

One Does Not **TAKE** A Sauna;
One **GOES** To The Sauna

by

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Thesis Question

In an accelerated technological era where stress and depression rates are a global issue, public baths themed on community, cultural sociability, and the purification of the body and mind, have dissolved to a body centric private and isolated action within the home. How can the resurgence of a public sauna curated on a journey of phenomenological experience and liminality support cleansing the body and the mind?

Keywords

Sauna, phenomenology, bathing, liminality, journey, ritual, craft,

Abstract

Bathing was once about an empathetic relationship with nature; exposing oneself to the environment and letting nature becoming a part of oneself to cleanse and purify the body and mind. As a society, we live in a world where the acceleration of technology has connected us with a digital world that is always at our fingertips; with speed and efficiency at the forefront. Even our bathing process has been accelerated. Bathing was once a process of a public session lasting an entire morning or afternoon, and now done by taking a ten minute shower in isolation, completely removed from nature. The journey within bathing is intended to be accompanied by friends, family, neighbours and welcomed guests as a community exercise of social discourse and collective purification. Public bathing was near extinction after World War II with the emergence of urban sprawl accompanied by the development of larger homes. In particular, the sauna shifted from an open communal experience, to a private and isolated action within the confinements of the dwelling. As a society, technology has us cognitively processing at rapid speeds and for long durations,

influencing a pandemic of stress and mental health issues globally. People need more opportunities to step away where time stands still and technology is muted, to detox and cleanse their mind of the stresses of the day. Bathing is about a journey of spiritually and physically immersing the body's sensuality in a relationship with nature, to cleanse both the body and the mind. The framework of public bathing is more necessary than ever and with the city of Sudbury already having a deeply rooted sauna culture from Finnish immigration in the late nineteenth century, now is an appropriate time to re-introduce a public sauna as an outlet to cleansing. An opportunity arises to connect to the lake culture that already exists in Sudbury, by experiencing the journey to a floating sauna located in the heart of Sudbury on Ramsey Lake. This can further support the summer canoe culture and the winter ice fishing culture already identified, as a community nexus built on linking the journey with nature, as a social hub, and most importantly cleansing the body and the mind.

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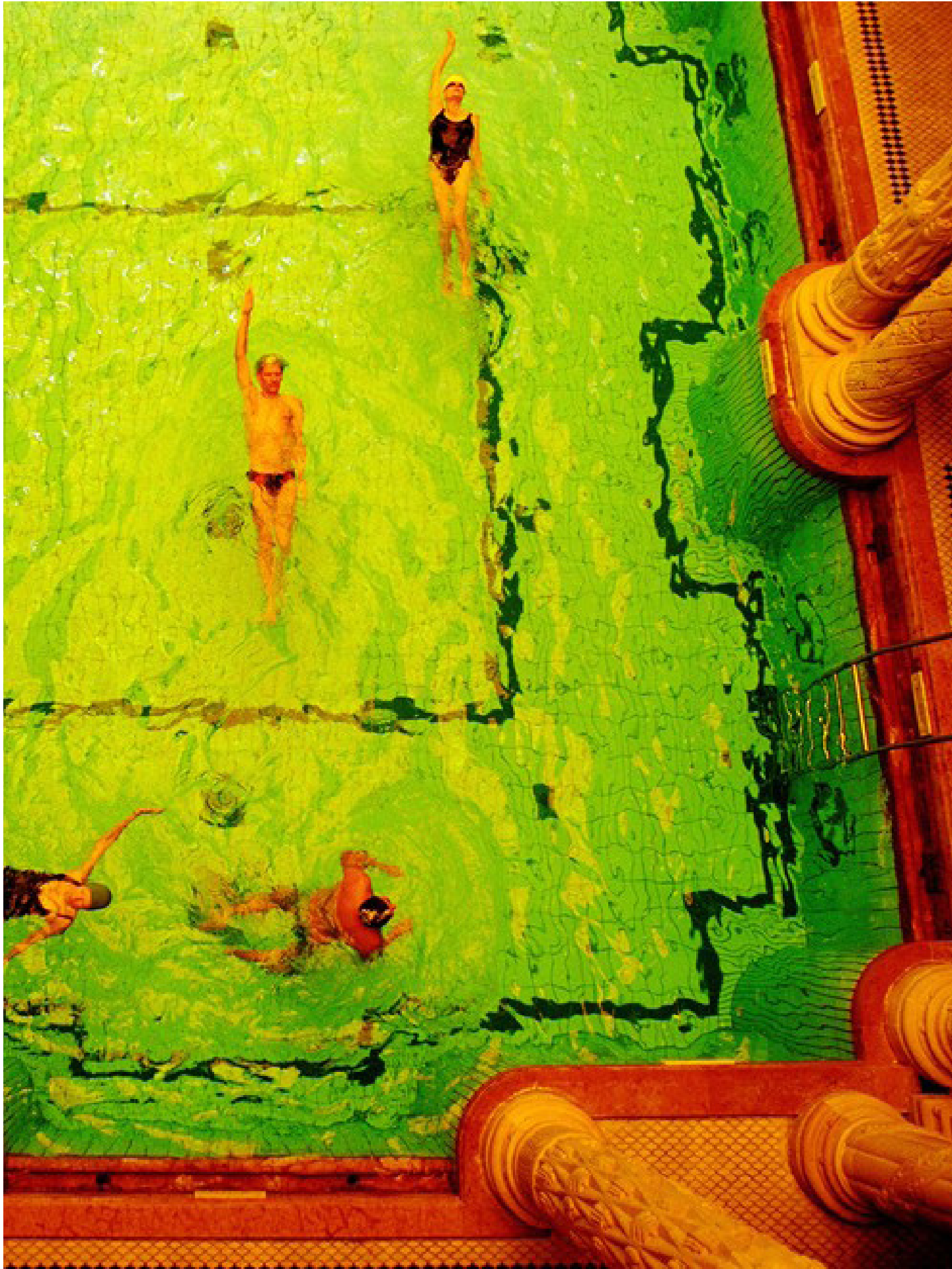
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← Fig. 1 Gellert Bath in Budapest is a traditional bathhouse most similar to a Roman Bath. Image by Matias Costa. Gellert spa. Accessed from: <https://library.artstor.org/asset/>

Why do we Bathe?

Humankind would regard bathing as a daily routine to rid the body of unwanted odors, dirt and oils by lathering the body with soap and rinsing with warm water; all within a dedicated room of a dwelling that is equipped with contemporary plumbing. However, to bathe within a dwelling is of recent origin. Bathing has existed since the dawn of humankind, but why do humans bathe? Hippocrates, separated the discipline of medicine from religion, arguing that disease was not a punishment from God, but a product of environmental conditions from living habitats.¹ He was the first person in history to write about the therapeutic qualities of hot and cold water. The first public Bathhouse was established in Sparta, Greece with cold pools, steam baths and dressing rooms. This type of bathhouse became popular all across Greece and eventually translated to the Roman Bath and Turkish Hammam. Dating further back to the Prehistoric era, a running bath was a common form of bathing by sweat. They

would wear heavy draped leather over their bodies running in large circles. Under the leather, the skin would perspire. Afterwards the leather would be removed to naturally air dry the body. The act of sweating is essential to the bodies healing system, as it rids the body of waste, regulates the body's critical temperature and keeps the skin clean and pliant.² The sweat released originates deep in the skin, for this reason the sweat bath is felt to have a deep cleaning effect. The heat produces an artificial fever that urges every organ of the body into action. Although physically stagnant, the act of sweating stimulates the organs as if one is jogging.³ At the same time, one is cleaned from the inside out by the skin; the body's largest organ and the secretions of sweat. Bathing is about the act of sweating, but the ritual of bathing is about the moment of healing the soul. Both the body and the soul are cleansed. Sauna expert Lisa Edelsward, describes the bathing ritual as a power which can transform pollution into

cleanliness and profane into sacred, to infuse the bather with energy and vitality.

“Within the liminal period of bathing, the nakedness and vulnerability of the ritual one receives symbolic stress in order to highlight this power, but the passage from the unstructured time back into the normal structures of social life is regenerating, a symbolic rebirth.”⁴

Bathing around the World

Bathing was once a community affair that was a rite to be shared with friends as a pleasurable experience. The act of bathing is a global phenomenon for many centuries, with two common elements: heat and water. Since bathing is a global act with varying cultural traditions, how do humans bathe? Notable bathing typologies known globally are the Roman Bath, The Turkish Bath, The Russian Banya, The Japanese Onsen, Indigenous Sweatlodges and the Finnish Sauna. Each with an independent history, facility, ritual, and culture surrounding the act of bathing. However, the common objective shared is the cleansing of the body and the mind.

The Roman Bath

The Roman Bath were used regularly by all citizens as a place of social gathering.⁵ The Roman culture frowned upon mix gendered bathing. The larger baths segregated men and women into different sections, while the smaller baths only had one bathing area, but the sexes were allocated separate times with women usually in the earlier in the day. The Roman Bath is based on a fundamental principle of alternately enjoying hot and cold air, hot and cold water.⁶ Upon entering and paying a fee, individuals were directed to the designated dressing areas to store their street clothes. Essential to the bath was an outdoor courtyard, where exercise of sports was played to initiate sweat as a prelude to the bath. The facility consisted of three

phases –to the *tepidarium*, a small room that was moderately heated for washing; the *caldarium*, which contained the hot baths to perspire, and the cold bath in the *frigidarium* to shock the body with contrasting temperature.⁷ The three rooms would act as a cyclical ritual repeating each phase until one is cleansed to satisfaction. It was common for Roman Baths to have additional facility programs that enhanced the experience and emphasized the bath as the centre local social life.⁸

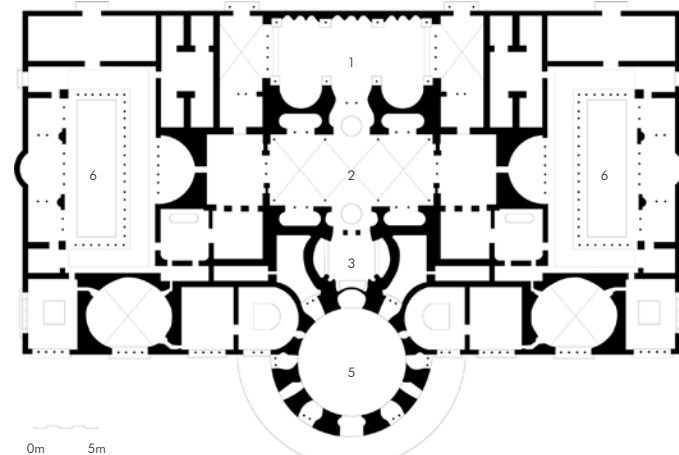


Fig.2 A floor plan of an ancient Roman thermae Baths of Caracalla. 1-Natatio 2-Frigidarium 3-Tepidarium 4-Caldarium 5-Palaestra
Illustration by author from <https://imgbin.com/png/GryUhhNJ/baths-of-caracalla-romanbaths-ancient-romanplan-thermae-png>.

The Turkish Bath

The traditions of the Greek and the Roman baths were carried via Muslims to the Turks, without the lavishness of the Romans. In Muslim countries, the Hammam - as the baths are called in Turkey - started out in the Ottoman culture serving as an act of purifying before worship at the mosques, but also a place for social. Two significant differences between the Hammam and the Roman bath are the absence of the exterior courtyard for exercise – since there was no connection between physical exercise and bathing at that time and the omission of the pool.⁹ Similar to the Roman Bath, the Hammam is segregated for each gender. A standard Hammam will have an entry space for reception and a place for bathers to change and store their belongings. Additionally, this space is used for rest and refreshments after the bath, where a fountain is

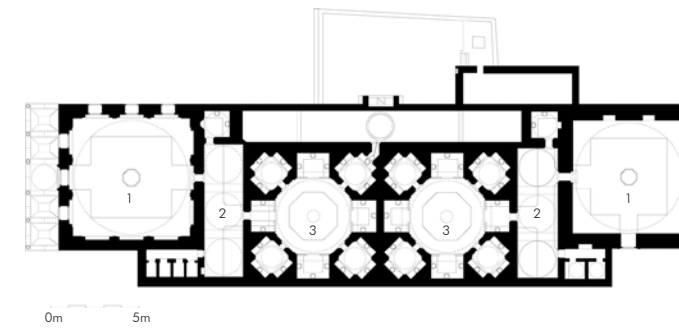


Fig.3 Floorplan of Ayasofya Hammam in Istanbul, Turkey. 1-iliklik 2-sicaklik 3-sicaklik
Illustration by author from <https://islamansiklopedisi.org.tr/ayasofya>

commonly found in the centre. Leading to the core of the Hammam is the *sicaklik*. This is the hottest room with temperatures up to 38°C. This is typically a large domed space with marble covered walls and a rain marble platform called *gobektasl* at the centre, where vigorous scrubbing and massage are carried out. Around the room are a series of alcoves in the walls with marble basins and seats where people can wash and in some cases have private washing spaces that are even hotter up to 45°C.¹⁰ Between the entry and the *sicaklik* is a threshold space called *iliklik*. This is a warm room with a temperature at 25°C that serves as a place where bathers acclimate to heat, or escape from the hot room.¹¹ The moist air of the Hammam is most similar to the Russian Steambath.

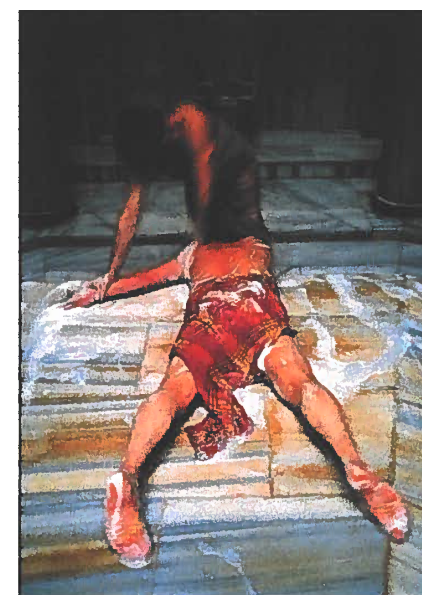


Fig.4 Bather being scrubbed and massaged by the tellak (bath massage attendant). Image accessed from Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019.

Russian Banya

The most characteristic features of the Russian bath (steam bath) are the damp air in which the bather will spend most of their time, and the large quantity of water that is used. The bathhouse and going to banya is a highly distinctive feature of Russian traditional culture, and for centuries played a significant role in their daily life. The traditional banya – black banya - is similar to the Finnish sauna in many respects and its most archaic version – a low, one roomed log building with a flat roof and a stove called *kamenka* constructed of large round stones, and no chimney.¹² The urban banya - white banya – was made from concrete and finished in tile.¹³ The temperature is generally relatively low (40°C-50°C) with a great deal of water is thrown onto the hot stones to emulate a sensation of heat.¹⁴ The Russian Banya has two important tools to endure the experience; a natural whisk called *venik* and a felt-like woolen hat called *chapkas*.¹⁵ From the earliest days bathers used the *venik* to beat themselves and one another other as a form of massage that increases blood circulation, sweating, metabolism and cleansing of the whole body. The *chapkas* protect their head and hair from the high humidity and allows the bathers to withstand higher tolerances of heat, without feeling lightheaded. Similar to the Hammam and Japanese Onsen, going to the banya is of considerable importance in life cycle rites.

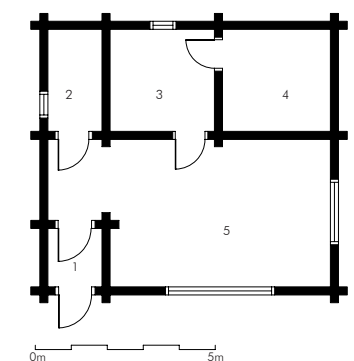


Fig.5 Floorplan of a traditional Russian Banya 1-Tambour 2-Toilet 3-Showers 4-Steam 5-Restroom
Illustration by author from <https://ownwoodenhouse.com/index.pl?act=PRODUCT&id=200>

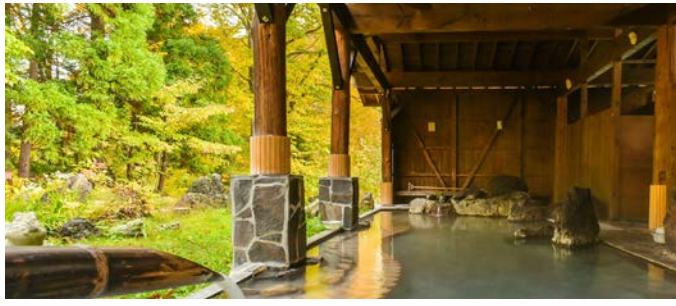


Fig. 6 An outdoor traditional onsen in Nyutou Forest, Akita, Japan. Image accessed from <https://www.shutterstock.com/g/weniliou>

Japan

In Japanese bathing traditions, hot water is the most important element. Japan is a volcanically active country with hundreds of natural hot springs in various forms. The Japanese generally prefer the natural hot spring water over heated water found in an urban onsen, as they believe it has healing powers depending on the mineral content. For it to be considered an official onsen, it must contain one of nineteen designated natural minerals, and be 25°C or warmer.¹⁶ At the onsen, ablutions are not casual and all visitors are expected to wash their bodies and rinse themselves thoroughly before entering the hot spring water. Bathing stations are equipped with stools, taps, buckets and toiletries such as soap and shampoo.¹⁷ The onsen occasionally is a quiet place, but the atmosphere more often than not is a high-spirited and joyful place filled with life

and chatter. A separate space is usually provided away from the springs that may be used as a quiet space and contemplation. Respect is important to Japanese culture and is required to enter an onsen, similar to an indigenous Sweatlodge or a Finnish Sauna.



Fig.8 A Contemporary Onsen in Maruhon, Japan designed by Kubo Tsushima Architects. The photo is taken in the Bathing Room. Image by Koji Fujii/Nacasa and Partners Inc. Image accessed from: Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019.

Indigenous Sweatlodge

A Sweatlodge is a place of trust and respect, a test of courage where bathers confront their fears. The indigenous Sweatlodge are located throughout the Americas in Canada, United States all the way to the Mayans and Aztecs of ancient Mexico. The rituals and rites varied by region, although the sculpted shape and design principles were fairly similar. In some places the lodge was a circular domed frame made from local slender saplings lashed together and covered with birch bark panels, or hides of



Fig.9 Sweat Lodge of the Crow people late 19th Century. Image accessed from Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019.

animals. In other cases, they were earth mounds dug into the side of a hill close to a stream.¹⁸ There are three basic kinds of sweatlodges used. The first a vapour steam bath that heated the stones outside the lodge, and once red hot carried inside and placed in the pit. Water was then thrown on the rocks to create steam. The second type is a direct heat with the fire built inside the lodge, with no water added to create steam. This type is a mixed use lodge as it is a place for dwelling and sweating. The third type is a *temescal* of the Aztecs and the Mayans, a permanent structure mixing the previous two bathing typologies together.¹⁹

Although each bathing typology has unique rites and rituals, they all have commonalities that emphasize global perspective on why humans bathe and the importance of it. The act of bathing is not intended to be a private and secluded experience within the dwelling, and the history of several noted cultures has delineated bathing to be a cleansing experience with a community of friends and patrons. Sweat is vital for the body to heal and ritual is required to cleanse the mind. Without the culture of sweat and ritual, the act of bathing and purification is diminished.

Endnotes

- 1 Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019. Pg 8
- 2 Aaland, Mikkel. Sweat: Illustrated History and Description of the Finnish Sauna, Russian Bania, Islamic Hammam, Japanese Mushi-Buro, Mexican Temescal and American Indian & Eskimo Sweat Lodge. Capra Press, 1978.
- 3 Ibid.
- 4 Edelsward, Lisa-Marlene. Sauna as Symbol: Society and Culture in Finland. New York u.a.: Lang, 1991.
- 5 Andrew Farrington, The Roman Baths of Lycia: an Architectural Study (London: British Institute of archaeology at Ankara, 1995)) Pg. Since work began at sunrise and ended in the early afternoon, people would gather at the baths to wash, exercise, socialize and gain an appetite for a relaxing evening meal at the bath.
- 6 Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019. Pg 9
- 7 Andrew Farrington, The Roman Baths of Lycia: an Architectural Study (London: British Institute of archaeology at Ankara, 1995)) Pg.
- 8 Bathers would stroll through gardens, read a book in the library, watch performances, listen to a literary recital or eat a meal.
- 9 The Islamic importance to cleanliness and running water is required for bathing and washing.
- 10 Allsop, Robert Owen. Turkish Bath: Its Design and Construction. S.I.: Hansebooks, 2016. Pg. 4
- 11 The Roman Bath, Russian Banya and Finnish Sauna all acclimate around alternating hot and cold temperatures, however this practice was discarded from the Hammam Pg 11
- 12 Pollock, Ethan. Without the Banya We Would Perish: a History of the Russian Bathhouse. New York, NY: Oxford University Press, 2019. A chimneyless banya is similar to the Finnish smoke sauna and Estonian smoke sauna. The fire is built within a pile of rocks that are heated to give the essence of the bath. The interior would be laced with black sot from the lack of chimney. This typology is common to the surrounding geographic area, with minute differences and traditions.
- 13 Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019. Pg 8
- 14 Pollock, Ethan. Without the Banya We Would Perish: a History of the Russian Bathhouse. New York, NY: Oxford University Press, 2019. Pg 16
- 15 Unlike the Finnish sauna where temperatures are high with low humidity, the banya has Low heat with lots of water, as a result has a consistent high humidity index.
- 16 Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019
- 17 A bunch of leafy twigs of birch, oak or other plants – which had to be made with utmost care. Pg 17
- 18 Ibid. Pg 23
- 19 Serbulea, Mihaela, and Unnikrishnan Payyappallimana. "Onsen (Hot Springs) in Japan—Transforming Terrain into Healing Landscapes." Health & Place 18, no. 6 (2012)
- 20 Entering the hot spring while still dirty or with soap traces is considered socially unacceptable.
- 21 Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019 Pg 34
- 22 The pit was quite small around six-hundred millimetres in diameter and three-hundred millimetres in depth.
- 23 Konya, Allan. Modern Sauna: and Related Facilities. Archimedia Press Limited, 2019 Pg 34
- 24 Typically made from stone or adobe bricks, the fire is made in an oven adjacent to the sweat, sharing a wall with it. The fire heats the stone of the wall that conducts the heat into the place of sweat. Water, typically mixed with herbs is thrown against the hot wall to create steam.



Fig.7 A Contemporary Onsen in Maruhon, Japan designed by Kubo Tsushima Architects
1-Dressing Room 2-Bathing Room 3-Resting Room
Image by author from <http://static.dezeen.com/uploads/2015/10/>



← Fig.10 The savusauna that accompanies the architect Alvar Aalto's Experimental House on Lake Paijanne in Muuratsalo, Finland. His savusauna reveals his respect for traditional forms and the site. Image by a++ Research Group. Image Accessed from: https://aplust.net/blog/alvar_aalto_muuratsalo_experimental_house_finland/,

The Archaic Finnish Sauna

The importance of understanding why humans bathe, identifies the significance sweat and ritual in bathing culture. The sauna is such an integral and characteristic part of everyday life in Finland. To understand the history of the Finnish sauna, it largely involves a study of vernacular architecture. The rituals and traditions of the sauna have remained similar for thousands of years, however the sauna as a building has evolved considerably from the past.

The Prehistoric Sauna

Dating back to the prehistoric era, there is evidence to suggest the basic understanding how the current sauna evolved to date. Archeologists discovered at Stone Age dwellings sites the remains of the excavated hearth and fireplaces. The fireplaces of the Stone Age dwellings are often identified as pit-hearths, round-bottomed pits usually under one metre in diameter and approximately three-hundred

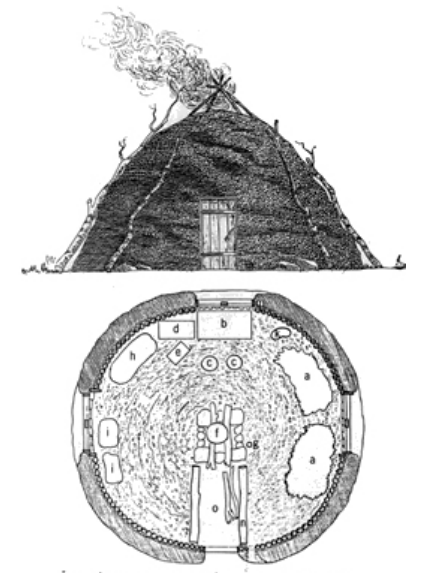


Fig.11 Illustration of a pit hut. The building cloaked in leather, the fire hearth lays at the centre with stones. Image by Kjellström. Image Accessed from: http://www.laits.utexas.edu/sami/diehtu/siida/reindeer/Reindeer/reindeer_main.html millimeters deep, with two or three layers of stones on the bottom.¹ Archeologists have found charred material among the bottom layers of the stones, acting as an insulating layer that would permit the hearth to retain the heat long after the fire went out. This observation and the fact that large pit

hearths rarely appeared with the dwelling, provides an understanding that this was some kind of sauna stove for bathing. Finnish archaeologist Ville Luho suggests that the pit-hearths were covered with a tent like structure with sticks and hides would have been erected over top capturing the heat inside.² Emerging from the Stone Age, the Sauna became an essential part of life for the Finn.

The Original "Pit" Sauna

The sauna was designed to be nomadic just like the hunters and gathers of their time. It had to follow them from site to site as they could only carry the essentials, therefore their dwelling and sauna had to be temporary and easy to erect. It was believed to be conical form similar to a teepee was used in the beginning, however this was a flawed design as a sauna for the heat would rise to the upper portion.³

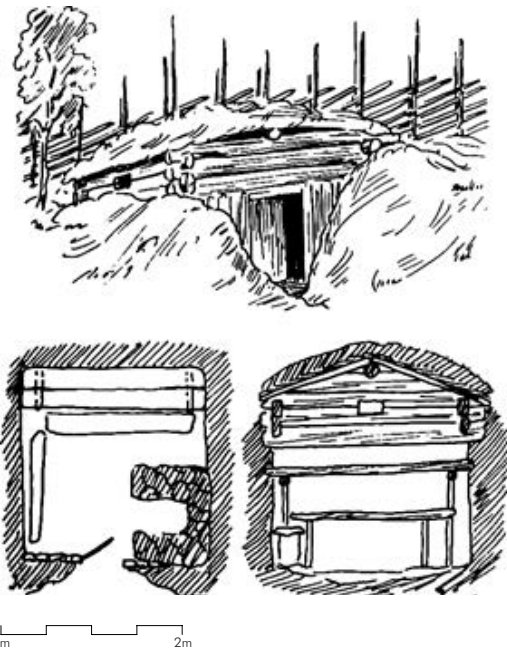


Fig.12 Illustration of an underground sauna that belonged to a blacksmith in Nurmes, Finland. Illustration by Samuli Paulaharju. Accessed from: Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto. Eventually the nomadic way of life dissipated and the Finn began to settle, clearing the land in the wilderness to farm. The winters are cold with strong harsh winds. In order to protect the hut floor from draught and frost, it was burrowed into the ground, as the earth walls would prevent the

harsh conditions from entering. At this time, the hut dwelling was also the sauna. The pit would be two metres square and two metres deep was dug in a bank of sandy soil.⁴ The walls were bare earth, but later were resolved by lining the interior with round logs. The Log joinery was evolved to protect the sauna above grade from natural elements, typically two-to-three coursings of logs. The roof was lined with a birch bark membrane and a heavy turf on top to insulate it.⁵ In the summer, long grass would camouflage the roof into the surroundings, and in the winter it would be covered in snow. This archaic form provided the foundation for the saunas that exist today, establishing the premise of the stove, and the split log bench that was replaced by a platform on posts. The stones would be heated to red-hot at a fire outside, and then carried in. They would throw water on the rocks to produce steam in the hut. Gradually the hut was only used as a sauna and the dwelling surfaced to above grade.

The Traditional "Smoke" Sauna

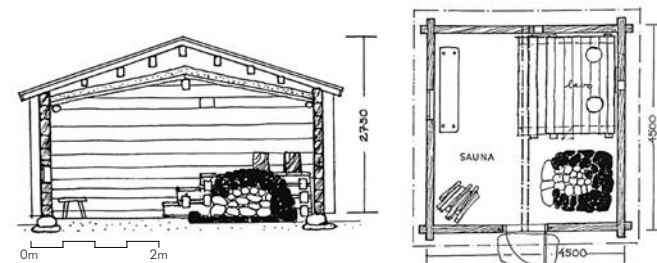


Fig.13 Illustration of an East Finnish Sauna. The post-borne platform is against side wall next to the stove. Illustration by Teemu Touryla. Image accessed from, Laaksonen, The sauna evolved into a separate building, the tradition of having the fire outside and bringing the fire-red stones inside was no longer necessary. The fire was now built within the sauna, covered in a heaping pile of stones. The fundamental change in building methods for the sauna occurred when the corner-joining logs replaced the former upright hut constructions. The settlers of the wilderness built a small log cabin gathered from the cleared plot. It began the multi-purpose facility, serving as a dwelling, a sauna, a threshing shed and even a



Fig.14 A smoke sauna is a truly unique Finnish experience. The chimneyless sauna contains all the smoke and heat until the bather is ready to enter, the smoke then rushes out of the sauna. Image accessed from <https://himoslomat.fi/en/groups/sauna-services/smoke-sauna/>.

shelter for livestock. Eventually through time; the dwelling, the threshing shed and a livestock barn would be constructed from materials of the site, separating the sauna from the compound.⁶ This type of sauna is considered the Finnish traditional smoke sauna called *savusauna*. However, the traditional sauna cannot be distinguished for an entire country, as the vernacular of the landscape determined the size, materials and rocks used.

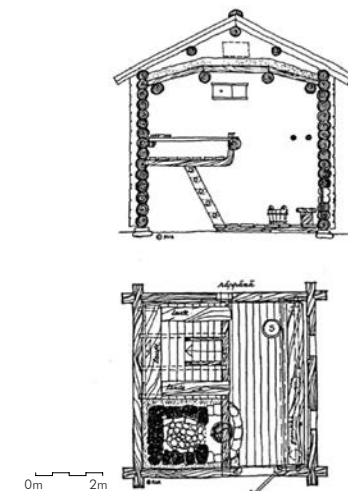


Fig.15 Illustration of a Central Finland Sauna. The bather's platform was affixed as support to curved tree stumps. Illustration by Risto Vuolle-Apiala. Image accessed from: Laaksonen,

In Eastern Finland, the sauna was primarily used for bathing; single room with a small post-borne wooden platform next to the stove. In Western Finland, they typically had a double room sauna with shelves or platforms for preparing malts, and an additional bathing platform. In the central and northern regions, the single room sauna had a bathing platform affixed with supports with covered stumps of tree trunks resembling sledge runners.⁷ The stoves were smaller as the stones of the region were significantly smaller, compared to the Eastern and Western regions of Finland,

Sauna Stove with a Flue

Saunas with a flue began to appear in fifteenth century in manorial residences of Western Finland.⁸ By the seventeenth century, it was adopted by most farm compound saunas. And by the nineteenth century, saunas with a chimney was common in both urban and rural settings. The chimneyless sauna was still popular in the north central regions,

but was adopted in both East and West regions of the south.⁹ The smoke sauna was always a fire hazard, and with saunas introduced into densely packed urban areas, the sauna was forced to evolve with less risk and adapt the chimney. A series of evolutionary turns were made with the chimney and stove of the sauna. The progression through stones, masonry lintels, masonry cased stoves, metal barrels and cast-iron stoves, to the introduction of sheet metal lined stoves, to electric saunas and finally insulated flues on wood fired stoves as seen today. Each sequence proposes an alternate preparation ritual to start the sauna, which effects the phenomenological experience within the sauna.

Instruments of the Sauna

The sauna has several sauna instruments that affect the quality and enhance the bather's experience, including the bucket, birch branches and the ladle. The bucket is important evolutionary instrument used in the sauna. Developed during the era of the *savusauna*, the bucket is used to collect water to bring into the sauna to create steam. Typically birch branches are stirred in with the water to enhance the fragrance of *Löyly*. The most important instrument to the sauna is the ladle. The ladle is used to scoop water from the bucket and pour it on the hot rocks on the stove to create steam. The bowl of the ladle will determine the users comfort experience based on the volume it can hold, and how the water will pour from it.¹⁰ Additionally the length of the ladle is important, if it is short it can burn the bather from the steam.

Public Saunas

In the early twentieth century, the patrons of apartments in cities had no connections to their own sauna. This necessity began the age of public saunas, often run as business enterprises in urban

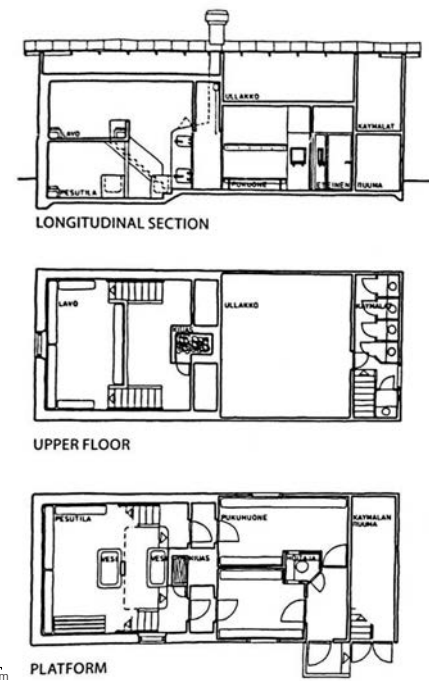


Fig.16 Illustration of a public sauna in Tampere. There are separate dressing rooms for men and women, but the sauna is in common use. The sauna at Rajaportti was later divided in two with a partition. Illustration by Toni Parkkima. Image accessed from: Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014.

dense areas. Public Saunas were intended for the common people of Finland. They were well-equipped spaces for both men and women, with dressing and washing rooms and smaller stove rooms. The public section was open to all and the gendered saunas were served by a single stove. The stove lids would open from both sides so bathers could engage in light discussion. It was more common to have gender separated dressing spaces, and a shared mixed sauna bathing together.¹¹ There was nothing strange about this phenomenon, and the Finn was comfortable with nudity. Eventually through time a curtain was installed and later a masonry wall dividing the spaces. The Finnish public sauna was typically two levels, the sauna on the raised wooden platform, and a washing space beneath. The main difference between the *savusauna* and the public sauna is that one is private, while the other is open to all. They both have strong social engagement at the heart. *Savusauna* is often one or two rooms, while the public sauna often has several rooms



Fig.17 Kotiharju Sauna is the oldest urban public sauna in Helsinki. Located within the city core, the large iconic red glowing sign shines on the bathers as they sit on a bench near the street sidewalk.

Image by Discovering Finland. Image accessed from: <https://www.discoveringfinland.com/destination/kotiharju-sauna>

with varying needs. And materialistically they are different. *Savusauna* is made from wood and earth, while the public is often concrete and masonry, with wooden elements. Due to the lack of wood in the public sauna, they were often more of a steam bath like the Russian *Banya*, as a lot of moisture is put into the air as bathers come and go, but the lack of wood can't absorb and breath in the moisture like a traditional wooden sauna can.¹² Public Saunas were popular until the 1940s. After the war they transitioned to private saunas found in apartment and household dwellings. Any public sauna that existed afterwards, transitioned to the community swimming pool funded by the government or operated as a nostalgic museum sauna.¹³ However, in the past decade a movement for urban and public saunas has returned.

Endnotes

- 1 Tsonis, Jack. "Sauna studies as an academic field: a new agenda for international research." *Literature & Aesthetics* 26, no. 1 (2017).
- 2 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg 10
- 3 Ibid. Pg 10
- 4 Tsonis, Jack. "Sauna studies as an academic field: a new agenda for international research." *Literature & Aesthetics* 26, no. 1 (2017).
- 5 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg 12
- 6 Roy, Rob. *The Sauna*. White River Junction: Chelsea Green, 2004. Pg 7
- 7 Roy, Rob. *The Sauna*. White River Junction: Chelsea Green, 2004. Pg 8
- 8 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg 18
- 9 Ibid. Pg 18
- 10 Konya, Allan. *Modern Sauna: and Related Facilities*. Archimedia Press Limited, 2019. Pg 216
- 11 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg 22
- 12 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg 22
- 13 Konya, Allan. *Modern Sauna: and Related Facilities*. Archimedia Press Limited, 2019. Pg 72



← Fig. 18 Newly opened Lonna Sauna in Helsinki designed by OOEPA. Located on an island in the Baltic Sea, a new era of public sauna merged with nature was formed. Image by Jussi Tiainen, Tommi Kortesiemi. Image Accessed from: <http://oopea.com/project/lonna-sauna/>

The Fall and Resurgence of the Public Sauna

A number of factors contributed to the fall of the public sauna in Finland, including the invention of the electric sauna and the convenience it brought with it, the introduction to the lakeshore leisure sauna, and the lack of genuine experience of a traditional sauna linked with ritual and nature. However, within the past decade the people of Finland established the resurgence of urban and public sauna, impacting the global presence for public bathing.

Lakeshore Sauna

The lakeshore sauna is a relatively new aspect of the 'summer migration' that has roots dating back to the ancient Romans. In the summer, the noble families of Rome would flee the heat of the city to the countryside.¹ In Finland, a country known for over 187,000 lakes, the custom of summer migration began in the mid seventeenth century when professors from the Academy in Turku would

spend their summers in the countryside farming.² It wasn't until the late eighteenth century that idealized nature and the rural life adorned the cottage retreat from many urban upper class dwellers to the countryside. By the nineteenth century the summer villa became the norm. They were comfortable villas that were welcome to all, but displayed the wealth of the owner. However they did not have saunas, and they did not intend on having them as Western Finland is inhabited by Swedish-Finns, who were not accustomed to the sauna.³ After the First World War, a number of changes were made to the Finnish society in light of their independence from autonomy of the Russian Empire.⁴ These profound changes were felt by all, as the working class began to enjoy the benefits of paid summer vacations, and summer dwellings became an accessible leisure. The large impressive villas were then replaced by small cottages and the introduction of the sauna by the shore began. The sauna played a major role



Fig.19 Lakeside sauna in Northern Ontario, Canada. Image by Peter Loughhead. Image accessed from: <https://cabinporn.com/post/63461460103/lakeside-sauna-house-in-northern-ontario>

in the life of the Finn and their summer cottages, heating it every day. The cottage would often evolve around the sauna beginning by building the sauna first, then a stove room, washing room, veranda, eventually adding a living room, cooking and sleeping areas all under one roof.⁵ These leisure saunas signify the return to nature and the original roots of the sauna. Later the sauna would separate from the dwelling spaces and placed along the shoreline as a separate building.

Löyly: The Sacred Steam

The sauna is a place founded on traditions of spiritual, mystical and ritualistic customs, which makes it so much more than just a bath. As H.J. Viherjuuri writes:

“Many strange beliefs and superstitions are connected with the sauna and with bathing customs. The ancient Finns believed like many other primitive peoples, the fire came from heaven and that

therefore it was sacred. The fireplace and the pile of stones were the altars. The sauna was a place for the worship of the dead, who were supposed to return gladly, even after death, to so a pleasant place.”⁶

Löyly is what the Finns call the steam that vaporises from the hot stone, but its original connotation is *spirit*, or even *life*.⁷ Löyly is considered the soul of the sauna as it has a connection with the sacred dating back to origin. The principle of löyly is not to be equated with boiling steam from a kitchen. Löyly is the essential principle of the sauna, steam is not. Löyly gently draws perspiration from the body, steam does not. Löyly is the objective of the sauna design, materials and construction methods, steam does not. Löyly satisfies the soul, steam does not. Without löyly, the traditions and essence of the sauna become soulless.

The Electric Dwelling Sauna

Following the second major development in saunas since the addition of the flue, marked the invention of the electric sauna. The first electric sauna was invented for an office building in 1938, Helsinki.⁸ It was originally designed as a sauna with a flue, however it was incorrectly designed according to the inspector it was not permissible and required a sauna with no flue. An electric sauna does not require a flue, which was a great advantage and easy to build in existing structures. Electric saunas could be in places that were previously thought impossible or difficult to install. The electric sauna was easy to use and maintain. There was no need to arrange fire wood, all that was needed was a flick of a switch or a timer. The electric sauna provided endless possibilities in urban areas, however it was at this moment that the sauna became disconnected from nature and Löyly. In the



Fig.20 A small apartment sauna in Helsinki, Finland with an electric furnace. Image by Kesamokki Pirkkalaan. Image Accessed from: <http://herrasmieskirvesmies.yhteystietopalvelu.com/index.php?page=2>

1940s the electric sauna spread into apartment complexes formally known as a block sauna.⁹ Wood fired saunas were extremely difficult to manage in apartment complexes, as they required a lot of work and maintenance to operate, but became an inconvenience for time and effort for the dwellers of the building. The electric sauna on the other hand was a carefree solution. By the 1970s there was a decline in neighbourhood apartment block sauna construction, as the sauna was now built within the apartment.¹⁰ The sauna also transitioned to the comfort of the single family dwelling in the basement, now isolated and disconnected the social from the sauna. They had a decrease in size and lost the identity of the sauna ritual. The sauna lost the essence of radiant heat through the wood materials of the walls and ceiling, as the bather was forced much closer to the heater.¹¹ The sauna was no longer about the celebration linking nature with humankind, but rather a convenient expedited method to bath. The home already has a bath or shower as an accelerated form of cleanliness. It is no longer about going to the sauna, but rather taking a sauna.

The Resurging Public Sauna

Prior to 2010, public sauna culture was nearly extinct in Finland. Private electric saunas were the main source of sauna experience in urban places, or forcing people to the countryside to their cottages. With time, the cottage no longer became an affordable commodity to all. Finns were forced to either use their private dwelling sauna or be invited to a friends or a family sauna. The public sauna did not return immediately as a formal building typology, but rather the reintroduction of experience, sociability and nature.¹² They were mobile/temporary saunas parked in public squares, perched along the shoreline and floating along the waters. It was about conveying a message that the



Fig.21 Identified as “the most public sauna in the world”, this sauna was formed by the public with no funds, only found objects. It costs no money to attend and all are welcome. Image accessed from: <https://saunaexplorers.com/2018/12/25/sompasauna/>

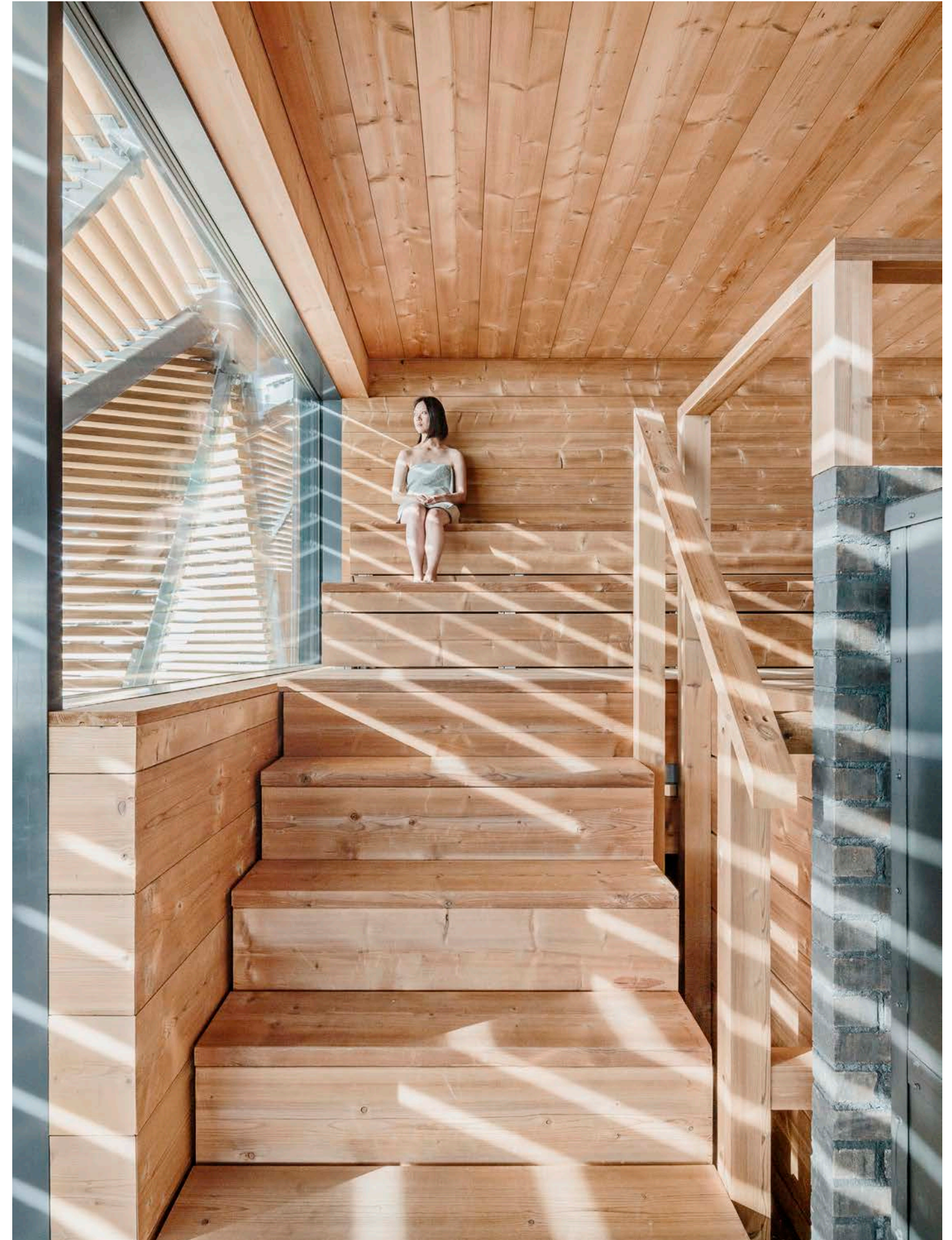
sauna is a needed rite of life, meant to be shared with people outside isolation. The sauna revolution sparked many varying sauna experiences from gondolas, ferris wheels, yurts plus many other. In six short years, the idea of public saunas was popularized and the reintroduction of formal permanent public saunas emerged. The new wave of public saunas are different from the past. They are focused on the history and materiality of the sauna culture, rather than built from masonry and concrete, they are constructed with traditional building practices of wood to allow the sauna to breathe löyly. The new public saunas have a direct link with nature and water, balancing the sauna ritual with nature and making an inclusive lakeshore sauna experience accessible. Several public saunas are privately owned, therefore an entry fee is required. To subsidize and reduce the entry fee, public saunas like Löyly Sauna and Lonna Sauna created additional programs such as restaurants and meeting spaces to offset the costs. The influence of the resurging public sauna in Finland has rejuvenated public bathing around the world, as the word *sauna* is the most recognizable Finnish word. They are a staple in the tourism industry to experience an authentic Finnish sauna,

as the sauna is the sign of a Finn. Prior to the Finnish independence, Finns immigrated to North America in search of work influencing a culture of the public sauna.

Endnotes

- 1 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg. 26
- 2 Ibid. Pg. 26
- 3 Ibid. Pg. 26
- 4 Nordskog, Michael. *The Opposite of Cold the Northwoods Finnish Sauna Tradition*. Minneapolis: University of Minnesota Press, 2010. Prior to the First World War, Finland was part of the Russian Empire of the Grand Duchy of Finland. The policy of Russification of Finland was a policy in place from the Russian Empire aimed at limiting the special status of Grand Duchy of Finland and the termination of its political autonomy to abolish cultural uniqueness of non-Russian minorities. The Finns resisted against the Russian Empire, however were retaliated with a purge of Finnish administrators apart of Russification and stringent censorship of the people. The Russian Empire fell due to the Russian Revolution and World War One, granting Finland Independence. Finland was able to preserve their culture and rights under their own rule, later joining the European Union.
- 5 Peräinen, Karoliina. “Summer Cottages in Finland: The Cultural Construction of Life, Space and National Identity.” *NA* 17, no. 4 (2013).Pg. 43
- 6 Viherjuuri, H. J. *Sauna: the Finnish Bath*. Greene, 1978.
- 7 Salmela, David William. *Saunas: Short Stories, Poems, Illustrations, and Photographs*. Minnetonka, MN: Otsa Press, 2002. Pg. 51
- 8 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014 Pg 23
- 9 Ibid. Pg 24
- 10 Konya, Allan. *Modern Sauna: and Related Facilities*. Archimedia Press Limited, 2019. Pg 74
- 11 Laaksonen, Pekka. *Finnish Sauna: Design and Construction*. Rakennustieto Publishing, 2014. Pg 26
- 12 Kauste, Juulia, and Essi Rautiola. *Finnish Architecture Review* 2018. Helsinki: Museum of Finnish Architecture, 2018. Pg. 79

→ Fig.22 The bright warm interior of the newly built Löyly Sauna in Helsinki, Finland. This is one of three saunas found at the public sauna, each with a unique atmosphere and experience. Image by Kuvio.com. Image Accessed from: Avanto Architects.





← Fig.23 A display of ice fishing huts forming a temporary community on Windy Lake. Image by Richard Johnson. Image Accessed from: <https://www.richardjohnson.ca/ice>

Sauna and Outdoor Culture in Sudbury

Finnish Invasion

The very first Finn to emigrate from Finland to Sudbury was Thomas Jacobson (Karppi), however it was not a direct route. He began his journey as a child towards the port of New York City, where he was directed to Collingwood, Ontario. He then took the ship to Algoma mills in search of a job with the Canadian Pacific Rail (CPR) extension to Sault Ste. Marie, however the project was suspended. In response, he hiked the tracks towards Sudbury in search of employment arriving June 24, 1885, gaining a job with the Canadian Copper Company (CCC).¹ After Jacobson, many Finns fled from Finland to Sudbury in search for prosperity in jobs and steady income. The majority of Finnish emigrants were male, specifically in rural areas where overpopulation occurred in the agricultural industry. Additionally non-economic considerations like the desire for political and religious freedom, the fear of Russification and the

dislike of military conscription were other factors in the Finnish emigration prior to world war one and the Finnish Independence.² The Majority of Finnish emigrants bought land to create a farmstead, while others worked in the mine or mine related industries. The Finns settled in working class areas of the city informally known as *Finntowns*.³ These regions were located in Copper Cliff, Downtown Westside/Donovan, Garson and Long Lake. The Finns made up the largest non-English/French speaking population in Sudbury until the 1970s when the provincial government amalgamated municipal jurisdictions.⁴ With the emigration of Finns to Sudbury, they brought their integral building symbol; the sauna.

Sudbury's Sauna Culture

When Finns immigrated to North America, it was the sauna that was the sign of a Finn. The Sauna began as a Farmstead shelter, usually built first

before the house. There was considerable technical expertise invested in the construction, evident by the corner joints; such as saddle, dovetail and locked-dovetail. Prior to World War Two when the houses were small, public saunas were popular. Among them were the Copper Cliff Finnish Baths (Jaakkola's Sauna), Sudbury Steam Bath (Seppala's Sauna) on Spruce Street, Alavo Steam Baths on Antwerp Street and the Worker's Park Sauna at Lake Nepahwin.⁵

For Finns who had cottages at Lake Panache and other lakes, the sauna evolved as a standard feature of the shoreline. One of the more distinctive saunas found on Lake Panache is the smoke sauna imported from Finland by Aulis and Shirley Kangas.⁶ Equally impressive is the majestic sauna built of round logs, also imported from Finland by Jack and Maija Ceming at their Manitoulin Island cottage.⁷ After World War Two, the popularity of sauna in Sudbury was such that it was adopted by all cultures. It was integrated into the dwelling of the home, however with building code restrictions. The sauna was forced to adapt to an electric heater.

In Sudbury today, public saunas are non-existent and the residential saunas are removed from basements due to expensive hydro costs. All that



Fig.24 Sudbury Steam Bath was Sudbury's first public sauna on Spruce Street. They were popular until 1960s. Image accessed from Saarinen, Oiva W. *Between a Rock and a Hard Place: a Historical Geography of the Finns in the Sudbury Area*. Waterloo, Ont.: Wilfrid Laurier Univ. Press, 2000. Pg 5

remains of Sudbury's sauna culture are the lakeside saunas. Sudbury is home to three-hundred and thirty lakes, an entire livelihood has evolved around water all year round.

Sudbury's Ice Fishing Culture

Every winter from mid-January to late March, many locals enjoy the pleasure of ice fishing. The month of January brings out the creation of an ephemeral village on the frozen lakes of fishing huts of all kinds, in a surprising array of setups. The basics of ice fishing are simple: drill a hole in the ice, setup a tippet, and waiting, which can take some time encouraging many communal activities and socialization. When the temporary village is setup, a community is formed of all ages. On some lakes the ice is cleared for children and adults to play hockey, curling or ice skating with paths around the lake. In transition to the summer months, a similar comradery of communal activities and socialization occurs as ice fishing huts are replaced with watercrafts.

Sudbury's Canoe Culture

The canoe is a national icon for Canada, as the canoe of the First Nations people is perhaps the ultimate expression of elegance and function. All its parts come from nature, and when it is retired, it returns to nature. The canoe was critical facet of life for all. It was a means of transportation, each vernacular and custom to local materials and water conditions. In the Sudbury region, the White Birch tree was used to create the birch bark canoe, as well as several other local species, each with a unique purpose. The canoe has since developed through contemporary materials, that make the canoe weigh less and faster. The canoe is an agile watercraft that can be carried on land by portaging it over the shoulders, through calm waters of lakes, and rapid waters of rivers.

