



# AN ARCHITECTURE OF INCLUSION

A MASTER OF ARCHITECTURE THESIS BY DEMITRI DELEAN





**AN ARCHITECTURE OF INCLUSION:**

A NEW APPROACH TO HOUSING FOR PEOPLE WITH DEVELOPMENTAL DISABILITIES

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## AN ARCHITECTURE OF INCLUSION

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### ABSTRACT

Currently in Ontario, there are roughly 14,000 adults with developmental disabilities that need a permanent housing solution. Some families within Toronto, due to the lack of governmental support and housing programs available to them, have started to recognize the need for their child to develop that sense of independence, and have started combining their financial efforts to purchase communal homes in which their children can start living as independent adults. Despite the ingenuity and foresight required for such an endeavor, with Toronto's current housing market and the cost of hiring full-time care professionals, this idea quickly becomes an unrealistic model for most families however, this action suggests a very real and pressing issue in which architecture can begin to play a significant role in establishing that sense of inclusion and independence for these people within our communities.



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*To Keenan*

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## **UNDERSTANDING DEVELOPMENTAL DISABILITIES**

Of all the moments that one experiences in a lifetime, no event was more significant and disquieting for my parents than the birth of Keenan, my brother with Down Syndrome. The emotional burden placed on them at that moment and their decision to continue to raise my brother is one that I can only imagine to have been the most daunting and courageous of their relationship. No one ever expects to give birth to a child with a developmental disability. Yet, unbeknownst to them was the deeply enriching impact Keenan would have on my life. Through him, I have truly come to understand and value the importance and worth of each human being regardless of their condition.

Despite all of the pre-conceived negativity surrounding them, if you are a parent, sibling, or friend of a person who was born with a developmental disability, you are most likely aware that they are capable of almost everything a normal child does, albeit at a slower pace. With the right love and support, they can achieve many things that might have previously been unexpected of them.

Currently at the age of twenty-five, Keenan has learnt how to read, use a computer, and a cellphone. He is a multi-talented athlete who plays ice hockey, skis, and swims. He has a great appreciation for music, which seems to run deep in our family. He has a definite sense of humour and is very capable of socializing when surrounded by the right community of people. Finally, his most proud achievement to date has been securing his first job working in a small coffee shop.

There has been very little written about how architecture can play a role in shaping and enhancing the life of a person with a developmental disability, and how they could fit within the lives we live and the way society is run. There are many books that focus on parental guidance and medical conditions concerning a child with a developmental disability - this paper aims to be neither of those. Rather, the ambition of this thesis is to be an understanding of a specific social condition and an architectural response which aims to create a sense of inclusion and independence for young adults with a developmental disability, with a focus on people with Down Syndrome, through a self-sustaining environment in which they can thrive.

What can I hope for Keenan in the future? I think that the most valuable thing that we could give him is complete acceptance of

him just as he is, and a desire to make him as independent as possible for the future. For a community to give him the resources and opportunities to prove that he can be an active member within our society with all the rights of a human being, within his capabilities. I would ask anyone who might not have had the opportunity to interact with a person with a developmental disability to take a step back and see each person as a human being. For those that are in the field of special education or any related field, know that your encouragement, inclusion, determination, and patience can add invaluable dimensions to the life of a child with a developmental disability and his or her family. My greatest wish, as well as many other families, is that the institutions as we know them will someday be replaced by a form of architecture where young adults with developmental disabilities can learn how to live independently and build a community around them that will allow them to live a life to their fullest potential.

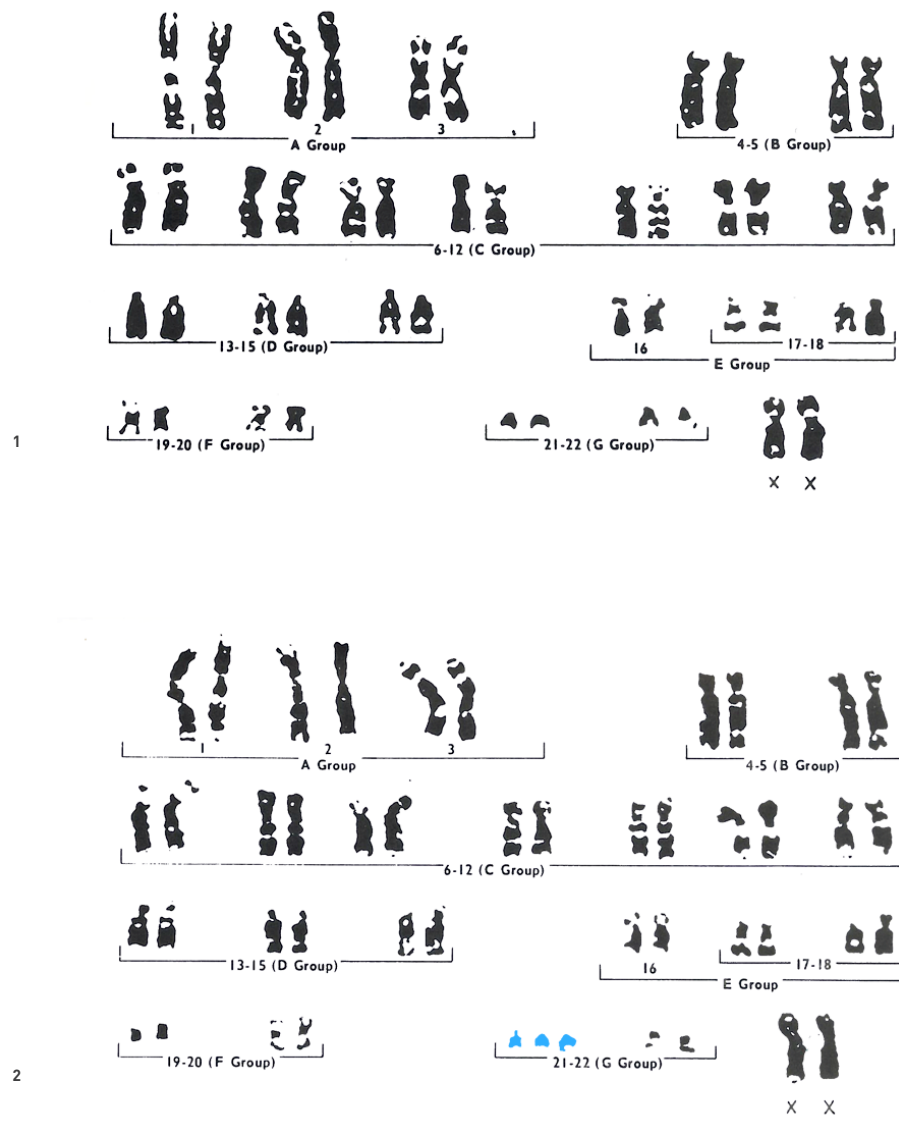


Figure 1  
Chromosomes of a Female

Figure 2  
Chromosomes of a Female with Down Syndrome (note the extra chromosome 21 highlighted in blue)

## **WHAT IT MEANS TO BE BORN WITH A DEVELOPMENTAL DISABILITY**

In a very simplified definition, Down Syndrome is a genetic condition where a person is born with an extra chromosome 21, giving them a total of forty-seven chromosomes in each cell instead of the normal forty-six chromosomes<sup>1</sup>. Looking at Figure 1 and 2, It is quite fascinating how the smallest abnormality can have the greatest impact on someone's life. This is a specific condition ignores any division of race, class, or age.

At this time, it is estimated that there are about 5.8 million people living with Down Syndrome worldwide, with roughly 1 in 700 babies being born with Down Syndrome in North America<sup>2</sup>. While the condition of being born with Down Syndrome is not painful and certainly involves no suffering, roughly one-third of children are born with a congenital heart defect which may lead to health issues however, despite this the average life-expectancy has increased dramatically from just 25 years in 1983 to 60 years of age in 2016<sup>3</sup>. This is due to medical advances that made the heart defects that are often synonymous with Down Syndrome far more easily corrected.

While children with Down Syndrome can be recognized through

their similar physical appearance, they can not be so easily grouped together. The reality is that there is a cognitive spectrum present which makes each one of their needs very individual. This is a very important consideration when addressing the educational development of people with Down Syndrome. Luckily, education has changed considerably and there have been some moves towards more inclusion within the classroom over the past 30 years, an area where in which they were completely excluded from until the early 1970's<sup>4</sup>. For many families, however, the experience has been mixed and many people with Down Syndrome are still frequently denied effective access to mainstream education<sup>5</sup>. This in part has to do with wait-listing due to the lack programs available to accommodate them, but also the fact that until recently, children with down syndrome were thought to be unable to learn to read at all<sup>6</sup>. But the reality is, that they are fully capable of contributing to our society when given the right tools.

*It is important to remember that while children and adults with cognitive disabilities experience developmental delays, they also have many talents and gifts and should be given the opportunity and encouragement to develop them throughout their entire lifespan<sup>7</sup>.*

No matter their age, people with Down Syndrome, and people

of all different abilities for that matter, should be able to fully participate independently within society and be able to continue the development of their critical educational and social skills. As the baby-boomer generation gets older and the life expectancy of people with Down Syndrome increases, as mentioned earlier, there will be a very real and significant issue on our societies hands in terms of housing all these people.

## **OVERVIEW OF THE CURRENT HOUSING CONDITION**

One of the most prominent concerns for families with a child with a developmental disability, including my own family, is the challenge of finding a proper housing solution once their child becomes an independent adult. In Ontario alone, the Ministry of Community and Social Services estimated that there were 62,000 adults living with a developmental disability, with around half of that number needing residential support<sup>8</sup>. In most cases, this surplus of people searching for a home is being caused by the lack of available housing for people with developmental disabilities within the Province of Ontario. As a result of the high demand for housing and low availability, a significant wait-listing issue now exists

within the developmental disability community which is causing pressure on the province of Ontario to investigate solutions to this housing problem.

Moving out of the family home is a big step into adulthood for both the young adult and their parents however, there are many other facets which make it next to impossible to even consider making that important first step. The current social and educational programs that are provided by the Government of Ontario for people with Down Syndrome, such as public education and developmental programs, are cut-off by the age of twenty-one, leaving families to figure out different means of caring for and supporting their child. Some families are lucky enough to be able to financially afford to continue to provide learning and developmental services for their child however, this is not the case for most families. For many, a family member is required to stop working because of their child's condition, which causes further financial stress within the family dynamic.

*In a study performed in 2005-06 by the NSCSHN, nearly 60% of families who had a child with Down Syndrome provided home health care, in over 40% of cases a family member stopped working because of the child's condition, and nearly 40% reported that the child's condition caused financial problems<sup>9</sup>.*

With roughly 6000 children being born each year with Down Syndrome<sup>10</sup>, which equates to about 1 in every 700-child born, the number of cases of families providing home care themselves over the past ten years have been increasing in tandem. These statistics are a significant indicator that there is a problem that needs to be addressed. The surge in home care and financial constraints are currently responding to the lack of initiatives and proper housing strategies that would allow people with Down Syndrome to thrive independently once they reach adulthood.

Some families within the Down Syndrome community, due to the lack of governmental support and housing programs available to them, have started to recognize the need for their child to develop that sense of independence, and have started their own housing movement. By combining financial efforts in order to purchase a communal home, they have provided the opportunity in which their children can start living as independent adults. Despite the ingenuity and foresight required for such an endeavor, with Toronto's current housing market and the cost of hiring full-time care professionals, this idea quickly becomes an unrealistic and unsustainable model for most families however, the core idea for a solution lies within this compelling housing movement.

Although it is an important step for families to identify and

conceive of a temporary solution for their own families needs, it does not solve the underlying issues of the lack of housing, developmental programs, and financial inaccessibility for most families. Because of the wide variation in cognitive abilities amongst people with developmental disabilities, many studies indicate that the design of their living environment needs to be much more complex in nature. Some of these people are lower functioning than others and therefore require proper support networks that are essential to their success in living as an independent adult. Furthermore, this strategy does not consider the idea of engaging with an architectural language that would cater to and enhance the lives of it's building users through the implementation of multiple key programmatic elements, it's site location, and architectural strategies.

This idea has produced a framework with a certain dependency on a corporate system in order to be able to afford the inherent cost of living and long term care. With affordable housing and quality group home options becoming such a scarcity within the downtown core, we as architects must now re-evaluate our architectural, economic and social values. Architecture has the ability to address this problem and to establish a unique residential model that focuses on offering that much needed sense of inclusion and independence by means of understanding

the problem from a political, social, communal, supportive, programmatic, and architectural level.

Currently, we are failing at our social responsibilities as architects. The topic of this thesis is just one element of the issue, but a prominent one within our cities. It is my conviction that architecture has a social agency in addressing real and practical problems that directly affect peoples lives. Furthermore, it is just as much societies' obligation to break down that invisible barrier that exists that hinders the complete inclusion of people with Down Syndrome into society.

As a first step, let's try to understand the current complexities which families and their child with a developmental disability might have to face throughout their life.

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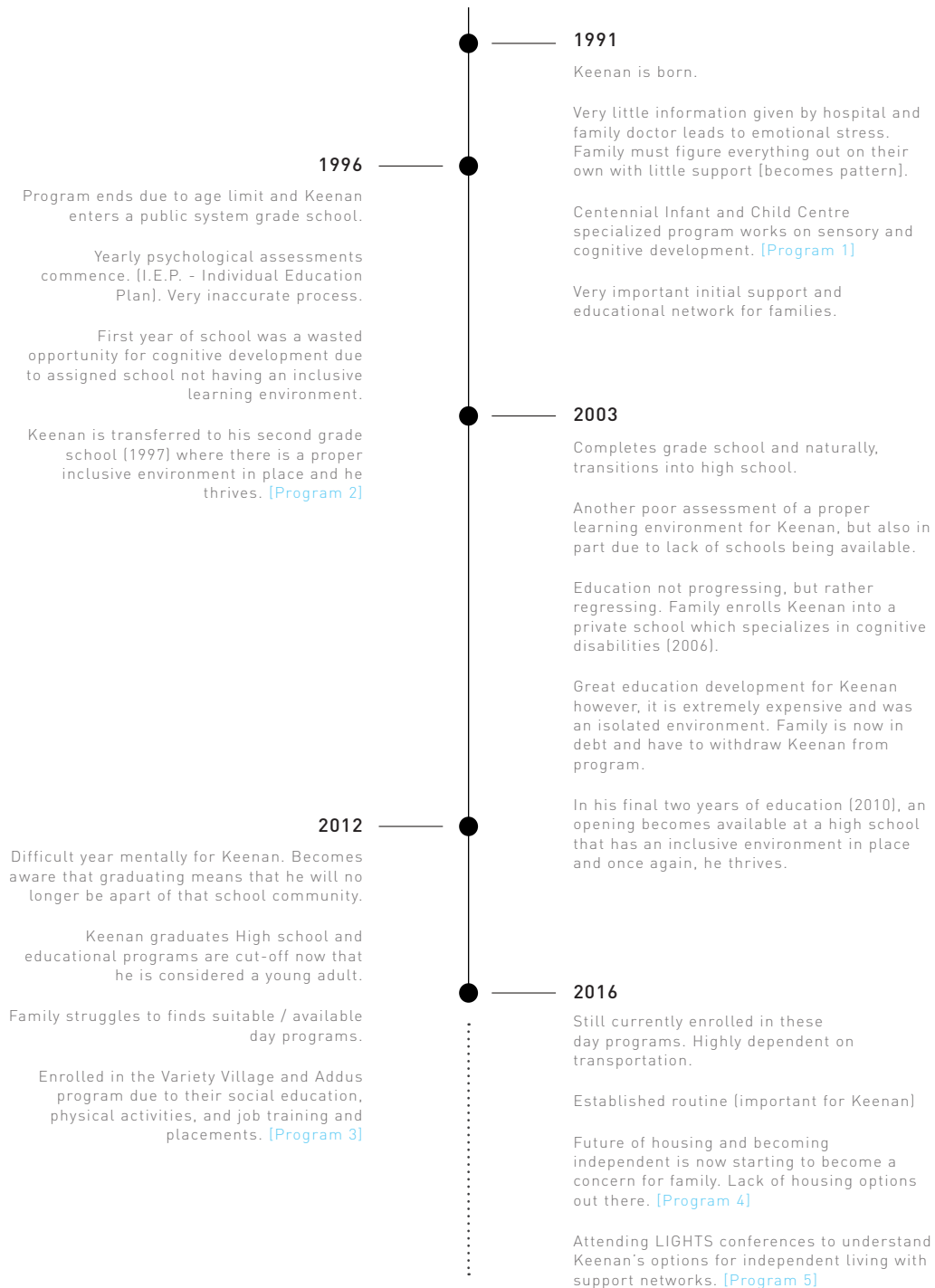




## **THE COMPLEXITY OF BECOMING INDEPENDENT**

Living with Keenan over the past 25 years, I have been exposed to many of his struggles and successes within society, as well as many of the ways that society has failed him and held him back from living to his full potential. Furthermore, reflecting on our relationship, I have also come to experience certain environments in which he thrives and others where he completely shuts down and regresses. As I will discuss throughout this chapter, the sense of inclusion and community plays a big role in this.

In order to develop a deeper understanding of the complexity of becoming an independent adult with a developmental disability and to identify significant life events that make it difficult for these people to live a fulfilling life, a time-line of Keenan's life events was mapped out (see Figure 3). This exercise, based on thorough discussions with my parents and personal observations, revealed several key programmatic components that need to be considered architecturally when attempting to resolve the issue of disconnect throughout one's time-line. It is important to keep in mind that



**Figure 3**  
Map of Keenan's time-line

this discussion will vary with every family, as all time-line events differ based on their child's capacity (Keenan's being on the lower end) however, the following issues that are highlighted are quite relevant for every family raising a child with a developmental disability.

## **THE EARLY STAGES**

The difficulty of learning that your child was born with a developmental disability can be a very emotionally taxing event. One's anticipation and expectations quickly diminish when the hospital staff attending the delivery seem slightly less enthusiastic about the birth and you begin to sense something is not quite right<sup>1</sup>. It is quite common to feel afraid or in shock when their doctor informs them that their newborn child has Down Syndrome. At this point, most people know very little information about the condition because no one anticipates this type of outcome. In a very short time-frame, a family is required to figure out the intricacies about the condition of their child and the next steps of their physical and cognitive development with very few resources or direction given to them. Unfortunately, this is a pattern that will continue through

every step of the child's life.

In the early stages of life with Down Syndrome, it is very important to work on the child's sensory experiences and muscle development. The philosophy behind this stimulation is that it really helps promote the child's cognitive growth and development. Centennial Infant and Child Centre is a specialized program in Toronto that offers those exact services and even goes a step further. Not only does the program provide fundamental support to the child's development but also works with the parents by teaching them how to interact with the child. Furthermore, this program helps to build a strong support system that connects you to a network of families who are going through the same thing. Providing these essential developmental exercises, as well as being an invaluable source of information and resources to new parents, was a crucial point in my family's life and helped change their outlook on Keenan's future to a more positive view. This support network created a safe, familiar, and nurturing community in which Keenan thrived. This was the first moment in which it became apparent that creating this sense of community and support around a person with a developmental disability would be a crucial element of this design thesis and should be established within the earliest stages of their life.

## NAVIGATING THROUGH TORONTO'S EDUCATIONAL SYSTEM

Rather unfortunately, but understandably a necessity to allow other children access to the program, this support program ends when the child reaches the age of five years-old. This can be very difficult on a family because they have built a comfortable environment for their child and themselves and are now challenged to find something that will continue to offer an environment in which he can develop his cognitive and physical abilities.

As with every stage, it was a very disjointed process. Having Keenan simply go into grade school was not a simple task because of all the red flags that were going off. As Keenan grew older, my family was quick to realize that the most difficult thing was not having to raise a child with a disability, but rather dealing with the constant roadblocks that were inhibiting him to be placed in an inclusive environment, such as the yearly psychological assessments that determine the school that he would be assigned to. These are known as Individualized Education Program or IEP. If your child receives special education services, it is the law for them to have an Individualized Education Program. An IEP is an important legal document that spells out your child's learning needs, the services the school will provide and how progress will be measured<sup>2</sup>. However, the quality and effectiveness of the education your child

receives is highly dependent on the staff and school environment in which they are placed. Because the lack of programs available to him at the time, the whole concept of the IEP program rendered itself useless.

The first public school that Keenan was assigned to was a sure indicator that this assessment process is flawed. For starters, the school Principle had clearly stated that people with developmental disabilities were not wanted at the school due to the lack of trained staff available to support him, as this was an over populated inner-city school. Because of the absence of specialized teaching support, Keenan lost a crucial year of his cognitive and social development as he sat at the back of the classroom, forgotten and unstimulated. Children with Down Syndrome learn at a much slower pace and have a strong visual bias towards learning. They have a specific learning profile, with an emphasis on visual learning, which once understood and adapted for is often beneficial to other children with the same bias<sup>3</sup>. Therefore, it is essential to be placed in an environment that promotes this type of specialized learning. Regrettably, this was the only educational option available to Keenan at the time.

This discussion of neglect can in part be equated to the lack of value society has had for people with developmental disabilities.

Up until the 1970's, as a society we believed that people with Down Syndrome were incapable of learning how to read or write<sup>4</sup>. Thankfully parents and society are finally coming to understand the aspirations of persons with Down Syndrome to participate in all aspects of community life: education, recreation, employment, social and family life.

Through a significant amount of effort and self-advocacy (which is unfortunately another necessary re-occurring pattern), my parents managed to get Keenan placed into another public school that, this time, understood how to include a person with developmental disabilities into the classroom dynamic. The teacher had assistants, proper training, and funding that allowed for a proper learning environment for Keenan. The teacher took the time to understand his personality and made him feel like a part of the classroom community. Creating this type of tailored and inclusive environment in which he could learn at his specific pace, develop his social skills, and feel a part of a community has, without fail, allowed Keenan to succeed, further justifying the value of inclusion for people with developmental disabilities.

Throughout the remainder of Keenan's education as a teenager, the search for a suitable, available, and financially feasible school program would be a laborious process. Providing more suitable

and continuous educational programs is integral to the success of the future inclusion of these people into our cities.

## **BEYOND GRADUATION**

At the age of twenty-one, people with developmental disabilities age out of their public-school educational programs and are expected to transition into an adult program. For Keenan, this meant that he would be moving from a school program, which naturally has an emphasis on education, to a day program, which tend to have more of a focus on daily activities and building social skills. However, finding a suitable and available program proved to be, yet again, a laborious task.

One of the significant factors that is very relevant to this architectural discourse is the prominent issue of wait-listing associated with any program available for people with developmental disabilities, especially housing. In a recent study completed in the 2014 Annual Report of the Auditor General of Ontario, there were 2549 people living with developmental disabilities wait-listed for housing options within the City of

Toronto. Referring to Figure 4, comparing the current rate of which vacancies are opening to the rate of which housing options that the province of Ontario is providing for these people each year, it is estimated that the average time it will take roughly 40 years to clear this wait-list<sup>5</sup>. These numbers are unacceptable when looking at this issue on an individualistic level. At the age of 16, individuals with a developmental disability become eligible to apply for placement within housing. Despite this being a very early stage in their life to start the process of finding future housing options for themselves, the process currently can take up to 25 years on average, meaning that the individual would begin learning how to live independently at an average age of 41. This is a crucial life skill that must be learnt much earlier in one's life. Of all the issues falling within the mandate of the committee in Toronto which studies housing for people with developmental disabilities, the lack of appropriate housing for adults with developmental disabilities is one of the most critical. Although it might not be as pressing as the lack of housing for people with developmental disabilities in Toronto, this issue of wait-listing remains true to day programs as well.

Through day programs such as Addus, a program aimed to enable adults with developmental disabilities to have valued social roles within the community<sup>6</sup> and Variety Village, a program that aims to

Region	Group Homes			Supported Independent Living		
	# of People Waiting (March 31, 2014)	# of Vacancies (2013/14)	# of Years to Clear Wait Lists at this Rate	# of People Waiting (March 31, 2014)	# of Vacancies (2013/14)	# of Years to Clear Wait Lists at this Rate
Central East	1,327	45	29	849	41	21
Central West	643	48	13	252	19	13
Eastern	696	23	30	671	23	29
Hamilton Niagara	857	44	19	648	43	15
North East	231	37	6	224	31	7
Northern	267	11	24	330	15	22
South East	165	15	11	122	3	41
South West	1,131	46	25	1,028	27	38
Toronto	1,621	40	41	928	25	37
Province	6,938	309	22	5,052	227	22

Figure 4  
Comparison of Wait-list and Vacancies across Ontario

form a unique community that transforms lives of young people with disabilities through inclusive physical activity and education for every phase of life<sup>7</sup>, Keenan has developed crucial life skills have taught him how to participate in society through daily activities, such as using public transportation, buying groceries and cooking communal lunches, team sports that promote physical activity, and job placements.

Despite all of the positive benefits that these types of programs establish for people who are cognitively challenged who are in the process of transitioning from the school system, there is an almost instantaneous halt in education. For people with developmental disabilities, there is a crucial need for continuous speech and language therapy, as well as other important life skills that allow one to function within society such as reading and writing, without which one could find it difficult to communicate, interact, and form important relationships. This in part has to do with a history of misunderstanding of the condition.

*Until very recently, children with Down Syndrome were thought to be unable to learn to read at all. Try to think about the world around you without using language, difficult isn't it? – We learn to interpret the world around us through language. People with Down Syndrome have a*

*very strong bias towards visual learning; something only discovered relatively recently. This bias is so pronounced that such people find learning speech and language very difficult indeed. Visual memory is good however and where language is lacking, reading may in fact be able to become a great way to help interpret the world<sup>8</sup>.*

Learning is a lifelong venture and the fact that Keenan is no longer being asked to continue those skills and apply them past the age of 21 is a fundamental problem. People with developmental disabilities learn at a much slower pace than the average person. Furthermore, if that educational stimulation is no longer being practiced, they tend to regress quite rapidly. We have witnessed this first hand with Keenan's reading and speech development, which he has almost completely forgotten. With this being the case for most people with developmental disabilities, why is it then that they are expected to complete their education at the same time as the average student. Continued education should be an integral part of the programs available to them as they transition into the day-program phase once they reach adulthood. If your child has an IEP (Individualized Education Plan) it is required by law to have transition plans in place beginning at age 16 however, many needed transition services such as school-based preparatory experiences, career preparation, and work-based learning

experiences are never provided<sup>9</sup>. It is time that we re-modeled their educational structure so that some people don't get left behind or regress as a whole. What about creating an environment where there is that continued learning of those essential language tools as a part of their day-program, and then being able to apply them directly whether that is through corporate involvement or communal activities.

One final point to consider from this phase in Keenan's life, for some who are cognitively lower functioning, is the high dependency on transportation to and from the day-programs. The absence of transportation restricts a person with developmental disabilities to remain at home, resulting in them being in a confined developmental stand-still at home. The location of this thesis project will be an important element to consider moving forward. This topic will be discussed further in Chapter 3.

