

Adaptive Reuse in a Declining City:
Altering the Station Mall on the Sault Ste. Marie Waterfront

By

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of the requirements for the degree of
Master of Architecture (M.Arch)

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ABSTRACT

This Thesis takes a closer look at my hometown of Sault Ste. Marie, ON. I have found that overall this industrial city has been in a decline or dying over the past decade or longer. The differences when compared to the decline of other industrial cities is that the industry backbone of Sault Ste. Marie is currently thriving. This decline is stressed by an aging community, lack of available work, and continuous emigration of younger generations. This has led to a stagnant economy, degradation of infrastructure, and rise of criminal culture throughout the city. Nowhere else is this more evident than in the downtown core of Sault Ste. Marie.

Within this thesis, I look towards the efficient use of our existing built environment; focusing on adaptive reuse on multiple scales, from existing architectural structures to sites and reintroducing it to the social urban environment of the community. Taking this opportunity to research how to work with these spaces architecturally, programmatically and urbanistically, I am making the effort to effectively revitalize these declining rough areas or neighbourhoods. This topic stems from a belief in the importance of taking a sustainable approach to an existing building's embodied energy, while also mitigating urban sprawl. Meanwhile, recognizing that the re-use of existing buildings or spaces allows for the chance of preserving (rediscovering) history, emotion, and atmosphere while introducing new programs to these spaces.

The question that is explored within this thesis is whether the revitalization of a historical centerpiece within a city that is in a state of decline can have enough of an impact to stabilize the surrounding community. Throughout the growth of medium sized cities there develops a phenomenon known as 'doughnut cities'. This happens when a city continues to expand outwards and less focus is placed on the center or downtown leading to the death or decline of said area. In addition to this, there is also precedent for the death or decline of single industry cities. These cities tend to fall into decline when the main industry takes a downturn; resulting in effects to job availability and the local economy. Both of these phenomena look as though to play a part in the situation Sault Ste. Marie finds itself in currently.

The proposed project looks at redesigning and reprogramming the Station Mall and Downtown Waterfront site in Sault Ste. Marie. Over the years, projects reprogramming existing historical buildings have had positive impact on their surrounding sites and the community. Although, the city's downtown and predominantly this site has suffered a gradual abandonment and decline, through this research project I believe a positive change can be made for the city and its community.

This thesis explores these topics and questions through extensive research in addition to a methodology focusing on the use of mapping and layering to progress through the project. From historical mapping to current site analysis; working at multiple scales from city, to neighbourhoods, to the building. Taking a layered approach to fully understand the historical and situational basis within the project and transition into the final design proposition.

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THESIS QUESTIONS

How can an adaptive-reuse project, not only revitalize a city center, but serve as a catalyst to an overall revitalization of a city in decline?

How can architecture reconnect or restitch the public St. Mary's River waterfront to the downtown urban fabric?

THESIS TOPIC

As a general topic of this thesis, I have taken a close look at my hometown of Sault Ste. Marie, ON. When taking this close look back at Sault Ste. Marie over the past years and through talking with friends, family, and colleagues at the office, we have all found that overall this industrial city has been in a decline or dying over the past decade or longer.

Within this thesis I look towards the efficient use of our existing built environment; focusing on adaptive reuse at multiple scales, from existing neighbourhoods, to architectural structures and sites, reintroducing them to the social urban environment of the community. Taking this opportunity to research how to work with these spaces architecturally, programmatically, and through urban design, making the effort to effectively revitalize these declining rough areas or neighbourhoods. Meanwhile taking a closer look into how we sustainably deal with the afterthoughts of the modern and forgotten world we've already built, in shopping centers or malls. Utilizing their embodied energy (i.e. materials and infrastructure) through an adaptive reuse strategy can reduce the excess of building materials going to our landfills as a result of total demolition or even less of a need for the construction of new infrastructure.

My proposed project looks at redesigning and reprogramming the Station Mall and Downtown Waterfront site which currently sits as a kind of decaying centerpiece in downtown Sault Ste. Marie. Fittingly, this site is also a perfect example of the overall decline of the city; with stores leaving, users becoming few and far between, and the sea of parking remaining deserted.

HISTORICAL ANALYSIS

A large part of the primary site specific research I focused on consisted of understanding the extensive history of the site and the structures that stand on it currently. This research led me to finding numerous maps, newspaper articles, and photos, dating from the mid 1800s up through to the late 1900s (figs. 1-11). These maps and images tell the story of how Sault Ste Marie grew and changed, while primarily focusing on the waterfront and downtown core through their respective developments. What became interesting throughout this research is that the site this thesis involves is almost entirely man made.

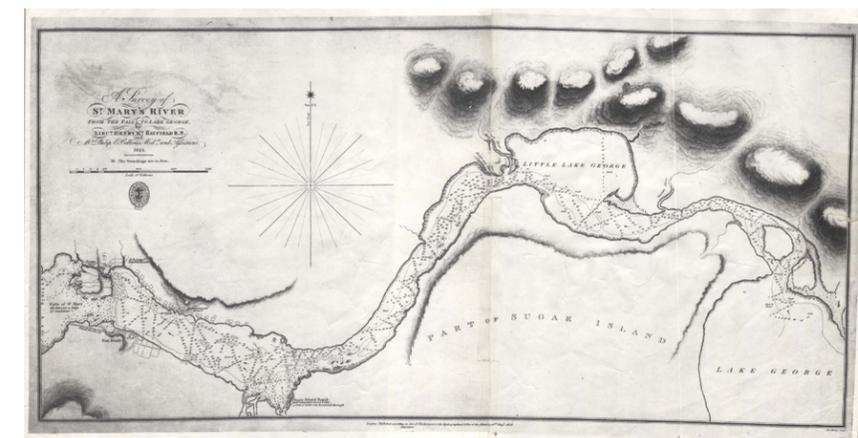


Fig 1. A Survey of St. Mary's River from the falls to Lake George.
By Lieut. Henry W. Bayfield R.N., 1825.



Fig 2. Plan of the town of St. Mary's at the falls of River St. Mary near Lake Superior. 1846.

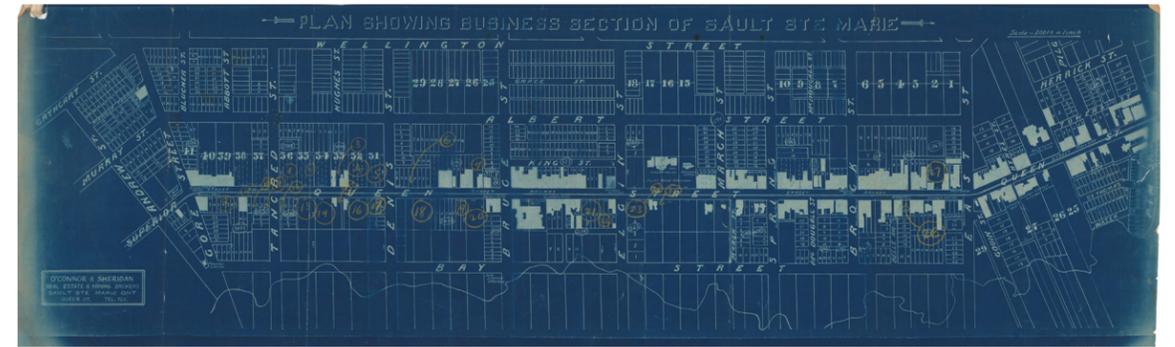


Fig 4. Plan Showing Business Section of Sault Ste Marie

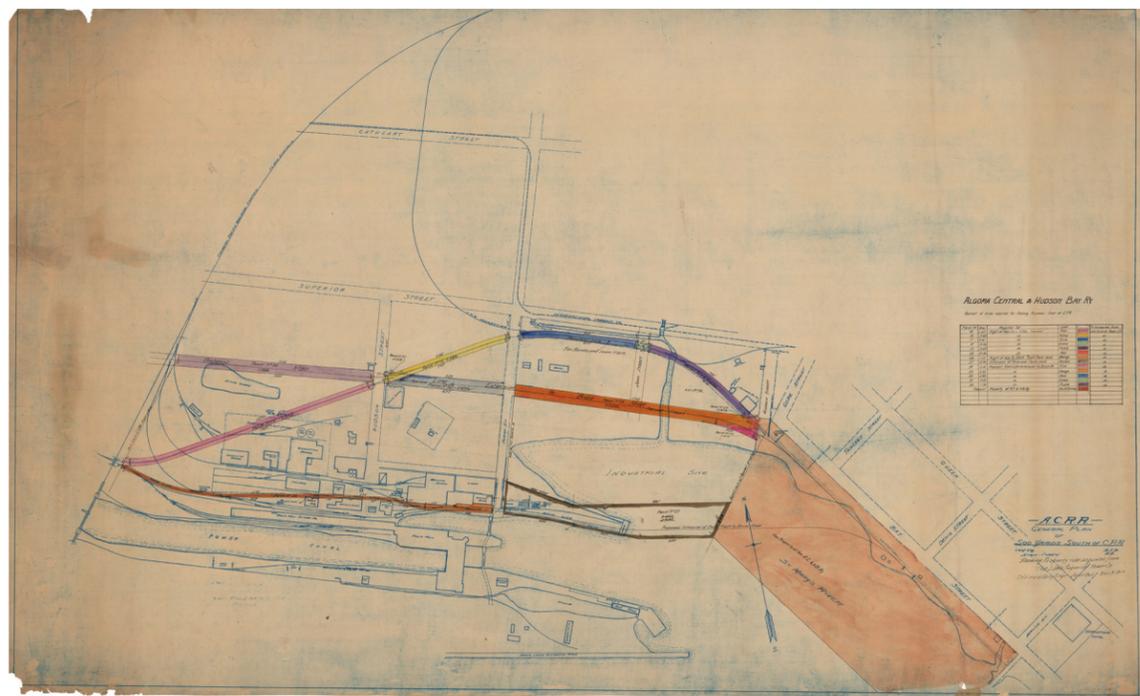


Fig 3. A.C.R.R. General Plan of Soo Yards South of C.P.R., 1910

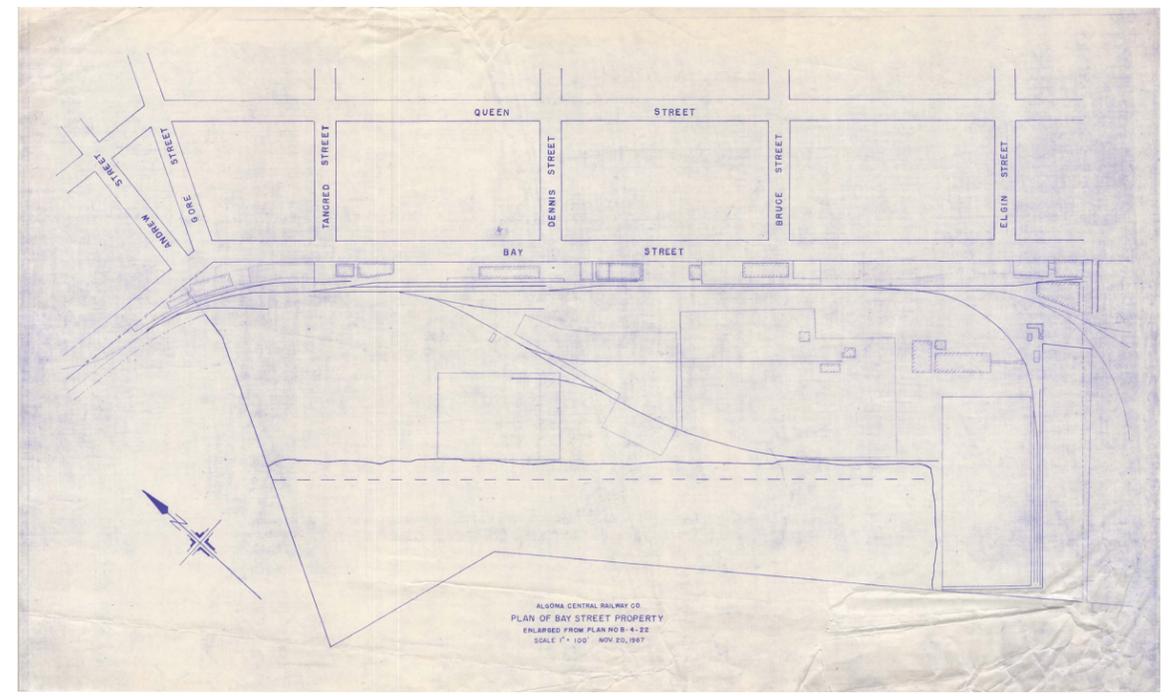


Fig 5. Algonia Central Railway Co., Plan of Bay Street Property, Nov 20, 1967

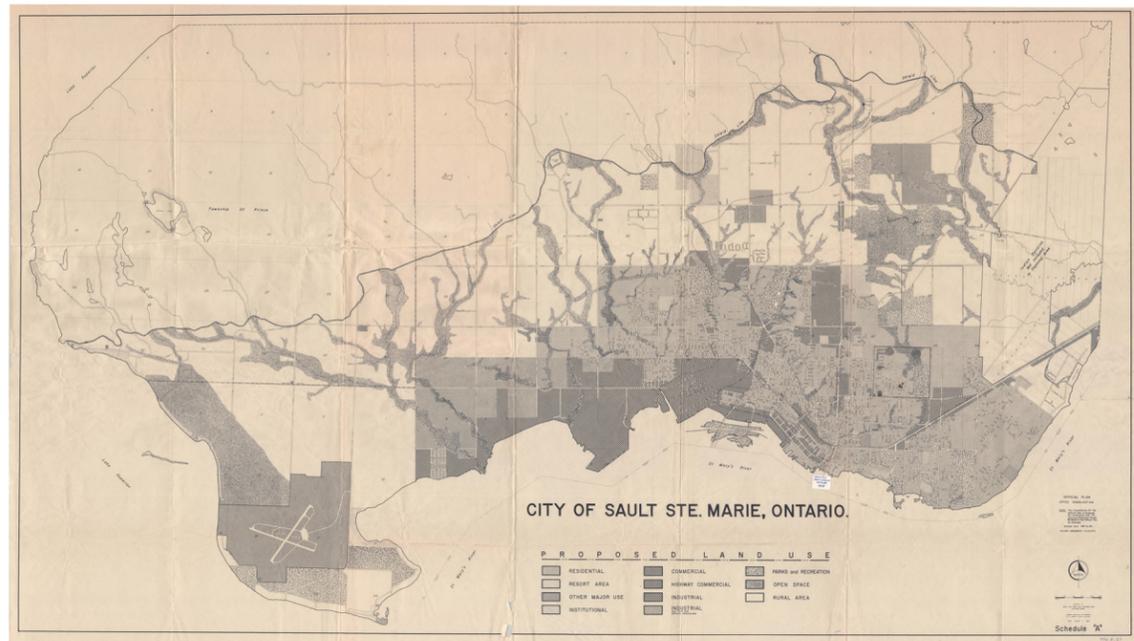


Fig 6. City of Sault Ste. Marie, Ontario. Proposed Land Use Plan. 1971.



Fig 7. Waterfront Proposal Showing Station Mall Phase 1, *Sault Star*, October 28, 1970



Fig 8. Disappearing Landmark, *Sault Star*, December 1, 1972

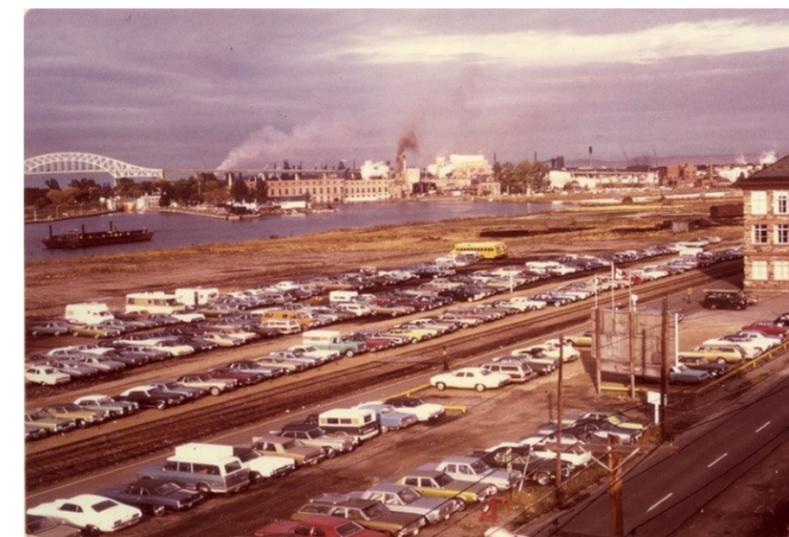


Fig 9. A.C.R. Property and Train Station Prior to Redevelopment.¹⁰

10. "Remember This? Station Mall." SooToday.com. Accessed December 21, 2019. <https://www.sootoday.com/columns/remember-this/remember-this-station-mall-334009>.



Fig 10. Redevelopment Site Pre-Construction and Infill.¹¹



Fig 11. Phase 1 of Station Mall Complete, 1973.¹²

11. "Remember This? Station Mall." SooToday.com. Accessed December 21, 2019. <https://www.sootoday.com/columns/remember-this/remember-this-station-mall-334009>.

12. *ibid.*

Throughout this historical research I have come to understand that up until the early 1900s, the shoreline interrupted Bay Street, which is now on the inland side of the site. But, the shoreline was then built out moderately to allow Algoma Central & Hudson's Bay Company railways to be constructed along this section of riverfront. This was again built out in the mid 1900s along with the rest of the waterfront to accommodate the industry needs of the city at the time. With these maps, historical photographs, and scrapbook findings we can understand the history and layering process this site has gone through up to the present day.

Through research and work with these maps I developed an historically overlaid image (fig.12) which looks to depict the changing landscape of this site over time. This image covers time periods including mid 1800s, early 1900s, mid 1900s, and the current day. To read this image, the darkest line shows where the shoreline originally stood prior to any development, in comparison to where it has been extended. A method such as this allows for a thorough understanding of the site's history while also discovering the possibility of developing design opportunities within the site and the building.



Fig 12. Historical Overlaid Map of Site Shoreline.

THEORETICAL FRAMEWORK

The field of interest for this thesis is the site; my hometown of Sault Ste. Marie and its opportunities for prosperity, the correlation between Architecture and Urban Planning/Design, and Adaptive Reuse in today's architectural world. Essentially, my project has become adaptive reuse architectural work through the focus of Residential Intensification to counteract urban sprawl and revitalize a Downtown City Core. Debates and discourse surrounding my thesis project include: the effects of urban intensification, Death and Regeneration of a City, Urban Planning and Design, and Sustainability.

Key texts throughout my research covers the overall topics of: Decline of a city, urban planning and design, and sustainability / adaptive reuse. These texts include Jane Jacobs's *The death and life of great american cities*, Daniel M. Abramson's *Obsolescence: An Architectural History*, Ellen Dunham-Jones; *Retrofitting Suburbia*, Camillo Sitte's *The Art of Building Cities*, and Edmund Bacon's *Design of Cities*.

Camillo Sitte's *The Art of Building Cities* is a translation from 1945, that covers the ideas of architecture and the relation to public space. As an overarching theory, Camillo Sitte looks to the past to analyze historic urban design and the influence of public space, in order to reimagine an urban future with the professional incorporation of what he refers to as the artist.

Design of Cities by Edmund Bacon is a major work on urban design. In this book, Edmund Bacon compares historical examples to modern ideas of urban planning. He shows us how the work of historically influential architects and planners can influence future development and be built upon by subsequent generations.

Obsolescence: An Architectural History by Daniel M. Abramson traces the idea of architectural obsolescence in twentieth-century architecture and urbanism. This book touches upon the idea that buildings and cities can abruptly lose their value or utility and become expendable, while also describing the modern trend of architects creating flexible spaces to allow for change in use, function or program.

The Death and Life of Great American Cities by Jane Jacobs covers the problems of city planning and strategies that planners have used throughout the twentieth century. She covers topics such as the importance of sidewalks, uses of neighbourhood parks, the neighbourhood unit. The second part covers conditions for city diversity; the third part covers forces of decline and regeneration.

Retrofitting Suburbia by Ellen Dunham-Jones is displayed as a guide book for urban designers, planners, architects, developers that shows us how the existing suburban developments can be redesigned to be more urban and more sustainable. Dunham-Jones shows how the development in existing suburban spaces can intake new growth and further evolve within relation to changes in economic situations, technological advances and overall demographics.