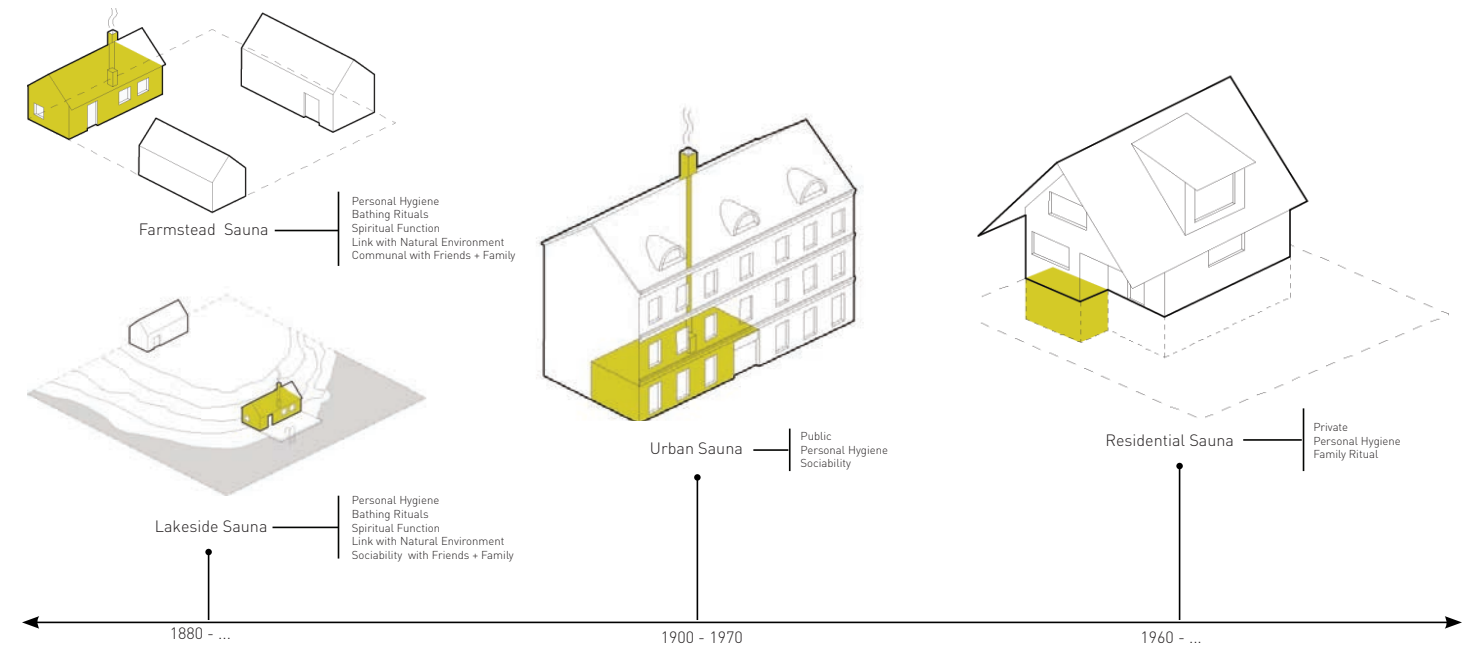


Fig.25 A series of diagrams illustrating the evolution of saunas in Sudbury. Illustration by author. Vector Graphic. 2020. Urban sauna and farmstead sauna graphics accessed from: <http://oopeaa.com/project/lonna-sauna/>.

Enhancing Sudbury's Lake Culture

A lake endures a cyclical process of freezing in the fall, and thawing in the spring, as does the culture of communal activities and socialization. An opportunity arises by integrating the sauna – that has formed an identity along the shoreline – with the existing lake culture, to enhance a place for communal congregation at the core of the lake. The cyclical movements can occur around a floating sauna through the seasons. The sauna entices a quiet place of warmth during the winter months for ice fishing, and encourages anyone in a canoe or kayak to venture from the shoreline in the summer months. It engages the ideas of journey and discovery creating a unique experience and refuge that offers a different perspective on the landscape on the surrounding gentle waters.

Endnotes

- 1 Saarinen, Oiva W. *Between a Rock and a Hard Place: a Historical Geography of the Finns in the Sudbury Area*. Waterloo, Ont.: Wilfrid Laurier Univ. Press, 2000. Pg 13
- 2 Sutyla, Charles M. *The Finnish Sauna in Manitoba*. Ottawa: National Museums of Canada, 1977. Prior to the First World War, Finland was part of the Russian Empire of the Grand Duchy of Finland. The policy of Russification of Finland was a policy in place from the Russian Empire aimed at limiting the special status of Grand Duchy of Finland and the termination of its political autonomy to abolish cultural uniqueness of non-Russian minorities. The Finns resisted against the Russian Empire, however were retaliated with a purge of Finnish administrators apart of Russification and stringent censorship of the people. The Russian Empire fell due to the Russian Revolution and World War One, granting Finland Independence. Finland was able to preserve their culture and rights under their own rule, later joining the European Union.
- 3 Sutyla, Charles M. *The Finnish Sauna in Manitoba*. Ottawa: National Museums of Canada, 1977. Pg. 26.
- 4 Saarinen, Oiva W. *Between a Rock and a Hard Place: a Historical Geography of the Finns in the Sudbury Area*. Waterloo, Ont.: Wilfrid Laurier Univ. Press, 2000. Pg 29
- 5 Ibid. Pg 251
- 6 I Saarinen, Oiva W. *Between a Rock and a Hard Place: a Historical Geography of the Finns in the Sudbury Area*. Waterloo, Ont.: Wilfrid Laurier Univ. Press, 2000.. Pg 250. The smoke sauna was prominent typology during the initial immigration, however they are now extinct to the Sudbury region.
- 7 Ibid. Pg 249



← Fig.26 A photograph viewing down on the proposed site, from a rock outcrop look out over the city and Lake Ramsey. Image by author.

The Site

The city of Sudbury is most notable as a mining industry for nickel, copper and other rare minerals. Sudbury became a global mining centre because of a meteorite impact during the Middle Precambrian time. The meteorite struck the earth at Sudbury, exploded, and excavated a crater about two-hundred and fifty kilometers across and nearly fifteen kilometers deep.¹ Shockwaves spread out and caused severe breakage of rocks, giving rise to Sudbury's Breccia. As the meteorite hit the earth, a rush of magma deep within the earth's core rushed to the surface to make way for nickel, copper, and other rare minerals. Following the Precambrian era, a long period of erosion ensued. During this lengthy period, which lasted until the continental glaciation, the mountainous terrain of the Precambrian shield was reduced to the elevation as seen today.² Twenty-thousand years ago Sudbury was covered by the two kilometers thick Laurentide ice sheet. This glacial sheet left evidence of erosion

and deposition of ground moraine used for farming today. As time progressed and deposits of glacier were left behind, the Sudbury basin was entirely underwater until 9,500 years ago.³ Since then, a series of natural waterways and lake systems have developed into 330 lakes within Sudbury. These lakes have developed an integral identity around them as the canoe and the ice fishing hut have become the symbol for Sudbury; influencing leisure activities, community events and cultural ways of living.

Lake Selection

The objective for this proposal is to find a site that will add to the existing lake culture of Sudbury, while remaining inclusively accessible for the public. A public sauna merged with lake culture provides the best opportunity to celebrate and return to that relationship with nature. The site selection is based on a number of factors including:

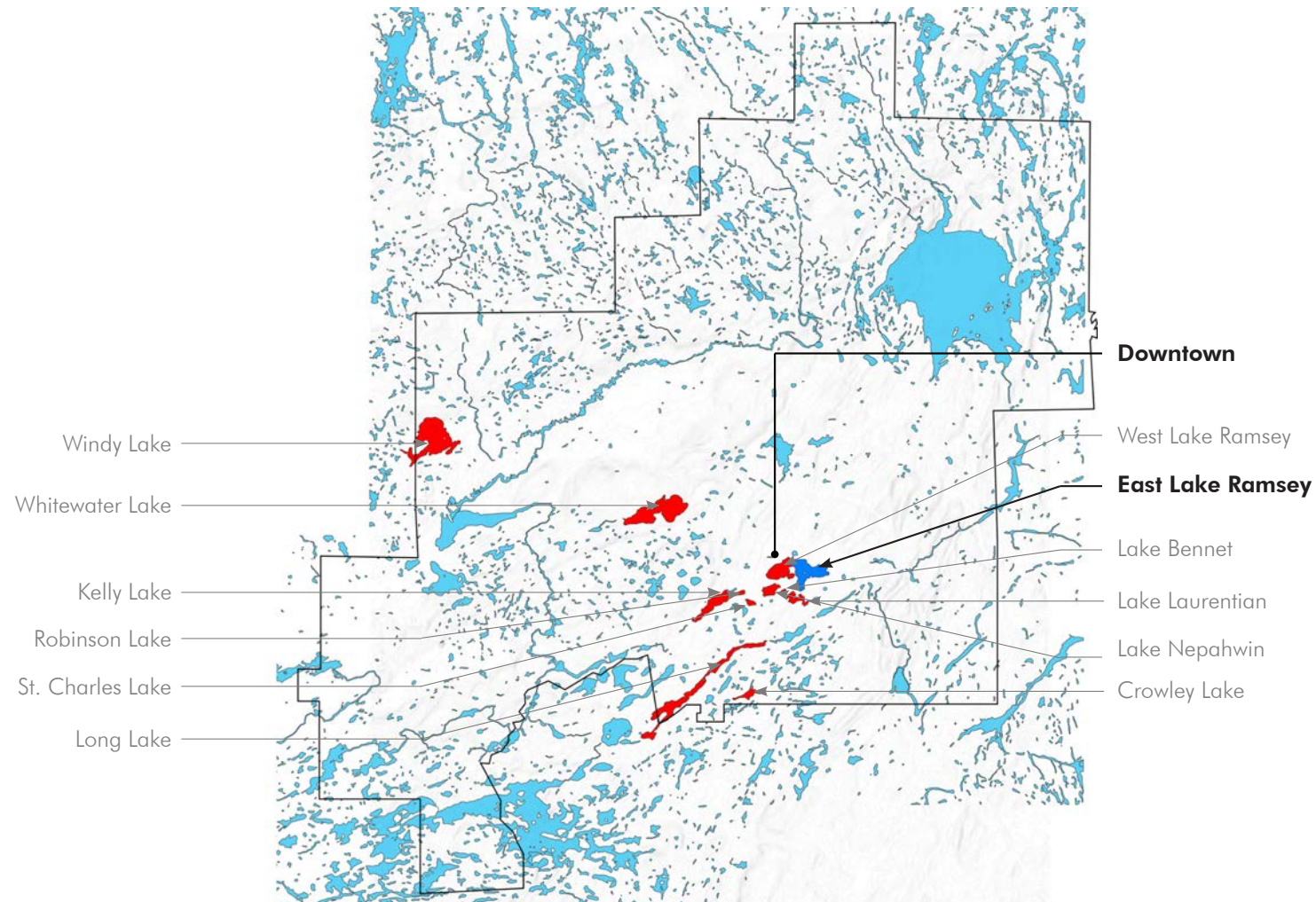
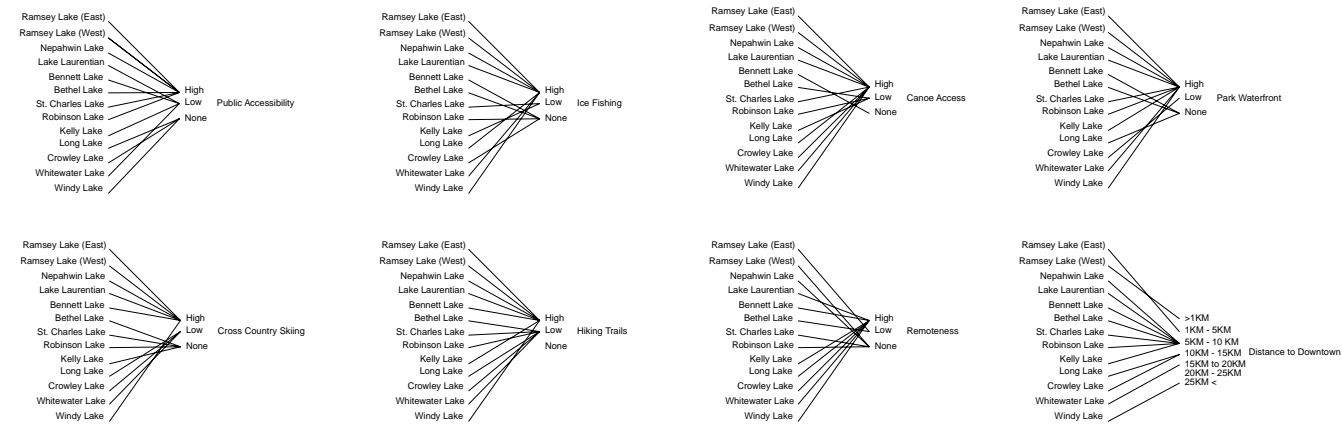


Fig.27 A map identifying the selected lakes from a proposed site Image by author.



Lake Name	Public Access	C.C. Skiing	Ice Fishing Comm.	Hiking Trails	Canoe Access	Remoteness	Park Waterfront	Distance to D.T.	Score
Ramsey Lake (East)	1	1	1	1	1	0.5	1	0.9	7.4
Ramsey Lake (West)	1	1	1	1	1	0	1	1	7
Nepahwin Lake	1	1	1	1	1	0	1	0.8	6.8
Lake Laurentian	0.5	1	0.5	1	1	1	1	0.8	6.8
Bennett Lake	0.5	1	0	1	0	1	0	0.8	4.3
Bethel Lake	1	0	0	0.5	0.5	0.5	0	0.8	3.3
St. Charles Lake	1	0	0.5	0.5	1	0	1	0.8	4.8
Robinson Lake	1	0	0	0.5	0.5	0.5	1	0.8	4.3
Kelly Lake	0.5	0.5	0.5	1	0.5	1	1	0.8	5.8
Long Lake	0	0.5	1	0.5	1	1	0	0.7	4.7
Crowley Lake	0	0.5	0	0.5	1	1	0.5	0.7	4.2
Whitewater Lake	0.5	0	1	0.5	1	1	1	0.6	5.6
Windy Lake	0	1	1	1	1	1	1	0	6

Score	Value
High	1
Low	0.5
None	0

Fig.28 Matrix spreadsheet illustrating the method of scoring the lake selection. Illustration by author.

public accessibility, winter cross country skiing and snowshoeing trails nearby, summer hiking trails nearby, a strong existing ice fishing community, close proximity to downtown, public park access, and lastly a degree of remoteness from city life. In order to narrow down the selection from 330 lakes, public park access and ice fishing culture identified thirteen potential options for a public sauna. A matrix scored each option based on a high level of achievement, a low level of achievement, and no level of achievement. These scores are converted to a score chart, rating one as the best possible score, and zero as the worst (Figure 27). A clear indication for the resurgence of public sauna in Sudbury is on

the east side of Ramsey Lake.

East Ramsey Lake

Lake Ramsey is considered the most public lake in Sudbury. Located in the heart of the city, stretching from the downtown, through Bell park (the most popular park in the city), to the beloved icon of Science North. This lake boasts some of the busiest boat traffic in the city, which is why the east side of the lake was chosen. Hidden from a peninsula striking through the middle of the lake, is a significantly quieter east side. The shoreline is surrounded by year round dwellings, a few summer dwellings, Moonlight Beach Park, a couple of islands floating out in the middle,

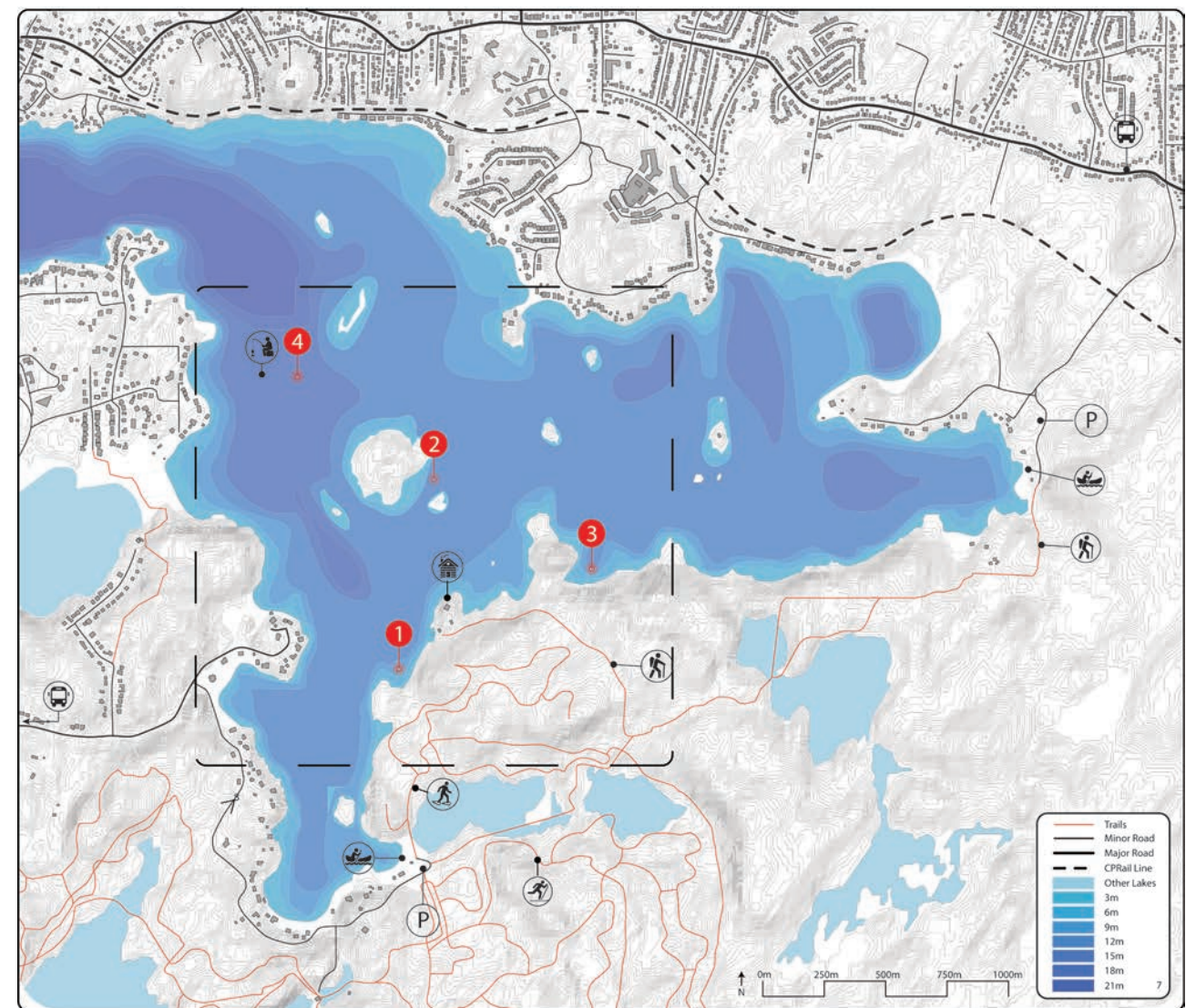


Fig.29 A map identifying the selected sites for the placement of public saunas. Image by author.

but mostly untouched by conservation authority. The conservation maintains several kilometers of summer hiking trails and winter cross country ski trails. A small children's camp is located next to Moonlight Beach Park. Laurentian University is a short hike from accessing the shoreline, optimal for student and faculty access. The north side of the shore houses a landmark of Finlandia Village, an elderly home for the Finnish community.

Site Selection

East Ramsey Lake was determined as the location to place a public sauna, the next objective is to determine an appropriate site. This site must remain inclusively accessible for the public, while retaining a remote location. To determine to site, a number of factors were used to indicate the best site location: accessible by foot or swimming, canoe accessible, remoteness / visibility from dwellings, proximity to ice fishing hot spots, and naturally sheltered from the elements by landscape. Potential sites were identified through google earth based on remoteness and proximity to ice fishing. A matrix scored each possible site based on high level of achievement, low level of achievement and no level of achievement. These scores were converted to a chart to identify potential locations (Figure 33). The chart clearly identifies that there are four strong candidates for the proposed site. Each with a unique opportunity to operate a sauna based on varying atmospheres and degree of publicness.

Proposed Site One

The first site is hidden, located in a very small inlet at the opening of South Bay, tightly surrounded by rock and trees on three sides, exposed to the north facing Lake Ramsey. The nearby shoreline has a hiking and cross country skiing trail maintained and owned by the Conservation Authority. This inlet is sheltered from rough water current, and high

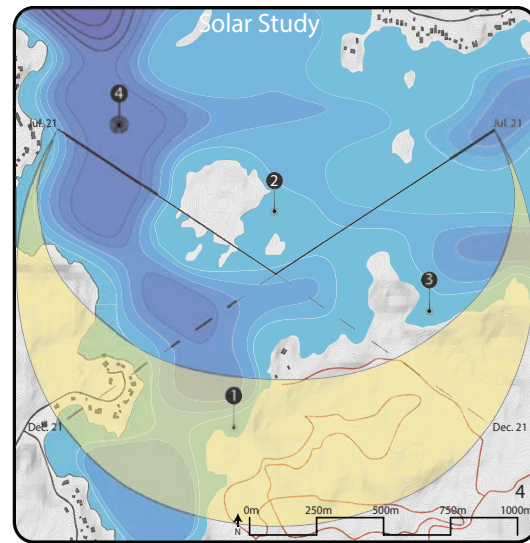


Fig.30 A solar analysis of the proposed site. Image by author.

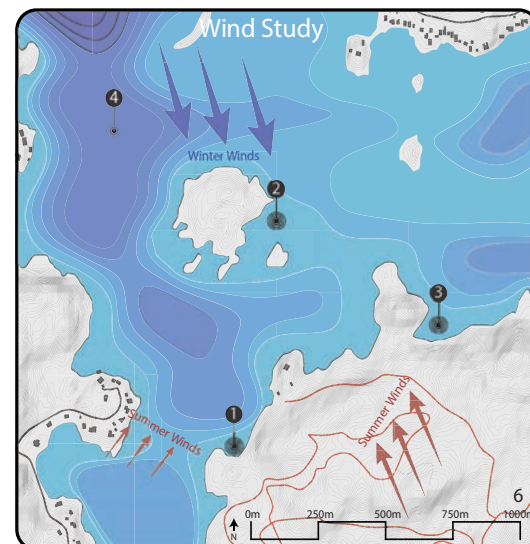


Fig.31 A summer and winter wind analysis of the proposed site. Image by author.

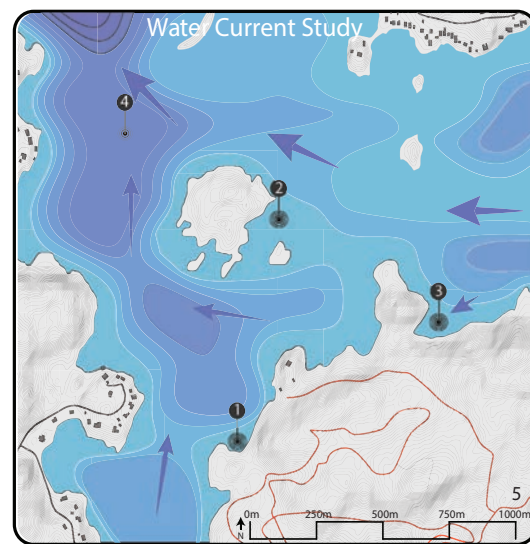


Fig.32 A water current analysis of the proposed site. Image by author.

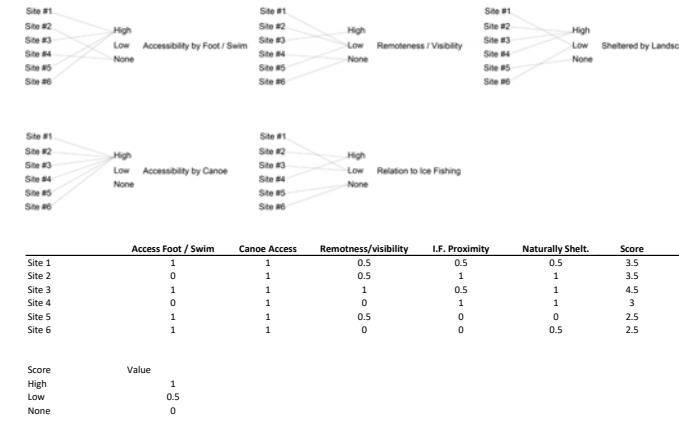


Fig.33 Matrix spreadsheet illustrating the method of scoring the site selection. Illustration by author.

winds, except from the northwest winds in the winter months. This site is in close proximity to several dwelling units of South Bay, but the inlet protects the site from high visibility.

Proposed Site Two

The second site is located in the middle of east Ramsey Lake a short distance between the shorelines of Galliard Island and Pike Island. Pike Island is a small rocky outcrop and Galliard Island is a larger forest island that was home to a YMCA summer camp years past. The site is owned by the city of Sudbury after a recent purchase from the conservation on the condition that no future development can occur on the island. The site is on the south side of Galliard Island, is naturally sheltered by the winter northwest winds, and naturally protects the site from heavy water currents.

Proposed Site Three

The third site is hidden, located in a small bay on the southern shore of east Ramsey Lake. The small bay is home to an old abandoned beaver's den, with several decaying tree stumps surrounding the shoreline. The site has a unique large lookout on a rock outcrop that's a short climb south east of the bay, overlooking the entire city. The site is naturally sheltered by a large forested peninsula blocking all winter North West winds. In addition,

the peninsula diverts majority of water current west. The site however does funnel water debris; a floating dock, picnic table and garbage barrel were all found along the shoreline. The shoreline property is owned by the conservation, with is a semi-maintained hiking trail nearby.

Proposed Site Four

The fourth site is located in the open water of east Ramsey Lake. This location has the greatest water depth on the east side at 16 meters and is also the site of a small lively ice fishing community in the winter months. The site is not naturally protected from the northwest winter winds, however it is a unique site location within proximity of three islands and the peninsula that divides the lake. This site is also significantly closer to places of dwelling, providing an optimal location for a winter location.

The essential elements of the sauna – wood, rock and water – are also the essential elements of the landscape experienced by journey to the site. It is necessary within Sudbury for an emergence that the journey and the built sauna embodies regionalism, but not to be limited to the region, but the resources of the region. The geographical pattern laid down by the meteor impact and the glaciers retreat over the landscape, has ultimately produced genius loci, or particular sense of place for this region. To understand place, the character and layering of the site will aspire the journeyed path towards a building, to which the site will translate the building into architecture. The four proposed sites influence genius loci as one enters a liminal threshold through a journey of place to a new state of being, to enter the sauna.

Endnotes

- 1 Saارينen, Oiva W. *From Meteorite Impact to Constellation City: a Historical Geography of Greater Sudbury*. Wilfrid Laurier University Press, 2013. Pg 10.
- 2 Ibid. Pg 14.
- 3 Ibid. Pg 16.



← Fig.34 A photograph of a pedestrian bridge on the journeyed path to the site. Image by Author.

Liminality/Phenomenology

The sauna joins nature ontologically through the lakes and the forest it is built within. Ontologically, the sauna is nature; going to the sauna is going back to nature; going back to nature is a return to “real life”, a refuge from society, a revitalization in mythic time.¹ A critical quality of the sauna is liminality, a threshold between the interstitial periods between two states, where spatially, temporally and socially the sauna is set apart.² The sauna is the threshold between work and leisure, the week and the weekend and the spiritually and the profane. The sauna is a separate space with a separate time, where hurrying is not allowed and time is not felt. The separation is so strong that one removes oneself from the ordinary world and its problems.

The separation is practical, emotional, and spiritual in that physicality of separation is important as the varied feelings such a relaxation and invigoration, has discounted death of the past and a rebirth of a new beginning.³

Phenomenology and Nature Globally

The growing interest in environmental stress is evidence indicating that environment can elicit substantial stress in people living in urban environments. The term *Shinrin-yoku* (taking in the forest atmosphere or forest bathing) was established by the Japanese government in 1982.⁴ It became defined as making contact with and taking in the atmosphere of the forest; a process intended to improve a person’s state of mental and physical relaxation.⁵ According to leading architectural phenomenology theorist Juhani Pallasmaa, the experience of the environment always involves several senses. The intensity and tranquility of our experiences of a natural setting stem from the fact that we are employing all our senses. In an environmental experience, there is an unconscious bodily identification with nature, a projection of the body pattern onto what is experienced, or physical mimesis, an unconscious mimicry.⁶ To some extent

every place can be remembered, partly because it is unique, but partly because it affected our bodies and generated enough associations to hold it to our personal worlds. The experience of place returns the experience to ourselves: in summary it is the experience of the self.⁷ The phenomenological study of human's relationship with space and environment is best articulated by the philosopher Martin Heidegger who focused special attention to the unity between building, living and thinking. He linked space indivisibility with the human condition:

*"when we think of man and space, it sounds as though man stood on one side, space on the other. Yet space is not something man faces. It is neither an external object nor an inner experience, it is not that there are men, and over there above them space... We are what is around ourselves."*⁸

The forces of nature influence the identity of Sudbury through the changes of the season, which are extreme at this latitude. The summer is short but brilliant, a time when non-stop sunshine transforms the frozen, sleeping north into a vibrant landscape full of life and growth. The importance of nature and the bonds with nature is rooted in Sudbury's Culture.

The Journey

The journey is defined not only by physical means of going from one point to another, but is a consciousness of transitioning from one mental state to another. In the case of a public sauna, the journey begins the moment one decides to go to the sauna and ends with the transition from rebirth back to the ordinary state of consciousness. Finnish architect Alvar Aalto firmly believed that the sauna should always be distant from the place of dwelling.⁹ He believes that one cannot mentally prepare for the sauna without immersing oneself through a path of nature environment. But this

philosophy wasn't just for the sauna, he believed it to be a fundamental part of the everyday life: "you should not be able to go from home to work without passing through a forest."¹⁰ In Finland, the forest remains strong in the national consciousness, informing almost every aspect of life, including the influence of architecture. Aalto always drew inspiration towards his buildings from the landscape, and from their physical properties as well as their mystic dimensions. When the qualities of a site seemed to suggest a particular architectonic direction, he would emphasize the inherent qualities of the landscape.

The journey to the sauna must embody the natured identity of Sudbury, and the forces of the changing seasons. One becomes part of landscape in their

journey. This natured liminality threshold is what defines the mental journey from the ordinary world to a sacred beginning, and post sauna back to an ordinary state. There is to be a conversation between the self and beauty of the surrounding landscape. The journey to the sauna does not begin when one enters the site, it begins the moment one has reached the decision to sauna. The journey can begin at any moment and any place, similar to the journey's end. The journey from the sauna does not end when one exits the site, it ends when the body has endured the rebirth back into society. This thesis has four proposed site locations, each with a unique liminal threshold through nature influenced on an intended sauna theme. Conversation, community, contemplation and collective are the four proposed sauna themes. The sauna theme

should correlate and merge with the journey to the site. Each were chosen based on varying personal experiences. Some socialable and fun, some contemplative and serious, however each sauna is based on the fundamental principle that although the sauna experiences are different, they all have the common goal of cleansing the body and mind. Although the journey begins when one decides to sauna, each journey will describe the process of the liminal path on the site.

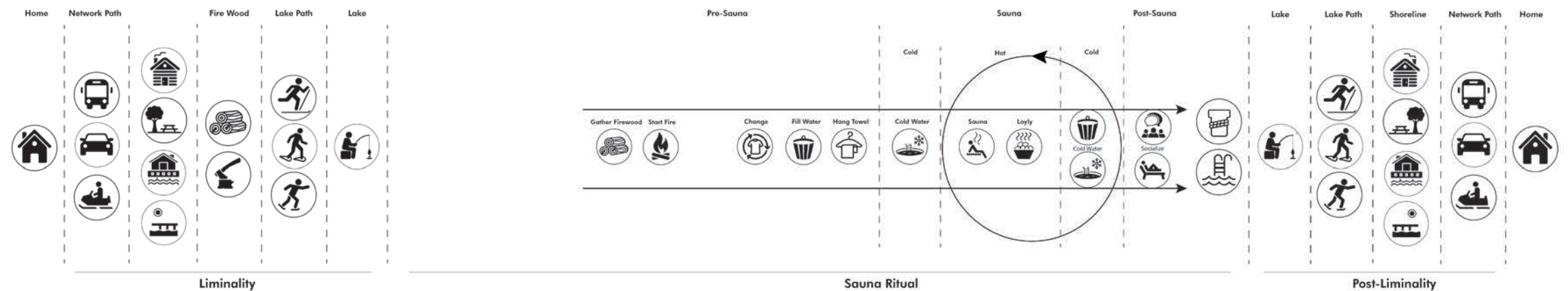


Fig.35 A section of diagrams illustrating the journey at ritual in the winter months. Illustration by author.

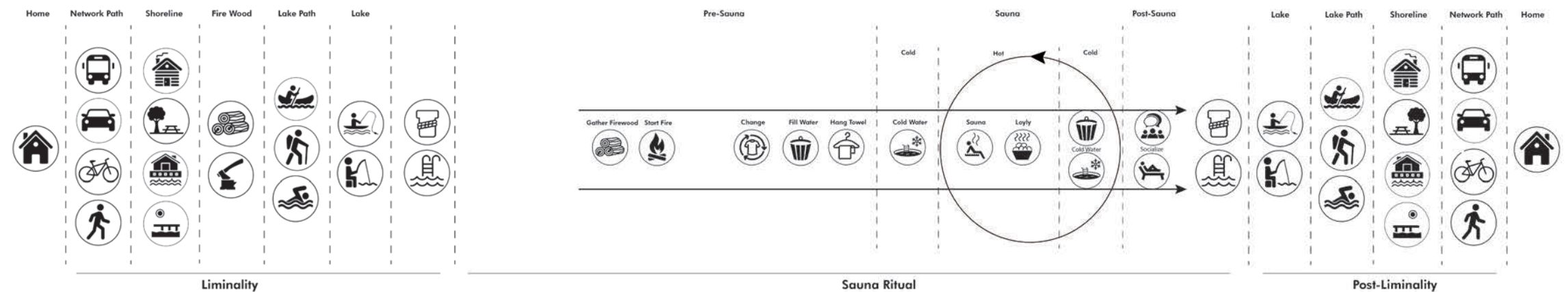


Fig.36 A section of diagrams illustrating the journey and ritual in the winter months. Illustration by author.

Site One Journey - Conversation

The theme of site one is about conversation, which can be discourse between two or more people, it can be a moment between the self being with nature, or it can even a framed question: "what is it to sauna?" As a floating sauna on Lake Ramsey, the site can be accessed from all directions by various methods. However, the most common journey to the conversation sauna site begins at the parking lot of the Greater Sudbury Conservation and BioSki Club. In the summer months the parking lot is accessible by automobile, bike, bus

or by foot. In the winter, it is accessible by bus, automobile, snowmobile, snowshoe, cross country ski and by foot. The conversation already has an existing network of paths and trails with varying levels of difficulty maintained by the two shared stakeholders, however the conversation sauna is the most accessible and easiest to access. This easy journey can be experienced as an individual, or accompanied by others. On the north entrance of the parking lot, one is greeted by the conversation sauna logo and sign, signaling direction a point of wayfinding. This is the entrance to the existing

trail network called Beaver Pond Loop. It begins with a wide path made from a course aggregate, the same as the parking lot surrounded by mixed coniferous and deciduous trees, with long grasses folding over the trail lines. Mere steps within the trail it transforms to a wooden boardwalk, wide enough for four people to stand by one another. The landscape blends from forest to wetlands and a still pond filled with habitat emerges through a clearing. The wooden boardwalk is a short fifty metres, but one cannot resist pausing for a photo or inhaling the musty fresh air. At the other end of

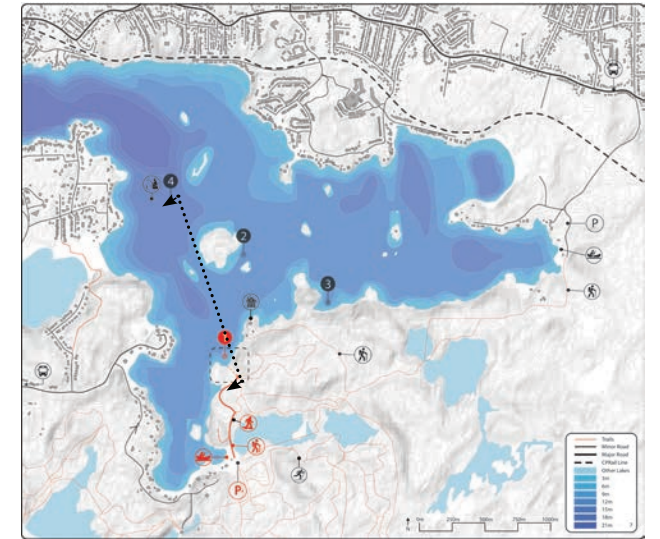
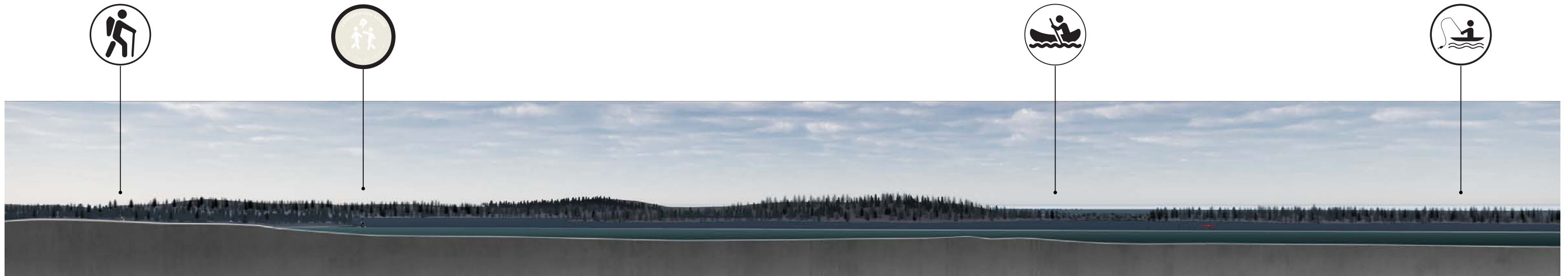


Fig.37 A key map of East Ramsey Lake. Image by author.



Summer Section

Fig.38 A section depicting the journeyed path in the summer months. Image by author.



Winter Section

Fig.39 A section depicting the journeyed path in the winter months. Image by author.

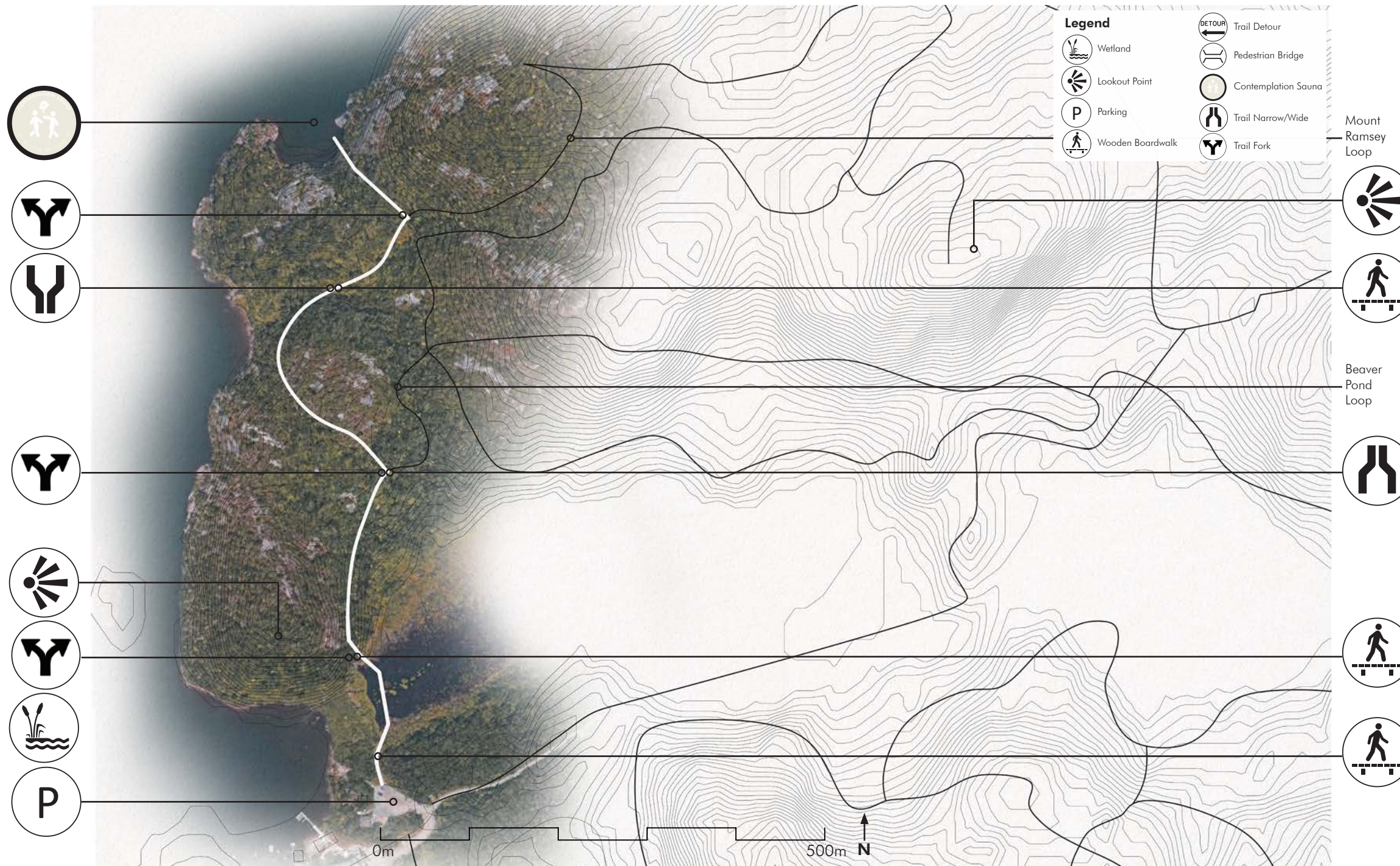


Fig.40 A summer site plan depicting the journey path to the conversation sauna. Image by author.

the board walk, the one transitions to a slender path compacted with earth, peat, wood chips and pine needles, surrounded by coniferous trees. A fork in the path also exists, and if one decides to divert left, a very short trail leads to the top of a rock outcrop where a wooden platform with tiered seating overlooks the scenic conservation. This is a great spot for conversation and enjoying the vast views on the sounding beautiful landscape. To move

onwards at the fork, one continues towards the sauna. One-hundred metres along the narrow trail, another fork in the path presents itself. To continue onwards, one would complete the three kilometre Beaver Loop Trail. Another conversation sauna sign indicates to merge left, down an even more slender trail wide enough to only fit one person wide called the Mount Ramsey Trail. At the end of the three kilometre trail is a 360 degree lookout over all of

Sudbury, however the sauna is only three-hundred metres along the voyage. The slender path is optimal in the experience to the conversation sauna. Typically when hiking with others, a formation line permits less conversation as a defined threshold between the self and nature is unfolded through this brief three-hundred metre passage around the base of a large hill. On the north side of the large hill, the

vegetation transitions from forest to wetlands. The opening in the landscape is greeted with another wide wooden boardwalk winding through the wetlands for one-hundred metres. The widening of the boardwalk permits conversation again as the voyagers are now through the threshold. At the end of the board walk, one has reached a four-way intersection. To continue onwards one would continue along the Mount Ramsey Trail, to merge eastward a wooden staircase rises as a shortcut to the 360 panoramic vista at the end of Mount Ramsey Trail, and the conversation sauna sign indicates the site is westward towards the water. The board walk hugs the earth as tight as possible rising and lowering with the landscape for fifty metres. The trail begins to descend though gradual steps and alas the sauna emerges through the openings in the tree branches. Prior to the floating sauna sits a small change/toilet structure is placed along the shoreline, following the rigid board walk to a floating boardwalk that leads to the sauna. In the winter months, the same trail system is groomed for snowshoeing by the BioSki Company, so a similar journey would be experienced.

Site Two Journey - Community

The theme of site two is community, which is a diverse definition centred on place and characteristics of common attitudes, interests and goals. The journey to site two is about enhancing the comradery of togetherness on a grander scale. Unlike the conversation theme which is about a experiencing the sauna with comrades intimately, the community theme is about a diversity of groups wanting to bath. Access to site two begins at two points: either the parking lot of the BioSki and Greater Sudbury Conservation in South Bay or at Moonlight Beach

Park on the Eastside of Lake Ramsey. To begin the journey from the parking lot, one would grab a provided canoe or kayak from the BioSki lodge, and portage between one to four people (depending on the size of the vessel) to a small pathway on the north side of the parking lot. This entrance is to the left of the route to the conversation sauna. The path is a short walk, only twenty-five metres to the water's edge of South Bay. The act of portaging the canoe on land, and the transitional expression of flipping the canoe over and voyaging on the water is the threshold between land and water that

is required in the liminal experience in preparation for the sauna. Once in the vessel, the physical act of paddling with a wooden paddle requires all the upper body and core muscles to react. To steer a canoe alone, one would perform a "J" stroke, to prevent the canoe from tailing. If there are others, all must work together to drive the canoe. The person sitting in the rear has the ability to steer the canoe, but the sense of working together invigorates the essence of community through the journey. The distance from the threshold to the community sauna site is 1.8 kilometres by canoe. The voyage would

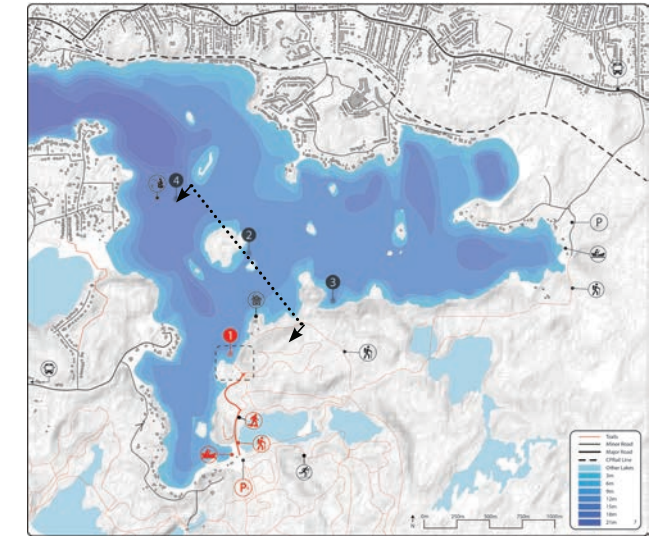
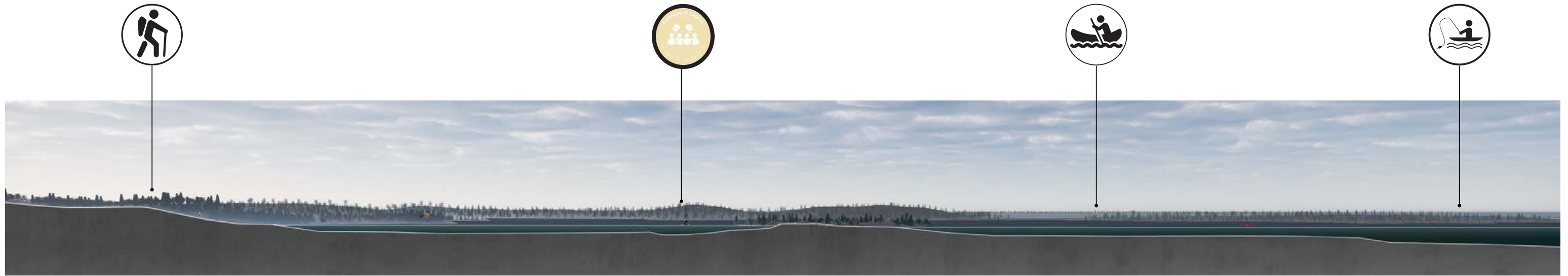
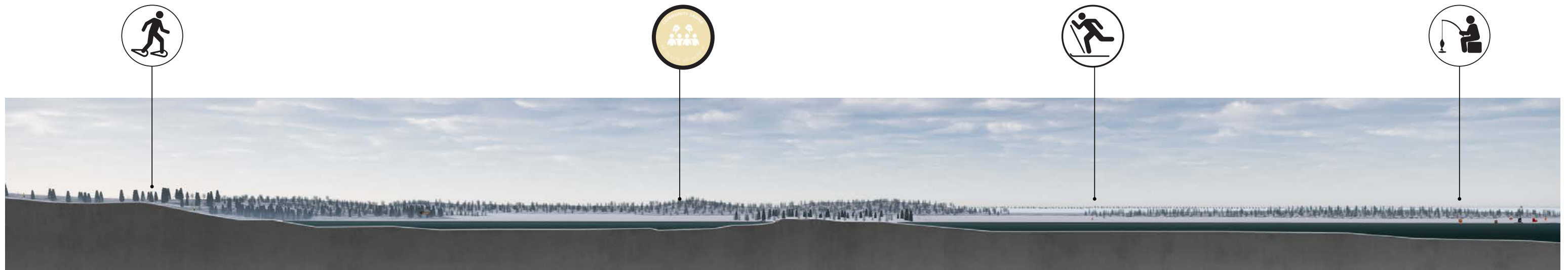


Fig.41 A key map of East Ramsey Lake. Image by author.



Summer Section

Fig.42 A section depicting the journeyed path in the summer months. Image by author.



Winter Section

Fig.43 A section depicting the journeyed path in the winter months. Image by author.



Fig.44 A summer site plan depicting the journey path to the community sauna. Image by author.

mostly be done by coasting along the shoreline, interacting with the landscape flowing with the current. At the one kilometre mark, the journey will become challenging as the water current flow is North West, and the site is North East. Once the battle with current is over, nestled between Galliard Island and Pike Island is the community sauna floating in the midst.

The journey from the Moonlight Beach Park is a

similar experience. A large parking lot is located on the North side of the site and the beach and park is along the shoreline to the south. The park has an onsite changeroom, shower and a small confectionary for snacks. The journey begins at the confectionary to access a canoe or kayak. The vessel will be portaged down the gradual declined hill to a flat sandy beach. The view from the shoreline paints a spectacular picture of the

Vale Superstack and the horizon. In the evenings, breathtaking sunsets over the Sudbury skyline wither to darkness. The threshold is at the shoreline transitioning from water to land. One enters the vessel and voyages with their wooden paddle. The route is straight forward West. Splitting down the middle of Ramsey Lake, untouched landscape on the South and habituated landscape on the North. The journey is 2.2 kilometres going with the water

current. This journey can be challenging in the afternoons and evenings with the sun at vantage. In the winter months, one would collect the snowshoes or cross country skis from the confectionary, and embark on the same route towards Galliard Island. The site can also be accessed by snowmobile in the winter.