## IN SEARCH OF INDEPENDENCE

The next natural progression in anyone's life as they become young adults is becoming independent and people with developmental disabilities are no exception. As parents age, it becomes significantly more important for their child to learn how to be able to function without them to the best of their capacity. As a result of the life-expectancy of people with Down Syndrome increasing, as mentioned earlier, there is a very high chance that they will arrive at a stage where their parents or main care-giver can no longer care for them, which can lead to very serious issues of displacement if there are no local and appropriate residential options available to them. More on this in the following chapter.

The issue here is that currently in Toronto we do not have appropriate housing models available for these people. As described in the previous chapter, families in Toronto are beginning to resort to their own means by purchasing homes in which two to three families can have their children with developmental disabilities live in a group setting. Despite this being a solution for these specific people, it is a very individualistic model that for most families is not financially feasible, thus it does not address the issue in an impactful manner. Today, in the province of Ontario alone there are 14,326 people with developmental disabilities

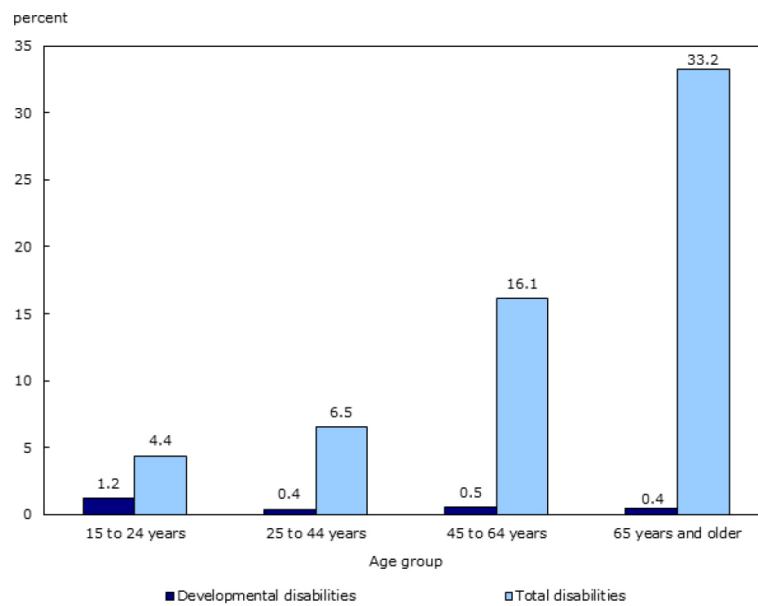
that are on a wait-list for future housing (see Figure 5). In the City of Toronto specifically, that number current sits at 2,549 people. As highlighted in Figure 6, the overall rate of disability increased substantially with age, rising from 4.4% among those aged 15 to 24 to 33.2% among those 65 and older. The prevalence of developmental disabilities, however, does not follow this trend; in fact, the rate of developmental disability was highest among those between the ages of 15 and 24 at 1.2% and decreased with age to 0.4% among those 65 and older<sup>10</sup>. This suggests that the rate of people with developmental disabilities is increasing, which is a very serious problem when the current wait-list isn't being addressed quickly enough.

Due to the lack of housing initiatives being proposed, the number of individuals with developmental disabilities that are on a wait-list continue to grow. The Ministry's records indicate that some 10,900 were in a queue for some form of residential services in March 2012, while by April 1, 2014, there were 12,808 adults on a wait-list for residential services<sup>11</sup>. Furthermore, between the year 2010-2014, the number of Ontarians with developmental disabilities receiving residential services and supports grew only 1%, to 17,900, while spending on those services and supports rose 14%, to \$1.16 billion<sup>12</sup>. This stagnation clearly identifies the need for architectural projects of this nature. The point here is

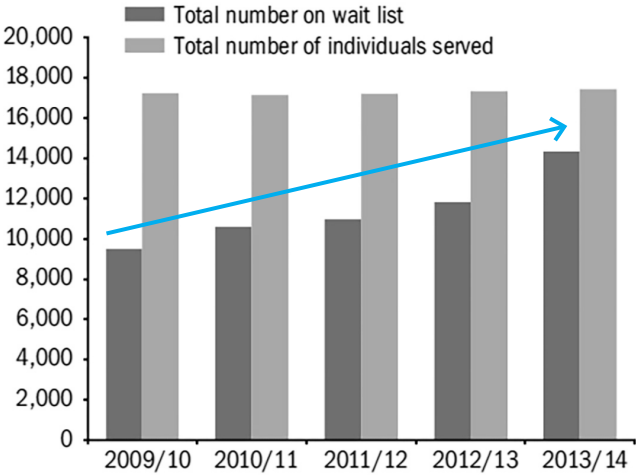
Type	Description	# of People Served in 2013/14	Wait List as of March 31, 2014
Supported Group Living Residences (Group Homes)	Three or more individuals live in a group home operated by a transfer payment agency where 24-hour care and support services are provided seven days a week.	9,893	6,938
Supported Independent Living	Individuals often live in their own accommodation such as a rental apartment, with some staff support provided by transfer payment agencies.	5,537	5,052
Host Family Residences/ Associate Living	Individuals live in a family's home, similar to foster care. The family receives a per diem through a transfer payment agency to cover some living expenses.	1,633	833
Intensive Support Residences	One or two individuals live in a residence operated by a transfer payment agency where 24-hour care and support services are provided seven days a week.	328	197
Specialized Accommodation	Transitional or permanent specialized settings, including residential care, structured support, planning and treatment for individuals with a developmental disability and a co-existing mental illness or behavioural challenges.	462	—
		17,853	14,326*

\* Includes an additional 1,306 people for whom a residence type was not specified.

Figure 5  
Ministry-funded Residential Services for People with Developmental Disabilities



**Figure 6**  
Prevalence of developmental disabilities and total disabilities by age group, age 15 years and older



**Figure 7**  
People waiting for residential services vs. people served (2010-2014)

that wait-lists for residential services are extremely long and are causing extreme pressure on the Government of Ontario to promote projects of this nature. The number of people waiting for adult residential services and supports stood at 14,300 as of March 31, 2014, compared to the 17,400 who received services in the same year (see Figure 7). Furthermore, wait lists are growing faster than capacity; between 2009/10 and 2013/14, the number of people waiting for adult residential services increased 50%, while the number served increased only 1%<sup>13</sup>. At this rate, it would take an average of 25 years to place everyone with a developmental disability who is currently waiting for housing – assuming no one else joins the list. These statistics provided by the Auditor General of Ontario confirm that there is a pressing need for projects of this nature to be implemented within our communities.

These numbers are a direct result of the lack of available housing options for people with developmental disabilities and the ridiculously extreme wait-list time, typically 20-30 years from the time an individual applies for housing (age of 16). This is a significant issue because it creates a very late moment for something that is so crucial and as difficult as the transition into independence is for that individual. Unfortunately, this is a rather common scenario for families in Toronto. It is an extremely important problem for the individual and their families. For Keenan,

it would be essential in terms of maximizing his development and independence because, as would be the case for any individual, his full development of independent skills will not be achieved within the family home. Furthermore, these skills need to start being established and practiced before the age of 30 if they are dealing with developmental disabilities. This is equally important for the family. Across the province, we have thousands of aging care-givers that have lived very different lives than their peers, whom in many cases are dealing with serious health problems, stress, mental health problems, anxiety, and depression which takes a serious toll on the life of the care-givers as well as the individual with the developmental disability<sup>14</sup>. As a care-giver or parent, it is a frightening thought to not know what would happen to your child or family member if there is nothing available for them within the city. However, I would suggest the problem in question requires more than just simply providing placement into group homes.

As a result of the variation in cognitive abilities amongst people with Down Syndrome, the design of their living environment needs to be much more complex in nature. Some of these people are lower functioning than others and therefore require proper support networks that are essential to their success in living as an independent adult. Through LIGHTS (an organization created

in partnership with Community Living Toronto to address the very significant shortage of independent and appropriate housing for intellectually disabled citizens in Toronto), important programs such as Supported Independent Living (SIP) are available to families which allows the specific individual to build that sense of independence confidently. The program is tailored to the individual in order to provide them with as much support as they need in order to live their lives in an independent manner. SIP functions on three different levels of support which the adults are assessed on an individual basis according to their cognitive abilities:

- Level 1 (Low Support, 0-6 hours per week) This is offered to the higher functioning individuals who might just need help with banking or shopping.
- Level 2 (Med. Support, 7-12 hours per week) This is offered to the individual who is in the mid functioning range, but might need cooking support.
- Level 3 (High Support, 13-24 hours per week) This is offered to the lower functioning individual who requires much more support to navigate day to day life.

Currently, this support system is being offered in a very isolated manner which limits the availability of the support staff and raises the overall cost of care. Creating a communal housing environment would not only promote positive activity within the housing model, but by having multiple units within close proximity to each other they can sharing the support efforts of the staff and in turn, would significantly reduce the overall cost and shortage of support workers. Being on the lower end of the cognitive processing scale, Keenan would require a high level of support to be able to live independently. Despite having remarkably well developed motor skills, excelling in sports and physical activities, he is not yet capable of navigating the world around him alone. At the moment, essential everyday living skills such as cooking, taking the public transit, personal care, banking, and navigating the city are things that he heavily relies on his family for. Therefore, having integrated support networks that help people who are cognitively challenged to transition from the family home to a more independent setting is another crucial component to this project. As important as an organization such as LIGHTS is for helping facilitate housing for people with Down Syndrome, they are organized in such a manner that their focus is on developing a community driven push towards a strictly residential discussion. Although this is a step in the right direction, I would rather look further into the future and propose a design that aims to investigate a whole facility that becomes a

permanent supportive and inclusive neighbourhood for its users. Creating a total environment with the proper types of space, facilities, and support necessary for its inhabitants and their families to thrive throughout their entire lifespan.

The Government of Ontario has also started to recognize the pressing nature of this issue. They have recently started a housing task force initiative and have provided limited amounts of funding for certain projects to be carried out, indicating that Ontario is beginning to understand the need to tackle this housing problem. As mentioned earlier, developmental disabilities are very complex and specific in nature because of the wide cognitive spectrum of abilities an individual might have that has a developmental disability. One of the important themes that have surfaced through the on-going research being performed by the Housing Task Force, a group formed and funded by the Ministry of Community and Social Services to develop innovative and creative housing options for people with developmental disabilities<sup>15</sup>, is that there is no single housing model that can be an overarching solution. Because each case is so specific, there must be a variety of approaches. Some families and individuals might want to live on their own with the appropriate supports, others want to live with a friend or a house mate, and there are some who feel they need or want more of a group type living arrangement. This diversity piece

of the picture is extremely important to recognize. Because of this wide cognitive spectrum, it suggests that the architectural solution to the housing problem requires more than just offering more group homes, it requires an architectural specialization to deliver successful and impactful projects. The developmental services Housing Task Force is the first ever cross-sector Task Force to tackle housing issues specifically for adults with developmental disabilities. The task force is chaired by Ron Pruessen, who has been actively involved in advocacy and organizing work in the developmental services sector for more than 15 years. The community-based projects developed through the Housing Task Force will provide creative, inclusive, and cost-effective housing solutions for adults with developmental disabilities<sup>16</sup>. In 2014, the Ministry committed \$3 million in annualized funding to the Housing Task Force in response to a housing study, which the Ministry had commissioned<sup>17</sup>. This investment was aimed to explore and test innovative housing solutions and creative proposals of projects that could demonstrate the way in which housing people with developmental disabilities facing this crisis can be dealt with<sup>18</sup>. This project has generated a significant amount of interest within the community. In 2015, the task force reviewed 80 proposals and recommended 12, which the Ministry approved for funding. Although this number of approved proposals seems low, it was a carefully curated selection of projects in relation to the available

funding from the Government of Ontario. Despite the generous amount of funding compared to other years that had preceded it, it is not nearly enough to change the housing conditions in Ontario. However, this further emphasizes the recognition from the Government of Ontario on the urgency and importance of coming up with creative and innovative residential solutions for these people in the future.

Equally important to the process of becoming independent is obtaining employment. This is a very important factor when trying to reduce the overall cost of living expenses and the cost of care. While there are some companies that are doing great things in terms of inclusion for their staff, there are still limited opportunities available due to the stigma surrounding people with developmental disabilities, thus making it very difficult to find a more permanent placement. Some, on the other hand, are finally beginning to understand that employing people with disabilities is a great business investment. Mark Wafer, a Tim Hortons franchise owner and an advocate for people with disabilities in the area of employment, outlines that his employees who have a developmental disability demonstrate many benefits such as low absenteeism, higher staff morale, lower turnover (which is very expensive to companies), higher productivity and so on<sup>19</sup>. The proper approach is to work with the individual to find those specific areas in which

they can apply their skills. Take Keenan for an example. After years of wanting to have a job, Keenan's day program finally found him a placement in a small local coffee shop. Building on his keen sense of cleanliness, organization, and obsession with routine, his position at the café involves just that, he cleans the café and sets the tables. Although his position is only once a week, it has given him a tremendous sense of pride as he now feels a part of something important as he is now able to contribute to society. Generally, in Ontario we are beginning to recognize the need to build more inclusive environments and efforts are being made to gradually eliminate the sheltered workshops and segregated day programs that are often synonymous within the lives of people with developmental disabilities. Organizations such as ODEN (Ontario Disability Employment Network) are creating a network of employment agencies across the province that aim to help people with disabilities find employment and change how we include these people within our communities. This is a crucial service because corporate involvement and inclusion not only benefits the company and people with disabilities, but it also creates exposure and promotes interaction between the general public and people with developmental disabilities. This is so important because it begins to break down that invisible barrier and stigma that exists around people with Down Syndrome that hinders their complete integration into society. Everyone is an individual and everyone

thrives when their individual interests, passions, and skills are taken into account. Employment is no exception. For most of us, work provides many things other than just a paycheck. It is a crucial element of living a full life however, when it comes to people living with a disability, we can't just assume that they have work opportunities available to them. In addition to providing a form of income that helps individuals afford living, employment more importantly creates a sense of confidence, builds new skills, connections, opportunities, and potentially friendship. Whatever our level of skill or ability, work influences the quality of life and our future. There has been a long-held assumption that people with disabilities can not work or desire to. But this is simply not true. Communities need to start recognizing that these people have potential skills that can be leveraged, with the right placement and support (once their strength is identified), and provide spaces where these inclusive employment opportunities can occur within our cities.

From the discussion based around Keenan's time-line throughout this chapter, we can begin to identify the fundamental elements that provoke a specific necessity for certain types of program and design decisions that need to be considered as a basis of this thesis proposal. These elements include: Flexible and inclusive housing options, public spaces that generate chances for encounters and

community building, retail within the public realm that create employment opportunities that help to normalize exposure to people with developmental disabilities, and a site location that is strategically chosen to reduce one's dependency of private transportation to programs outside of this neighbourhood. Through architecture, we can begin to weave these elements together to form an environment that builds an inclusive community for people with developmental disabilities in which they can thrive, continue to develop cognitively and physically, live independently, and contribute to society.

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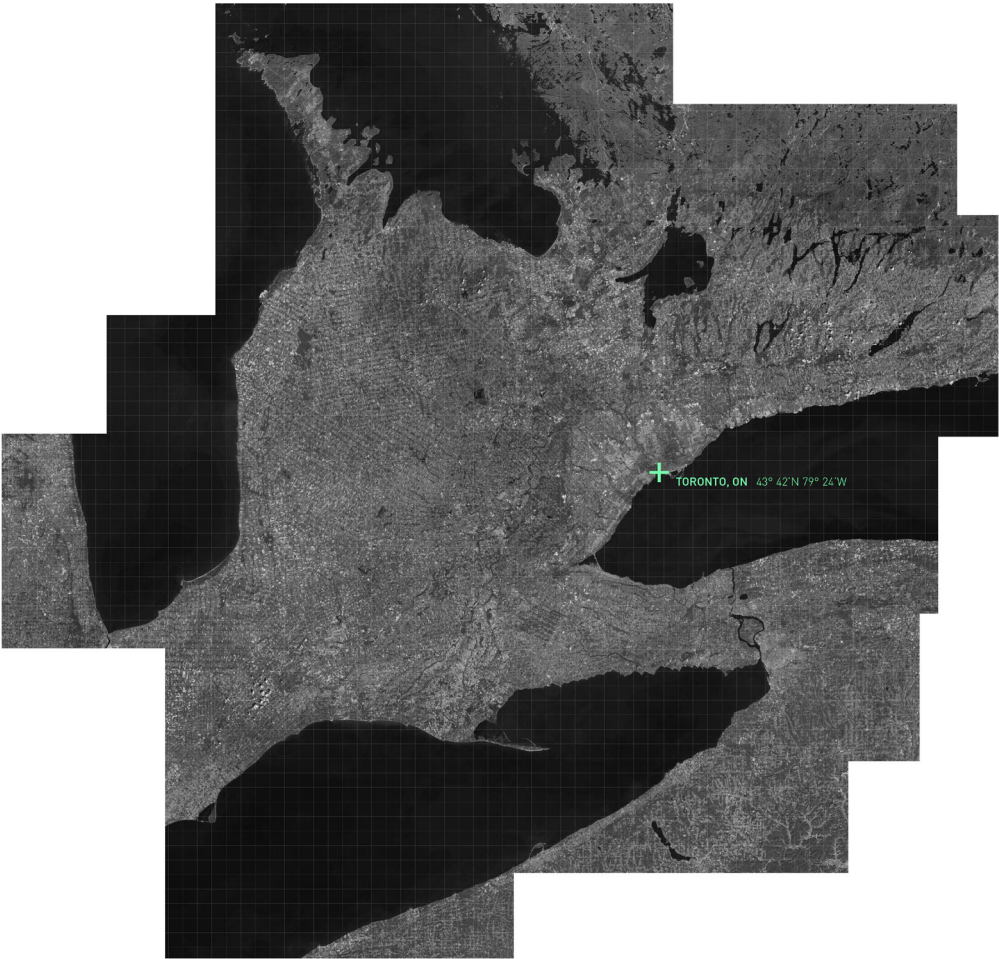
03





## THE IMPORTANCE OF LOCATION

The topic of location plays a central role in the discussion of housing for people with developmental disabilities. Most of the group housing programs that are specifically tailored for people with developmental disabilities, although few and far between, are located outside of the urban context (see Figure 9). This idea stems from the European housing models that aim to reduce the amount of sensory stimulation of the inner city by locating the people with a disability within a calmer environment often surrounded by nature. Although the intentions of these housing models are good, we rarely have these types of environments within an urban context in North American cities. Therefore, by providing housing options strictly outside of the city, we are unconsciously creating a condition in which we are slowly removing these people from within our cities. In addition to this being a highly-romanticized setting for housing people with developmental disabilities, creating a housing model in a rural setting often fail to account for some major factors that come with tackling this issue of housing and inclusion for people with developmental disabilities that are based

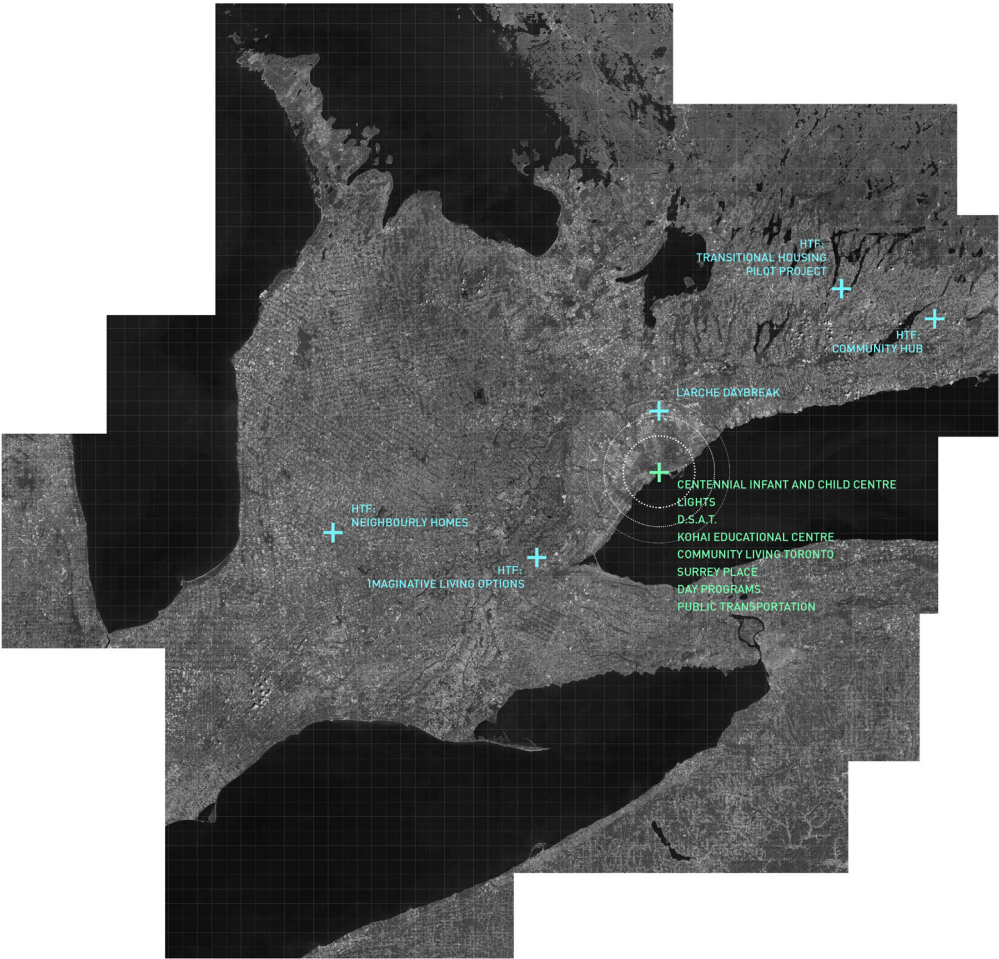


**Figure 8**  
Map 1: Base location of research

within the City of Toronto. This chapter will discuss the importance of the selection of site location in which this thesis project will be situated.

### **PROXIMITY TO ESSENTIAL SERVICES**

When evaluating the effectiveness of the areas where current housing options that are available to people with developmental disabilities are located, one must consider the proximity to essential services and support networks. Being based within the City of Toronto, all of the programs that are and were and are essential to Keenan's life are within a very close radius. Organizationally, when looking at Canadian cities, you find everything you need within urban centres (see Figure 9). The further you move away from the urban centre, into smaller and more rural communities, the level and quality of support that is available to a person who is cognitively challenged begins to decline drastically and rapidly. Additionally, this is a very important consideration in order to reduce one's dependency of private transportation which can be very expensive to an individual. Referring to Figure 10, most of the essential services to people who live in the Toronto area

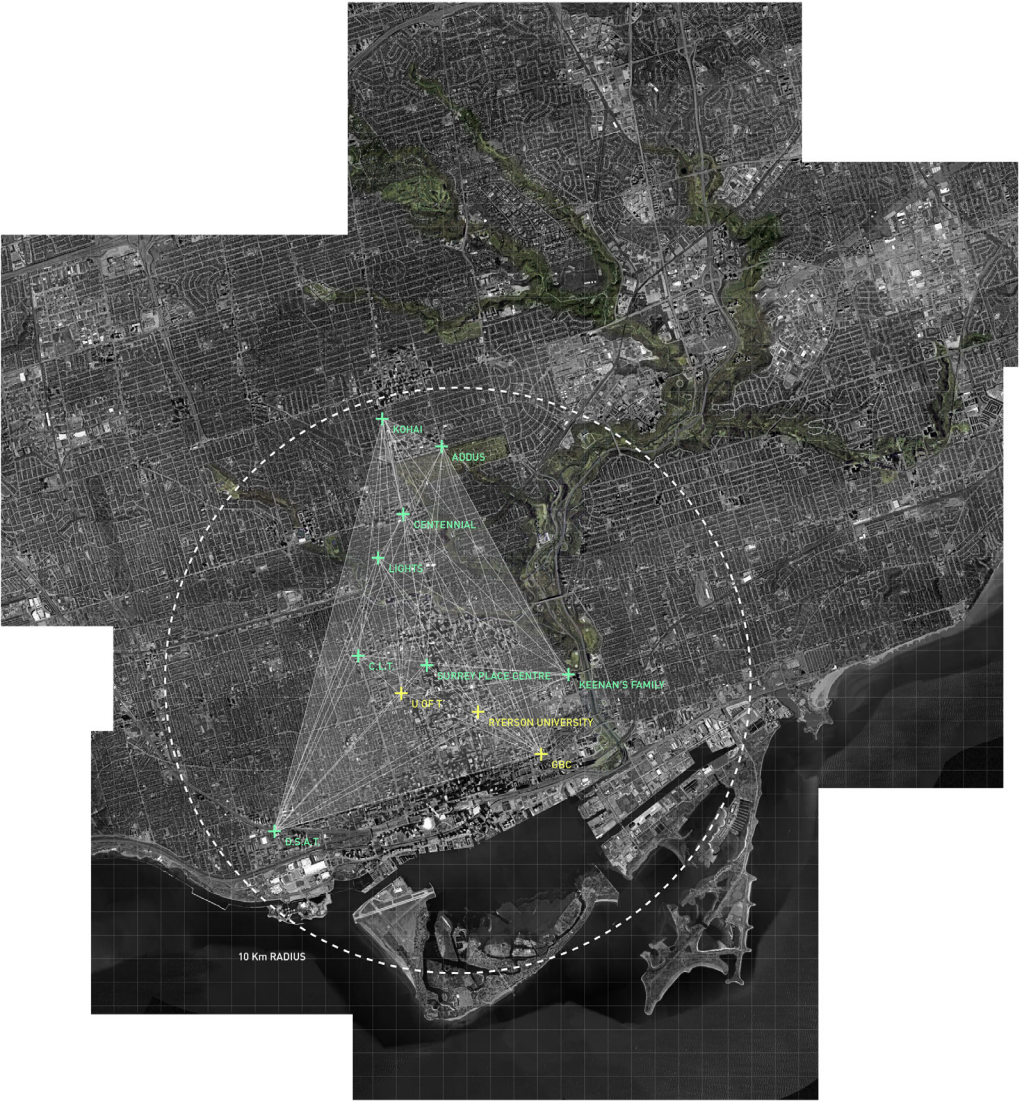


**Figure 9**  
Map 2: Proximity map of essential services

are contained within a ten-kilometer radius, each being readily accessible by public transit. These supportive services and programs are essential to Keenan's life because they work to include him as an individual within his community to a certain extent. As a result, the site location of this project would be most successful if it is located within this cluster of essential services.

#### **THE IMPORTANCE OF HOUSING AVAILABILITY IN MAJOR CITIES**

As mentioned in the previous chapter, there is a very significant problem with wait-lists due to the lack of proper housing available to people who have developmental disabilities. This is a very disconcerting and pressing issue due to the potential of displacement that comes along with the wait-listing. Because of the way in which procedures aimed to find housing options for people with developmental disabilities are in place through the DSO (Developmental Services Ontario), if something should ever happen to the parents or primary care giver to the person with a developmental disability at a time when there are no open housing options available within the city in which they reside, the individual



**Figure 10**  
Map 3: Key essential services within the downtown core

can easily be removed from the area, potentially leading to sudden displacement to any form of housing option that is available in any city without any concern for the individual. The detail of “any housing option available” and the thought of not knowing what will happen to your family member is a very real and frightening problem. Furthermore, today it is an all-too-common situation for people with Down Syndrome to end up in or be suggested to end up in a nursing homes when parents of adult children with Down syndrome grow too old or unfit to care for them, despite government supports, community programs, and social services<sup>1</sup>.

