ARCHITECTURAL **COALESCENCE**
a focus on connectivity and flow within socio-spatial networks

by

Jason K Chang
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A design thesis project presented to Ryerson University
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Abstract

ARCHITECTURAL C O A L E S C E N C E
Jason K Chang
Master of Architecture, 2019
Master of Architecture Program, Ryerson University

This thesis stems from an analysis of spatial morphology of the urban campus. The organization of the urban campus provides pockets for social interactivity amid public, private, and interstitial realms. Availability of collective activity contributes to the positive student experiences by fostering social interactivity and communal growth. Encouraging forms of collective activity, as well as connecting user circulation, plays a significant role in making students feel they are part of a larger whole. The focus is placed on how architectural design can provide the potential to explore the in-between condition of the public and private. This interstitial condition may be used as a platform to connect the two realms. Testing methods of socio-spatial and circulatory reconfiguration of Ryerson's Kerr Hall may improve the understanding of how the built form impacts the movement and experience of user flow within the condition of the urban campus.

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Lastly, to my parents, thank you for supporting me when I needed it the most.

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To my family.

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Preface

No matter where my life or work will take me, Toronto is the city I will always call home. Born and raised in the Greater Toronto Area, I always have and always will identify strongly with the city of Toronto. The city and its people and culture helped shape my views and my beliefs. My love for Toronto is the reason I decided to pursue both my bachelor's degree in architectural science and my master's degree in architecture at Ryerson University, a well-recognized accredited university in the heart of the city.

In my combined years of undergraduate and graduate studies, I have had my share of post-secondary experiences. Ryerson has embraced me as a part of a larger community that enables individuals to grow, both on their own and collectively. The first time I stepped foot on campus, I wandered around looking for the architecture building in an attempt not to be late for the initial interview. Years later, I now know every nook and cranny, every path across campus (using indoor routes during inclement weather), with the majority of these paths moving within or alongside Kerr Hall and through its quad.

Ryerson's Kerr Hall has always intrigued me. As the oldest university building on campus, it is the most easily accessible due to its scale, form, and location. Because of these factors, it has always had the potential to serve as a communal platform for gathering and social interaction. The issue with Kerr Hall's design, however, is primarily due to its closed-off form and programmatic organization. Though the building has a range of communal programs, it lacks any level of fluidity in the arrangement of circulation. One may debate that the physical enclosure of the courtyard creates a feeling of safety and security, but I argue that the physical form hinders connectivity and flow, necessary in a thriving campus. Although much of the existing program could theoretically provide an opportunity for interactivity, the restricted circulation and organization of the enclosed quad hinders the potential of the built form.

This thesis developed with the intent of bringing people together by a means of fluid connectivity and diverse spatial experiences. It proposes that new and existing programs can be configured to create a unique dynamic and provide the infrastructure for community development within the Ryerson campus.

INTRODUCTION

The university campus provides the infrastructure for the growth and development of knowledge, relationships, and of course, experience. While students are aware that the campus is a place for higher education and the related extracurricular activities of university life, they are less aware of the intangible outcomes and invaluable experiences they gain through university education.

These intangibles are not the primary purpose of the university campus, but are nonetheless, equally as important as the education. Learning environments foster student growth through individual and collective experience. Architecture and design can play an essential role in providing opportunity for this social and communal growth.

Ryerson's existing campus provides much of the necessary program space to foster social interactivity and community development. However, there is one glaring issue: the lack of circulatory fluidity to the organization of the existing program and the interconnected spaces. As a campus situated within an urban context, Ryerson has been and continues to be patched together based upon availability of property, with most of its public space not owned by the university.[1] This results in a spatially diverse and dispersed campus, whose form hinders the potential for collective growth.

PART I   THEORIES OF SPACE, INTERCONNECTIVITY, AND FLOW

This thesis proposes a reconfiguration of the spaces and forms of Kerr Hall to create a central focus for the university and the campus.

This thesis examines a number of theories on space, form, use, and movement that underpin proposed design changes to the existing built form of Kerr Hall.

With a focus on connectivity and flow, this thesis presents design strategies for a reorganization of Kerr Hall. Case studies are examined that reflect contemporary architectural approaches to the issues.

A brief description of the current conditions of Ryerson's campus, with an emphasis on Kerr Hall, follows.

Through this method of theoretical research, case study analysis, and contextual exploration, this thesis proposes a radical reconfiguration of Kerr Hall and its quadrangle to foster a greater sense of belonging for members of the Ryerson community – students, faculty, and staff.

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CHAPTER 1 THEORIES OF SPACE, INTERCONNECTIVITY, AND FLOW

"Theories of Space, Interconnectivity, and Flow" focuses on the ideas and theories of Oscar Newman, Jan Gehl, and Stan Allen. These theories include community development, social interactivity, as well as interconnectivity and flow, respectively.

In Oscar Newman's theories on community development, he emphasizes the different public and private realms and how they encourage or deter the development of a community. Although Newman discusses much on defensible architecture and the neighbourhood condition, the implications of his research relate more to a similarity in condition, the university campus as a collective community.

