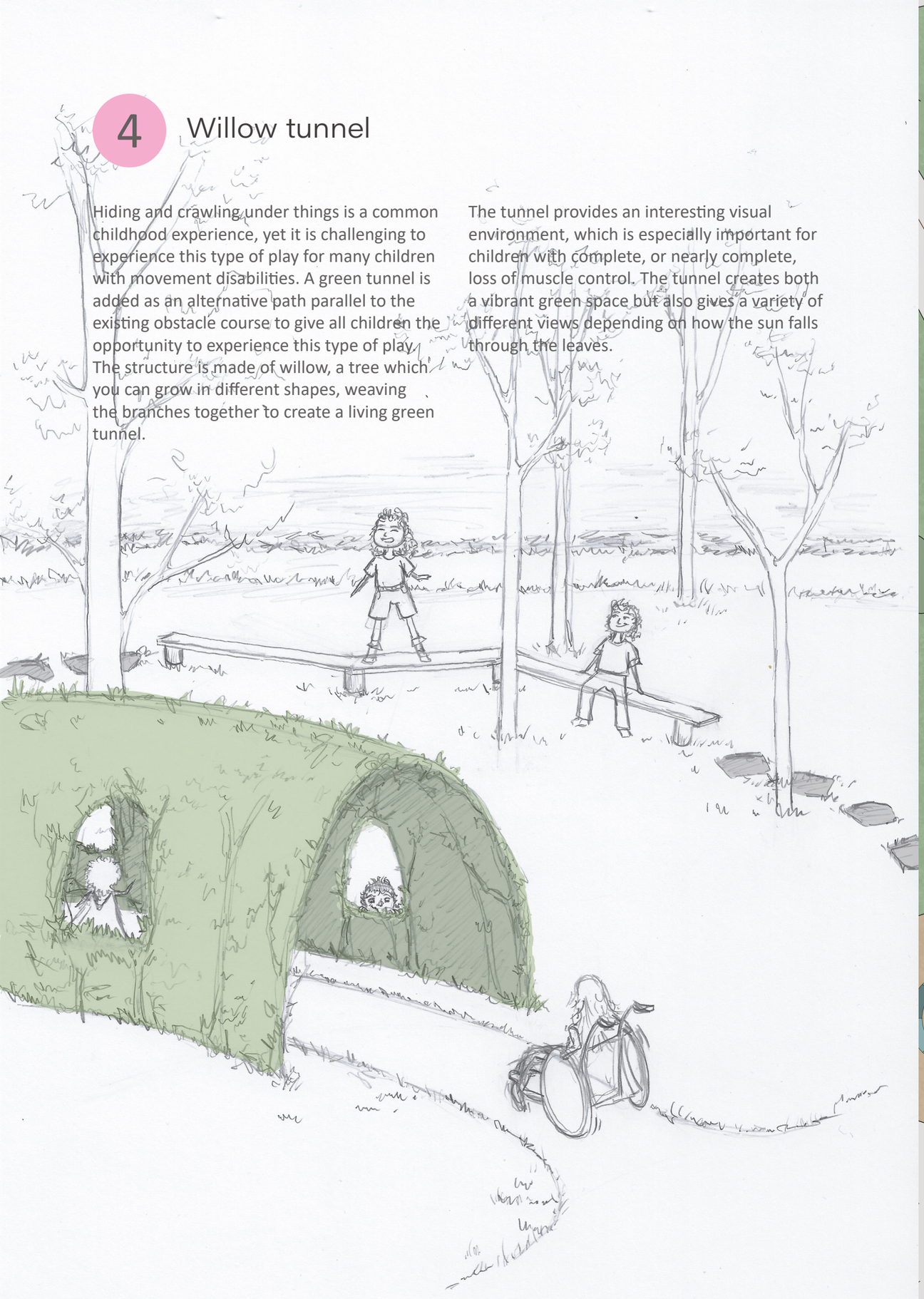
Nässjö city park.