Site Three Journey - Contemplation

The theme of site three is contemplation, which is about the journey of an internal struggle with the self and the acceptance of being. Site three is the most challenging journey by foot. This journey is most likely accomplished by oneself, or a couple others. There are two methods of access to this site. One can either access the trail from the conservation entrance on the west side, or from Moonlight Beach Park on the east side. The two points are connected along the Trans Canada Trail with a secondary trail approximately at the

mid-point leading to the sauna. Starting from the parking lot of the Greater Sudbury Conservation and BioSki, the trail entrance is on the East side of the parking lot near the entrance. The conversation Sauna sign greets one at the trail entrance, to indicate direction through visual wayfinding. The journey begins passing by a steel gate, preventing motorized vehicles from using the trails. The wide trail is fenced by dense coniferous trees guiding the straight and flat direction of the path. Three-hundred metres in, the trail descends towards the wetland clearing the north side. In the spring

months, this portion of the trail is often flooded by the rising water table. This long four-hundred meter span of path eventually rises in elevation for a brief moment of surrounding forest again. A sign indicates that the path forward is most likely flooded by the wetlands a head, and to detour along the trail to the north. Upon looking north, a small bridge spanning over a soft creek flows from the one wetland to the other. The narrowed detoured path has diverted to sponge earth and woodchips, with tall cedar trees surrounding. The trail weaves between the trunks of the trees, the valleys and

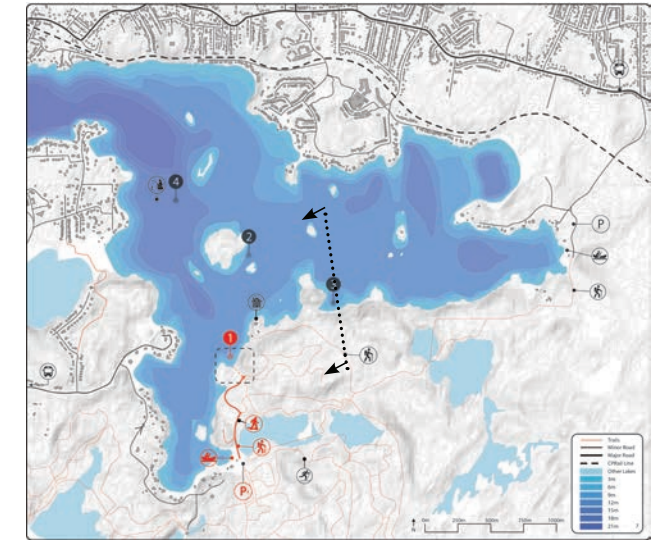
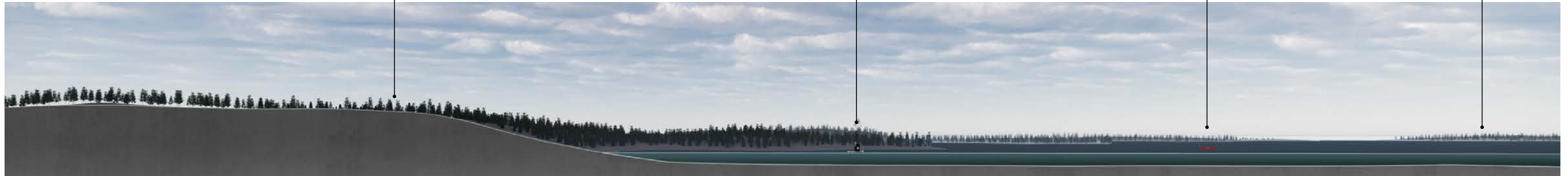
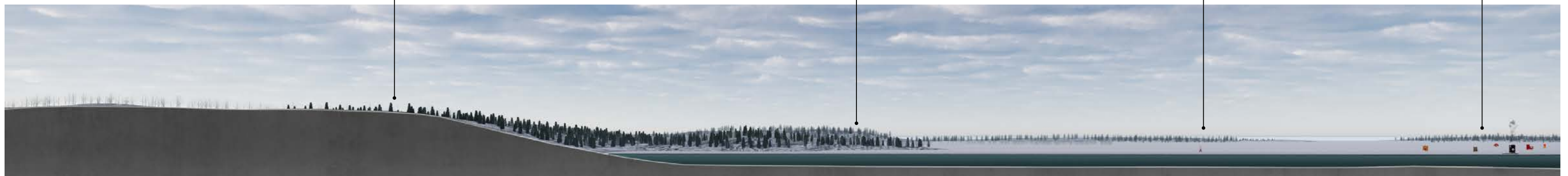


Fig.45 A key map of East Ramsey Lake. Image by author.



Summer Section

Fig.46 A section depicting the journeyed path in the summer months. Image by author



Winter Section

Fig.47 A section depicting the journeyed path in the winter months. Image by author.

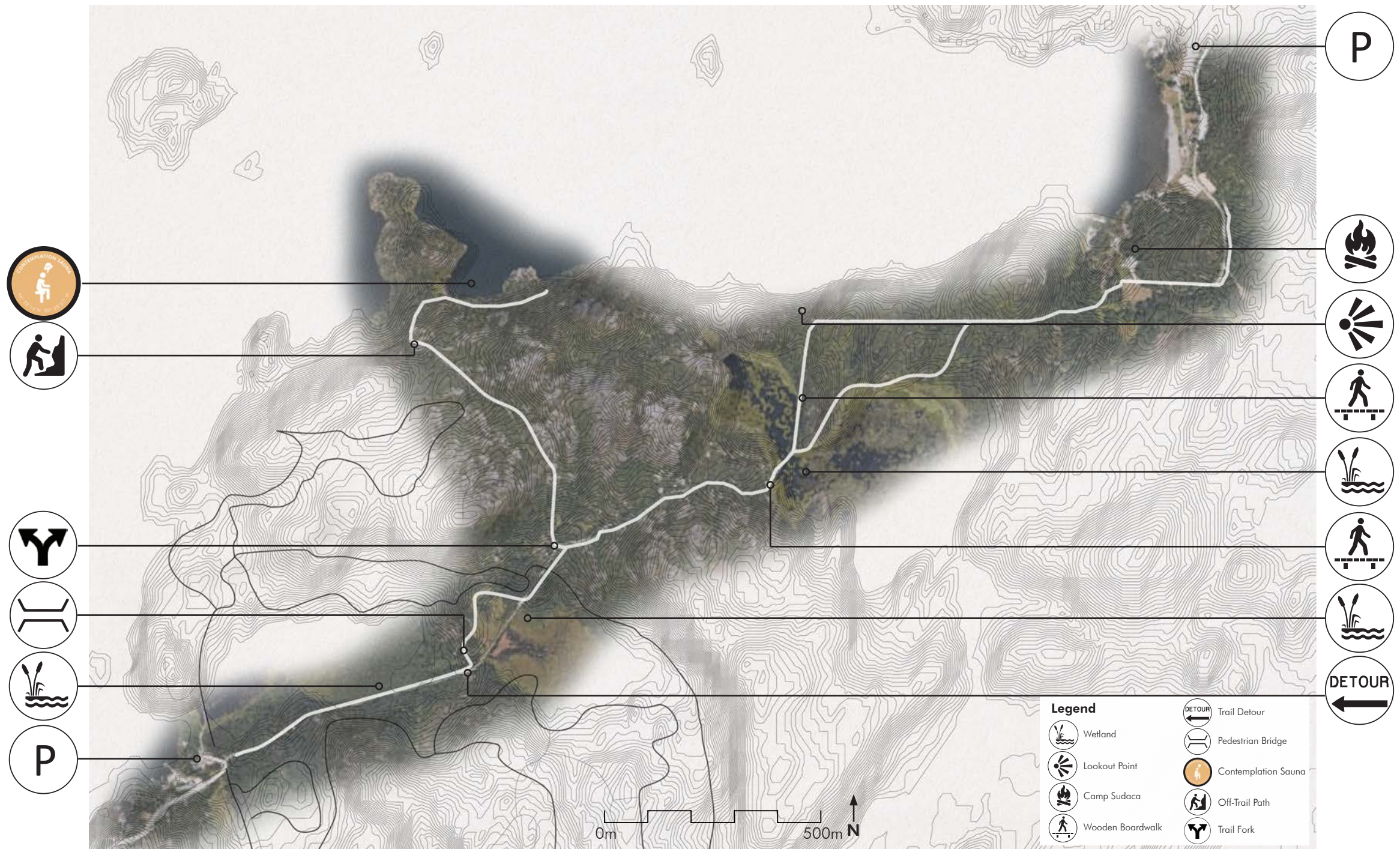


Fig.48 A summer site plan depicting the journey path to the contemplation sauna. Image by author.

rises in the earth until one is back on the main trail again. The short detour is only four-hundred metres in length, one journeys back down the wide main trail, sounded by the dense coniferous trees again. A rise in elevation along the trail concludes with a plateau in the landscape, and also a fork in the trail. To continue onwards, it would lead towards Moonlight Beach Park, and to venture North, would lead towards the contemplative sauna.

As the intersecting point in the trail, the long 2.6 kilometre journey from Moonlight Beach Park is an immersive experience through varying landscape ecologies. The journey begins in the gravel parking lot on the north side of the site. The trail follows a gravel road for nearly six-hundred metres flowing through the park, volleyball courts and bountiful forest of mixed vegetation. At the end of the road is Camp Sudaca, a children's summer day camp.

Several wood buildings are found spread across the compound. The road transitions to a groomed gravel trail. A long straight stretch of trail fenced by dense trees guides the way to a bend in the trail. At the bend, a small trail merges from the corner through a low hanging tree canopy to a grand reveal of a lookout over East Ramsey Lake, a great spot to sit in silence and contemplate overlooking the calming waters. Returning to the main trail,

one continues onwards through the rich forest. Nearly two-hundred metres from the bend the path transitions to a wooden boardwalk hugging the shoreline of the lake and vegetative shorelines. Journeying one-hundred metres straight, the boardwalk cuts through the narrow portion of the lake for one-hundred metres. The feeling of walking through bodies of calm water surrounding ones periphery is a unique experience. At the end of the boardwalk, the path transitions back to a groomed gravel trail that winds through the forest another six-hundred metres. This is the point where the two ends of the trail meet at the secondary trail.

This secondary trail is an old 1.1 kilometre driveway to a camp. The trail is overgrown and unmaintained. Forest and rock is all one can see through this winding trail. The trees transition from large coniferous trees to delicate birch trees at the peak of the hill. Seven-hundred metres along the trail, the contemplative sauna sign indicates to turn right. There is no trail in existence, only the footprints of those who have used it before. This is an indication of the first threshold in the journey, the transition from a marked trail to an unknown adventure through the organic ebbs and flows of the landscape. One would naturally follow the landscape towards the shoreline, where one can view glimpses of the sauna through the voids in the tree leaves. Along the shoreline are two small buildings: an outhouse and a change space. Both buildings are nestled in the forest, hidden from being prominently visible. After changing into swimming attire, one would reach the shoreline and enter the water, swimming fifty-meters to the sauna. This is a secondary threshold to the sauna. The visible transition from land to immersing one's body in the cold waters of the lake prepares and begs the body and soul for the illustrious heat of the smoke sauna.

Site Four Journey - Collective

The collective theme for site four is based on the definition of a group of entities that share a common issue or interest, that collaborate to achieve a common objective. The three proposed saunas each have an individual different theme; conversation, community, and contemplation that harness a unique experience based on the approach and phenomenological atmosphere, but they all have a common objective and that is to cleanse the body and mind. This intervention is about merging all the sauna experiences into one location for the

common objective of bathing. Site four is the most remote location placed in the middle of the lake, however it is geographically the most accessible from several vantages, including the western half of Lake Ramsey. Western Lake Ramsey has Bell Park, Science North, marinas and the Sudbury Rowing Club, which all have the ability to launch canoes or watercrafts to access the site in the summer months. Site four is also a popular throughway route in the summer months, and in the winter Lake Ramsey transitions into a community for ice fishing. The journey to the collective sauna can be experienced

through the same ports as the community sauna. A canoe or snowshoe can be accessed from either the Moonlight Beach Park confectionary or the Bioski chalet. The significant liminal threshold is defined by the transition from land to water and from land to ice. The collective sauna also goes through a transitional journey from three individual floating saunas, into one large structure. The saunas will be transported by motorized watercraft in the summer, and a large trail groomer in the winter.

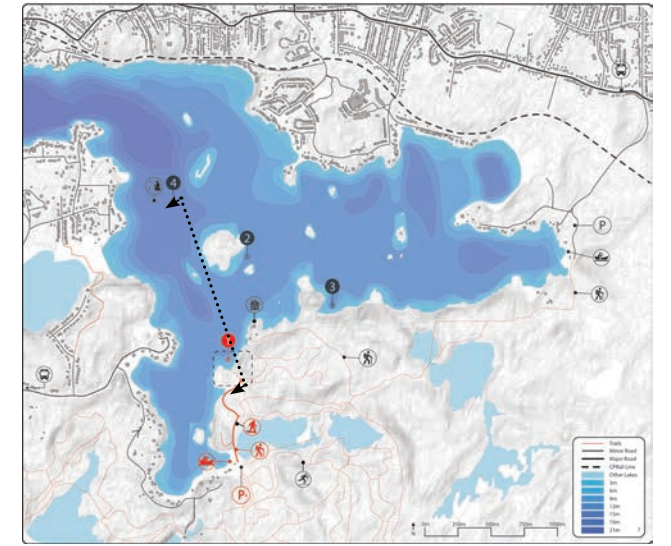
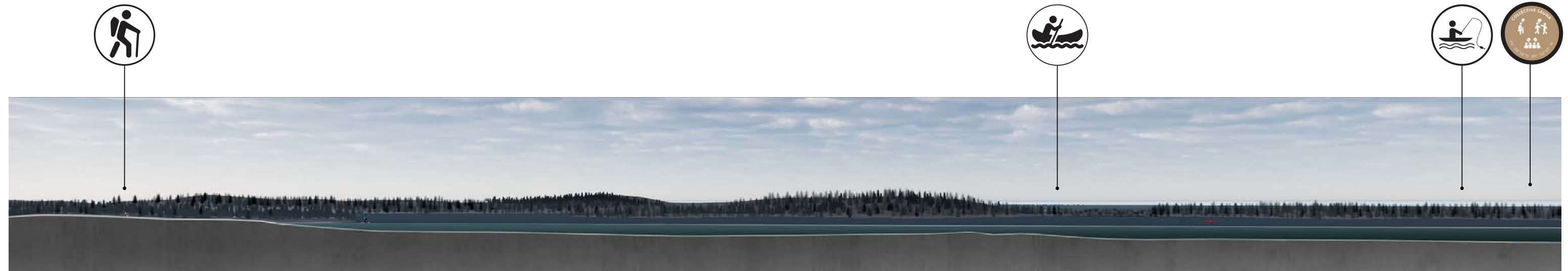
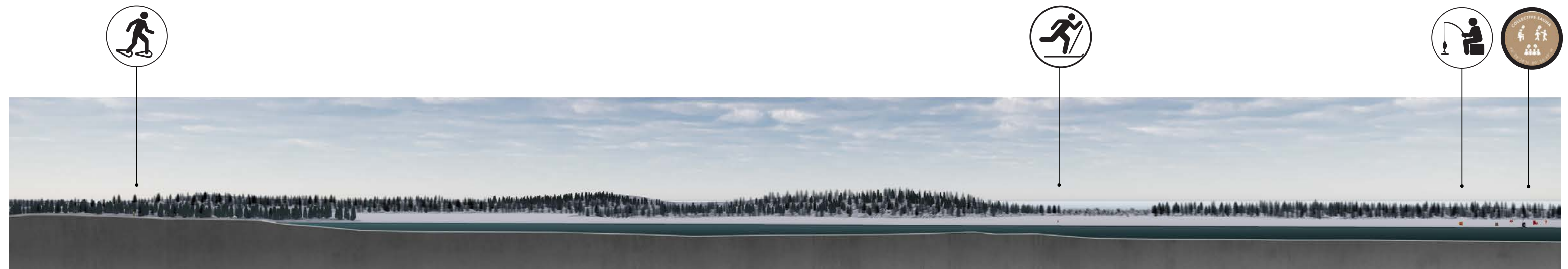


Fig.49 A key map of East Ramsey Lake. Image by author.



Summer Section

Fig.50 A section depicting the journeyed path in the summer months. Image by author.



Winter Section

Fig.51 A section depicting the journeyed path in the winter months. Image by author.



Fig.52 A summer site plan depicting the journey path to the collective sauna.
Image by author.



Fig.53 A photo montage of the site conditions for the journeyed path to site three from the conversation parking lot. Read from left to right. Images by author.

From Journey to Architecture

The choreographed journey through the landscape to the sauna should be emphasized as important and significant as the design of the sauna itself. The journey as a phenomenological experience of being within nature develops a poetic language of mitosis, that landscape and the architectonic material culture of place emerge from a single organism to develop a holistic and fluid sauna experience. To walk through nature and experience

the sauna is not an experience only for the eyes, but it is confronted as an emotional experience for the entire body. One does not experience these senses individually, but as a perception of integrated of emotions. Maurice Merleau-Ponty argues:

*My perception is [therefore] not a sum of visual, tactile and audible givens: I perceive in a total way with my whole being. I grasp a unique of the thing, a unique way of being, which speaks to all my sense.*¹¹

The sauna is an emotional sensory experience of engaging the painful torture of the body and mind, in order to rebirth ones soul. The architecture of a public sauna resurgence needs to inform the archaic sauna ritual, while respecting the power of emotional experience thrust upon by the sauna. The architecture needs to respect the sensitivity of place and the landscape. And lastly, the architecture needs to compliment and merge the phenomenological journey of going to the sauna.

Endnotes

- 1 Edelsward, Lisa-Marlene. *Sauna as Symbol: Society and Culture in Finland*. New York u.a.: Lang, 1991. Pg. 49
- 2 Ibid. Pg 48
- 3 Ibid. Pg 50
- 4 Tsunetsugu, Yuko, Bum-Jin Park, and Yoshifumi Miyazaki. 2010. "Trends in Research Related to "Shinrin-Yoku" (Taking in the Forest Atmosphere Or Forest Bathing) in Japan." *Environmental Health and Preventive Medicine* 15 (1). Pg 27.
- 5 Ibid. Pg. 27.
- 6 Pallasmaa, Juhani. "The Place of Man." In *Encounters. Architectural Essays*. Helsinki: Rakennustieto, 2012. Pg 75.
- 7 Ibid. Pg 76
- 8 Heidegger, Martin. "Building Dwelling Thinking." *Basic Writings*. New York: Harper et Row, 1997. Pg 334.
- 9 The famous Finnish architect Alvar Aalto believed in the sauna remaining archaic in the natural habit of nature. He designed nearly thirty saunas, some of which are widely written about. The smoke sauna at his summer experimental house and the sauna at the romanticised Villa Mairea are examples of saunas where the sauna is deeply rooted in place. The organic materials derived from the site inform the relationship between humankind and nature.
- 10 Reed, Peter. *Alvar Aalto: between Humanism and Materialism*. New York, NY: Museum of Modern Art, 1998. Pg. 47.
- 11 Pallasmaa, Juhani. "The Place of Man." In *Encounters. Architectural Essays*. Helsinki: Rakennustieto, 2012. Pg. 20.



← Fig.54 A photograph of the front entrance to the Daoust Family sauna, one of three projects experienced. Located in Westree, Ontario. Image by Author.

The Meaning of Experience: A Tool for Sauna Design

The meaning of experience can describe the poetic dimension of architecture as a mental quality, and the mental essence of architecture that emerges in the individual experience of work.¹ There are two methods to understand the emotions of architectural experience. The first is the poetics of phenomenology and the relationship between the felt emotion and encounter with architecture. As Juhani Pallasmaa writes:

The phenomenological method attempts to approach phenomena without preconceptions, and to identify with sensitivity the emergence of emotions and meaning in a unique personal encounter.²

The second approach is by scientific analysis of neuroscience and architecture. The poetics of phenomenology is a conscious act understanding awareness, intuition and empiric ways, whereas neuroarchitecture is the analysis of the unconscious and impulsive process of information.³ Every space

natural or built will be interpreted by the brain differently.

This chapter will explore both methods, to develop and understand the experience the sauna in space. The analysis began by exploring and documenting personal experiences of saunas in Canada and Finland. From these experiences, five physical sauna boxes were constructed to simulate ephemeral experiences based on the phenomenological qualities and atmosphere of the sauna. These dimensions of architecture include: materiality, haptic texture, light, scale, wood fragrance, mechanical dynamics, taste, and auditory transmission. Combined, they emulate emotional experiences that are described by cognitive expression, while simultaneously monitoring unconscious stimulation through electroencephalogram scanners and brain-computer integration software.

YMCA Sudbury



Fig.55 Photograph of YMCA Sudbury exterior from street. Image accessed from: Google Earth.

YMCA Sudbury is a multipurpose recreation facility that offers a diverse range of programs and services to meet the needs of the local community. The building is a 6,500 metre square fitness and recreation facility in downtown Sudbury, equipped

with two pools, a slide and a sauna. The project, designed by Castellan & Associates in 2001 was themed on an urban street and the voids of light through a tree canopy. The sauna was recently renovated in 2012, lined with local eastern white cedar and new non-slip floor tiles and three rows of seating. The sauna has a capacity for at least twelve people. A new door was also installed, with a small window opening to allow some natural lighting. As Sudbury's only public sauna, it is very popular destination for all ages. On the second level, luxury gendered changerooms house whirlpools and steam rooms, but at an extra membership cost. The facility is not designed around wellness as relaxation, which is the opposite intention of a sauna.

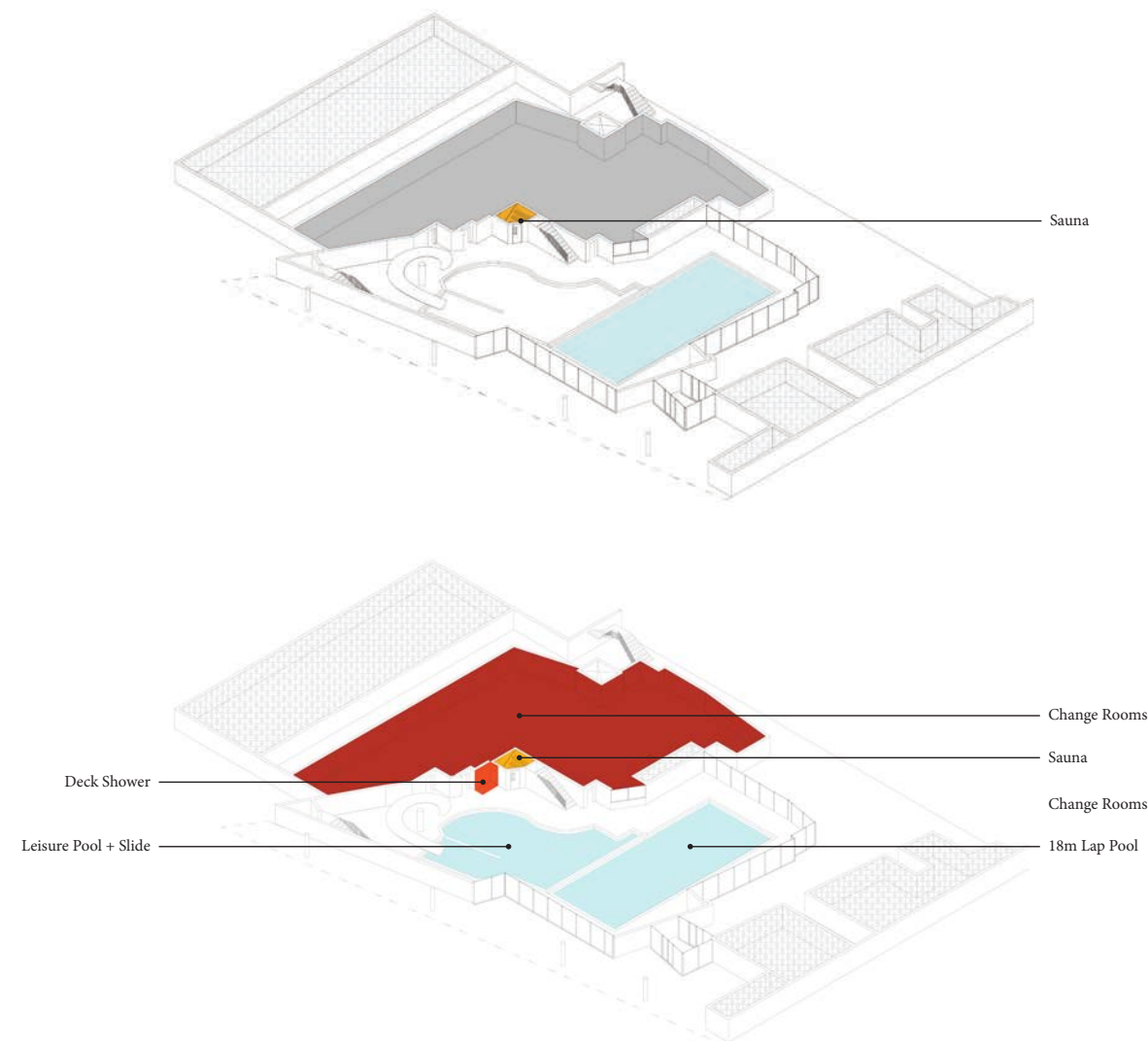


Fig.56 YMCA Sudbury program axonometric diagram. Image by author.

My Experience at YMCA Sudbury



Fig.57 Artistic representation of my experience at YMCA Sudbury sauna

On February 7th, 2020 I made the decision to visit Sudbury's only public sauna at the YMCA downtown. That morning, I packed a light travel bag with my bathing suit and towel and departed for school. I decided to earn in a couple of hours in the workshop at school to make my body want the sauna more. Just after lunch, my body was ready for the journey and I set off for the sauna. In the back of my mind, all I could think about was the liminal threshold through nature, and here I was walking through an urban downtown for a brief moment. I arrived at the YMCA, paid my admission and walked down the hallway to the changerooms. The building was confusing to navigate, and I was looking for the Universal changeroom, but had to settle for a gendered specific space. Once I was changed into my bathing suit, I entered into the natatorium. Young children were running on the deck, screaming at the top of their lungs – as kids do. I decided to cool my body first with a light swim first and to wet my body before entering the hot sauna. After a couple of minutes of leisure swimming, I pulled myself out of the pool and directed myself towards the sauna. Located in an awkward space under the landing of a staircase, I pulled on the

wet wooden door handle, and yanked open the heavy door. My eyes leered in, with four older gentleman looking directly at myself. It was an awkward and uncomfortable moment. I quickly grabbed a seat on the lowest level and closed my eyes to breath in the warm air. The sauna heater was electric, so there were no instruments to create löyly. In fact a giant sign in bold letters said "DO NOT POUR WATER ON HEATER!" Another older gentleman entered the sauna, rising up to the second level just behind me. All I could do was just sit. There was no conversation, just silence. After twenty minutes I decided to head out of the sauna, and cool down with the shower just outside the door. I rotated back and forth between the sauna, the shower, and the pool for an hour until I felt any satisfaction. Overall, I would say my journey to Sudbury's only public sauna was a bad experience, filled with a lot of awkward moments, judgment and lacked a true ritual.

Daoust Family Camp



Fig.58 Photograph of the barrel sauna. Image by author.

The Daoust family camp was recently purchased in the winter of the year 2019. Many hours of labour went into renovating the interiors of the space, including all pine cladding interiors. The camp is made up from a series of additions on to the existing cabin. The exiting portion made up of the two bedrooms, living room and kitchen. Later the

two sun rooms were added, and recently a third bedroom, shower and bathroom. They bought a prefabricated barrel sauna from Dundalk Leisure Craft placing it behind the cabin. Mike the owner, built a raised deck for the sauna to sit on, so the feet are always in contact with wood. Behind the sauna is a fire wood shelter recently built, to ensure the fire wood is dry, and within close proximity of the exterior-fueled sauna stove. Two rooms exist in the sauna, a threshold change space, and the sauna room. It has a capacity of six people comfortably. The sauna is intimate and comfortable, as the aroma of the cedar fills the air.

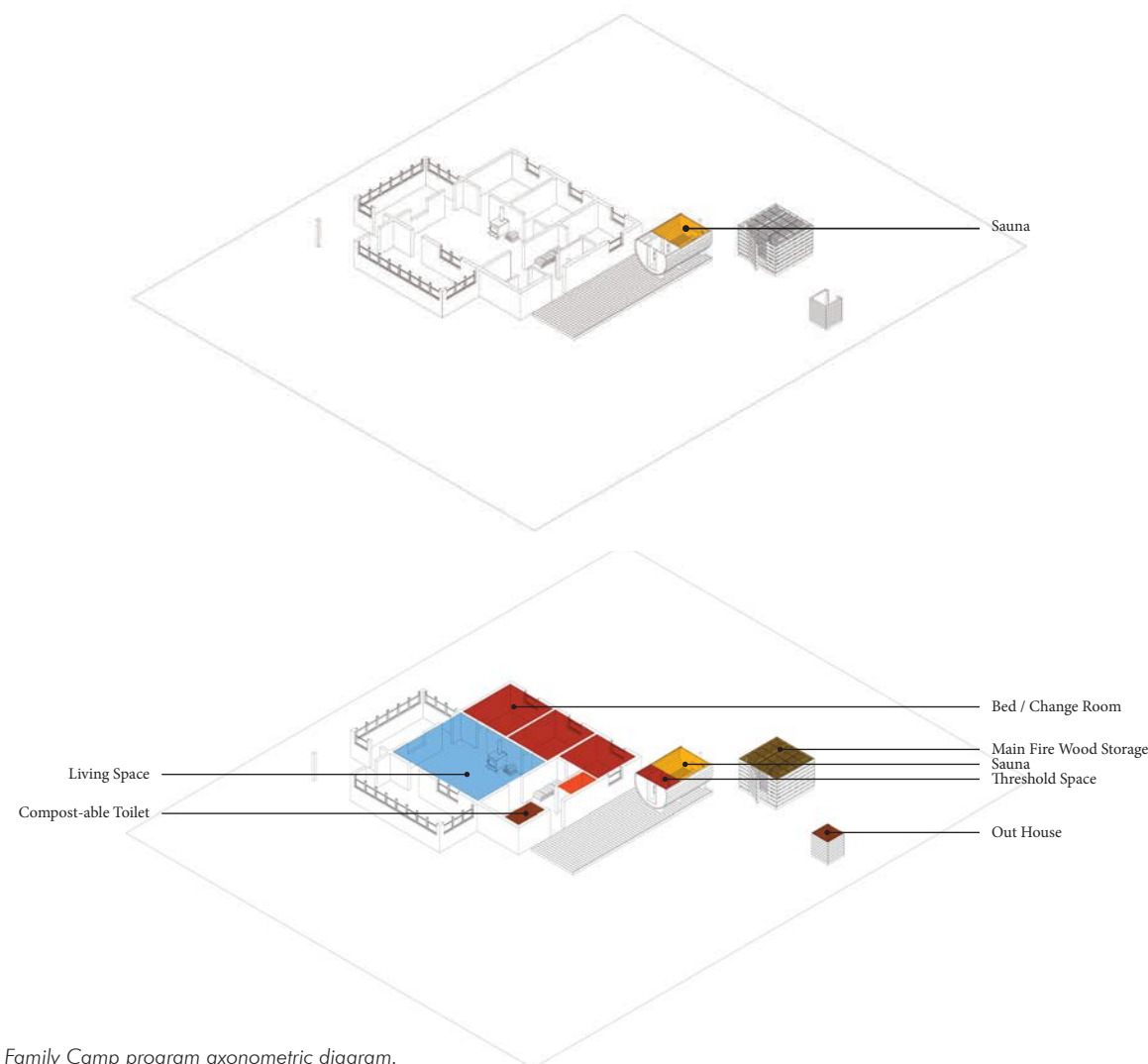


Fig.59 Daoust Family Camp program axonometric diagram. Illustration by author.

My Experience at Daoust Family Camp



Fig.60 Artistic representation of my experience at the Daoust Family Camp sauna. Image by author.

On January 23rd, 2020 my partner Jayden asked if I wanted to visit her family camp in Westree, Ontario with her parents. She of course enticed myself with the offering of their family wood sauna. I agreed without hesitation. The next day came, Mike and Sylvia picked us up and we were on our way. It was a long scenic two hour drive through the dense boreal forest. The sun had set and the true darkness of northern Ontario came out. We arrived at the camp, everyone doing their part shovelling snow, bringing in groceries, starting the fire to warm the cabin up. That night we all settled in and enjoyed an evening of board games, food and drinks, and then went off to bed. The next morning arrived, grabbed a coffee and explored the site. I found the sauna just behind the house. It was a prefabricated barrel sauna built by a company not too far from where I grew up. Behind it was a firewood shelter. Mike and Sylvia took off on the snowmobile to have a day of ice fishing, so Jayden and I went on a snowshoe adventure out on the lake. We all arrived back just before dinner. While dinner was cooking, it was time to start the sauna ritual of lighting the fire. It takes about an hour to heat up. Once we were full of food and had a moment to relax, it was time for a sauna. I filled the bucket up with water and put the ladle in

the bucket. Jayden and I changed into our bathing suits and ran out the back door. Opening the first door, we slid off our sandals and removed our towels. I grabbed the wooden handle and opened the door. A blast of heat hit our faces as we entered. It was quiet. The only sound I could hear was the metal expanding from the heat of the fire. I asked Jayden if she was ready for steam and she agreed. I grabbed the ladle, scooped some water and carefully poured it onto the hot rocks. The water immediately evaporated upon contact with the hot stones, sizzling and crackling. The room filled with rush of hot air. The sweat began to run down my face. More steam I asked Jayden. I poured another two scoops of water. The room increased with even more heat. My breathing became heavier as the heat rose. After ten minutes, we decided to run out and roll around in the snow to cool off. The snow began to sizzle on contact, as our bodies melted the snow surrounding us. I hopped back up and went in for more heat. This time I was alone. I added more and more water to really make myself sweat. I repeated the process of the sauna to snow at least another five times. Eventually my body had enough, I went inside and had a relaxing evening with more food and drinks.

Löyly Sauna



Fig.61 Löyly Sauna aerial photograph. Image by Kuvio.com. Image accessed from: Avanto Architects

The sauna is the Finnish national identity and a major part of their daily lives. There is only a population of 5.4 million Finns, but there is an estimated 3.3 million saunas.⁴ Löyly Sauna was part of the resurgence of the public sauna in Finland, which was related to the high number of urban residential saunas that almost made sauna public

saunas extinct. With Löyly (derived from the steam that rises from throwing water on hot stones in a sauna) Helsinki now has a public sauna experience all year round for locals and tourists to enjoy.

The site is uniquely situated along the shoreline of the Baltic Sea. Only less than two kilometers away from the city centre, the landscape is immersed in the outer archipelago. As the building has silvered through natural aging, the design intent is for it to become more like a rock on the shoreline. The building is a simple rectangular black box containing all the enclosed programs, which is covered with a formed wooden cloak. The shell is more than just an aesthetic decoration, it provides bathers with visual privacy. The lamellas ensure that the bathers have a view to the sea, but provide

an invisibility from the exterior looking in. They also create sheltered spaces outside between the warm mass and cloak as a way to cool down between saunas. Lastly, the lamellas form stairs that lead on to the roof and to provide a vantage over the landscape and sea.

The building program consists of two parts: the public sauna and a restaurant. The sauna was designed to have a direct relationship with the sea, with views of the city skyline in the distance. The atmosphere of the sauna is a dark and calming presence. The front door opens to the restaurant filled with light and open space. From there, down a dimly lit corridor leads to the bathing area. Shoes are the first item to be removed prior to reaching the reception, where one can collect their locker key and towel. The changerooms and showers are designated gender specific. A leather curtain covering the doors indicates threshold points where bathers are required to wear their designated swim attire. The architect Ville Hara said that “traditionally men and women bath separately and naked, however we wanted to develop sauna culture not on the identity of gender.”⁵

Löyly has three designated saunas, all heated with wood: a continuously heated sauna, a once heated sauna (that is heated in the morning before the sauna is open and stays warm all evening) and a traditional smoke sauna – a true rarity in an urban sauna.⁶ This was designed to offer a variety of different sauna experiences based on atmosphere, materiality and the steam. Between the saunas there is a lounge area with a cold water plunge basin and a fireplace to relax around with friends, between or after sauna bathing. To cool down, there are steps that lead down to the freezing cold Baltic Sea. The popular Finnish tradition *avanto* can be experienced in the winter by making the hole in the ice for winter swimming.

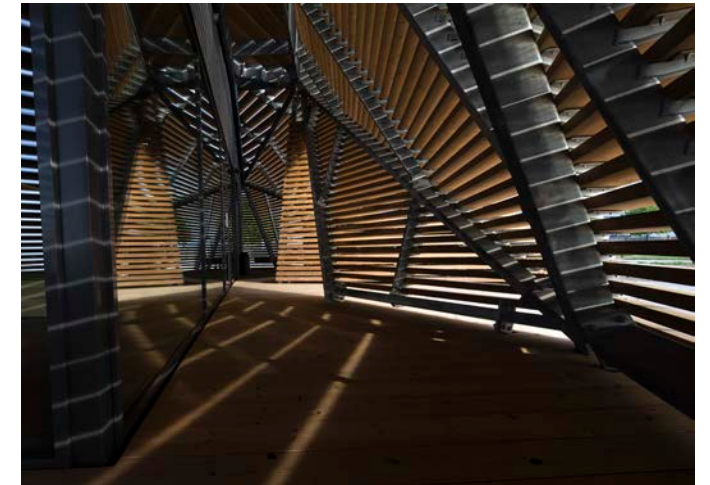


Fig.63 Löyly Sauna space between wooden cloak and the building. Image by Archmospheres.com. Image Accessed from: Avanto Architects.



Fig.64 Löyly Sauna lounge with fireplace looking on to the baltic ses. Image by Archmospheres.com. Image Accessed from: Avanto Architects.

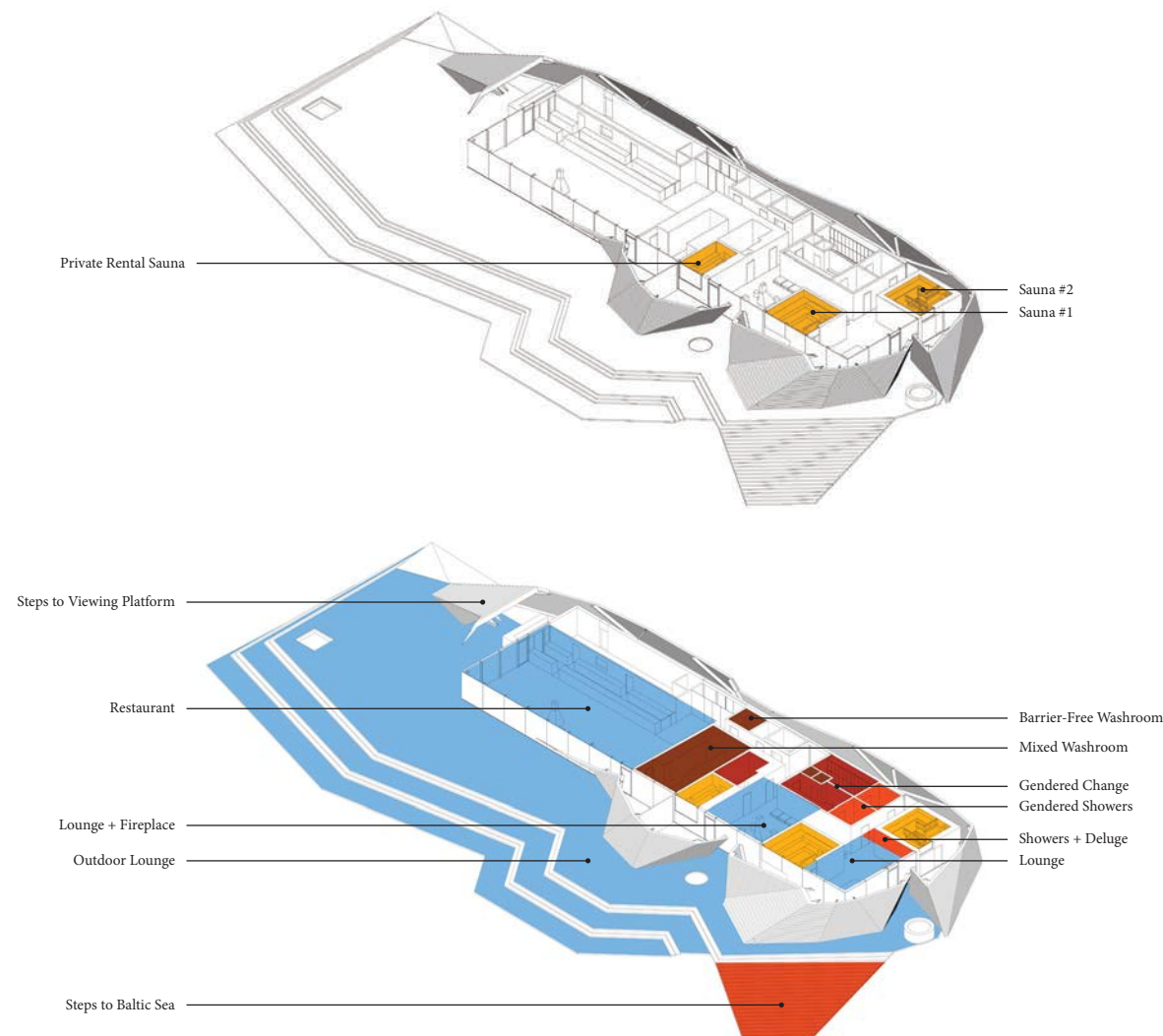


Fig.62 Löyly Sauna program axonometric diagram. Illustration by author.



Fig.65 Löyly Sauna looking at rear of wood-fired sauna. Image by Archmospheres.com. Image Accessed from: Avanto Architects.

My Experience at Löyly Sauna



Fig.66 Photograph from the Kaivopuisto observatory look out. Image by author.

My Journey to Löyly Sauna began in the month of October travelling from Sudbury to Toronto, followed by a flight to Helsinki, Finland. This was not my first time to Helsinki, as I was here two years prior in the spring months. The itinerary planned for the next twelve days was extremely packed. The first stop was at Juhani Pallasmaa's office to discuss architecture, phenomenology, his cottage and sauna near Turku and the thresholds of sacred architecture. The following next five days required a car, driving to cities spread out all across the country to visit iconic Finnish architecture. On the sixth day, legendary Finnish architect Juha Leiviska gave in-depth tours of his building around Helsinki, even playing a memorable performance with the grand piano at Myyrmäki Church, where he emphasized the importance of acoustics. The seventh day was a walking tour of Helsinki, visiting museums, libraries and galleries. At last the eighth day of the journey. It was a cold, rainy and windy Sunday. After seven grueling days of grasping every moment in Finland, my body and mind was exhausted. Today was the day I was visiting Löyly Sauna. My scheduled time was in the late

afternoon, around 5:00 pm, so I still had most of my day to explore. I started my morning off by making the routine trip to Kahvi Charlotta for a warm, flaky almond chocolate croissant and a creamy latte. Today I had the luxury of enjoying Helsinki at a leisure pace. I walked my way through the streets, eventually making my way to Kaivopuisto – a waterside park with an observatory overlooking the sea and archipelago islands. I spent the remainder of the morning and early afternoon exploring the park, and absorbing the calming view. By mid-afternoon I was hungry, and decided to visit the restaurant at Löyly Sauna for a full experience. I walked along the shoreline, with my coat hood up to block the wind and misting rain. A large grey building blending in with the rocky shoreline and overcast sky began to appear through the mist. The building looked like a large grey canvas cloaking over the box, with slots in the fabric creating openings into the interior. Walking through the front door, the restaurant was bright, with a brilliant view overlooking the Baltic Sea. I sat down and ordered the salmon chowder. It was full of flavor and warmth, everything I was

My Experience at Löyly Sauna



Fig.67 Artistic representation of my experience in the wood furnace sauna. Löyly Sauna. Image by author.

looking for on that cold dreary day. I had one hour until my scheduled appointment with the sauna. I used this time to explore the exterior of the building, and the surrounding neighborhood. I climbed to the top of the building to take in the view. I could see the hill I sat on earlier at the park. 5:00 pm had arrived. I was very excited to finally experience a Finnish sauna. I entered through the same main entrance as the sauna, but turned to my left down a dark moody corridor. I removed my boots and placed them in a designated closet. I continued down the corridor to a reception desk, where I checked in and I was given two towels, a large and a small. The large towel was to dry myself off when I was complete, and the small towel I was to carry around with me. The male changeroom was on the right, I entered through a draped fabric vestibule into a small space with wooden lockers and dark ambient lighting. I changed into my bathing suit and continued into the next space. It was a room with five showers. Walls, floors and ceiling were black, made from the same material. A recessed ceiling light splashed light down the walls. After I showered I continued into the main space. A man

greeted me and suggested that I cool down first by jumping into the Baltic Sea. He also proceeded to explain there was two saunas and where they could be found. Since I had just showered, I decided to head straight for the sauna. I entered the first sauna. A series of horizontal wood strips cloaked the building to create a sense of privacy, while allowing natural light and views into the space. It was a lively room. People were talking, coming and going. The man from earlier entered the sauna asking if we needed "more steam". He threw a couple scoops of water on the rocks and the room immediately filled with an extremely hot heat. The sweat poured off my face. I was experiencing hell. I lasted no more than ten minutes and I left the sauna, ran out on the deck, down to the sea. I jumped in. My body felt like it went into hysteric shock. It was so cold. I was doing everything I could to slow my heart and control my breathing. I pulled myself out of the water and ran for the second sauna. The door was outside the building, tucked away behind a fold in the cloak. I opened the door, it was black and quiet. I climbed up the stairs to benches wrapping around the sauna on three

My Experience at Löyly Sauna



Fig.68 Artistic representation of my experience in the smoke sauna. Löyly Sauna. Image by author.

sides. I sat there in dark silence. I could hear the breathing of other patrons in the sauna, vaguely seeing their outline. The door would open as another person would enter. The room filled with a bright light, and then back to darkness as the door closed. This sauna was a smoke sauna, the skin of the interior cloaked with soot. The room filled with a subtle charred wood smell. The man entered the sauna again, asking for “more steam” He opened the latch, and threw a couple of scoops of water onto the hot rocks. The room rushed with hot air. This sauna was hotter than the previous. MY entire body flowing with sweat. I challenged myself to stay as long as possible until my body could no longer take this hell. I ran down the steps, out the door to the sea. With hesitation, I jumped back in, this time my body adjusted. I was able to withstand the freezing cold water for a longer duration. I climbed back out of the water, and decided to rehydrate with water and relax in the lunge by the warm fire. I had light conversation with varying people from all around the world. I was allotted two hours at löyly, and I used all of those two hours running from the saunas to the sea. When I was done

with my adventure at löyly, I had the most calm and peaceful walk back to my apartment. I was at ease. I had the best sleep of my life that night. I wanted to do that again. The next day, I had to the privilege of meeting with the architects Avanto at their office, the designer of the Löyly Sauna. Ville Hara, the architect talked about the project and how it went through three iterations. It was first proposed as a village of saunas, then it was proposed as a floating sauna in the sea, but complications grew with the logistics the rough sea. He showed the first concept model of the current löyly. It was curvilinear and round, but he said due to budget, they opted for a rigid shaped like it is now. Ville said he tries to visit Löyly Sauna at least once a week. After the meeting, I had a couple of days remaining in Finland before I went to Sweden and then departed back home.

Analysis of the Sauna Experience

YMCA Sudbury

The YMCA in Sudbury was completed in 2001, with renovations to the natatorium in 2012. The pool received a new PVC liner, loose tiles were replaced and the sauna was renovated with new finishes, among many other items. An important part of going to the sauna are the haptic experiences. The body is near nude, so the skin has a heightened emotion to tactile surfaces. The floor inside the newly renovated sauna is a light grey tile, while practical for cleaning it is not a sensual experience for the sole of the foot. The benches are constructed from dimensional cedar lumber from the hardware store. The sauna has a long history of craft, and it should be reflected with the materials. Depending on the desired atmosphere, saunas can be designed for dark ambient spaces. However, with only a single dull light source and no natural lighting, the energy of the room felt flat and sterile. The sauna is intended to breathe with the bathers, however the sauna at the YMCA felt like it was suffocating on musty air. To cool the body from the sauna, the only available outlet was a pool deck shower. A shower does not pleasantly shock the body like a freezing cold lake. It is meant to be an invigorating emotion of excitement, gasping at the shocking cold temperature as it cools the inner core temperature. The changerooms are a stereotypical recreation space, filled with anxiety and awkwardness. The tiled floors, concrete masonry walls and steel lockers reflect the architecture upon the emotions mentioned. The YMCA also does not have a lounge space to socialize between saunas or after the sauna. Apparently there is a lounge space, but that space is only available with the elite membership. Based on the experience, this sauna is not intended nor designed to comply with the traditional sauna ritual and experience. Saunas in

aquatic centres are typically used by swimmers to relax their muscles before and after swimming laps in the pool.

Daoust Family Camp

The Daoust Family Camp is set in a small rural community in Northern Ontario. The cabin is a single story with a sloped roof. Based on analyzing the cabin, the main core of the space has added three newer additions. The interior is all vertical raw pine boards, which activates their aroma when the woodstove is going. The woodstove is the heart of the cabin. All the winter clothing is hung from the ceiling to dry near it, a kettle is used to boil potable water and bedroom walls back onto it. The floors are all made of hardwood, except the back door floor is tiled. All the furniture is slightly used second hand or donated, which evokes that quality of being at a cottage. The space is designed for absolute practicality and comfort. It was a great space to lounge, socialize and eat. The bedrooms were the

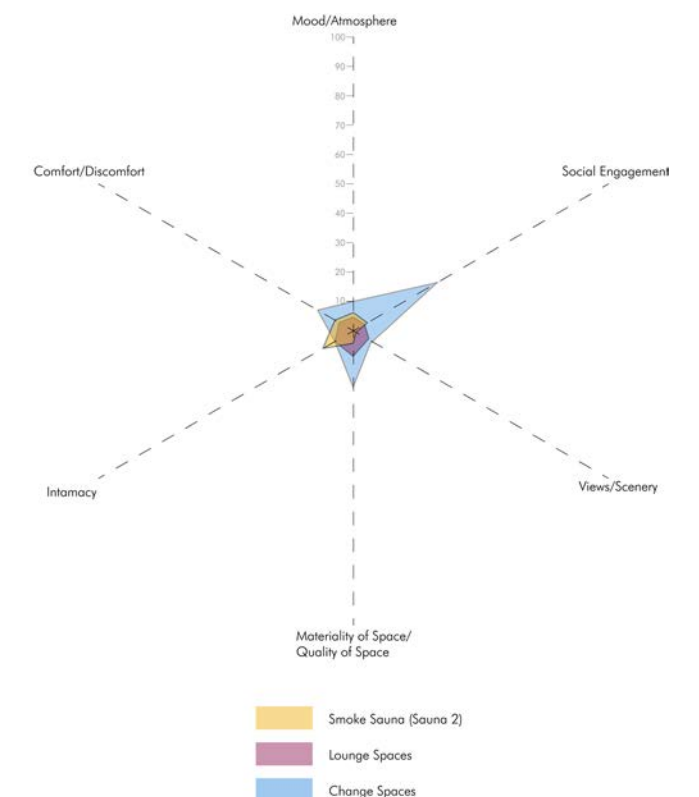


Fig.69 A radar graph illustrating the six terms of analysis while experiencing the space. The YMCA Sudbury is an example of architecture that does attribute to a poor experience. Illustration by author.

changerooms, which was a little awkward because the door was only a draped curtain. The sauna was set aside from the house. The large barrel sauna was entirely constructed from local eastern white cedar. In order to achieve a tight joint between the boards, the edges of the board were given a radius profile – concave on one side, and convex radius on the other to receive the next board. The barrel was held together with five large metal straps, tightened with a threaded rod and bolt. Craft is important observation, as the small details add to the character of the experience. Inside the sauna, a flat wooden floor insert was placed to create a level surface. Wooden benches are formed along either side – in the threshold space and in the sauna. The barrel vault forms a natural reclining backrest for the benches. As an all wood interior, the acoustics were soft but resonated the sound of the stove’s expanding steel from the heat. Since the sauna experience was during the night, it was quite dark and the only light was illuminated from the cabin.

The lake proximity was too far, however the night was cold with a fresh layer of snowfall. It provided the next best opportunity to create a contrasting cold. The camp sauna was an intimate and fun experience that created a comforting atmosphere of relaxation and rest.

Löyly Sauna

Löyly Sauna is a newly constructed bathhouse on the edge of the Baltic Sea. This project has three saunas, each designed with a unique atmosphere and furnace style. Additionally, the building has a restaurant, a rooftop lookout and a large sundeck for lounging. Upon entering the building, the bather has an immediate haptic connection with the building by removing their shoes prior to reception. The soft rubber floor was warm and felt nice on the sole of the foot. The changerooms were designed with ambient recessed cove lighting, highlighting the wood

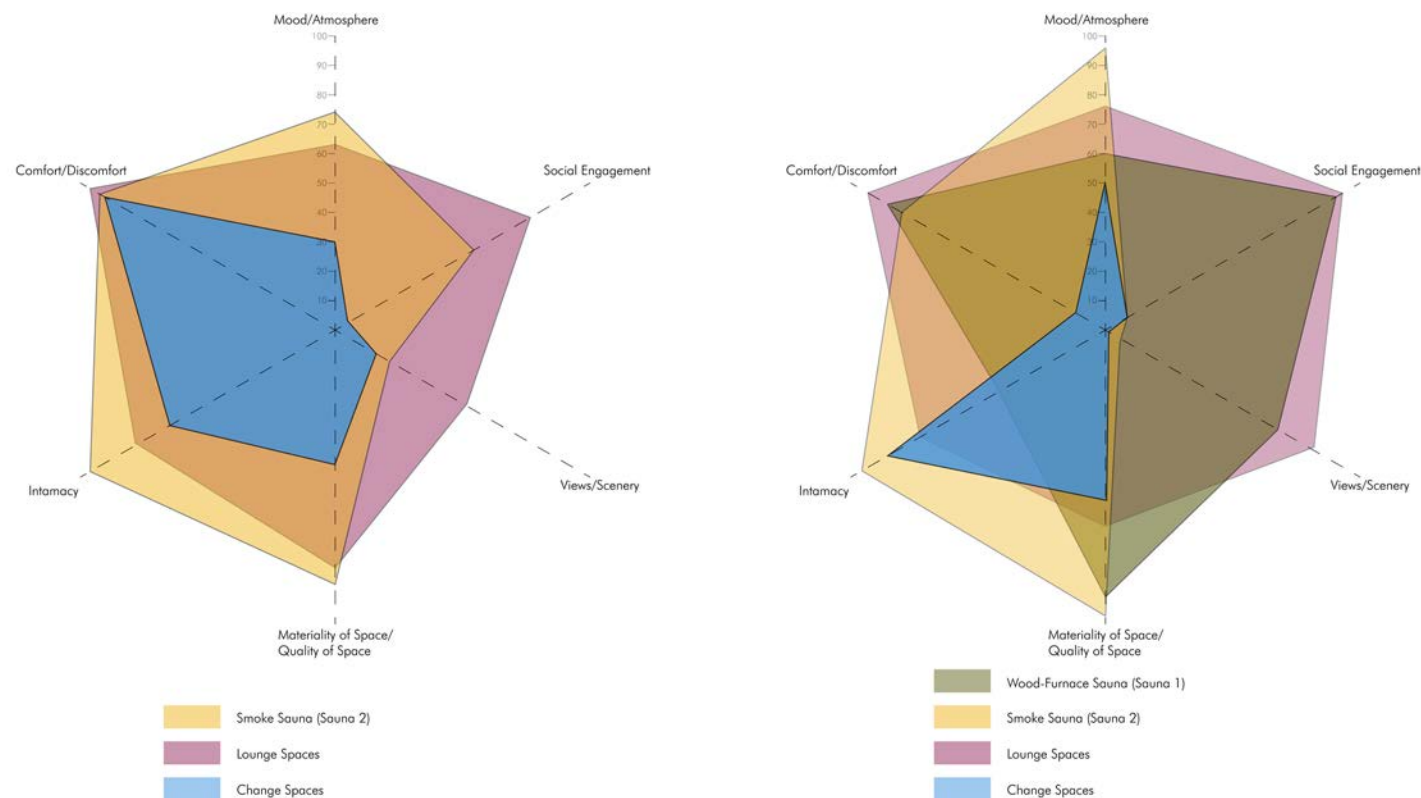


Fig.70 A radar graph illustrating the six terms of analysis while experiencing the space. Daoust Family Camp is an example of architecture that does attribute to a positive experience. Illustration by author.