*If you're in long-term care because you don't have somewhere to live, then you become high priority. If you've been transferred temporarily to long-term care placement to keep you safe, you would be escalated to a priority list. The higher priority you are, the more you are identified when vacancies come up <sup>2</sup>.*

However important it is to find any form of temporary housing for people of high-priority, the type of housing in which they end up is typically not what most people with down syndrome need. Yes, they might need long term support care however, nursing homes are in place for a different type of care, one that implies that the person is on the decline and in need of a very specific type of care,

this often does not reflect the age or need of that individual with a developmental disability. Although there are no figures on how many people with Down Syndrome are placed into nursing homes, at least temporarily, some end up in them for good<sup>3</sup>. Due to the underlying unethical nature of these avoidable displacements and the majority of the population living within urban centres, every major city needs to have a proper housing option for people with developmental disabilities. It is our social responsibility to create a central and proper housing model for these people.

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04





## **AN ARCHITECTURE OF INCLUSION**

My brother is just one of the tens of thousands of adults with a developmental disability currently living in Ontario waiting for a chance to be placed in a housing program. With the threat of not having a future housing plan in place or the essential skills required to live independently, as the primary care-givers grow older and become unfit to care for their child or sibling a very significant problem begins to form. The purpose of my thesis project is to develop an innovative concept for housing people with developmental disabilities, which acts as a counter reaction to the current approach to housing development and begins to deal with what is a major problem with housing for adults with developmental disabilities within the City of Toronto.

One of the important themes that have surfaced through the on-going research being performed by the Housing Task Force surrounding the subject of housing for people with developmental disabilities, is that there is no single housing model that can be an overarching solution. Because each case is so specific, their

must be a variety of approaches. Some families and individuals might want to live on their own with the appropriate supports, others want to live with a friend or in close proximity to their caretaker, and there are some who feel they need or want more of a group type living arrangement. This diversity piece of the picture is extremely important to recognize and must be implemented into this thesis proposal.

Zeroing in on the core issue of housing and providing opportunities to learn and grow independently, which is so important due to the inevitability of them outliving their primary caregivers, the ambition of this design proposal is to create a supportive environment that acts as a central hub within the City of Toronto that helps to integrate and support people with developmental disabilities, as well as their parents, throughout their entire lifespan.

Now, how can architecture begin to shape the type of inclusive environment? We can start by looking at the design from a macro level.

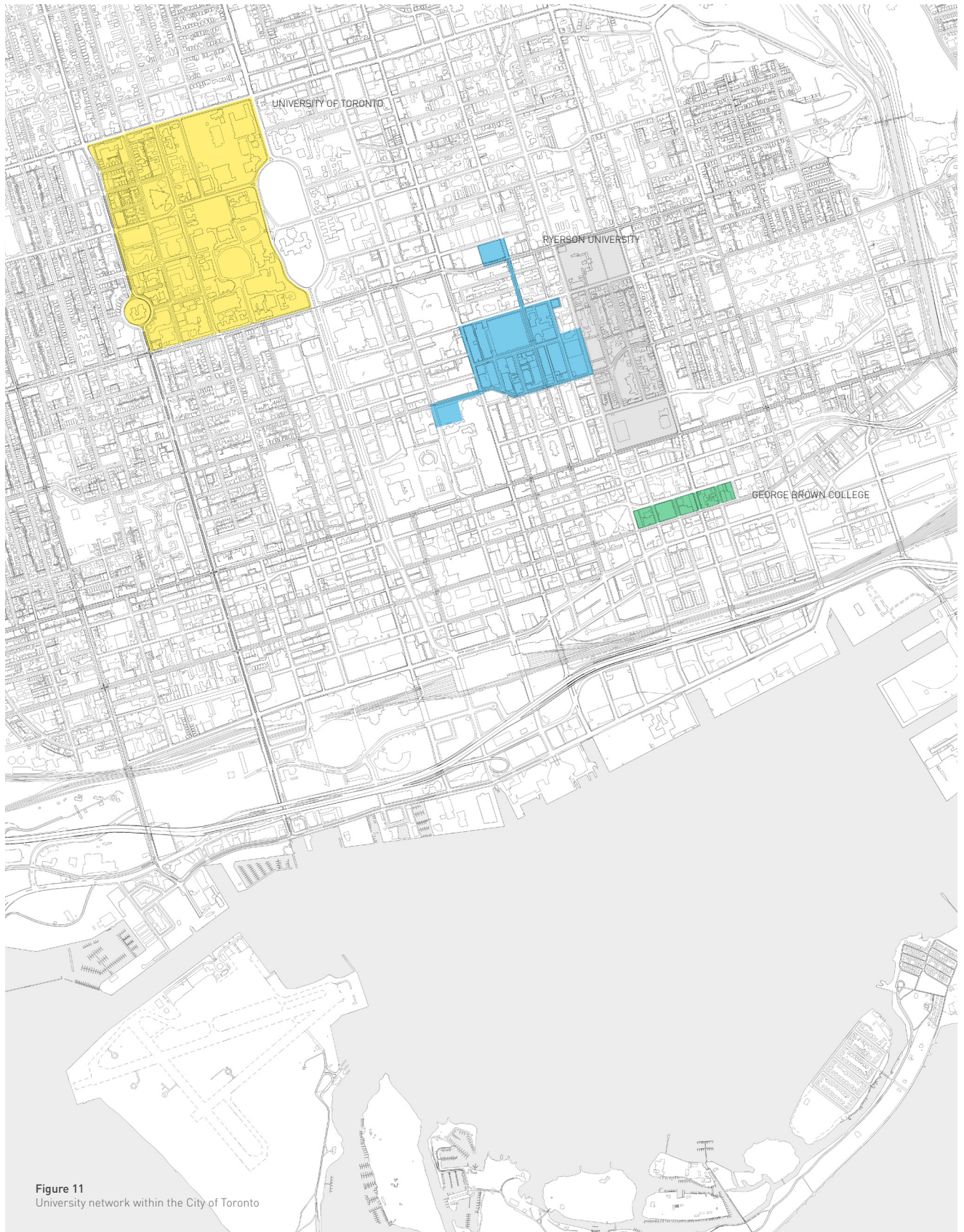


## URBAN CONCEPT

### *Site Selection*

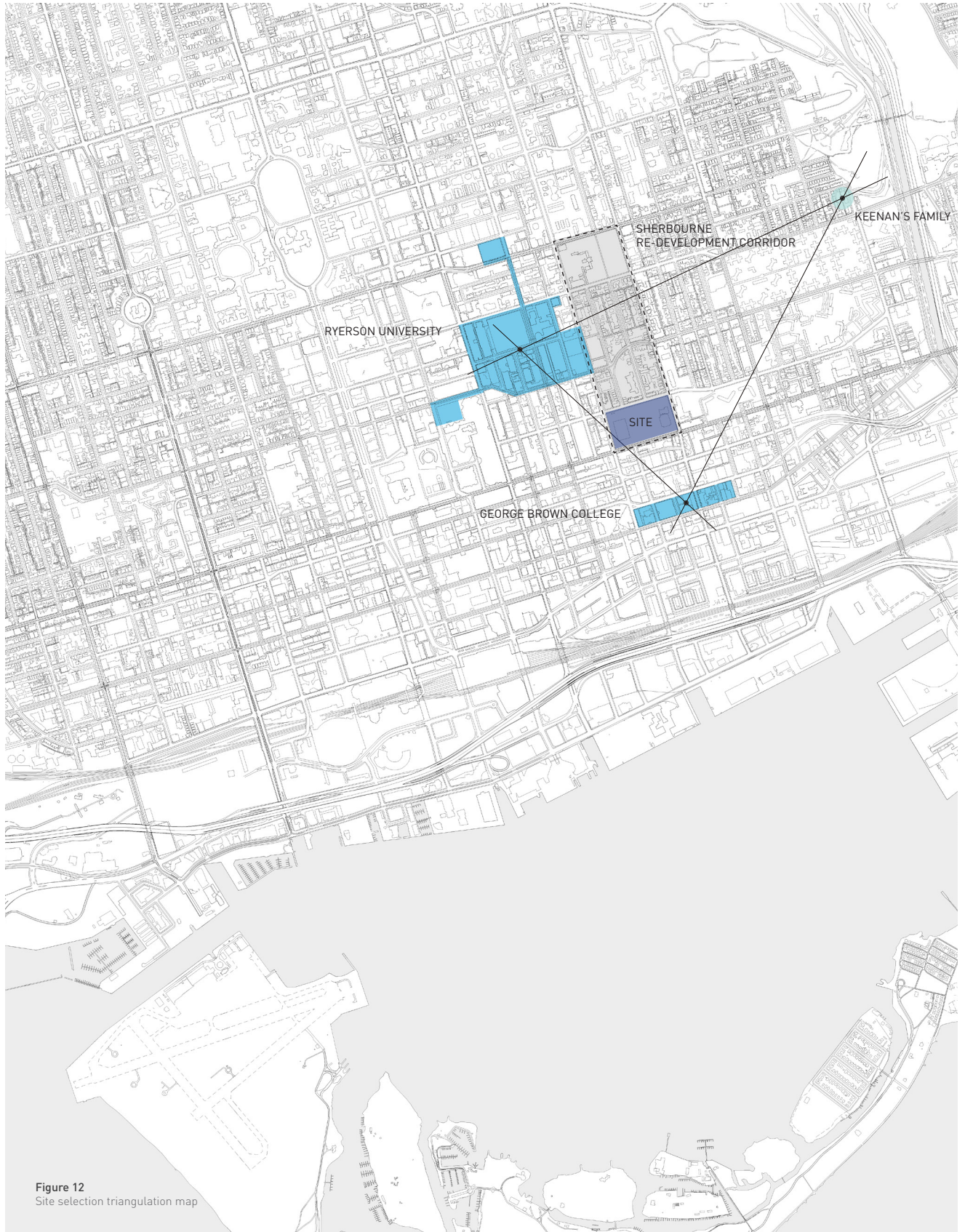
Following the discussion outlined in Chapter 3 about the importance of having these types of projects readily available within the downtown core of major cities, the first element to consider before we begin designing is the appropriate site location for this thesis project within the City of Toronto. Looking to Figure 11, there exists two major universities (Ryerson University and the University of Toronto) and a college (George Brown College) all within the support network map as identified in Figure 10. This narrows the area of focus to a central location within the City of Toronto. The idea of integrating the housing model into the existing educational infrastructure lends itself more to Ryerson University and George Brown College, both of which have a strong focus on inclusion initiatives within their campus infrastructure.

Since this proposal is aimed to be a larger scale project with several programmatic components, the site needs to offer a significant amount of area in order to accommodate the project proposal itself. Currently within this area, City of Toronto has proposed a Downtown East Revitalization Strategy as a means of ensuring that a coordinated and thoughtful approach to city building

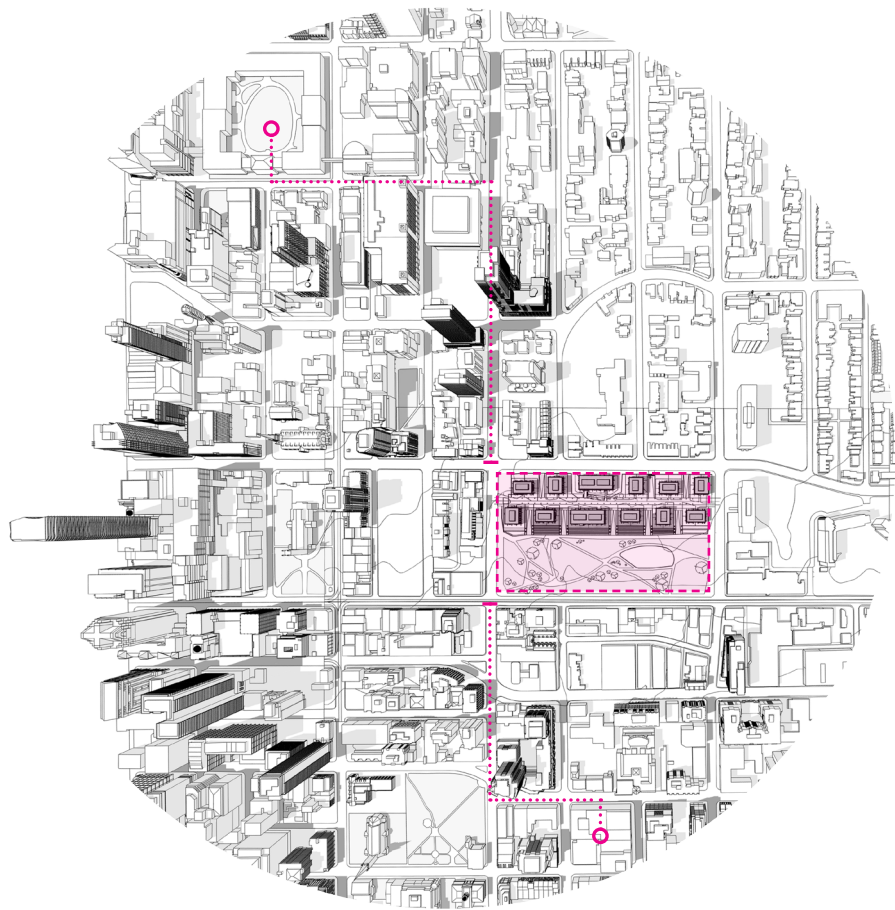


**Figure 11**  
University network within the City of Toronto

and social planning is used in future community planning<sup>1</sup>. As outlined in Figure 12, the revitalization plan is focused along the Sherbourne Street corridor, between Carlton and Queen Street, which runs adjacent to the Ryerson University and George Brown College campuses. At the foot of this revitalization area is Moss Park, a site that currently has plans to be revitalized and offers a significant lot area needed for the programmatic components needed for this proposal. Locating the project on this site location would place it directly in between the two campuses and would create a strong anchoring element to the Sherbourne Street revitalization corridor. The potential created by the selection of this site location, in terms of integration with the universities and community inclusion, is very opportune.



**Figure 12**  
Site selection triangulation map



**Figure 13**  
Connecting the site to the university network

### *Connectivity to the City*

The quality of the site, other than that it offers the amount of area require for a proposal this size within the downtown core, allows for accessibility to key amenities and services within the City of Toronto. Rather than creating an introverted (island effect) proposal and offering all their needed supports within one development, we can begin leverage the site's proximity to essential services to connect the site and its users to the city. The following study maps the proposal's connectivity to the City of Toronto.

Connecting the site to the post-secondary educational network is the first key component in establishing inclusion within our city (see Figure 13). As mentioned previously, the social and educational support that is so important to these individuals end at the age of twenty-one. Because of the slower pace of learning and different means of processing information, we can not judge them as a twenty-one-year-old brain as we understand it. When the educational input triggers the right stimulus, these people begin to thrive. Their education, social stimulation, and their independent life skill building must be an on-going element within their life. Imagine trying to navigate through life independently without these skills. Living would be very difficult, wouldn't it?

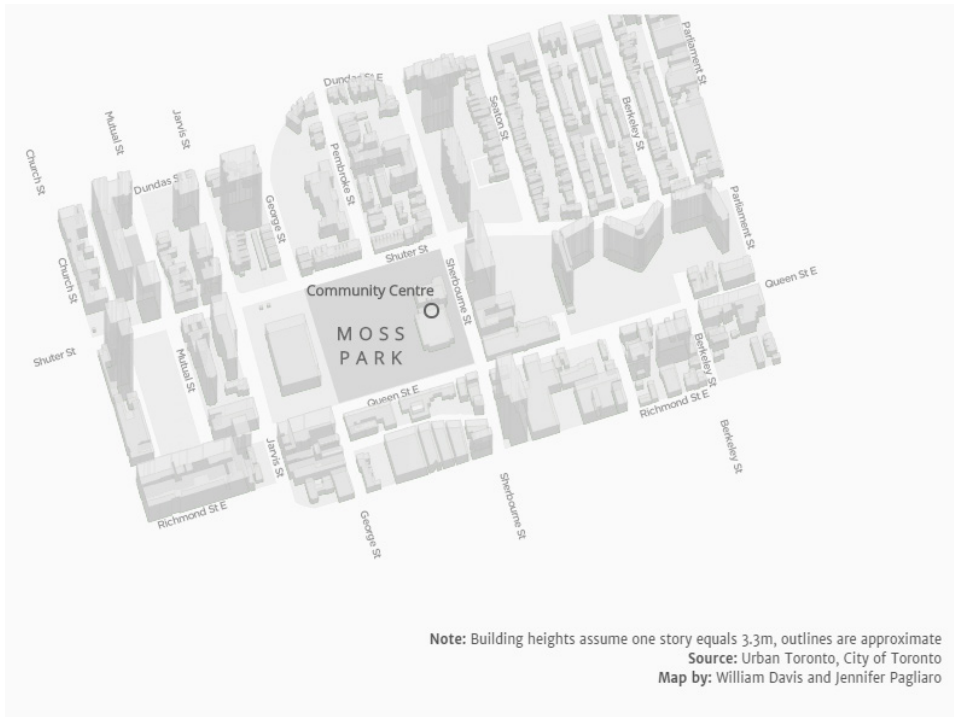
A natural next step in a young adult's life is a transition into an independent lifestyle. The structure of universities provides many of the essential programmatic elements that have been identified in the second chapter of this thesis. Why not try to leverage this and establish a connection between the two. Because of the AODA (Accessibility for Ontarians with Disabilities), initiatives such as Access Ryerson are working challenge perceptions of disabilities across the university. Disabilities are often thought of as a negative part of our society, when in fact full inclusion of persons with disabilities enriches environments. These people bring a sense of pride, passion, love, and happiness to any community that welcomes them. It is so essential for individuals like Keenan to be able to live as fully independent and participating individuals within our communities. By doing so, we as a community benefit and learn from them while helping them live a life to their fullest potential. We as architects need to imagine a supportive environment beyond what exists in order for this idea of an inclusive environment to move forward. By designing a transitional facility where young adults can metaphorically enter the university phase and begin to build essential skills needed to become as independent as possible, we can significantly reduce the impact of wait listing on families and the individual.

Another side to connecting this housing development to the

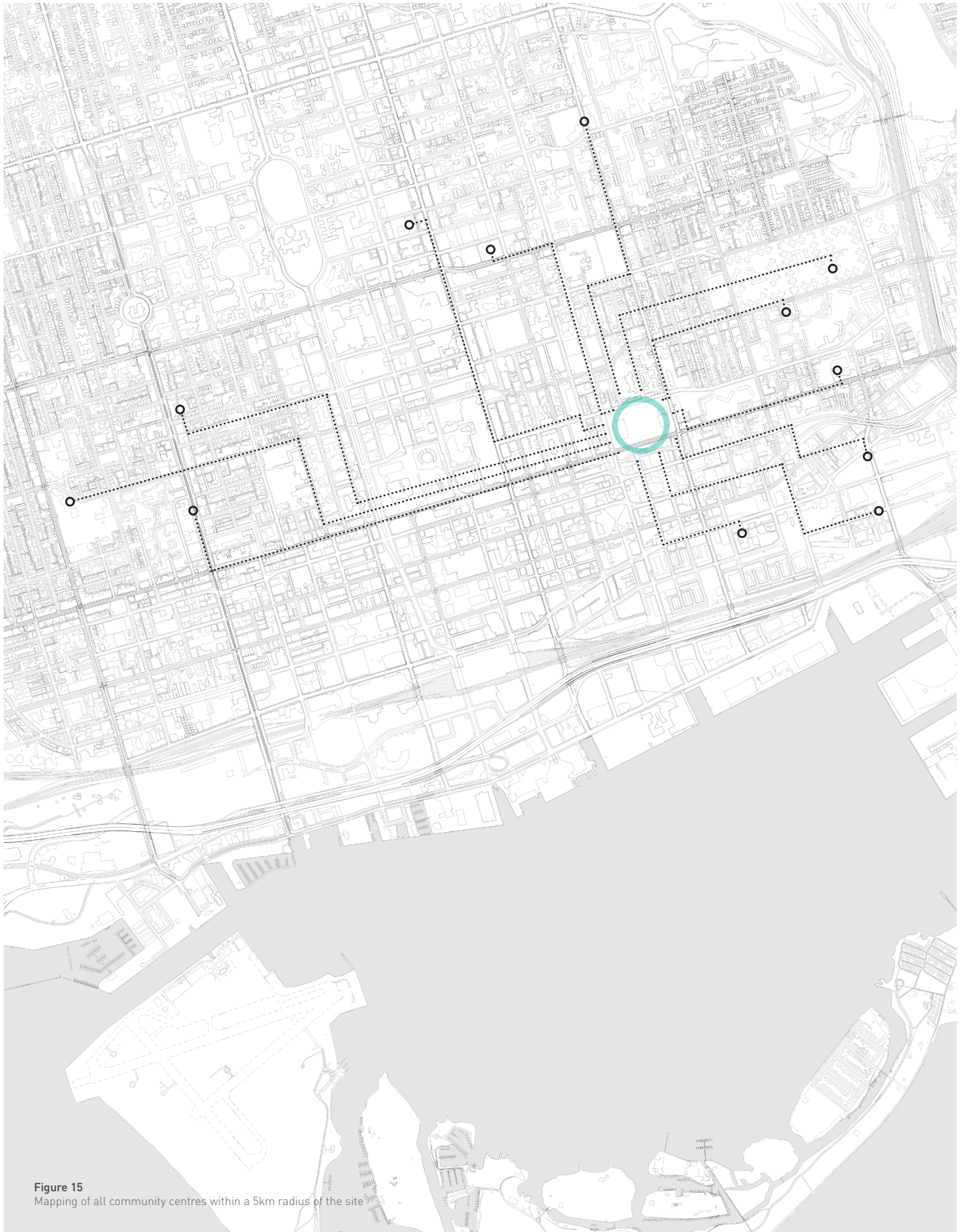
surrounding educational networks is that it creates new potential opportunities to collaborate with the existing infrastructure of the universities and colleges, all of which are all in very close proximity as identified in Figure 13. One of the important discussions that has surfaced through the on-going research being performed by the Housing Task Force, a group formed and funded by the Ministry of Community and Social Services to develop innovative and creative housing options for people with developmental disabilities, is that there is a sharp distinction between capital costs, meaning the initial costs related to purchasing or designing a home for individuals with a developmental disability, and the support costs<sup>3</sup>. As challenging as it may be to bring together the funds, the building or purchasing cost is in some respects is the easy part of the process of creating housing for people with developmental disabilities. The part that is far more difficult are the support costs towards finding the proper staff that is needed to help this individual or even a small group of individuals lead an independent life to the best of their capacity. It is these reoccurring support costs that go on year after year and the management of that support that goes on for the entire life of that individual, that is the far more challenging expense. Moving back to this idea of collaborating with the university networks, one of the factors that is important to this housing problem is that we need to find ways of developing and training more support workers who not only

understand how to connect the individuals to their community at large, but are also willing and able to learn how to care for the very specific needs of these individuals. If we leverage the resources of these universities and develop programs where students can learn the intricacies of supporting people with developmental disabilities and directly apply their studies, whether that be in the form of a teacher or support worker or volunteer, we can begin to create an environment where both parties can benefit from the experience. This collaborative idea would help drastically reduce the associated costs of long term support for these individuals and their families.

In addition to this idea of building supportive relationships between the students and the individuals with developmental disabilities, this idea should be taken one step further where the architectural proposal should create moments where meaningful encounters and interactions can occur; both between resident to resident and resident to public. By doing this, the architecture can begin to foster an inclusive and supportive neighbourhood environment which is crucial to this design idea. Building relationships and support networks is not something that typically happens easily for people with cognitive disabilities. We need to be conscious of this and create environments where moments like this can occur. Spaces in which strong relationships and a supportive community



**Figure 14**  
 Map of increasing intensification surrounding the site

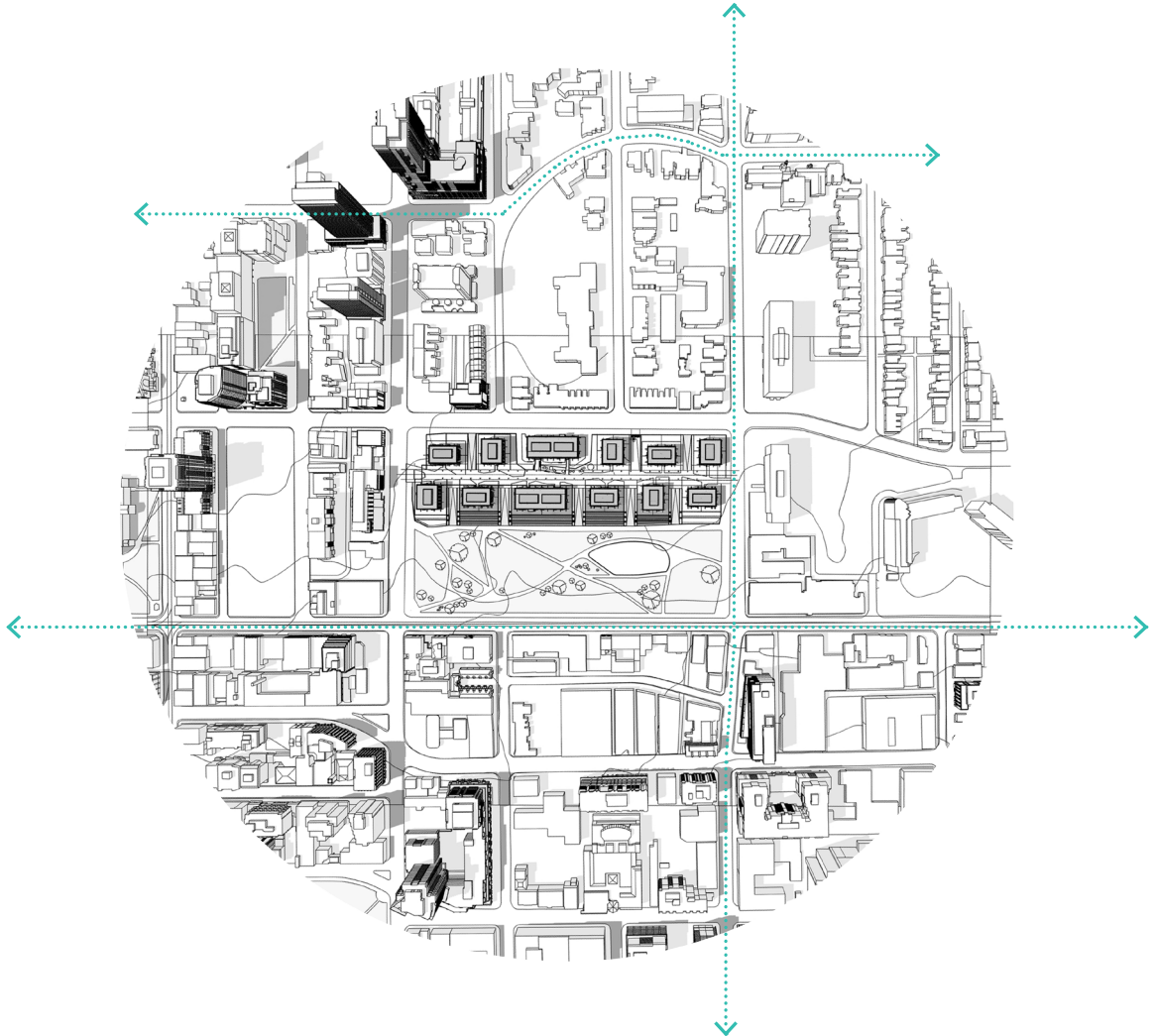


**Figure 15**  
Mapping of all community centres within a 5km radius of the site

can form however, for people who are a bit more vulnerable and have difficulty communicating, we as designers need to be a lot more intentional with our design decisions. With the increase of high-rise single person unit housing, which has become so prevalent within the City of Toronto, we've become much more conscious of the potential problems of social isolation. This is also felt by people with disabilities and by their carers who can feel cut-off from the street or even the community at large. The problem about feeling any form of social isolation is that it will always make people feel lonely and this is a bad place for any human because we are social creatures. It is natural for us to be in places where planned or un-planned social encounters might occur. Once excluded from this environment, it is very easy for what starts out as a feeling of loneliness to move into a sense of social exclusion, which can then start to feel like alienation. This is even more true and likely for people with a cognitive disability. We as architects need to create spaces and moments that can facilitate these types of encounters and moments where social interaction can occur. One simple connection often leads to many more, which then starts to build that sense of inclusion for that individual within their community. Because these people have very specific needs and social requirements, this project stands against the current form of residential intensification that we are currently seeing throughout the City of Toronto. Instead the proposal is

much smaller in scale and focuses on creating a true sense of community and inclusion within a residential development, which is unfortunately mostly absent in Toronto's new housing options.