Comment: Modified. Based on construction documents from Nässjö municipality [Cartographic material], 2026.

4 Willow tunnel

Hiding and crawling under things is a common childhood experience, yet it is challenging to experience this type of play for many children with movement disabilities. A green tunnel is added as an alternative path parallel to the existing obstacle course to give all children the opportunity to experience this type of play. The structure is made of willow, a tree which you can grow in different shapes, weaving the branches together to create a living green tunnel.

The tunnel provides an interesting visual environment, which is especially important for children with complete, or nearly complete, loss of muscle control. The tunnel creates both a vibrant green space but also gives a variety of different views depending on how the sun falls through the leaves.



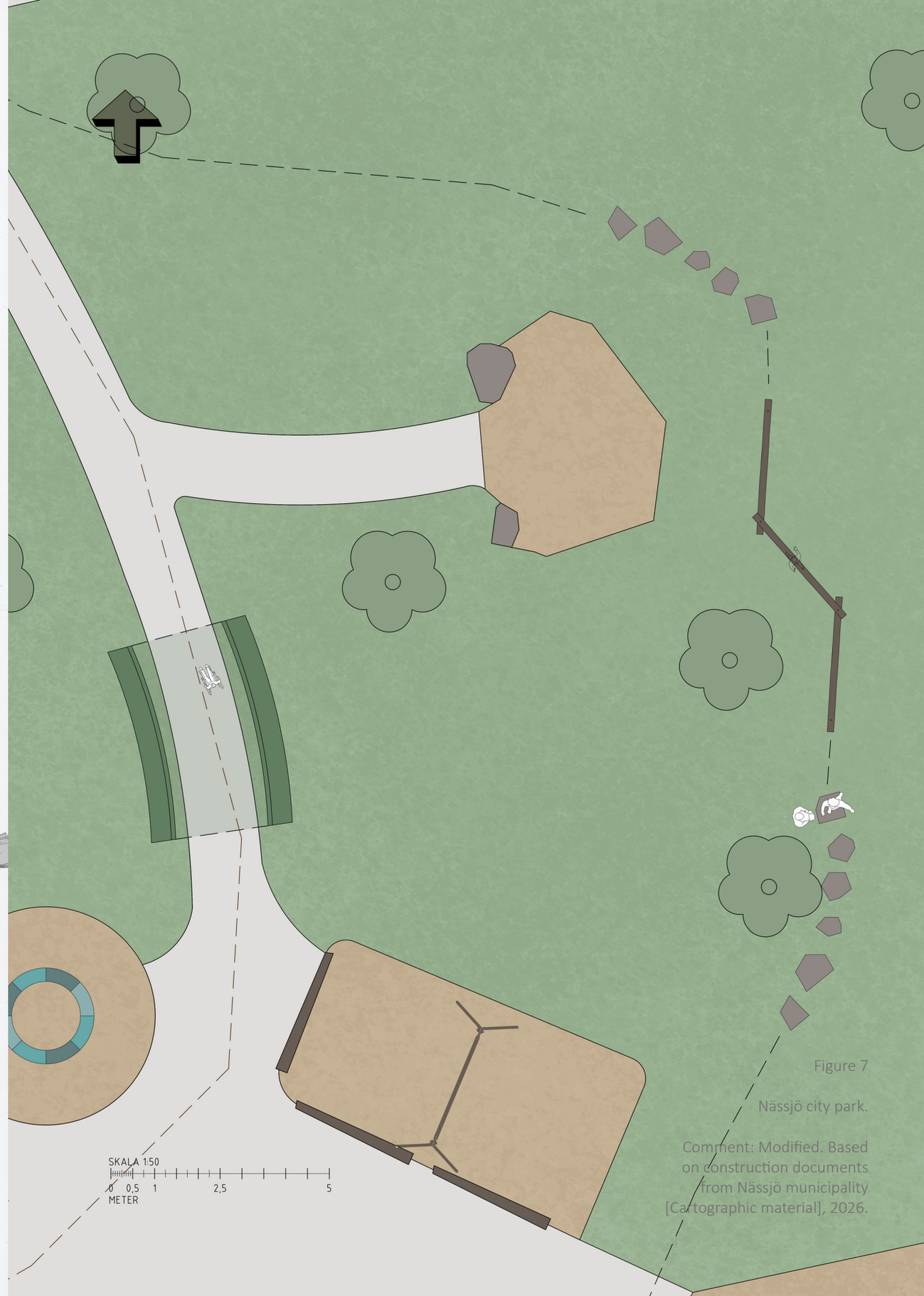


Figure 7

Nässjö city park.

Comment: Modified. Based on construction documents from Nässjö municipality [Cartographic material], 2026.

07.
DISCUSSION AND CONCLUSION

This last chapter goes back to the research question asked in the beginning: How can an existing playground be adapted through reuse and nature materials to create more equal opportunities for play for children with movement disabilities? After literature studies, case studies, interviews and site specific analyses we can attempt to formulate an answer, as well as discuss challenges and future development.

Research questions

Main research question

How can an existing playground be adapted through reuse and nature materials to create more equal opportunities for play for children with movement disabilities?

This master thesis shows that a playground can be adapted to children with movement disabilities in different ways, but there are a few core design principles. The first is to focus on social and qualitative aspects and to work for more equal experience of the playground. This includes analyzing and even out the imbalance in play options between children with movement disabilities and children without. A playground does not have to contain everything, and some playgrounds are small and might not justify expensive extra equipment. The important thing is to make sure the experience is similar and somewhat equal proportionate to what other children can do in the playground. Every child should be able to use the playground in a meaningful way with the same dignity to be able to feel like they truly belong. It is also important to consider movement disabilities as a broad, diverse group of people and that different children will need different things.