Fig.71 A radar graph illustrating the six terms of analysis while experiencing the space. The Löyly Sauna is an example of architecture that does attribute to a great experience. Illustration by author.

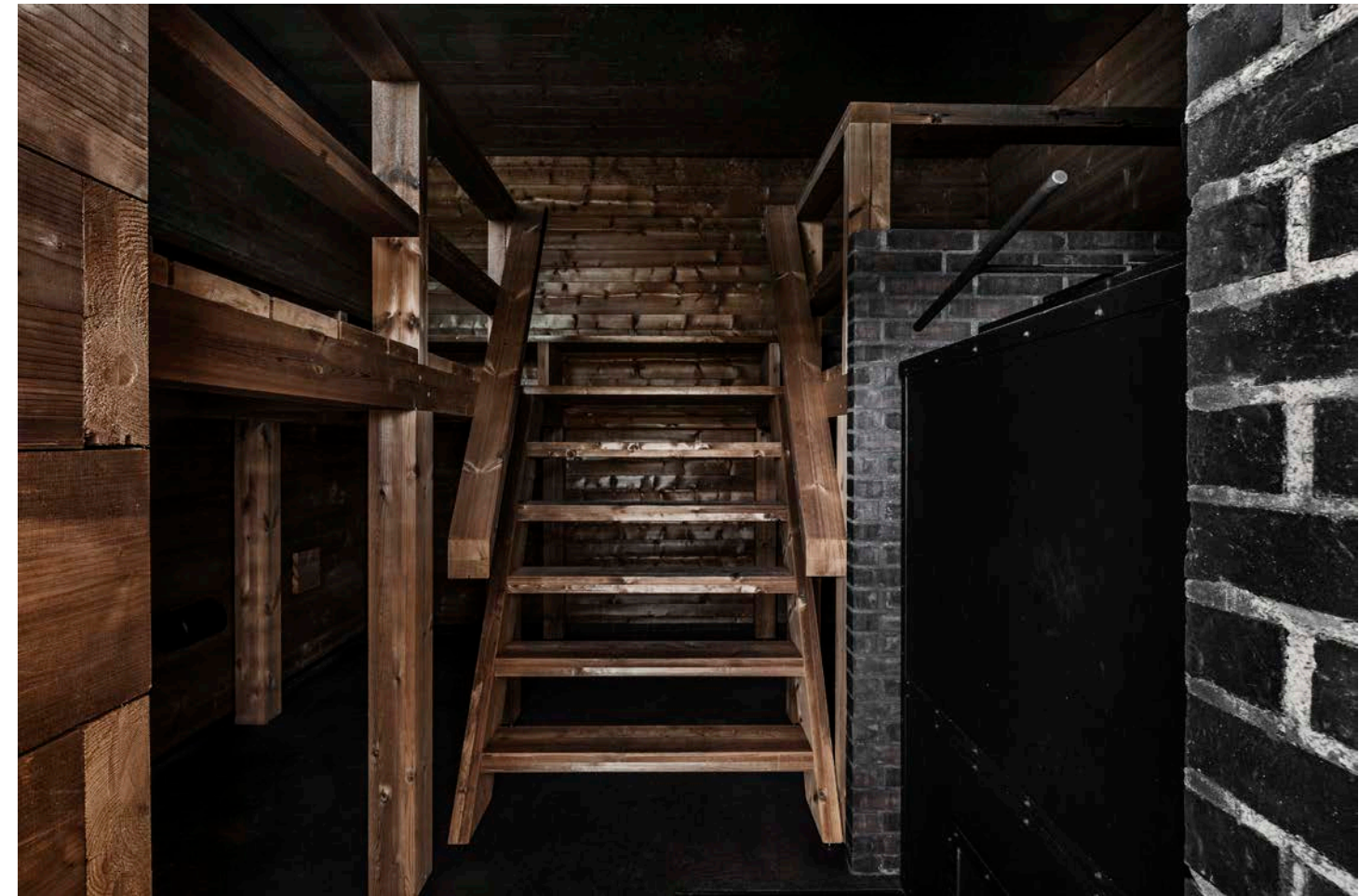


Fig.72 A photograph of the entrance to the smoke sauna at Löyly Sauna. The staircase rises to the elevated benches in the dark ambient space. Image by Kuvio.com. Image accessed from: Avanto Architects

lockers and steel black walls. It was a small and slightly awkward room, as the changeroom door opened to the reception desk. A room dedicated for five showers was a powerful space. The all black, floors, walls and ceilings, lit with recessed cove lighting around the perimeter of the room evoked an atmosphere of a heavy suppression, as a threshold before bathing. The common social spaces have floor-to-ceiling glass viewing the Baltic Sea, visible through a fold in the wooden cloak shell. It was a popular hangout location, filled with soft intimate conversation around a warm fireplace. The first sauna was clad with a soft yellow larch, with large wide boards that emphasized linear horizontal lines. A large window facing the Baltic Sea provided a lot of natural lighting into the space. The sauna was raised on a wooden platform, leaving not much room between it and the ceiling. The space felt compressed when standing, but while lounging the atmosphere was comfortable and relaxing. People were conversing in the space, evident it was not designed for serious contemplation. The smoke sauna on the other hand was designed as an authentic Finnish smoke sauna experience. Entering from the exterior of the building, a relationship between the smoke sauna and the landscape emphasized the importance of a liminal threshold of space in nature. A well-used traditional smoke sauna has a black stained interior from the soot of the chimneyless stove. The smoke sauna was constructed on a tall platform, with a staircase down the middle and the benches to the two sides. The stove was placed in the corner with a large heavy black steel encasement. To pour water on the stones, a large latch door must be opened with a handle. Similar to the other sauna, the platform felt close to the ceiling, as if one could not stand straight. It was a dark quiet space. An aroma of charred wood was in the air. The feeling of compression in the dark brought a

heavy weight to the chest. It was calming. As a popular tourist destination in Finland, they offered three different methods to cool off from the sauna. The first is a standard cold shower. The second is a deluge bucket, which is the worst to experience a heavy weight of freezing cold water slam against your body. The third option is the traditional Finnish *avanto*, which means to create a hole in the ice and swim. This was the most challenging and rewarding experience at Löyly Sauna. The relationship between the two embodied natural states of sweating in heat and cooling in a natural sea, encompassed the power of the sauna and nature. Löyly Sauna is a well-designed building that evokes several emotions through atmosphere of space. Every haptic experience evoked a sensual pleasure for the skin.

Translating the Experience into a Simulation

Architecture cannot be understood and experienced through drawings and images. Architecture is experienced through an immersive exploration into the quality of space. The sauna in principal is a simple building with a door, benches, a furnace and maybe a window. However, after visiting several saunas throughout Canada and Finland, the phenomenological qualities of space can influence the emotional experience. Löyly Sauna is a great example how natural lighting, the furnace and material treatment can alter the qualities of space and social dynamics positively. However, the Sudbury YMCA is an example how qualities of space can reflect a negative experience. From these gained experiences, five crafted sauna boxes are constructed to simulate ephemeral experiences based on the phenomenological qualities and atmosphere of the sauna. These dimensions of architecture include: materiality, haptic texture,

light, scale, wood fragrance, mechanical dynamics, taste, and auditory transmission. The importance of translating the experience into an experimental immersive dimension, solidifies an emotional responsiveness to the quality of space.

Sauna Box - Prototype

Sauna box is an initial experimental design approach to simulate a sauna experience. This box, made way for several iterations that derived design interventions for each sauna proposal. This prototype was only analysed through expressed qualities of space and approached with the poetics of phenomenology through personal experience and observations. The structure of this box is made from small dimensional lumber scraps, while the cladding that enclosed the space was made from an eastern white cedar. To simulate the heat of a sauna, a kettle was placed under the raised sauna box while the water was boiling. Once the water boiled, the steam entered the confined box. A black fabric cloth covers the opening, preventing light from entering and steam from escaping. When the



Fig.73 Prototype sauna box interior photograph. Image by author.

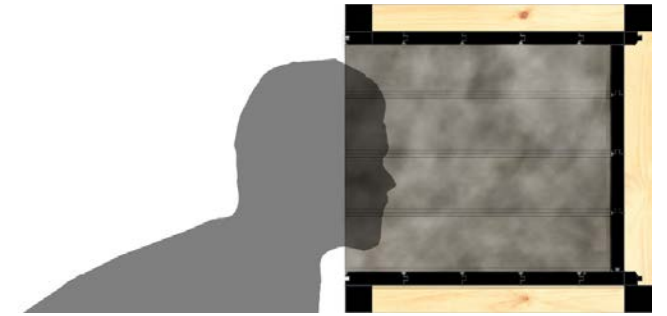


Fig.74 Sauna Box - Prototype section diagram. Image by author.

box is ready, one would lift the black cloth and place the head at the edge of the box for a moment of time. The steam activated the aroma of the eastern white cedar, while the waves of heat penetrated the pores of the skin. This simple prototype simulation confirmed that this approach to design was successful in simulating the phenomenological qualities of a sauna. Qualities to be further explored in the next several iterations are: materials, natural lighting and control of emotions through volume of space. The next several iterations will also be explored through neuroarchitecture and scientific analysis of unconscious emotions in space.

Neuroarchitecture

Neuroscience is primarily related to medicine, however in recent decades new technologies have influenced scientific research in different fields such as economy, marketing, and architecture. Neuroscience is the science of understanding and mapping the human brain and the human nervous system, and the responsibilities of each structure. Neuroarchitecture is the application of neuroscience to architecture and the relationship between the brain and space.⁷ Behaviour is influenced by social environment and the physical environment.

The Human Brain

The brain is the main organ that controls the human nervous system. The brain is divided into three categories, the forebrain, the midbrain, and the hindbrain. The forebrain is the largest part of the brain known as the cerebellum.⁸ The cerebellum consists of two hemispheres: right and left divided by the longitudinal fissure. As figure 73 illustrates, each hemisphere is comprised of a frontal, temporal, parietal, and occipital lobes. The frontal lobe located behind the eyes is responsible for voluntary movements and memory. The parietal lobes are behind the frontal lobes and are responsible for processing sensory information and language processing. The temporal lobes are located on each side of the brain with the responsibility for speech production, understanding language and memory acquisition. The occipital lobes contain the primary visual cortex which is responsible for processing visual information.⁹

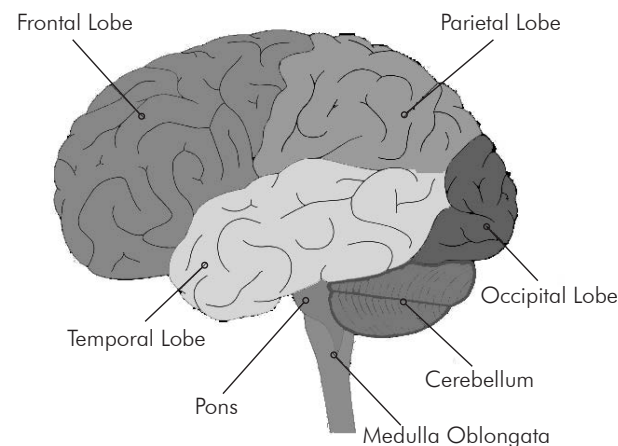


Fig.75 A diagram of all the major components that make up the human brain. Illustrated by author. Vector Graphics 2020. Interpreted from: <https://www.igeaneuro.com/becoming-mindful/brain-functions/>.

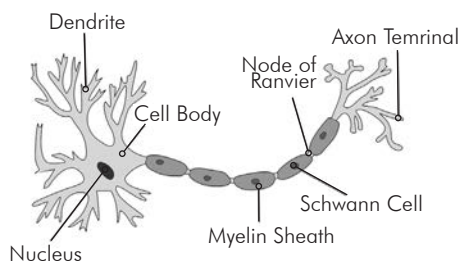


Fig.76 A diagram of the major components of a neuron. Illustrated by author. Vector Graphics 2020. Interpreted from: <http://users.tamuk.edu/~kfjab02/Biology/AnimalPhysiology/B3408%20Systems/systems%20images/neuron.png.jpg>

The Neuron

The human brain consists of billions of neurons. The neuron cells of the nervous system can transmit information in the form of electrical or chemical signals along its axon. The neuron cells are classified into three types based on varying functions. The sensory neuron cells gather information from the senses and send it to the neural system. Motor neuron cells send out signal and information from the brain and spinal cord to the rest of the body. The third type of neuron is the interneurons which are located in the central nervous system. They connect the central nervous system with the sensory and motor neurons.¹⁰ Figure 74 displays the anatomy of a single neuron.

Electroencephalogram (EEG)

The EEG waves are the continuous recording of the electrical signals the brain produced by firing neurons. When the dendrites of a neuron receive neurotransmitters from the axon of other neurons, it causes an electrical polarity charge inside the neuron. This polarity charge is what the EEG is recording.¹¹

Brain-Computer Interface (BCI)

The brain-computer interface is a communication and control system. The main structure can be interpreted as: input, output, and processor (Figure75).¹² BCI technology has the ability to interpolate performance metrics for emotions such

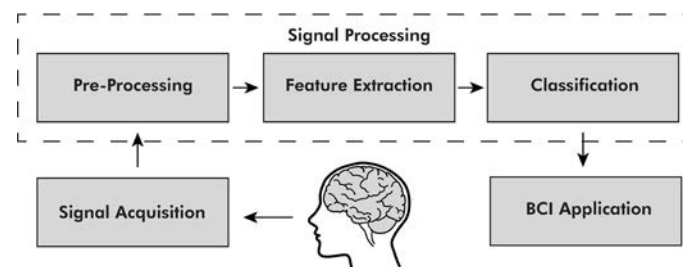


Fig.77 A diagram illustrating the BCI process. Beginning with the brain signal input, to signal to processing and eventually an output of BCI data. Illustrated by author. Vector Graphics 2020. Interpreted from: <https://www.sciencedirect.com/science/article/pii/S2590005619300037>

as stress, engagement, interest, relaxation, focus and excitement.

Method of Analysis

The only subject to be tested is the author of this thesis. Ideally multiple people would be tested, however there are several complications with research ethics. The analysis of the sauna box simulations will be conducted with an Emotiv Insight EEG scanner and EmotivBCI software. It is a simple five channel EEG, only taking a couple of minutes to setup. The headset is placed on the users head, ensuring that all the polymer sensors are activated by firm contact with the skin at the specific channel locations. Once the headset is calibrated, the scanner is ready to use. It is important to note the time of day and any other factors that could influence outliers in the data. To begin the test, first identify the six emotions on the BCI software as a static baseline to compare the experiment with. The next step is to activate the sauna box with steam and wait for moisture to saturate the wood. Once ready, lift the cloak and place the head in the sauna box. It is important to act as one would in a sauna. Each sauna box is designed with varying responses depending on the proposed theme. One is designed for communication, while the

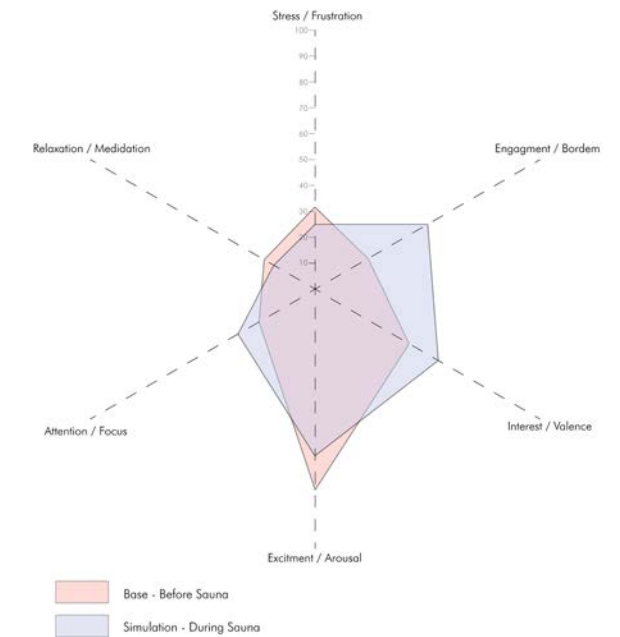


Fig.79 An example of radar graph illustrating the emotions of the base layer and the experiment layer. The radar graph will determine any changes in emotion derived from the experiment. Illustration by author.

others are influenced by contemplation. Nearing the end of the user's time in the sauna box, that is the moment to note the six emotions on the BCI software (Figure76). The next step is to translate the base layer and the experiment layers into a radar graph illustrating the emotion differences in comparison (Figure77). Ideally several layers of experiments would be placed in the radar graph, however there were restrictions with time so only one was completed for each experiment.

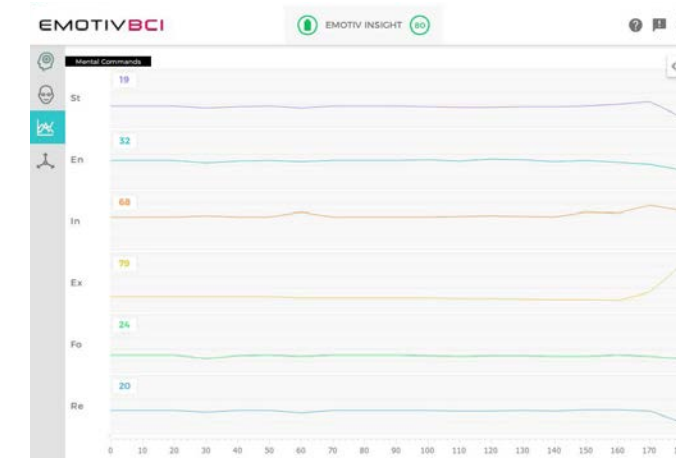


Fig.78 An example of the EmotivBCI software illustrating the six emotions in response to electrical polarity reactions. Image by author.

Endnotes

- 1 Pallasmaa, Juhani. "Architecture as Experience." *Architectural Research in Finland* 2, no. 01 (2018). Pg. 9
- 2 Ibid. Pg. 10
- 3 Paiva, Andréa De. "Neuroscience for Architecture: How Building Design Can Influence Behaviors and Performance." *Journal of Civil Engineering and Architecture* 12, no. 2 (2018). Pg. 132
- 4 Hara, Ville. Interview by Matthew Hunter. Email. January 30, 2020.
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- 11 "Emotiv BCI - Built for Insight and Epoc Headsets." EMOTIV. Accessed April 27, 2020. <https://www.emotiv.com/emotiv-bci/>.
- 12 Ibid.

← Fig.80 Four designed logos that represent each of the proposed intervention saunas. Each graphic includes the geographical coordinates of the sauna interventions. Illustration by author.



The Resurgence of Sudbury's Public Sauna

Since 2010, a renewed interest in the tradition of the public sauna has resurged with a number of new public sauna buildings opened in various parts of Finland, Sweden, Norway and Denmark. The idea of public saunas are beginning to form in North America, as the need for public bathing is growing with popularity. The sauna is an experiential space where light, material, scent, haptic tactility influence the quality of the atmosphere for the user. The architecture of a public sauna resurgence needs to inform the archaic sauna ritual, while respecting the power of emotional experience thrust upon by the sauna. The architecture needs to respect the sensitivity of place and the landscape. And lastly, the architecture needs to compliment and merge the phenomenological journey of going to the sauna.

Design Proposal

The following chapter proposes three separate sauna projects, and one merging intervention. Each sauna is designed with a unique atmosphere and response to the journey and landscape.

Design Guidelines

These design guidelines are designated to influence specific standards that all proposed projects must adhere to.

Adaptability

Successful buildings should be designed to be adaptable, allowing the user control of the space.

Materials

Natural materials from the site must be used. In order to respect the phenomenological journey to the site, the architecture must be built as part of it.

Building Systems

The building systems must respect craft, the sauna tradition and the skilled labour of the vernacular place.

Emergence, Existence, Disappearance

The less a building forces itself on nature, the easier it is to conceive its own disappearance. The saunas must have the ability to be adapted, recycled, or upcycled at the end of their use. A floating sauna permits ease of replacement.

Respect the Ritual

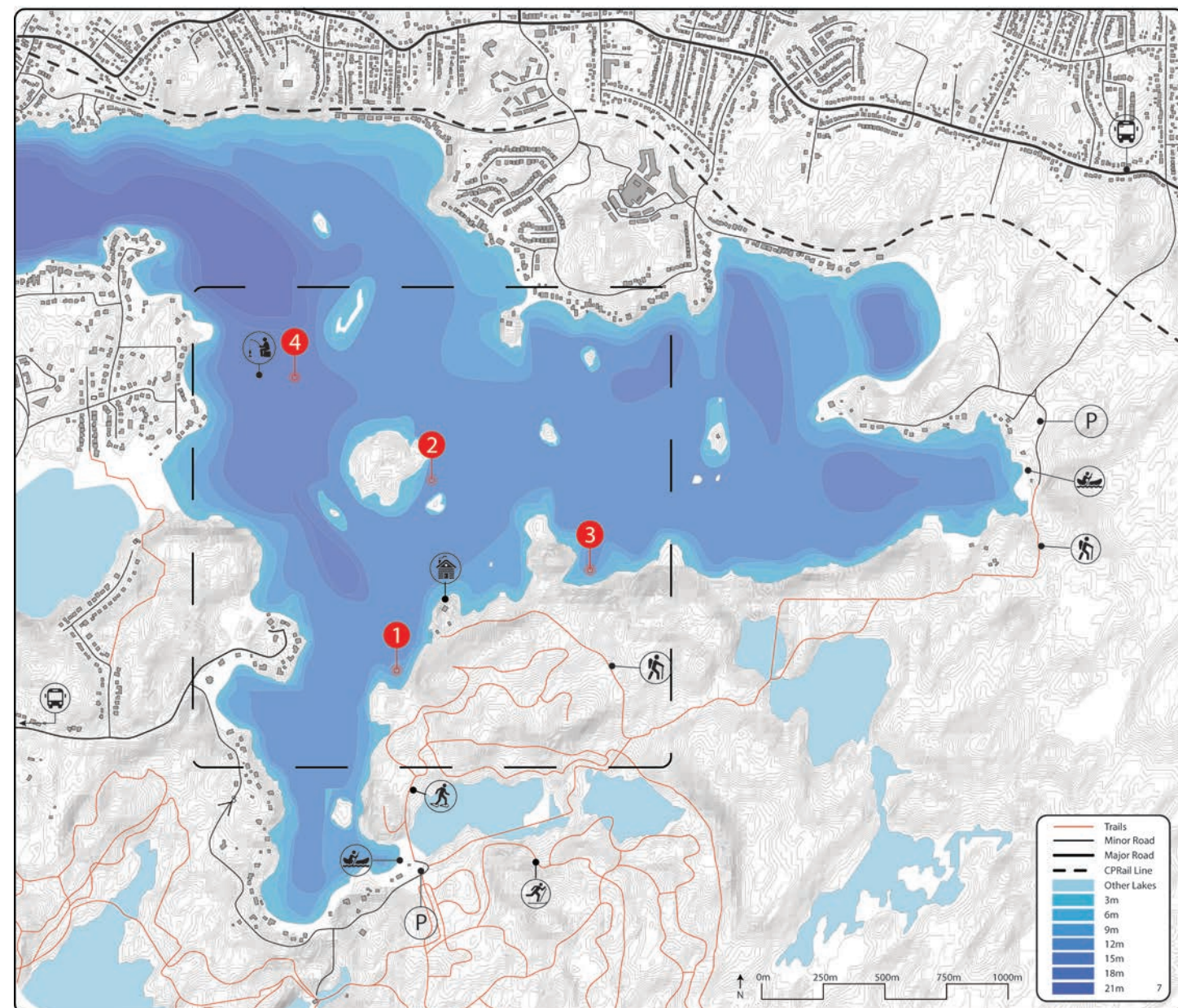


Fig.81 A map identifying the selected sites for the placement of public saunas. Image by author.

The sauna designs must respect and enhance the sauna ritual.

Ownership

As a public sauna, it should be owned and operated by a public entity. The City of Sudbury owns most of the parks, recreation facilities, and playgrounds, with only a few being privately owned. In order for the City of Sudbury to own and operate a floating public sauna, several steps must be taken prior.¹ Once the project is built, the responsibility of maintenance and operation is given to Park Services Department.²

Operations

The public sauna complex is intended to be operational year-round, however four to six weeks from mid-November to January 1, and April 1 to mid-May the sauna will be required to shut down while the lake ice freezes and thaws. The saunas will have unsafe access conditions due to thin inconsistent ice with the risk of breaking through.

The User

The public saunas are open and welcome to every person. There is no charge for admittance and users are suggested to bring their own food and drink to last the day.

Floating a Sauna

The best recommended floating technology that is adaptable for both summer months and winter ice freezing is a stainless steel pontoon tube flotation. This system is adaptable based on load requirements. The formula to calculate the capacity of a pontoon tube is:

$$\text{Pontoon Volume} \times \text{Density of Water} = \text{Pontoon Weight Limit \& Capacity}$$

However, one-hundred percent load capacity is the maximum capacity before failure. To ensure the pontoon is able to rise while the lake freezes, the calculation must be reduced to half at minimum. Custom fabricated tubes and platform structure will be required.

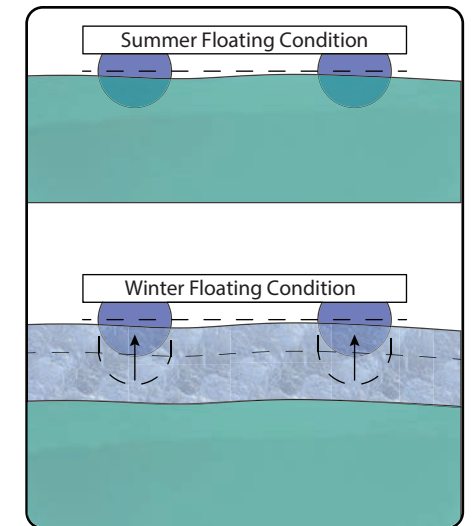


Fig.82 Diagram Illustrating how the dock floats in the summer and winter months. Illustration by author.

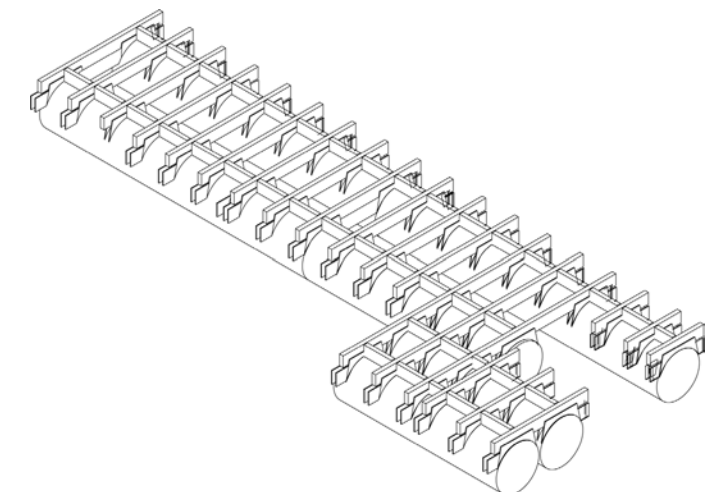


Fig.83 A diagram of the community sauna pontoon tube structure. Illustration by author.

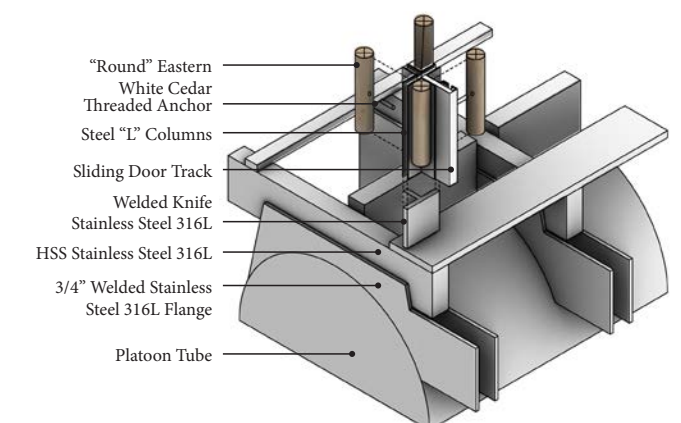


Fig.84 Conversation Sauna - (left) Exploded axonometric detail of the conversation sauna column connection to the flotation structure. Image by author.

Conversation Sauna

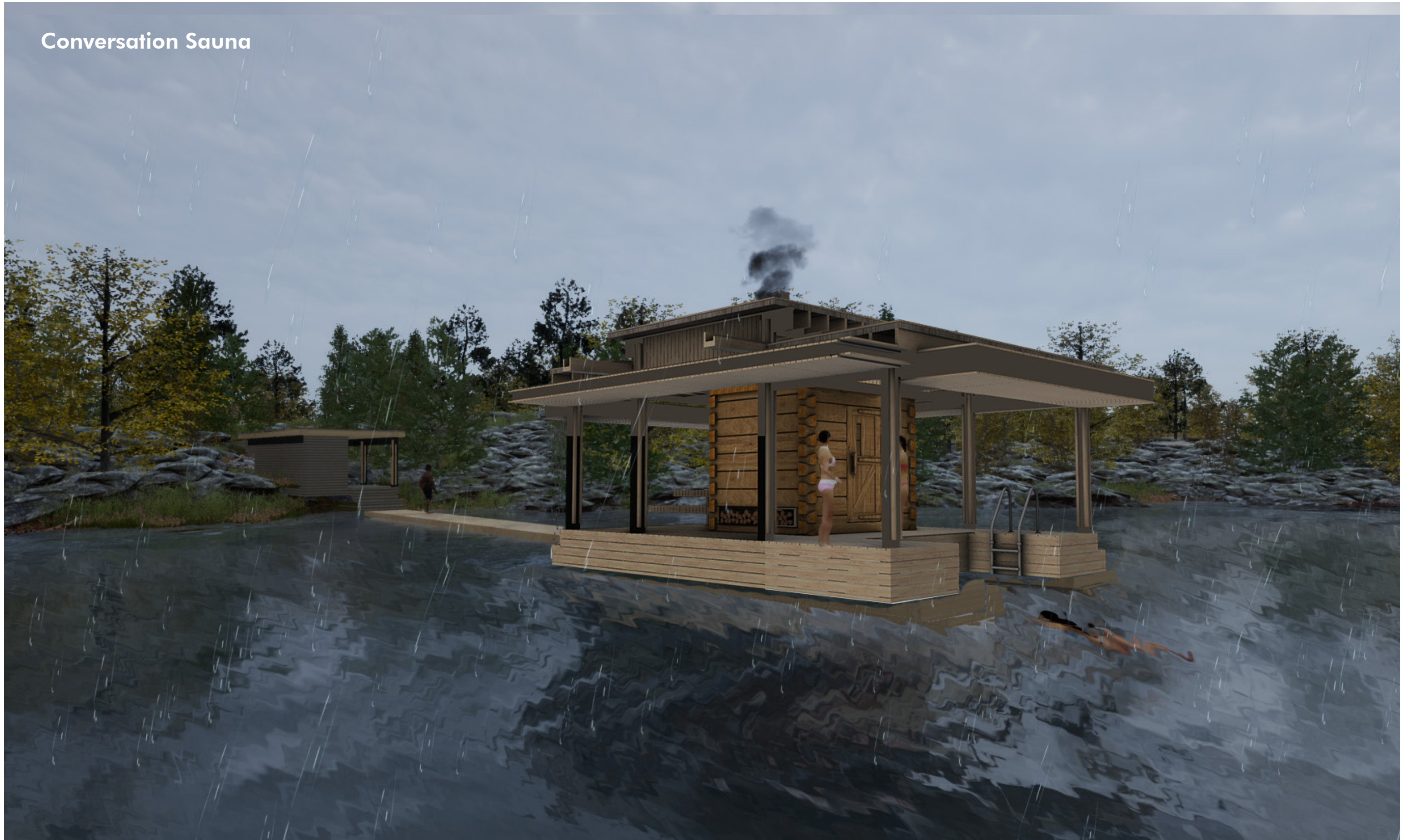


Fig.85 Conversation Sauna - perspective rendering of the sauna on a rainy day in the summer. Image by author.

Sauna One – Conversation

Proposed Program

The theme for sauna one is derived around the word “conversation”. Saunas are often perceived for quiet contemplative space, however this is not always the case. In fact, in Finland they encourage light conversation. The following are the program requirements for sauna one:

- Seats must be facing inwards to influence engagement and conversation around the fire
- Must have a place to store firewood
- A ladder must be provided to transition from the water to the platform
- Two changerooms equipped with Cinderella incinerating waste toilets, plus one standard changeroom.
- A sauna capacity for 6-8 people
- Must include a space for eating and cooking

Proposed Design

The journey to the conversation sauna was designed for moments of conversation with others and a moment between the self and nature. The architecture for the sauna should have a similar response, it should influence conversation between others, but also between the self and the sauna; as the sauna is nature. A boardwalk flutters through the forest as it approaches the shoreline. Integrated into the boardwalk along the threshold of water and land, is a small quaint building with three rooms. The boardwalk platform is the same height as the extensive green roof of the building, with stairs leading down to the building. This is to allow sightlines of the lake while on the boardwalk. In the building, two hybrid rooms consist of a change space and washroom, equipped with a Scandinavian Cinderella incinerating waste toilet.

The ashes from the waste will be collected with the ashes from the sauna furnace as organic compost. The third room is a smaller change space. There are no windows in the change rooms, however there are small gaps between the boards that provide light ambiance to the space and air circulation. The exterior and interior boards are offset so no direct sightlines are permitted. Spaced between the two washroom doors are floor to ceiling lockers of various sizes. Some are tall for items such as cross country skis and poles, and some are quaint for small personal belongings. The boardwalk flows through the building, down another flight of stairs to the waters level on a floating dock. At the end of the dock, floating in the midst of the bay is the conversation sauna. From the outer shell it looks like a simple building, three roof tiers with slight slopes for rainwater and vertical wood boards provides skin on all four sides. The architecture is a balanced response between the vernacular and modernity. The skin is like a symbiosis, the walls are bi-folding doors that are designed to the user’s response according to the environment or desired atmosphere. The flotation structure of the sauna is made from two large stainless steel tubes, four feet

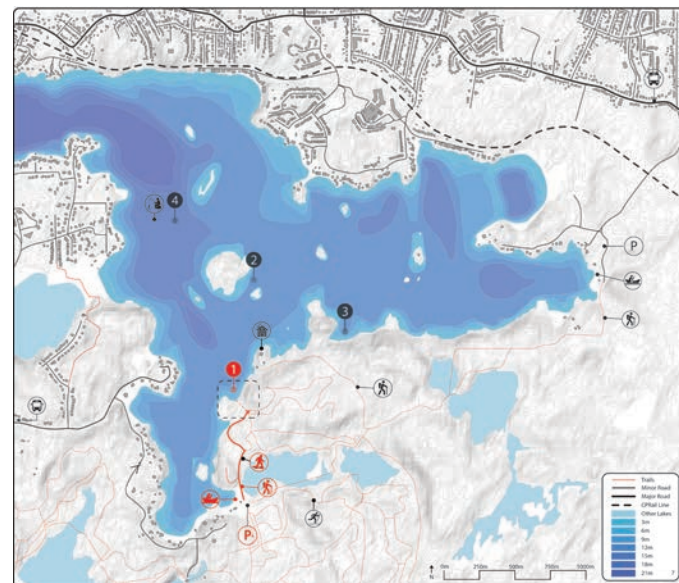


Fig.86 A key map outlining the site location with illustrated path. Image by author.

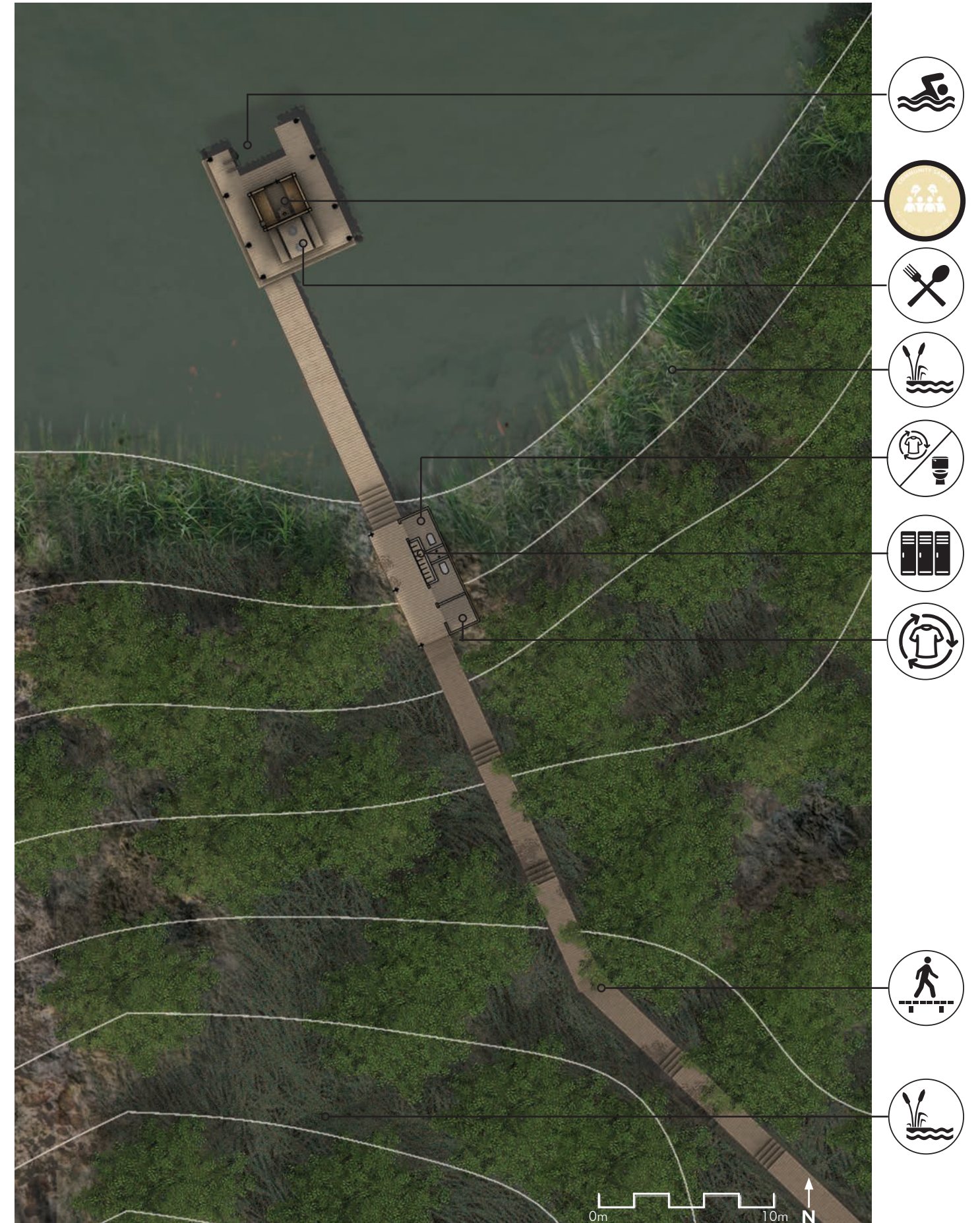


Fig.87 Conversation Sauna - Site Plan. Image by author.

in diameter and the length of the platform. Several stainless steel brackets are welded to the tubes, to brace the joists of the platform deck. The main structure of the roof and columns are made from black powder coated steel. Secondary elements such as joists and headers are made from eastern white cedar. The columns were inspired by the sauna at Villa Mairea designed by Finnish architect Alvar Aalto (Figure 84). Designed with a four grid system, cylindrical wood member in each quadrant rise with a cross of structural steel at the core. The vertical eludes to the trees in the forest, and when the doors are closed, lines of light fill the space through the gaps between the exterior wood boards like a traditional barn.

At the core of the platform is the sauna. Unlike the industrious mix of steel and wood, the sauna was designed in the most traditional and archaic form, as a dichotomy of symbolism with a stacked log structure. Respecting the history of the sauna, the corner joinery was designed with locking dovetail joints, to allow the structure to naturally expand and contract as a sauna does. Inside the sauna, two benches face opposing with a wood burning furnace in the centre. The spatial arrangement of the sauna is designed to promote and influence user discourse. Aligned with the sauna benches is a large table, with two large steel grills integrated to cook food. The wall between the sauna furnace and the table, has a small opening with a removable door. This opening allows access to grab with utensils hot sauna rocks, to fill the grills as a heat source. The table by design is a social space for bathers to congregate, eat, drink and socialize between or after sauna usage. Flanked on both sides of the sauna revealed into the log coursing, is a steel frame cut-out to store firewood. Just above is a small door on a hinge slightly larger than the diameter of a log, used to transfer wood into the sauna to prevent a dirty travelled path from

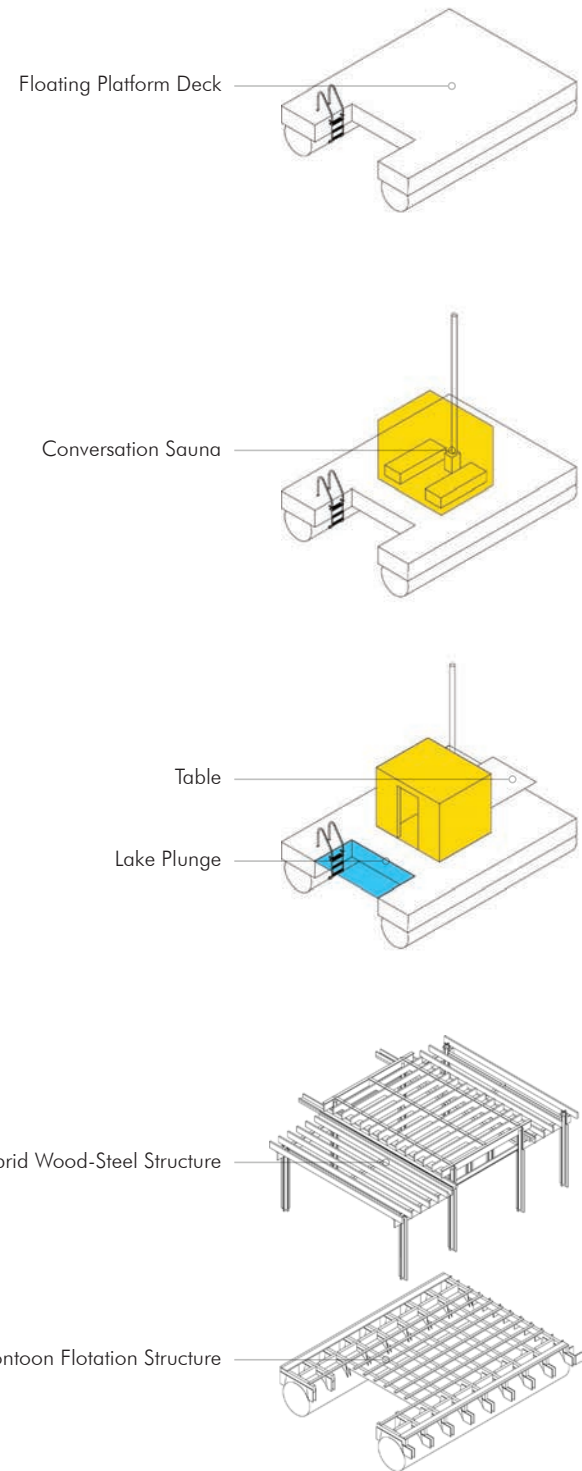
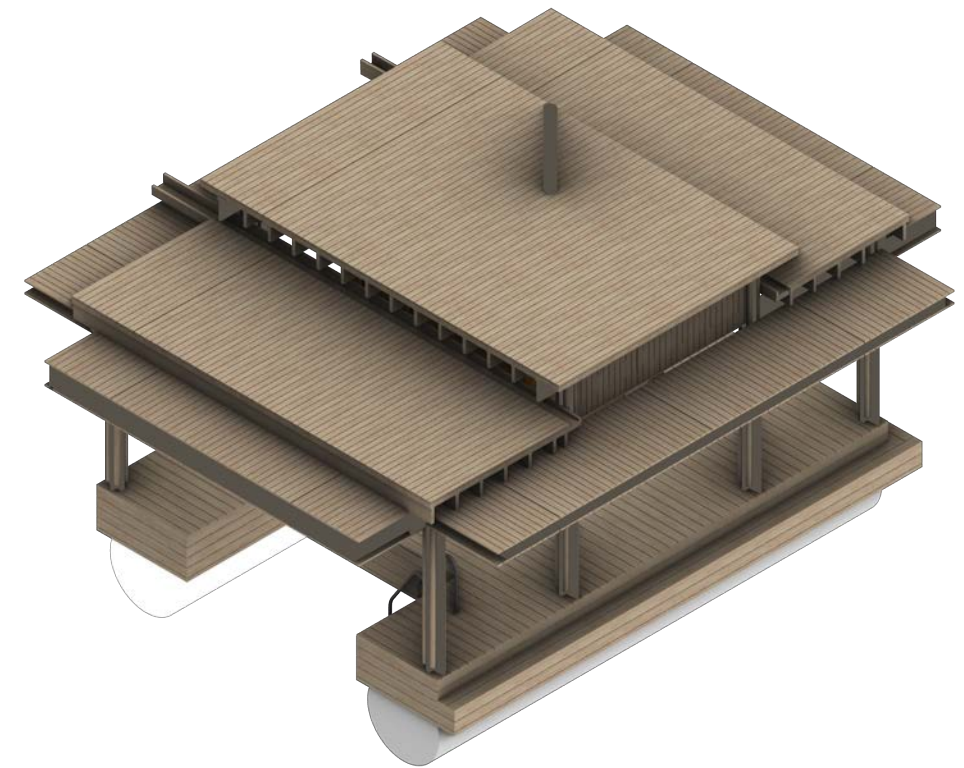
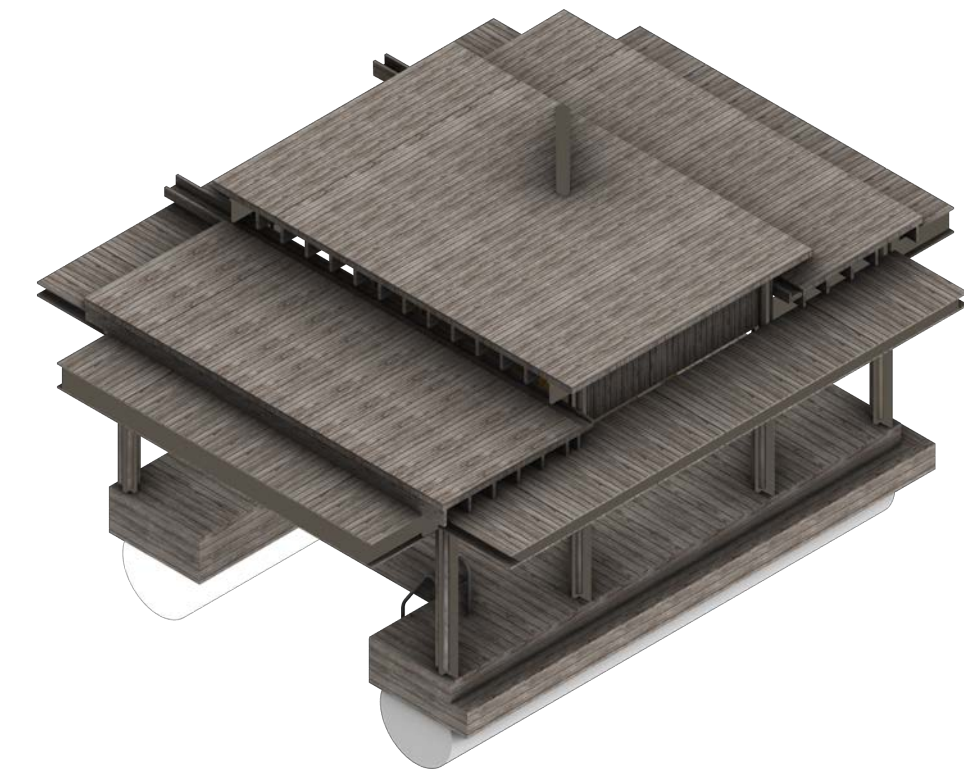


Fig.88 Conversation Sauna - program to structure diagram. Illustration by author.

wood debris. It is important to keep the space as clean as possible for the bathers. On the opposite side of the platform from the social space, a large cut-out from the dock reveals the freezing cold lake beneath. It is recommended to jump directly in the lake to cool off, however one can use the ladder to slowly propel down.



New



5+ Years

Fig.89 Conversation Sauna - Axonometric drawing discerning the material aging of the sauna from new (top) to five years (bottom). The local eastern white cedar material will fade to a silver cedar when exposed to the sun. Images by author.



Fig.90 Conversation Sauna - Summer Section. Image by author.



Fig.91 Conversation Sauna - Winter Section. Image by author.