When working through my thesis and developing my research regarding the context of the project, multiple words and concepts have come to the forefront. These words and concepts have helped me develop the theoretical framework of my thesis project.

Obsolescence:

Through Abramson's analysis, the term obsolescence referred to structures being demolished for a lack of rentable space, outdated mechanical systems, or outdated unappealing stylistic expression. Within my context, Obsolescence relates to ideas of a space losing the use it was originally designed for leading to gradual abandonment.

Adaptive Reuse:

As my research expanded, the term Adaptive Reuse continued to grow in respect to my thesis project. Starting as a focus on simply how to physically interact with the building in my thesis proposal, now the term encompasses strategies at multiple scales from neighbourhood to site to the building, as well as concepts such as embodied energy within the existing built environment.

Connections:

Connections remains quite significant as I work through this thesis project. Through my interventions I plan to cut through the building and site, creating connections from the water through to the Downtown core. The reason for choosing this site is a loss of connection between the waterfront and the downtown core. Meanwhile the term also alludes to the analogous ideologies between my project and the city's current downtown plans.

In addition to the terms and concepts, there have been varying questions that have risen throughout my work that have guided my research throughout this term. These questions cover separate areas within my thesis work.

Understanding City Decline:

- How can you tell a city center has been in decline?
- What are the contributing factors to this decline?

Revitalization Strategies:

- How can urban planning and design revitalize a site, neighbourhood, and city?
- How can architecture revitalize a site, neighbourhood, and city?
- Can new or different programming revitalize an area?

What to do with the existing built environment:

- Do we only reuse the beautiful buildings?
- What do we do with stylistically outdated unappealing architecture?
- How to reuse embodied energy within architecture?

The project's building, site, and surrounding context was the catalyst for the guiding questions developed through my thesis. The existing knowledge regarding my fields of interest, related discourses, and the developed questions are used to critically analyze the existing architectural and urban situation leading towards possible design interventions. Currently this building and site stand isolated and empty. With the inward focus of the extended air conditioned space we know as a mall; the exterior and surrounding site is forgotten or ignored. With little to no interaction between inside and outside, at both building and site scales, this project looks to apply existing knowledge through opening the building and site and establishing connections and interventions extending into the surrounding context.

As I moved into the design phase of my thesis work, separate terms and concepts have emerged as significant factors when engaging with design and creation. These are terms I followed throughout my design work as a means of guiding my site interventions along a theoretical basis.

Neighbourhood:

When working through design interventions looking at concepts taken from neighbourhood design and applying them to my site leading to ideas of ownership and investment by those using the space.

Safety:

Safety has become an influential term, with crime prevention through urban and architectural design becoming a large point of contention within the downtown core.

Mixed-Use:

The prioritizing of mixed-use spaces and programming within my project has been expressed extensively throughout the majority of my research. The strength of programming ideas like mixed-use is to allow an attempt to diversify the traffic throughout the site and hopefully support a healthy and safe community in the Downtown Core.

Pedestrian:

The term pedestrian is one that will look to heavily influence my design interventions moving forward in my work. My project looks to establish pedestrian paths and connections with the building, site and extending into the rest of the downtown core further promoting ideas of walkability that the city already wants in an area currently transitioning from vehicular focus to a pedestrian focus.

The transition into the design phase of my thesis project will be strongly positioned by the specific design questions I have developed. These design questions will allow my project to respond to my built theoretical framework. These design questions include:

- How can an adaptive-reuse project, not only revitalize a city center, but serve as a catalyst to an overall revitalization of a city in decline?
- How can we apply architectural and urban design interventions to a forgotten site and promote community traffic through said forgotten site?

METHODOLOGY AND SYNTHETIC WORK

Throughout this thesis the methodology and synthetic work is focused on the use of mapping and drawing by hand or digital means to progress my proposed project and thesis. Working at multiple scales from city, to neighbourhoods, to the building, I have been able to map, draw and layer my researched information to establish relationships throughout my thesis work. Through exploring this method of mapping, drawing, and layering, I have used the work produced as further research as well as design tools informing my final design project.

Through this synthetic work a sketch model was used to explore how pieces of the mall can be pulled apart or removed entirely and how these large scale moves change the overall dynamic of the existing building. Through the images of this sketch model (Figs. 13-15.), we can see the early exploration of cutting through the existing building; extending the urban street grid through the site down to the waterfront. We also see the exploration of removing significant portions of the existing building and how this may open the site for new design in contrast to adaptive reuse.

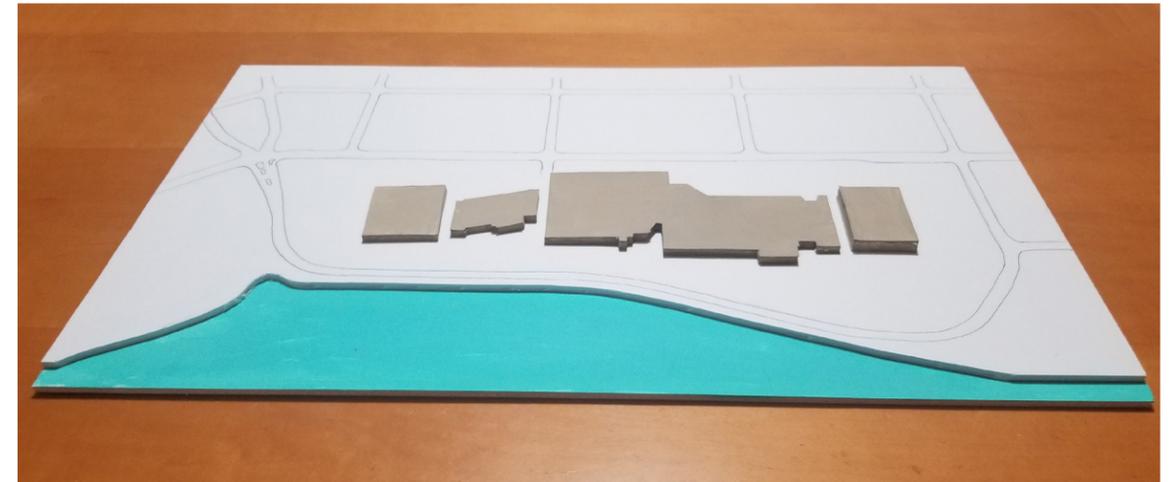


Fig. 14. Sketch Model 2.

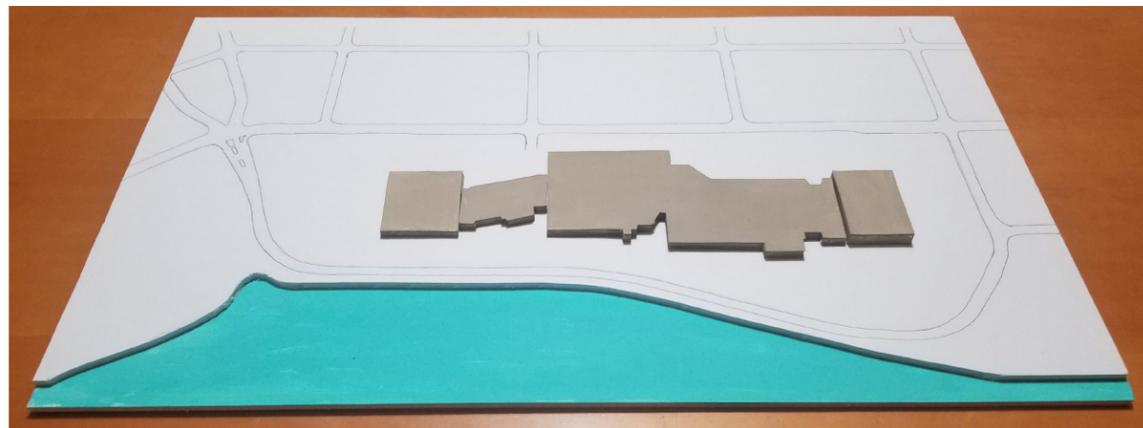


Fig. 13. Sketch Model 1.

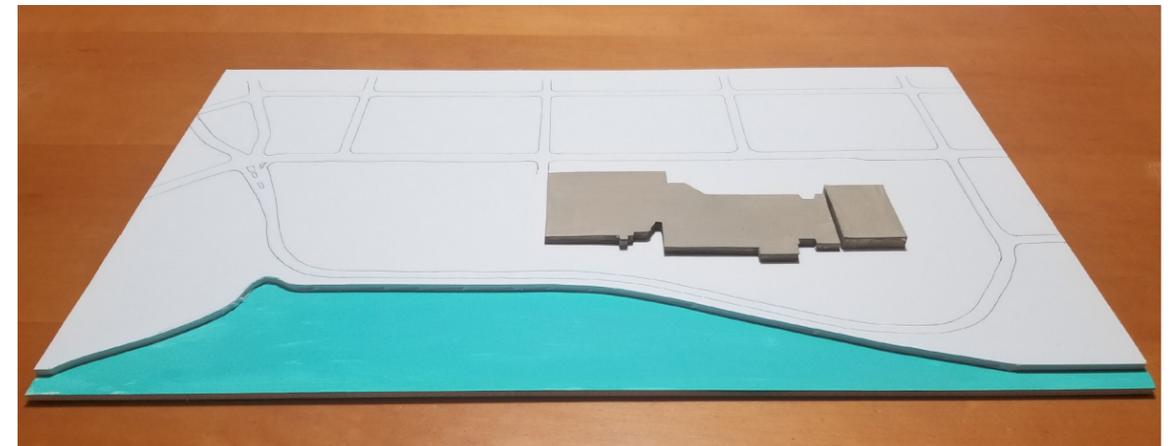


Fig. 15. Sketch Model 3.

THESIS ARTIFACT

My artifact can be considered an abstracted, layered, site model. This artifact is the exploration of my site and buildings transitions through history; understanding how these layers interact with, connect with, and effect one another. These layers will include the changing shoreline, building footprints through the site's lifetime; the existing mall and site (what I call the Mass), greening layers, and new design applied to the site. For all layers, different types of wood, staining and carving will be used to identify and differentiate the pieces and aspects of the overall palimpsest. The artifact will also be sectioned and separated to allow for exploration of each layer of the palimpsest and how it influences and makes up many aspects of my thesis.

My thesis focuses on the idea of adaptive reuse and the restitching of urban social connection and interaction. Therefore, A large part of the primary site specific research I focused on consisted of understanding the extensive history of the site and the structures that currently stand on it . This object stems from a map I created early in my thesis research and development. The early mapping shows how the shoreline has been altered on 3 separate occasions; the mid-1800s, early-1900s and the 1970s. It is this layered history and progression that my object explores, although now in three dimensional space.

The artifact connects back to the original concept of adaptive reuse; the idea of peeling back each layer of the site's existing building, exploring the current and possible relationships of each layer and how these layers are worked into the new design for the site. The exploration of where existing and new meet within my overall design as well as building design becomes an interesting play between these layers and perception of the material history involved.

This work with layers continues on through the programmatic work within my thesis. Exploring the ideas of overlaying or superimposing different programs over one another and designing spaces where these interactions can occur. The abstraction of each element within the artifact allows for further exploration of design and form within my buildings, be it new, additions, or adaptations; while still maintaining the relation to the palimpsest that is my site.

All parts of this artifact are constructed with wood to allow for easier readability while also establishing the overall connection of each layer as a single site. This site is the sum of all layers with no necessary hierarchical positioning or designation of layered materials. The base layer shows the four different shorelines over the site's lifetime in a gradient of natural wood colours, leading to the water's edge that will be displayed with clear casted resin. Additional layers, such as green space, the expanse of parking, existing buildings and new design build upon this base while being differentiated through different stain colours.

This artifact is used as a tool to physically view the layered history and research that has been involved within my thesis. This tool then further allows me to explore the relationships between the existing site and my architectural design in three dimensional form; remaining aware of the layers on which I am building throughout this thesis work.

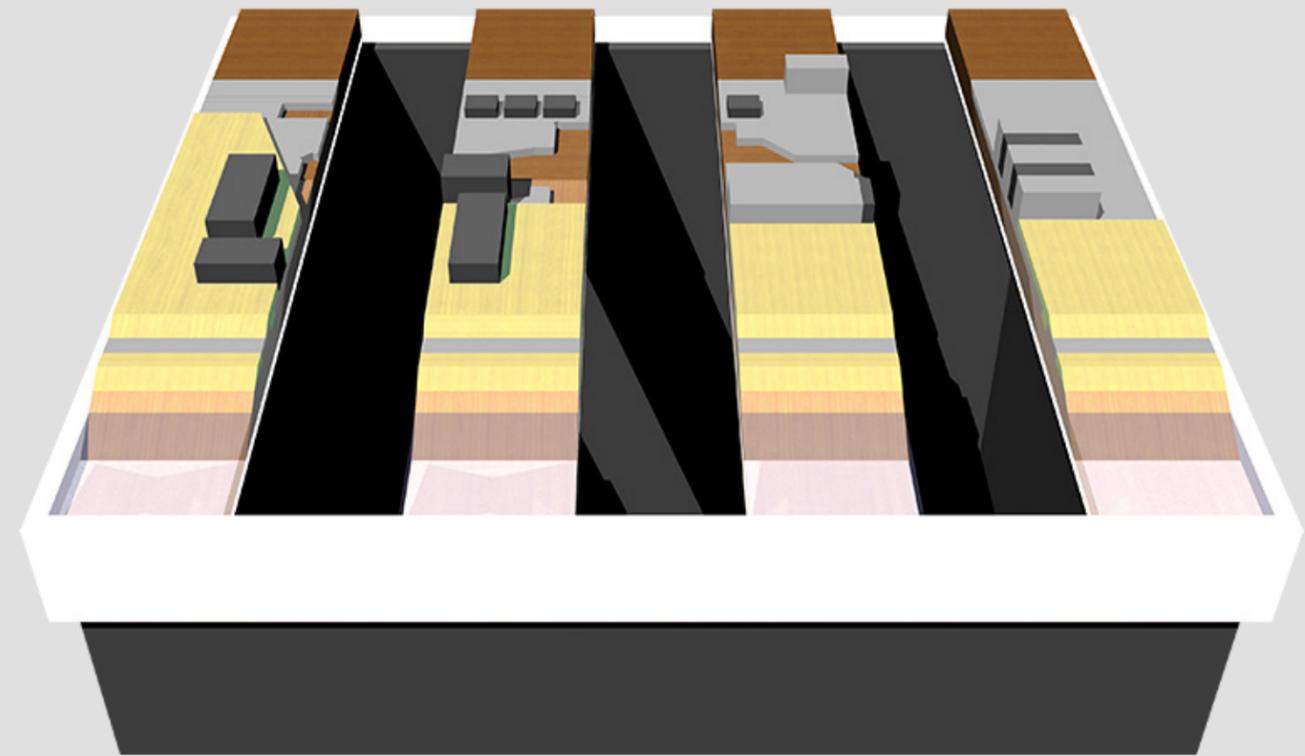


Fig. 16. Artifact Front View.

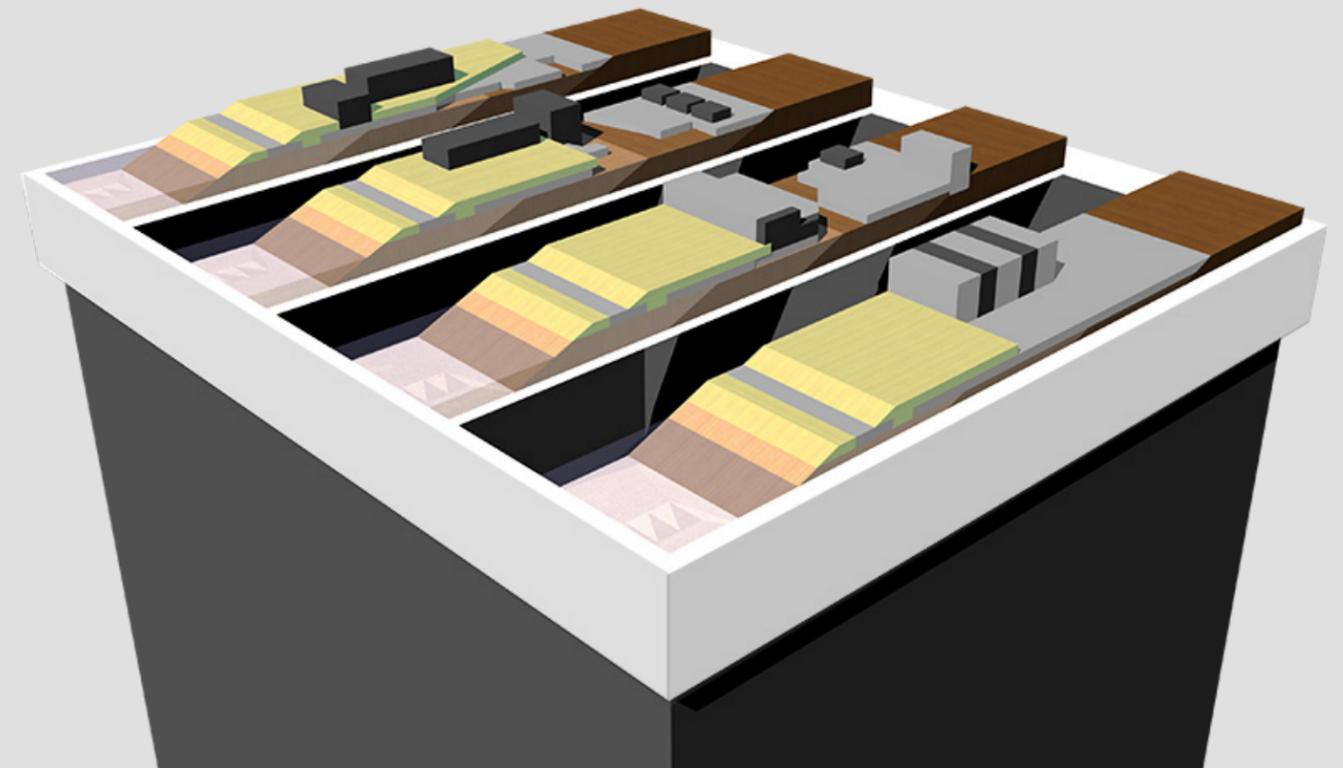


Fig. 17. Artifact Perspective View.

SITE AND BUILDING ANALYSIS:

Site Analysis

Through analysis, we look at this project on multiple scales from the city scale to the neighbourhood, to the site, and the building using separate maps and diagrams. The analysis at the city scale looks to understand city-wide factors that can influence how this project in the downtown core functions or possibly how it is urbanistically and architecturally designed.

In order to view the site from this larger scale consisting of the city as a whole and understand the influences, a city analysis map was developed (Fig. 18). The map depicts the connectivity of this site to the city through traffic flows and the Hubtrail that runs around the city connecting to my site and waterfront. The map shows us the varying intensity of traffic flows across the city, which are organized into high which is red, medium which is orange, moderate which is yellow, and average which are not coloured. The Hubtrail is coloured in black clearly depicting the urban connection to this site.

In addition to this, public service buildings such as Schools, Daycares, Town Hall and Hospitals are shown in purple and green indicates grocery stores and commercial food buildings. These buildings were highlighted in order to see their relation to the site in question and to gauge the effectiveness of certain optional programs within the building.

Shifting down in scale, we begin to look at the site on a neighbourhood scale, specifically the waterfront and the downtown core. As for the waterfront, I have explored the history of Sault Ste. Marie's waterfront from a spatial and programmatic view (fig. 19). Understanding how the waterfront has developed and changed, this map (fig. 19) explores the remaining industrial buildings and how the waterfront has transitioned from a solely industrial zone to a commercial and public space for the city and downtown core. Even with the entire waterfront being historically developed to support the early industry needs, what we see now is that a large portion of the waterfront is dominated by the Station Mall and the surrounding sea of parking. Although similar to what has been seen here in Sudbury (Rainbow Center), simply throwing commercial program onto a site will result in an initial boom and then slide into a gradual decline. This site can become a significant public node by introducing park and plaza space and introducing new programs. The introduction of new programs such as housing further ties into needs and plans for affordable housing, such as social housing projects adjacent to the site, and tourism services which can extend connections up to the paper mill site and new train station.