Jan Gehl's focus on social interactivity looks at the relationship of the built form and its public spaces. This continues Newman's analysis of the public and private realms, relating it to the physical representations within the university campus. Gehl's theories relate to this thesis as an analysis through the adjacencies of the campus buildings and their communal gathering spaces.

This leads us to Stan Allen's focus on interconnectivity and flow. His research examines connected programs, encouraging movement and finding fluidity within these spaces. By looking at projects in conditions that encourage circulation and flow inside and out, conclusions alike may be used to improve the conditions of this thesis.

1.1 Oscar Newman: Community Development

Oscar Newman outlined principles in his theories on community development through design. While his focus was on the neighbourhood condition, similar principles could be applied to the university campus. Newman's theories sought to develop a safe and open environment for residents, thereby creating a stronger, more tightly knit community, one in which users were able to recognize one another through levels of interaction.

His ideas also led to a clearer distinction between the intersection of the public and private realms. He called these interstitial realms the semi-public and semi-private realms (Fig.1). The semi-public and semi-private realms are realms where people outside of their private zones can connect with people in public spaces. This interstitial realm breaks the barriers between the public and the private, the isolated and the communal.

According to Newman, the concept of defensibility in architecture encourages neighbours to develop relationships with one another.[2] These interactions would improve overall awareness and natural surveillance, resulting in a safer living environment. If users are more aware of the people and activities happening in their own neighbourhood, there will be a greater sense of comfortability in addition to safety and security.

Principles Newman discussed are: creating a sense of territoriality, allowing users to survey activity in their community, allowing the physical design to portray a sense of safety and security, considering proximity or closeness to a place of high activity, and designing for openness and visual transparency (Fig.2).[3] These concepts work best collectively in encouraging community development and social interactivity. Communities that foster a sense of safety and security among others within the community create stronger bonds and more active relationships.
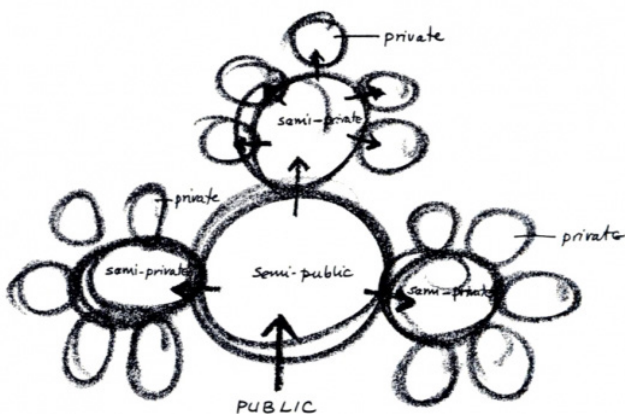
Fig. 1 Oscar Newman's levels of public to private

Newman elaborates, as follows (Fig.2):

| TERRITORIALITY | AWARENESS OF INDIVIDUALS' IMMEDIATE AREA, TAKING CARE OF, AND WATCHING OVER ONE'S OWN COMMUNITY |

| NATURAL SURVEILLANCE | COMMUNITY MEMBERS ARE ABLE TO NATURALLY OBSERVE ACTIVITY WITHIN THE COMMUNITY |

| IMAGE | CREATING AN ENVIRONMENT THAT FEELS SAFE AND SECURE |

| MILLIEU | THE SOCIAL ENVIRONMENT; PROXIMITY TO A MORE ACTIVE AREA |

| SAFE ADJOINING AREAS | DESIGNED AREAS I.E. PUBLIC INTERSECTIONS WHERE THERE IS MORE OPENNESS AND VISUAL TRANSPARENCY FROM THE PUBLIC TO PRIVATE |

Fig. 2 Oscar Newman's principles of defensible architecture

In application to the university campus, these principles relate to collective interaction in addition to ownership of space. Territoriality would be more applicable to individual buildings in which where users spend much of their time, such as department buildings (studios, labs, and lounges for specific programs) and residences, where one may be more inclined to watch over a space they consider to be their "home" (Fig.3).

Natural surveillance on campus becomes vital in understanding the relationship between the public and private space. The design of campus buildings needs to balance the welcoming of users while also deterring unsolicited visitors. This can be achieved by being open and transparent to the rest of the community. Within this type of environment, collective observation becomes natural (Fig.4).

The image of the university campus as a safe environment is often taken for granted, students should feel safe and worry-free within a learning environment. In a safe and comfortable learning environment, students can open up freely without feeling like they need to be wary.

According to Newman, the milieu, or social environment, relates to the proximity to areas of activity.[4] Within the university campus, some areas are more active than others. Being closer to these areas allows users to feel safer.

The final principle is the proximity to safe adjoining areas, such as major intersections. The typical university campus is limited to students who are there by necessity. This allows students to feel safer

regardless of location or context. In conditions where the campus is situated within the urban context, the proximity can be both a positive and a negative aspect to consider. The positive is the amount of activity and transparency. As it increases, it provides a more open environment and connected community. Alternatively, the university campus also becomes more susceptible to unwanted activity and attention. This may cause students to feel less safe in their surroundings and as a result, less open to be a part of a community.