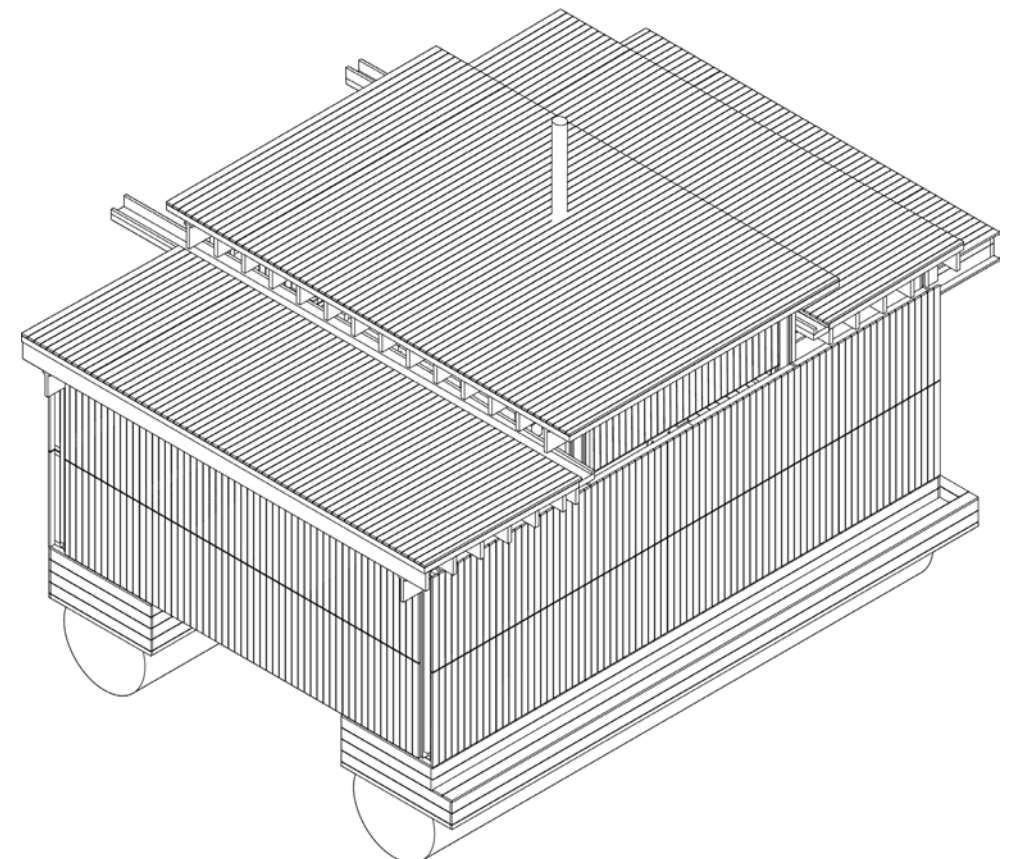
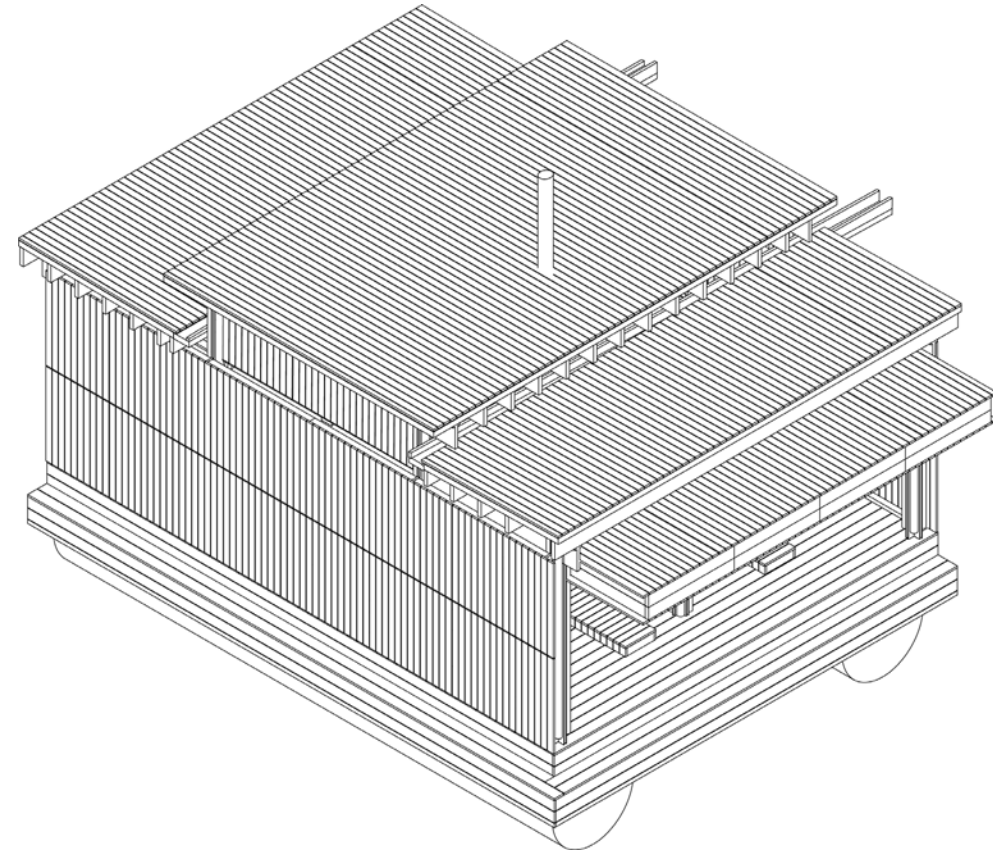
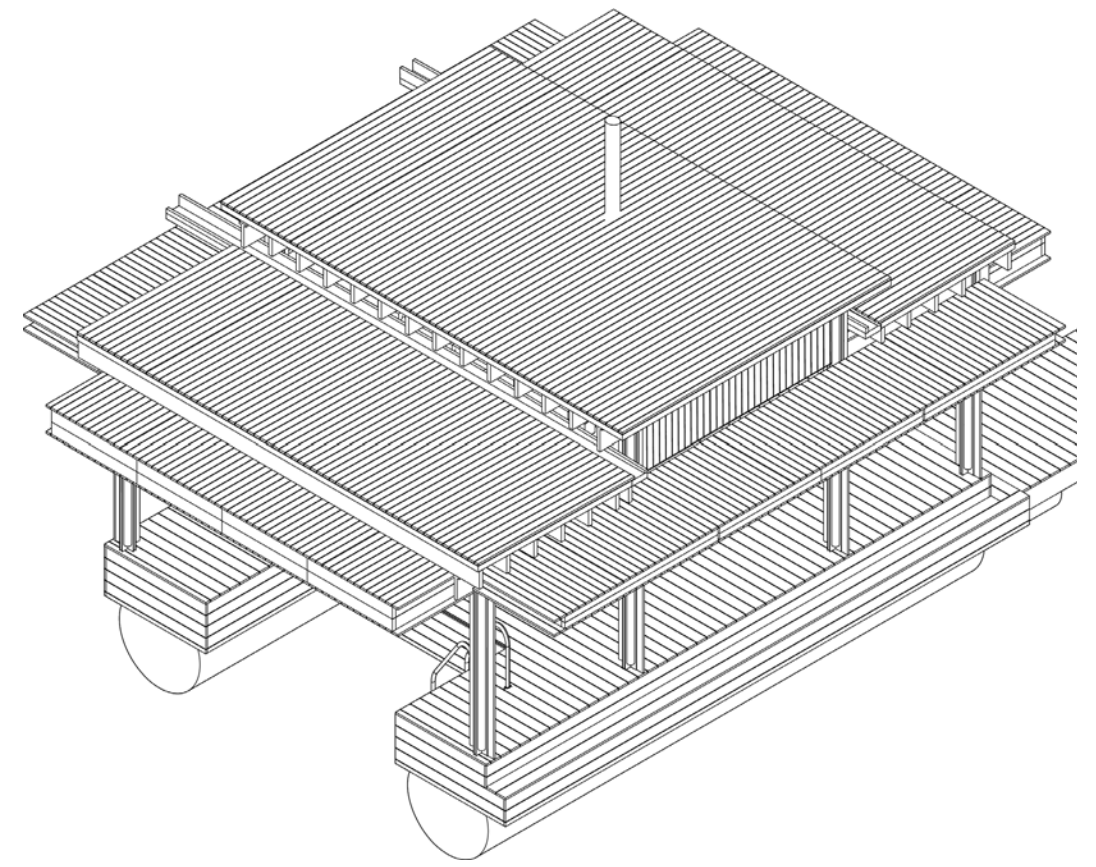
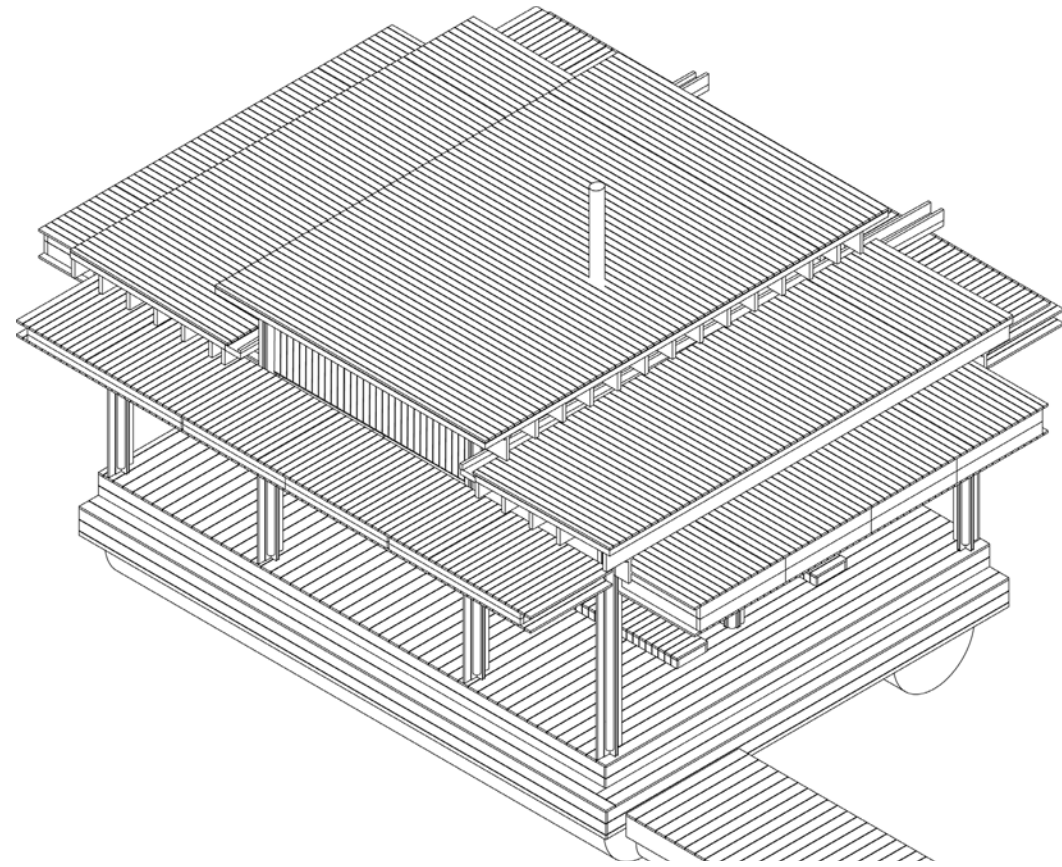


Fig.92 Conversation Sauna - Axonometric line drawings from the south-east direction. The top is with the doors open and the bottom is with the doors closed, but the main entrance. Images by author.

Fig.93 Conversation Sauna - Axonometric line drawings from the north-east direction. The top is with the doors open and the bottom is with the doors closed, but the main entrance. Images by author.



Fig.94 Conversation Sauna - Interior perspective rendering illustrating the table, sauna and warmth with the folding doors closed. Image by author.

Sauna Box One - Conversation

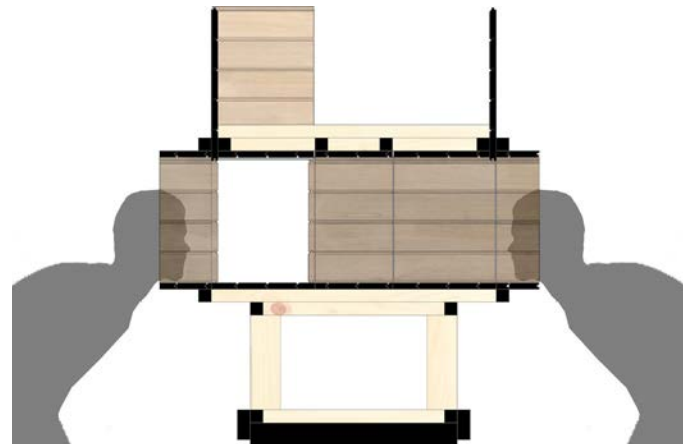


Fig.95 Sauna box one section diagram. Image by author.



Sauna box one is a phenomenological experience simulator as a tool to design the interior atmosphere for the conversation sauna. Constructed from eastern white cedar, this sauna box has a flexible design that can occupy up to six users at a single time. The six vertical sliding doors have the ability to lock open or close with a red oak peg. To activate the sauna box, simply boil water in a kettle and place it under the designated opening in the floor of the sauna box. Steam will rush into the space, heat it and absorb the moisture into the fibers of the wood. When users are ready, lift the black cloak and place the head inside the opening. The intent of this sauna box is to determine comfort versus discomfort of spaces when confronted with people in discourse. Three different experiments were completed with the EEG scanner. The first test was a conversation with another person directly across from oneself in the long direction, with another person on the far right opening. The results indicate a decrease in excitement, which can also be determined as anxiety. However, levels of engagement in conversation increased while all other emotions remained relative to the baseline. In the second experiment a person was directly across from oneself, in the short direction. Two other



Fig.96 Sauna box one exterior photograph. Image by author.

people engaged in conversation at the other end of box, but were not physically visible. Test results indicate an increase in excitement or anxiety, an increase in engagement of conversation, but a decrease in attention or focus. The anxiety is most likely related to the proximity to the other person, while a reduction in focus may have been related to another conversation within the same space. For the third experiment, only one person was adjacent to oneself. That person was not visible, only heard. The test results indicated a significant decrease in excitement or anxiety, a decrease in stress, and an increase in engagement of conversation. The significant decrease in anxiety was likely related to not visibly seeing the other person, and not confronted with any visual cues.

Based on information provided by the experiments, adjacent communication provided the results for a sauna experience. However, based on poetic phenomenological experience when visiting the Daoust Family Camp, opposite seating provided the most comfortable discourse experience, relative to comfort of the relationship with the other person. The first experiment did show levels of decrease in anxiety with long range discourse. Both results will influence the design and atmosphere of the experience in the conversation sauna.

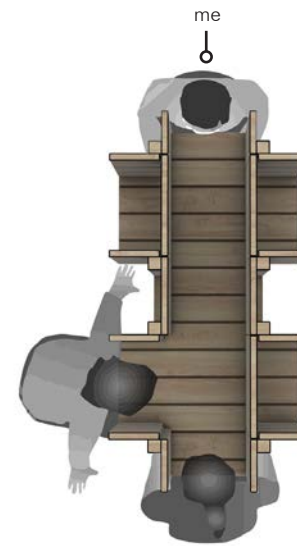


Fig.97 (above) Sauna box one perspective plan diagram illustrating the number of people and how it is being used. (right) A radial graph comparing the baseline results with experiment results. Image by author.

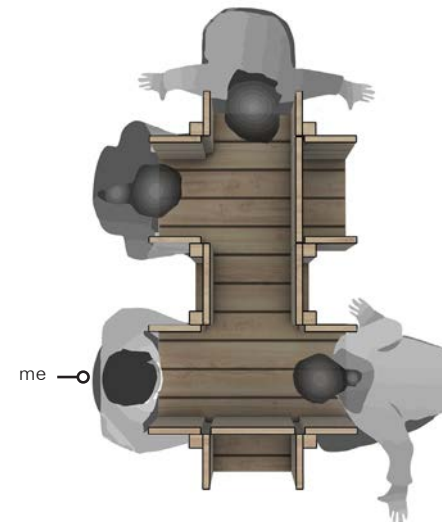
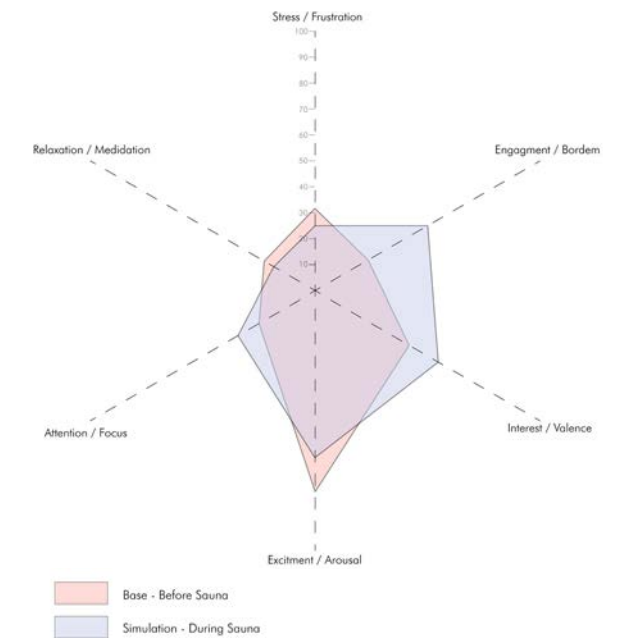


Fig.98 (above) Sauna box one perspective plan diagram illustrating the number of people and how it is being used. (right) A radial graph comparing the baseline results with experiment results. Image by author.

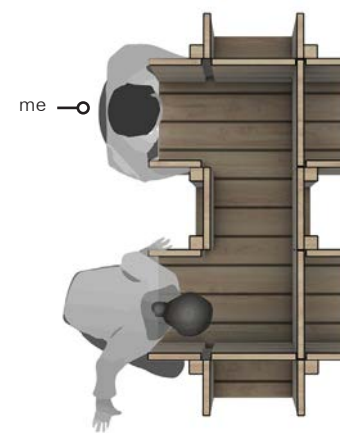
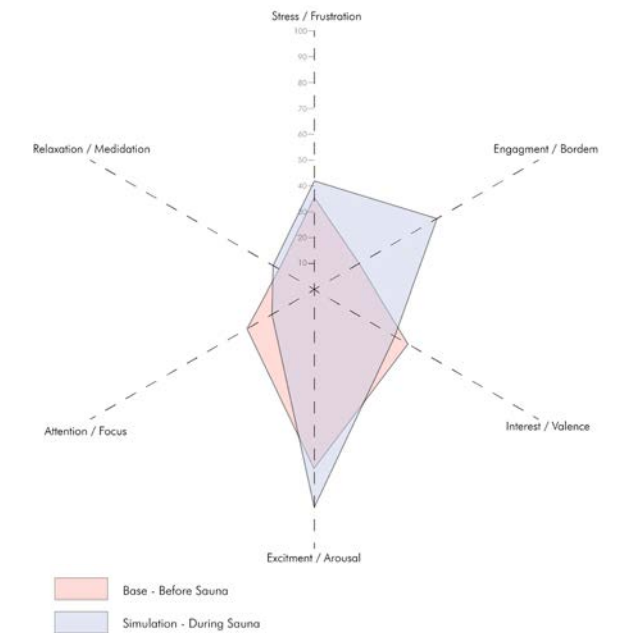
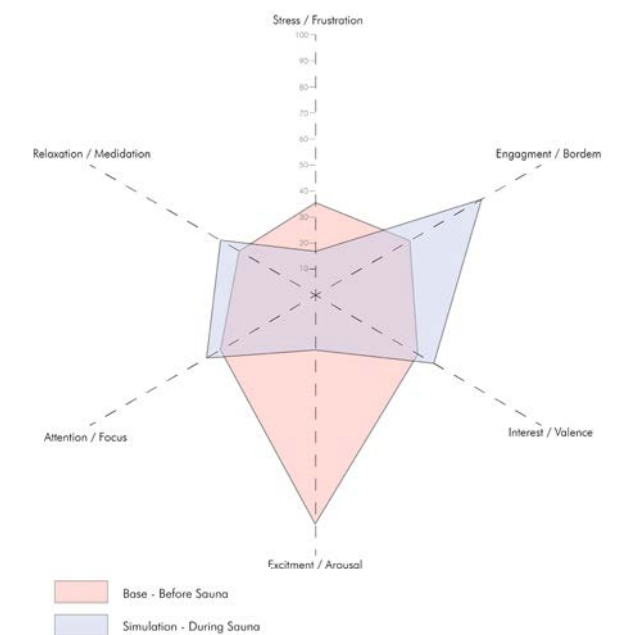


Fig.99 (above) Sauna box one perspective plan diagram illustrating the number of people and how it is being used. (right) A radial graph comparing the baseline results with experiment results. Image by author.



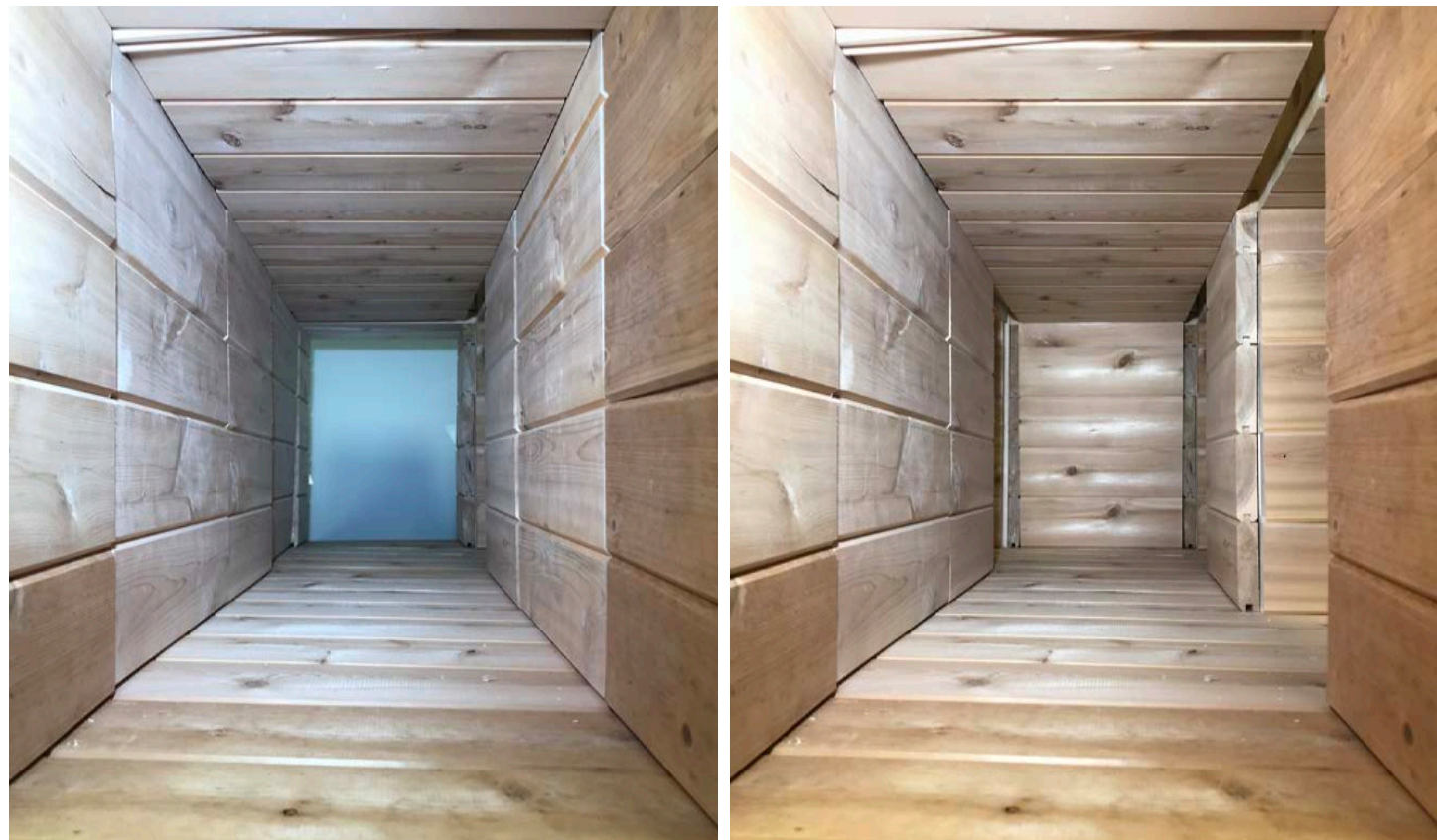
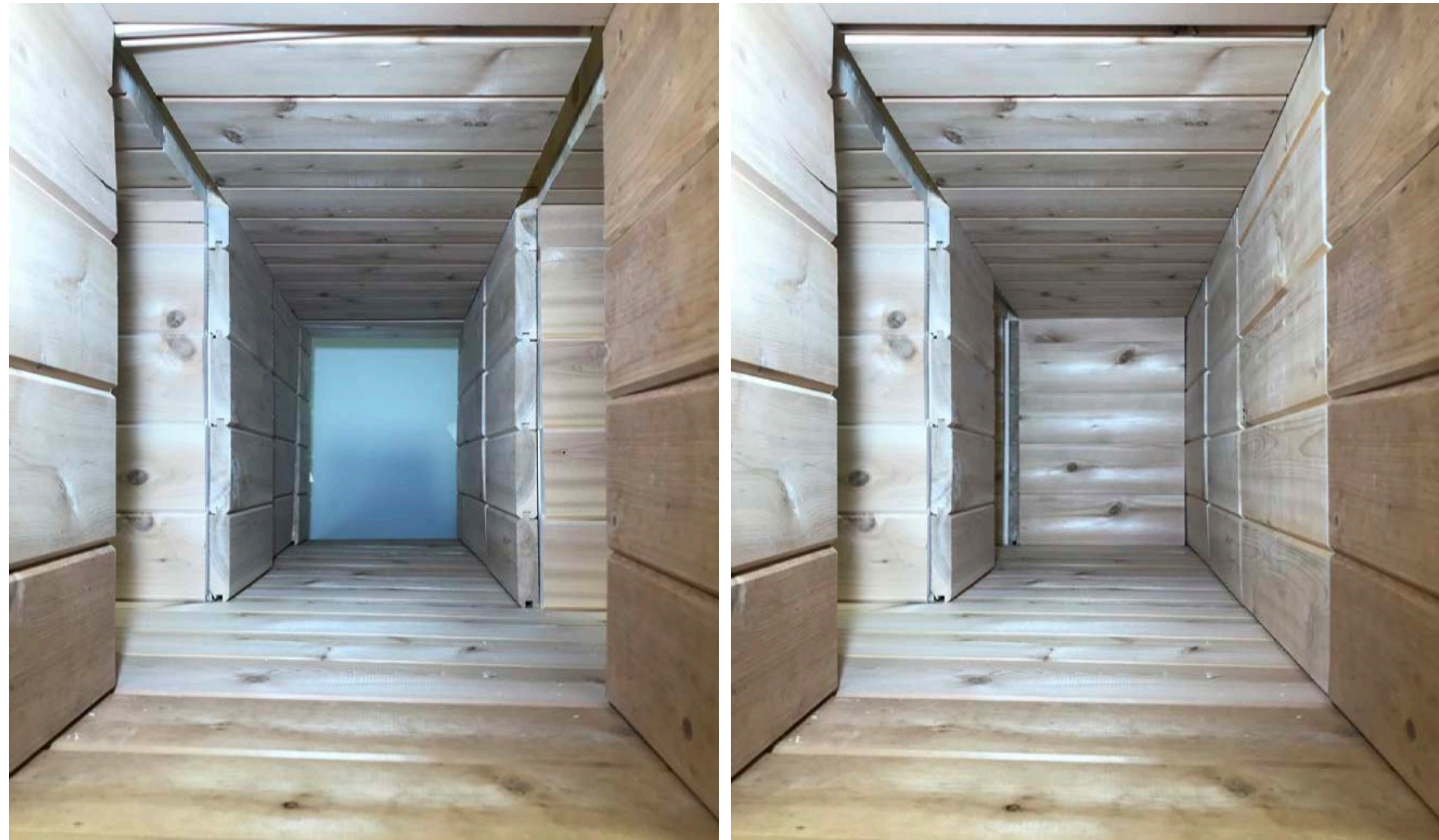


Fig.100 A photograph montage of the varied sauna box one interior options. Images by author.

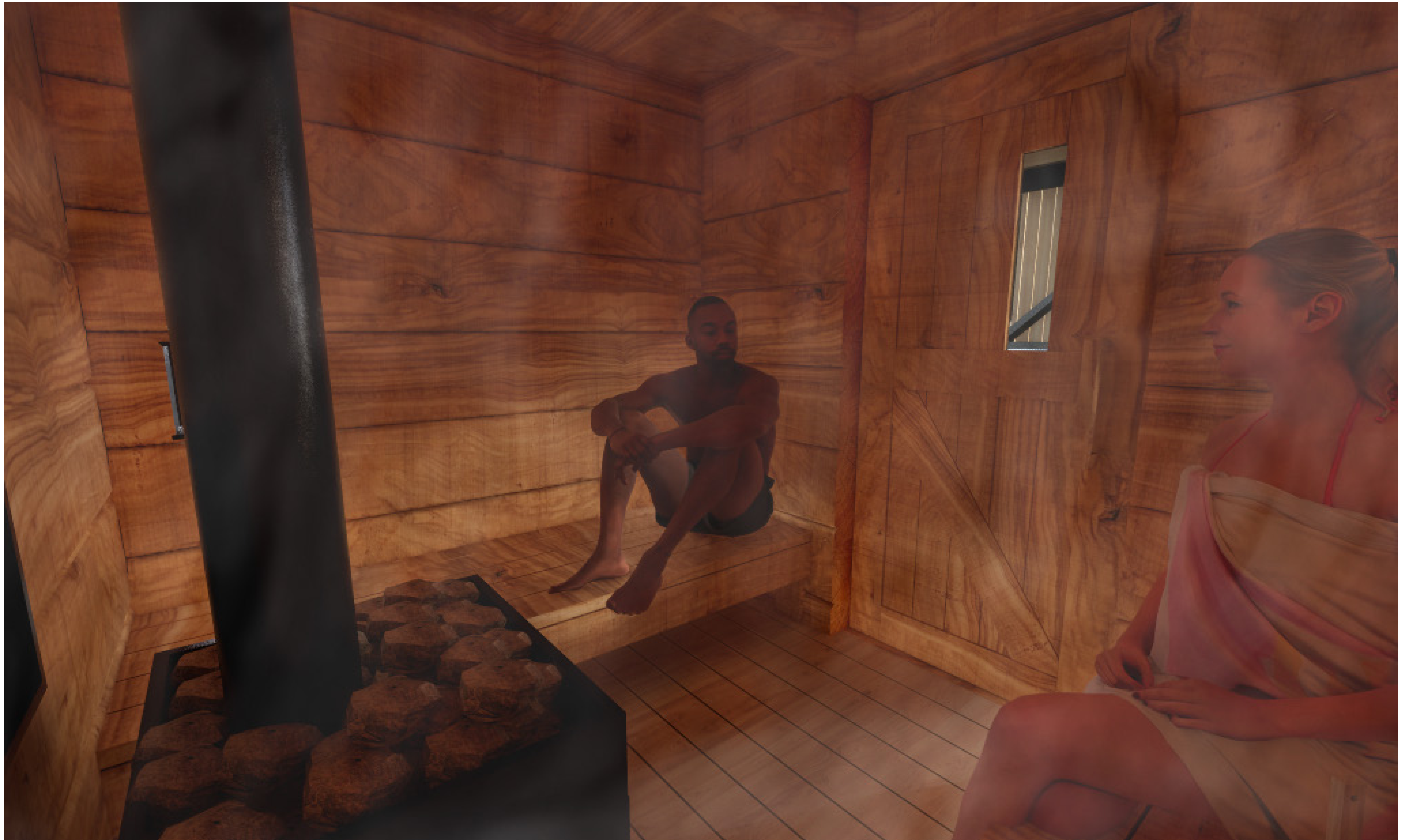


Fig.101 Conversation Sauna - Interior perspective rendering illustrating the phenomenological qualities of the designed space. Image by author.

Community Sauna



Fig.102 Community Sauna - Exterior perspective rendering of the sauna in a winter scene. Image by author.

Sauna Two – Community

Proposed Program

The theme of sauna two is derived around the word “community”. Community has several meanings, however the focus is on a unique approach to ‘fun for the whole family’. The following are the program requirements for sauna two:

- The sauna capacity is 10-12 people
- The seating layout must encourage a hybrid of light conversation and contemplation.
- The exterior is to be clad in natural Eastern White Cedar, to age into a silver grey
- It must have the option for a diving platform on the roof
- Outdoor seating for light conversation
- Interior to be clad with light wood to invoke a warm and inviting atmosphere
- Large window to allow for natural lighting and a view within the sauna
- Multiple ladders must be provided to transition from the water to the dock
- Must have a place to store firewood
- Must have lockers for people to store belongings
- Two changerooms equipped with Cinderella incinerating waste toilets

Proposed Design

The journey to the community sauna was designed with the intent of comradery to access the sauna. In the summer, two or more people can take a designated canoe from the two locations and journey out to the sauna together. In the winter the sauna can be accessed by snowshoe or cross country ski, however it requires a group effort to compact a path to the site. Nestled between Pike Island and Galliard Island, the community sauna is protected from the North West winter winds. The sauna is a long and tall structure, similar to

large watercraft. The entire structure and cladding is constructed from a local eastern white cedar. This heavy structure mass is supported by a floating structure that is made of four large tubes at varied length. These custom fabricated tubes can bare nearly one-hundred thousand pounds at full capacity. The east façade, is a large wooden blank wall with a framed glass room placed in the centre. On a dark winter evening, the soft flickering glow from the sauna fire will project out onto the flat sheet of lake ice. On either side of the square box are two towers that rise above the horizontal plane, with a small square stack emerging from the top to signal the space is important. Using a similar technology, the large flat east façade can transform into a dynamic series of openings with large vertical bi-folding doors that can rise to open social spaces. The west elevation is again a flat planar wooden wall, but on the southern side of the elevation a social staircase bumps out from the rectangular box, and carves a slice from the form. The staircase was designed facing Galliard Island, for a moment to breathe between saunas. The north façade has a large square opening, eluding that something is within the space. This is the entrance to the community sauna. There is no formal door.

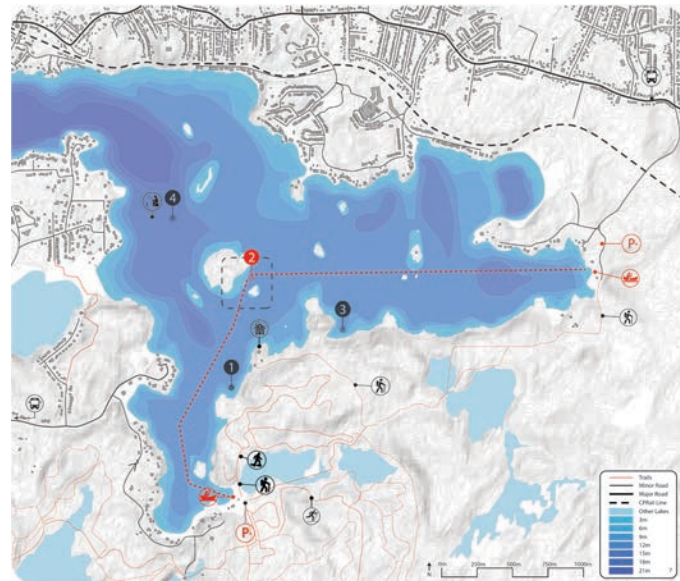


Fig.103 Community Sauna - Key map with the site location and illustration of path.



Fig.104 Community Sauna - Site Plan

A step with a ladder will allow one to climb up from a canoe onto the platform. The entrance space is a long narrow tube, with a designated area for firewood, and large steel bracket mounted to the vertical bi-folding door tracks to hang canoes and accessories. In the winter, these can be used for ski and snow shoe storage. This dynamic social space has the ability to adapt with the environment. In the summer it is a minor social space, with a large opening above that allows natural light to flutter in when the vertical doors are closed. In the winter, this space transitions to a major social space, as a large fire cauldron hangs under the large opening, which transitions to a chimney. As a place of warmth between saunas, this social space provides a moment to breathe and stay warm. A long corridor extends from the space, with three doors that blend into the vertical wood boards. The doors on either side are designated change spaces equipped with a Cinderella incinerating toilet. These two small rooms are the tall wood towers that extrude from the form. Diffused skylights above, allow an abundant of natural light into the space, while permitting privacy. In between the two change room is the large framed cube sauna. As one enters the space, the view is immediately directed towards the large framed floor-to-ceiling glass window overlooking Ramsey Lake. On the left are three tiered benches directed towards the wood furnace. The entire room is filled with natural lighting as the soft pine glows a calming warmth. The southern half of the sauna has floor-to-ceiling storage lockers, with varied sizes. Under the staircase, the tapered soffit is directed to an opening in the platform as a place to enter the lake to cool down. The staircase transitions to the second level of the sauna where a large platform of benches provides relief from the sauna process beneath. There are several moments at the community sauna to provide varying degrees of social intimacy. This diversity is catered to a

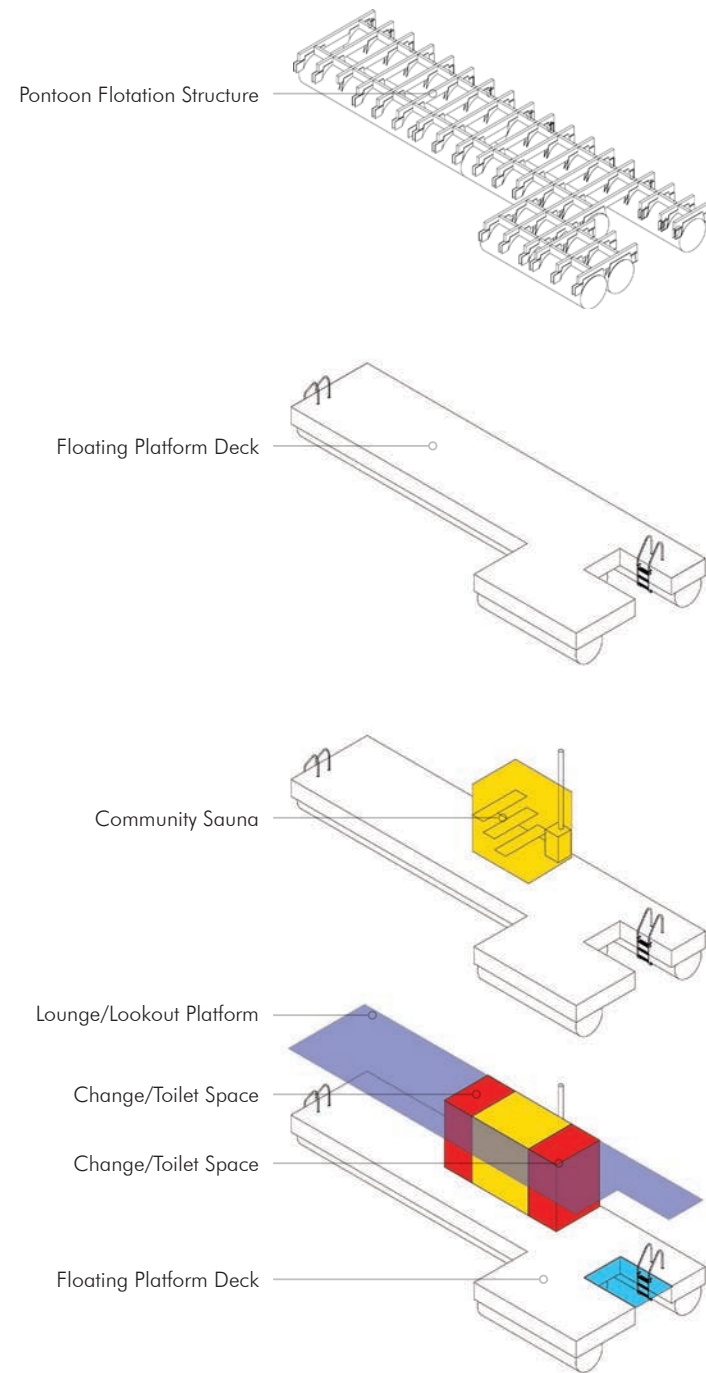
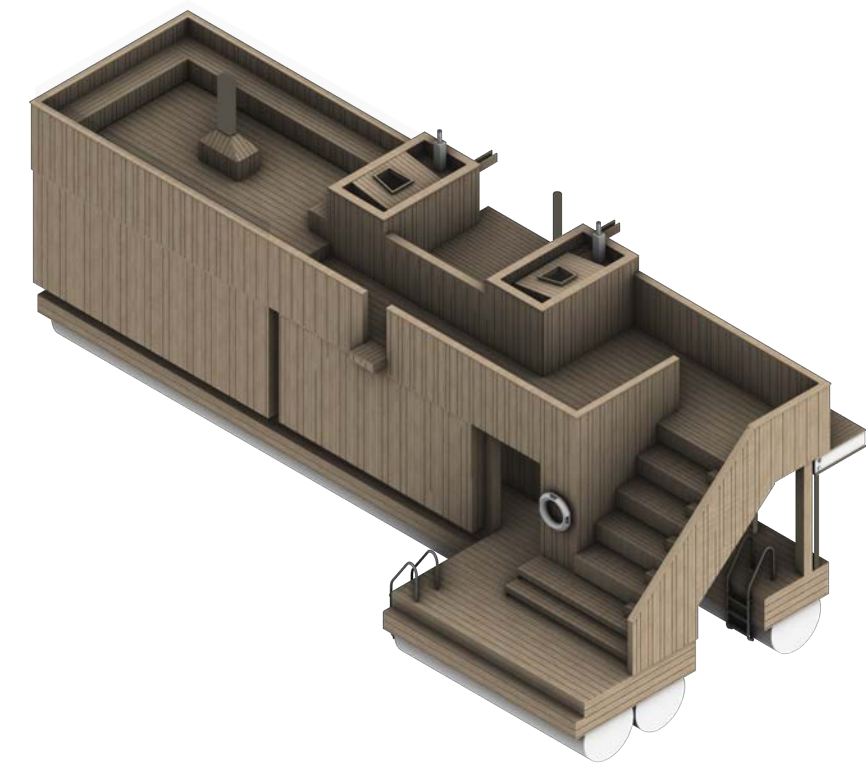


Fig. 105 Community Sauna - Program diagram. Illustration by author.

variety of social needs to emphasize the essence of community.



New

5+ Years

Fig. 106 Community Sauna - Axonometric drawing discerning the material aging of the sauna from new (top) to five years (bottom). The local eastern white cedar material will fade to a silver cedar when exposed to the sun. Images by author.

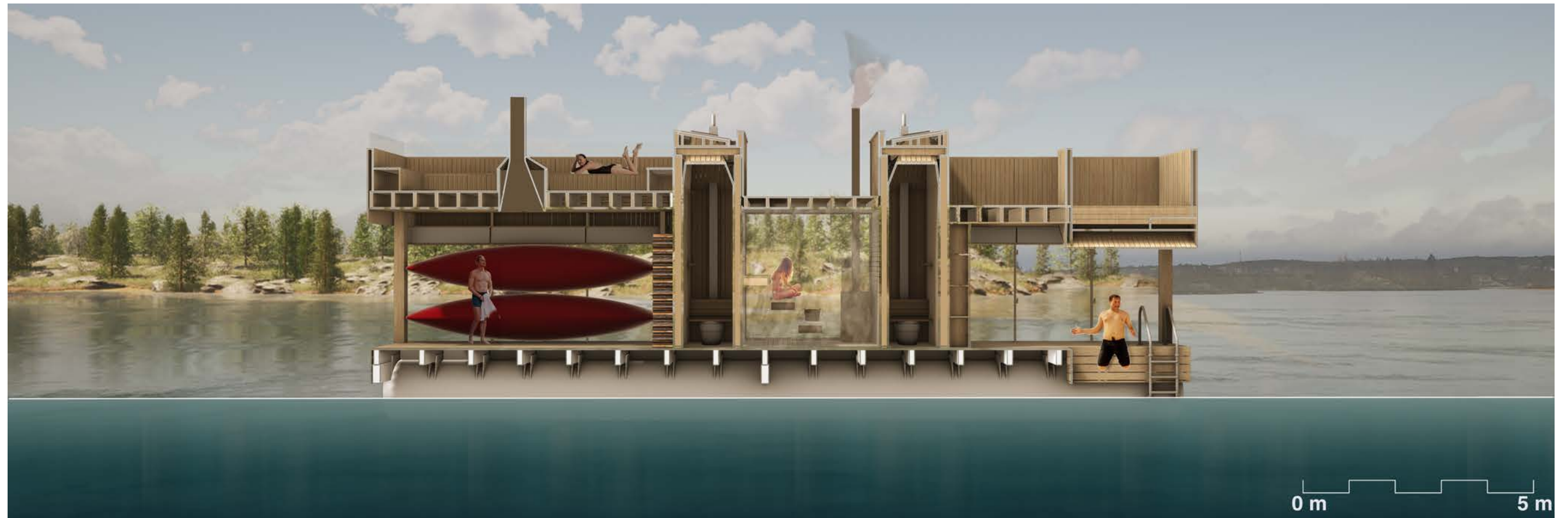


Fig.107 Community Sauna - Summer Section. Image by author.

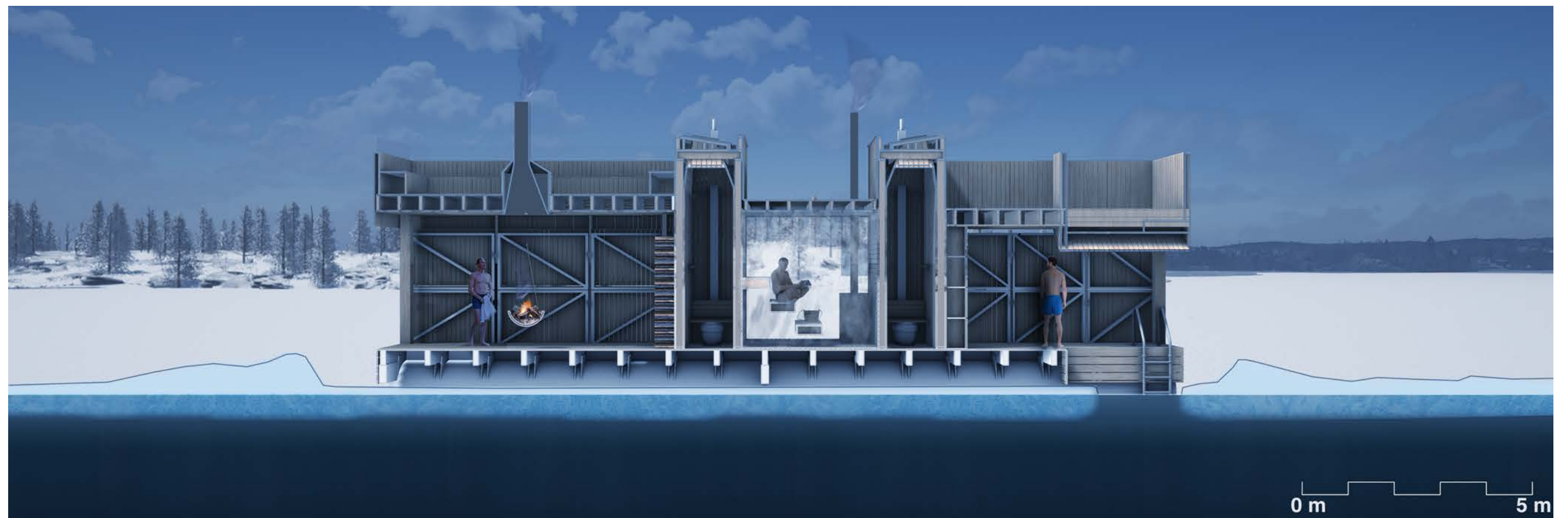


Fig.108 Community Sauna - Winter Section. Image by author.

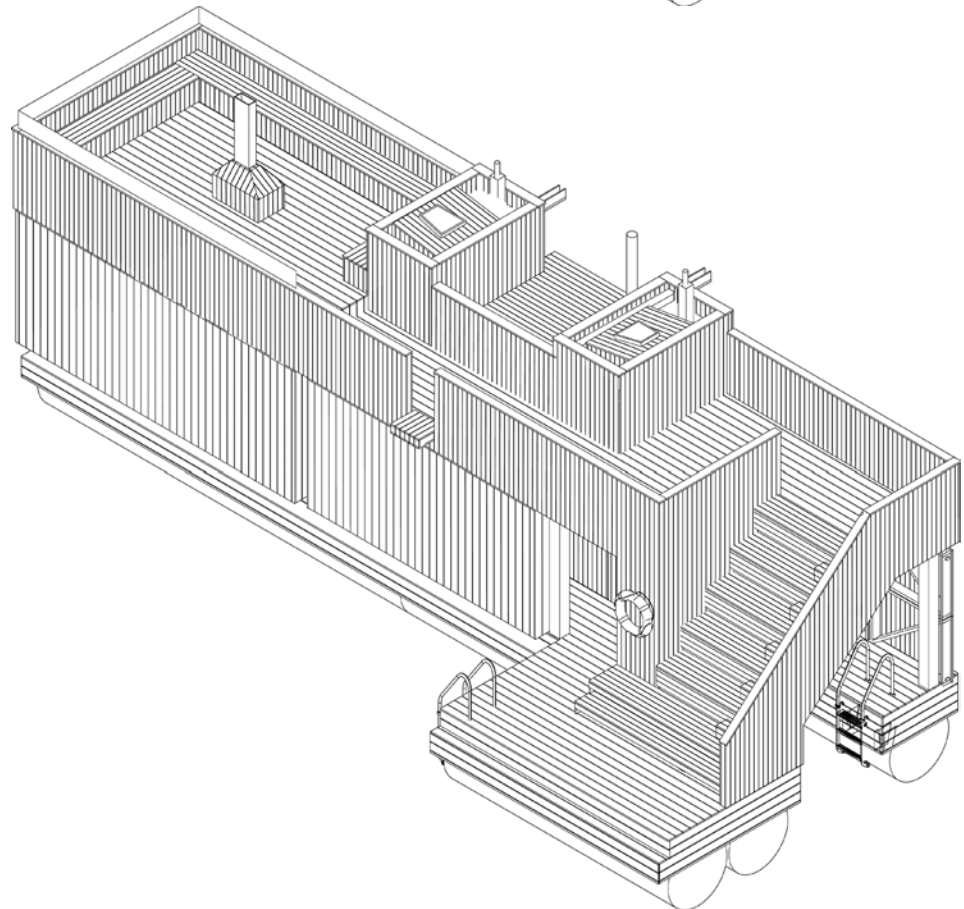
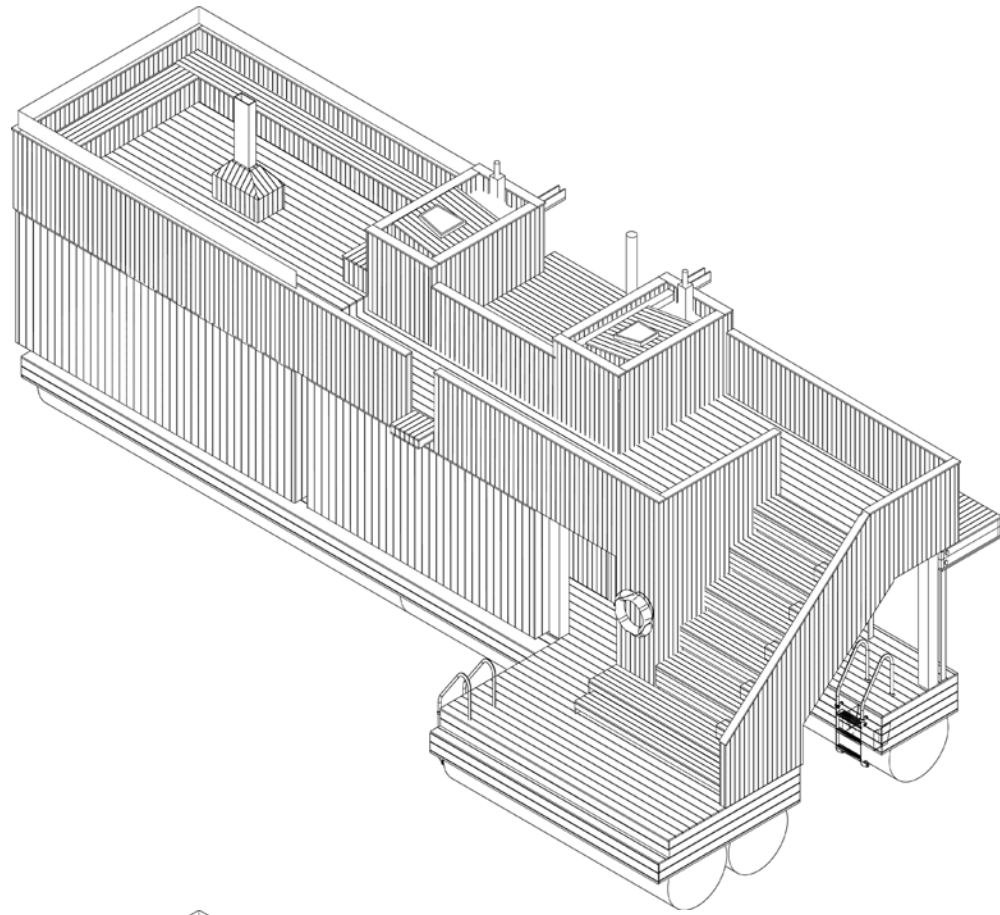


Fig.109 Community Sauna - Axonometric line drawings from the south-west direction. The top is with the doors open and the bottom is with the doors closed, but the main entrance. Image by author.