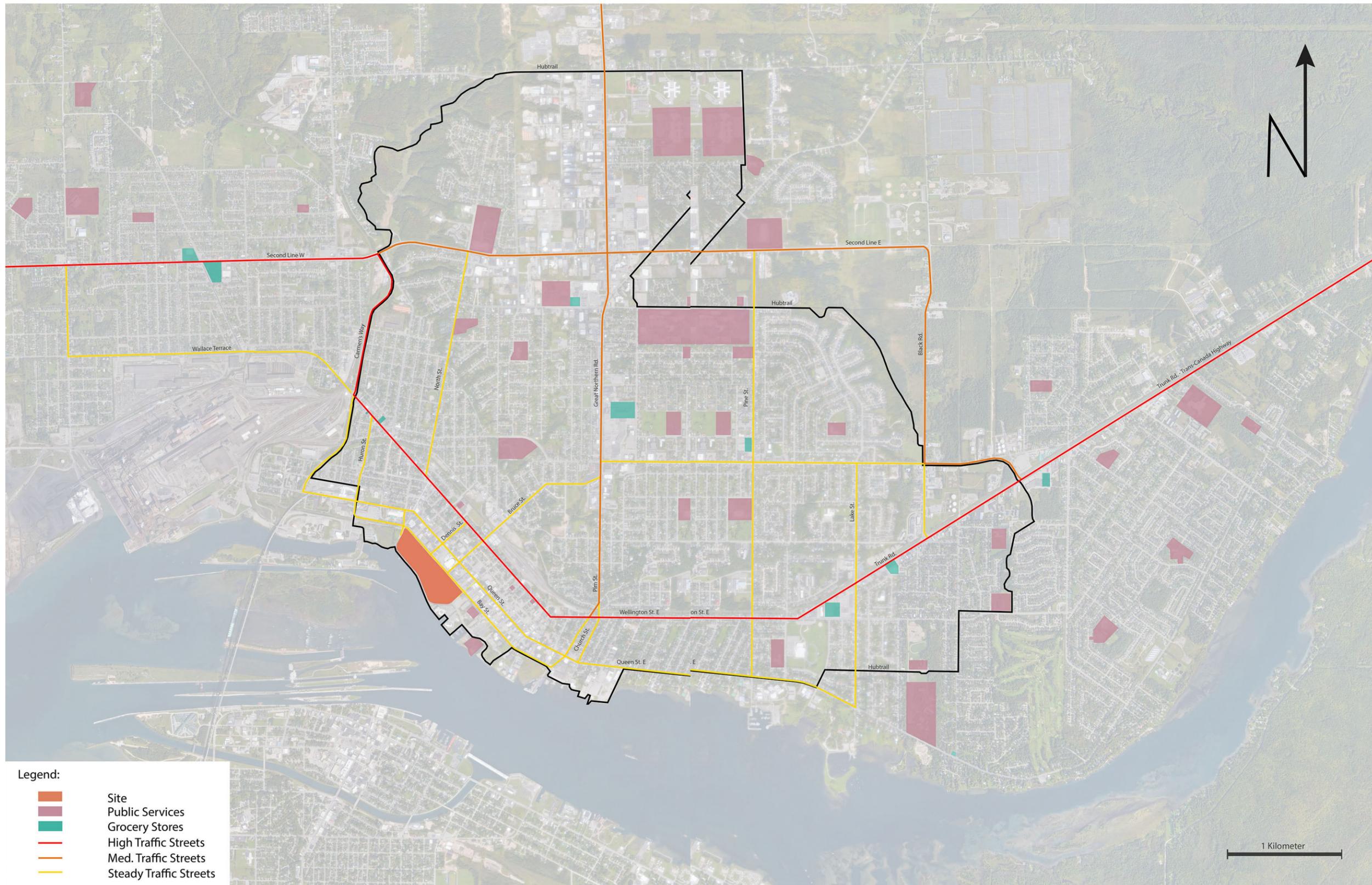


Fig 18. City Analysis Map.



Fig. 19. Waterfront Analysis Map.

This building and its sea of parking cuts off one of the most popular stretches of waterfront from the entire downtown core (Fig. 20). This stretch of waterfront continues to be used extensively though, through walking, biking and other outdoor activities. Although much of this activity only runs along minimal paths as it links to the Hubtrail that runs across the city, people love to walk or ride along the boardwalk, and it is probably the best maintained area in the entire city. But the rest of the downtown barely receives any benefit from this. This building and site stands like a wall, allowing little to no permeability between the thriving waterfront and the declining downtown.



Fig. 20. Aerial Satellite Image of Site, *Google Earth Pro*.

Taking this understanding of the site and building, this project will cut through this mass, creating sightlines and connections from the water up through the downtown core. Employing site interventions to reveal the natural history while also extensively greening the site; creating public greenspace and a social community hub that celebrates the waterfront and its history with Sault Ste. Marie, through bringing in new programmatic typologies, specifically housing, restaurants, markets, and police presence, to diversify traffic and use of the space.

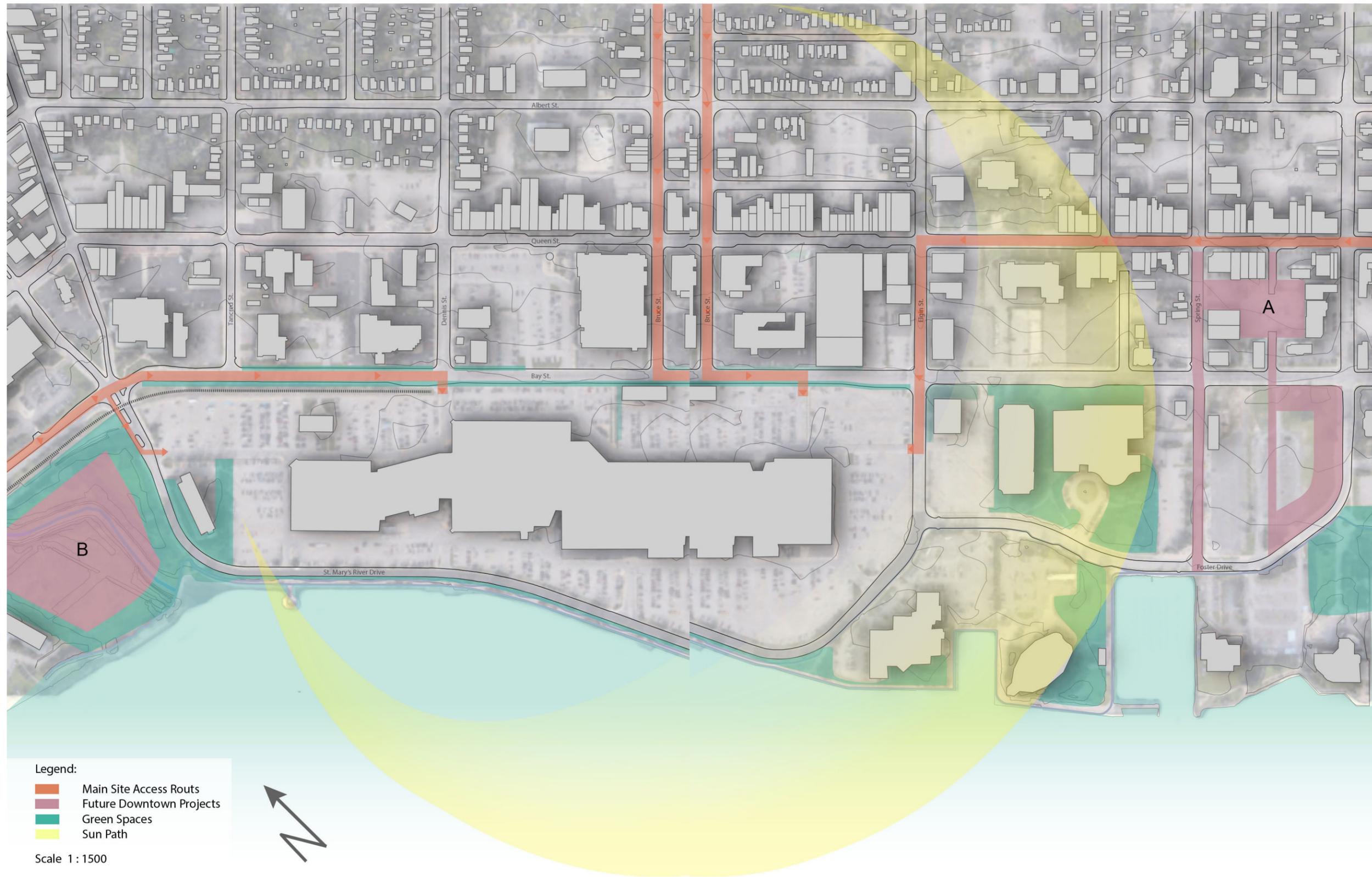
The general site analysis map (Fig. 21), explores multiple factors which influence the site currently and how a future project will be designed. The sun path notes the building orientation significantly. Understanding that the waterfront shoreline does not face south as is generally assumed when on the site. The limited public green space available within this area of the downtown core is shown in green. Although the majority of this green space not including the thin strip along the waterfront and the portion adjacent to the Roberta Bondar Pavilion is not publicly used by any means,

these spaces are mainly simply grassy, empty, unused spaces. This map also depicts the areas planned for development by the city's Downtown Association in purple.

To the right of the site we have the Spring Street project (A) connecting the downtown core to the waterfront. This past summer the city announced their proposal to take the unused Spring street, which runs almost to the waterfront, and repurpose it as a pedestrian path which could include water play features, a stage, public art, and more. Also, RFPs for a Downtown Civic Plaza have been sent out in September 2019 for a site adjacent to Spring street. This Civic Plaza project is expected to be completed in November 2020 and looks to be a first step towards the larger project proposed for Spring Street.

On the left we have a planned Indigenous social housing project (B), bringing new housing to the waterfront area. This site has actually remained vacant for my whole life as far as I know, fenced off on all sides this pocket of green space was never opened publicly with multiple continuous conversations and project attempts being thrown around for consideration. However, now a decision has been made to develop an Indigenous focused social housing project.

In orange we have the current main traffic flows into the site. This map shows the three primary routes used when entering the site from the North, East and West ends of the city. The traffic coming from the north end of the city mainly uses Burce Street as a direct connection to Great Northern Road which is the main street running north-south in the city. Traffic from the east end primarily enters from Queen Street East and then uses Elgin Street as the first direct connection to the site. From the west end, traffic is regularly funneled down directly to Bay Street from Huron Street which is further north-west of this map. Identifying these traffic flows allows us to understand how the site is being vehicularly accessed, showing us that streets such as Tancred Street remain essentially unused while access from west Bay Street and Elgin Street will remain prominent. What is interesting is an opportunity developed when analyzing the site's connection to Bruce Street. This route remains one of the most heavily used access routes to this site. Although at the point where Bruce Street meets the site we run directly into the historical train station which was preserved in the waterfront redevelopment and construction of the Station Mall. There is an opportunity for a possible architectural and urban intervention involving this connection point and this historic building. There is a chance to create a 'Gateway' to the site with this intervention, focusing on the pedestrian and possibly moderate vehicular connection from this site to the waterfront and up through the downtown core.



Legend:
 Main Site Access Routs
 Future Downtown Projects
 Green Spaces
 Sun Path

Scale 1 : 1500



Fig. 21. Site Analysis Map.

Moving into the current programmatic situation of this site, I developed this map (Fig. 22) of surrounding programs in order to get a better look specifically at the building programming around the site and how these programs may influence the choices made for this thesis project. On this map, red indicates Residential buildings, orange indicates Commercial buildings, purple indicates Public Service buildings and green shows the very limited greenspace that is located downtown.

Through this map (Fig. 22) we can see the clear divide between programming when considering the residential areas in the downtown core. The building programming on and surrounding the Station Mall site lends itself to high density and diverse traffic throughout the week day working hours of 9 to 5. The majority of the downtown spaces have developed minimal to no personal investment by the community and population living in the area, coupled with the 9 to 5 community using the spaces briefly, with limited long term investment. What this map does not directly show is that minimal amounts of this residential area contains Adequate Housing. These residential areas tend to foster a continuing rate of crime and security issues, further casting a questionable shadow towards the rest of the downtown. These points have only strengthened the decline of infrastructure, community, and safety in the downtown core over the past decades. On the positive end of this situation, Sault Ste. Marie has been aware of the growing conditions, developing a downtown plan, renovation projects and implementing growing community events over the past few years.

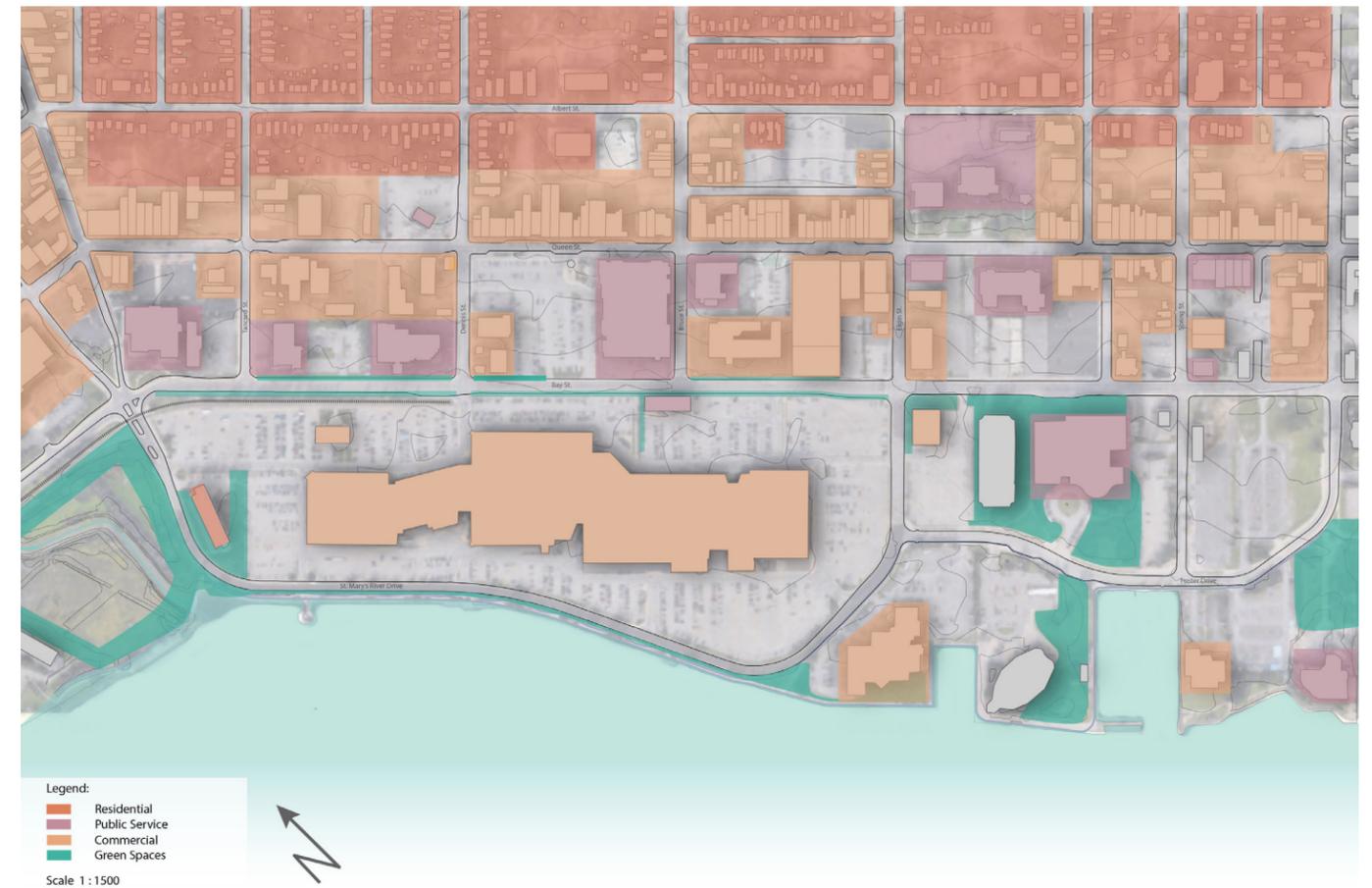


Fig. 22. Map of Station Mall and Surrounding Programs.

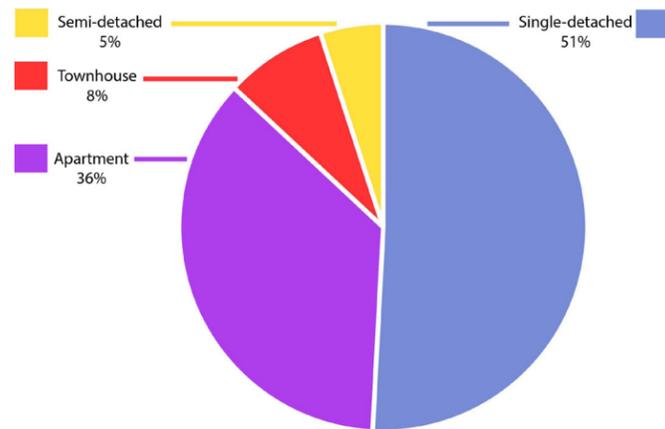


Fig. 25. New Residential Units Created 2010-2019.

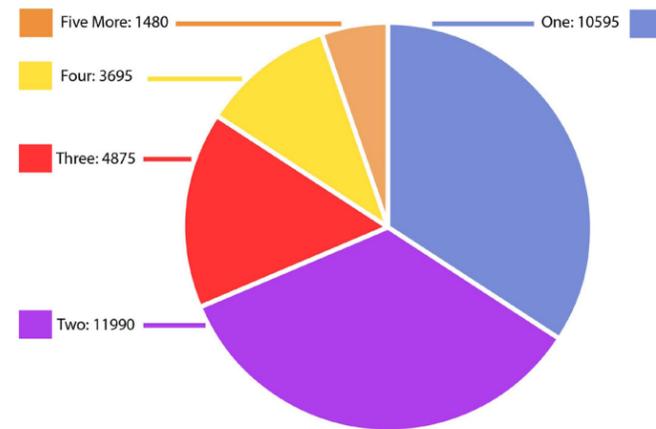


Fig. 26. Household By Size in Sault Ste. Marie.

When compared to the decline of similar industrial cities the difference is that the industry backbone of Sault Ste. Marie is currently thriving. The steel mill which still stands as one of the largest employers in the city made significant efficiency cut-backs resulting in mass layoffs but also a boom in profitability. This city decline is actually stressed by an aging community, lack of availability and diversity in work, and continuous emigration of younger generations due to the lack of work availability and diversity. This has led to a questionable and stagnant economy, degradation of infrastructure, and rise of criminal culture throughout the city. But, nowhere else is this more evident than in the downtown core of Sault Ste. Marie.

This then leads back to the research on demographics in the Sault, which tend to explain many of the points that are touched upon throughout this thesis. As we can see on the Sault Ste. Marie “Age Graph” (Fig. 27), a significantly large part of the city’s population currently is between the ages of 50 and 70. What is interesting about this graph is that it shows the slight dip in age groups between 25 and 45. Now, the slight increase in early 20s can be attributed to students attending Sault College and Algoma University; for the numbers of population between 50 and 70 we can explain through this being the baby boomer generation. Although that slight dip in population between these groups lends weight to the idea of consistent emigration of these age groups, factors creating the lack of work availability and diversity became clearer. Over the past two decades and longer, the baby boomer generation had saturated the job market. This then lead to the continuous emigration as people entered the workforce. In the near future, this generation will move into retirement, moving Sault Ste. Marie towards becoming a retirement city while also creating the need for a resurgence in young professionals over the next 5 or so years to cover these jobs. These factors all seem to play a role in the recent importance of the City's work being done in the downtown. Sault Ste. Marie is aware it has been in a decline, it is aware that in the near future it will need to regain the young working generation it has lost over the past decade and longer.

What The City Has Done:

As a result of this decline and realization of an imminent loss of workforce in the next few years, the city has completed revitalization projects in the downtown core; promoting walkability, creating more visually appealing spaces, and reprogramming historical buildings, all in an attempt to revitalize the city core and attract tourism and young professionals. What has become interesting is that the successful projects have been those that have changed the program of the sites proving that a simple “face-lift” to a space does not work; what creates a significant change is the re-programmation and diversifying the activity in an area. Projects previously explained in this thesis, specifically Spring Street and the Indigenous social housing projects, look to create this reprogrammation of their sites while trying to create a diversity of users in the area. With Spring Street, the unused street and adjacent minimally used parking lots are almost forgotten about with little to no traffic. The project looks to develop this area as a central downtown hub of public use and social interaction and city events. The Indigenous social housing project looks to develop a housing program along the waterfront, bringing in users who may develop personal investment with the site and the rest of the waterfront.