Another set of connections that are inherently made through the selection of the Moss Park site relate to some of the essential services of the health and safety, as well as everyday amenities for the building users. In response to current the intensification surrounding the chosen site (see Figure 14), several new site amenities have been proposed for the neighbourhood, resulting in many key amenities being within walking distance of the residential development, thus reducing their dependence on transportation which, as discussed in Chapter 2, is a significant factor. In terms of health and safety facilities, St. Michaels Hospital (a facility that provides support and professional services such as family doctors, a pharmacy, and occupational therapy support workers) is within very short walking distance of the site, further reducing the individual's dependence on transportation. This is a very important connection to consider due to the genetic health conditions linked with most people with a developmental disability. Any reduction in distance between the individual and a service makes the possibility of navigating the city that more realistic to all people with developmental disabilities. Furthermore, the chosen location of this site considers the importance of day programs within the



**Figure 16**  
Public transportation network adjacent to the site

day to day life of a person with a developmental disability and their proximity to the surrounding community centres. Through the mapping exercise seen in Figure 15, we can see that there is an abundance of community centres within a 5km radius of the site, opening the site up to other programs that might be more conducive to forming that sense of inclusion.

In addition to the amenities being added to the neighbourhood as a result of the proposed revitalization for this area of Toronto, this proposal aims to create a linear public retail courtyard that runs through the housing development. This design idea works to eliminate any sense of a segregated housing “island” for people with developmental disabilities by drawing the public into the site itself and weaving together the surrounding communities. This helps to foster this overarching idea of inclusion and normalize exposure to people with developmental disabilities to the public at large.

To complete this idea of connectivity to the city, the site sits adjacent to two public transportation lines which run East-West along Queen Street and North-South along Sherbourne Street (see Figure 16). This transportation network can be accessed from multiple points at the corners of the site and provides a readily available means of transportation to other programs or

destinations that might not be within close proximity to the site.

As we begin to connect this housing model with supportive programs within the downtown core and provide moments to interact with the surrounding community, we begin to form a type of collaboration between the people with developmental disabilities, families, the community, students, and the city at large, creating an inclusive communal environment in which they can thrive. Further to this point, this proposal begins to respond to the idea of normalization of these people within our communities by providing housing and employment opportunities that are mostly unavailable to people with developmental disabilities within the City of Toronto. This sense of normalization is generated through a concept called Social Role Valorization, which forms a central part of an architecture of inclusion.

### *Social Role Valorization*

Oftentimes when people that have the same disabilities or label are grouped together or segregated within our communities, most people will default to the assumption that they are different and might not approach them or interact with them. Therefore, it is very important for people like Keenan to be included with ordinary people within the community so that others will see him as an active member of our society. Holding certain valued roles and passions within the community is a very important part of breaking down this preconceived view towards people living with developmental disabilities.

Social role valorization is defined as the use of culturally valued means to enable, establish, enhance, maintain, and/or defend valued social roles for people at value risk<sup>3</sup>. This is a concept that has evolved from a theory called normalization. Normalization is defined as "the utilization of means which are as culturally normative as possible in order to establish and/or maintain personal behaviours and characteristics which are as culturally normative as possible"<sup>4</sup>. In short, the overall goal of social role valorization is to create social roles for lesser valued people that enhance their image and personal competencies which then shifts the overall social consciousness towards these people, leading to a

better sense of community inclusion for people with developmental disabilities. Opportunities for social role valorization in which people with developmental disabilities adopt valued roles in the context of relationships with ordinary individuals are expected to produce benefits such as life satisfaction, self-esteem, and personal competencies<sup>5</sup>. The primary mechanisms for creating these valued social roles are social programs in such areas as housing, employment, and education<sup>6</sup>. Two of which are major components of this thesis proposal.

Architecture has the ability to form this sense of inclusion within our communities. Research has shown that housing characteristics are important predictors of external social integration<sup>7</sup>. In particular, housing characteristics that have generated this sense of external social inclusion have included environments that facilitated more tenant involvement, support, spontaneity, and autonomy and communicated clear expectations of residents, provided training opportunities in practical skills, and promoted contact with families and neighbors<sup>8</sup>. Essentially ensuring that neighbours participating in this living environment are aware of the support that people with developmental disabilities might require. Other housing characteristics related to greater social inclusion included staff practices individualized to residents' needs and focused on social skills training and congregate

housing, as opposed to nursing or board and care homes<sup>9</sup>. These components would be more in line with individuals on the lower end of the cognitive spectrum that might require a more supportive housing model in order to live as an independent adult. This again supports the claim that there is no single housing solution and highlights the importance of providing different types of housing options for people with developmental disabilities. Overall, research in this area suggests that housing characteristics in line with the principles associated with normalization and social role valorization contribute to external social integration<sup>10</sup>.

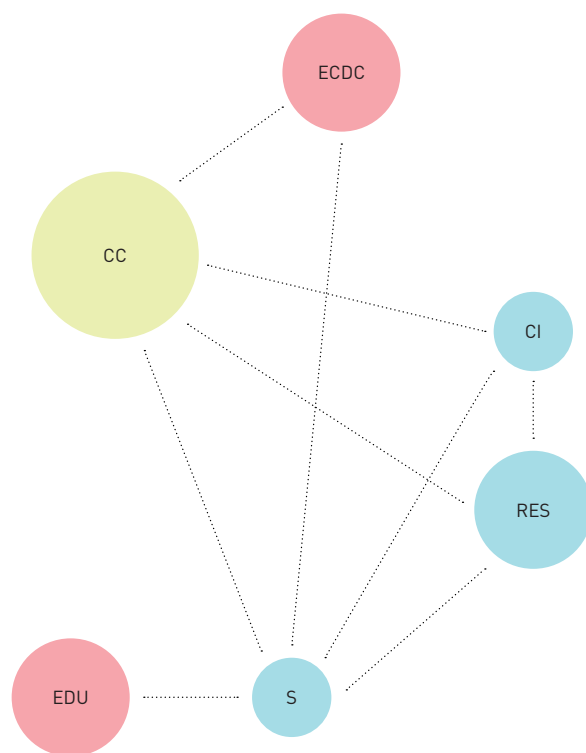
My family and friends that have had the great fortune of interacting with my brother understand his value and the passion that he exudes, as I'm sure would any other person who has someone with Down Syndrome in their family or their circles. Whereas someone who has not had the opportunity to engage with people who are outside of the norm, don't have those experiences don't have that basis of understanding of their value within our society. It is through encounters, integration, and interactions that we can begin to normalize these people in our society and being to truly foster this sense of inclusion. Social isolation and loneliness can be a result of our built environment. By being architecturally intentional about the areas in which social interactions can occur and getting rid of the physical and psychological boundaries of

segregation, people become much more open and closer to each other which is an interesting way of building community. The overall design intent is for this daily interaction to make people behave differently towards people with developmental disabilities. Support workers are important however, perhaps more important to this concept of an architecture of inclusion is building fundamental supportive relationships within the community which then come together and acts as a communal support system and facilitates a more comfortable living environment for these people living as independent adults. This is key to the design idea and, in a sense, the architecture hinges on this system. The implementation of these spaces will be explored in more detail in a following section of this design chapter.

### *Types of buildings on the site*

Before we can start defining the built form of the design, we need to organize the programmatic strategies architecturally. The activities outlined throughout the analysis of Keenan's time-line in Chapter 2 started to provoke a specific necessity for certain facilities that should form the basis of the architectural program of this proposal. These components included an Early Childhood Development Centre (ECDC), a continuing Educational Facilities (EDU), Community Centres (C), Residences (RES), Support Offices (S), and spaces to accommodate Corporate Involvement (CI).

Organizationally, not every programmatic element requires a building of their own within this site. As stated earlier, the ambition of this design proposal is to not create a segregated housing block for people with developmental disabilities in which they never leave. Therefore, the program for this architectural proposal needs to be carefully selected in order to create a supportive environment that at the same time is well connected to the surrounding neighbourhoods. Looking to the programmatic relationship graphic (Figure 17), there are two main groupings of program types that surface; a residential block and opportunities for corporate involvement. The residential block will be composed of mid-rise buildings that are broken up into two design types that



**Figure 17**  
Programmatic relationships and groupings

responds to the need for multiple housing options as discussed earlier in Chapter 2. The first housing type is a transitional housing model which acts of a transitional form of housing that helps people with developmental disabilities learn how to live as an independent adult. This building type would also offer typical apartment units to eliminate any sense of segregation and promote a diverse network of people living within this community. The second housing type responds to the individuals on the lower functioning spectrum of the cognitive scale that would require more support than the average individual. These would be slightly larger in scale in terms of floor area but will remain in scale height-wise in relation to the rest of the architecture. To complete the programmatic requirements, several of the buildings will host retail or other public program at grade as a means of building a sense of community within this proposal. A more detailed description of the conceptual design of these building types will be covered in the following section.

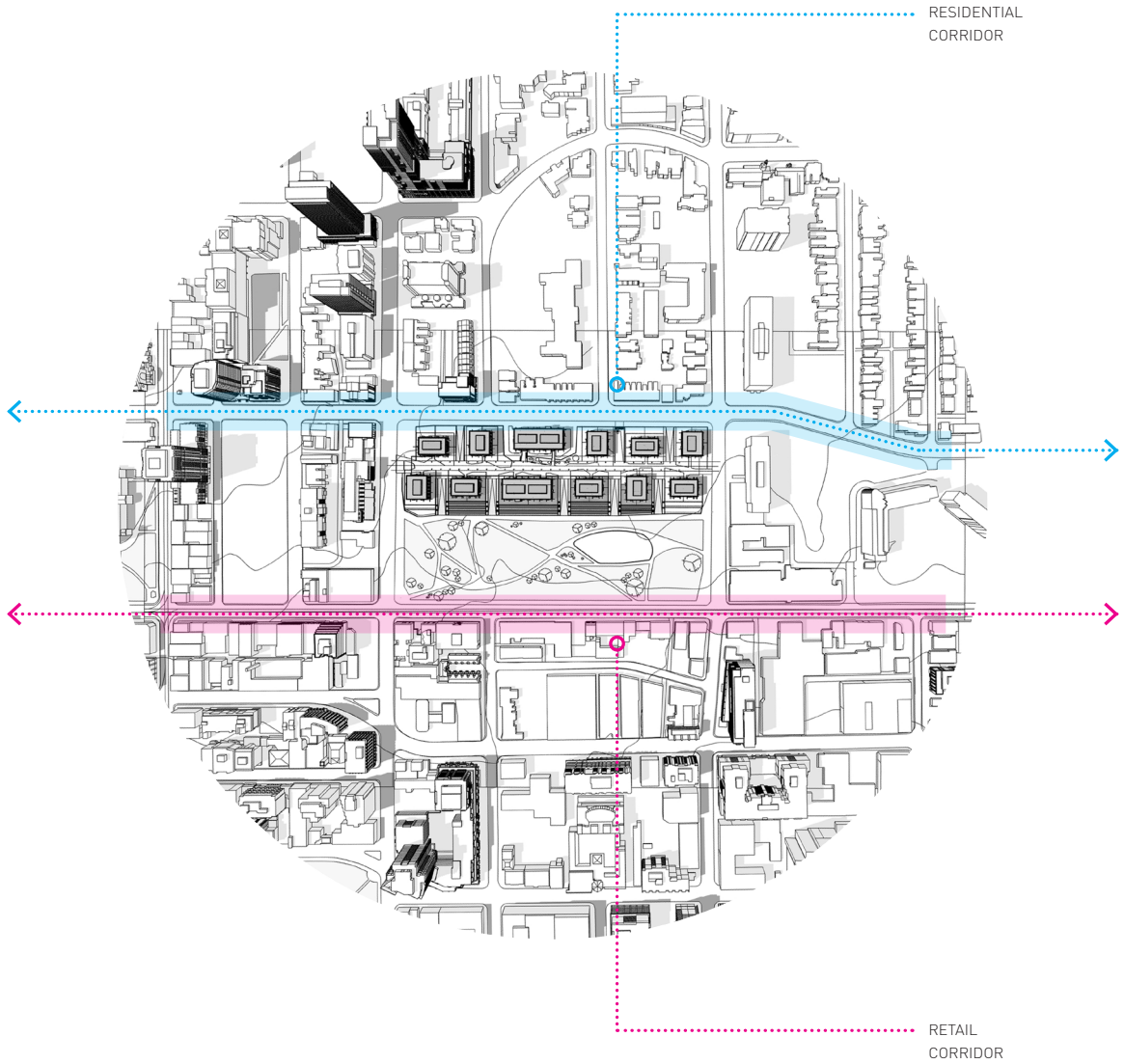


### *Site configuration*

The specific building configuration on the site responding to the surrounding context of the neighbourhood can take many forms. The main objective here is to maximize inclusion opportunities, enable encounters, and the facilitation of support and navigation for the individuals with developmental disabilities throughout the design. The success of this is greatly influenced by the way that the design is architectural configured.

Referring to Figure 18, Moss Park has several identifiable pre-existing corridors that frame the site and help to inform the organization of the buildings on the site plan. Running along the North edge of the site, Shuter Street acts as a residential corridor that holds a mixture of lower scale heritage properties and mid-rise condominiums. Placing the residential block along the Shuter Street corridor will help to keep the neighbourhood narrative consistent in terms of building typology and scale. The residential block now becomes a southern neighbourhood extension of the residences along Shuter Street.

Another prominent corridor that exists around the site is the retail corridor that runs along the southern edge of the site. Queen Street is a major transportation artery through the City of Toronto.



**Figure 18**  
Pre-existing site corridors

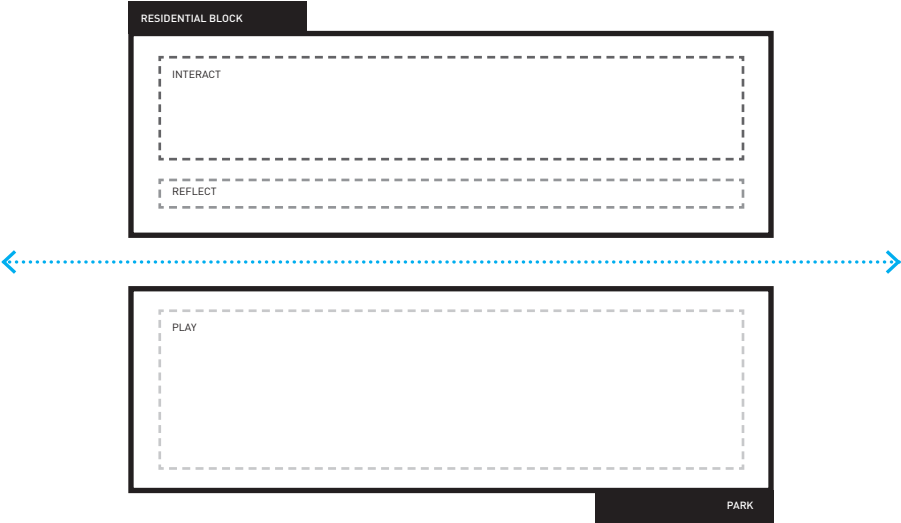


Figure 19  
Site parti diagram

With this comes a lot of sensory stimulation from the constant flow of traffic and noise which can be overwhelming to some of the people that we are designing for. In order to create a bit of a buffer between the residential area and the major street, the park will be extended the length of the site. This also enables the opportunity for the retail spaces along Queen Street and the retail corridor of the design to open up towards the park area, creating a moment where the community can slow down, interact, and people watch. These design decisions essentially divide the site into two major sections; the park block and residential block (see Figure 19). These main sections are further broken down into three different zones to create layered spaces in which a variety of encounters and interactions can occur.

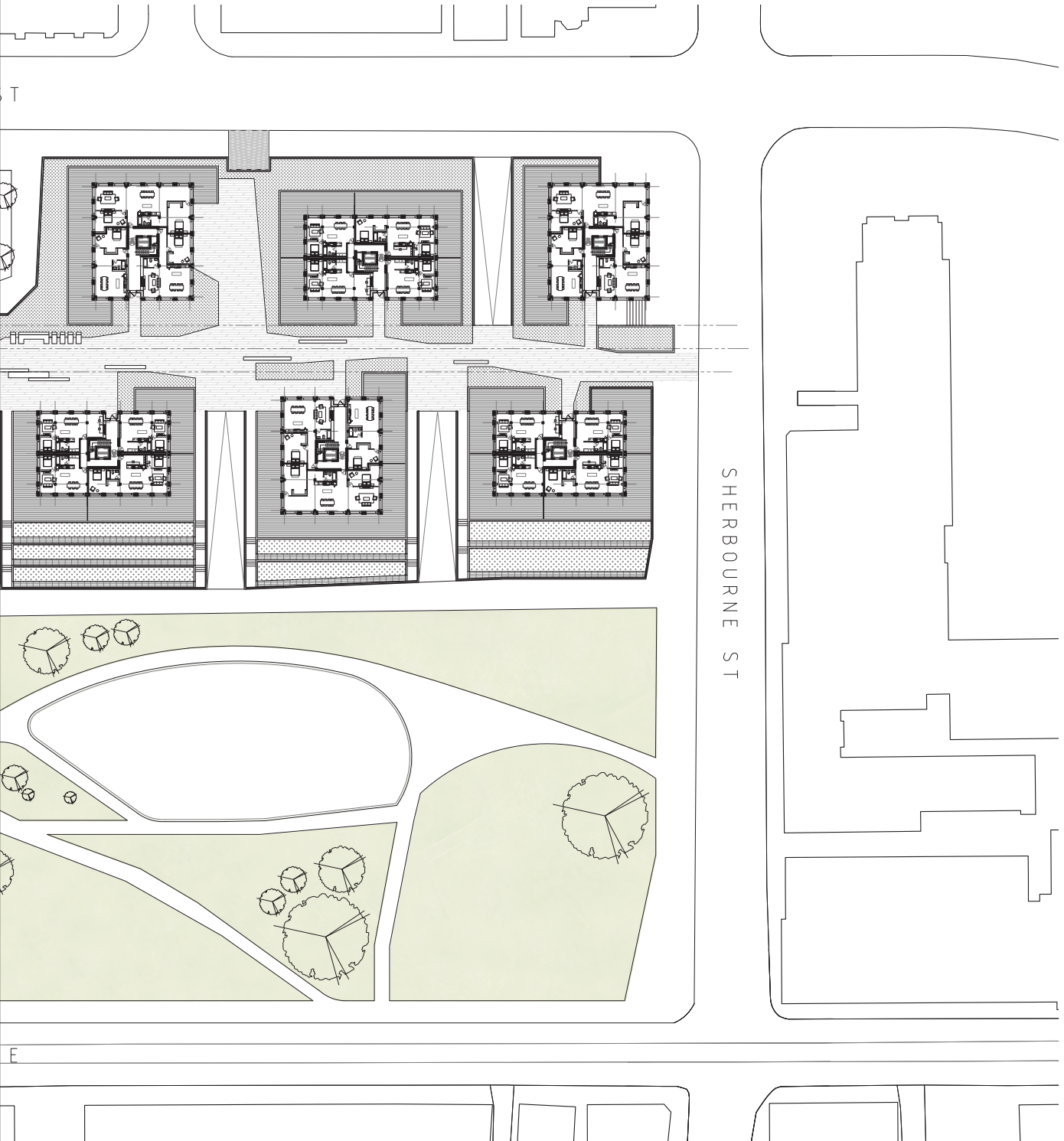
In section, the site is organized into three levels; the services level, grade, and the upper residential block. Raising the residential block 2.0 meters above grade provides the opportunity to tuck a naturally ventilated space for parking and services below grade, freeing up the linear corridor and keeping it truly pedestrian in nature. This service level is accessed from a recessed bay off of Shuter Street (see Figure 20), which follows the rhythm of pedestrian access ramps into the raised residential block area, and provides parking spaces for 114 cars, bicycle storage, areas for waste management, and access to each building below grade.

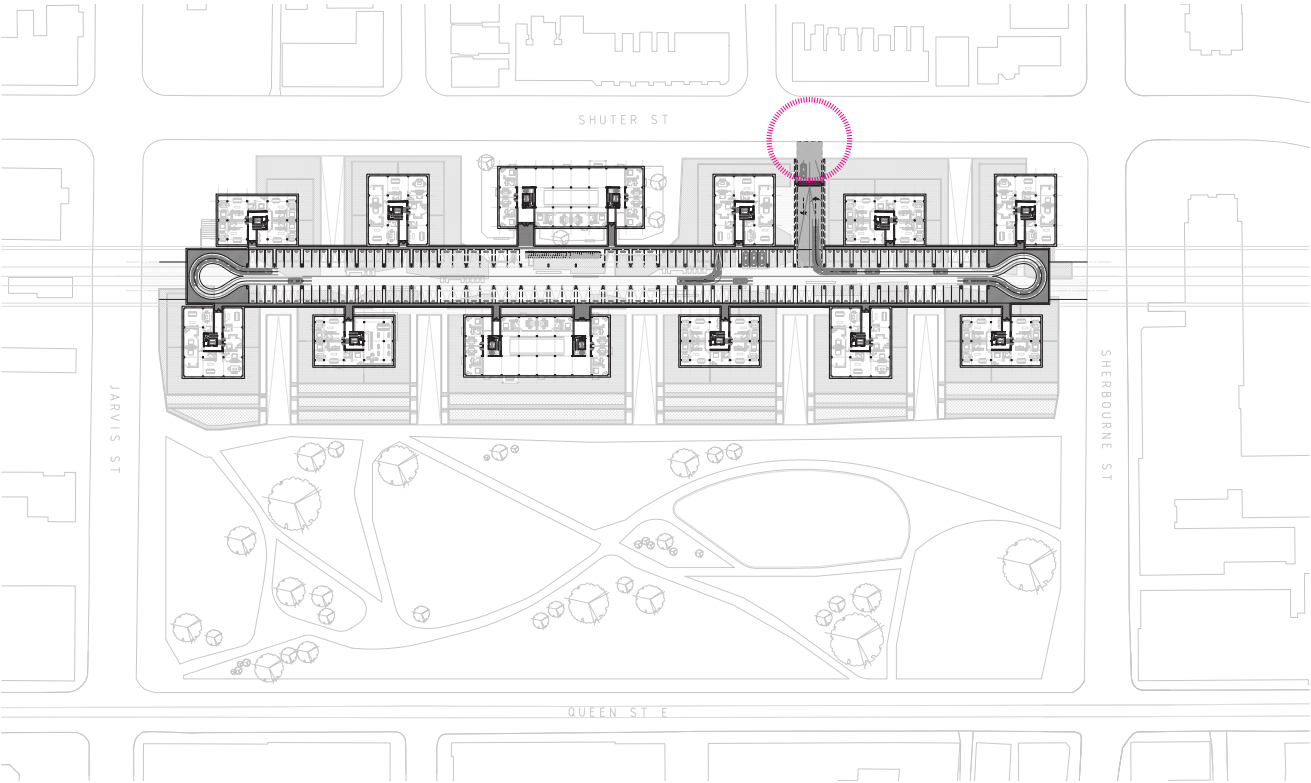


SHUTER S

JARVIS ST

QUEEN ST





**Figure 20**  
Parking diagram



**Figure 21**  
Aerial view of parking scheme

The raised residential block area is accessed through a series of ramps that allow the users to circulate through the site and access their units without the use of stairs or an elevator. This is a very important design feature due to mobility issues that are common with some of the elderly and people with developmental disabilities.

Looking to stitch the residential block to the park and surrounding streets, the circulation throughout the site was designed to allow the public to permeate into the site between the buildings (see Figure 22), enabling encounters between all people in an attempt to develop that sense of inclusion and community within the residential area. Rather than having a single private indoor amenity space that are typically associated with residential development within the City of Toronto that generally become an unsuccessful attempt at generating community within a high-rise building, this proposal aims to generate that sense of community and inclusion by keeping the design more pedestrian in scale. Much effort has been made to create a warm pedestrian-friendly space through the inclusion of a stone paved retail circulation corridor that will ground the pedestrian experience while adding more atmosphere than is typically offered in high-rise residential tower sites. This will be accomplished by providing an outdoor courtyard that offers different areas to interact such as seating areas, communal

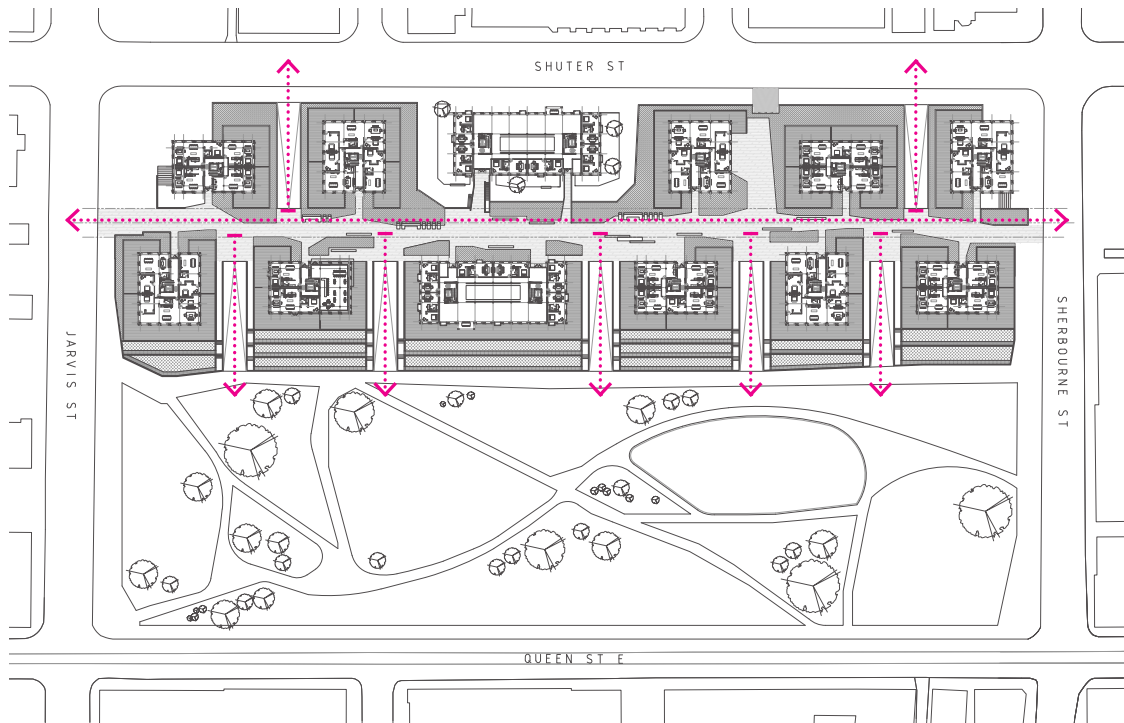


Figure 22  
Site circulation diagram

gardens, retail spaces, and open area to gather and play, forming community at street level. This will be discussed in more depth in a later section.