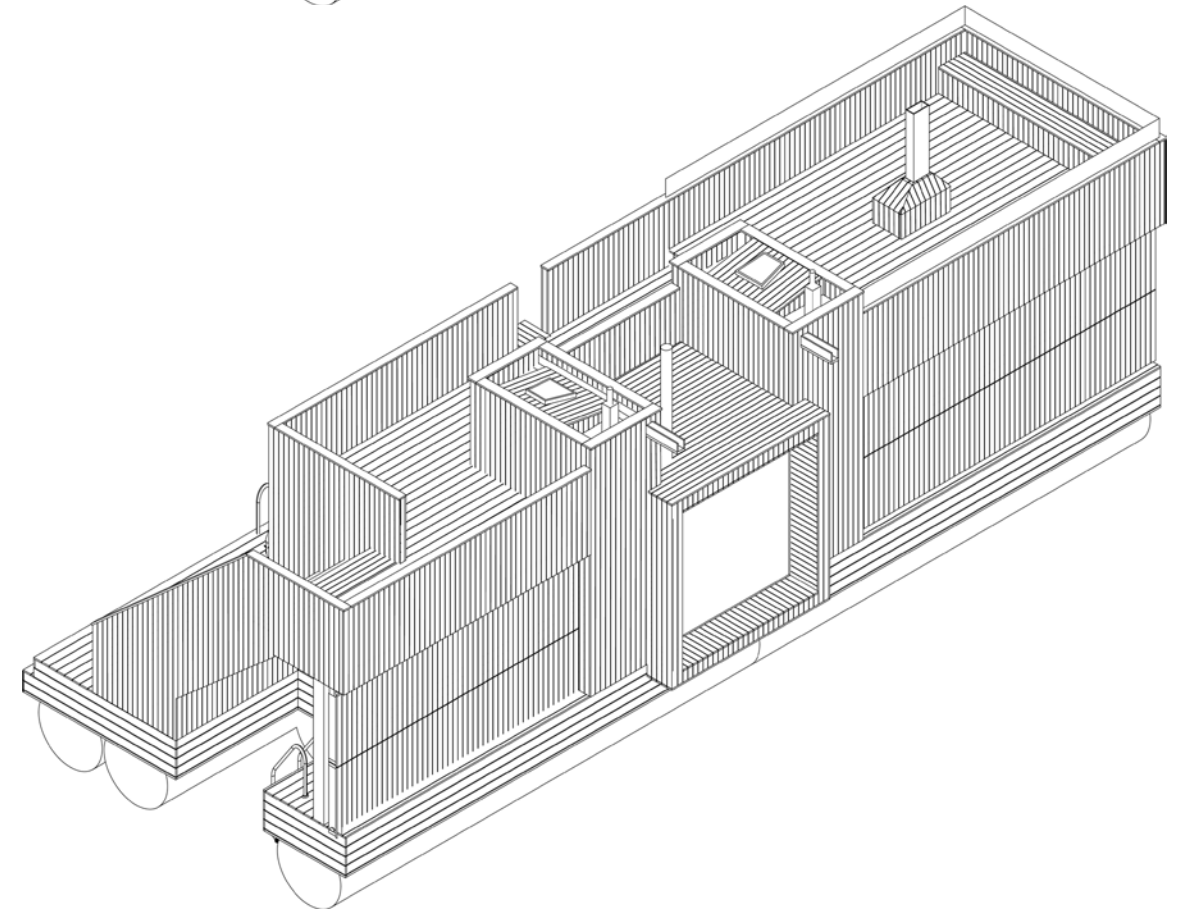
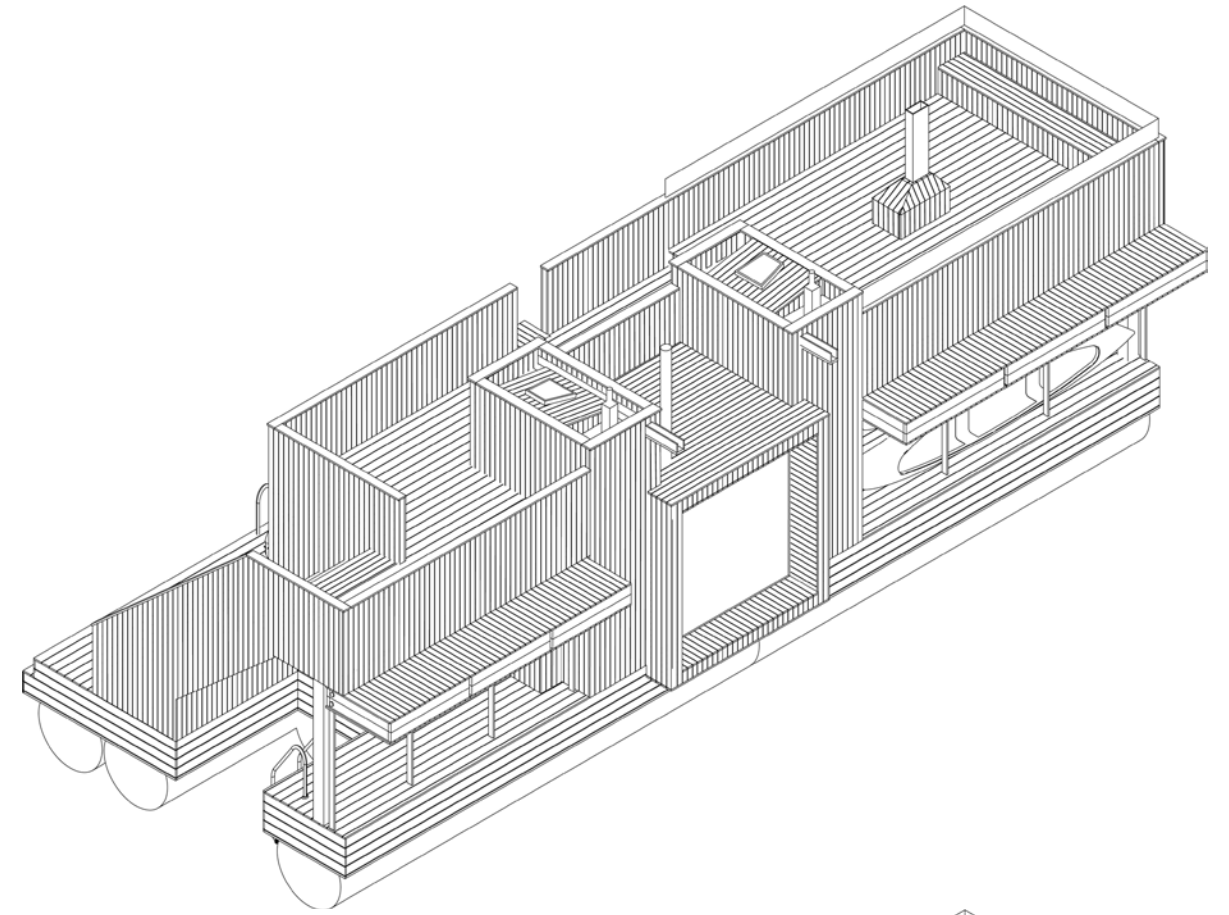


Fig.110 Conversation Sauna - Axonometric line drawings from the south-west direction. The top is with the doors open and the bottom is with the doors closed, but the main entrance. Image by author.

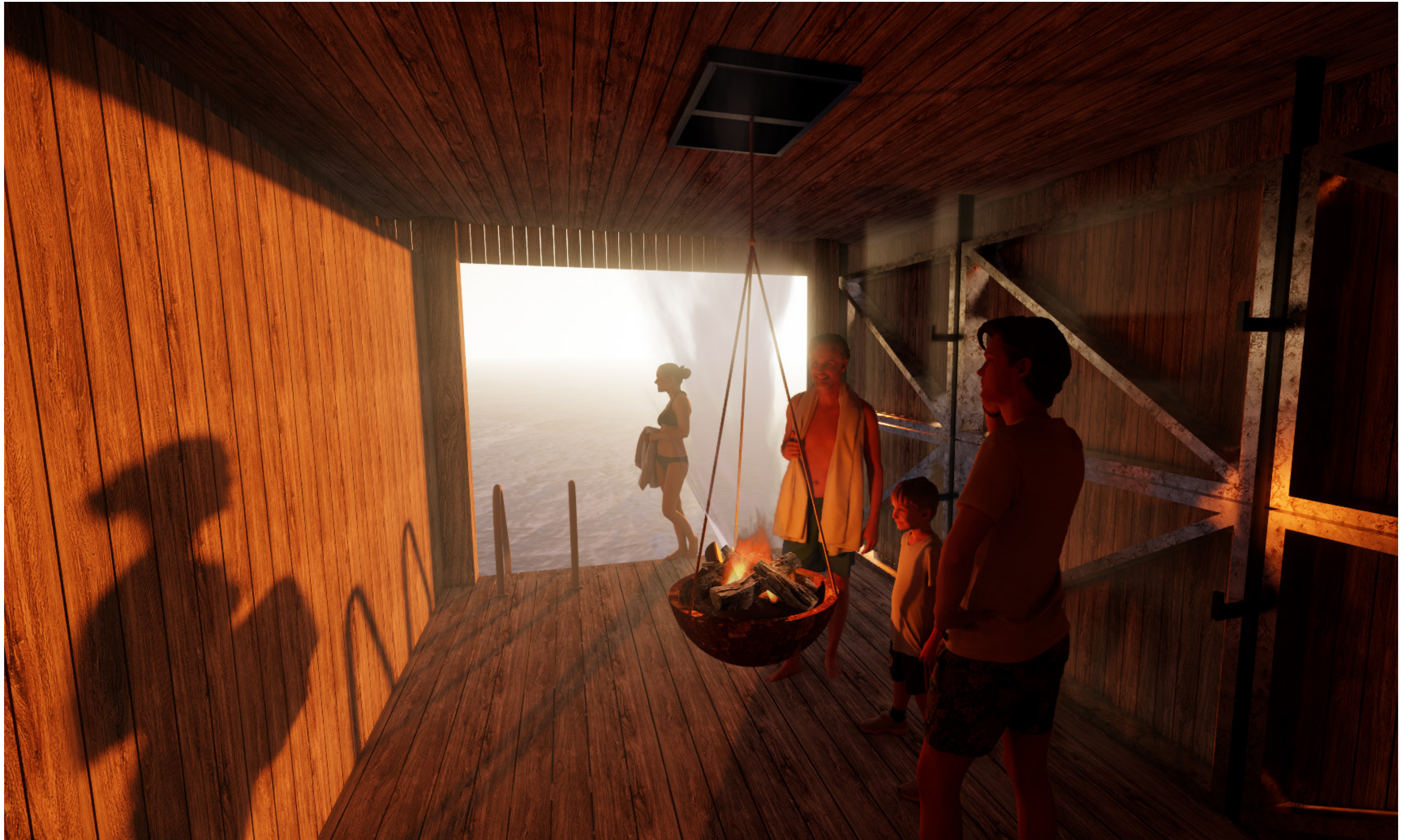


Fig.111 Community Sauna - Interior rendering of the phenomenological atmosphere around the cauldron fire in the winter. Image by author.

Sauna Box Two - Community

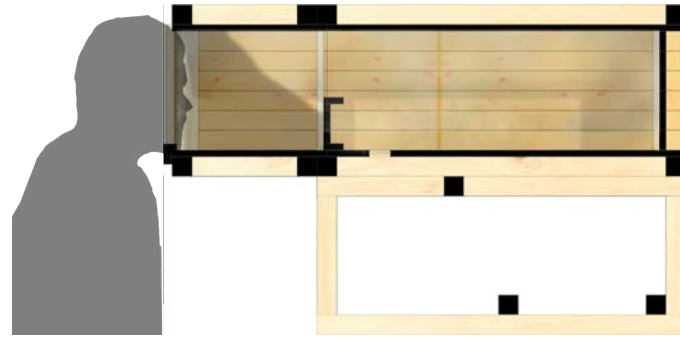
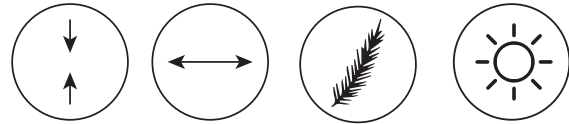


Fig. 112 Sauna box two section diagram. Image by author.



Sauna box two is a phenomenological experience simulator as a tool to design the interior atmosphere for the community sauna. This box was made with a light pine, to evoke a strong sense of warmth when in direct sunlight. To activate sauna box two, boil water in a kettle and place it directly under the designated opening in the base. The box will fill with steam as the moisture is absorbed into the fibres of the wood, releasing a soft pine aroma. Lift the black cloak and place the head within the volume. The box was designed with a narrow vertical compression and a vast horizontal relief that was intended to reduce anxiety. After completing the experiment with the EEG scanner and BCI software, a significant decrease in excitement or anxiety was reduced. There was also an increase in meditative relaxation, and engagement, while reductions in stress and focus. Reflecting on the personal experience, the soft warm glowing pine mixed with the sunlight evoked a phenomenological environment that was calming, relaxing and pleasant. The glazed opening to the side choreographed playful projections of shadows, reflections and light that was soothing and entertaining to watch, rather than a direct view to the landscape.

Reflecting on the sauna box one - experiment three (Figure 99), the test results indicated a significant

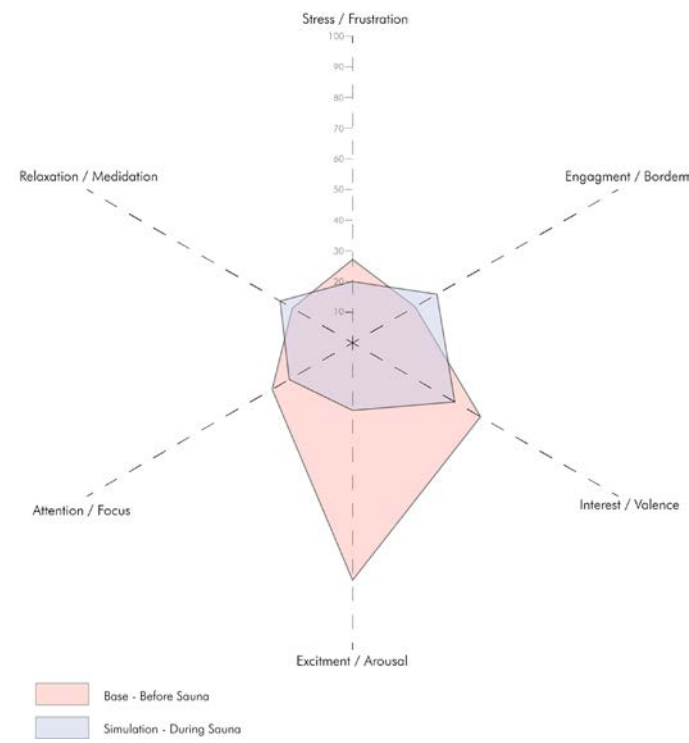


Fig. 113 A radial graph comparing the baseline results with experiment results. Image by author.

decrease in excitement or anxiety, a decrease in stress, and an increase in engagement of conversation. The significant decrease in anxiety was likely related to not visibly seeing the other person, and not confronted with any visual cues. Based on these results, adjacent seating would comply best with the community sauna. Because there is a view of the landscape on the left, it will direct the bather's attention towards that direction rather than the door. This design decision is based on the experience to the Sudbury YMCA sauna, and the awkwardness of entering a space that was directed at the door.



Fig. 114 Sauna box two exterior photograph. Image by author.



Fig.115 Sauna box two interior photograph. Image by author.

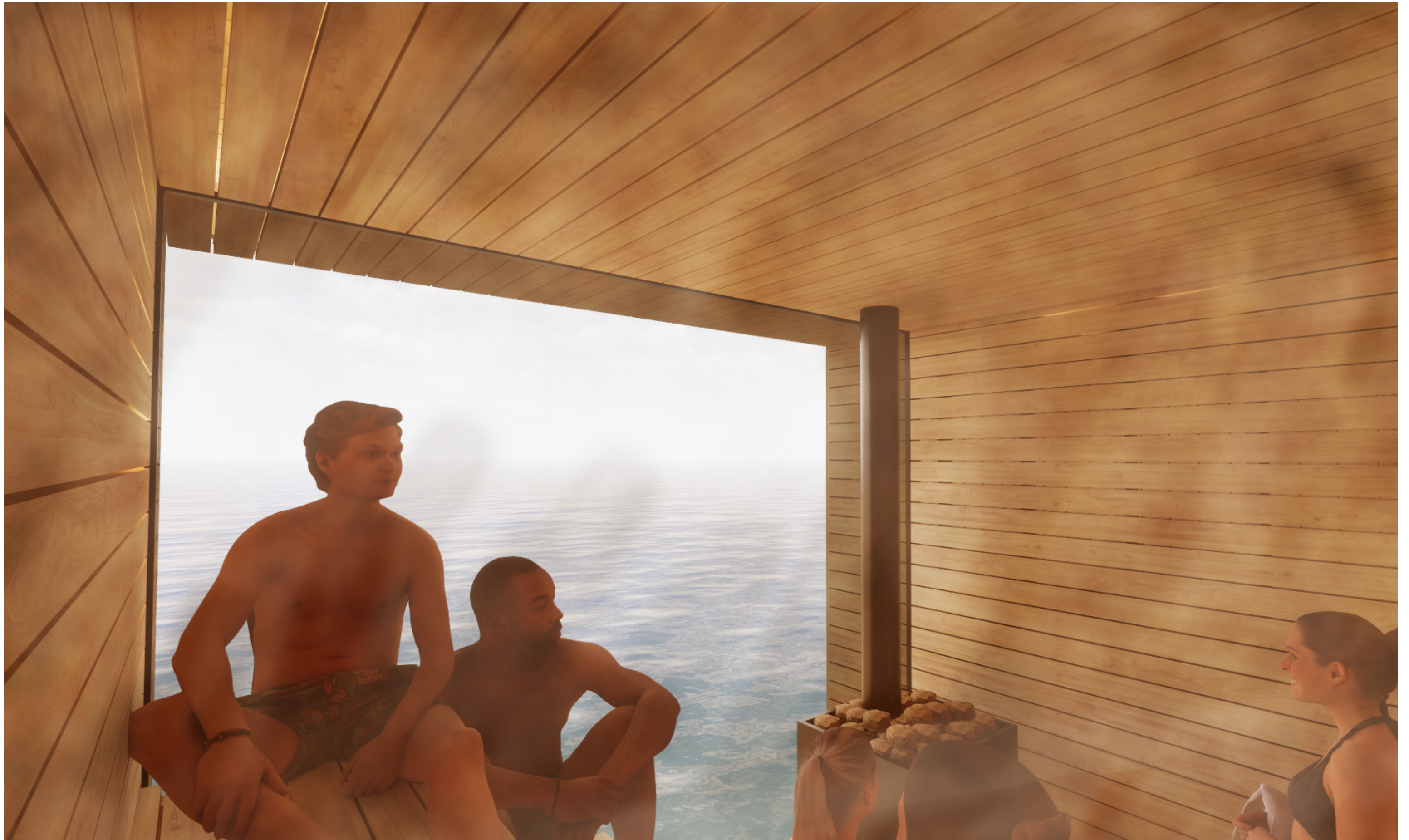


Fig.116 Community Sauna - Interior rendering illustrating the phenomenological and social qualities within the sauna. Image by author.

Contemplation Sauna



Fig.117 Contemplation Sauna - Exterior rendering illustrating the use of the sun platform deck in the iconic sudbury fall season. Image by author.

Sauna Three – Contemplation

Proposed Program

The theme for sauna three is derived around the word “contemplation”. This sauna is about the individual experience and the journey to the sauna. A heavy emphasis will be around phenomenology and exploring the senses. The following are the program requirements for sauna three:

- The sauna capacity is for one person
- The exterior and interior is to be clad in Eastern white cedar. The interior is to be a dark atmosphere
- Smoke Sauna Stove
- Two buildings along the shoreline – an outhouse and a change space with lockable storage compartments for personal belongings.
- Must have a place to store firewood
- A ladder must be provided to transition from the water to the dock
- Outdoor lounge areas for light contemplation
- Small window opening to allow a sliver of natural light
- A unique and challenging sauna entrance

Proposed Design

The journey to the contemplation sauna was designed for moments of contemplation and being in the landscape. The long hike through the Sudbury Conservation trails concludes with an off trail excursion winding through the foliage. The sauna floats calmly in the bay, while two small buildings are retreated from the shoreline. The first building along the shoreline is an outhouse. This traditional washroom has a hole burrowed deep in the ground to naturally decompose of the human waste. The building is tall with vertical wood pieces. The outhouse blends with the surrounding

tree foliage. A little further along the shoreline is an almost identical building, however there is no hole burrowed beneath. There is a plain wooden bench and small wood dowels designed to hang clothing while changing. Built into the wall accessed from the exterior are a series of lockable cabinets to secure any personal belongings. Nothing valuable will be able to make the journey over to the sauna.

The user must swim from the shoreline to the sauna, approximately fifty metres. One is able to climb the ladder on the north side to exit the water onto the floating platform. The contemplation sauna is a tall near two storey building, with three staggered roof tiers. On the north façade, a ladder climbs the façade to a large steel door. This is the access door to the sauna furnace. At the foot of the ladder is the storage for the firewood, with an ease access to stoke the fire. The platform consists of three large walls that can block strong winds and snow. On a nice sunny day, the walls are able to fold down to extend the surface area of the platform to lounge. The west façade has a large cantilever, with metal stair bars that rise into the box. This is the designated main entrance to the sauna. Underneath, the user pushes a large wooden latch door up to crawl into the space. Once the latch door is closed,

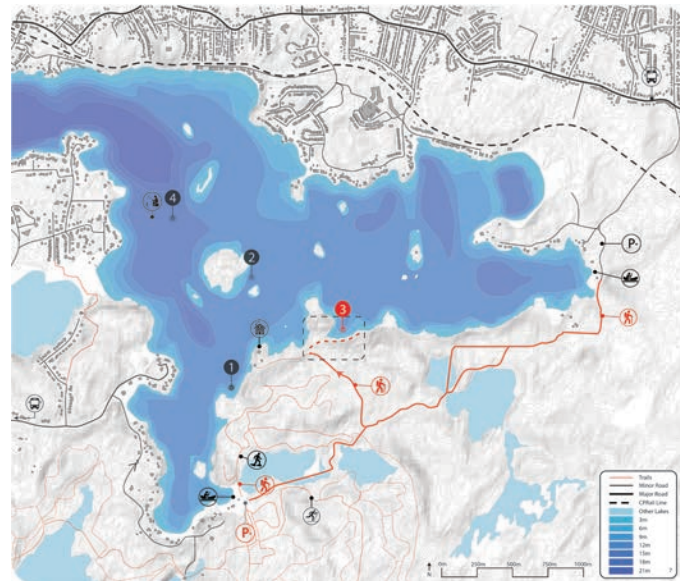


Fig.118 Contemplation Sauna - Key map of the site location and illustrating the path. Image by author.

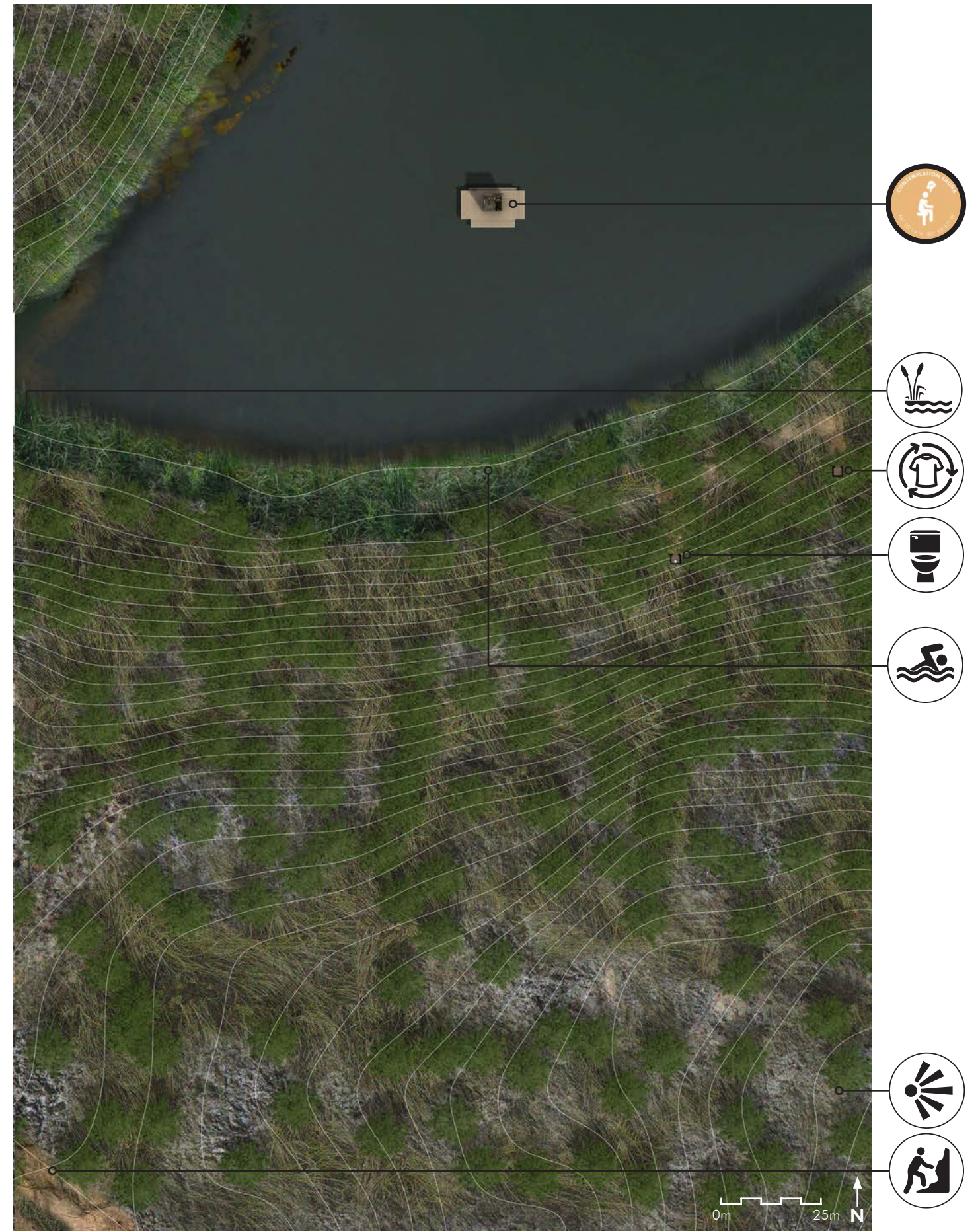


Fig.119 Contemplation Sauna - Site Plan. Image by author.

the backside is aligned with the floor plane. The contemplation sauna is small and quaint, as it is only designed for one person to use. Several others may wait on the platform. The sauna consists of four spaces; a change space, a lounge, the plunge access and the sauna. The change space is placed as the threshold before entering the sauna on the south. A couple of small wooden hooks are placed for the user's bathing suit if they wish. This sauna is intended to be experienced naked. On the north façade, a large wooden door on a track slides open, exposing the lounge space to the open lake. This is a great spot to sit, stand or lay while waiting for the sauna to heat up or between saunas. When ready to enter the sauna, a ladder to the left of the door rises almost above the roof line. A small wooden door sits at the peak. Because this sauna is a traditional smoke sauna, the furnace does not have a chimney. To enter the sauna, open the latch to allow the smoke to escape the room. Then quickly climb down and enter the sauna. The small, dark sauna is lined with black sot on the cladding from the smoke. The sot and smoke fragrance accentuates the phenomenological qualities of the contemplation sauna experience. One can taste the charred wood as the moisture is absorbed into the fibres of the wood. The room is narrow, but long. A bench stretches half the length with the furnace near half the size. The furnace is made from stacked fire brick and local granite rocks. At the core of the rock pile are the fires coals that heat the sauna. A southern clerestory window casts a controlled amount of daylight into the space, enough to discern light to the void of darkness. The opposite wall from the ladder to the chimney latch door, is another ladder that sinks beneath to the depths of the cold lake water. A soft ambient light filters through the gaps of the vertical wood boards to fill the space. The ladder submerges beneath the water, to accentuate the contemplativeness of

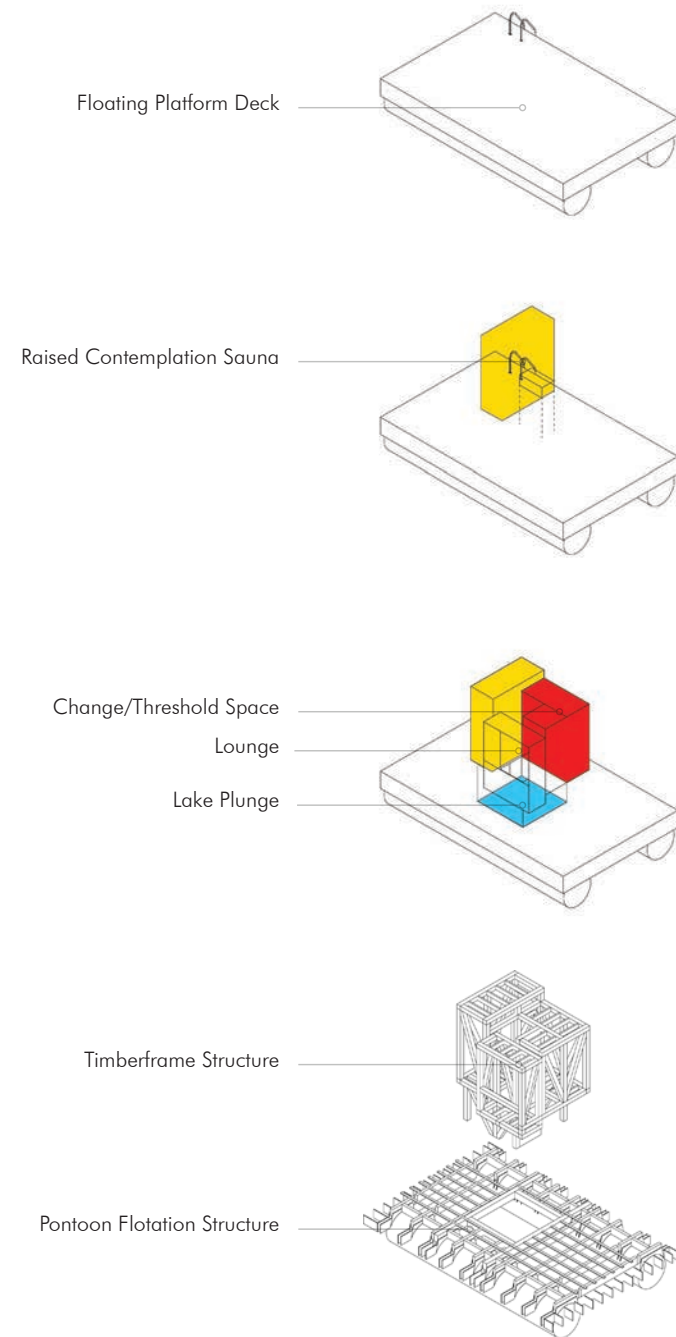
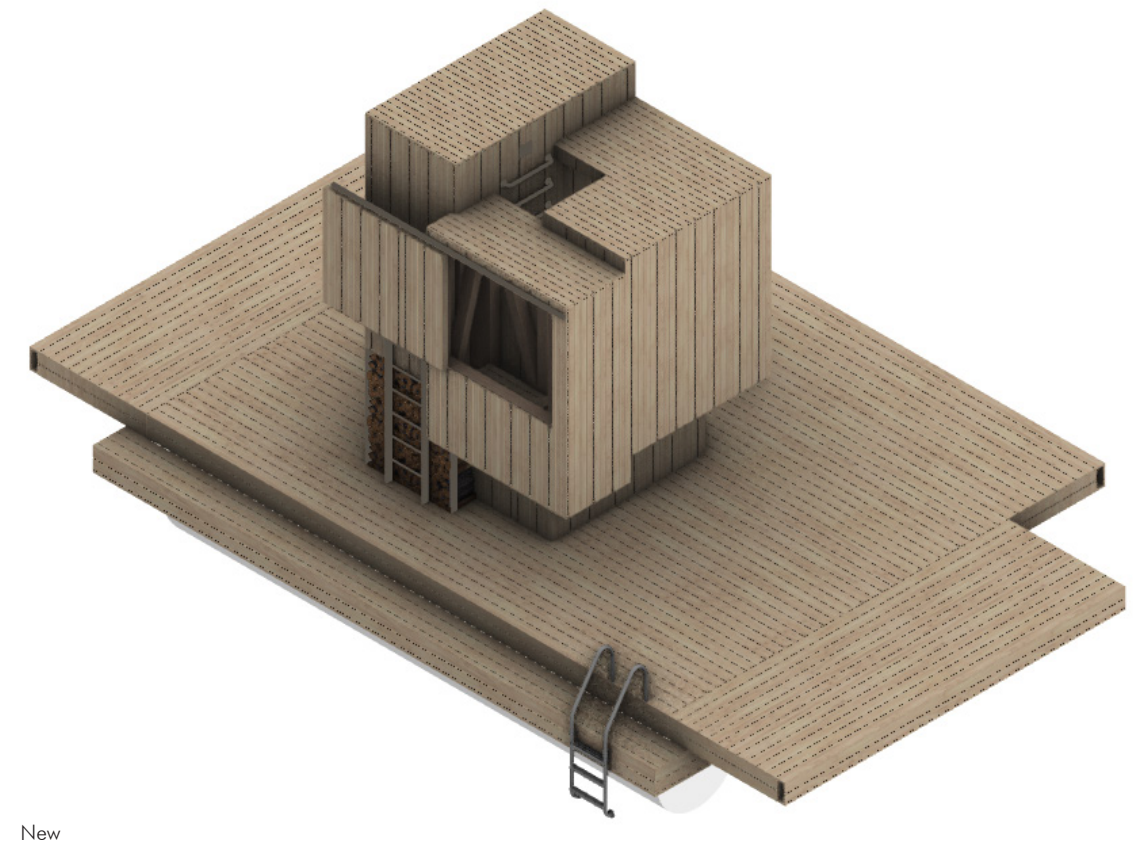


Fig. 120 Contemplation Sauna - program to structure diagram

entering and exiting the water. As one climbs up from the water and looks up, an opening in the roof frames the sky similar to a piece of art. The entire sauna is constructed with eastern white cedar, which will silver with age. The flotation structure is made from two large stainless steel tubes, with hybrid wood frame platform construction. The entire structure of the sauna is built with timberframe traditional joinery.



New

5+ Years

Fig. 121 Contemplation Sauna - Axonometric drawing discerning the material aging of the sauna from new (top) to five years (bottom). The local eastern white cedar material will fade to a silver cedar when exposed to the sun. Image by author.



Fig.122 Contemplation Sauna - Summer Section. Image by author.

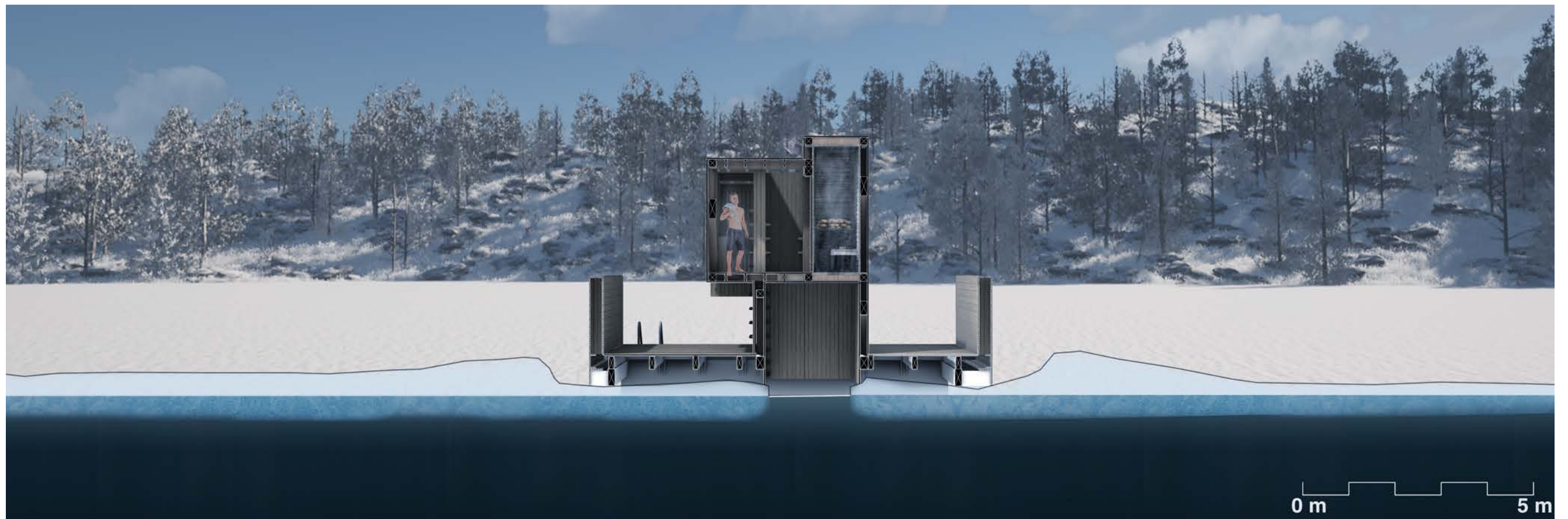


Fig.123 Contemplation Sauna - Winter Section. Image by author.

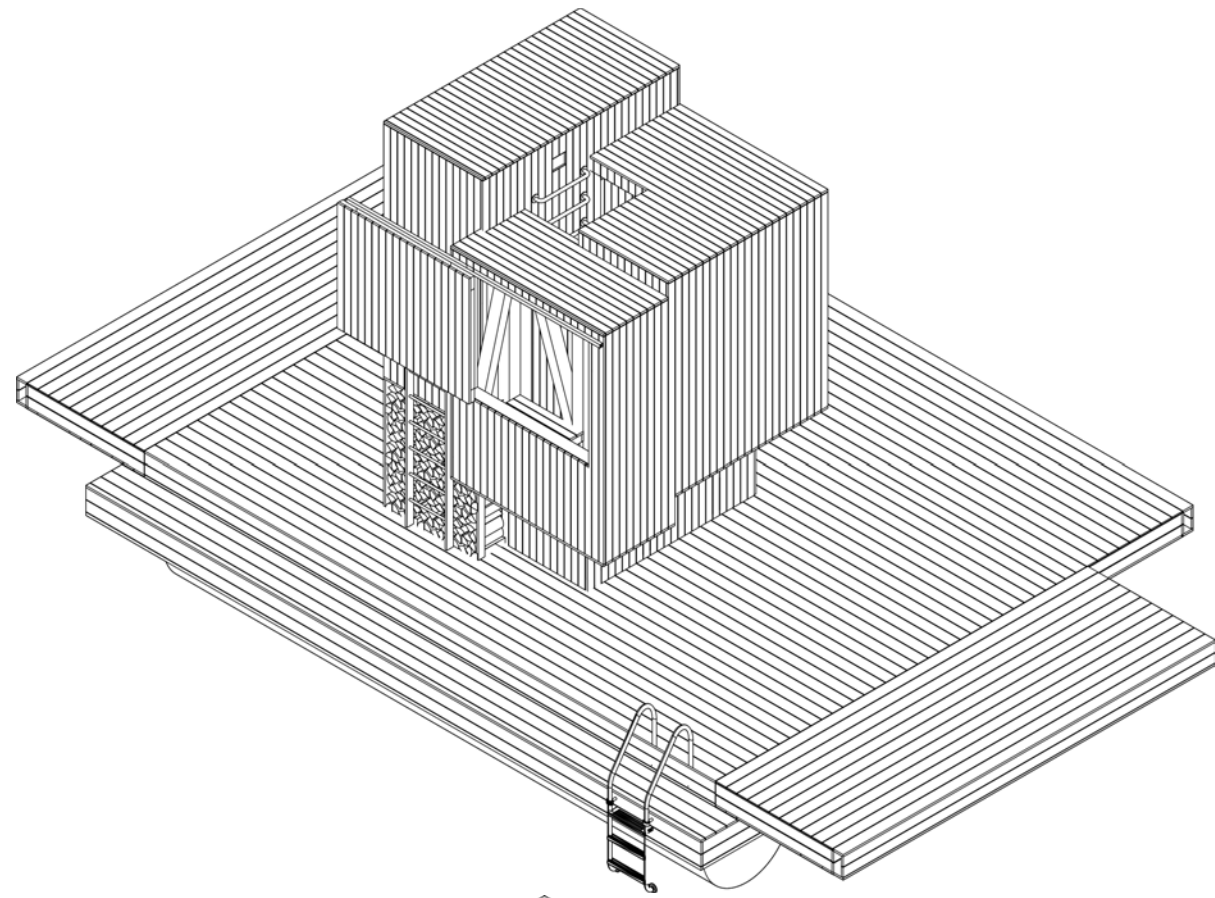


Fig.124 Contemplation Sauna - Axonometric line drawings from the north west direction. The top is with the doors open and the bottom is with the doors closed, but the main entrance. Image by author.

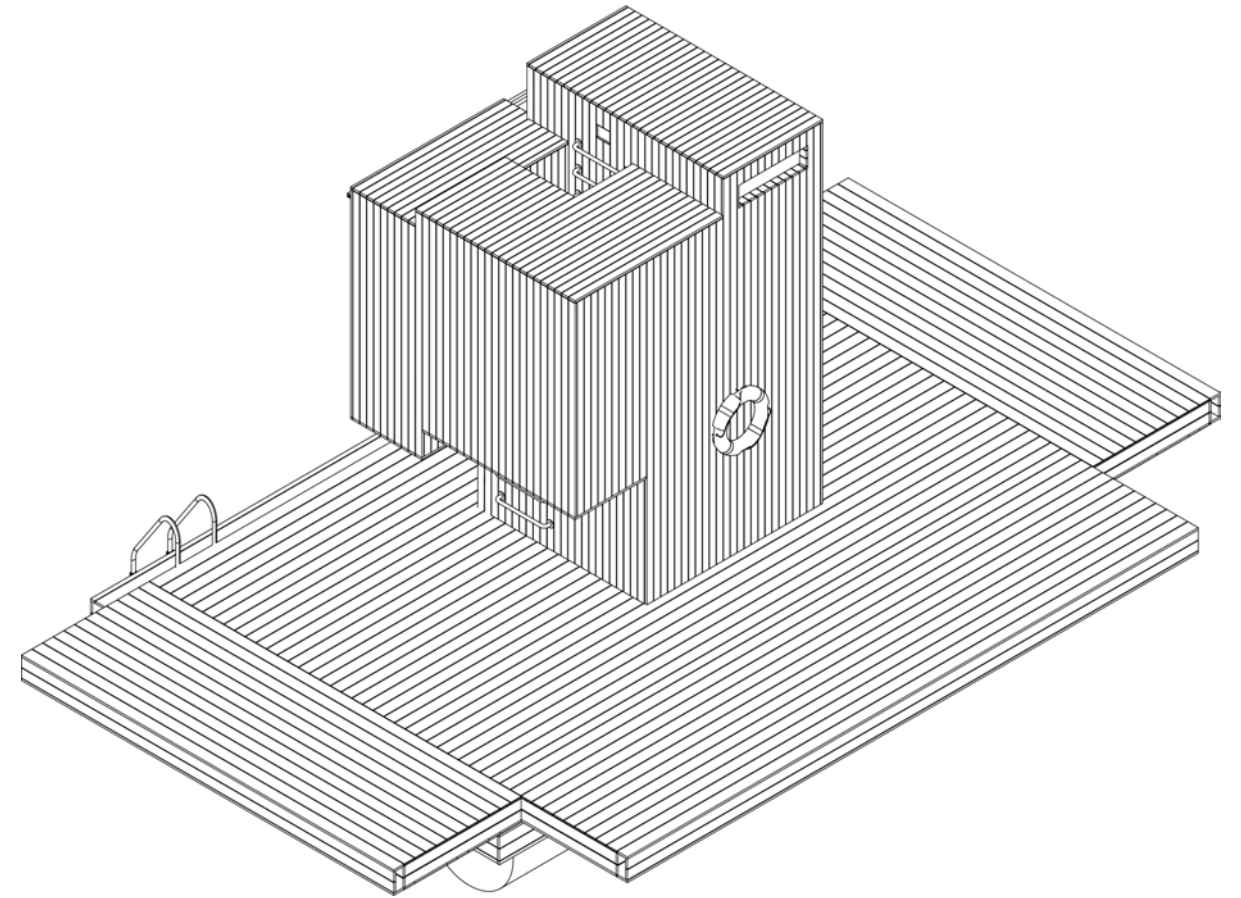
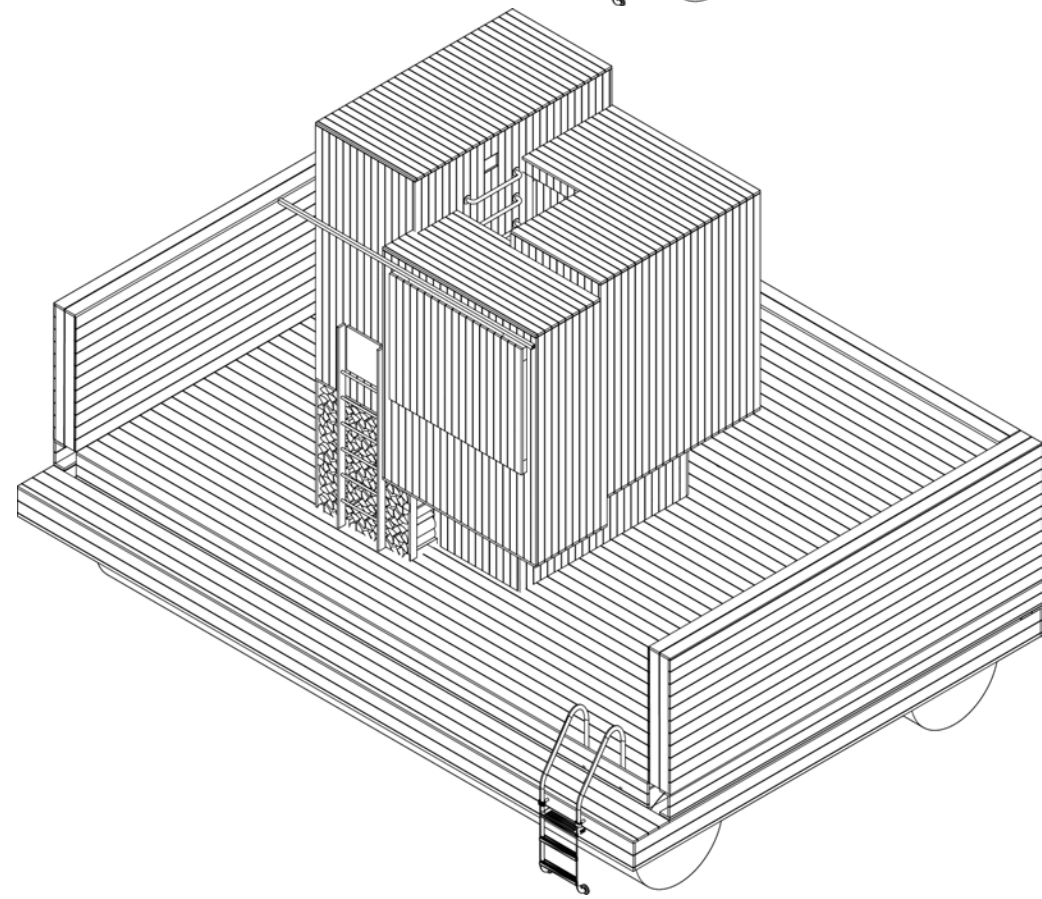
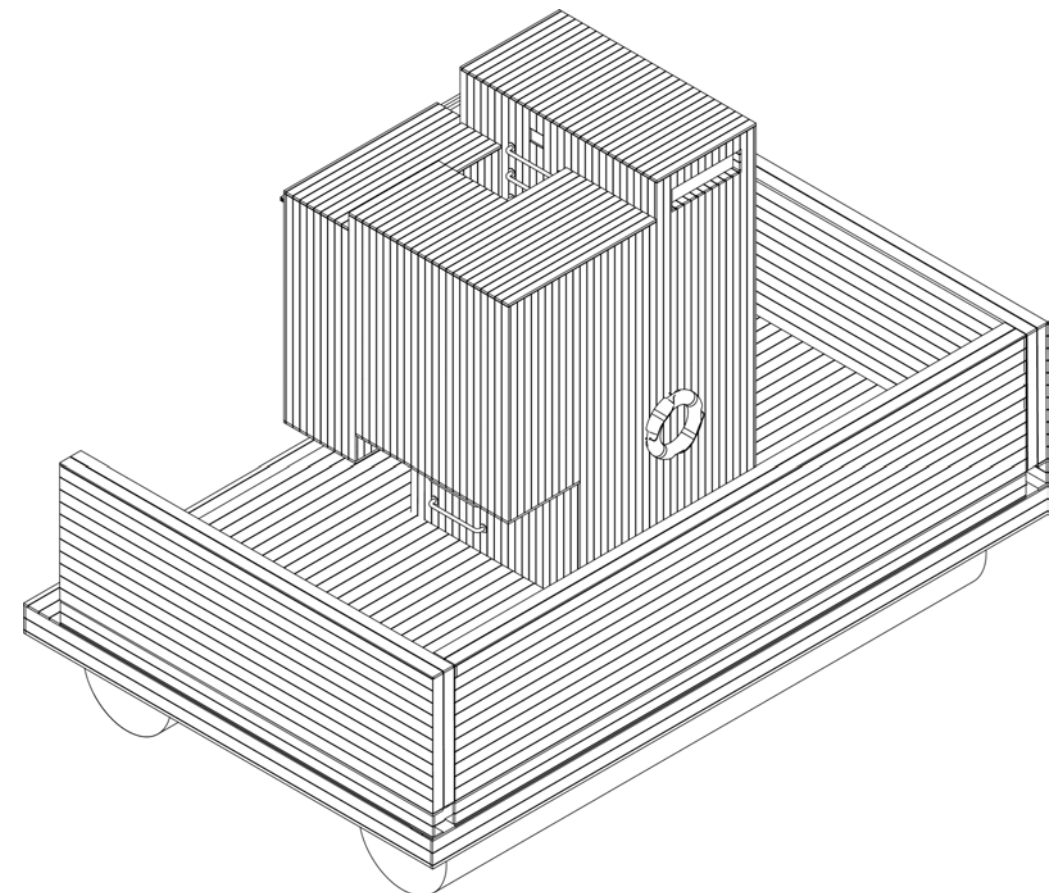


Fig.125 Contemplation Sauna - Axonometric line drawings from the south-west direction. The top is with the doors open and the bottom is with the doors closed, but the main entrance. Image by author.



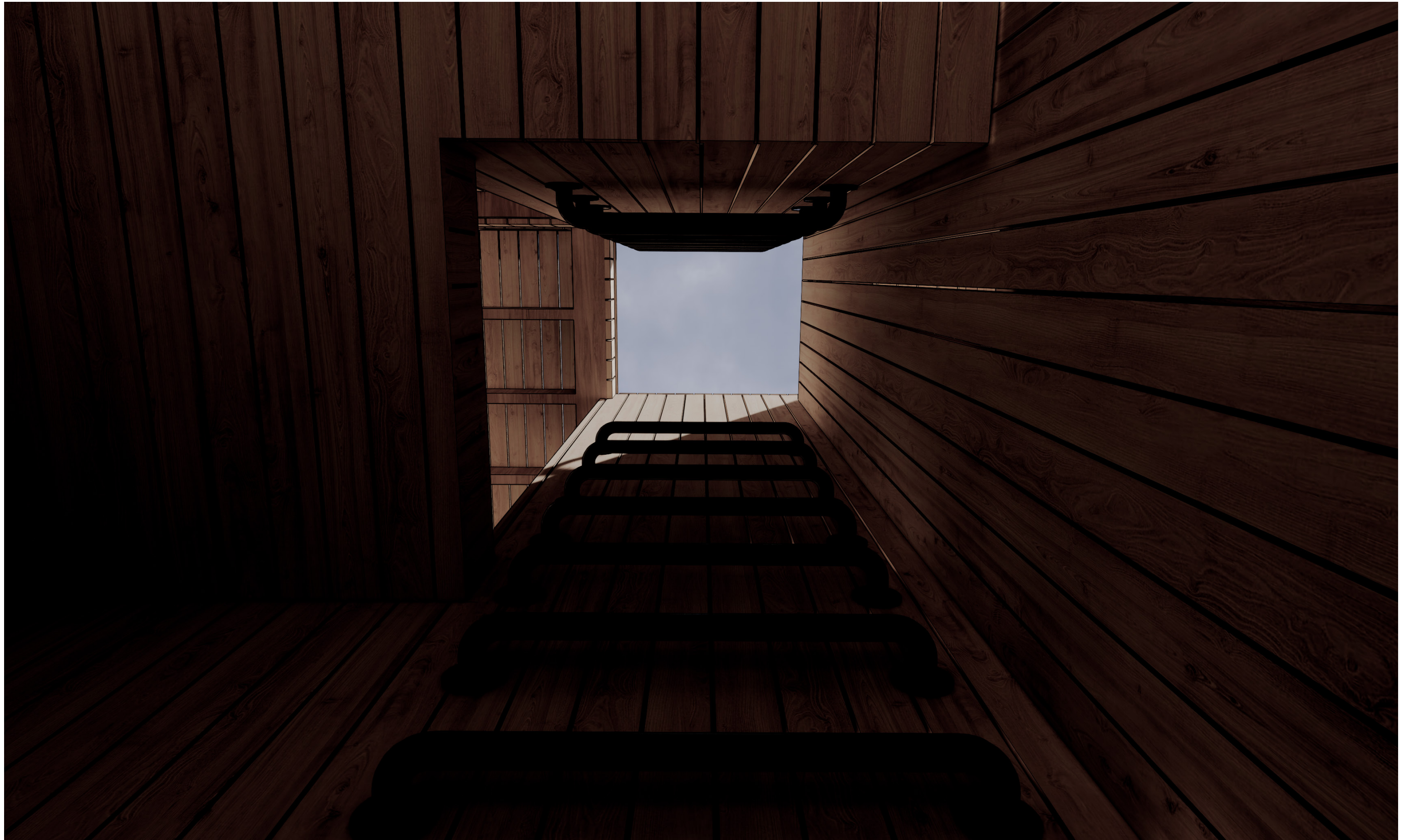


Fig. 126 Contemplation Sauna - Interior perspective rendering of the ladder rising from the water to the sauna. Image by author.

Sauna Box 3.1

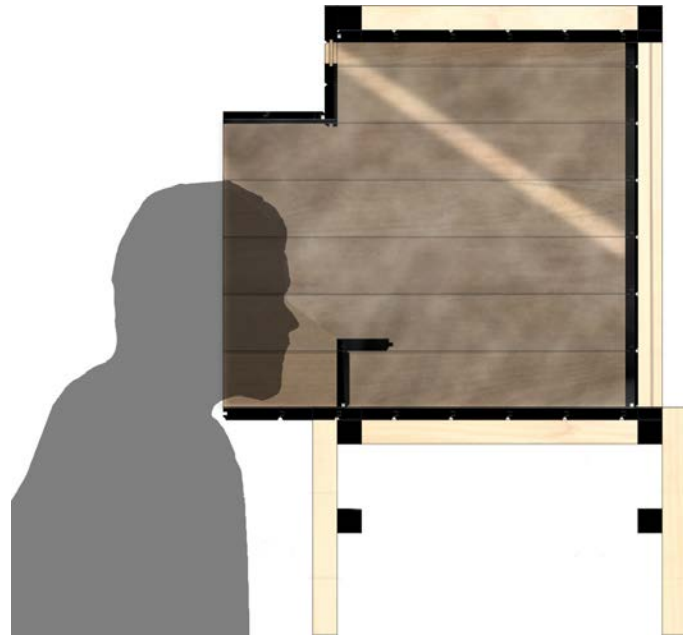


Fig.127 Sauna box 3.1 section diagram. Image by author.