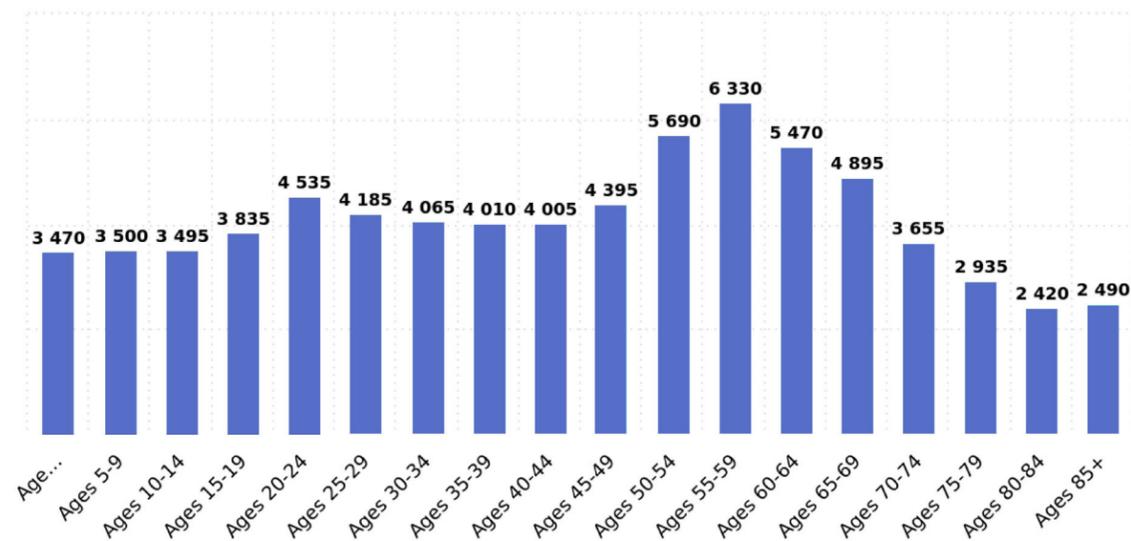


Fig. 27. Sault Ste. Marie Age graph. Statistics Canada. 2016 Census.²¹

21. “Demographics/Statistics.” Invest Sault Ste. Marie. Accessed December 21, 2019. <https://investsaultstemarie.com/why-sault-ste.-marie/demographics-statistics/>.

What The Downtown Still Needs:

In 2018, The city of Sault Ste. Marie hired Roger Brooks, an expert tourism and downtown consultant, to visit the city and review the downtown.²² When looking specifically at the downtown, Brooks outlines multiple strategies that when acted upon, could easily revitalize this downtown core. One of the simple changes he outlines in his presentation is the simple fact of keeping the downtown active after 5 and 6 PM.²³ As previously mentioned, the downtown core currently shuts down between 5 and 6 PM with minimal people remaining active in the area after this time leading to a complete loss in opportunity in today's lifestyles. Brooks states that 70% of all consumer retail spending takes place after 6 PM.²⁴ The downtowns of today are no longer the place for malls and shopping centers, this is a losing battle against online shopping. The downtowns are now the places for people to go after work and on weekends to socialize and relax and experience the community. The ideas of densifying programs such as food vendors and destination retail shops within 2 to 3 linear blocks as opposed to spreading them out like we have will create denser areas of activity and downtown use after the 6 PM threshold.²⁵ Within his presentation he also talks about the opportunities for expanding on tourism. Shopping, Dining, and Entertainment accounts for 80% of non-lodging visitor spending.²⁶ Developing more of these businesses within the downtown core can only help with Sault Ste. Marie's tourism agenda. Along with this, he strongly encourages the promotions of private local businesses.²⁷ These businesses are what gives identity to our downtown, giving reason for people to go there and experience it. But above all else, the biggest opportunity in Sault Ste. Marie's downtown is developing and monetizing the waterfront. Activating the waterfront with tourism services, bike rentals, diverse tours, restaurants opening to the waterfront, and even simply providing activities and games like chess boards (similar to New York) or giant jenga; these things will activate the waterfront and bring more people and tourism there to eventually spend more money.

In addition to these suggestions from Roger Brooks, I have found additional specific programs that the Downtown core could very well need and profit from. These include, Police presence, grocers or markets, spaces for youth activity, spaces for the growing arts community, health centers, possible education centers; and most important, extensive green space, affordable adequate housing and a social community hub that links to other community plazas along the downtown like the former St. Mary's Paper Mill site and the future Spring Street Plaza. These are the programs that are lacking within this local area, that could help work alongside the consultant's suggestions to help activate the downtown.

Building Analysis: Station Mall

Now, looking into the situation regarding the Station Mall, the mall has stood as the largest most popular shopping and gathering space in the city for the past 5 decades, though now it has been in a continuous decline. The mall lost one of its anchors when Sears declared bankruptcy in 2017 and then recently lost the other anchor, Walmart, this past summer²⁸ due to required increases in rent. This has led to a domino effect with now about 30 to 40% of the stores having left or in the process of leaving. The mall remains almost empty with little foot traffic. In addition to this, the sea of parking around the building remains empty the majority of the time.

22. "Roger Brooks Pays a Visit to the Sault." Downtown Association, August 25, 2018. <http://saultdowntown.com/2018/06/15/roger-brooks-pays-a-visit/>.

23. *ibid.*

24. *ibid.*

25. *ibid.*

26. *ibid.*

27. *ibid.*

28. Kelly, Brian, and Brian Kelly. "Walmart Closes Station Mall Store." Sault Star, May 2, 2019. <https://www.saultstar.com/news/local-news/walmart-closes-station-mall-store>.

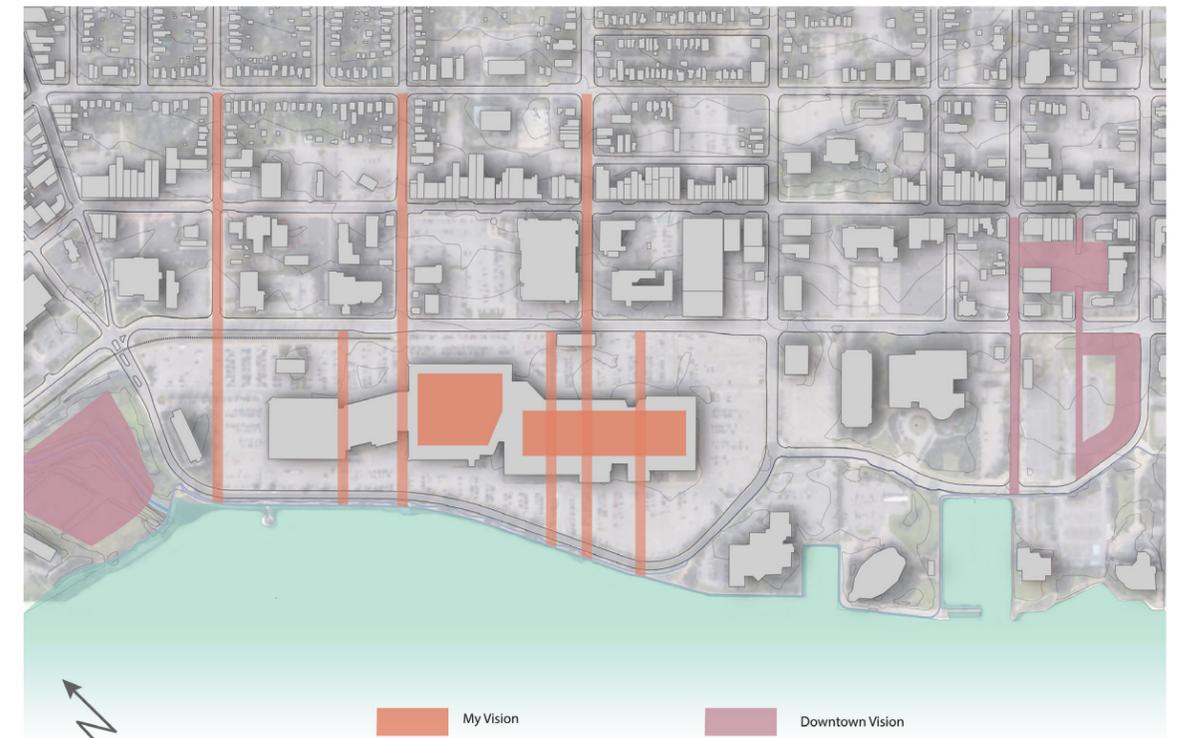


Fig. 28. Downtown Map Showing City Intentions and My Vision.

Throughout the city's work with consultants and planning for the future of the downtown core they have developed a set of initiatives²⁹ that include;

- Preserve downtown as commercial, administrative, and cultural core.
- Develop a vibrant residential neighbourhood.
- Facilitate beautiful streets and open spaces.
- Encourage active use of downtown spaces.
- Improve mobility and linkages.
- Ensure strong, cohesive leadership and collaborative action.

These initiatives align exactly with how I plan to define the project. With these goals a positive change can be made in the downtown. The key point is, improved mobility and linkages.

I want to show (Fig. 28) that my project will use this thinking as a core intention throughout my process into design; returning to the idea of cutting through this mass and site, creating sightlines and connections from the waterfront up through the downtown core. While I am looking at introducing further residential programming to the site through my project, I still plan to maintain commercial programs throughout, focusing on spaces for local vendors in an attempt to diversify the traffic throughout the site and hopefully support a healthy and safe community in the Downtown core.

29. Accessed December 21, 2019. https://saultstemarie.ca/Cityweb/media/Engineering-and-Planning/Planning/DowntownDevelopment/DraftDowntownStrategy2016_1.pdf.

Building Analysis: Material and Methodology

As we move into the idea of working and designing with the existing building and site, we can continue to look towards the history that was previously discussed. Understanding the archeology of the building and site allows for design work within the project to represent the history the project is built upon and extract positive design choices from this history.

Returning to the site, I am conscious of the historical research explained earlier. Understanding that this site is completely composed of reclaimed land through about four different phases of use. This background on the site leads to ideas of integrating the waterfront further into the site; removing minimally used areas and pulling in the water to create further interaction within the site, possibly implementing direct water to site access for boating along the St. Mary's River. There is even the possibility of designing water features along Bay Street, reconnecting with the idea of the original shoreline which met Bay Street in the early 1800s (Figs. 2-4). Due to the site's history, design options remain almost limitless when considering historical connections and implications.

When looking at the building in a similar archeological sense, we can see multiple different opportunities from the separate phases of the Station Mall, to the use of the existing building envelope or structure in the concept of adaptive reuse through embodied energy. Further investigation will be made into the existing building, understanding the possibilities involved in working with elements such as the existing structure and adapting it to new programs. The Station Mall was originally constructed in 1973 (Fig. 11) with a second phase in 1981 and a third phase addition in 1988 (Fig. 29). What becomes interesting when looking at this building in these three phases and the current state of vacancies within the mall, we can see the opportunity of breaking these phases apart. This allows for the idea of cutting through the building and establishing connections from the water through to the downtown core. Also, there are opportunities for completely removing parts or phases of the building; looking at the third phase, which includes the west anchor (formerly Walmart) as a possible part to completely remove in order to open the site and introduce other program elements such as residential housing and public use programs or parks.

Along with working through the project intentions within the building and the site, part of this thesis focuses on connections extending into the rest of the downtown and surrounding site. The concept of re-stitching the urban fabric of this downtown and waterfront relies heavily on how this project is designed. Currently this site and building cut off the downtown grid from the waterfront creating a mass that eliminates any sense of continuity between the water and downtown core. Early design concepts within this thesis try to focus on re-establishing this urban grid through the building and site in order to create continuity and connection. Through the use of pedestrian paths and social public spaces reaching through the building and site further connections will be developed.

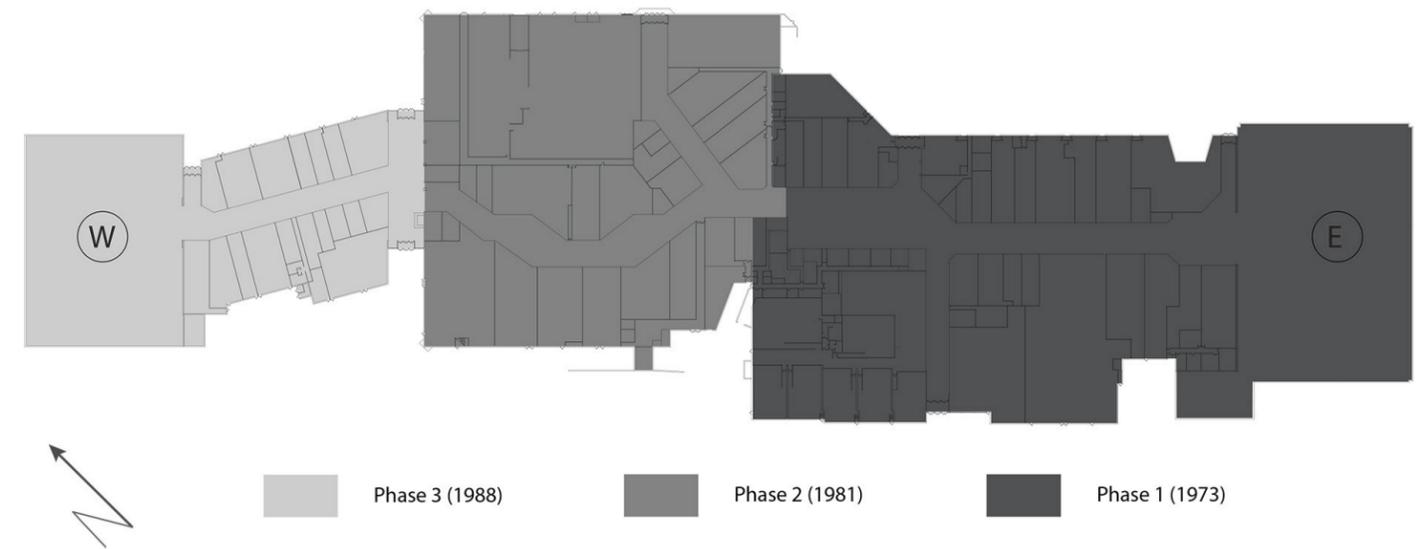


Fig. 29. Station Mall Construction Phases.

DESIGN DEVELOPMENT

Spatial use and Technical Programming

Through my current work with spatial use and program I have developed several diagrams for the existing Station Mall. These diagrams were used to allow for a more detailed look at programs and architectural conception at a closer scale.

The first diagram (Fig. 30) shows the current known vacant units in the building in black, with the public use corridors shown in grey. As you can see both anchors and varying units within are vacant, with additional stores still on their way out. These days even the minimal use of this building does not extend towards the west end of the building, with even seasonal stores or kiosks moving to the east end of the building this year.

The second diagram (Fig. 31) looked at possible programming within my project and the existing Station Mall. Existing programs in the building currently include the Theater, Food Court, Sportcheck, Pharmacy, and Dollarama. New programs that could be brought into the project include housing, daycare services for residents, relocating the farmers markets, restaurants, bike or outdoor equipment rentals for the waterfront and hubtrail and possibly a satellite police station to develop a police presence in the downtown. This had also allowed me to take my first steps towards site design, focusing on greening the waterfront side of the building and implementing exterior gathering spaces while continuing with plans of cutting through the building and connecting the waterfront to the downtown core.

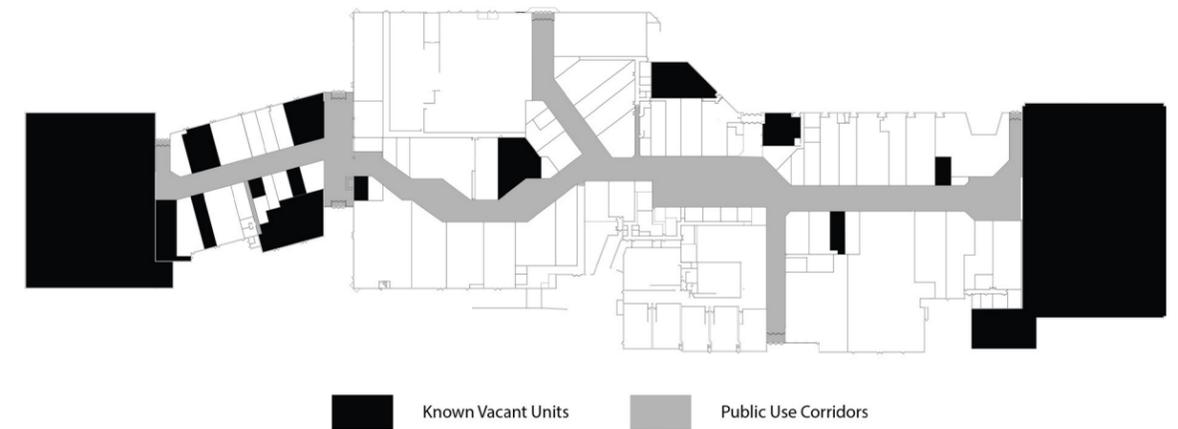


Fig. 30. Station Mall Vacant Units Diagram.

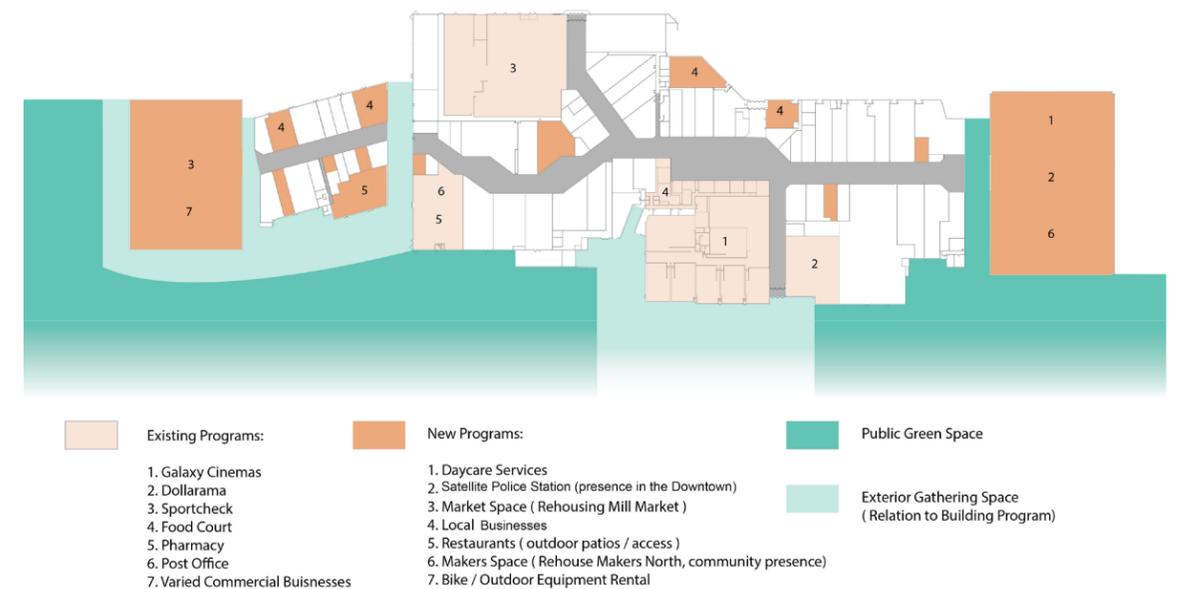


Fig. 31. Early Programming of Space.

Residential Concepts

Working through programs at this scale also allows me to further conceptualize the residential aspects of this project. This program aspect is the largest influencing factor in this project; diversifying the traffic from simply consumers and visitors of the space, to people who take ownership and pride of this space in the downtown.

The first concept (Fig. 32) looks at the idea of second level residential units. Placing residential units above the existing building allows me the space to grow the project in terms of a mixed-use space, bringing in varying programs as I previously stated while still creating a private residential space that connects to services and amenities the additional programs supply.

The second concept (Fig. 33) works off of the possibility of removing the western anchor unit (formerly Walmart) and developing a residential section on the site. With this concept, an affordable residential neighbourhood that celebrates the waterfront is created, while not necessarily relying on the support of the programs within the rest of the buildings on the site. This can further stitch the urban fabric between the downtown core, this site, and the waterfront; bringing all types of traffic through these spaces that hopefully revitalizes the downtown core.