With the rise of high-rise single person unit housing, which has become so prevalent within the City of Toronto, we've become much more conscious of the potential problems of social isolation. This is also felt by people with disabilities and by their carers who can feel cut-off from the street or even the larger community. The problem about feeling any form of social isolation is that it will always make people feel lonely and this is a harmful place for any human because we are social creatures. It is natural for us to be in places where planned or un-planned social encounters might occur. It is very easy for what starts out as a feeling of loneliness to move to a sense of social exclusion, and this can then start to feel like alienation. This is even more true and likely for people with a cognitive disability. We as architects need to create spaces and moments that can facilitate these types of encounters and moments where social interaction can occur. One simple connection often leads to many more, and suddenly that person will hopefully start to feel that sense of inclusion within their community.

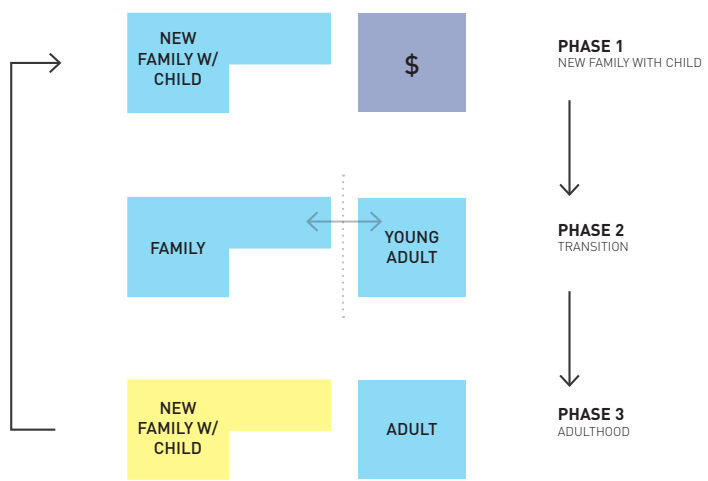


## TRANSITIONAL HOUSING MODEL

### *Adaptability over time*

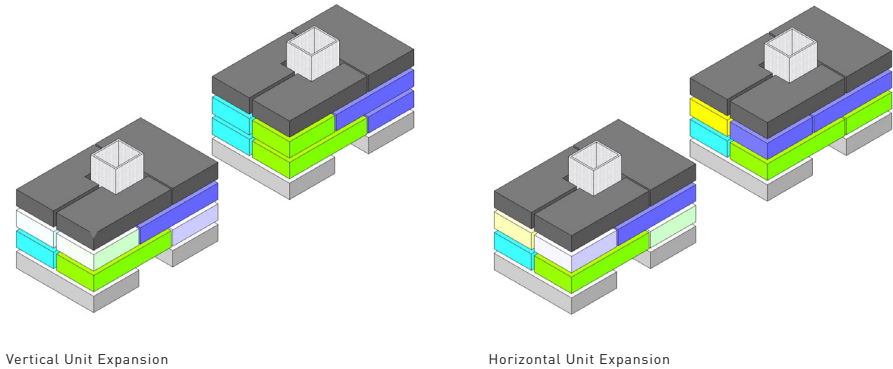
The Transitional Housing concept is a design that responds to the need for a transitional housing model where an individual with a developmental disability can learn the skills necessary to live as independently as possible. As mentioned in the Searching for Independence section of Chapter 2, as parents age it becomes significantly more important for their child to learn how to be able to function without them to the best of their capacity. Because of the life-expectancy of people with developmental disabilities increasing, there is a very high chance that they will arrive at a stage where their parents or main care-giver can no longer care for them, which can lead to very serious issues of displacement if there are no appropriate residential options available to them within the cities in which they live. Recognizing this need, this idea of a housing model that has the flexibility to adapt to the individual's needs over their entire lifespan becomes an architectural proposal that offers many possibilities to the individual with a developmental disability and their family.

In order to create a mixed condition (Figure 24), a range of unit types were explored within the housing design. It is composed of



Cyclical nature of adaptable design

**Figure 23**  
Transitional Housing cycle diagrams



**Figure 24**  
Transitional Housing cycle diagrams

two levels of typical apartment units on the ground and fourth floor (where the units are designed to accommodate small/large families or individuals, but are static in terms of adaptability), and transitional units on the second and third floor which are able to expand either in a vertical or horizontal manner. The adaptable unit is carried out into three phases. The first phase of this concept of adaptability affords a new family the ability to rent out the extension unit while their child is younger and living with them, making this form of housing model more feasible as an initial investment. Once their child becomes a young adult, the other space can be taken over in the second phase which provides a transitional space for the individual to learn how to live independently. In the third phase, if the individual outlives their care-giver, the larger space can be bought by a new family from the individual with a developmental disability, who can then rent the unit from the new family. Thus, creating a cyclical form of architecture that adapts to the needs of an individual with a developmental disability.

### *Building users and relationship networks*

There are many different types of people that can live within the residential block of this design. These people include young professionals, couples, small or large families, students, seniors, single individuals, and families with a child with a developmental disability (area of focus). The specific types of moments of interactions between the residents will be explained more in depth in a following section however, I would like to touch on some of the potential unique supportive relationships that can form over time within this community.

The family support dynamic is the most typical of relationships as it will naturally be established within the family home however, once the child becomes an independent adult there are a series of secondary relationships that must try to be accommodated. The first type of relationship that can form between any of the users and the individual with a developmental disability is the big-brother / big-sister mentoring relationship, where someone from the community can become a friend that visits the individual regularly throughout the month to make sure they are reaching their potential. These also have the potential to branch off, as all friendships do, to form new relationships further building that support network for that individual. Another supportive

relationship that can form once they are living independently is between the individual and the neighbour that moves into the new space. This type of support can be a checking-up type relationship or if the neighbour is a senior citizen that would like to have some company, the support could be more frequently offered to an individual who is in the mid-functioning range, but might need cooking, banking, shopping, etc. Another type of relationship that can form, that most tend to forget, is between two individuals with developmental disabilities. It is not uncommon for these types of relationships to form within their community. These can either be romantic or platonic relationships where both individuals agree to share a space together and to support each other. It is important to note that none of these relationships are static. These can intersect and build at any time, forming a strong network of support for any individual living within this design.

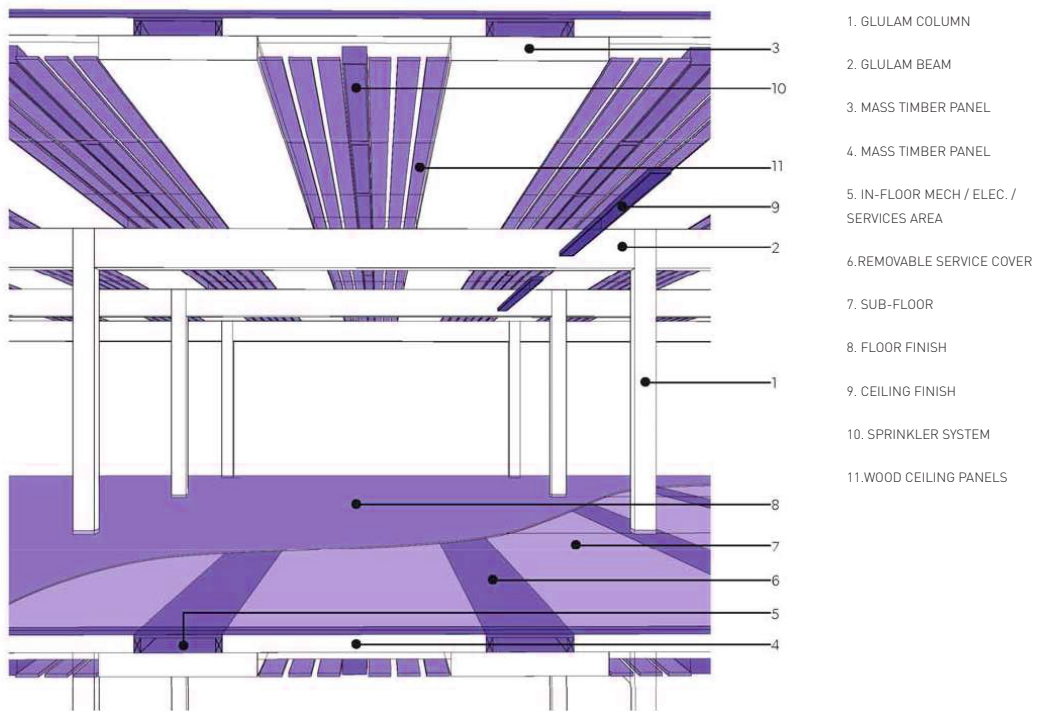
Although this thesis project is focused on people with developmental disabilities, we need to strive for creating a diverse community of people living within this neighbourhood. By doing so, we avoid the segregated housing conditions that are often seen with most forms of support housing. This is accomplished by simply designing universal housing that can be used by any type of user and inserting housing options for people with developmental disabilities throughout the design. Rather than relying solely

on a housing typology to tackle the problem of inclusion within of communities, at some point architecture needs to take a backseat to programing to grow a neighbourhood that becomes aware and supportive of all members within their community. Through exposure, moments of interaction, proper inclusion, and a heightened understanding of the specific needs of people with developmental disabilities, this design has the potential to form the essential relationships needed to build a self-supporting neighbourhood for people with developmental disabilities over their lifespan.

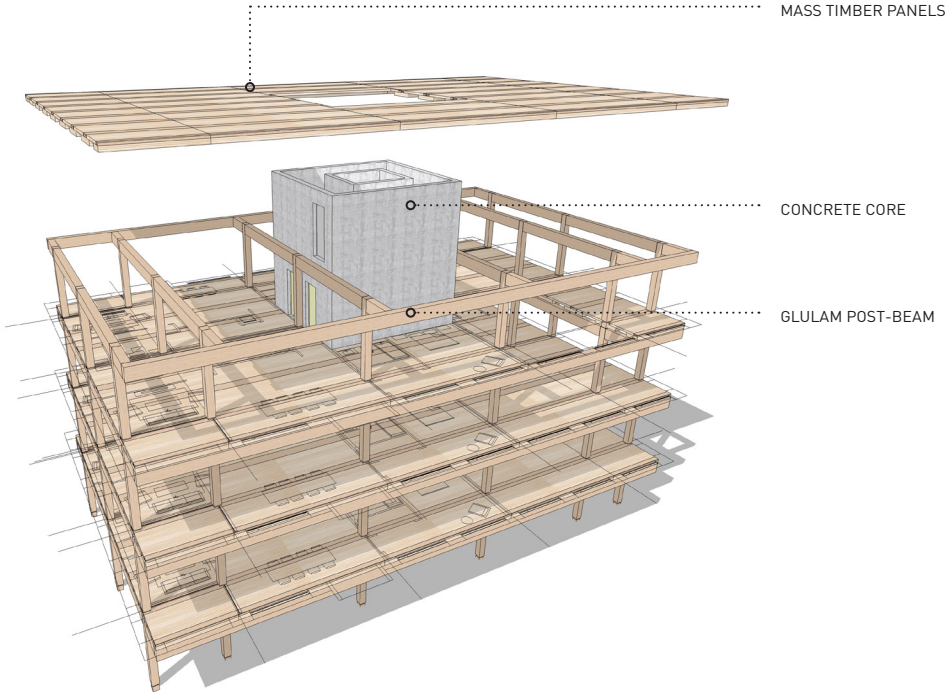


### *Structural concept*

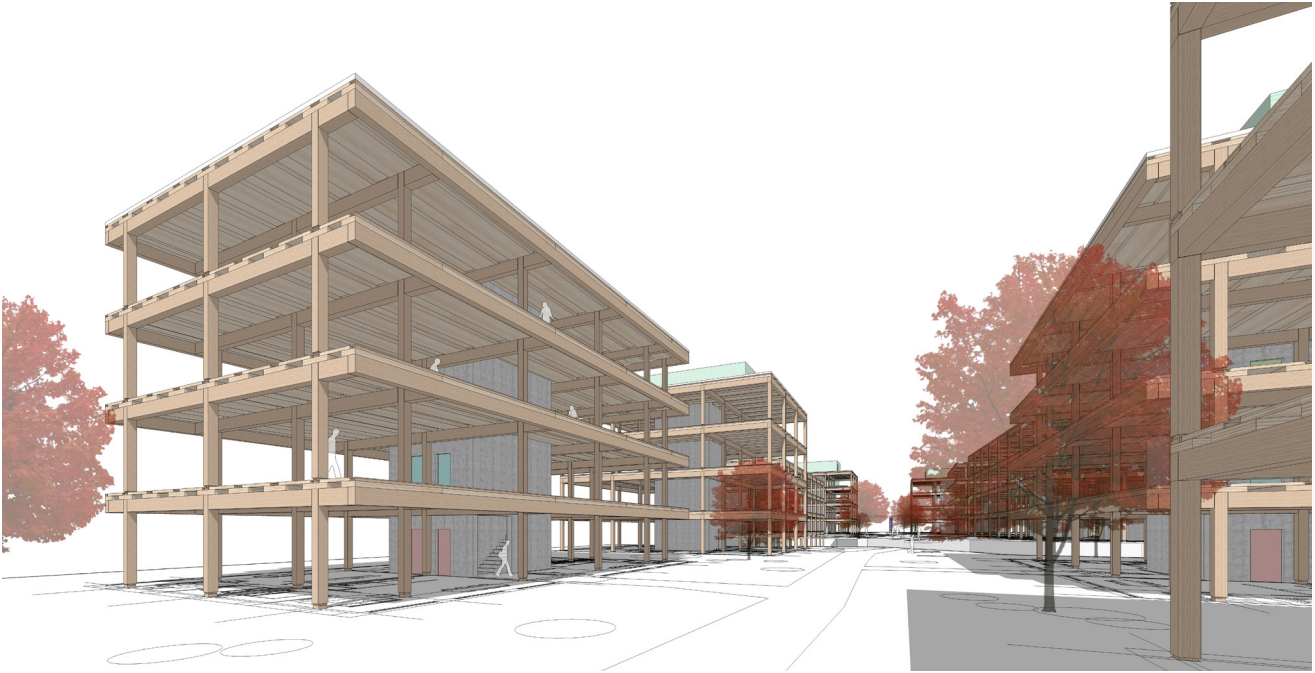
Looking to facilitate this idea of adaptability over time, the mass timber panel structural system was referenced from the Michael Green Architecture's Wood Innovation and Design Centre and applied to this thesis design. Because of the way in which the mass timber panels sit above the simple glulam post and beam structure (see Figure 25), when designed correctly, certain section can easily be removed, stored, and replaced when wanting to connect or close-off the unit to an upper level without having to significantly demolish sections of the building. Furthermore, the way in which the mass timber panel "joists" are stacked and offset create voids in the ceiling in which the building services can be run. The units are designed around a central core which acts as the vertical circulation and means of egress within the building. Each level is designed as an open plan without the use of structural walls. Lightweight demising walls are used to define the units which can be demolished easily without harming the structural integrity of the building. The structural system essentially allows for two options of adaptability over time; both horizontally and vertically.



**Figure 25**  
Mass Timber Panel structural system components



**Figure 26**  
Structural parti diagram



**Figure 27**  
Perspective of structure at grade

*Overall design description*

The building itself is therefore composed of three layers; the structure, non-structural unit walls that allow for adaptability, and the envelope system. Each of the units within these buildings are designed around a central vertical circulation core (Figure 26). This allows each level to be an open floor plate free of any structural walls. It also allows for an abundance of natural light within the living spaces of each unit which has been proven to have benefits towards the occupants health and happiness. Throughout the site, there are of 10 of these building types creating a total of 140 units, 80 of which are new housing units specifically designed for people with developmental disabilities. The design of these units will be covered in more detail in the following section.

At the grade condition (Figure 29), each building has a retail or programmatic component that either addresses the linear courtyard or corner condition of the site. The specific example shown in plan is a café / bistro that opens up to the linear courtyard. The aggregation of this design strategy throughout the project adds a significant amount of employment opportunities for people with developmental disabilities (discussed earlier as an important element to generating a sense of inclusion), as well as a means of drawing the surrounding community to use the



**Figure 28**  
Front elevational perspective of the transitional housing model

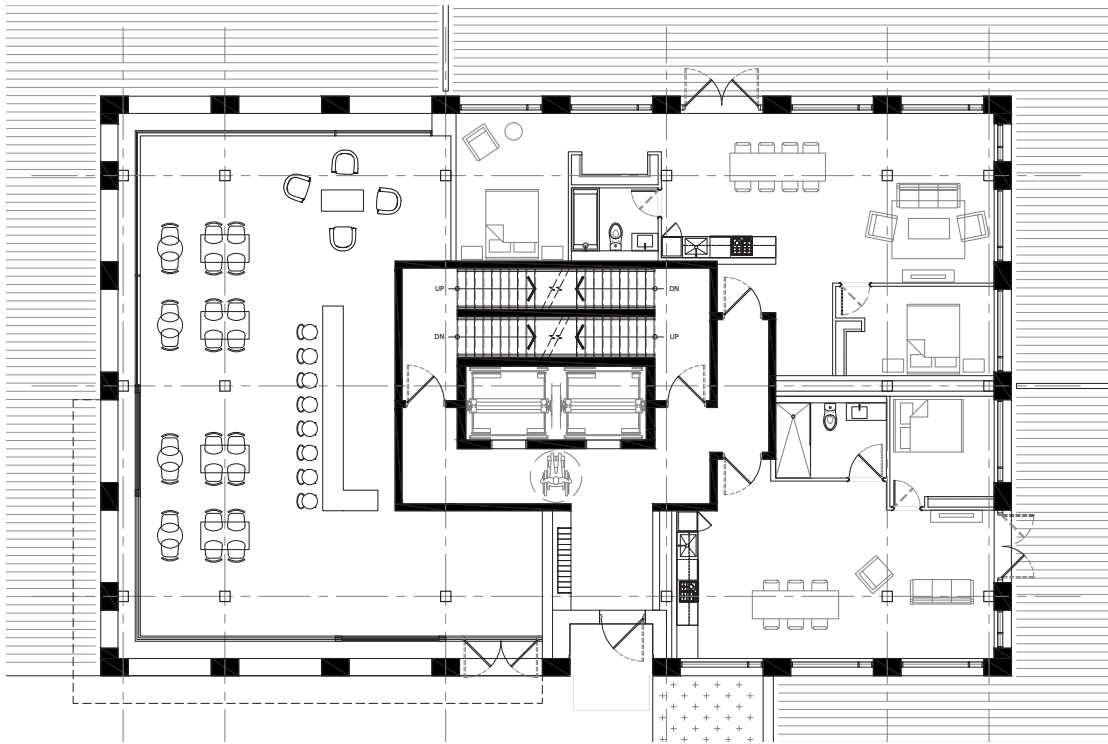


Figure 29  
Ground Floor Plan

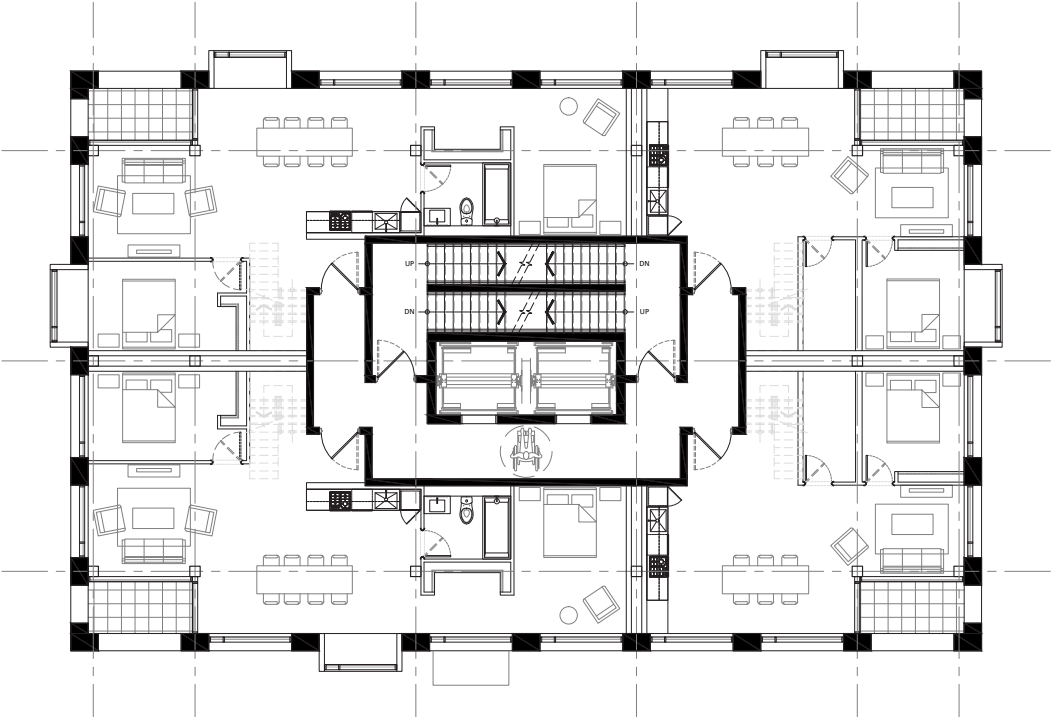


Figure 30  
Second, Third, and Fourth Floor Plan



**Figure 31**  
Retail at grade condition opening up to courtyard



**Figure 32**  
Interior vignette of cafe at grade

site and enable a chance of interaction and exposure. Moreover, this design move generates interaction between residents of the neighbourhood further creating a sense of community. The residential units at grade can open their space onto an exterior terrace, adding another dimension to their space and even more of a connection to the exterior community.

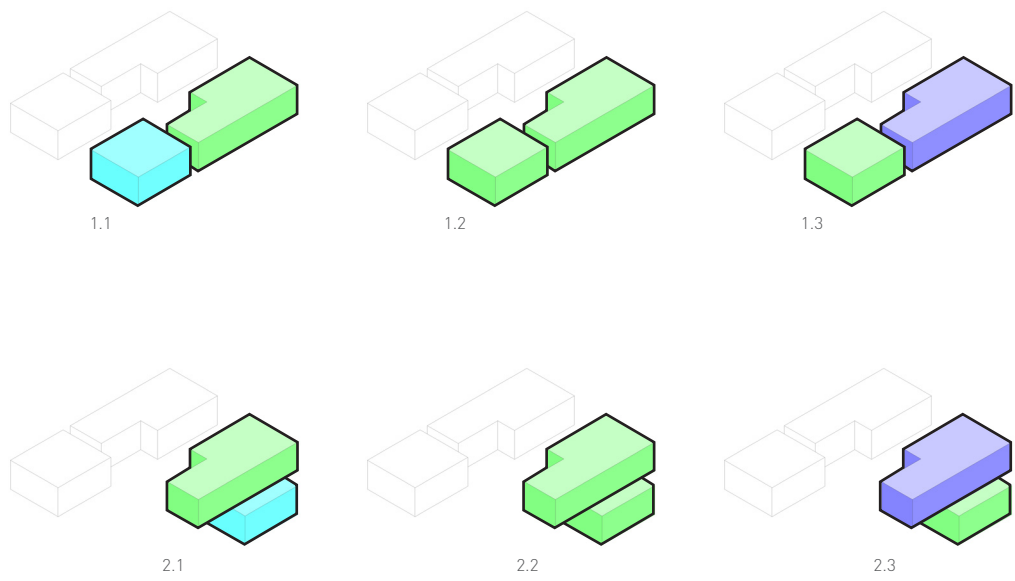
Finally, the level below grade accommodates storage for each residential unit, including bicycle storage, and access to the below grade parking area that is positioned underneath the linear courtyard that runs between the buildings as seen in Figure 33.



**Figure 33**  
Site section through the transitional housing model showing condition below grade

## UNIT DESIGN

Typical supportive housing commonly view the residential 'unit' as an dormant cell. The design of the adaptable units within the transitional housing model sought to break that unit down further to architectural elements (and their aggregation) at a nested set of scales from the architectural fragment itself, how it connects to the immediate context (courtyard and gardens), and how that extends to the surrounding community. As seen in the diagrams of Figure 34, the unit layout can take a total of six different forms (3 horizontal and 3 vertical) depending on the users needs at that point in time in their life. This is a result of the discussion around the changing support needs of an individual and the cyclical nature of this design idea. Each transitional housing building has 4 of these unit types available resulting in a total of 40 throughout the proposal. The unit design proposes that across cognitive differences, there exists a shared and continual need for building a supportive network of relationships within one's life. Therefore, spaces for communal activities were enlarged and intensified within and outside the unit, where spaces for social interaction were given priority over more private spaces. The unit is carefully designed in plan and section to create layered spaces of intimacy and moments for connection. The following are descriptions of the design decisions for the architectural elements that form the basis of the adaptable unit design:



**Figure 34**  
Adaptable Unit configuration diagrams

**Exterior Terraces:** The living space within each unit open directly onto private balconies overlooking the central courtyard or gardens establishing and maintaining a visual, acoustic, and thermal connection to the exterior. Because the scale of the buildings within the neighbourhood never exceed four stories, an individual living within the highest unit of the design can still carry out a conversation with anyone outside of their building.

**Social Space + Kitchen:** The act of preparing and eating meals is often the center of social life in any form of housing. Connections between kitchen and social spaces of the unit are left open, fostering the idea of social engagement between the various users of the one, two, or three-bedroom units. Bedrooms within the two-bedroom unit also have the ability to become extensions of the social space as daily activity fluctuates.