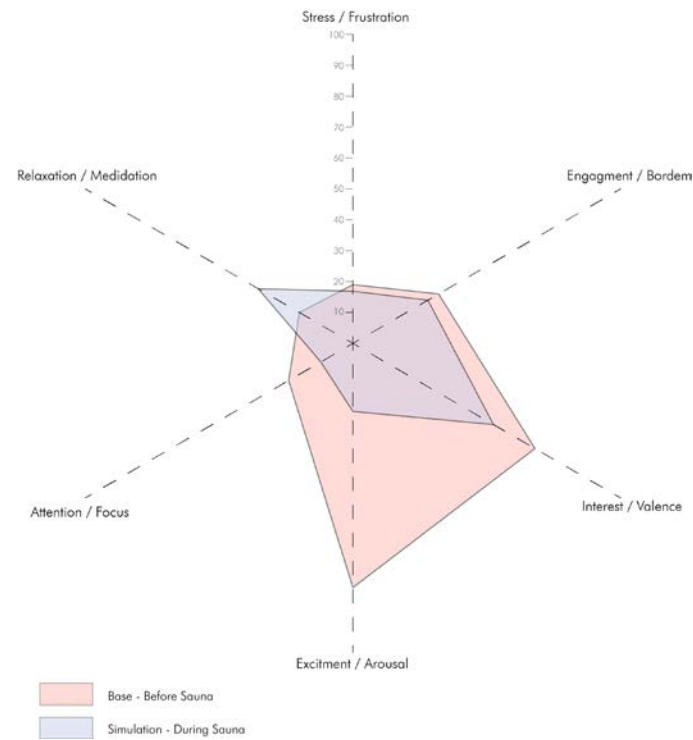
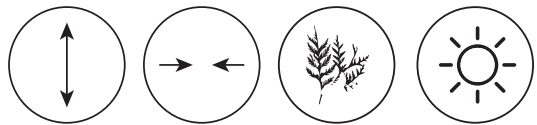


Fig.128 Sauna box 3.1- A radial graph comparing the baseline results with experiment results. Image by author.



Sauna box 3.1 is a phenomenological experience simulator as a tool to design the interior atmosphere for the contemplation sauna. The box was built with rough sawn eastern white cedar planks, with a tall vertical space and a narrow horizontal compression. The intent of this approach was to experiment with contemplation within a confined space and to challenge the boundaries of controlled natural lighting and the influence of the experience. To begin the experiment, boil water in the kettle and place it beneath the designated whole in the base. Allow the steam to enter the space and absorb into the fibres of the wood. Direct the clerestory window towards the desired amount of direct or indirect light. Once ready, lift the black cloak and place the head inside. After completing the experiment with the EEG scanner and the BCI software, the results (figure 127) indicated a significant reduction in excitement or anxiety, and an increase in relaxation and meditation. There was also a decrease in focus. The beam of overhead natural light radiated

a soft warm glow on the cedar, illuminating the entire box. The phenomenological experience evoked a moment of being in a sacred building. Koukkala Church in Jyväskylä, Finland had a similar experiential quality of space as the sun rains down the wood, glowing the entire chapel. The results were deemed acceptable to produce a space for contemplation, however from personal experience at Löyly Sauna in Helsinki, Finland, the smoke sauna experience concentrated the voided darkness of space into evoked an existential contemplation of being. The smoke sauna is a traditional form of Finnish sauna, with a chimneyless stove the room fills with a black soot liner that darkens the atmosphere.

Sauna Box 3.2

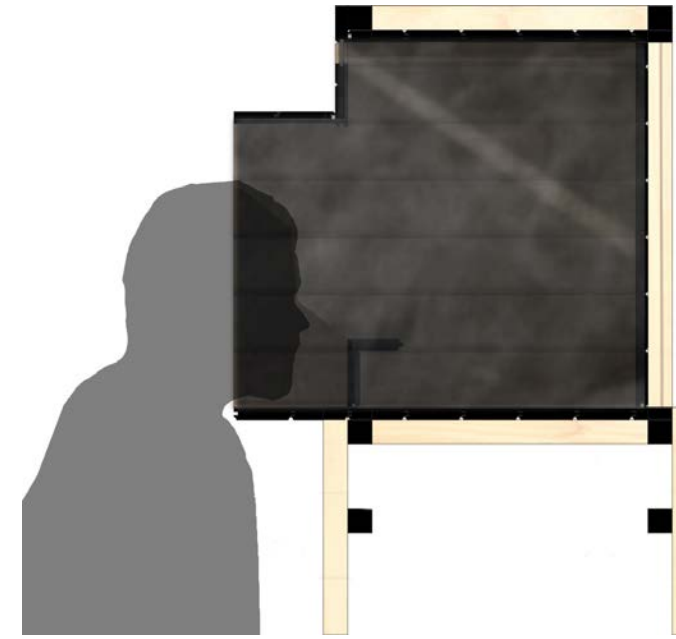


Fig.129 Sauna box 3.2 section diagram. Image by author.

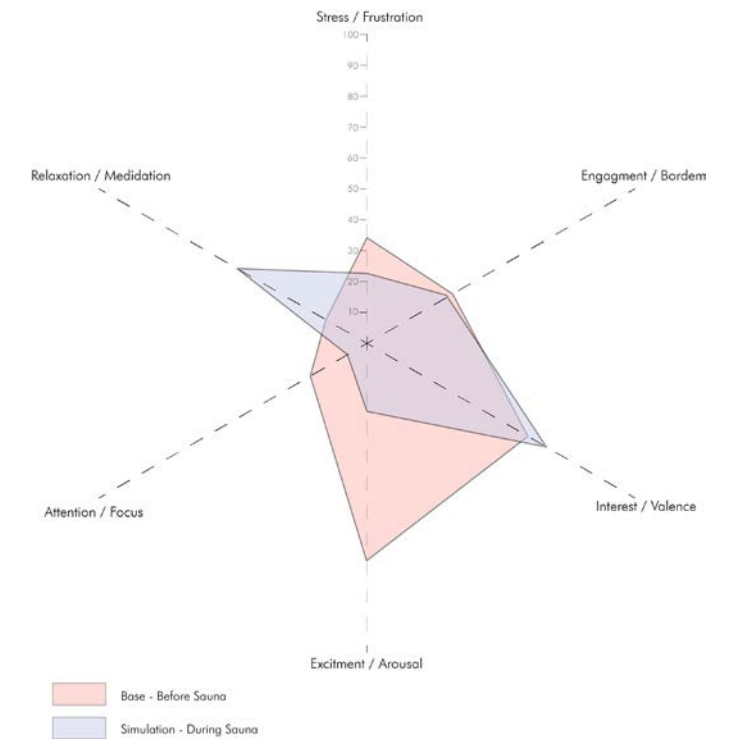


Fig.130 Sauna box 3.2 - A radial graph comparing the baseline results with experiment results. Image by author.



To test the phenomenological essence of light versus the void of darkness, an identical box was built, but with a black charred interior. The charring evokes a different aroma when activated by the steam, and natural lighting is contrasted with the void of darkness. Sauna box 3.2 must be conducted in similar conditions as sauna box 3.1. After the experiment, the results (Figure 130) indicated a significant decrease in excitement or anxiety, a decrease in stress and a significant increase in relaxation/meditation. The results were more substantial than sauna box 3.1, thus the charred interior evoked a phenomenological experience for contemplation.



Fig.131 Exterior photograph of sauna boxes 3.1 & 3.2 side by side illustrating how they are identical in shape, but varied experiences within. Image by author.

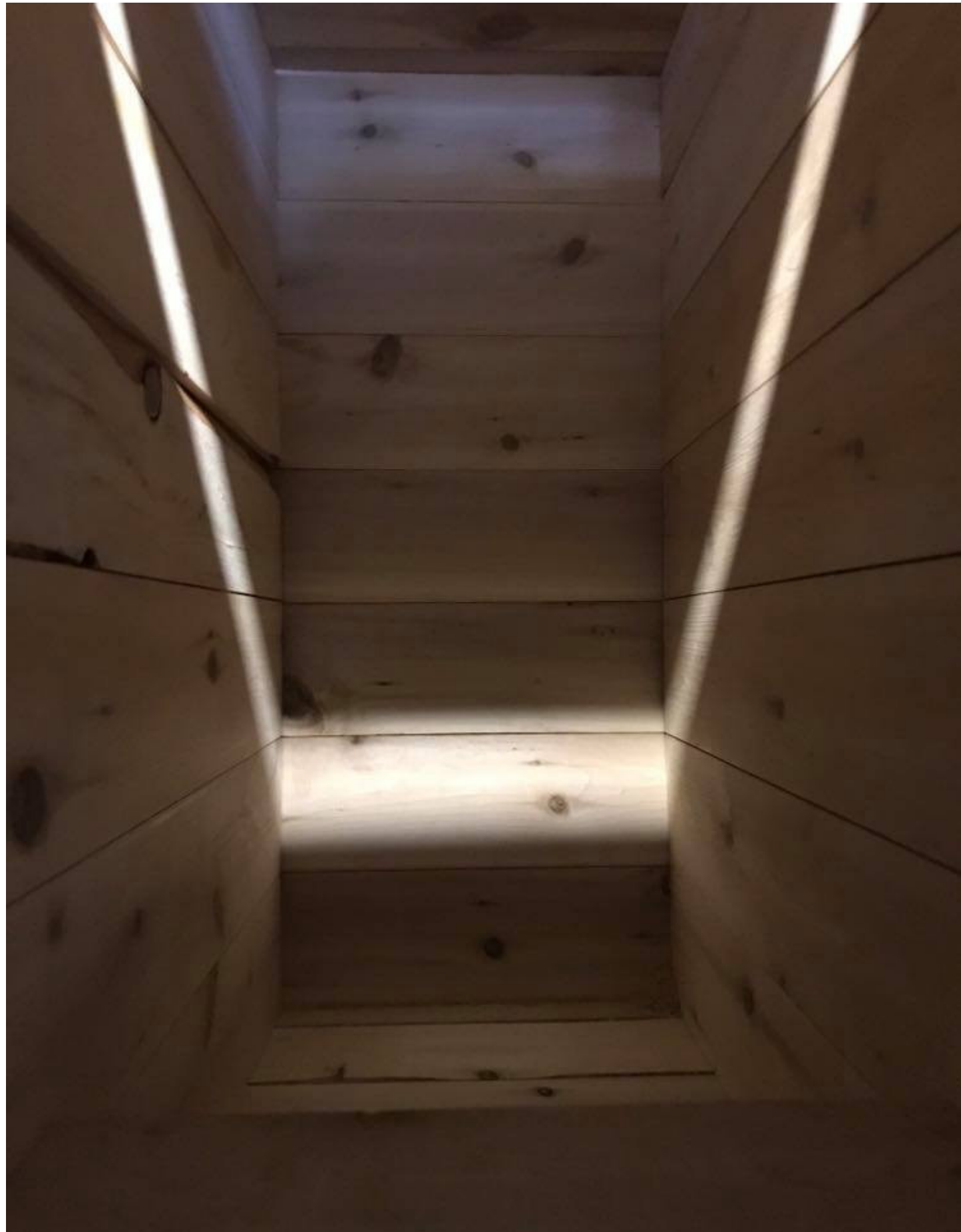


Fig. 132 Sauna box 3.1 natural cedar interior photograph. Image by author.



Fig. 133 Sauna box 3.2 charred cedar photograph. Image by author.

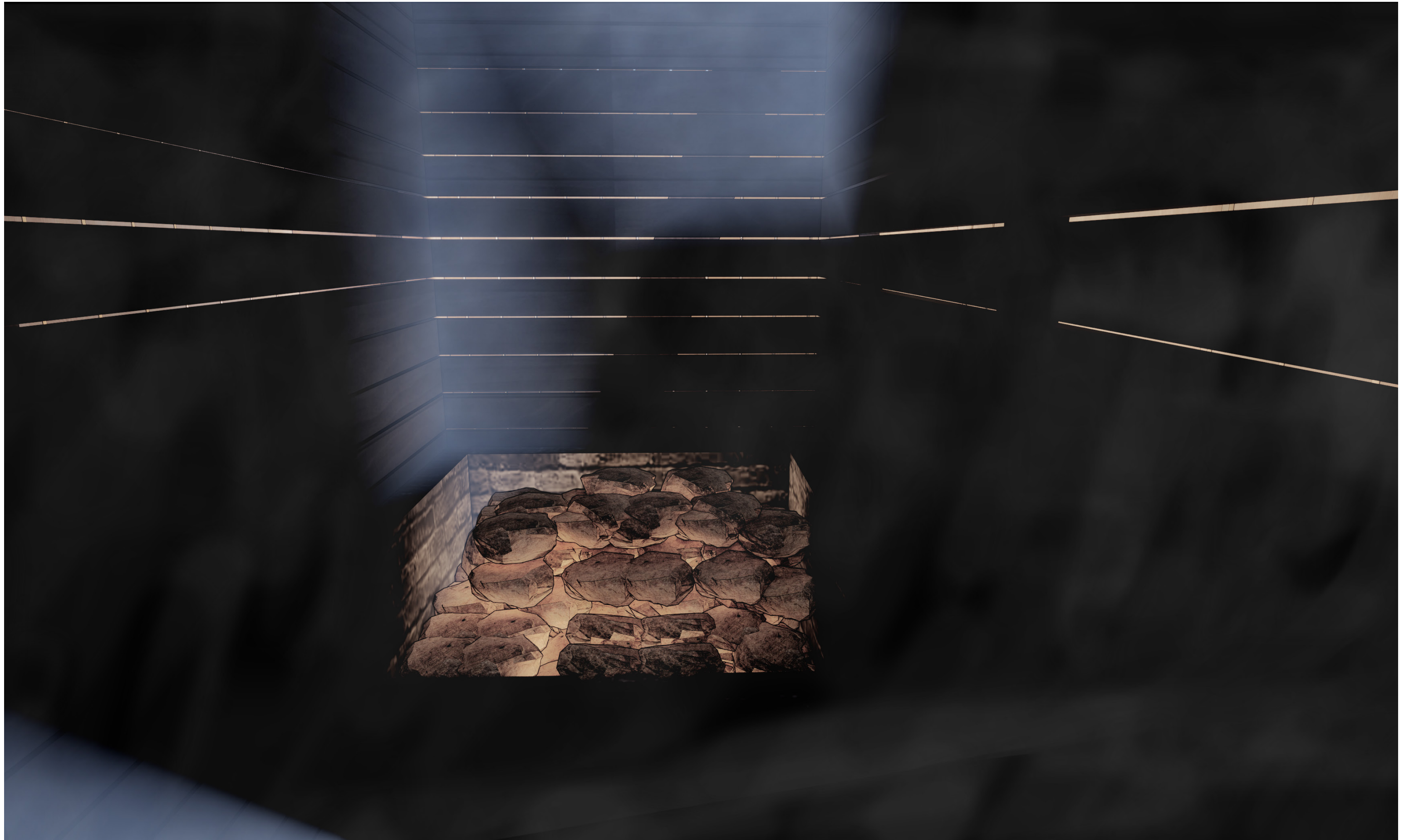


Fig. 134 Contemplation Sauna - Interior rendering of the smoke sauna and the contemplative qualities within the space. Image by author.

Collective Sauna



Fig. 135 Collective Sauna - Perspective rendering around the fire cauldron, illustrating how the three sauna spaces merge in the winter. Image by author.

Sauna Four – Collective Sauna

Proposed Program

The theme for sauna four is derived around the word “collective”. The collective sauna is a unique intervention that requires no additional pieces, only the three proposed saunas. Each sauna was strategically designed to merge into a larger sauna complex. The word collective means the diverse collaboration of a common interest or common objective. The collective sauna is about fusing three varied approaches and experiences of sauna bathing for the common object of cleansing the body and mind. The following are the program requirements for sauna four:

- The ability to merge three saunas into one
- To enhance the social spaces of the existing saunas
- To provide a central opening for cool down plunging in the summer and ice fishing in the winter

Proposed Design

The journey to the collective sauna was designed as a centralized remote location for multiple outlets to access the site. Once a month, the three saunas

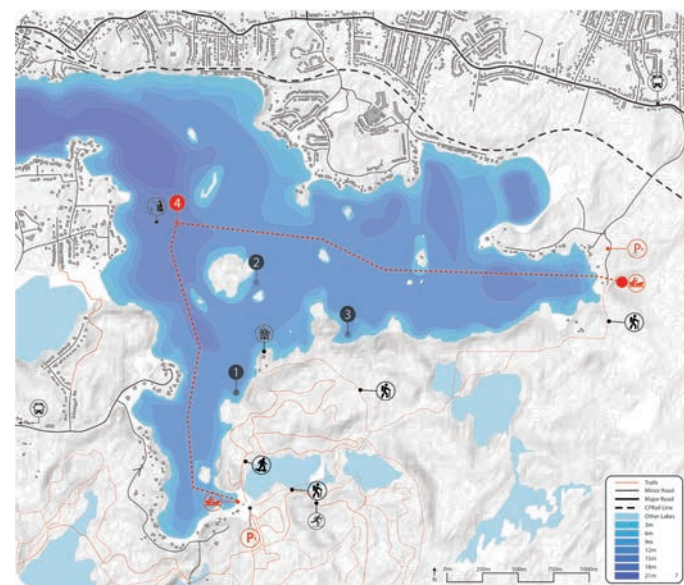


Fig.136 Key map of the site illustrating the path. Image by author.

will travel from their designated site to the proposed site in open water. As each sauna draws near, several parts either drop or are shifted to form a bridged connection. The moment the three saunas are connected, the collective sauna transitions to a large bathing facility. When the three saunas merge, a large enclosed opening is formed at the centre. The intent of the collective sauna is to create a community nexus to which several additional leisure activities can be formed around. In the summer, this centralized location provides access for all saunas to a lake plunge, and in the winter the opening transitions to a spot for ice fishing while they bathe in the sauna. The collective sauna has the ability to adapt to the changing environment. Each sauna was designed with moving bi-folding doors or draw-down platform extensions that can protect the inner core from harsh conditions.

Reflecting on the trip to Löyly Sauna, the most appealing experience was the ability to engage with each sauna one right after another. By having all three saunas at the collective location, the bathers have the opportunity to experience all the saunas in one convenient location. Each sauna was specifically designed as an immersive experience with various levels of engagement, seating arrangement, materials, smell, lighting and ritual. The furnace operation also varies by each sauna, as do the sauna instruments. The collective sauna becomes a learning tool to inform the public about various sauna typologies. This thesis is intended to create awareness for public sauna in Sudbury, and the collective sauna has the ability to expand and adapt with future demand of more floating sauna typologies and other added programs.

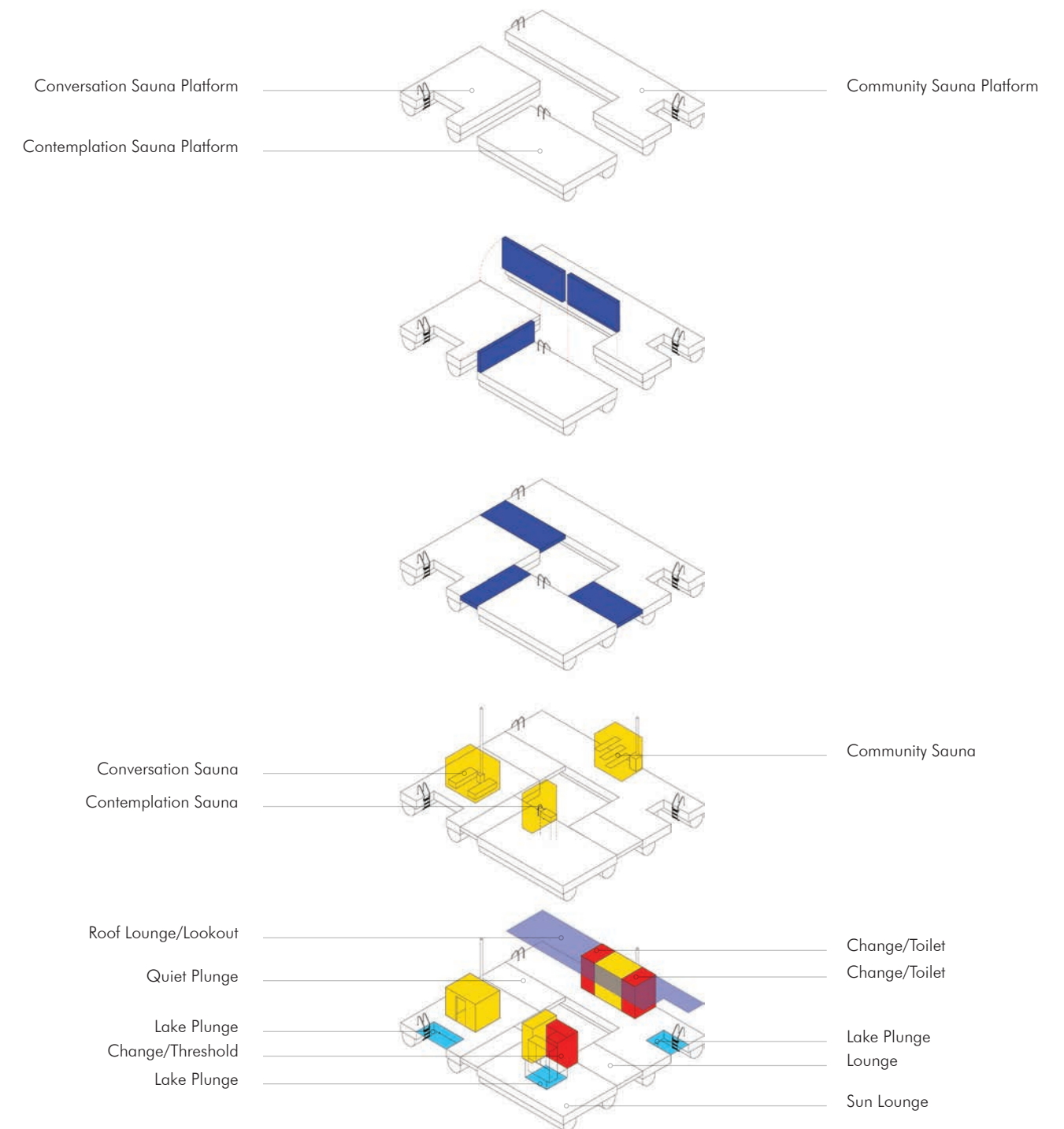


Fig.137 Collective Sauna - Program diagram. Illustration by author.

Endnotes

1 . First a proposal for a public sauna must formally be submitted to city staff for council to vote on. Secondly if council approves the proposal, a Request for Proposal (RFP) must be sent out for a feasibility study for the project, which can be assumed as part of this thesis project. Once the feasibility study is reported back to council, council will vote to move forward with the project. If they chose to proceed, another RFP will be sent out. Given the scale of the project, the RFP would most likely be for a CCDC 14 contract, which is a joint design-build contract. A designer and contractor will join together to propose a design, plus a building estimate and timeline. Once the RFP is closed, council will vote on a winning tender, with city staff giving their preference. Once council's decision is made, the architect and builder can proceed with the project, reporting to council at every milestone.

2 Park services is also responsible for the management of beach lifeguards, park security, skating path liaison and many other titles. A lifeguard will likely be employed for the merged floating saunas on holidays through the summer. They work 11:00 am to 7:00 pm seven days a week from mid-June to mid-August. Park Services Department will also be responsible for providing firewood for the saunas at a series of posts in Bell Park, Moonlight Beach Park and for the Conservation Entrance. The conservation and city may also want to form an alliance to provide firewood. However, bathers may wish to bring their own firewood through their journey. The Park Services Department is also responsible for the sauna operations, and merging the docks together for the winter months and on holiday weekends in the summer.

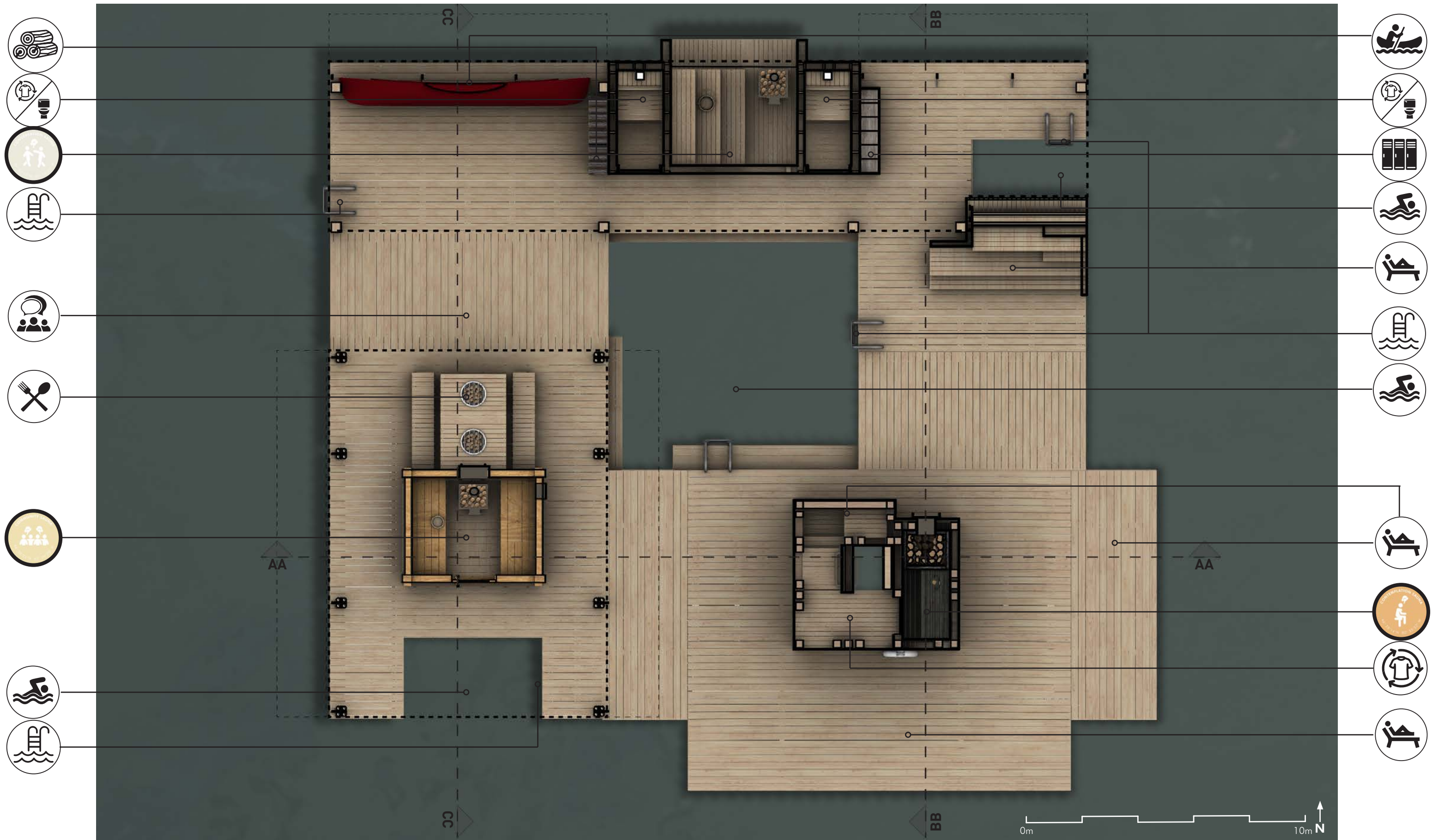


Fig.138 Collective Sauna - Floor plan illustrating the form of the collective sauna, and identifying the designated programs. Image by author.

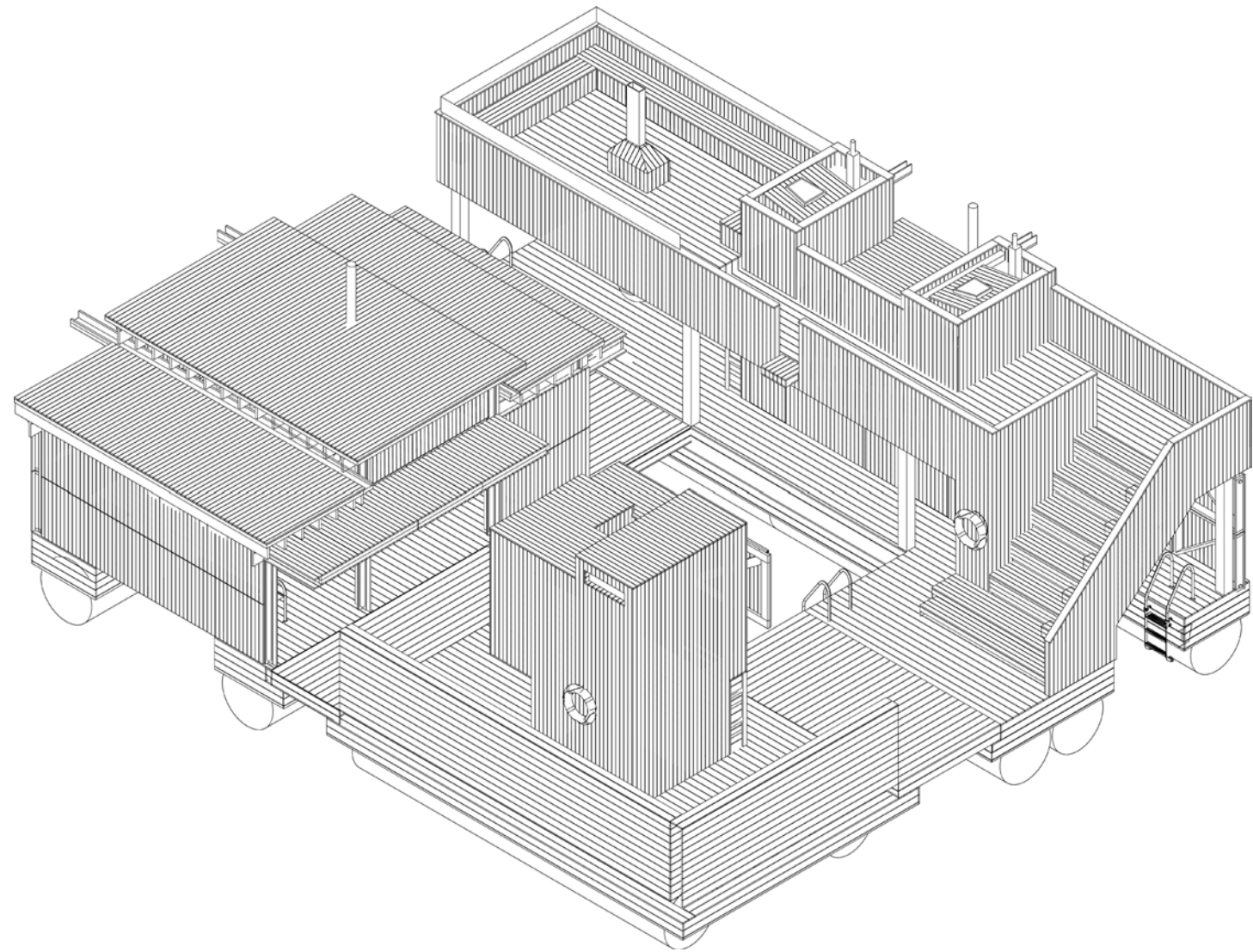


Fig.139 Collective Sauna - Axonometric line drawings from the south-east direction with the doors closed and docks folded up. Image by author.

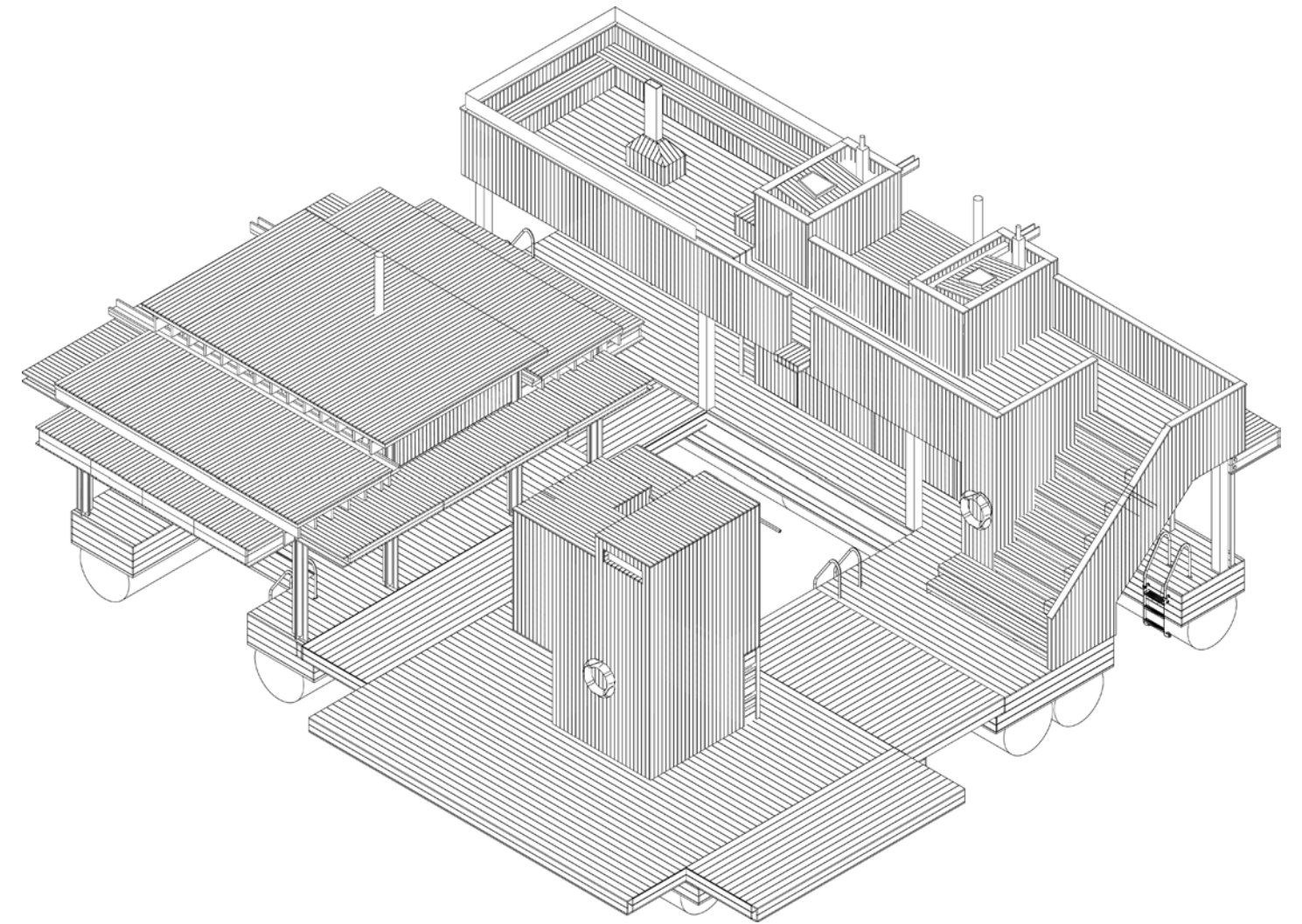


Fig.140 Collective Sauna - Axonometric line drawings from the south-east direction with the doors up and docks folded down. Image by author.



Fig.141 Collective Sauna - Summer West Section. Image by author.



Fig.142 Collective Sauna - Winter West Section. Image by author.



Fig.143 Collective Sauna - Summer South Section. Image by author.



Fig.144 Collective Sauna - Winter South Section. Image by author.

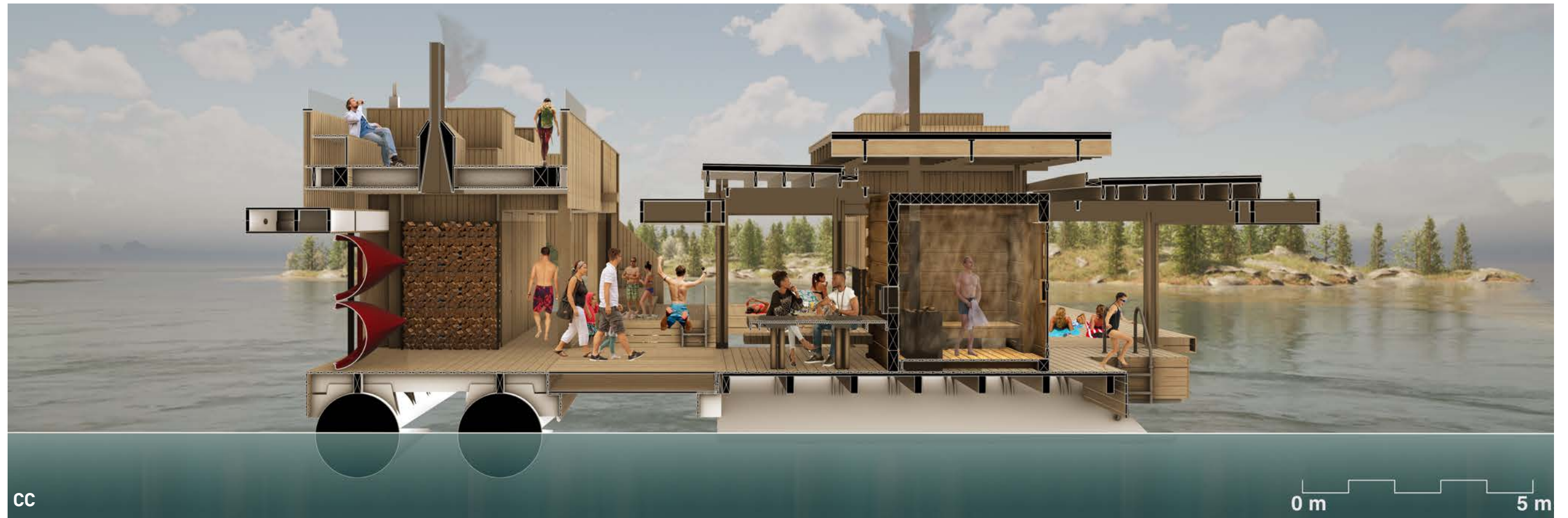


Fig.145 Collective Sauna - Summer North Section. Image by author.



Fig.146 Collective Sauna - Winter North Section. Image by author.



Fig. 147 Collective Sauna - Perspective rendering illustrating the spatial relationships between the three saunas in the summer. Image by author.



← Fig. 148 Perspective rendering of the contemplation sauna floating in the bay. This image depicts the moment descending down the hill and witnessing the sauna for the first time through a clearing in the trees. Image by author.

Conclusion

“In an accelerated technological era where stress and depression rates are a global issue, public baths themed on community, cultural sociability, and the purification of the body and mind, has dissolved to a body centric private and isolated action within the home. How can the resurgence of a public sauna curated on a journey of phenomenological experience and liminality support cleansing the body and the mind?”

The sauna is considered more of an experience than just a space for just washing oneself. The experience is a rhythmic ritual of rites that evoke a spiritual awakening, which becomes a moment of vulnerability as body and soul are challenged by the waves of heat from the stove, and contrasted with the shrill pain of the cold lake. However, one is rewarded after going to the sauna; one is rebirthed and cleansed. The experience will be enhanced when the architectural design respects the sensitivity of place and the landscape. The sauna in the

most archaic sense is about a spiritual connection with nature, whereby the body has returned to the natural roots immersed with the earth. The architecture needs to compliment and merge the phenomenological journey of going to the sauna. The atmosphere of being with nature can endorse a calming relaxation to improve the mental and physical state. The architecture needs to promote and influence a strong social culture. An urban public sauna offers a social experience consisting of a very personal bathing ritual with a strong link with the city, while still remaining isolated from the city noise. Lastly, the architecture and journey experience needs to establish the liminal threshold to establish a successful cleanse of the body and mind.

Experiential atmosphere is the perceptual, sensory and emotive impression of a setting.¹ To understand the architectural phenomenological qualities of the sauna, five sauna boxes were designed and built

as an instrument to evoke experiential atmospheres of spaces. By steaming the boxes and inserting the head, the box would be filled with steam to stimulate qualities of haptic texture, wood aromatic fragrance, auditory projection, poetics of light and void, and the taste of humid air. The experimental process developed varied shapes, species of wood, textures and treatments that influenced the final design of each sauna and their experiential atmosphere.

Based on personal experiences to several saunas in Canada and Finland, the thesis established that three themes of sauna typologies emerged: conversation, community, and contemplation. The conversation sauna is designed for beginners searching for an authentic experience, immersed by a handcrafted timber sauna and surrounded intimately by food and conversation. Every detail emphasizes the importance of conversation and observing the sauna process. The community sauna is designed for a moderate level of experience. Located next to an island, this floating sauna demands a physical challenge to access by canoe or snowshoe. Several elements of the sauna emphasize congregation points, such as the fire cauldron, the bleaches and the sun deck. They all frame a specific view to nature. The contemplation sauna requires an expert level of experience. The journey to the sauna is a difficult challenge, and every detail emphasizes the importance of contemplation and relief. Each theme answers and responds to the thesis question in a unique approach, however they all have a common goal to cleanse the body and mind. This common goal is celebrated through the merging of all saunas to create a collective sauna. A moment where all experiences can be compared and enjoyed within one place.

Next Steps

This thesis is designed to educate, generate and inform the public of the intent to reawaken the public sauna in Sudbury. As a global trend across Scandinavia, the public sauna has thrived as a dichotomy for locals and tourists. Sudbury has the existing sauna culture, it is now only a matter of inserting public access. In order to initiate the interventions, further collaboration is required with either a private investor or with a written formal proposal to the City of Greater Sudbury. This thesis proposal was designed as three small interventions with the intent to develop the project in phases.

Endnotes

1 Pallasmaa, Juhani, *Encounters. Architectural Essays*. Helsinki: Rakennustieto, 2012. Pg. 239.

→ Fig.149 Perspective rendering of the conversation sauna from the boardwalk stepping through the landscape. The changeroom and sauna delicately submerge below the vantage point of the lake. Image by author.





← Fig. 150 Exterior photograph of ELDMØLLA Sauna from other side of creek. Image by Workshop NTNU-Trondheim. Images accessed from: <https://www.archdaily.com/8726>

Case Studies

To understand the recent surge of public saunas and follies, six different projects were selected based on their relationship with the landscape and liminality. The environment and culture of place breed substance in connection to the landscapes. An abstract and modern architectural response to the landscape can be made strongly sympathetic through the natural materials and the way the buildings meets the hearth. Local building traditions are best revealed in the structures that have remained standing, that have survived the demands of the climates and that continue to occupy the activities that take place within them. A critical understanding of how the tectonic and material culture, exemplified by the vernacular has evolved over time and adapted to new materials from their archetypes. Vernacular is not a style or an image, but rather it is a process or cultural view connected to material culture and the culture of building within place. Such examples in local

tectonic culture are directly related to the dialectic of tradition and the present.



← Fig.151 Sauna interior space viewing stove. Image by Jussi Tainen. Images accessed from: <https://www.archdaily.com/873054/lonna-sauna-oopeaa>.

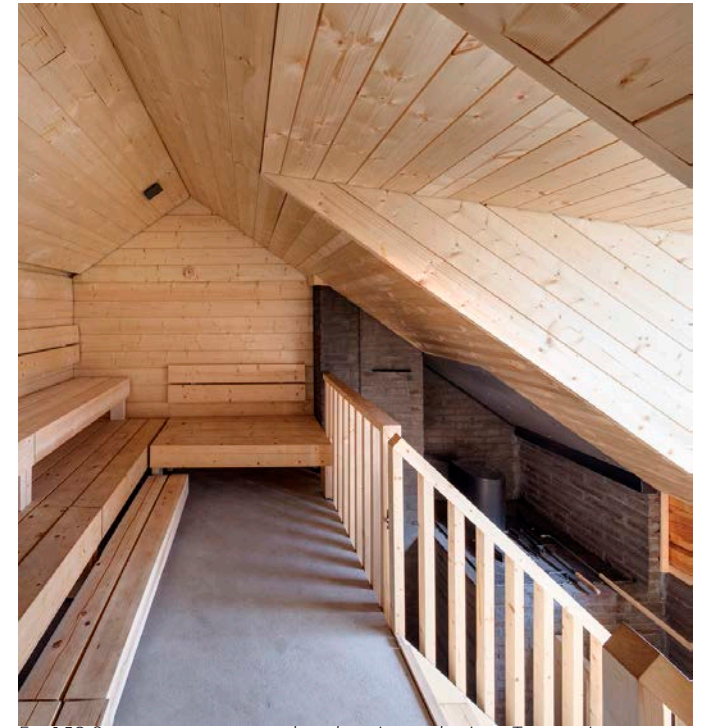


Fig.152 Sauna interior viewing benches. Image by Jussi Tainen. Images accessed from: <https://www.archdaily.com/873054/lonna-sauna-oopeaa>.

Lonna Sauna Helsinki, Finland

OPPEAA Architects

The project is a new public sauna, uniquely located on a small island in the archipelago not from the city center of Helsinki. The existing buildings on Lonna Island used to be occupied by the military during the Russian ruling of the nineteenth century. To access the island, one must relax and enjoy the nature of the sea by journey with a short boat ride. There are two saunas. Originally designed to be gendered specified, the ownership received grief for not being open to all, and shortly thereafter became universal on specific days. A carefully placed window in the sauna allows bathers to enjoy the view to the sea, while relaxing in the warmth of the sauna. It brings together the calming and peaceful experience of the sauna ritual and the social aspect of the public sauna as a place of gathering. The small building is built solely with natural materials and masterfully handcrafted wooden log structure, which has been left visible and untreated.

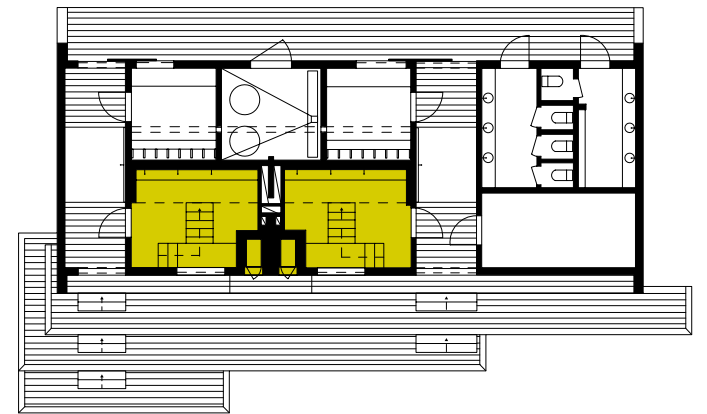


Fig.153 Floorplan. Illustration by author from <https://www.archdaily.com/873054/lonna-sauna-oopeaa>.



Fig.154 Sauna exterior viewing from site complex. Image by Jussi Tainen. Images accessed from: <https://www.archdaily.com/873054/lonna-sauna-oopeaa>.



← Fig.155 Looking through the openings of the building towards the water.

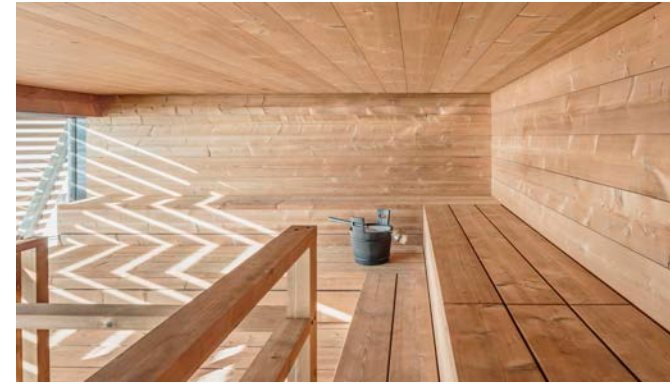


Fig.156 Sauna interior viewing benches. Image by Kuvio.com. Image accessed from: Avanto Architects.



Fig.157 Exterior of sauna viewing the lounge platform. Image by Kuvio.com. Image accessed from: Avanto Architects.

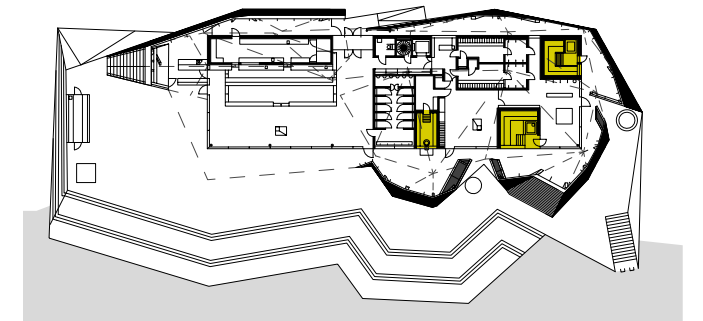


Fig.158 Floorplan with site context. Image by author from Avanto Architects.

Löyly Sauna Helsinki, Finland

Avanto Architects

The project consists of three different saunas all heated with wood: a furnace that is continuously heated; a furnace that is heated only once in the morning lasting all day; and a traditional smoke sauna. Between the saunas are a series of moments that create intimate spaces for relaxation. The building design is a simple box with a fabric-like cloak, with folds in the material to create openings. The cloak is a series of horizontal timber members that act as a venetian blind to allow privacy while bathing. The other half of the building is a restaurant, prepared with delish food that collaborates well with the sauna experience. The exterior of the sauna consists of a large terrace platform for sun bathing, and the roof of the building forms a viewing platform to look over the ice cold Baltic Sea.



Fig.159 The shower threshold space prior to entering the place of bathing. The shower threshold space. Image by Archmospheres.com. Image accessed from: Avanto Architects.



← Fig.160 Pavilion entrance looking over landscape.



Fig.161 Pavilion interior viewing out on the landscape. Image by diephotodesigner.de, Ketil Jacobsen. Image accessed from: <https://www.archdaily.com/180932/tverrfjellhytta-snohetta>



Fig.162 Pavilion exterior viewing main entrance. Image by diephotodesigner.de, Ketil Jacobsen. Image accessed from: <https://www.archdaily.com/180932/tverrfjellhytta-snohetta>

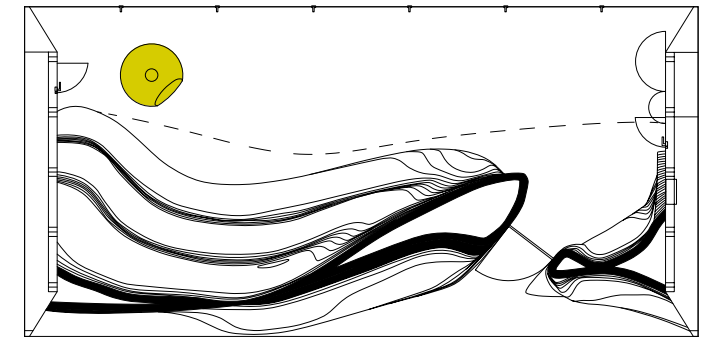


Fig.163 Floorplan. Image by author from <https://www.archdaily.com/180932/tverrfjellhytta-snohetta>.

Tverrfjellhytta Hjerkin, Norway

Snøhetta

The project is located at Hjerkin on the outskirts of Dovrefjell National Park, overlooking the Snøhetta mountain massif. The building is open to the public and serves as an observation pavilion for the Wild Reindeer Foundation. A 1.5 kilometre path brings the users to the site, twelve hundred meters above sea level. This unique natural, cultural and mystical landscape has formed the basis of the architectural idea. The building concept is based on a cold steel rigid shell, with a warm organic inner core. The pavilion is a robust yet nuanced building that gives users an opportunity to reflect and contemplate this vast and rich landscape.



Fig.164 Pavilion interior viewing the custom milled wood benches. Image by diephotodesigner.de, Ketil Jacobsen. Image accessed from: <https://www.archdaily.com/180932/tverrfjellhytta-snohetta>



← Fig.165 Sauna interior viewing bench and small window opening. Image by Workshop NTNU-Trondheim. Images accessed from: <https://www.archdaily.com/8726>



Fig.166 Sauna exterior viewing the back side of building. Image by Workshop NTNU-Trondheim. Images accessed from: <https://www.archdaily.com/8726>

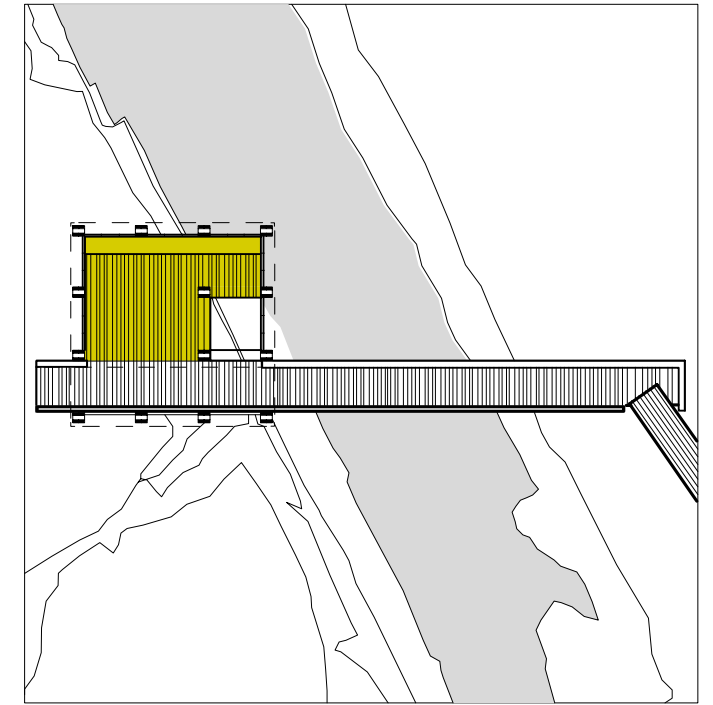


Fig.167 Floorplan with site context. Image by author from <https://www.archdaily.com/8726>.