The third concept (Fig. 34) employees the residential programs to either end of the project, possibly adapting both vacant anchors of the existing Station Mall. This concept allows for the residential program to be further distributed across the site.

Minimal Existing Building

Progressing from the residential concepts and building upon the exploration of existing and new program options within this site, the concept of only retaining the minimal needed existing structure was developed. Keeping with the intention of reusing the removed material (i.e. brick cladding, concrete block, steel structure.), pieces of the current Station Mall being kept are planned to be the centerpiece of the food court and movie theaters, and the vacant two storey space that was formerly Sears.

When looking back at the earlier program exploration (figs. 30-31), as well as from personal experience, the most important piece of the mall to retain is the food court and movie theaters. This food court tends to be very busy during weekdays due to the surrounding office buildings and businesses; and moderately busy on weekends. Even though other existing programs such as Dollarama, Sportcheck, and the Pharmacy continue to be moderately successful, these programs can be easily moved to new buildings and are not needed to be retained within the existing structure.

Retaining the Sears anchor of the mall is specifically done for the base ideology of adaptive reuse that this thesis is built on. This empty two storey space is open for completely new programs to be grafted onto the existing structure. Programatically this space could house larger programs such as markets, grocers, makerspaces, police stations and more.

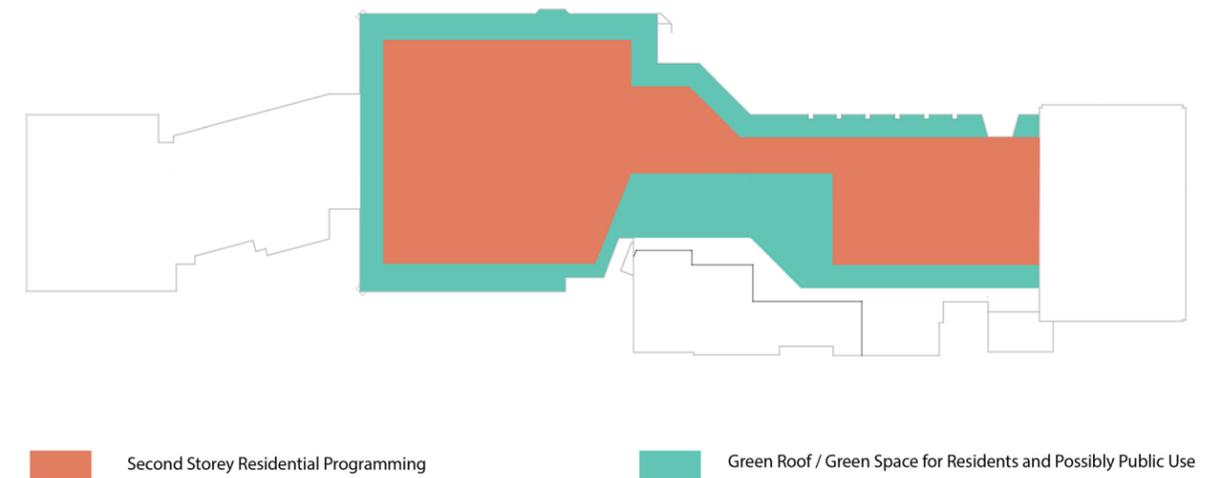


Fig. 32. Residential Concept 1.

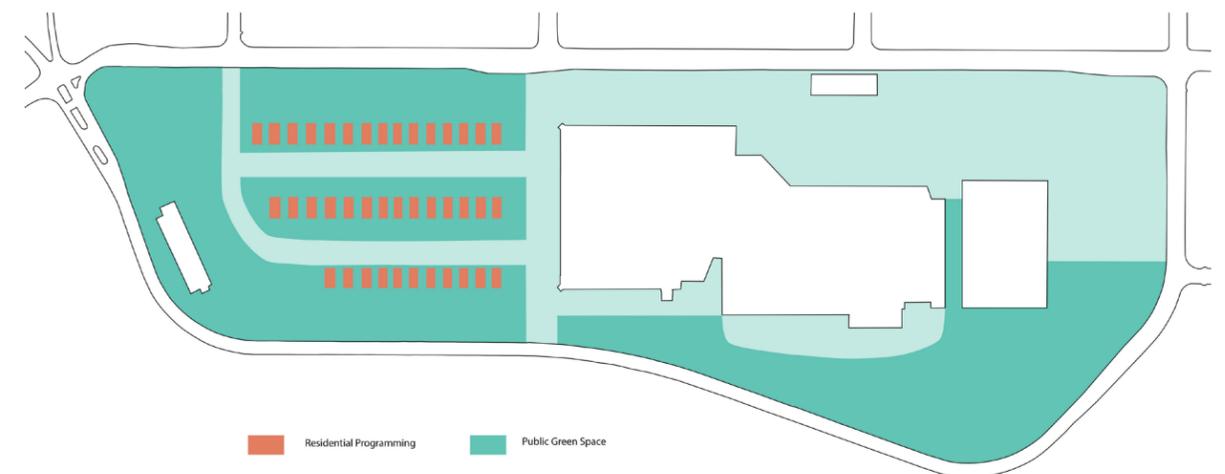


Fig. 33. Residential Concept 2.



Fig. 34. Residential Concept 3.

Existing Material Exploration

When exploring the materiality of the existing building and how I can adapt parts of the mall, I found that the majority of the construction consists of masonry columns, steel structure, and a concrete block exterior with brick cladding. These sections (Figs. 36-37) show how I plan to adapt the portions of the mall that are planned to be kept.

Maintaining the central piece of the mall and the adjacent corridor space, we are able to easily wrap the remaining existing structure with a curtain wall system to enclose the space; this maintains a visual connection between the interior programs and the exterior plaza space between both adapted portions of the mall. This can be seen in section A (Fig. 36.)

As for the structure that housed Sears, the existing building remains almost completely closed off to the exterior with concrete block walls and brick cladding; the overall structure is supported through a column grid system. Therefore, I have worked through design ideas for this piece as a means to open up the existing building to the rest of the site. This can be seen in section B (Fig. 37). Currently, this was done by extending the openings of the current entrances up to the second storey, while also opening the second storey on the waterfront side of the building.

Between both pieces being retained, the existing corridor structure will remain as well. This corridor structure will create an exterior covered walkway between the buildings, possibly also creating a new micro-climate and plaza space for exterior events and programs.

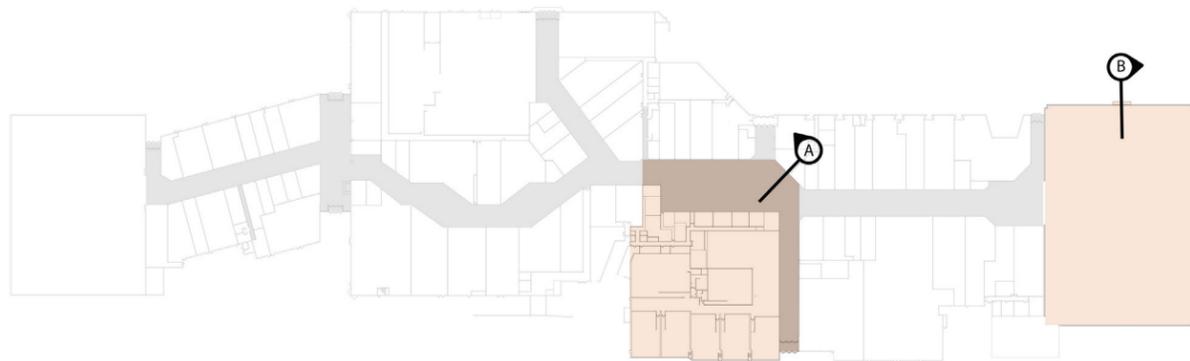


Fig. 35. Material Exploration Plan Diagram.

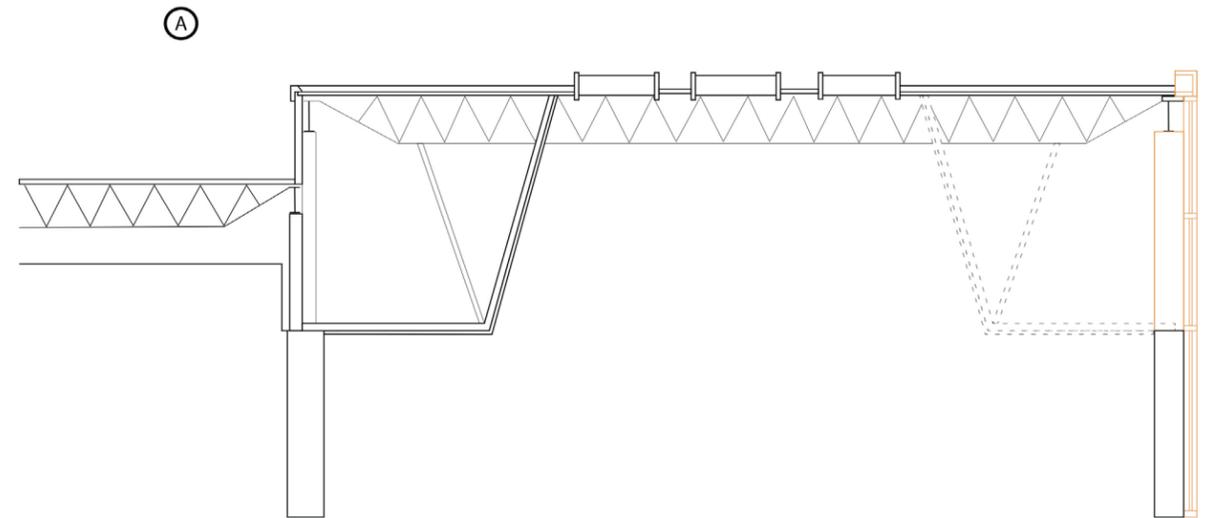


Fig. 36. Material Exploration Section - Food Court / Movie Theater.

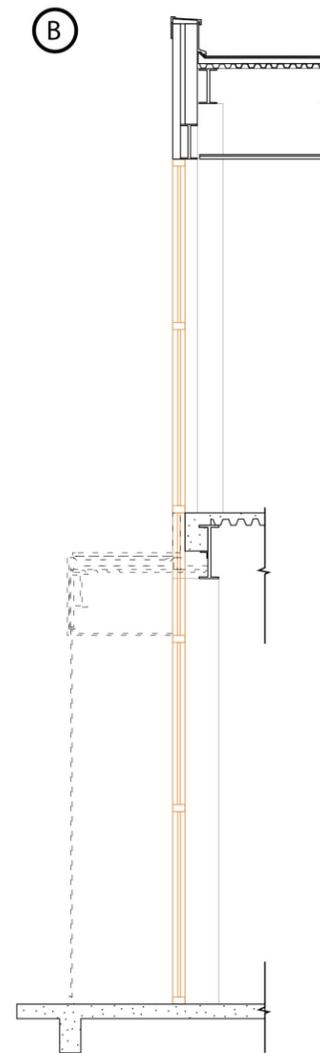


Fig. 37. Material Exploration Section - Sears

Layering Programs Within Design

Previous work with program in this thesis focused on analyzing the viability of existing programs on the site while also exploring new programmatic needs for the site and the surrounding community. Furthering this design work, I have developed a web diagram (Fig. 38). This diagram organizes the most prominent new programs that can be or need to be applied to the site to develop a dynamic physical and social interaction while re-stitching the Downtown Core and Waterfront. The web diagram visually connects separate programs that would reasonably work within the same physical space or work collaboratively with one another.

The immediately apparent strength of these programs within the project and the strength of the connections between these programs are organized into four levels; this includes Strong (Green), Medium (Yellow), Average (Orange), and Possible (dashed lines). Through this diagram we can see separate stronger groupings of programs; for example, Housing, Child Care, Health Clubs, and Laundry Services. In addition to the strong groupings of programs, supporting or smaller programs such as restaurants or local shops tend to be very versatile when understanding how these spaces can interact or superimpose on each other.

From this diagram I determined the two general groupings of programs within the project. The first group consists of Housing, Child Care, Health Clubs, and Laundry Services, with supporting programs like restaurants and local shops. The main focus of this group is the housing program which is one of the core programs for this site. With the new addition of housing, focusing on individual or small family units the need for close child care services became apparent especially in a downtown setting. In addition to this the downtown in general lacks any sort of fitness center, with a rise in local residents (possibly younger professionals), services such as this would thrive. The supporting programs of restaurants and local shops being linked to a program allows for a direct and easy interaction with the residents while also pulling in public traffic and possibly tourism into and through the site. These programs help to develop a neighbourhood where people can live, work, and engage in recreation or the public realm.

The second group of programs consists of the Markets/Grocers, Outdoor Equipment Rentals/Tourism, Police Station, and Makerspace, with supporting programs like restaurants and local shops. This group focuses more on the public interaction of the site through creating destinations for the local residents as well as playing off of Sault Ste. Marie's push of tourism through retail and recreation. Currently, access to a local grocer is not available in the downtown; with the addition of new residents a grocer would be a positive addition, allowing for local public traffic remaining in the downtown and flowing to and from this site as opposed to leaving for other parts of the city. Also, we currently have farmers markets on the surrounding waterfront hoping to grow, without the available indoor space. These programs can be housed in a similar space while allowing the opportunity for the farmers markets to grow. A tourism focused program that also services the local community like outdoor equipment rentals would link extremely well to the Hubtrail system as well as immediate walking and cycling waterfront paths, helping further develop the use of new public parks and the waterfront in general. Finally, the addition of a satellite police station brings a much needed presence of security to the site and downtown core as a whole.

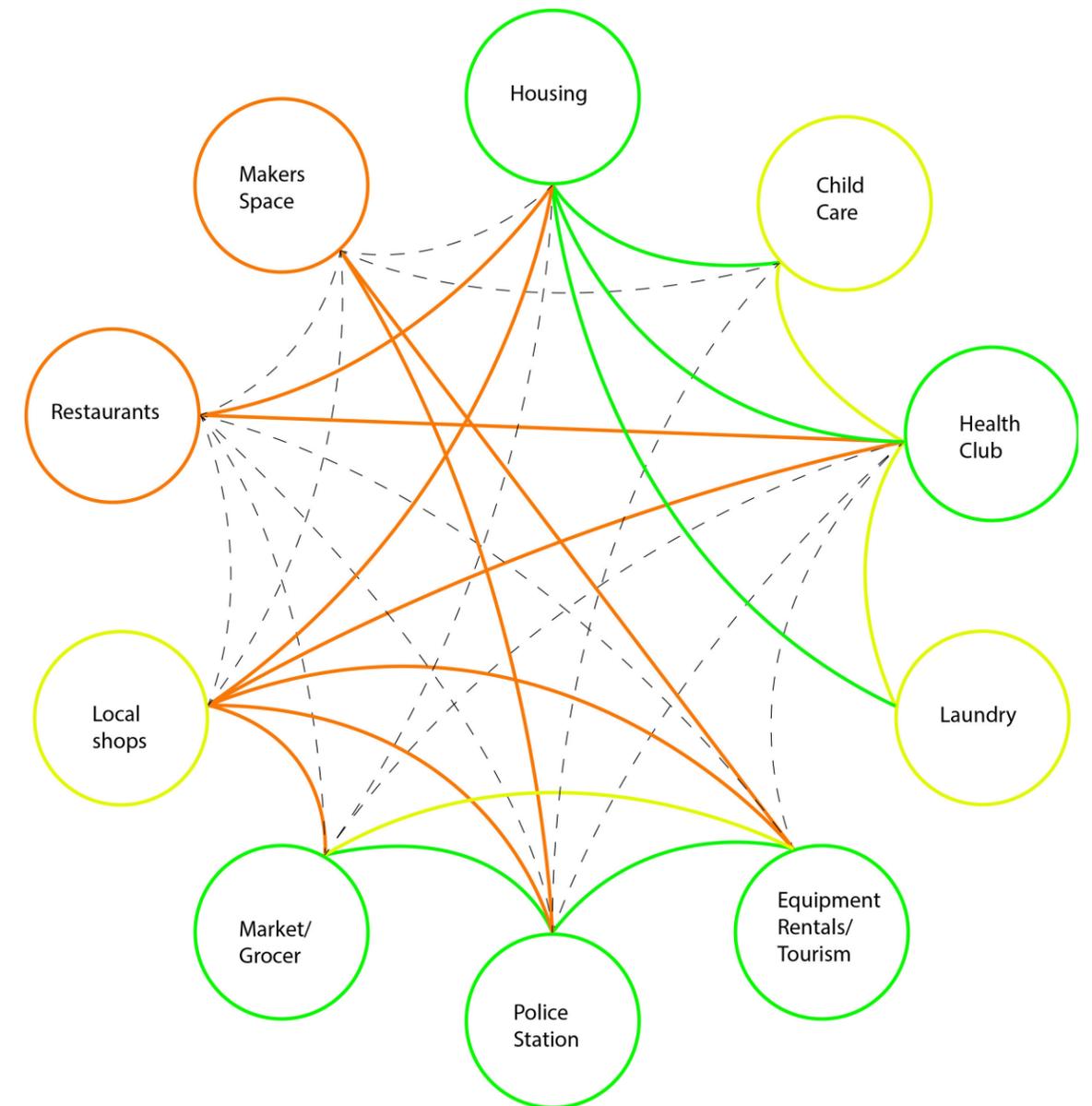
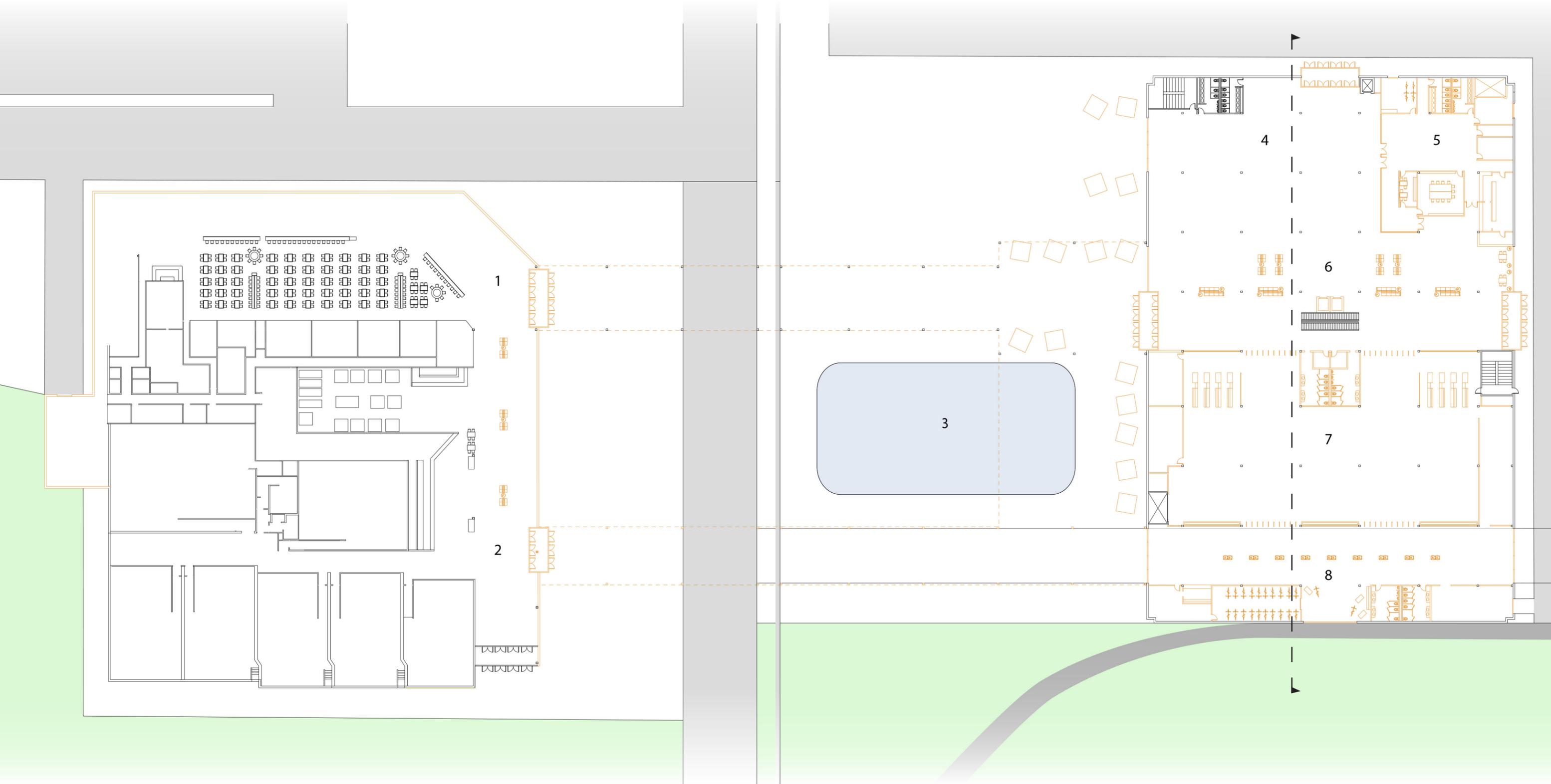


Fig. 38. Web Diagram: Programs.