Literature studies and interviews clearly show it is important not to separate children into different areas, but to include opportunities for different abilities in the same space. This also includes the areas within the playground; it is necessary to avoid designing a space specifically for only children with movement disabilities for example since that might create segregation and invisible social barriers. To avoid this there must be opportunities for children with different abilities to both play together and play in the same space. This is both important for children to be able to play and build relationships with their peers, but also to make sure that parents with movement difficulties can play with their abled children. Again, this does not have to mean that everyone can use everything, but there needs to be overlap, variety and different options to interact, play and have fun together.

This thesis explores how more equal playground experience can be achieved through circular economy. This includes working with existing playgrounds, adapting playgrounds with small scale implementations and designing with reuse and nature materials. This thesis also suggests that these design principles could be achieved through playotopes. By creating nature-like landscapes and interesting spatialities through strategically placed objects it is possible to create a space which can be freely explored by everyone. Playotopes does not define which play should occur in the space but encourages imagination and invention of new games. Reuse and nature materials can also be an opportunity to teach children about biodiversity, environment and sustainability.

Circular economy and working with existing playgrounds require a site-specific approach. Every playground is different, with different equipment, qualities, surroundings and themes. Each playground needs to be individually evaluated, and all principles do not apply to every playground. By creating an analysis of different types of spatiality and play children can experience, it becomes more clear which opportunities are lacking for children with movement disabilities. Children cannot always use all equipment, and the goal is not necessarily to make everything usable to everyone, but through variety and alternatives it is possible to create a space which everyone can enjoy.

The last point is existing regulations and requirements It is important to work according to existing regulations, and those can be used to argue for accessible spaces, but it is also important to be aware of their limitations. Most focus only on wheelchair users, and many guides and rules only require functioning infrastructure and movement throughout the playground without the same demand on usable play equipment for children with disabilities. It is therefore important to go beyond what is required today and explore new ways of designing for children with movement disabilities.