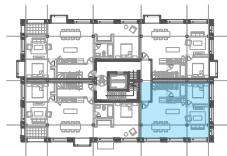
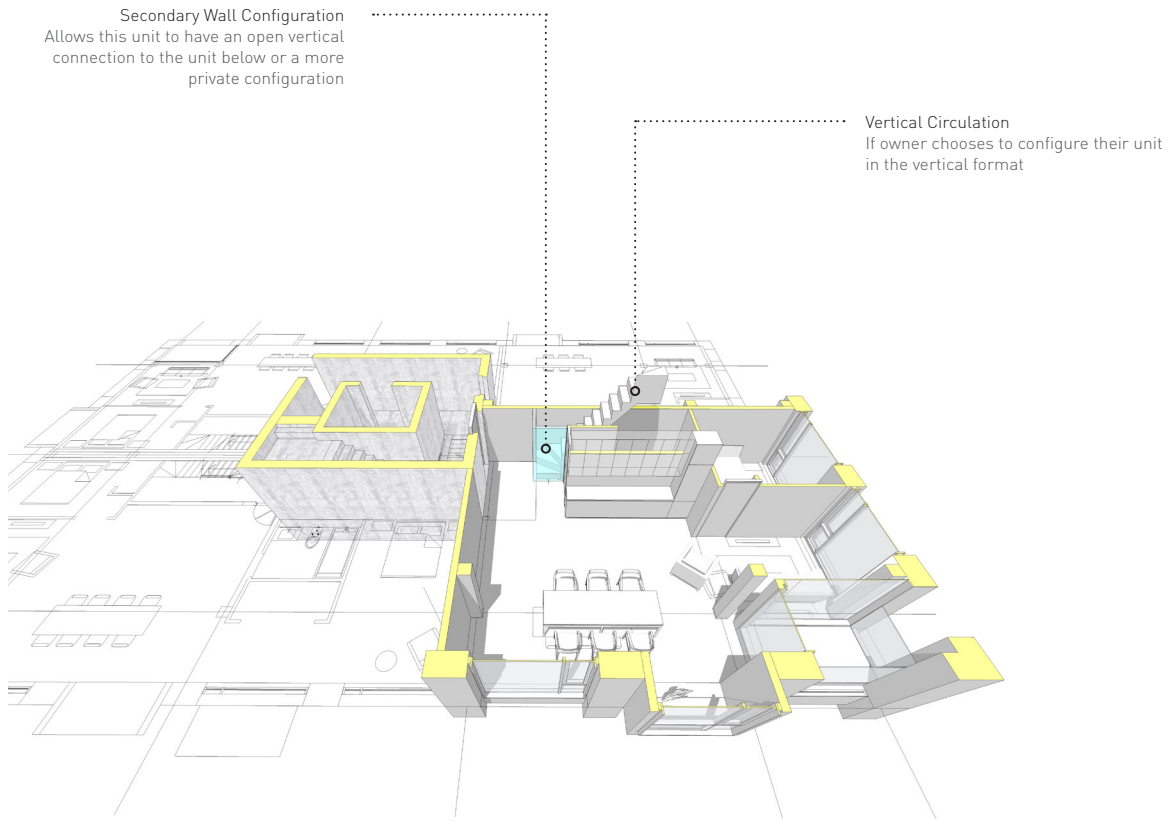
**Sleeping Spaces:** Sleeping spaces are a critical aspect of long term care housing. Direct links between the private, interior areas of refuge and the exterior ensures a constant dialogue with the exterior world from the comfort of the bed.

**Bathing Space + Bed:** The ritual of bathing is another important consideration for dwelling that becomes amplified for an older individual with a developmental disability. The ability to transition with ease and grace between bathing/showering and sleeping is studied in terms of proximity and planning as well as material impact, natural light, and passive ventilation.

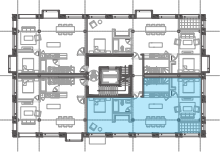
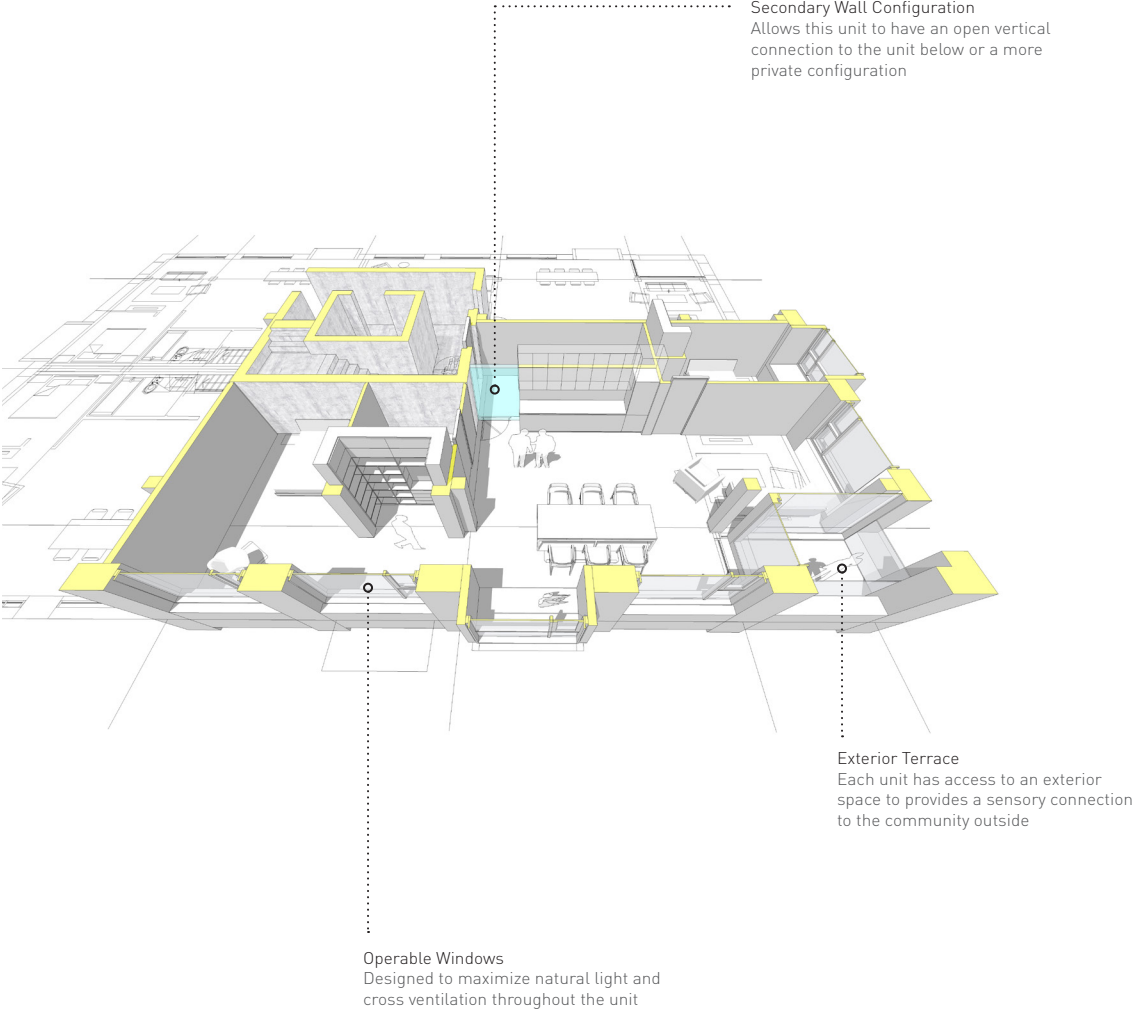
**Spatial Aggregates:** All the residential units hinge around cores containing the kitchen and bath functions. The building envelope is designed to ensure a portion of each living space within the unit is on an exterior wall, providing natural light and passive ventilation. Further, the plan is designed with a very clear order, allowing the user to more easily understand and navigate each space within the unit.

**Adaptable Units:** A variation of unit types accommodate different family sizes, and the development of flexible secondary walls allow for multiple unit configurations serving the needs of individuals with developmental disabilities throughout their entire lifespan.

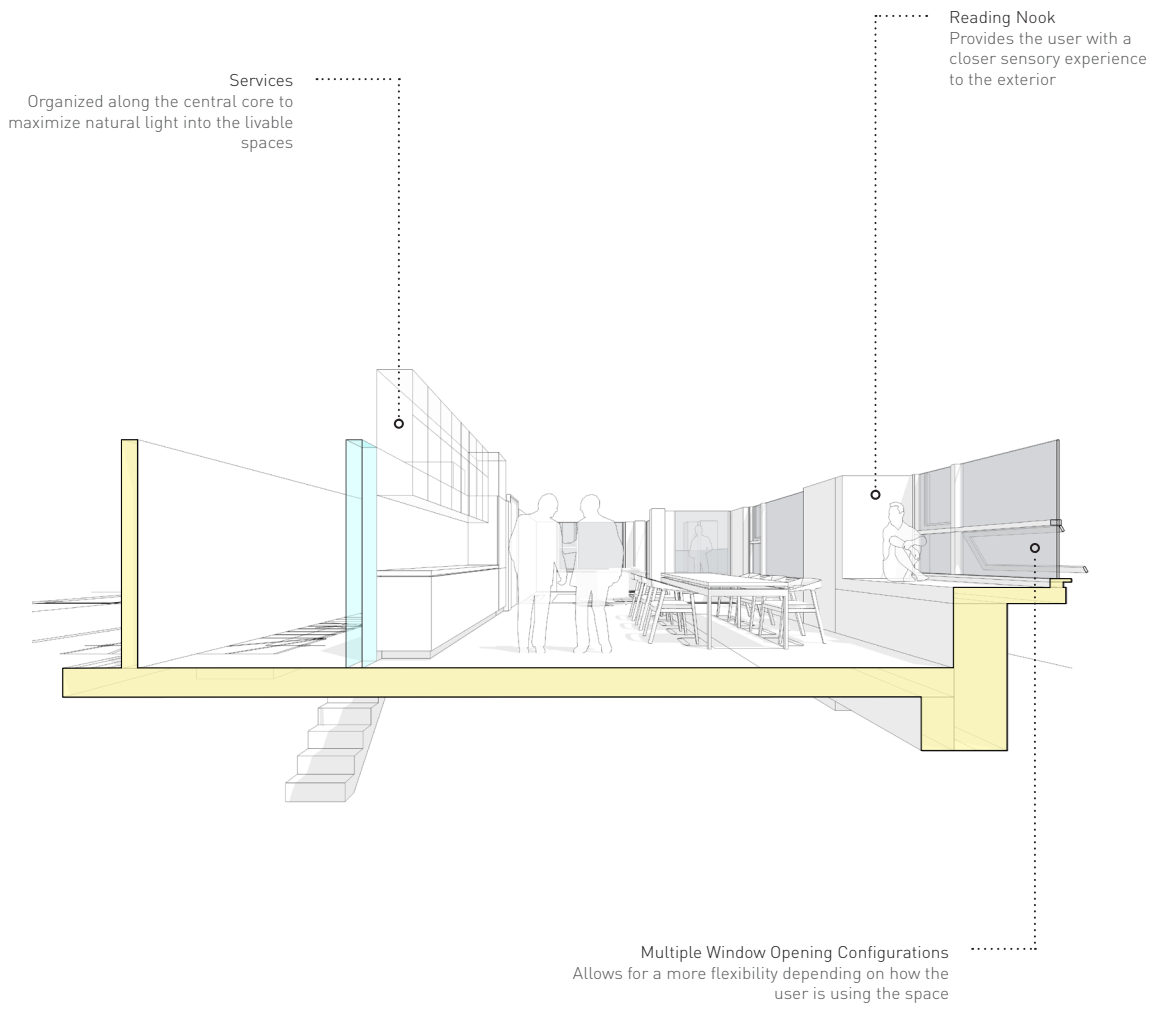
**Detailed Material Strategies:** The concrete core is augmented with a wood structural system and various wood elements throughout the unit that provide warmth and refinement at the scale of the hand, while ceramic tile offers durability, reflectivity, and radiant heat in the wet zones.



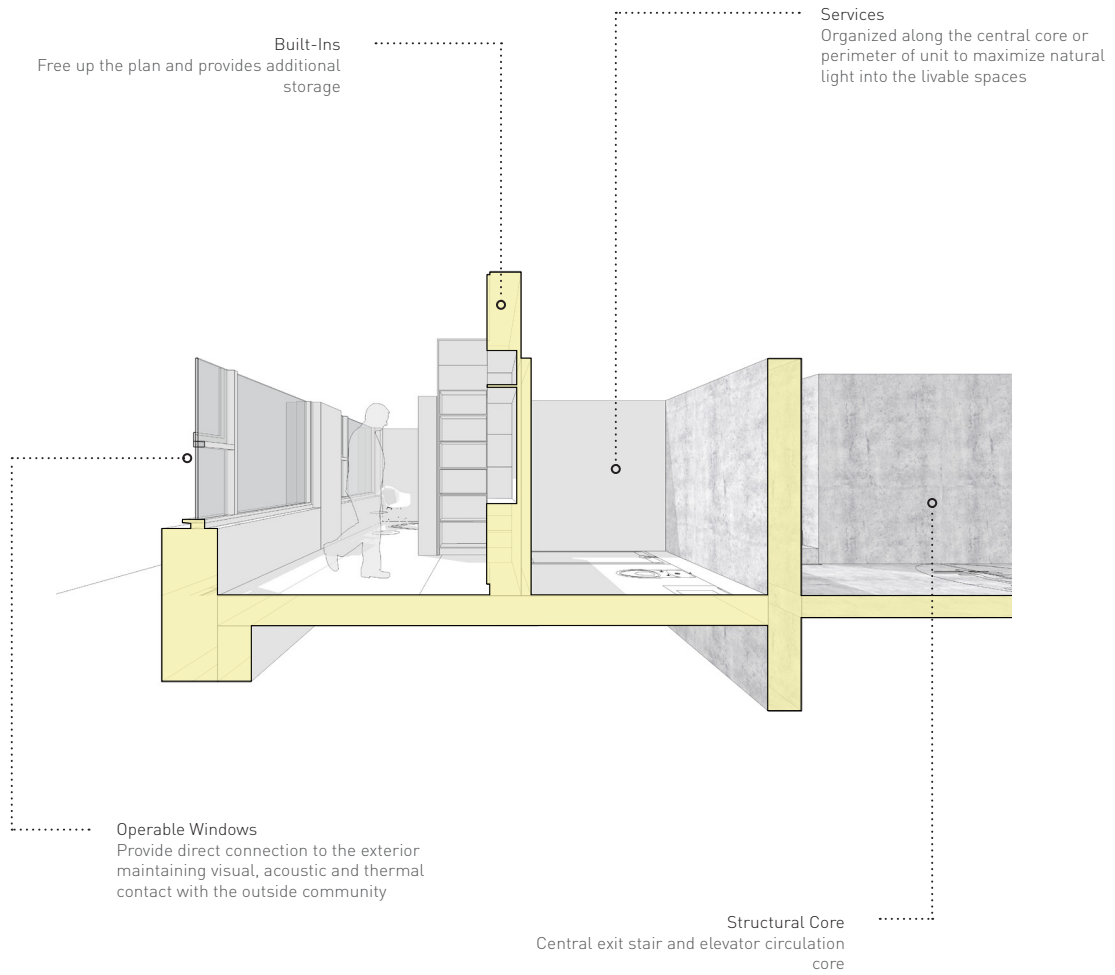
**Figure 35**  
Adaptable Unit - Second Floor



**Figure 36**  
Adaptable Unit - Third Floor



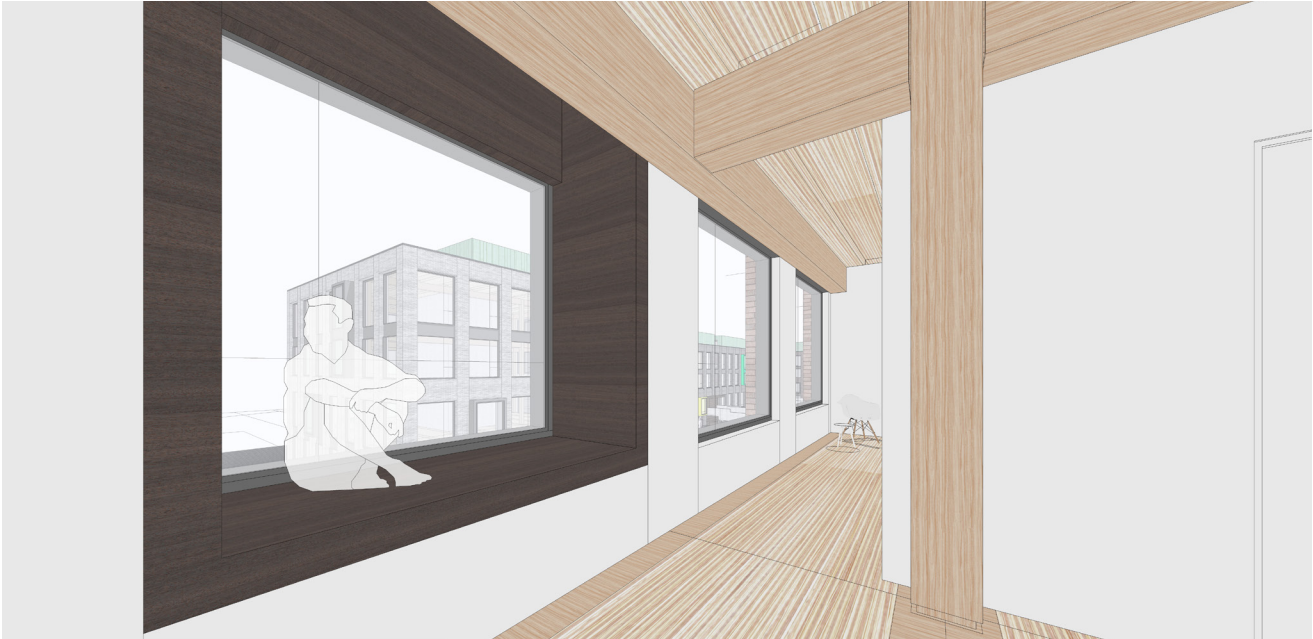
**Figure 37**  
Adaptable Unit - Section 1



**Figure 38**  
Adaptable Unit - Section 2



**Figure 39**  
Adaptable Unit - Interior Vignette



**Figure 40**  
Adaptable Unit - Interior Vignette

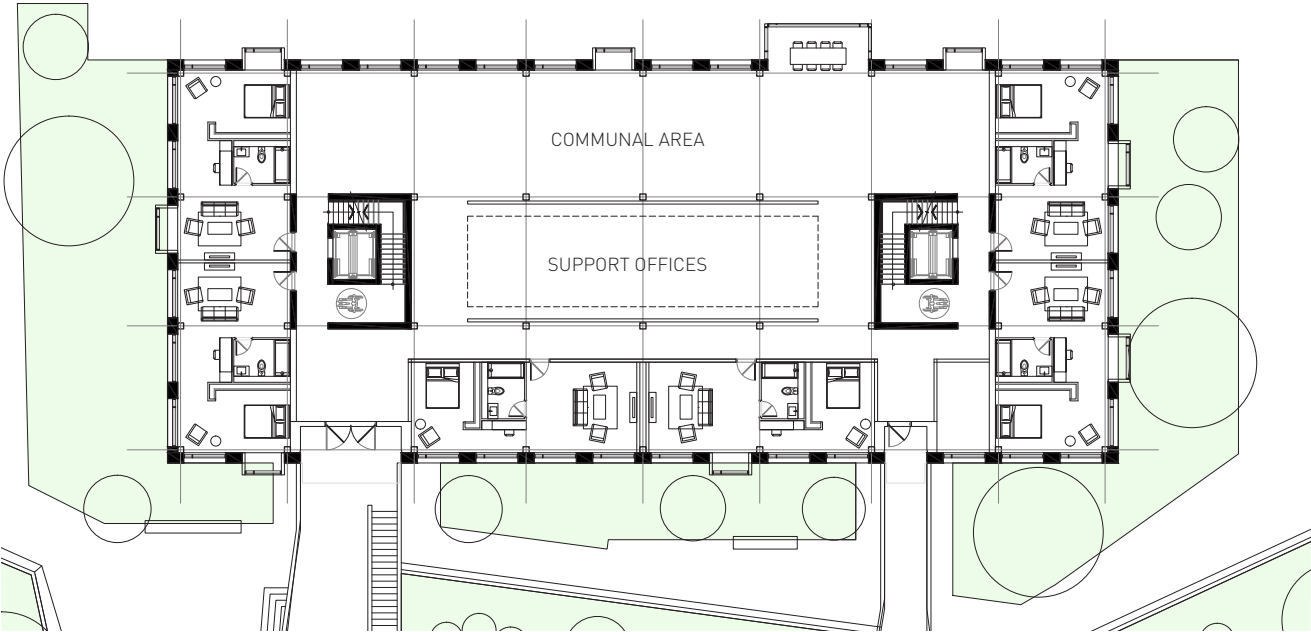
## **SUPPORTIVE HOUSING MODEL**

As specified earlier as a part of this research, there is no overarching housing solution for people with developmental disabilities, thus it is important that this proposal provides a variety of housing options for the varying level of cognitive abilities. The supportive housing model buildings offer just that, housing for individuals with developmental disabilities who require a consistent amount of support in order to live independently.

The supportive housing model uses the same architectural language as the transitional housing model in order to keep the identity of the residential block consistent throughout as to not create an sense of segregation within the residential block. The units are configured along the South, East, and West sides of the building, opening the communal space to North light. This communal space will have multiple kitchen spaces and areas to socialize with others who live within the building, forming a sense of community within the building itself. Spaces for the support rooms and staff offices are located in the middle of the plan, creating a consistent central hub of support on each level. Housing and sharing this support internally would help to significantly reduce the cost and unavailability of long term support workers for these individuals, which is currently one for the biggest issues for these individuals.



**Figure 41**  
Supportive Housing Model - Exterior elevation

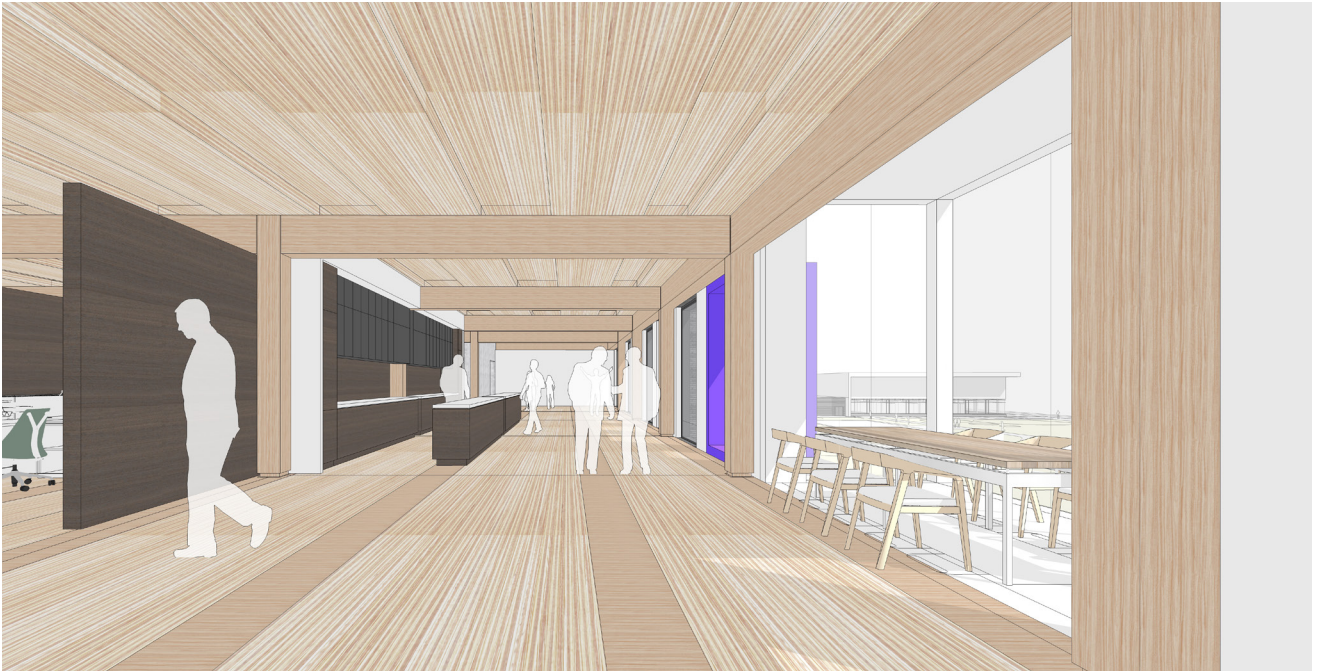


**Figure 42**  
Supportive Housing Model - Typical floor plan

Furthermore, this would be the housing model that provides the opportunity for collaboration with the Ryerson University and George Brown College programs for a hands-on learning experience. This benefits both the students, by providing real world experience, as well as the individuals with developmental disabilities, by reducing the overall cost of long term support, creating a form of collaboration and the potential for additional important relationships to form.



**Figure 43**  
Supportive Housing Model - Interior vignette 1



**Figure 44**  
Supportive Housing Model - Interior vignette 2

## PIVOTAL ENCOUNTERS

Building relationships and support networks is not something that typically happens easily for people with cognitive disabilities. We as designers need to be conscious of this and create environments where moments like this can occur. These networks don't just happen by themselves however, we can create spaces where potential opportunities for friendships and relationships can form. For people who are a bit more vulnerable and have difficulty communicating, these encounters need to be a lot more intentional for these types of relationships and community to materialize.

A pivotal encounter describes the generative power of singular details and their spatial organization in plan, section, and elevation, which are designed to promote interaction within the community in response to the specific challenges of normalizing the full inclusion of people with developmental disabilities within our cities. These specific architectural and urban elements form the place of encounters within the home, courtyard and as time progresses, the city.

As a final design exercise, we will explore how the chosen scale of the project and design elements begin to produce encounters that

have the potential to build a supportive community by following an individual's day in the life living within this thesis project.