Legend:

- | | | | | | | | | | |
|--|---------------------|---|--------------|---|---------------|---|------------------------|---|------------------|
|  | New Design |  | Green Space | 1 | Food Court | 4 | Market Space | 7 | Grocer |
|  | Existing Building |  | Biking Trail | 2 | Movie Theater | 5 | Police Station | 8 | Equipment Rental |
|  | Streets and Parking | | | 3 | Splash Pad | 6 | Interior Walking Plaza | | |

Fig. 39. Level 1 Floor Plan: Adaptive Reuse.

Floor Plan Description: Adaptive Reuse

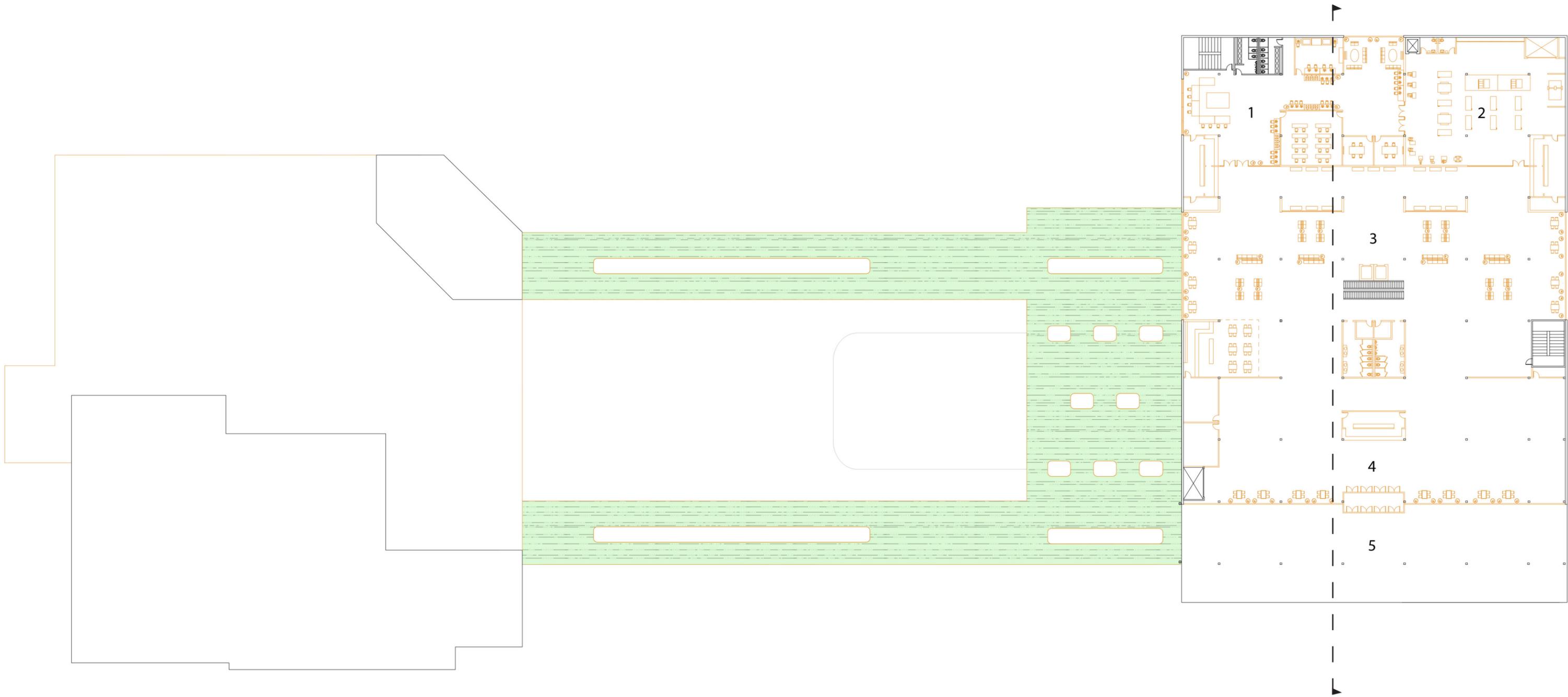
In these floor plan drawings (Figs. 39-40.), parts drawn in black are the existing elements of the adaptive reuse portion. The parts drawn in orange depict the new construction within the project.

The first piece of the project maintains its original programs in the Food Court and Movie Theater. Both programs remain connected through the existing transitional space that wraps along them. This space works as a transitional layer between the open public dimension and the enclosed public programs. The existing structure of the original building remains around the perimeter of this piece and will be wrapped in a curtain wall system on the south-west side (right side). This maintains a visual connection between the interior programs and the exterior plaza space between both adapted portions of the Station Mall.

The adaptive reuse of the former Sears store allows for the addition of up to about six new programs that had been previously mentioned. These programs include the outdoor equipment/bike rental, grocer, market space, satellite police station, makerspace and an interior walking plaza for seniors and others, especially in winter months. Both the equipment rental and the interior plaza space cut through the building opening up to both sides, allowing for traffic to enter and flow through easily. The equipment rental will connect to the immediate walking and cycling waterfront paths. Meanwhile the interior walking plaza serves as main entrances and links across the exterior public plaza to the first adaptive reuse piece through the use of the exterior covered walkway. The large open space between the new programs is planned as a grocer remaining accessible on both sides. The two programs on the northern end of the building are the market space and satellite police station. The police station has a more interior focus while still remaining visually open to the interior plaza and adjacent market space; being connected to more open public programs hopefully softens any authoritative presence. The market space on ground level is placed to allow for a direct connection between an interior market space and the exterior plaza, giving the opportunity for the market to spill out into the plaza when weather permits.

The interior walking plaza extends up to the second floor, bringing us to the makerspace as well as an open program "event" space. This interior plaza continues to work as a transitional space for the surrounding programs that is intended to have a focus for the older community that currently uses the empty mall as casual walking space. Meanwhile, also providing public gathering or relaxation spaces along with a cafe. The makerspace area opens to the interior plaza through the use of gallery spaces, providing an area to display the projects being completed within the makerspace. The overall makerspace is split into two major areas, a shop workspace and a digital focused workspace. The shop space focuses on woodworking, metal work and heavier construction, while the digital focused workspace incorporates 3D printing, laser cutting, computer design, and classroom spaces. The event space remains more of an open program, with the expectation of the space being used for either public or private events such as craft shows, conventions, or weddings. The space then also opens to an exterior patio that could continue any interior events to the open air space that faces the St. Mary's river, allowing for views along the waterfront.

This exterior plaza space connects both remaining sections of the Station Mall through the adaptation of the existing corridor structure as exterior covered walkways, stripping away the layers of the existing building until only the masonry columns and steel trusses remain; then applying a green roof cover to the walkways. Additional structure from the removed portions of the building can be used to create a secondary exterior walkway, developing a courtyard plaza space. Within this space the early idea of water features returned through the use of a public splash-pad during summer and an ice pad during winter. Public features such as this gives the plaza continued life throughout the year, attracting visitors for varying uses.



Legend:

- | | | | | | |
|--|---------------------|---|------------------------|---|----------------|
|  | New Design | 1 | Makerspace (Digital) | 4 | Event Space |
|  | Existing Building | 2 | Makerspace (Physical) | 5 | Exterior Patio |
|  | Streets and Parking | 3 | Interior Walking Plaza | | |

Fig. 40. Level 2 Floor Plan: Adaptive Reuse.

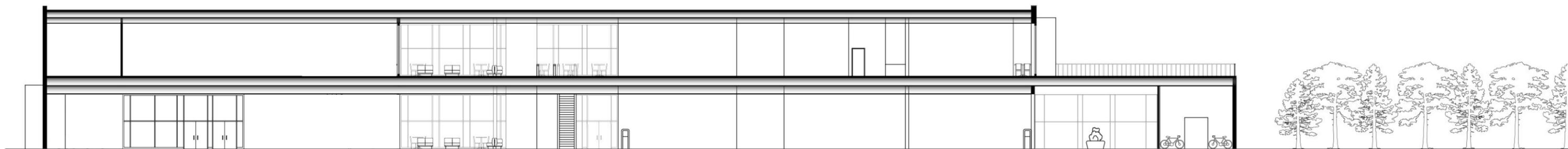


Fig. 41. Building Section: Adaptive Reuse.



Fig. 42. Birds Eye Perspective: Adaptive Reuse.

Character Description: Adaptive Reuse

When experiencing downtown SSM, a large part begins with the experience of the waterfront and park space. Along the water's edge, I've maintained the boardwalk with a paved biking path. Crossing St. Mary's River Drive onto the site I've chosen, there is an extended greenspace, with a large open area of park where families play, people bring their dogs, friends play football or frisbee, etc. These open spaces are bordered by the sparse covering of trees and small shrubbery creating a natural park space along the waterfront. Through this park space I've included walking and biking paths that connect from the Hubtrail up to the adapted portions of the mall.

The architectural work within this thesis has been informed by the theoretical work of Bernard Tschumi. His work on the relationship between program and form, and cross-programming have helped the overall design work to its completion. Tschumi writes "Architecture is as much about the events that take place in spaces as about the spaces themselves."³⁰

As for the adaptive reuse portion of this thesis, I lean towards the ideology of an architectural space being defined by the program within and the physical architecture remaining adaptable to changing events. The first connection point between the park space and the newly programmed mall would be through the bike or equipment rental. This space connects directly to the bike path crossing the park through an operable work or repair station. Here, a tourist or local user may need to repair or adjust their equipment or rent bikes for themselves or their family. The overall equipment rental space works as a throughway that cuts through the existing Station Mall building, opening at both ends to allow users and travellers to flow through the space, renting equipment or bikes. The space also connects to a grocer, allowing visitors to easily access and buy food for the day's events such as lunch, or bike and picnic trips.

This grocer covers about fifty percent of the first floor in the adapted portion of the building and opens to both the equipment rental and to the interior walking plaza. The grocer will serve general shopping for local residents in the downtown as well as provide access to food for visitors and users of either of the bordering programs.

The interior walking plaza serves as both the main entrance to this building while also working as an interior community plaza and transition space between the programs in the building and on the site. This open use space allows for people to socialize and walk about the space. This interior plaza is intended for local seniors, or other downtown residents, to use the space for exercise as they use the current empty mall, providing seating that will allow for resting and socializing, while still providing people to easily move to and from programs. This interior walking plaza continues up to the second floor where it serves the same program and transitions to both makerspaces galleries and an adjacent event space. Providing an interior plaza is key for winter months, just as the splash-pad will be a vibrant place in the summer months. In winter, the interior plaza will be adjacent to the ice-pad for watching skaters.

The Makerspace on the second floor spans the north end of the building, opening to the interior plaza through the use of galleries and front desks. As mentioned, the makerspace is separated into two areas, one for heavier construction and one for computer aided or digital design. The makerspace also makes use of meeting and teaching rooms for group work and classes for varying ages.

30. Bernard Tschumi, *Event-Cities: Praxis*, Cambridge, Mass.: The MIT Press, 1994, p.13.



Fig. 43. Courtyard Perspective: Adaptive Reuse.

The event space fills out the rest of the second floor with an open space available for regular craft shows, community events, or weddings. This large multi-use space then opens onto an exterior patio that looks over the park below and out to the St. Mary's River with interior events spilling to the outside.

A key to the ground floor of the mall is the market space at the north end of this building. This market space provides the local farmers market ample indoor space to continue growing. The main idea here is to relocate the existing Farmer's Market from the old Fishery warehouse to the west of this site. Adjacent to this new waterfront market space there is a police office where local police and security will work from. The juxtaposition of this police program and the public focused market and interior plaza looks to soften any authoritative presence and provide a welcoming yet safe space. In summer and into late fall, the Farmer's Market will continue to spill outside of the building into the exterior courtyard during the summer months. The glazed facades between the interior and exterior open up to allow for visitors to pass through the interior and exterior Market stalls, weather permitting.

The exterior courtyard uses a permeable paver system as a hard surface to create an exterior public use plaza. Covered walkways span the courtyard connecting to the second adaptive reuse portion of Station Mall that currently houses an existing food court and relatively busy movie theater. This part of the building was maintained in the design due to its current successful use. These covered walkways also provide an exterior covered space for the continuing Farmer's Market and public events. Vendors would set up stalls within the covered area to allow for the open air experience of the traditional farmers market. In addition, the courtyard will remain busy year-round with the splash-pad in summer and ice-pad in winter, especially as it is across the road from the main arena in town.

The food court and movie theater remain functional programs that currently exist in the mall today, including sufficient parking. These programs now stand within their own architectural piece that maintains a direct visual connection to the exterior courtyard between the adaptive reuse buildings. The interior transition space between the programs utilizes a glazed curtain wall to bring extensive natural light into the existing programs. This natural light creates a more natural setting for the food court, while also creating a more contrasted experience between the theater's front of house and the dark interiors of the theater. The expectation is to visually open these programs up and extend the uses of them into adjacent exterior spaces.

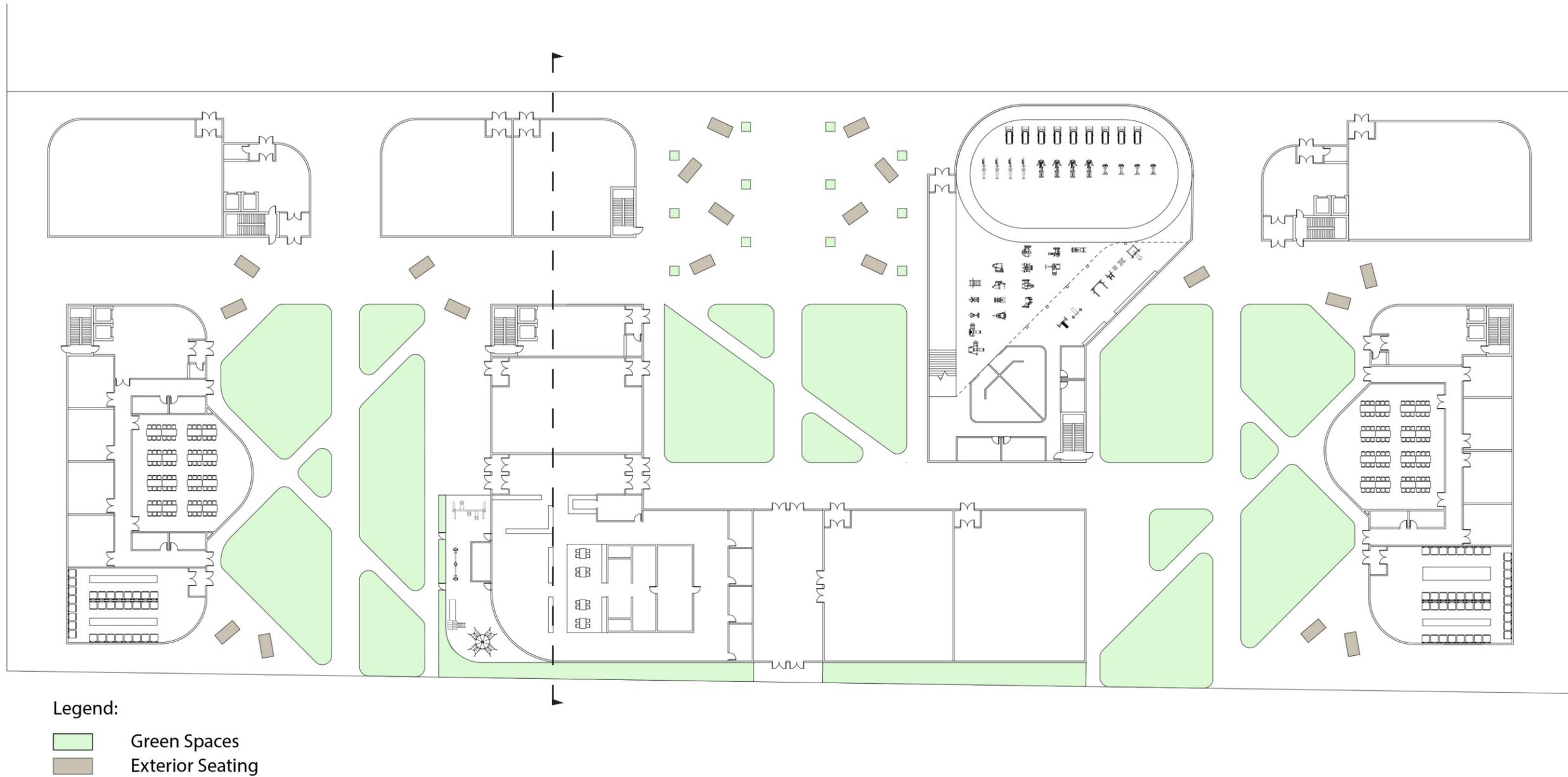


Fig. 44. Level 1 Floor Plan: New Construction.

Floor Plan Description: New Construction

The new construction portion of this project looks to focus on creating public use micro-climates while still maintaining permeability from the downtown core to the waterfront. Also, this design looks to further the influence of layering within this thesis. The first layer of this design targets the public realm with varying programs such as a child care center, fitness or health center, local businesses, restaurants, and public laundry services. These programs help public traffic continue to flow through the entire site while also supporting the needs of the next layer which is the housing program. The child care program is placed near the center of the overall design due to a sense of being equidistant within the new housing courtyards, while also allowing for connection to the waterfront park.

Also, within the design we have the fitness and health center which faces inwards on the site, focusing strongly as a public use program but still supporting any possible needs for the addition of residents to the site. As mentioned, this layer of programs looks to create public micro-climates while still allowing for foot traffic to flow interestingly from north to south and from east to west. This was done through breaking up the overall design into separate pieces, creating openings and throughways within the design. Also, in softening (rounding) the edges of this layer of design, the plan was to create a more interesting and inviting aesthetic while traversing these separated courtyards, allowing for the public explore the spaces and possibly find ways to the larger programs or more importantly to the local businesses and restaurants.