Existing regulations also concern safety in a playground context. Playgrounds must be designed to avoid accidents, prevent fall damage and any serious injuries. The design project discovered some conflicting interests when it came to accessibility, safety and circularity, specifically regarding shock-absorbing ground materials. There are currently few good alternatives for shock-absorbing ground materials which are both safe, environmentally friendly and which accommodate mobility aids. In this case, accessibility and safety were prioritized and the ground around the sea snake needed to be covered with rubber granules. This is not a result I am happy with; there should be an option for accessible ground materials which do not create microplastics. Furthermore, rubber granules need regular maintenance to not wear out. New options for ground materials are needed which are both shock-absorbing and easy to traverse for children with mobility aids. However, material research is beyond my own expertise as an architect, this is a shift that needs to be made in the industry with more research and focus on circularity as well as better environmentally friendly materials overall.

Sub-questions

What does the playground selection look like today in Nässjö and how have the different playgrounds worked with inclusion and accessibility for children with movement disabilities?

Nässjö city have only recently began to work intentionally with playground design in general, which means that playground design for children with movement disabilities is lacking as well. There are no municipal guidelines for inclusive or accessible playground design yet, but documents are currently being written. Equipment, design, ground materials and surrounding infrastructure lacks proper support for children with movement disabilities, in some cases it is hard to even reach the playground, especially with manual mobility aids with wheels.

The city park playground is better adapted, with recent renovations during 2026. The playground has necessary facilities like toilets, weather shelters and tables. The network of paths has been improved to create clearer entrances, the paths are broader and the choice of ground materials makes it easy to move around the area with a mobility aid. The playground has some options when it comes to play equipment, but there is still a large imbalance between play options for abled children and children with movement disabilities.

Even though playground design for children with movement disabilities is lacking in Nässjö city and municipality, there are plans to renovate and improve playgrounds around the area.

How can the playground in Nässjö city park be improved to provide more varied opportunities for play for children with movement disabilities?

The design project in Nässjö city park was made to test the design principles found through interviews, literature and reference projects, with the focus on social aspects, circular economy and regulations. The aim was to seamlessly integrate opportunities for play for children with movement disabilities into an existing play landscape. Two features of the current playground were chosen as the main intervention points. The first was the obstacle course which circles the whole playground, inspired by nature play and playotopes design strategies. The second was the presence of water-themed elements around the playground. These main features are currently mostly inaccessible to children with movement disabilities, especially for those with mobility aids.

By designing alternative routes for the obstacle course and building upon the water theme through new play equipment, opportunities were created for children with movement disabilities to participate in play related to some of the main activities in the playground. The willow tunnel makes it possible to explore, hide and experience going under something as well as providing an interesting visual landscape. The sensory path is a good opportunity to practice balance, coordination and speed, it was combined with extra handholds added to the existing obstacle to make it accessible to more children. The pirate ship adds opportunity for sensory play, exploration, imaginary scenarios and strengthens the overall theme. The sea snake creates spatialities which promote imaginary play as well as general movement, it also acts as part of the obstacle course tying the two main features together.

The additions increased play value and options for children with movement disabilities and makes it possible for them to take part in some of the main activities available in Nässjö city park playground. This creates more equal experience, as well as providing new play equipment for everyone.

Future development

This thesis focused on the city park playground in Nässjö to test the design principles found through theoretical studies and to explore different solutions. The principles can however be applied to other playgrounds, both in Nässjö and in general. Since the result showed that accessible and inclusive play is adapted in proportion to what is already available in the playground, they can be applied to playgrounds which are both larger and smaller than the city playground. Additions do not have to be large and expensive; the important thing is that there are variety and options which work for everyone.

This design project focused on two main features of the playground, but of course it could be further explored by looking at other qualities and play types of the playground. In addition, even though this thesis focused on the central playground it would be valuable to also redesign and consider smaller existing playgrounds around Nässjö, or to look at for example school yards around the city.