8:00am

**Figure 45**  
A Day in the Life - Breakfast with support worker

*Each morning, a support worker visits the individual at her unit to help them prepare breakfast and a lunch for their day program.*

*On their way to the streetcar stop to get to her day program located off-site, a social encounter occurs between the individual and her Big-Sister using the garden spaces that faces onto the park area.*



9:00am

**Figure 46**  
A Day in the Life - Social encounter 1



2:00pm

**Figure 47**  
A Day in the Life - Work shift at the cafe

*In the afternoon, she returns home to begin her work shift at the café on the ground floor where she sets and clears tables and gets to interact with other people from the surrounding community.*

*For dinner, she takes a trip over to one of the supportive housing models to help cook a communal dinner with her friends.*



6:00pm

**Figure 48**  
A Day in the Life - Communal dinner



8:30pm

**Figure 49**  
A Day in the Life - Balcony interaction

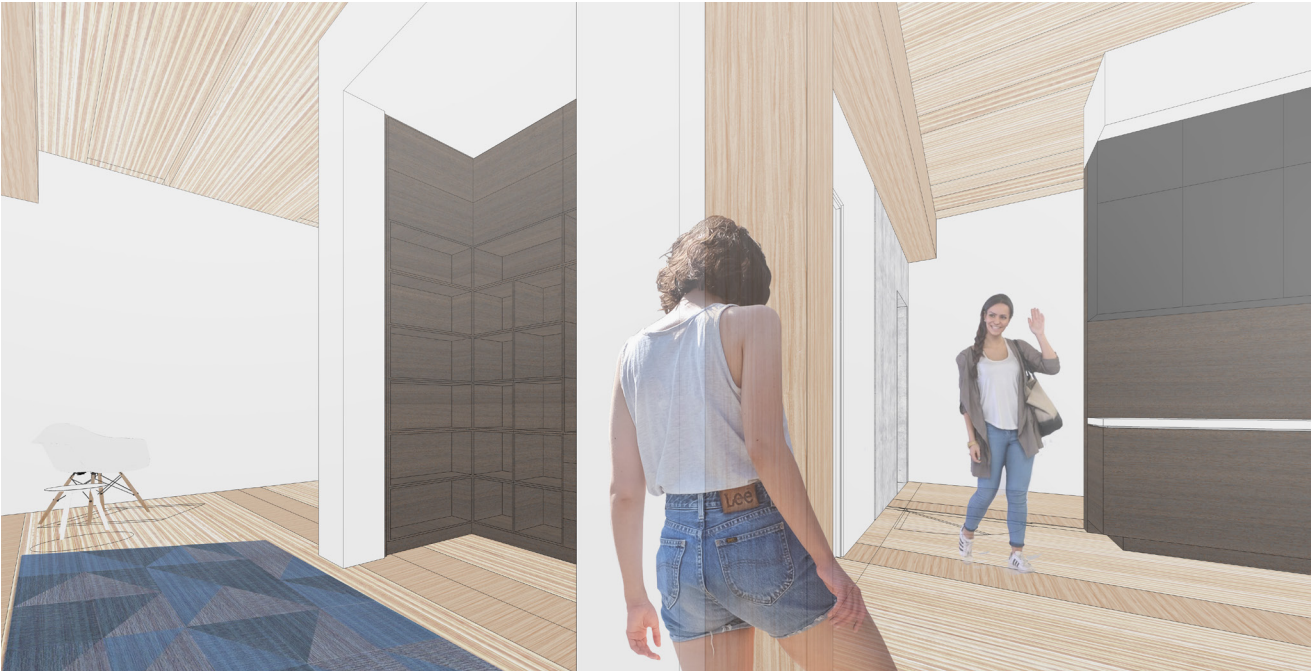
*Later that night, her best buddy invites her to watch the movie screening in the park from the exterior terrace looking over the linear courtyard.*

*They enjoy the movie overlooking the city in the distance and return home.*



9:00pm

**Figure 50**  
A Day in the Life - Movie in the park



10:30pm

**Figure 51**  
A Day in the Life - Support worker leaving for the night

*A support worker returns that night to help the individual wash up properly and then leaves as she heads to bed for the night.*

## NOTES

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05





## CONCLUSIONS

As my family enters the process of figuring out future housing options for my brother, it has become very clear that there is a desperate need for new approaches to housing individuals with disabilities. Foregoing the matter that it should be our responsibility as a society to address this housing crisis and provide the required amount of appropriate housing for people with developmental disabilities, the investigations presented in this design thesis demonstrate that an inclusive architectural approach to residential design for people with developmental disabilities within the City of Toronto requires more than just physical architecture to be successful. Although architecture is one element of the problem, the topic of inclusion, or lack thereof, is strongly rooted in societies perception of these people.

It is very important to note that this design is not the solution, nor can be a single architectural solution, to housing people with developmental disabilities within our cities. It is simply one attempt at a type of housing model that might work for

some people with developmental disabilities. It is important to understand that the cognitive spectrum is very broad for people who have developmental disabilities and therefore we require many different models of housing for these people within our cities. However, this does not mean that the architecture should be clinical in nature. This thesis design does not aim to substitute long-term care hospitals or clinics for people who are severely challenged. It is simply aiming to create an architecture without labels that strives to generate a sense of inclusion for these people within their communities.

Above all, it is through the transfer of design knowledge that is generated by an architectural project of this nature that is fundamental to the future success and growth of an architecture of inclusion for people with developmental disabilities. Therefore, I will leave you with a summary of these key design factors that have surfaced throughout my design research.

*Regarding location and site selection:*

The location of these projects and their proximity to essential services for people with developmental disabilities is very important to consider. These services are typically found centrally within our cities. Therefore, we need to start creating housing opportunities for these people within our cities in order to provide these people with an accessible network of support.

*Regarding social role valorization:*

By being conscious and designing areas where communities have opportunities to engage and interact with people who are outside of the norm, we begin to build a basis of understanding within our society of the value and capabilities of people with developmental disabilities and how they can participate within our society. By doing this, we begin to normalize people with developmental disabilities in our society which truly starts to foster this sense of inclusion within their communities and ultimately to a greater level of satisfaction in life.

*Regarding architecture:*

When designed properly, architecture and strategic site programming have the ability to reduce the stigma that surrounds people with developmental disabilities and can begin to normalize them within our communities. As a society, if we become cognoscente of the methods of interaction and specific needs of these people and gradually begin to understand the value their role within our communities, we can truly begin to establish an architecture of inclusion for these people within our cities. This can be accomplished by eliminating the physical and visual architectural boundaries that promote a sense of segregation towards people with developmental disabilities.

The scale of the architecture for people with developmental disabilities is a very crucial design element to consider. The way it is currently designed, high-rise residential architecture severely limits the ability for people with developmental disabilities to form a sense of community and build strong support networks that help them live as independent as possible.

It is all about de-institutionalizing and avoiding being clinical with the architecture. In most cases, people with developmental disabilities do not need nor do they thrive in clinical architecture.

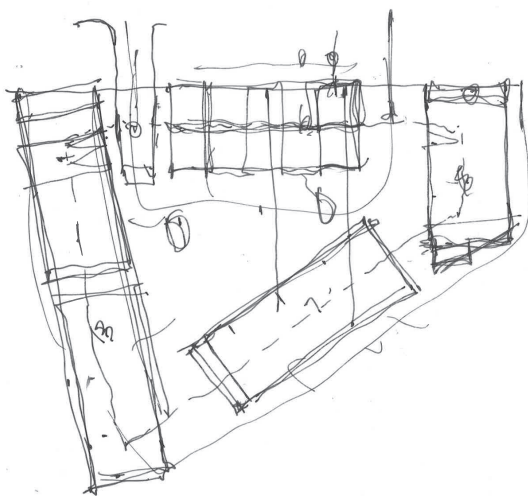
The focus of this thesis design is not about an institutionalized long term care building, rather it is all about de-institutionalizing and creating an architecture that is designed to be quite ordinary.

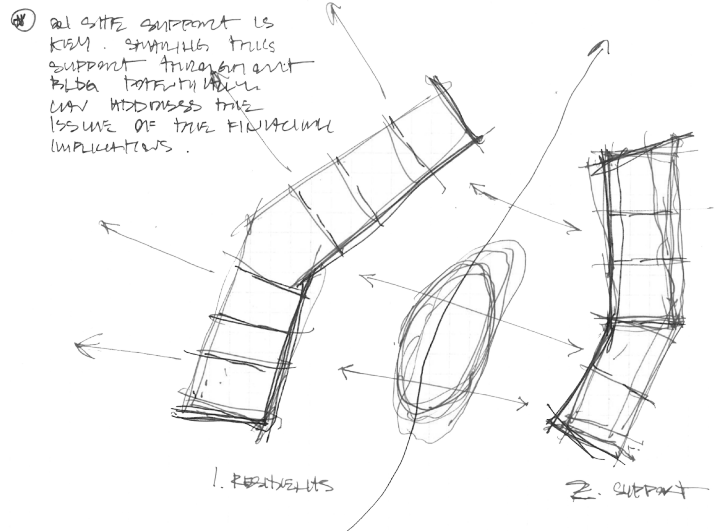
Lastly, it is important to understand that architecture in itself is not a silver bullet that will solve the issue of successfully housing people with developmental disabilities within our cities. The key is in the sense of community that is created through strong architectural programming and design, a really strong support network, and an equally strong day program. The aggregation of these elements form the basis for an architecture of inclusion.