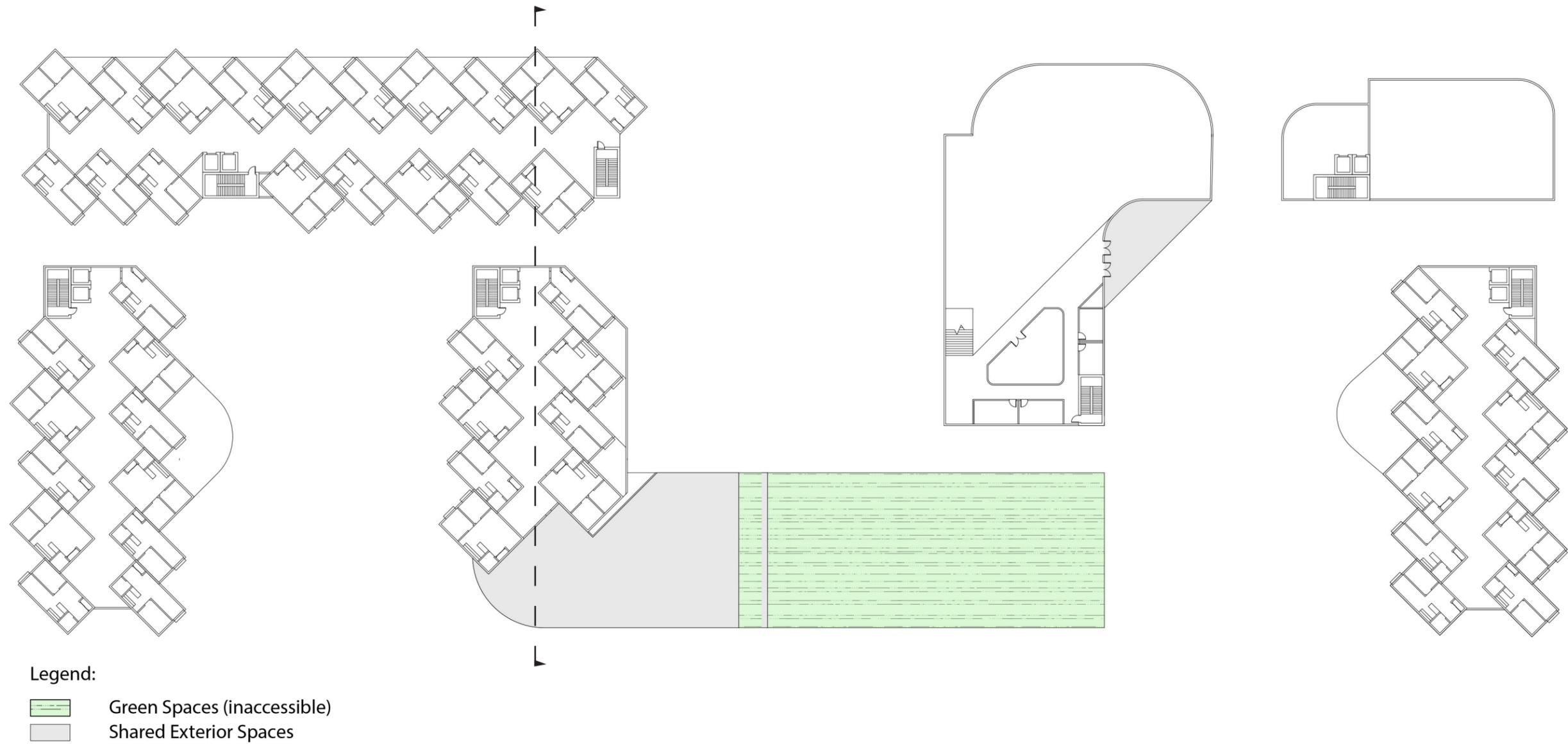


Fig. 45. Level 2 Floor Plan: New Construction.

The second layer to this new build portion of the project is the housing and private residential program. This layer of program and design extends from partly the second storey up through to the fifth storey. Much of the residential design focuses on social interaction and shared spaces within its own private community. At each level within this design the occupants have access to shared exterior spaces, meanwhile the organization of the living units creates interestingly shared spaces in between units. All units are fully orientated true north-south to maximize direct and indirect natural light into the units while also creating a significant visual contrast in design between public and residential layers.

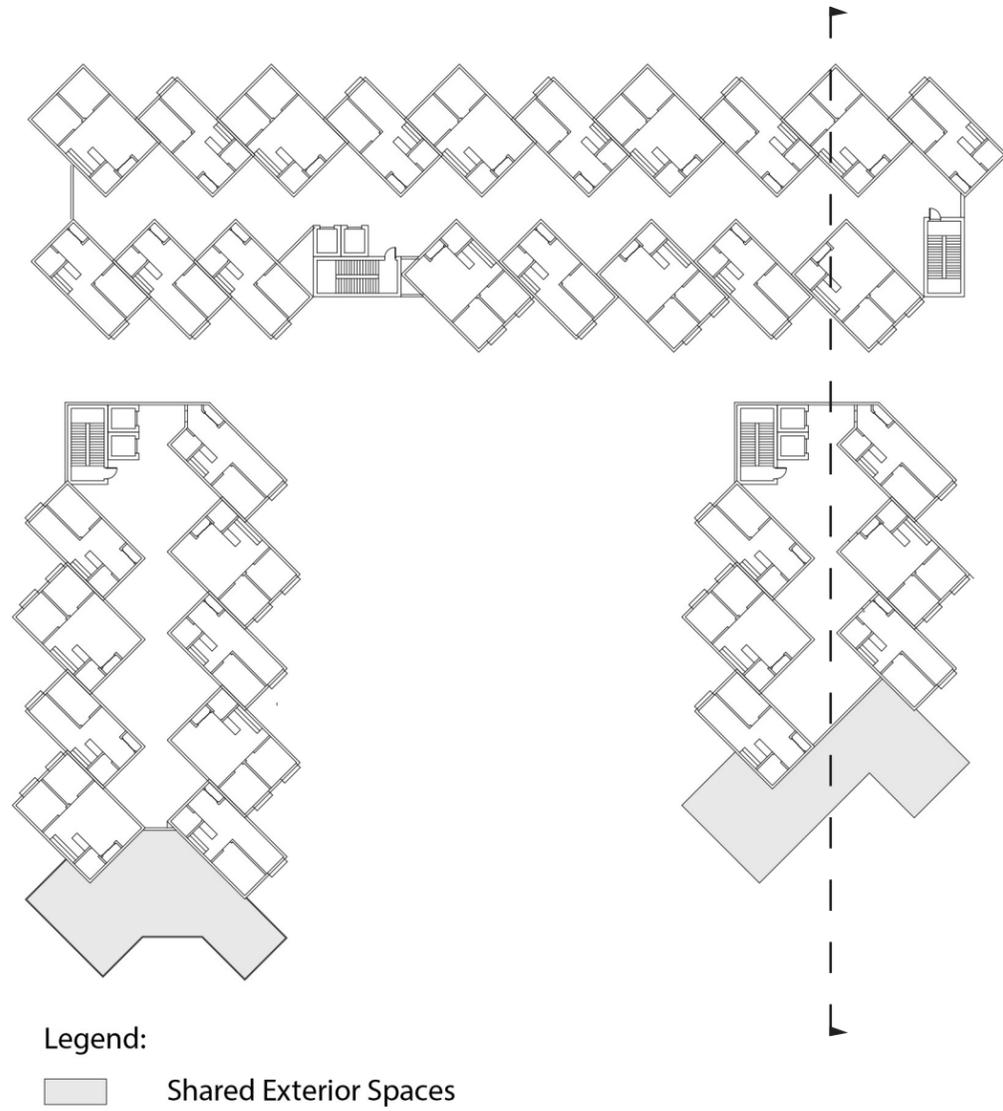
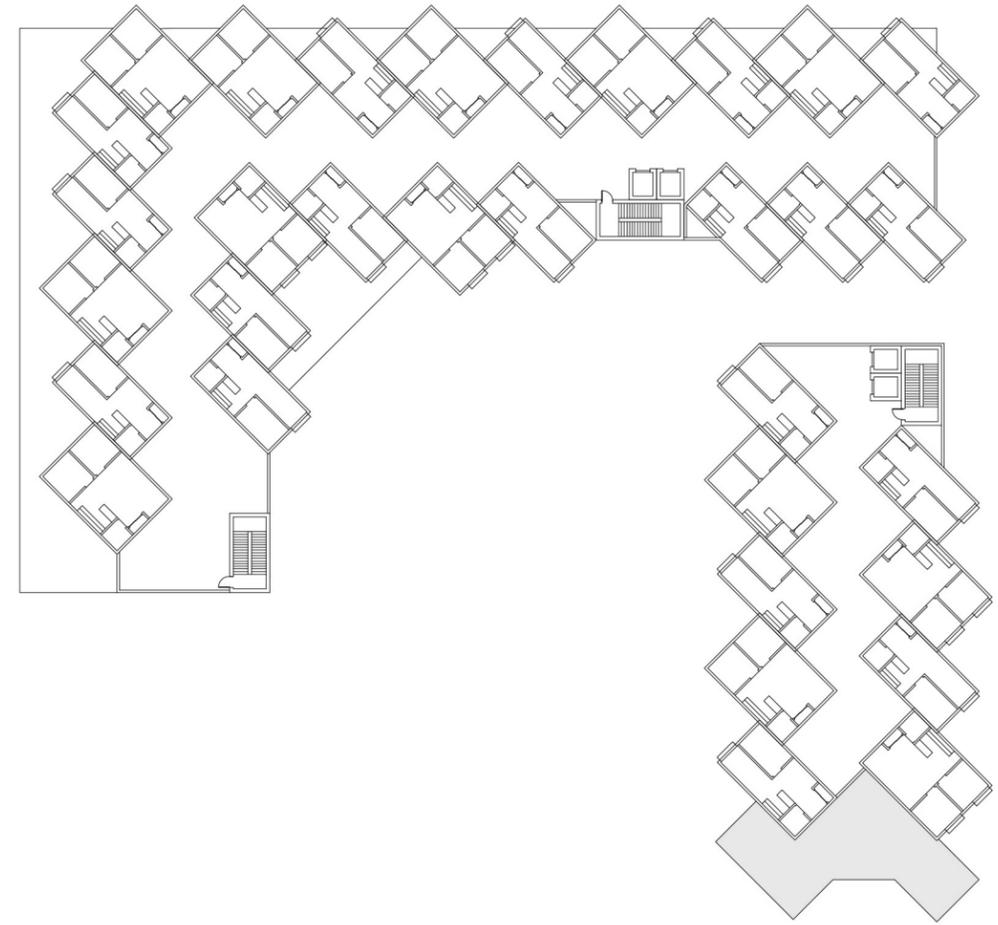


Fig. 46. Level 3 Floor Plan: New Construction.



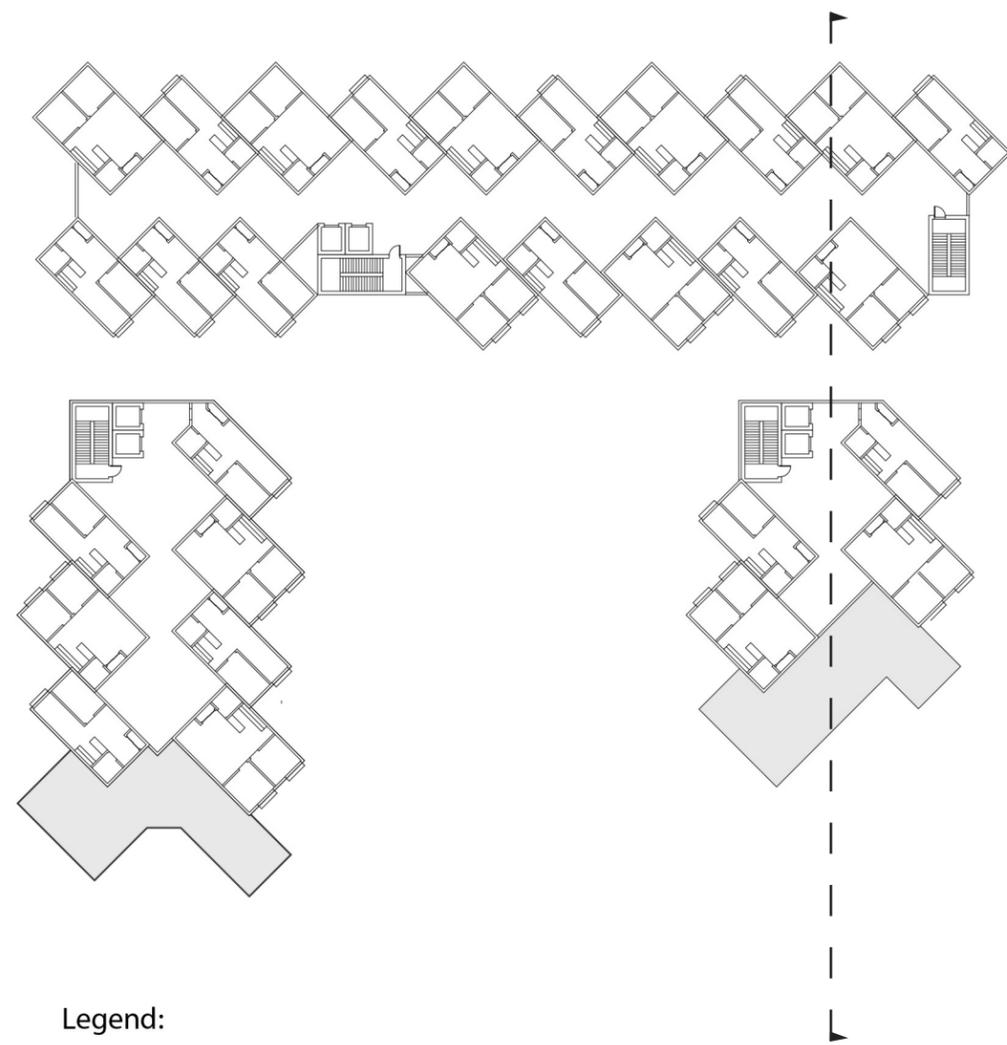
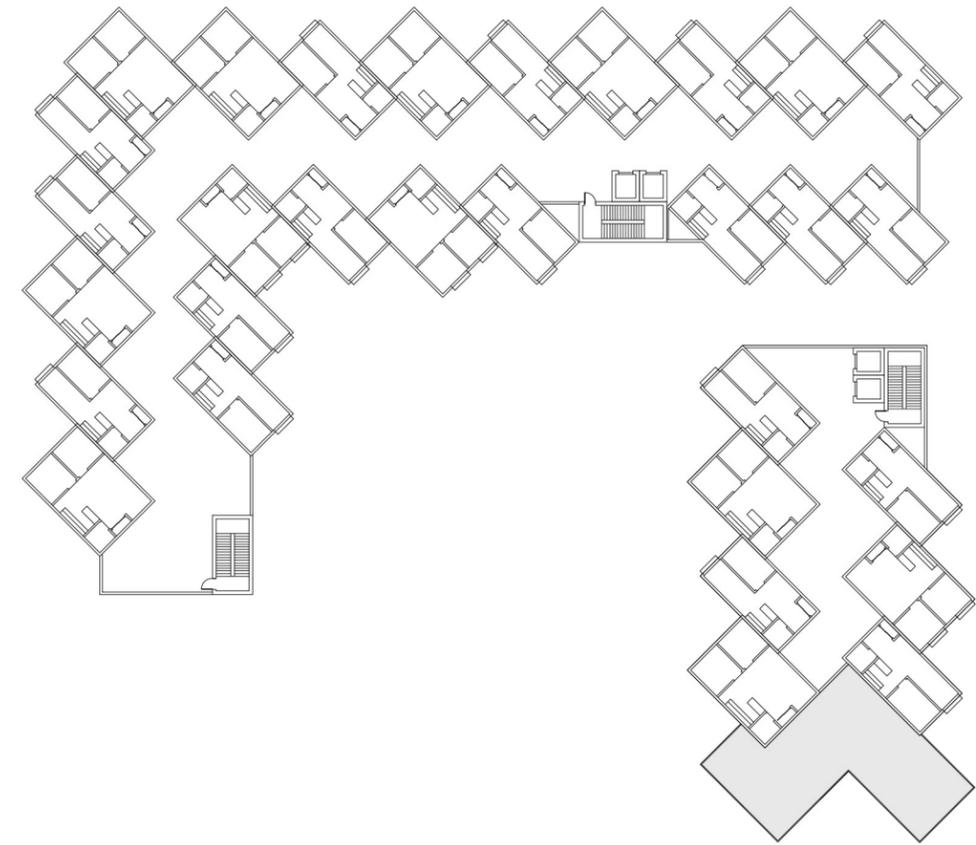
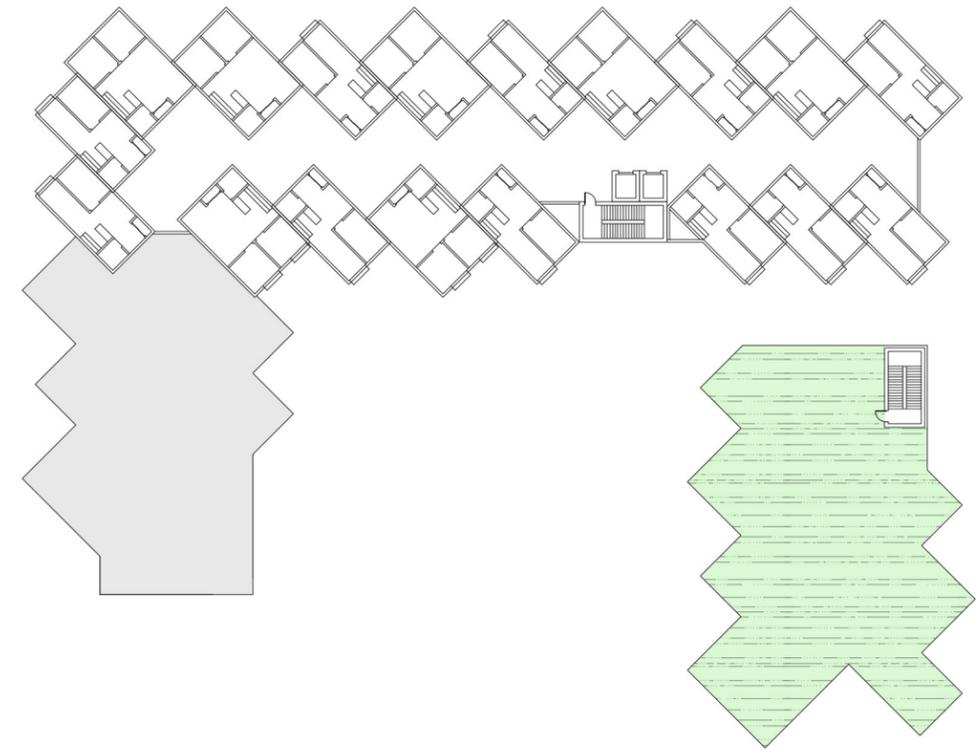
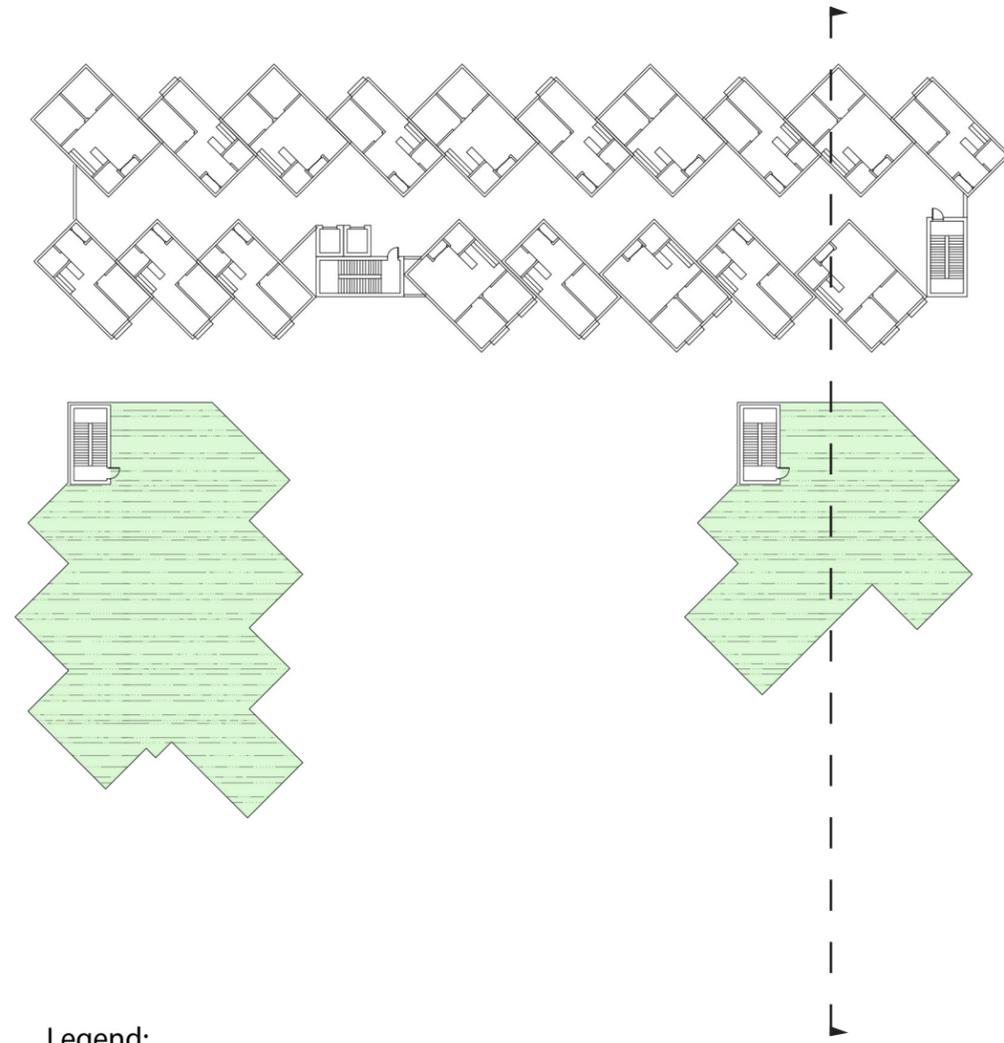


Fig. 47. Level 4 Floor Plan: New Construction.