Even though it is outside the scope of this master thesis, it should again be emphasized that I do believe it is equally important to design playgrounds for other needs and disabilities as well, and those perspectives will hopefully be a part of further playground development as well as future research. Cognitive disabilities, invisible disabilities, or other physical disabilities like blindness och deafness are of equal importance, and all children deserve to feel that sense of belonging. However, each of these alone could be the foundation for a whole master thesis, so I chose movement disabilities, not to disregard any other perspectives as less, but to be given the chance to deep dive into one piece of inclusive design.

Final thoughts

There are many ways to design for inclusion and accessibility. The important thing is to consider different perspectives and make sure children get equal opportunities to play, grow, develop confidence and to build relationships. While measurements for accessible spaces are useful and well founded, we need to avoid the purely quantitative aspects where accessibility becomes merely spreadsheets and suggested measurements. Architecture has to take equality and experience into account, otherwise it risks increasing division, social barriers and prejudice. Architecture in itself will not create inclusion, for that other things are needed as well, but it will create a better foundation for it.

References

Gill, T. (2021). Urban playground: How child-friendly planning and design can save cities. RIBA publishing.

Beckman, M. Eriksson, E. Simonsson, E. (2022). *Lekotoper: En vägledning för naturlika gröna landskap.* Vinnova.

BFS 2013:9 HIN 3. *Boverkets föreskrifter och allmänna råd om avhjälpande av enkelt avhjälpta hinder till och i lokaler dit allmänheten har tillträde och på allmänna platser.* https://forfattningssamling.boverket.se/detaljer/BFS2011-13

BFS 2011:5 ALM 2. *Boverkets föreskrifter och allmänna råd om tillgänglighet och användbarhet för personer med nedsatt rörelse- eller orienteringsförmåga på allmänna platser och inom områden för andra anläggningar än byggnader.* https://forfattningssamling.boverket.se/detaljer/BFS2011-5

BFS 2024:13. *Boverkets föreskrifter om krav på tomter m.m.* https://forfattningssamling.boverket.se/detaljer/BFS2024-13

Boverket. (2025, 9 July). *Olika regler om tillgänglighet.* https://www.boverket.se/sv/byggande/tillganglighet--bostadsutformning/tillganglighet

De Wolf, C. Gordon, M. (2024). Optimisation goals for efficient construction from reused materials towards a circular built environment. *Developments in the build environment*, 19. 1-10. https://doi.org/10.1016/j.dibe.2024.100509

Diskrimineringsombudsmannen. (2026, 15 January). *Vad är diskriminering?* do.se. https://www.do.se/diskriminerad/vad-ar-diskriminering

Gill, T. (2021). *Urban playground: How child-friendly planning and design can save cities*. RIBA publishing.

Göteborgs stad. (n.d). *Plikta i Slottsskogen.* https://goteborg.se/wps/portal/start/uppleva-och-gora/parker-och-lekplatser/lekplatser/hitta-lekplatser?id=4610

Harvard, I. (2006). *Mer åt fler på lekplatsen: Bra lekplats för barn med funktionshinder blir bättre lekplats för alla.* Sveriges Kommuner och Landsting

Hughes, B. (2011). *Evolutionary playwork.* Taylor and Francis Group.

Kardemark, M. Lagerström, R. Löwenadler, L. (2012). Riktlinjer för tillgängliga lekplatser. Park och naturförvaltningen.

P4play. (2025, 4 February). *Inclusive playgrounds*. https://www.p4play.eu/

Sjölander, E. (2025) Återbruk i lekmiljöer: en guide för kommuner. Klimatkommunerna. https://klimatkommunerna.se/wp-content/uploads/2025/01/aterbruk-i-lekmiljoer-en-guide-for-kommuner.pdf

UNICEF. (2021). Good practice guide on building an inclusive playground. UNICEF Belgrade. https://www.unicef.org/serbia/media/18911/file/Gude%20for%20the%20Construction%20of%20Inclusive%20Children%E2%80%99s%20Playgrounds.pdf