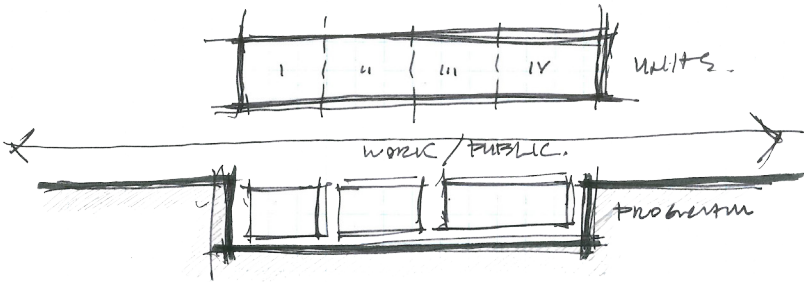


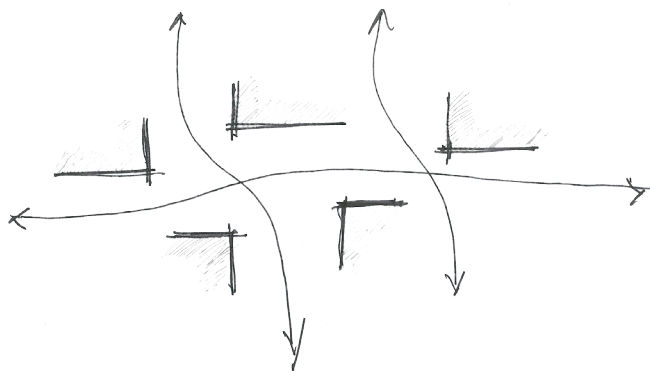
**APPENDIX A**

*Design Process Sketches and Models*

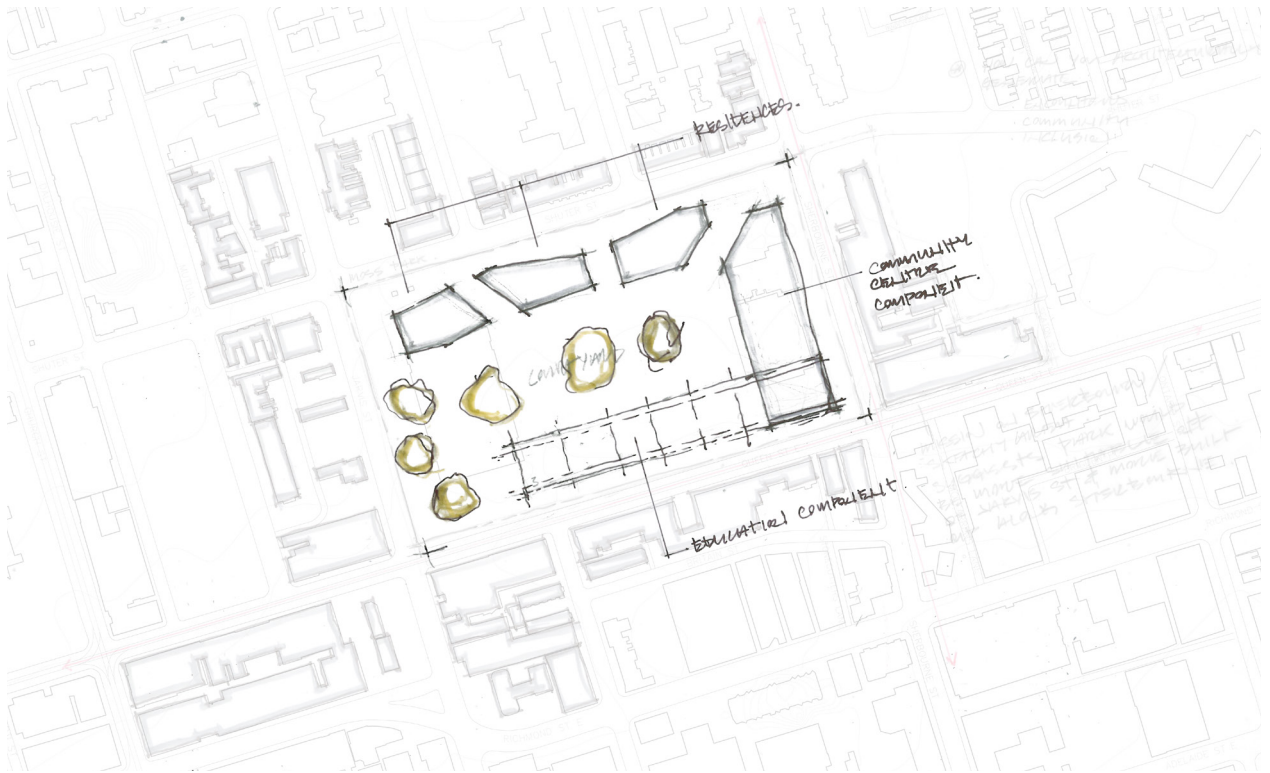


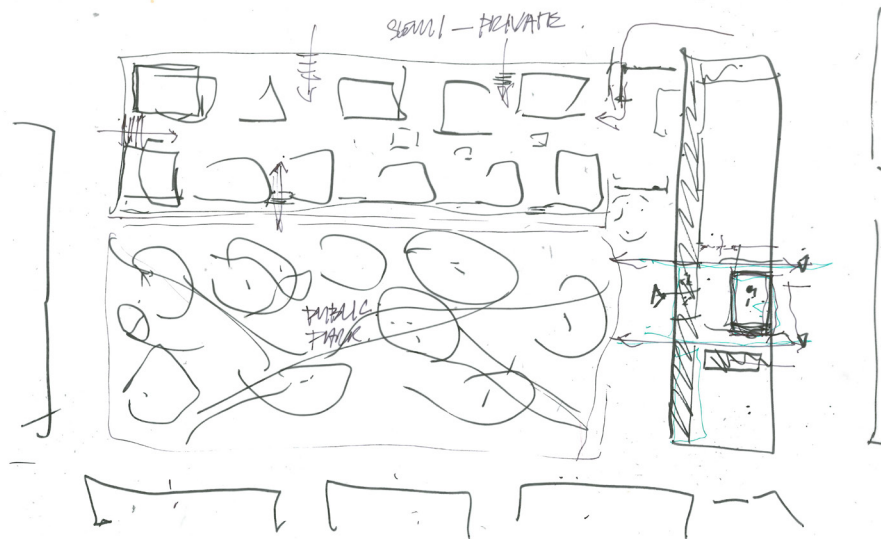


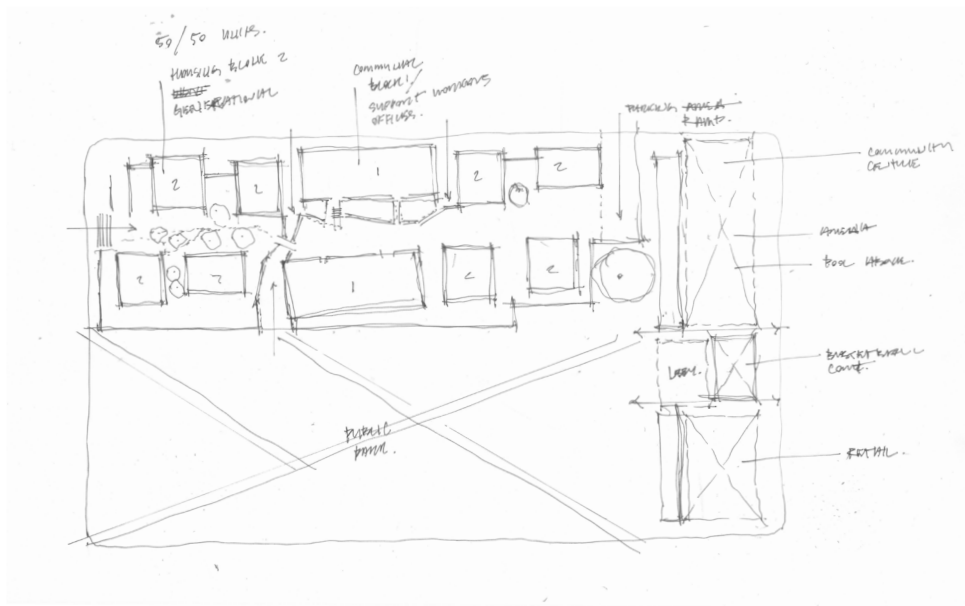


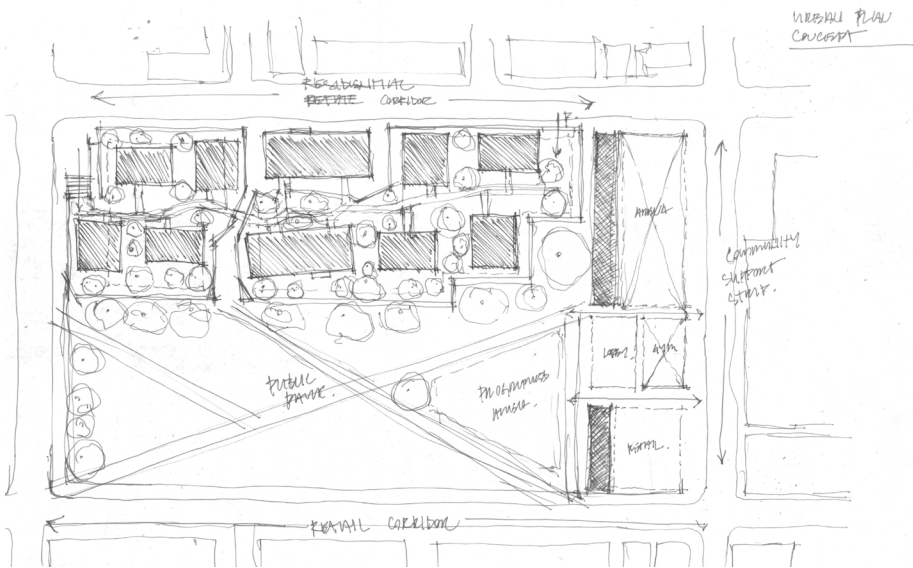


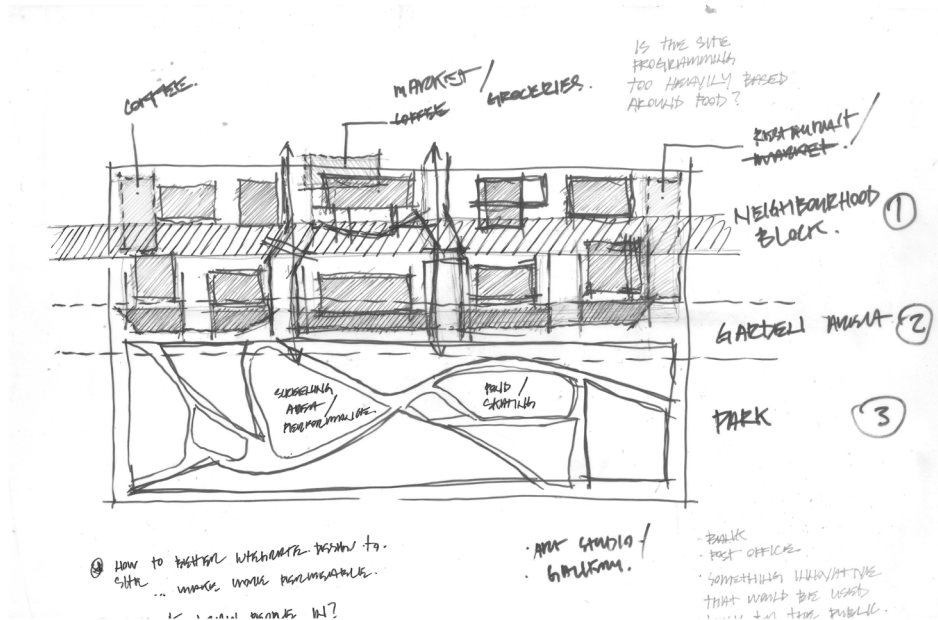


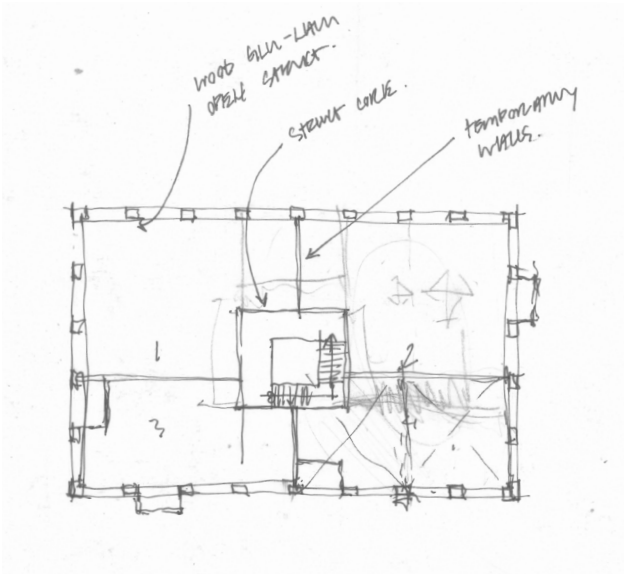


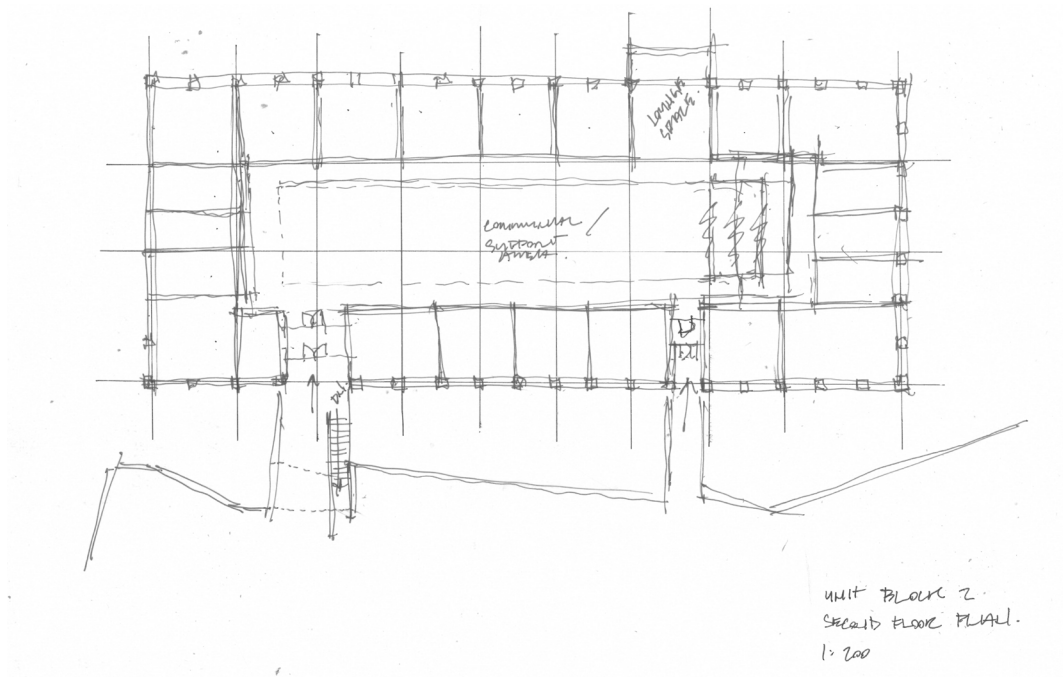


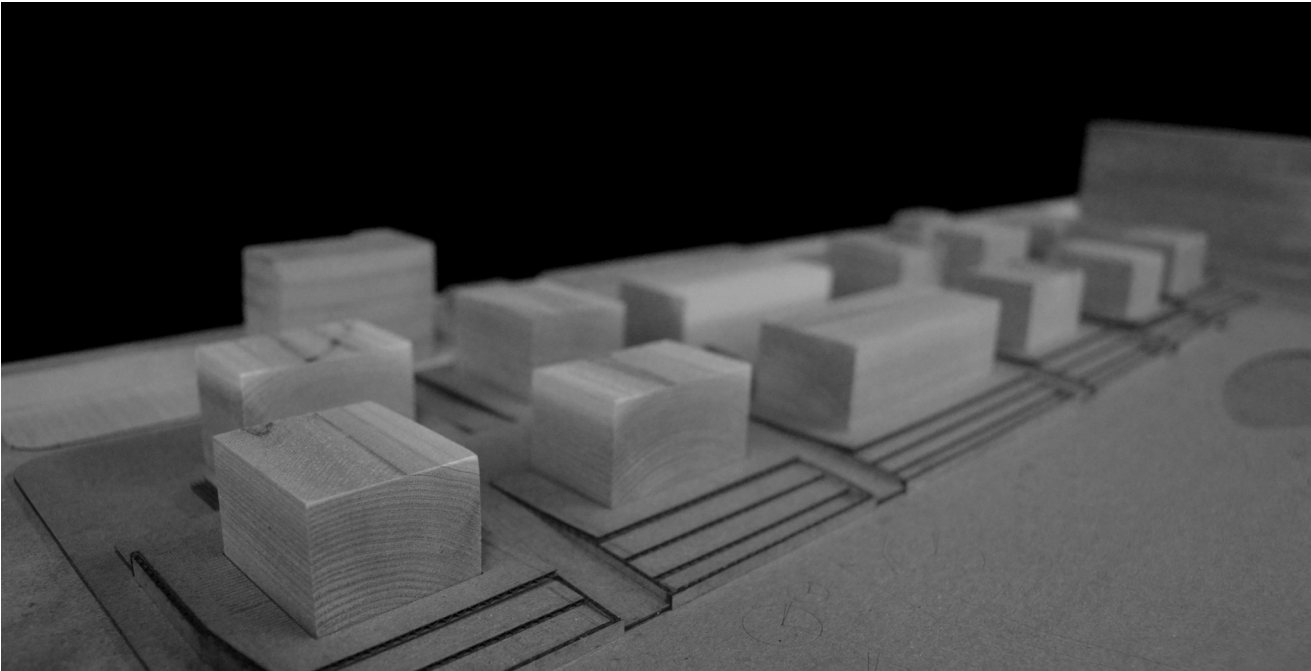


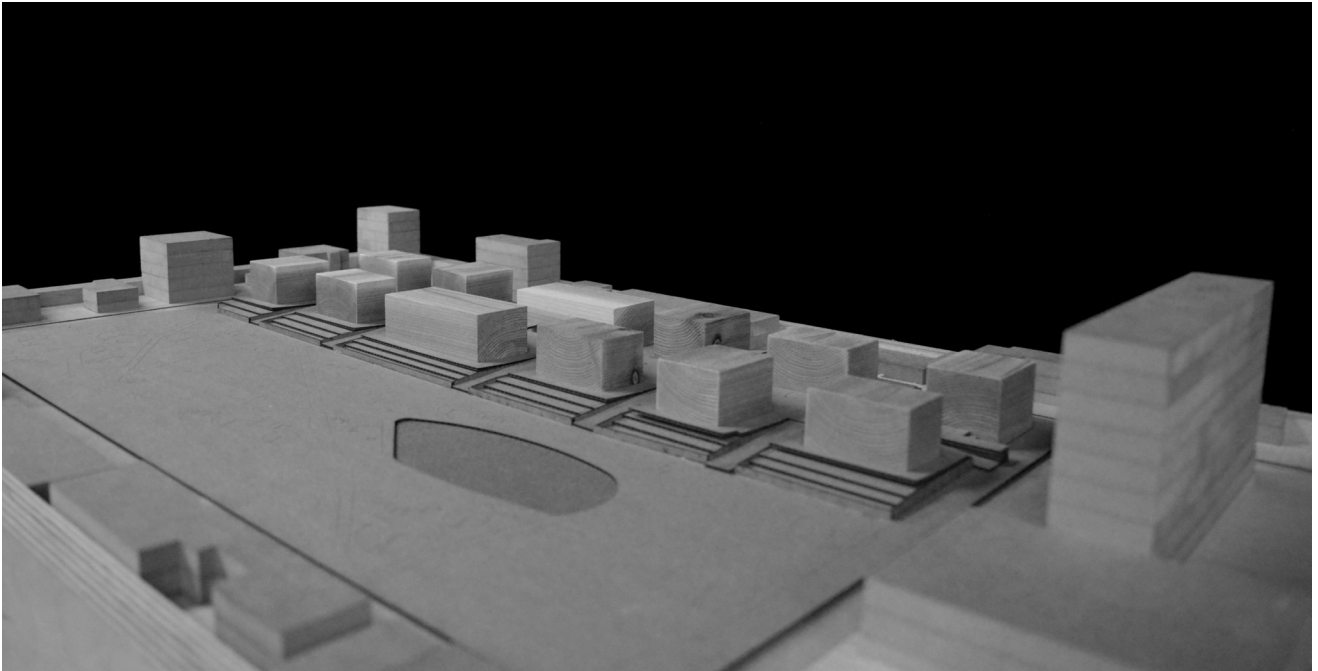




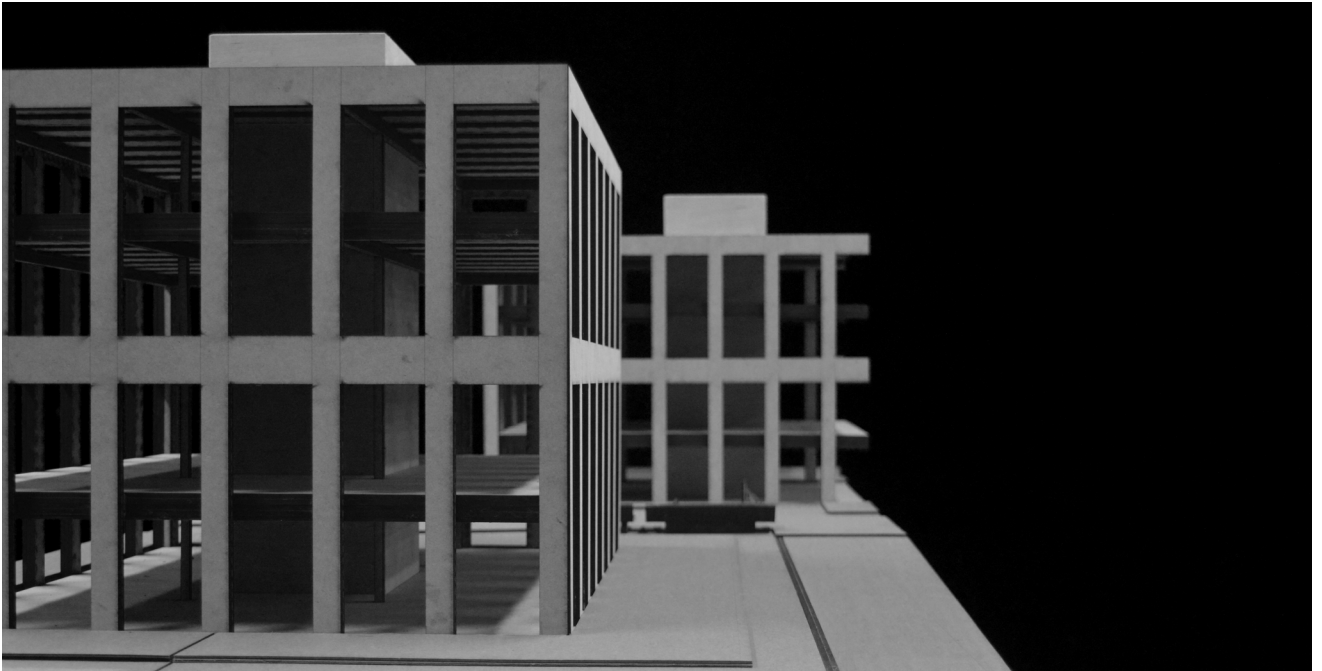


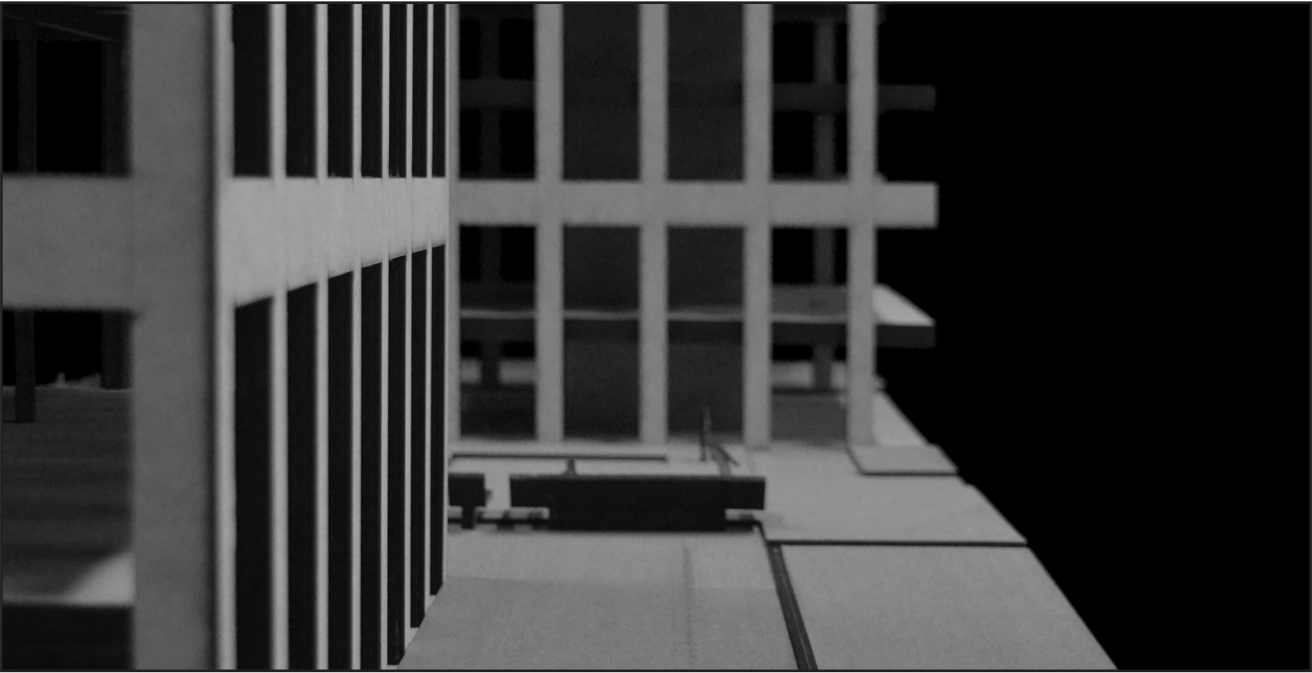




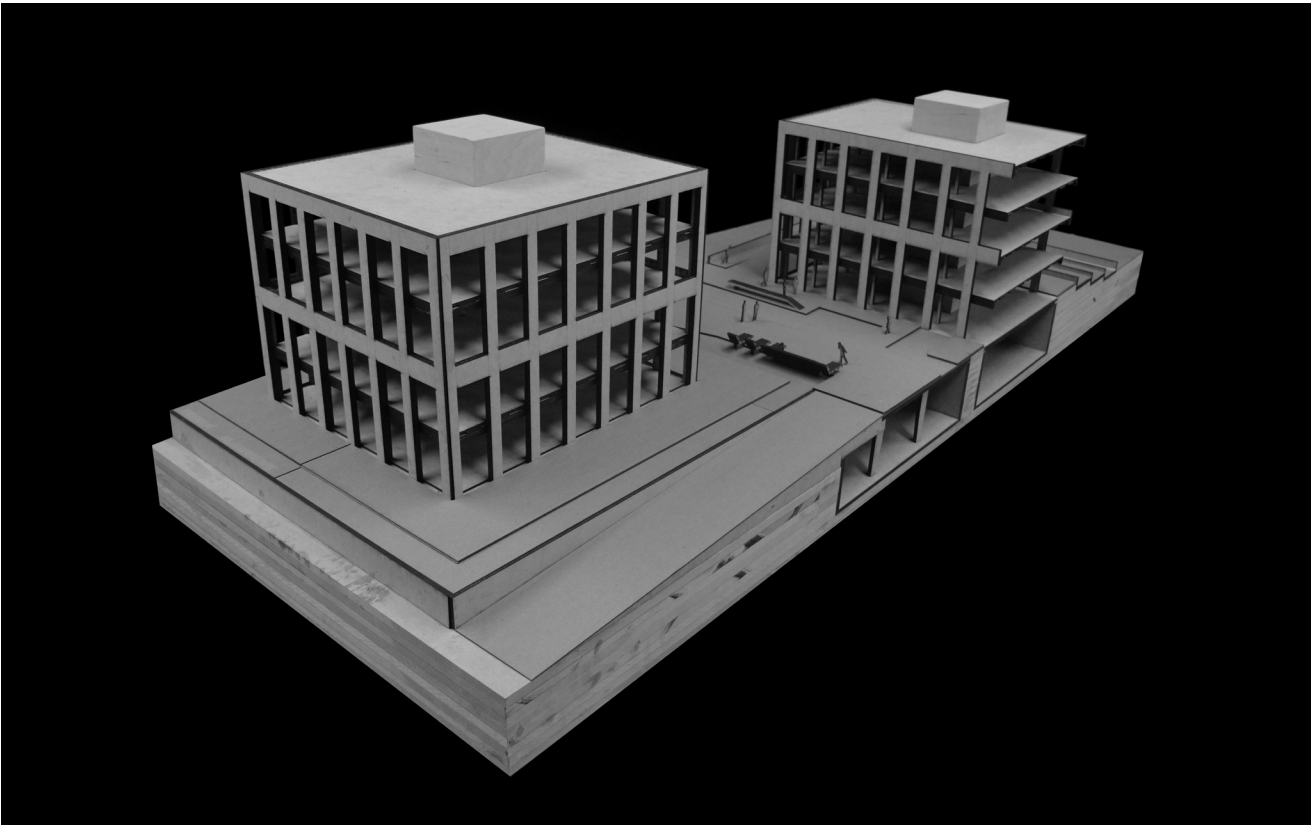












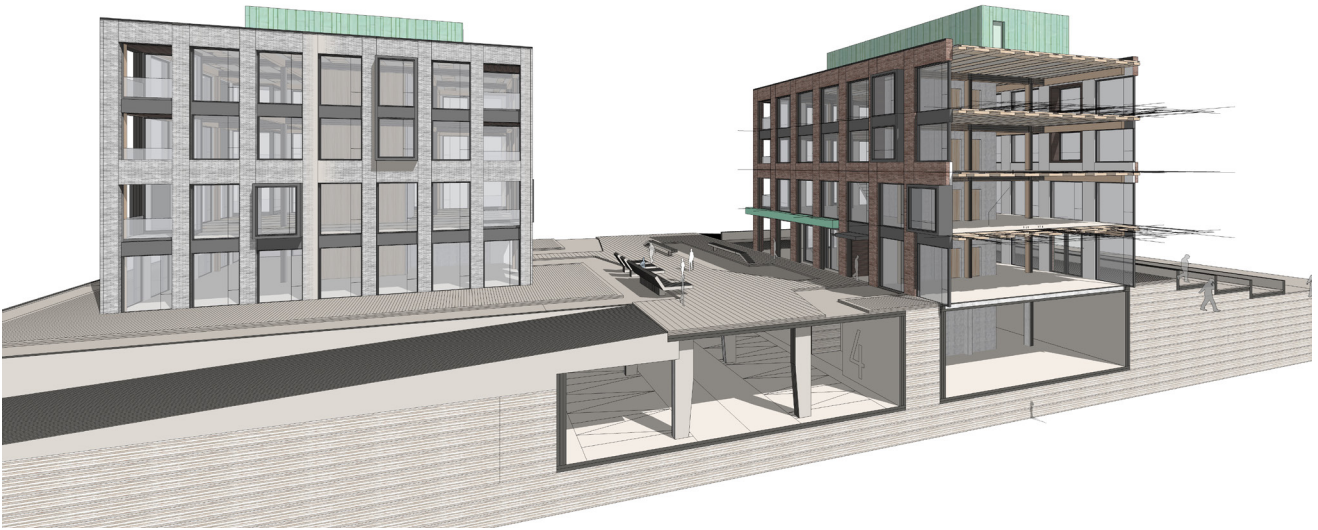


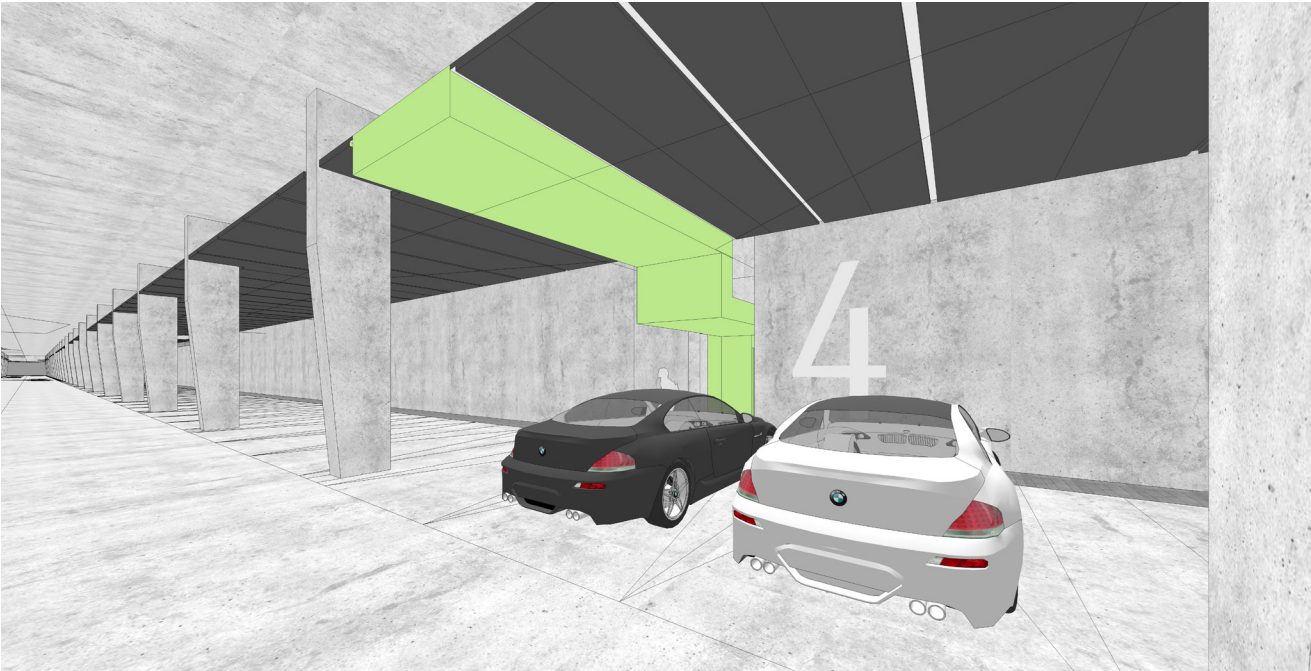


**APPENDIX B**

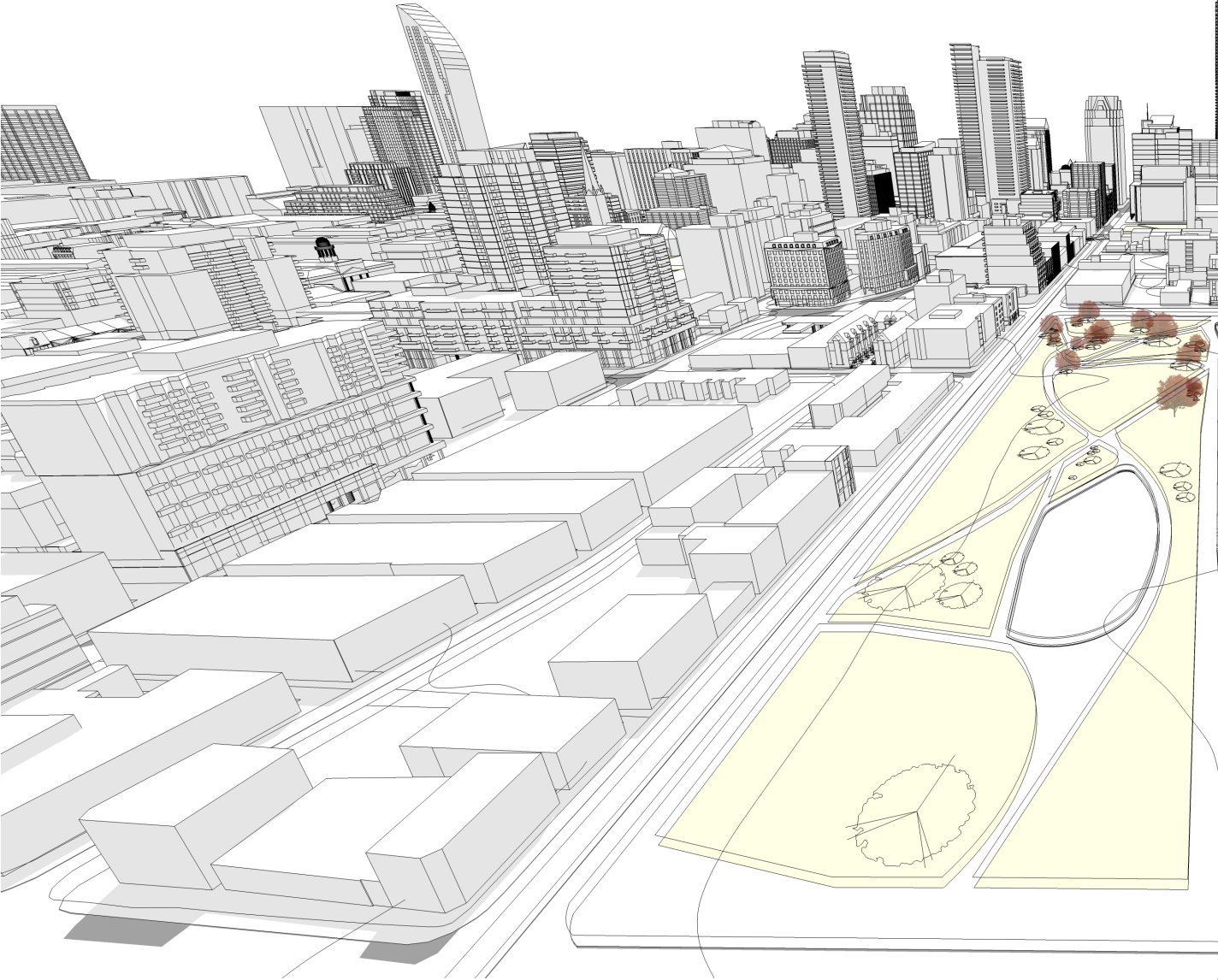
*Additional Design Drawings*

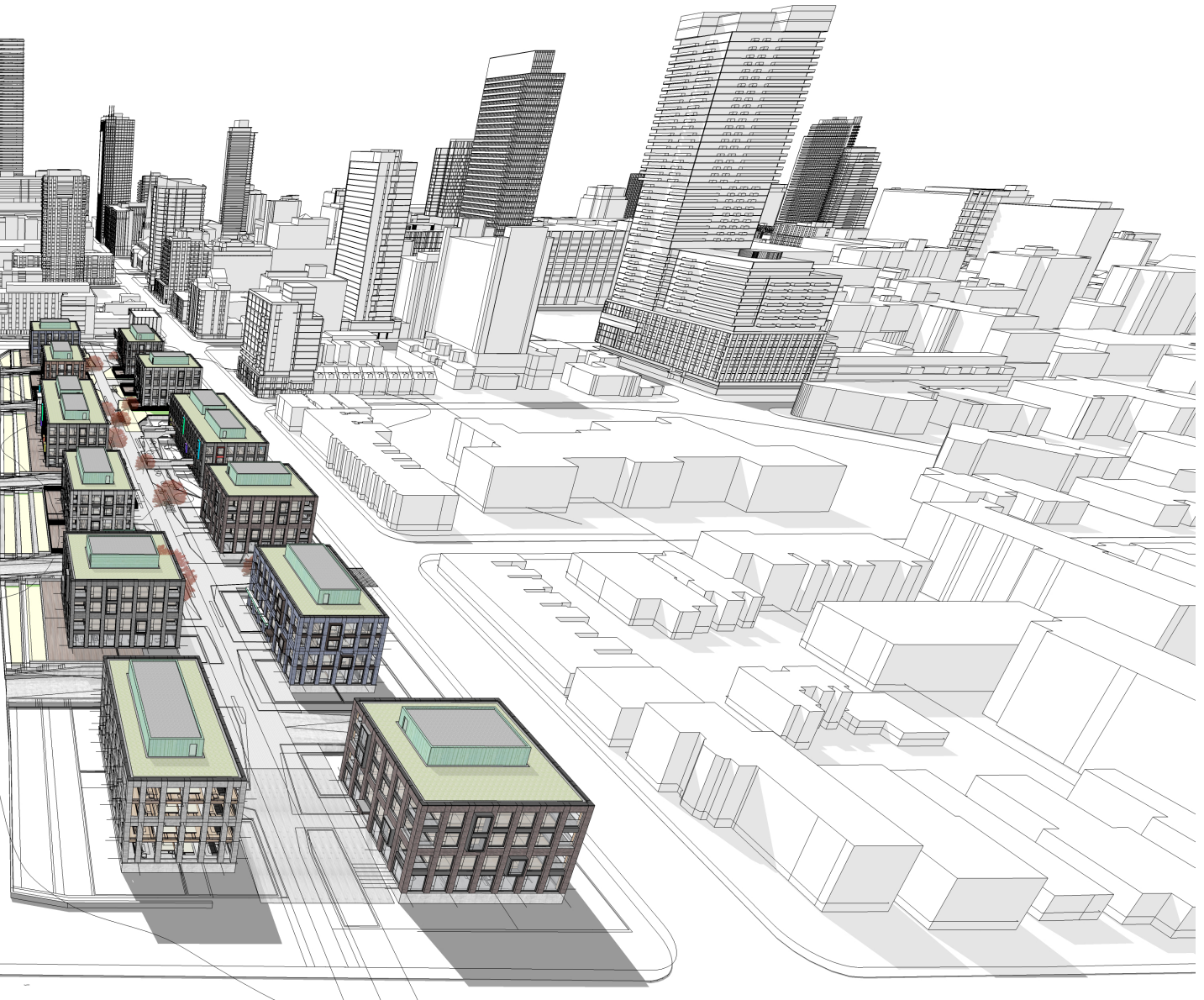


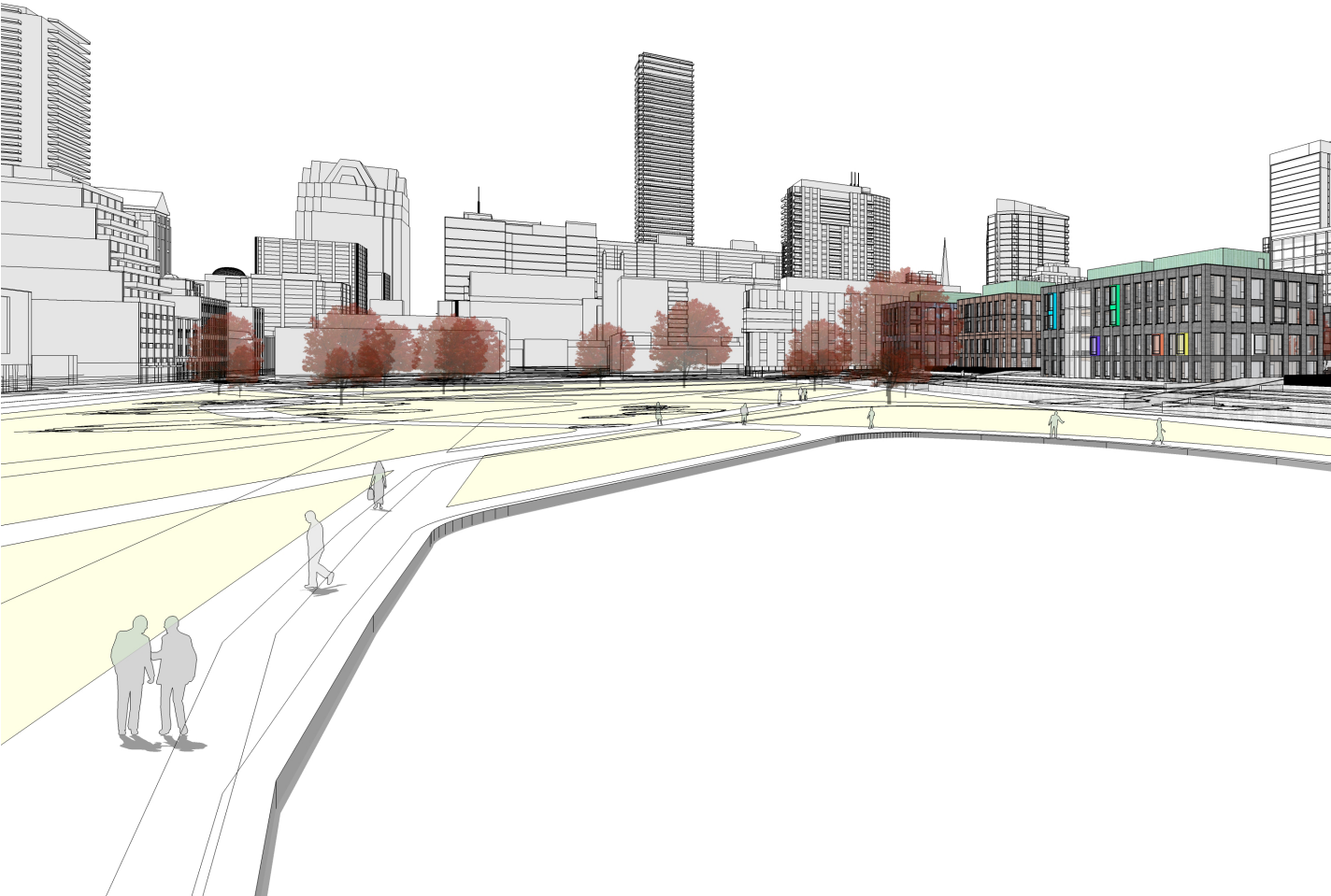


















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