Legend:

-  Green Spaces (inaccessible)
-  Shared Exterior Spaces

Fig. 48. Level 5 Floor Plan: New Construction.

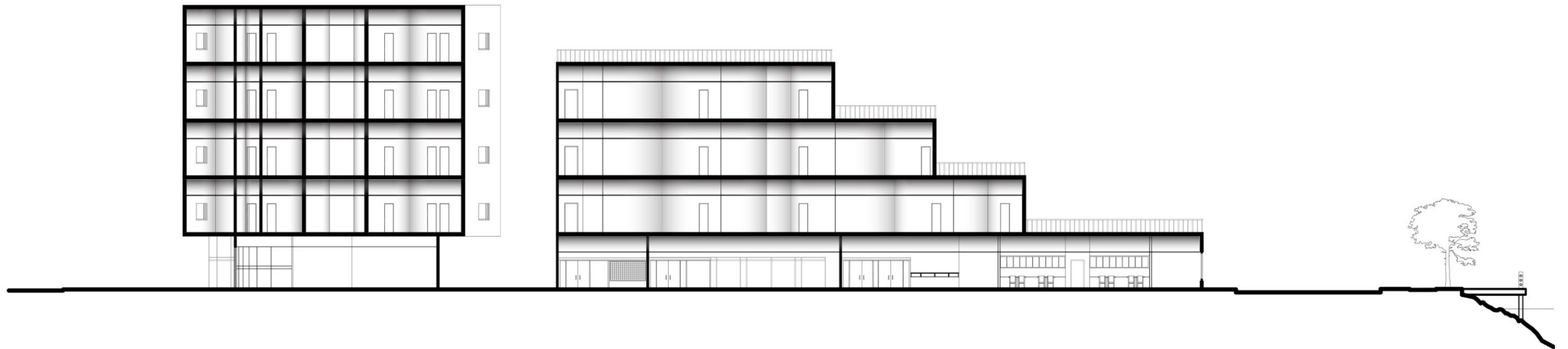


Fig. 49. Building Section: New Construction.

Character Description: New Construction

Similar to the previous park spaces developed along this site, the experience of the waterfront and park space continues between the adaptive reuse portion and the new construction portion of this project. The extended greenspace continues to incorporate large open areas of park as greenspace on the waterfront. The park then becomes part of a continuous network of walking and biking paths that connect the waterfront park to the new construction of housing and commercial space.

For the new construction portion of this thesis, I have responded to Tschumi's questions: Can a new urban strategy encourage a new type of architecture? Reciprocally, can one invent an architecture capable of generating a new urban lifestyle?³¹

Through architectural design I have created an immediate environment in which people could live, work, and have fun. Within this architectural design for the SSM waterfront, I have added new commercial spaces, housing, and support services [i.e. laundry], and a series of public green spaces.

Moving from the park space into the new construction portion, there are a series of three separate semi-public courtyards that explore varying public and private programs. The hard surface of this area remains similar across the site, using permeable pavers. Within each courtyard, areas of green are divided by paver stone paths that cross the courtyards to allow for pedestrians and cyclists to travel among the surrounding programs. The layer of public programs is visually defined by its red brick materiality, playing off a common palette of building material throughout the downtown. Meanwhile the private layer of the housing above defines itself through the reuse (or matching) of the removed white brick of the existing Station Mall facades, as parts of the mall would be demolished. This first courtyard opens to the waterfront, inviting public use to flow between the waterfront, boardwalk, and the courtyard itself. The varying commercial programs such as retail shops or restaurants remain able to open their businesses into these public courtyards. As you move through one courtyard and past these businesses, you may encounter people having coffee and lunch outside of a cafe or a flower stand outside of a garden shop; the possibilities are endless as you move between buildings and micro-climate courtyards.

As you move into the second courtyard, the experience remains similar, although now the courtyard opens towards the downtown, north of the site. Within this courtyard one continues to pass commercial programs and green spaces. Although, now you have found leading to primary public entrances to both the fitness center and the child care center. The fitness center remains the only public program that extends to a second floor. Inside is an indoor track, all necessary fitness equipment, change-rooms, staff offices, and multi-purpose room. Across the courtyard is a childcare center that opens into the next courtyard with an exterior play area for the children. The childcare center houses the front desk, cubbies for the children, a kitchen area, sleeping room, and play areas. In turn, the childcare center opens up to an exterior playground inside the courtyard.

Continuing to move through these buildings and pathways, we transition into the third and final courtyard. This courtyard replicates a similar space to the first courtyard described. This third courtyard also opens to the waterfront, inviting the public to move between the waterfront, boardwalk, and the courtyard itself.

31. Bernard Tschumi, *Event-Cities: Praxis*, Cambridge, Mass: The MIT Press, 1994), pg. 41.



Fig. 50. Courtyard Perspective: New Construction.



Fig. 51. Waterfront Perspective: New Construction.



Fig. 52. Birds Eye Perspective: New Construction.

In describing the housing units, each typical storey remains similar; all units are rotated forty-five degrees creating an irregular hallway. The narrowest part of this hallway remains six feet wide; Instead, the irregular hallway creates pockets of sharable space for the residents. Residents would be able to decorate these spaces, putting out smaller furniture such as tables or chairs. These pockets of sharable space create opportunities for more personable social interactions. The shared spaces continue at the ends of each hallway with shared exterior patios on almost every floor. These stepped patios give the residents shared private exterior space that could be used in varying ways including community gardens or supporting community events and gatherings.



Fig. 53. Detailed Site Plan.

Detailed Site Plan

In *Event Cities 2* Bernard Tschumi explains his concept for Parc de la Villette:

*“Rejecting the idea of introducing another mass, into an already encumbered terrain and respecting the requirements of the program, solution: to distribute the programmatic requirements over the total site in a regular arrangement of points of intensity. Deconstructing the program into intense areas of activity, placed according to the existing site characteristics and use, this permits maximum movement through the site, emphasizing discoveries and presenting visitors with a variety of programs and events.”*³²

The overall concept and design of my site follows a similar arrangement of decentralized programs. Through the reduction of mass, the use of varying programs and event spaces, distribution of these programs over the total site in points of intensities, I intend to facilitate movement through the site and down to the waterfront.

Specifically, the detailed site plan depicts many of the elements I have previously spoken to such as both significant design pieces, the extension of the street grid through the site, and the extensive linear park space that spans the site and waterfront. In addition to these, I returned to the

32. Bernard Tschumi, *Event-Cities 2*, Cambridge Mass: The MIT Press, 2000, p.53.

varied retail spaces that historically lined Bay Street. To break away from the rational ordered placing of these elements, taking inspiration from the new build portion of the project, these retail spaces have been adjusted in size and orientation to create a more interesting and dynamic retail front while creating pockets of space between buildings on either side them, allowing for porosity to continue through the site and to the waterfront.

Character Description: Bay Street Retail Front

This dynamic retail front capitalises on the recent redevelopment of Bay Street from a four lane street to a two lane, treed space with bike lanes and a focus on pedestrian use. The retail front expands on this redevelopment, through continuing the hard surface paver system from the rest of the site up to bay street. The existing rail line remains in place, being adapted into the paver system so as to leave the historically relevant piece as a part of the new design; similar to the High Line in New York City. The pockets of space between these retail buildings are dotted with few trees and built in place furniture such as tables or benches. These organic spaces become further opportunities for social interaction and allow the retail shops to possibly expand into the public space. The open space on the interior of the site is to be used as supplemental parking for these retail fronts and the housing along the waterfront. Although a hard surface paver system continues to used for these “parking lots” the pavers differ from those used elsewhere on the site to ensure a physical and visual boundary to where vehicles may access the area.

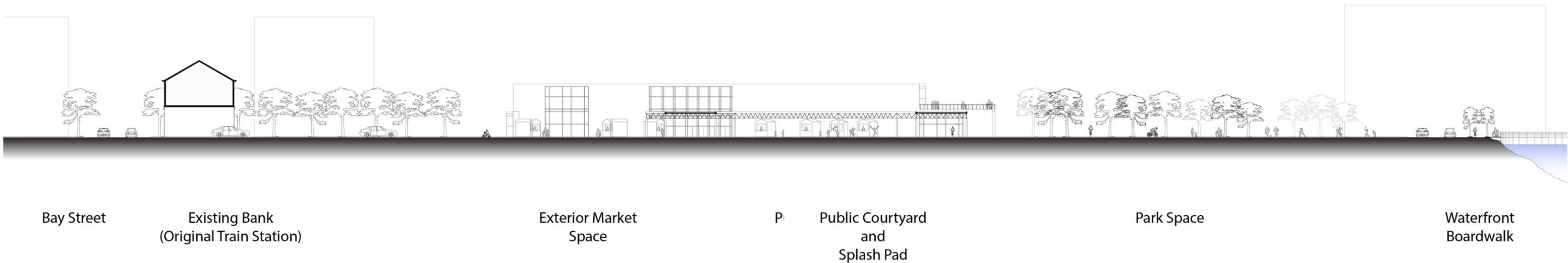


Fig. 54. Bruce Street Section.

Bruce Street Section:

Through this section extending from Bruce Street to the waterfront, the overall site transitions from the downtown core to the natural waterfront. The section begins with the redeveloped Bay Street, which is to be lined with trees on both sides followed by the existing bank and original train station. This historical stone building was the first building built on this site in the early 1900s as the original A.C.R train station. Currently this building sits as an anchor point for Bruce Street, a significant traffic artery that connects the downtown and this site to the north end of the city. For this project, this historical building is transformed into a gateway to this site; a portion of the first floor will be removed to allow for Bruce Street to extend down to the waterfront.

The drawing then goes on to depict the public plaza and courtyard spaces that sit between the adaptive reuse portions of the project. First is the open plaza that has been designated as the exterior market space that allows for the interior market program to spill out into an open air area while continuing to spread across the courtyard plaza. The public courtyard shows the splash pad that transitions to an ice pad in the winter months, allowing for year-round public use of the space.

Moving through the section, we come to the green park that extends the rest of the site up to St. Marys River Drive and the waterfront boardwalk. As we transition from the built part of this site into the park space we see the public use of biking and walking paths that run through the park. We also see the use of open green spaces amongst the park; people playing soccer, passing a ball or walking their dogs. The drawing then crosses St. Mary’s River Drive showing the existing waterfront boardwalk which now benefits from intensified activity.



Fig. 55. Site Section.

Site Section:

This site section depicts the overall length of the site, demonstrating the sheer scale of this project. Within this section we see the flow of spaces and programs across the entire site. From left to right we see the existing Station 49 Apartments built in 1973 along with the first phase of the Station Mall. This is followed by the newly added courtyard housing, standing the same height as the existing apartments. Meanwhile, through the use of large openings on the first floor, views to and from the waterfront are framed for the public using the courtyard spaces.

Spanning between both architectural design pieces is the continuous park space. Biking and walking paths cross through the park, connecting the architectural design pieces along the waterfront and providing large, open green space for recreational activities or community events.

The drawing then shows the adaptive reuse portion of the project including the movie theater and behind that, the food court. The two former parts of Station Mall are now connected by a shared covered walkway and public courtyard. In this plaza area we have an exterior market space and splash-pad that have been extensively described. The second adaptive reuse portion completes this plaza space with varying public programs within one structure. These section details are pulled from both adaptive reuse buildings. "Section Detail 1" looks at the movie theater and food court structure, applying a curtain wall system around the remaining existing structure, enclosing the piece while maintaining visual connection to the courtyard. "Section Detail 2" looks at the exterior covered walkway and green roof system applied to it. Both details show the variable permeable paver system that is applied across the site.

The site section ends with the large existing parking lot that will remain. During the day this lot is filled by employees of surrounding businesses and office buildings. With this being the only parking available on the waterfront, on evenings and weekends this lot will continue to be used by visitors to the Downtown core.

Section Detail: 1

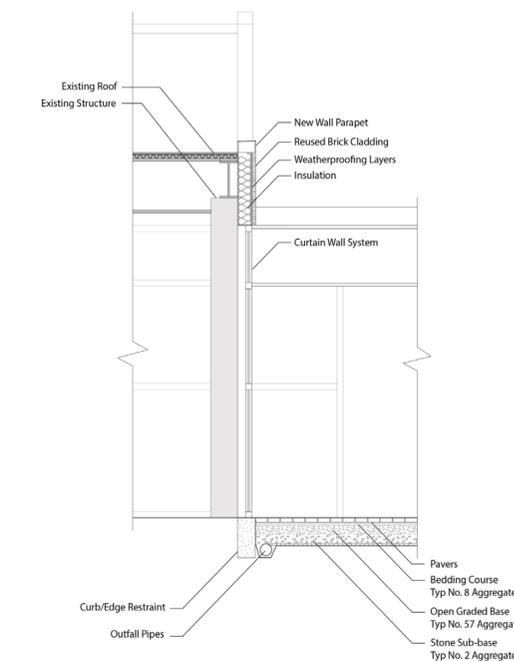


Fig. 56. Section Detail 1.

Section Detail: 2

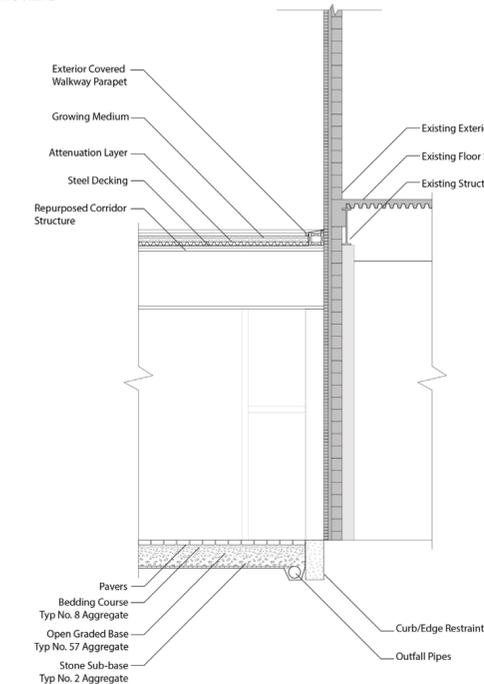


Fig. 57. Section Detail 2.



Fig. 58. Urban Site Plan.

CONCLUSION

Through this linear park and the introduction of new programs creating various nodes of activity across the site, I have now developed a project that supports the flow of traffic along the waterfront as well as to and from the waterfront and Downtown core. This project celebrates both the waterfront and Downtown core, bringing life back to a large swath of the rich waterfront that has been growing more and more empty as the years go on. Through reprogramming the existing structures, redeveloping the site with public plazas, parks, and housing, and re-stitching a connection between the waterfront and downtown across this site through densification at three scales: the urban form, the buildings, and the details that support inhabitation, my design becomes a major catalyst for the reinvigoration of an idle downtown towards the future prosperity of Sault Ste. Marie.

Urban Site Plan:

Returning to how the overall project plugs back into the surrounding downtown of Sault Ste. Marie, as was described early on in this thesis, the map shows the divide in programming within the Downtown core between commercial buildings, public service buildings, and largely inadequate housing. The new site design has ‘re-stitched’ the waterfront and Downtown core through the use of open public plazas, residential units, varying commercial programs, and importantly extensive public parks along the waterfront. This specific site is no longer only in use during 9 to 5 working hours; the site now allows for the prosperity of a residential community and vibrant public programs that give new life to this waterfront site at all times throughout the year.

Along with the varying new programs and architectural massing across the site, large portions of the project have been greened. These public park spaces span across the site from west to east, creating a linear park along the waterfront. This develops the waterfront as natural public space, creating large green areas for more diverse activities or community events, as opposed to only having the existing boardwalk and Hubtrail system.

APPENDIX

CASE STUDIES

Through the research and development of this thesis, specific case studies have been identified due to their respective theoretical basis and design strategies that cover similar intentions within this work.

Queens Quay, Toronto, ON, CAN:

Queens Quay is a good example that shares a similar history as the Sault Ste. Marie site, beginning as a waterfront solely based on industry and transportation, built on reclaimed land and further developed in the 1970's.¹ This case study gives us a look at separate projects within the strip.

At the pedestrian focus, the Queens Quay Revitalization was completed in 2015.² With this revitalization, the former 4 lanes of Queens Quay was reduced to 2 lanes and the space was allocated to walking and biking paths along the strip.³ Within Arup's entry to the 2016 Canadian Consulting Engineering Awards, the project is best described. "Businesses and condominiums on the north side of the street now front onto widened sidewalks with granite sidewalks and a row of mature trees, and provide opportunities for shopping, dining, and a large array of recreational activities. The project re-organized the layout of the entire street, separating cyclists and pedestrians from cars and thereby also improving safety. With outstanding results, the team managed to create a destination that integrates the overall waterfront park and trail system – offering both active and passive users diverse experiences and memories. The project offers an outdoor space for public gathering that can host compelling activities, community events, entertainment, and cultural activities to draw a range of audiences throughout the different seasons".⁴

Also within Queens Quay is Queens Quay Terminal. In 1983, This existing building was adapted as an office and retail complex with an addition on top of the building that implements a residential component of 72 condominium apartments.⁵ This mixed-use program within one building leads to an interesting dynamic between residential, office and commercial programs. When analyzing this organization of programs we come to understand that these programs can very well support most aspects of a person's daily routine; from home, to work, to leisure, this mixed use building allows full coordination between its varied uses.

Lansdowne Park, Ottawa, ON, CAN:

Lansdowne Park also covers the aspects of mixed-use programs within one site as opposed to a singular building creating an "Urban Village". Before it's revitalization, this site remained unused and abandoned with decaying infrastructure. Although now, Lansdowne has transformed this site through a public/private partnership into a dynamic public place, with all of the lands, except the residential air rights, remaining in public ownership.⁶ Lansdowne has become an example of how Ottawa applies 'smart growth', 'sustainable' and 'place-making' principles through incorporating active recreation, mixed uses, and new green space, as well as innovative design and development to help create a city hub that attracts visitors and local residents to experience and participate within the space.⁷ With the varying programs such as the sports facilities, residential, retail, and park space, a hub for community socialization was created with continuing success.

Hamilton Waterfront, ON, CAN:

This case study of Hamilton's waterfront covers both the currently built and future plans specifically for Pier 8. The West Harbour Waterfront Recreation Master Plan has focused on key ideas such as Public Access along the water's edge, Waterfront Trails, and Active Public Spaces.⁸

Although focusing on Pier 8, KPMB has worked with smaller architecture firms in designing an entire waterfront neighbourhood which focuses on social interactions, public spaces, and celebration of the waterfront with all streets maintaining connection to the water. Key Ideas include, Coherent diversity, definition of waterfront, compact diverse and walkable neighbourhood, and architecture celebrating the industrial history and culture.⁹ These ideas of celebrating the waterfront and developing a neighbourhood that prioritizes social diversity and social interaction are what this thesis and project aim towards completing. These are exactly the problems faced with the current site of Sault Ste. Marie's Station Mall and Waterfront site.

Benny Farm, Montréal, Québec:

Benny Farm brings together affordability, green technologies, preservation, rehabilitation and new construction into a single large scale urban project. Additional aspects this case study touches upon is social quality, green public spaces, and environmentally sensitive construction and renovation.¹⁰ These aspects are achieved through adaptive reuse and material reclamation in regards to mitigating waste generated, and applying integrated renewable energy systems to enhance economic viability and sustainability of the project. Overall, these buildings are not a prototype for replication, but the values, intentions and the process by which they were developed represent a new model for community-driven sustainability that can be applied universally.¹¹

In addition to preserving many of the original veteran housing units while densifying the site with new higher density residential buildings, Benny Farm maintained the garden-city concept of the original complex. This included green spaces, landscaping and pathways connecting throughout the entire site.¹² This organization of exterior spaces within the Benny Farm complex led to my exploration of how this project makes use of micro-climate courtyards within a primarily residential based program.

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3. *ibid.*
4. *ibid.*
5. Whiteson, Leon (June 22, 1983). "Old Waterfront Warehouse Gets New Lease On Life". *Toronto Star*. p. A23
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