ELDMØLLA Sauna Vang, Norway

Arkitekt August Schmidt

This small sauna consists of a small dressing room, is designed as a rest stop at the Leirhol summer farm in Vang, Valdres. A four and a half meter tall structure, provides two levels. The lower level is neither fully enclosed nor fully exposed to the elements, but enters a relationship with the surrounding water that flows beneath. As the sauna has no door, the hot air rises to the top level, where a securely clad envelope blocks out the elements to ensure an authentic sauna experience. The bridge that stretches across the rushing water makes it possible to access from the path. The building is built entirely from slender timber frames, while the large bridge was constructed on site due to site accessibility. The sauna creates an intimate experience, perfect for one or two people to relax on their journey.



Fig.168 Sauna exterior viewing underside of bridge. Image by Workshop NTNU-Trondheim. Images accessed from: <https://www.archdaily.com/8726>



← Fig.169 Sauna interior viewing stove and benches. Image accessed from: <https://www.dezeen.com/2017/10/25/small-architecture-workshops-charred-wood-saunafloating-swedish-forest/>



Fig.170 Sauna interior viewing threshold entrance. Image accessed from: <https://www.dezeen.com/2017/10/25/small-architecture-workshops-charred-wood-saunafloating-swedish-forest/>

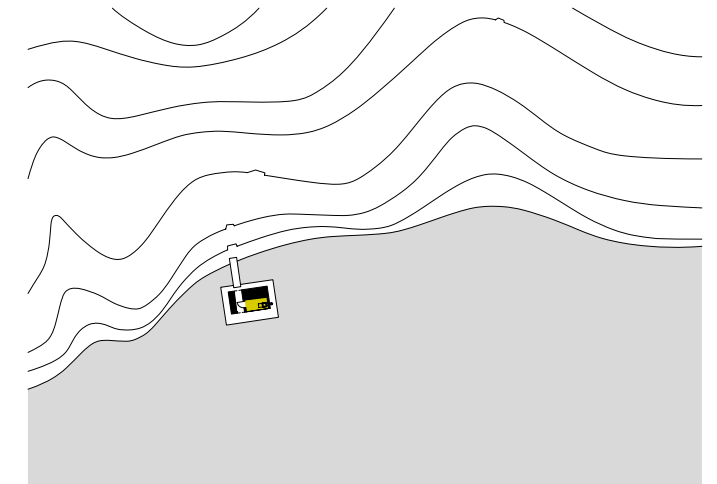


Fig.171 Floorplan with site context. Image by author from <https://www.dezeen.com/2017/10/25/small-architecture-workshops-charred-wood-saunafloating-swedish-forest/>

Stilleben Sauna Åmot, Sweden

Small Architecture

This small sauna was designed by the Italian based studio Small architecture workshop as a floating sauna. The project features a charred black wood exterior and a large window that overlooks the lake. The project was designed for a couple for their bed and breakfast in rural Sweden. To minimize the damage to the forest shoreline, the architects decided to adapt an existing wooden pier as the port for the sauna. By floating the sauna, they avoided any digging and damage to the natural habitats, while evoking a stronger connection with the lake. The sauna has a capacity for eight people, is lined with an alder wood.



Fig.172 Sauna exterior viewing from middle of lake towards the sauna. Image accessed from: <https://www.dezeen.com/2017/10/25/small-architecture-workshops-charred-wood-saunafloating-swedish-forest/>



← Fig.173 Sauna exterior viewed immersed in landscape. Image by Andrea Ference. Image accessed from: <https://www.andreaference.com/blog/whitecap-alpine>.



Fig.174 Sauna exterior viewing bathers crossing threshold bridge to sauna.

Alpine Sauna Pemberton, Canada

Ryan Standerwick

The project is hidden in the depths of the South Chilcotin Mountains, just north of Whistler, British Columbia. Owned by Whitecap Alpine, a backcountry skiing and hiking lodge, the sauna sits 1,800 meters above sea level perched on a boulder platform overlooking a crystal clear glacial lake. The sauna is intended to be a regular rest stop on hiking expeditions to further immerse oneself in the mountainous environment. Inspiration was derived from the lakeside location, as well as the stunning vistas of nearby peaks and valleys. A local western red cedar was used on both the interior and exterior. The design also aimed to minimize the structures impact on the surrounding environment by sitting on four small footings attached to the boulder.

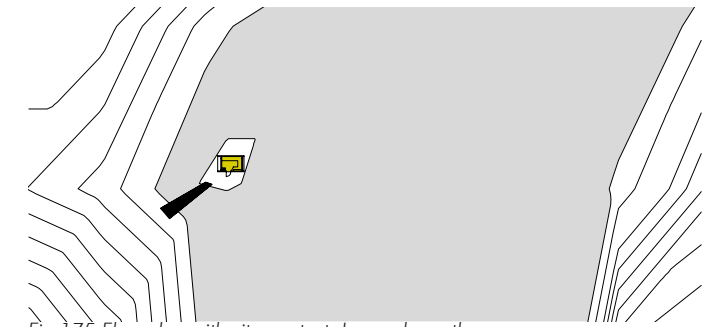


Fig.175 Floorplan with site context. Image by author.



Fig.176 Sauna interior viewing benches and window. Image by Whitecap Alpine, Cristina Gareau. Image accessed from: <https://dailyhive.com/mapped/whitecap-alpine-sauna-experience-bcbucket-lis>

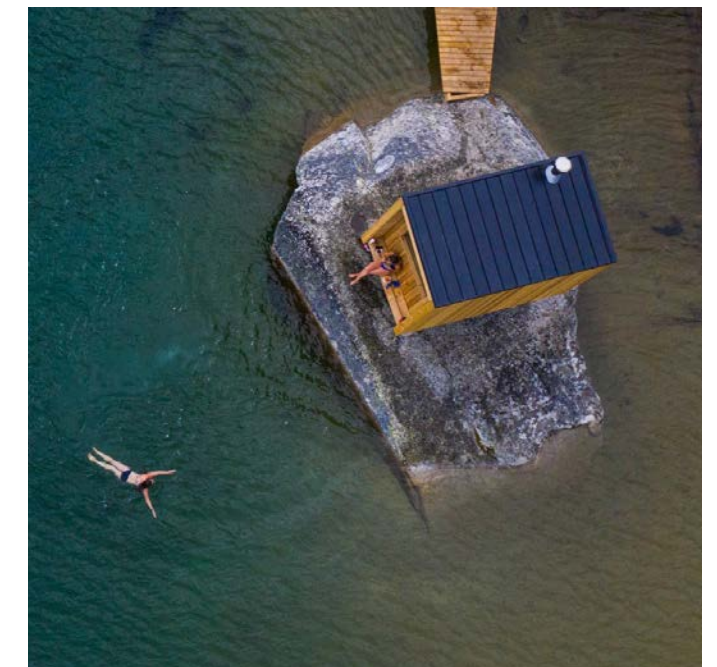


Fig.177 Aerial view of sauna while bather swims in lake. Image by Andrea Ference. Image accessed from: <https://www.andreaference.com/blog/whitecap-alpine>.



← Fig. 178 A progress representation rendering for Iteration Two collective sauna. This image was used to analyze the spatial qualities. Image by author.

Process Work + Design Iterations

The end product for every project should not be the sole purpose of any design work. A project is developed through a journey of several iterations, however they are rarely ever shown. This thesis emphasizes the importance of the journey going to the sauna, as should the document. Iterations display critical information that informs prototypes, mistakes and direction. From beginning to end, this thesis went through several challenging design iterations. The project was originally intended to be a small scale design-build project, which transitioned to three small interventions with the possibility to build one. Eventually the project developed into three fully designed saunas that have the ability to merge into one large sauna complex. The idea of designing - three separate and independent saunas with unique atmospheres, which were to merge and form a cohesive and unified design - was not a simple task. This section explores the relationship between the body and the sauna, as well as five

design iterations that provide evidence for the framework of the final design.

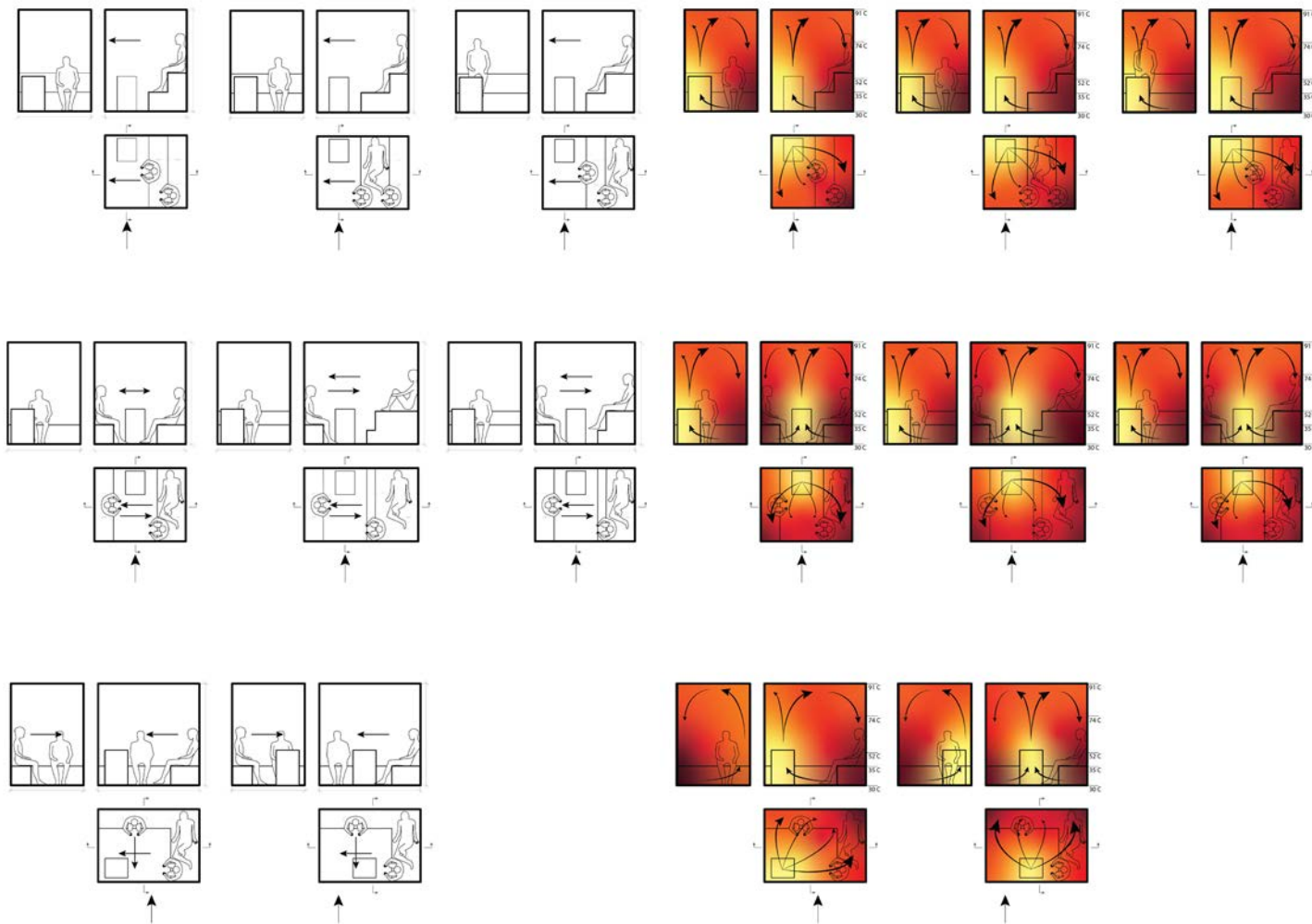


Fig.179 Examples of diagrams illustrating sauna layout and how bathers interact with each other and the space. Drawing by author.

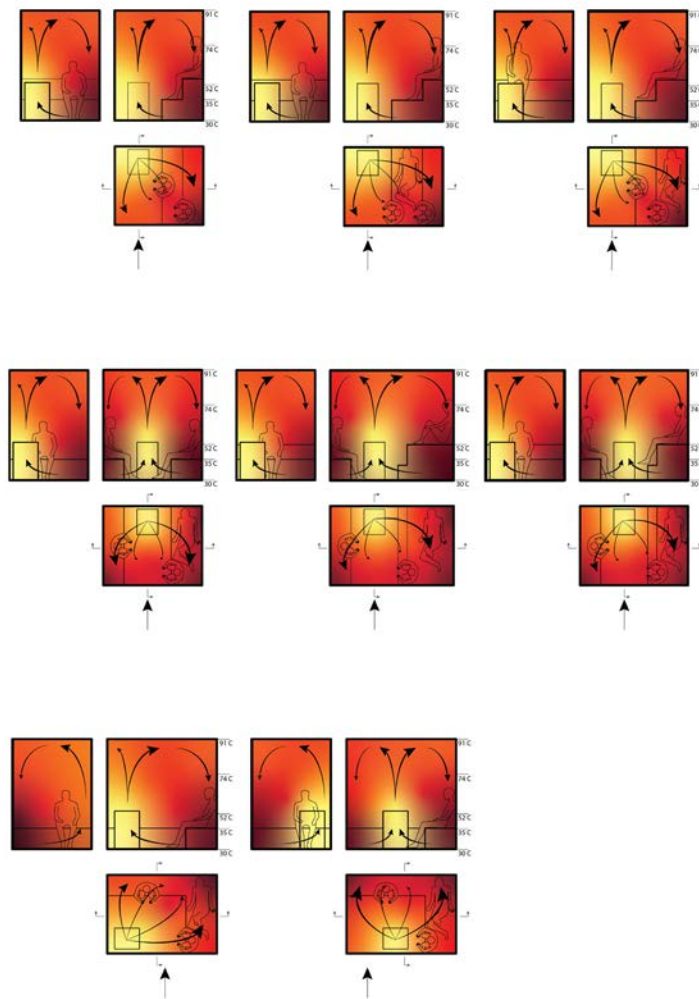


Fig.180 Examples of diagrams illustrating sauna layout, with respect to the relationship and proximity to the stove. Drawing by author.

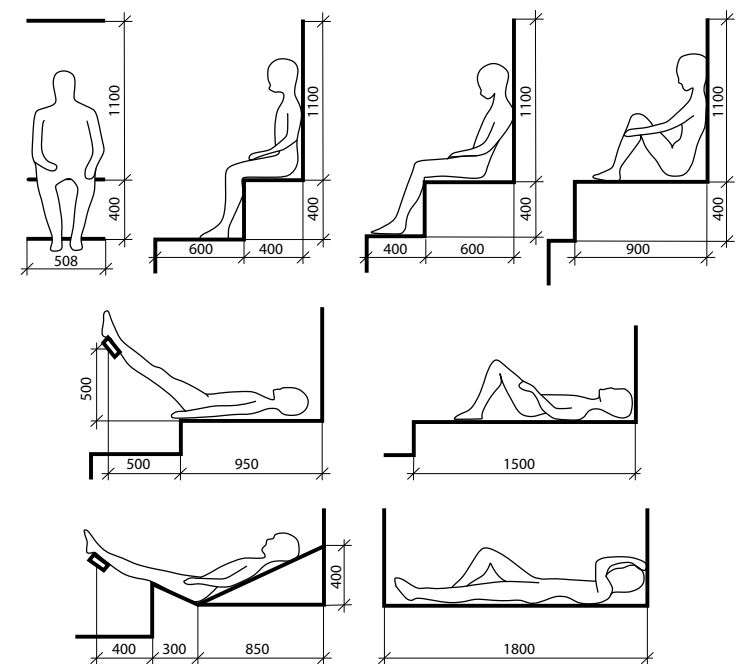


Fig.181 Diagram illustrating the dimensions of sauna benches with respect to body portions. Drawing by author.

The Body and the Sauna

The sauna is a simple but complicated room. It consists of a bench and a stove. The bench can be one single level, or it can be multiple tiers staggering in height. As indicated in Figure 179, the bench layout can inform the social dynamics of the space. If the bench is facing a single direction, it can imply contemplation by looking at a wall or scenery through a window. Two benches adjacent can imply conversation, as the bathers will be directed at one another. The third option is to have the benches perpendicular to one another. This layout formed a hybrid layout for both contemplation and conversation. Each layout can express the severity of intimacy, which is important to consider when designing public saunas. The bench sizes (Figure 181) are also very important to consider as they imply various positions to bathe. It is important to offer a variety of positions such as sitting, laying down, or even reclined. Figure 180 explains the science of heat dynamics in a sauna.

The hottest spot in a sauna is directly over the stove, as it radiates high heat. The warm air in a sauna will create a convection of air current as the hot air rises and the cold air sinks. This is why saunas typically have multiple tiers of sauna benches. The height dictates a hierarchy of heat threshold, which is why the top bench is designed wider to indicate that bathers have enough space to lie down. The sauna ceiling height should not exceed seven feet, if it does the bathers will not maximize the amount of heat exposure. Typically with public saunas, the capacity for bathers is larger, which requires a larger stove. The stove can get quite large and often requires a taller ceiling. A common solution is to build a platform with stairs seven feet from the ceiling, to maximize the heat exposure.

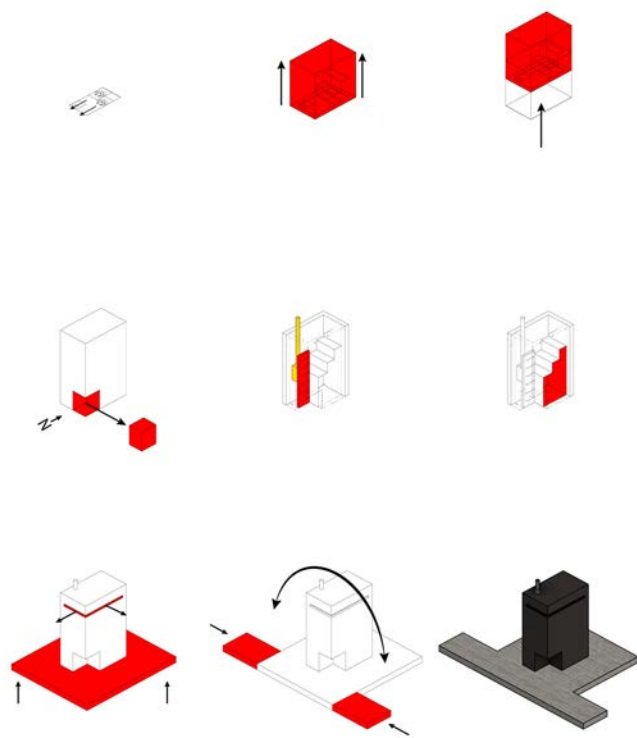


Fig.182 Axonometric design intent drawing of the contemplation sauna. Drawing by author.

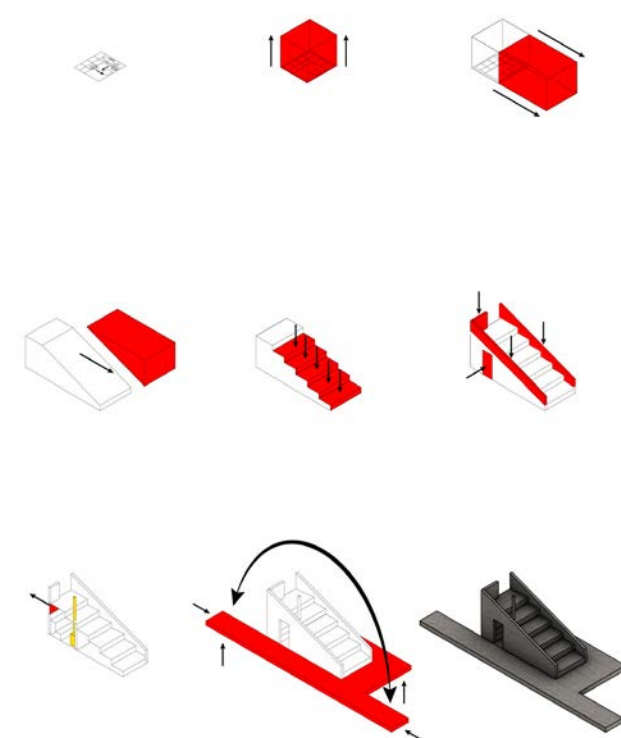


Fig.183 Axonometric design intent drawing of the community sauna. Drawing by author.

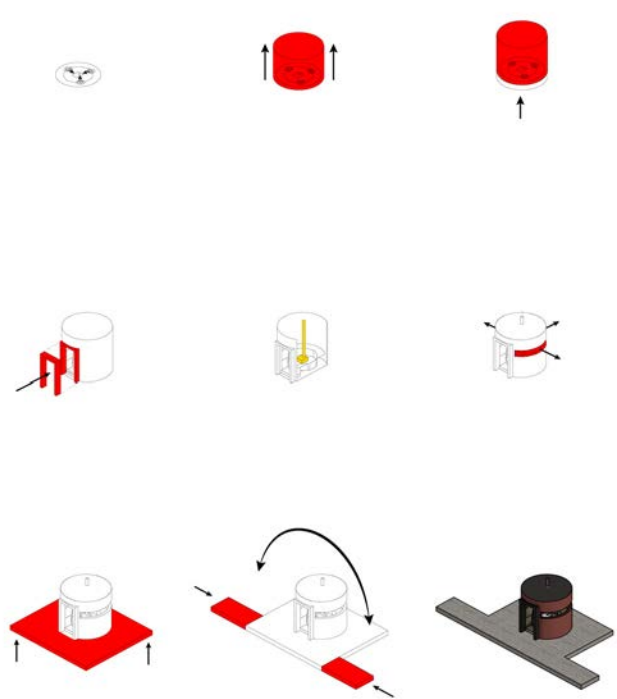


Fig.184 Axonometric design intent drawing of the conversation sauna. Drawing by author.

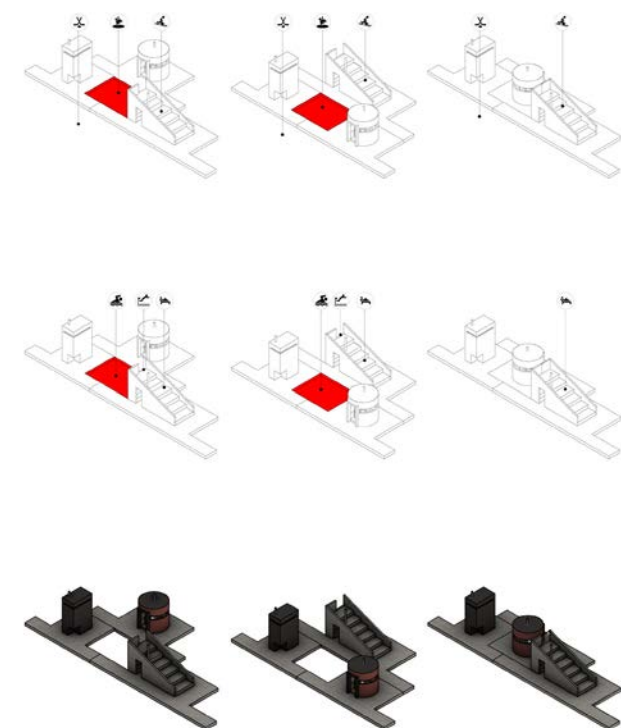


Fig.185 Axonometric design intent drawing of the collective sauna. Drawing by author.

Iteration One

Design iteration one was presented for the final of the fall semester. This design iteration birthed the concept of three sauna themes; conversation, contemplation and community that would perform as independent interventions, however have the ability to merge as one large collective sauna. This iteration chartered a list of design program requirements that are used in the final iteration. The conversation sauna was designed as a round room, with curved benches that formed around the stove, as a central alter to the sauna. However, with a large central chimney flue obstructing the views to other bathers, this concept required alterations. The contemplation sauna instigated the immediate form of a two level sauna designed, which originally designed for two to four people. This tall rectilinear box developed the initial concept for the sauna entrance – a method of crawling under and climbing a ladder. The community sauna originally had a large “L” shaped bench form, nestled under

a large tiered social staircase. This staircase formed the original parti for the design, which eventually translated to part of the form in the final design. Iteration one also formed the parti concept to develop a large opening at the centre from the floating platforms merging to one. This original concept explored the opportunity for the collective sauna to form multiple iterative appearances. Although an interesting idea, the feature was diminished as complications with developing a unified design increased.

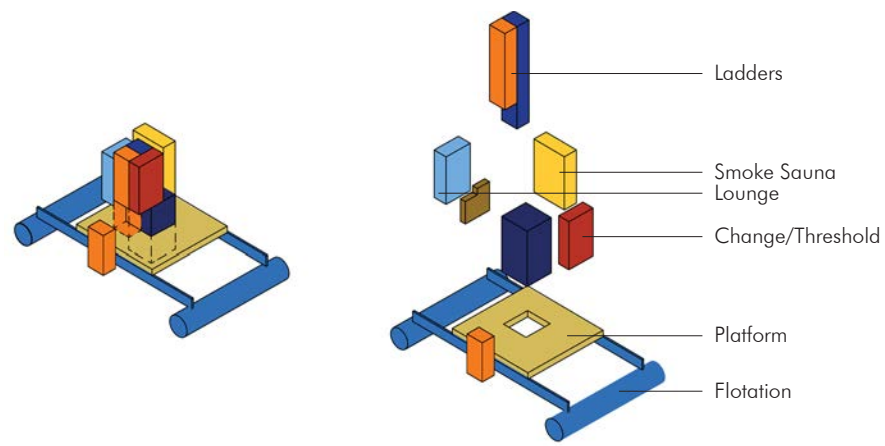


Fig. 186 (left) Axonometric program drawing of the contemplation sauna. (right) Exploded axonometric program drawing. Drawing by author.

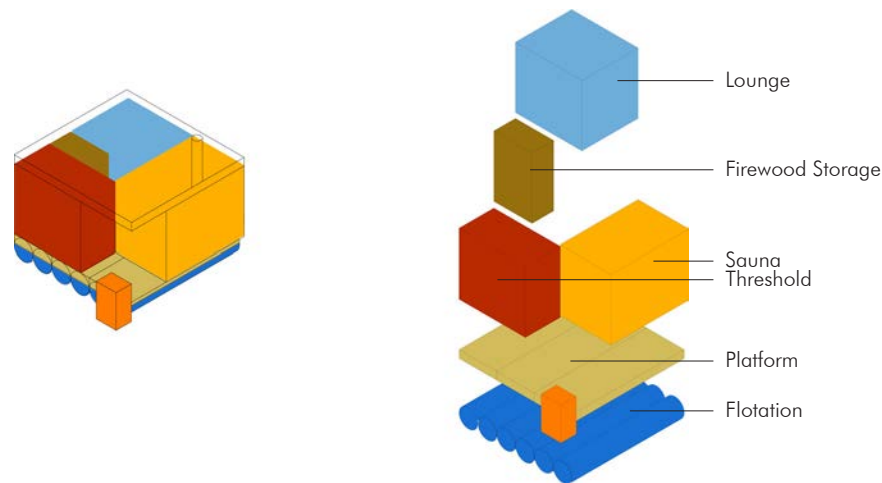


Fig. 187 (left) Axonometric program drawing of the conversation sauna. (right) Exploded axonometric program drawing. Drawing by author.

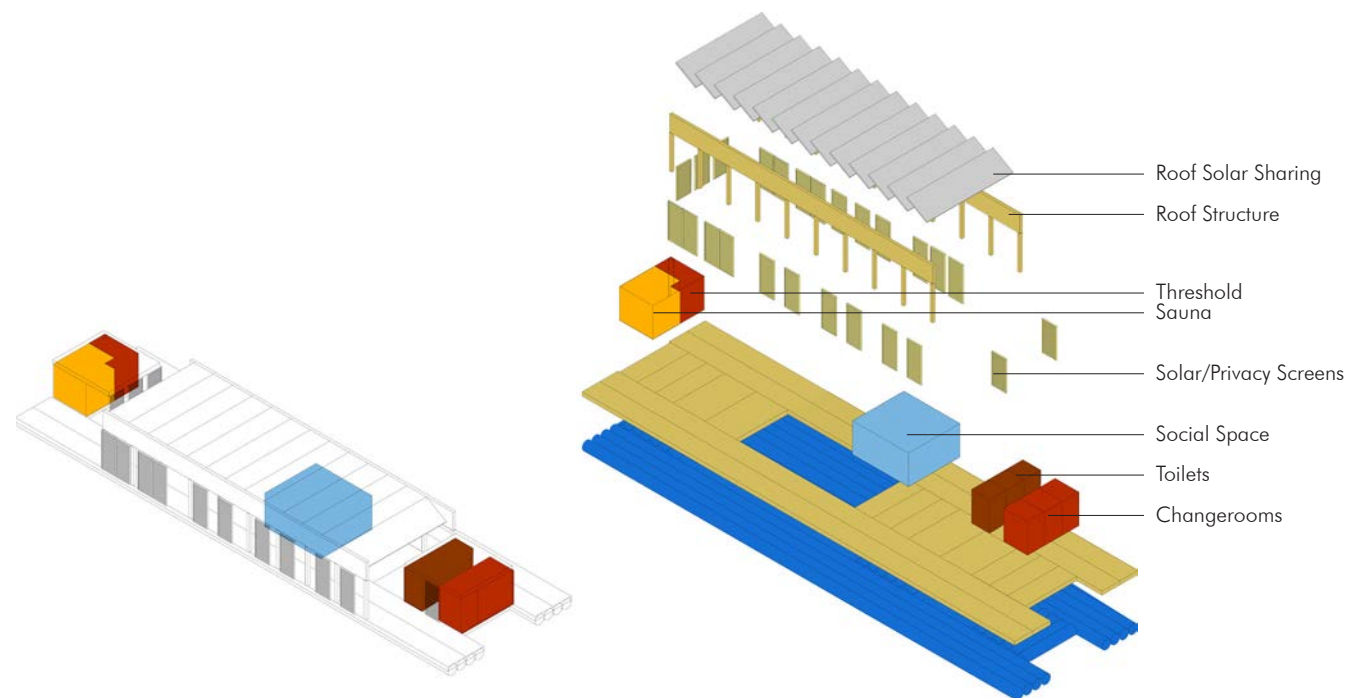


Fig. 188 (left) Axonometric program drawing of the community sauna. (right) Exploded axonometric program drawing. Drawing by author.

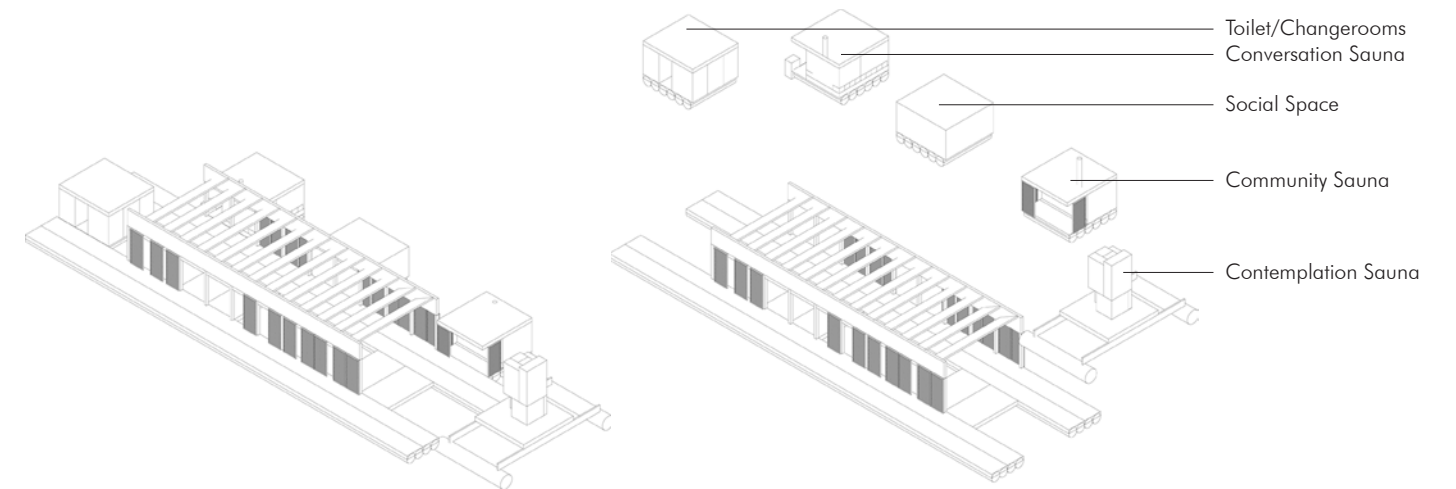


Fig. 189 (left) Axonometric program drawing of the collective sauna. (right) Exploded axonometric program drawing. Drawing by author.

Iteration Two

Iteration two was presented for the winter semester penultimate review. This iteration focused primarily on building program and the development of a large congregational collective sauna. The only aspects of this design iteration carried over from the first iteration are the three sauna themes and a developed contemplation sauna. The contemplation sauna form was developed through a series of programmable rectilinear forms that were designed based on the occupancy for one single person. The design has informed in the final iteration. Several elements from this iteration informed the final iteration, such as the introduction of designated social spaces. An important aspect of the sauna ritual is to socialize, or lounge. Another aspect is the integration of user control shading and privacy panels and understanding the need for spaces in the sun or in the shade. The conversation sauna and the community sauna in this iteration were undeveloped. A major theme during the critique

was to determine spending the remaining weeks developing the collective sauna, or developing the architectonics of the three independent saunas. Another informative critique was to design the three saunas as equal sizes merging together as one, and not as one large vessel with small pods that latch on. The reviewers were looking for a strong emphasis on the point of connection between the saunas and how it can enhance the user's experience.

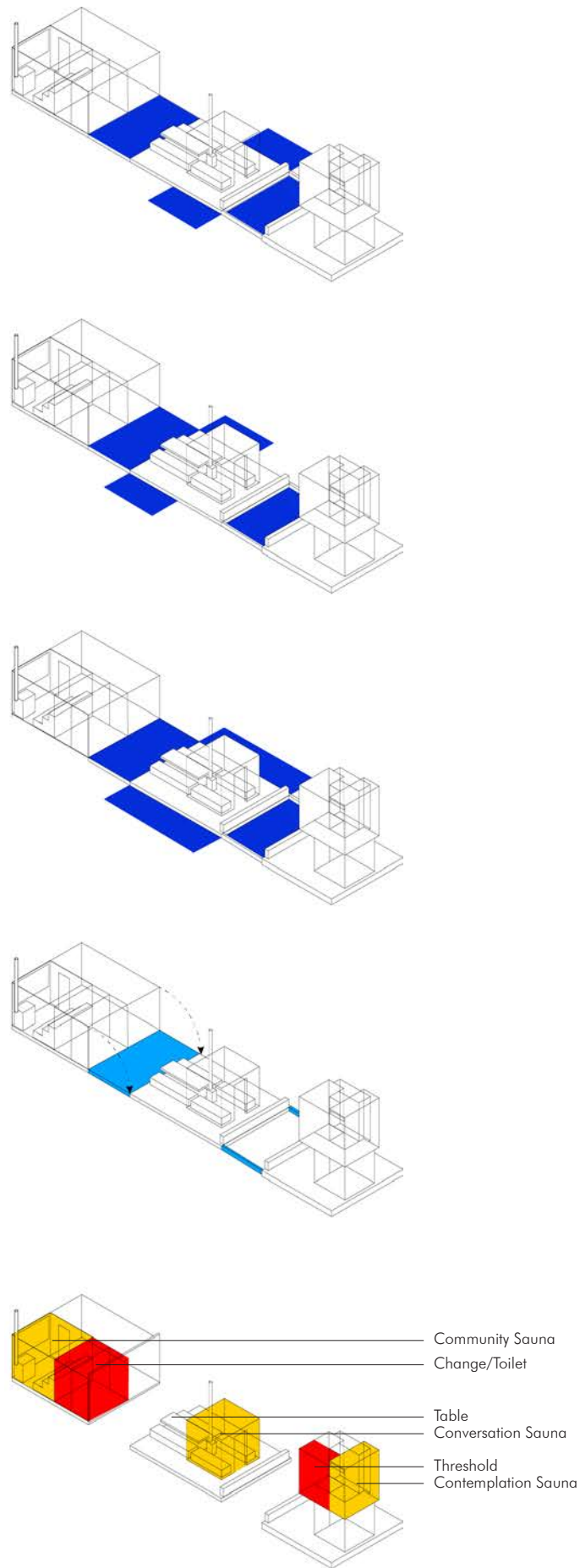


Fig.190 Iteration Three - Axonometric diagrams of spatial programming.
Drawing by author.

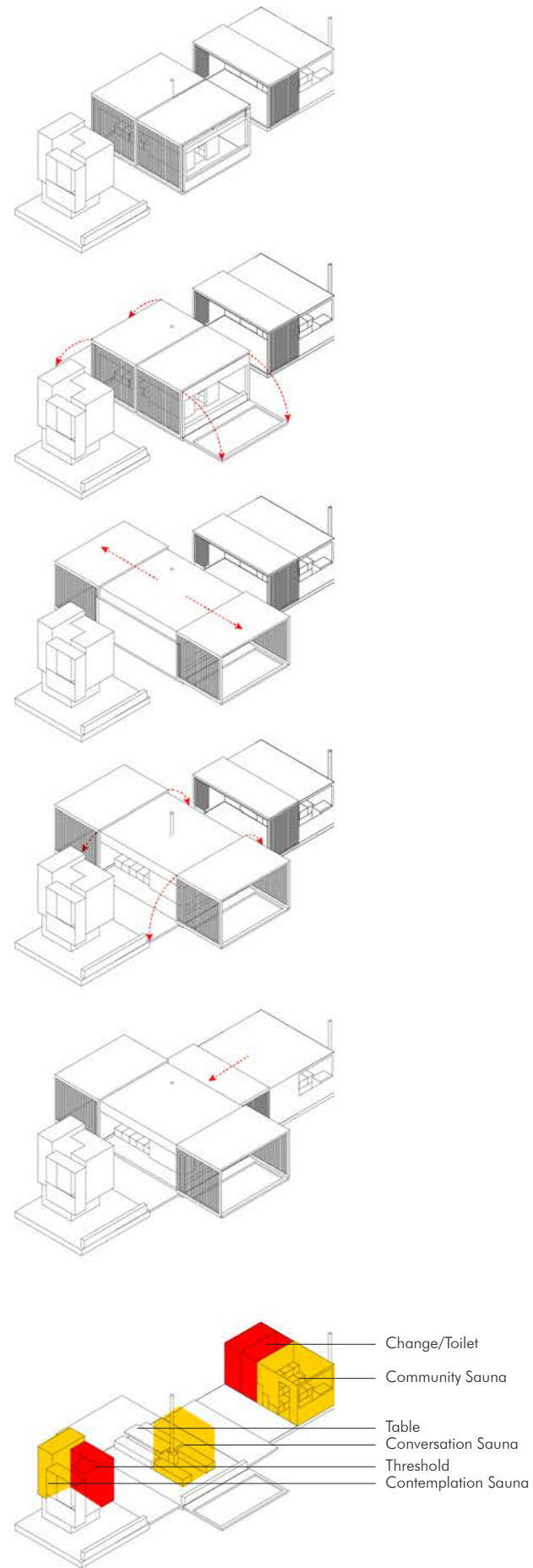


Fig.191 Iteration Four - Axonometric diagrams of spatial programming.
Drawing by author.

Iteration Three + Four

Iteration three was the first concept developed after the reviewer's comments from the penultimate review. This iteration developed the enclosed program spaces for the community sauna in the final iteration. It consisted of two changerooms/toilets and a sauna with the benches facing in one direction. The contemplation sauna remained in the same form as iteration two. Iteration three also developed the dinner table parti concept for the conversation sauna. The dinner table is a place to gather, eat, drink and socialize. This creates an ideal intimate social space. This iteration also developed the ability for walls to fold down as a connection bridge between two saunas and as an additional enhanced social space. The significant critique with the design had to do with the connection between the conversation sauna and the contemplation sauna. When the conversation is not merged to form the collective sauna, all four walls must be folded up, which created the issue

of accessing the sauna. A solution was to void one side and connect the contemplation sauna with two fold-down steel beams. The intention was to have the bathers swim to the contemplation sauna. In theory, it complimented the narrative of the sauna, but lacked practicality and accessibility. From these comments, iteration four was created. Each sauna remained in the same form as the previous iteration, the only difference was alignment. Rather than in a long row, they were placed side-by-side. This solved the issue of accessing the contemplation sauna. This iteration also integrated large sliding shade screens. This iteration received three critical comments. Each sauna lacked a fluid poetic language that was not informed by the journey, that the conversation sauna was developed as the central nexus that the other two saunas connect on to. The collective sauna was criticized for being too small as a large public bath house.

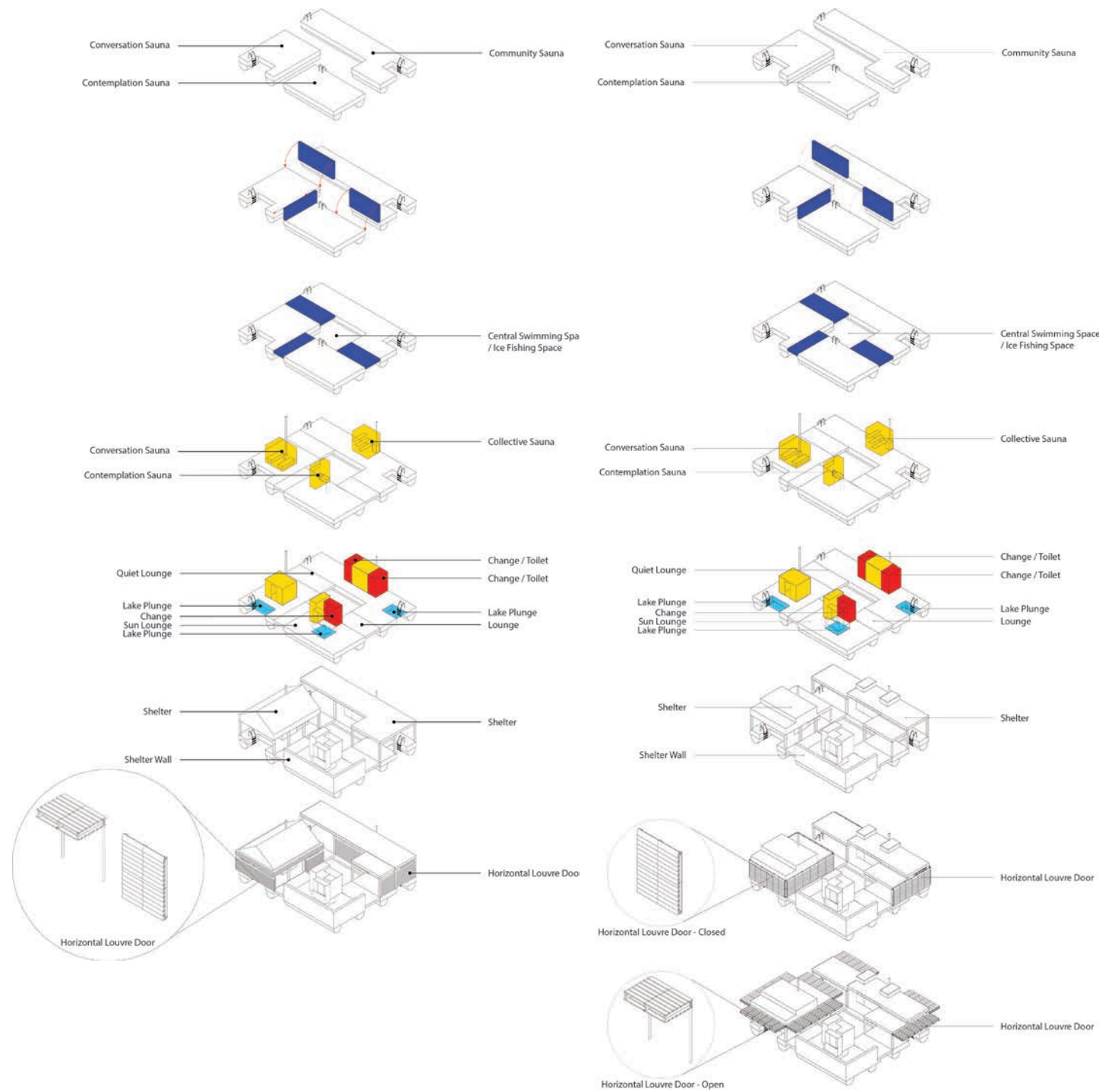


Fig.192 Iteration Five - Axonometric diagrams of spatial programming. Drawing by author.

Fig.193 Iteration Six - Axonometric diagrams of spatial programming. Drawing by author.

Iteration Five + Six

Iteration five developed the conceptual form for the final iteration. Relating back to the first iteration, the collective sauna was derived around a central opening in the platforms, iteration five responds with the same approach. Rather than designing each sauna platform independently, the design began with the general shape and sliced three forms to develop each sauna platform. Each platform is connected with a fold-down wall that generates a unified surface for the collective sauna. The design process for this iteration was slow, each sauna was developed in the collective form and on their specific site. This was to ensure a fluid language with the journey and as a collective. In this iteration, the final layout for the community sauna was developed, with a long skinny platform with a sauna placed in the middle with two changerooms placed on either side. The conversation sauna and community sauna both developed vertical bi-folding doors that a user could operate to adjust with the environment

or atmosphere. The doors were originally designed with horizontal boards, which in the final design became vertical. The conversation sauna also developed a roof structure that was inspired by pitched roof boathouse archetypes on the lake. Iteration five was criticized for three varying roof typologies that did not speak the same language. The sixth iteration is the last one before the final. This iteration in plan is the same as the previous iteration, the only difference is the roof design for the community sauna and the conversation sauna. The contemplation sauna was designed with three stepped roofs at varying heights. This same methodology was applied to the other saunas. The conversation sauna was designed with three long linear roofs, and the community sauna with two large roofs, and two small extrusions from the changerooms. This iteration received criticism for too much roof coverage and not enough space to sun bathe. As a solution noted in the final design, a stepped social staircase - as originally designed in the first iteration - allowed the opportunity to activate the roof of the community sauna as a social space. This significantly increased the social space area, especially with sun exposure to views.



← Fig.194 A photograph of a ladle I carved, in exploration of Eastern White Cedar as a material. Image by author.

Instruments of the Sauna

The sauna is a place, a building, an act, and a ritual that is dedicated as a space for cleaning, cleansing, detoxification, and relaxation of the body and mind. The archaic sauna is a holy place, a utilitarian shrine, with its own laws and rituals, and the stove was its simple altar, dedicated to fire, a sacred gift from the skies. The sauna is a space where all identities of economic class and empowerment are left at the door, establishing equality. The sauna is an experience through a tactile materialistic atmosphere that embodies an empathetic meditative connection with nature. The sauna is a community of patrons assembled together to practice the art of sauna. The sauna is the craft of tectonic engagement and social identic culture. The sauna is medicine. The sauna is a hall of chambers designed for communication, political discourse and debate. Although the sauna is a complex construct, it is a simple building comprised of only six items; the bench, the stove, several

rocks, a ladle, a bucket, and walls with a ceiling to contain the heat. There are two additive materials that bring the sauna to life: wood for fire to heat the sauna, and water to create steam. In Finland, the word *Löyly* is used to describe the steam within a sauna. It means steam with life, which is different from the steam of a boiling pot. To make *Löyly*, one must collect firewood to ignite a fire within the stove. Typically birch and aspen are used to start the fire with a strong heat, and harder woods like oak and maple are used to contain the energy. The rocks resting on top of the stove heat up. The sauna is ready when the room reaches a temperature between 95°C to 120°C. At this point one can enter the sauna. The wooden walls and bench will be hot, so it is best practice to cool oneself in cold water prior to entering. The sauna typically has two to three benches at varying heights. The lowest bench is the coolest, while the highest bench closest to the ceiling will be significantly hotter. This

hierarchy of heat is dependent on one's tolerance and comfort threshold. Although the temperature of the air is quite high, the humidity in a sauna is typically around ten to twenty percent. When one is mentally prepared to put oneself through torture, it is time to perform löyly. A wooden bucket with a wooden handle filled with cool water sits on the floor of the sauna. A wooden ladle with a long handle rests inside the bucket. Grab the ladle and scoop some water into the bowl and bring it towards the stove. When ready, pour the water onto the smouldering hot rocks. A rush of steam will rise from the stones, hissing and crackling. The room fills with humidity as it feels like the temperature has risen an additional fifty degrees. One begins to sweat from ones skin all over. Sweat dripping down from ones face. The torture of heat has put one through torture, however one wants to do it again, but with more steam.



Fig.195 Two of the three ladles were crafted using a wood lathe using a similar process to bowl making. Image by author.



Fig.196 (Front) Community sauna ladle - designed for the act of throwing water on the hot rocks. The bowl is made from a local eastern white cedar and the handle a local sugar maple. Image by author.



Fig.197 (Side) Community sauna ladle - the shallow profile is excellent for scooping water from the bucket and throwing it on the hot rocks. Image by author.



Fig.198 (Front) Conversation sauna ladle - designed for the act of pouring water on the hot rocks. The bowl is made from an aromatic western red cedar and the handle a local sugar maple. Image by author.



Fig.199 (Side) Conversation sauna ladle - the deep profile and long handle is excellent for a scooping the water from the bucket and controlling the pour over the hot rocks. Image by author.



Fig.200 (Front) Contemplation sauna ladle - This knife carved ladle is designed with a small scoop to enhance the act of löyly more frequent. This one piece ladle is carved from a local eastern white cedar. Image by author.



Fig. 201 (Side) Contemplation sauna ladle - the narrow long scoop perfectly complements the form of the contemplation sauna bucket to scoop water from it. Image by author.

The bucket and ladle are the most important instruments in a sauna. The bucket that contains the water, needs to be designed with ease of gathering water from a tap or a body of water. The material will influence the aroma of the space, and the water will inhale the fragrance from the wood. The ladle is most important. If the ladle has a short handle, one can be burned from the rising steam. Also the size of the bowl in the ladle will determine how much water is being poured on the rocks, controlling the löyly of the space. The thesis entitled "One does not take a sauna; One goes to the sauna" is based on the design of three saunas on the varying themes of: community, conversation, and contemplation. Each sauna will have a custom designed and crafted bucket with ladle, to enhance the experience of each sauna, while also enforcing the ontology behind the theme.

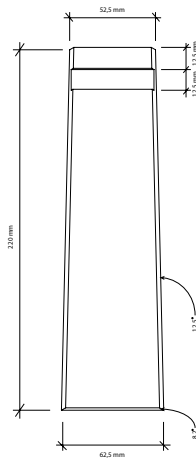
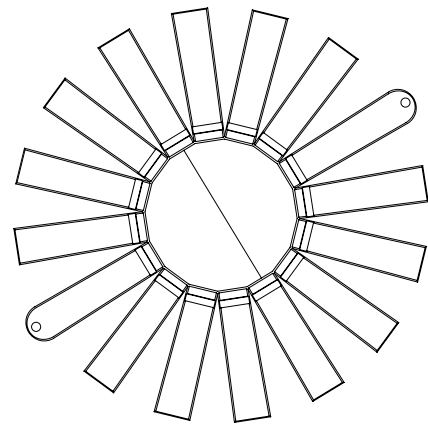


Fig.202 The recent Covid-19 pandemic prevented access to the woodshop and completing the second phase of crafting the instruments. Above are some working drawings developed to construct the two of the three sauna buckets. Illustration by author.



Fig.2023(Top) Community sauna bucket - crafted primarily with a local eastern white cedar to compliment the ladle, this bucket is large and deep to hold a larger body of water as it is the largest sauna. Image by author.



Fig.204 (Side) Community sauna bucket - three maple compression rings steam bent and formed keep the bucket together. A rope and cedar handle permit ease of scooping water from the lake and retrieving it. Image by author.



Fig.205 (Top) Conversation sauna bucket - crafted with western red cedar to compliment the aromatic ladle, this bucket is designed to hold water and naturally scent the water during löyly. Image by author.



Fig.206 (Side) Conversation sauna bucket - two maple compression rings steam bent and formed to keep the bucket together. Two long handles permit two people to carry the bucket and scoop the water from the lake. Image by author.



Fig.207 (Top) Contemplation sauna bucket - crafted from a local sugar maple, this raw organic bucket carved from a lathe and hand knife is designed to compliment the phenomenological qualities of the smoke sauna. Image by author.



Fig.208 (Side) Contemplation sauna bucket - although challenging to digitally capture the raw uniqueness of a wood log, the sides profiles will be kept untouched as one is required to hold the bucket with two hands against the body. Image by author.

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