Wenger, I., Schulze, C., Lundström, U., & Prellwitz, M. (2020). Children's perceptions of playing on inclusive playgrounds: A qualitative study. Scandinavian Journal of Occupational Therapy, 28(2), 136–146. https://doi.org/10.1080/11038128.2020.1810768

Wenger, I. Prellwitz, M. Lundström, U. Lynch, H. Schulze, C. (2022). Designing inclusive playgrounds in Switzerland : why is it so complex?. Children's Geographies. https://doi.org/10.1080/14733285.2022.2077093

Nässjö Kommun. (n.d). *Lekplatser.* https://nassjo.se/kultur-och-fritid/fritid/lekplatser.html

Nässjö Kommun. (n.d). *Lek i stadsparken.* https://nassjo.se/uppleva-och-gora/aktivitet/lek-i-stadsparken.html

Franzén, Å. Lindgren, A. Wennerberg, R. (2008). Norr och nordväst om Nässjö stad. Jönköpings länsmuseum. https://jonkopingslansmuseum.se/wp-content/uploads/2018/01/2008_53.pdf

Ortshistoria. (2008, 17 January). *Nässjös historia.* http://ortshistoria.se/stad/nassjo/historia

SFS 2004:451. *Produktsäkerhetslagen.* https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/produktsakerhetslag-2004451_sfs-2004-451/

SFS 2004:469. *Produktsäkerhetsförordningen.* https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/produktsakerhetsforordning-2004469_sfs-2004-469/

SFS 2010:900. *Plan- och bygglagen.* https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/plan-och-bygglag-2010900_sfs-2010-900/

SFS 2011:338. *Plan och byggförordningen.* https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/plan-och-byggforordning-2011338_sfs-2011-338/

Socialstyrelsen. (2019, 30 Mars). *Hjälpmedel för personer med funktionsnedsättning.* Hämtad 2026-03-23 från https://www.socialstyrelsen.se/kunskapsstod-och-regler/omraden/funktionshinder/hjalpmedel/

Specialpedagogiska skolmyndigheten. (2023, 19 december). *Rörelsenedsättning.* https://www.

spsm.se/funktionsnedsattningar/rorelsenedsattning/

Stadsbyggnadskontoret Lunds kommun. (2020). Idébok tillgänglig lekplats. Lunds kommun.

Stahel, W. R. (2019). *The circular economy : a user's guide.* Routledge.

Statens fastighetsverk. (2016). *Värdig entré: Tillgänglighet i kulturarvsmiljö.* https://www.raa.se/app/uploads/2016/03/3-Per-Anders-Johansson.pdf

United Nations Convention on the Rights of the Child, 20 November, 1989, https://www.ohchr.org/en/professionalinterest/pages/crc.aspx

Örebro kommun. (2026, 5 Mars). *Oset och Rynningevikens naturreservat.* https://www.orebro.se/kultur--fritid/natur--parker/natur---kulturreservat/oset--rynningeviken.html

Figures

Fotos, illustrations and drawings are, if not stated otherwise, made by and belong to the student and author of this master thesis.

Figure 1 and 2:

Geografiska Sverigedata. (2020). GSD-Vägkartan, vektor. [Cartographic material]. Lantmäteriet.

Geografiska Sverigedata. (2019). GSD-Fastighetskartan vektor. [Cartographic material]. Lantmäteriet.

Geografiska Sverigedata. (2021). GSD-Terrängkartan, vektor. [Cartographic material]. 1:50000. Lantmäteriet.

SLU. (2019). SLU skogskarta. [Cartographic material].

The material has been modified with QGIS and photoshop.

Figure 3 to 7:

Nässjö kommun (2026). *Bygghandling Nässjö stadsparken ytskiktsplan med utrustning* [Kartografiskt material]. 1:200.

The material has been modified using Autocad and photoshop.

AI

AI has not been used during the project. Not to search for sources, organize notes, generate any text, pictures or design components. The project has not knowingly used any sources based on AI generated content.