The application of Newman's principles focuses on creating a safe community and a more openly connected community. Although his interest focuses on the residential neighbourhood, its application to the construction of a community is related to the university campus. Students spend a significant amount of their student life on campus as they build relationships with people they see regularly, whether in class, at extracurricular activities, or in casual encounters. This understanding of relationships within communities and the barriers that create a sense of territoriality contribute to the development of the community as pursued in this thesis.

store front being moved forward

Interior space

Exterior space

Interior space

Pedestrian corridor
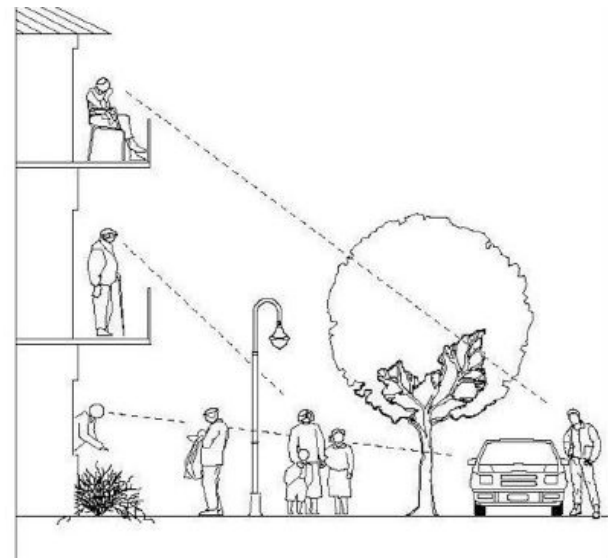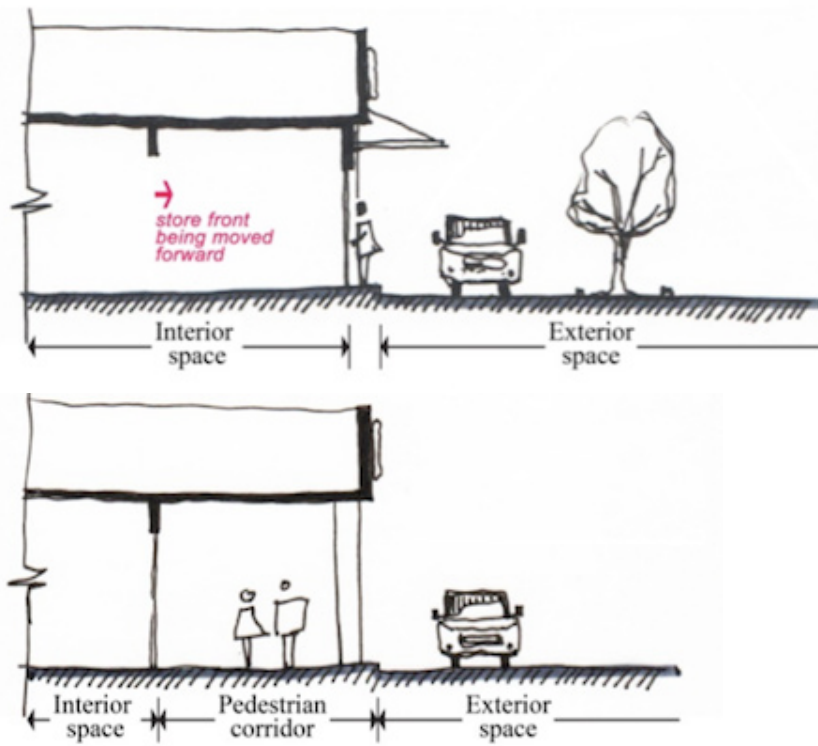
Exterior space

Fig. 3 Relationship of the private realm to the public realm
Fig. 4 Natural surveillance within the neighbourhood condition

1.2   Jan Gehl: Social Interactivity

The concept of social interactivity was formulated by Jan Gehl, who focused his work on the ideas of public space and community. In Life Between Buildings, Gehl analyzes the relationships between social activities and opportunities for interaction within a physical framework.[5] The types of activity that occur are dependent on the necessity of the activity but also the quality of the environment.[6] This is particularly applicable in outdoor activities and the quality of the physical environment for these activities, as the same principles can be considered for any public space.

Gehl describes three types of activity: necessary activities, optional activities, and social activities (Fig. 5).[7] Necessary activities include everyday tasks such as attending class, going to work or shopping for groceries. These activities are not limited by the physical framework. Optional activities include pastimes such as outdoor activities, many that would occur under preferable physical conditions. If an infrastructure were to provide an inviting space for optional activities, these activities are more likely to occur.[8] Social activities are dependent on the presence of others within a public space. These activities include forms of interaction such as conversation, group activities, as well as indirect forms of connectivity such as seeing or hearing others within the same space.

The more time people spend in public, the more often they meet and interact. Communal activities become dependent on the physical, social, and cultural conditions, so as long as the space provides the necessary infrastructure for interactivity to occur, it can be deemed successful. Social activity takes place every time two people are together in the same space, to see and hear each other, to meet, is in itself a form of contact.[9] Being present in a space plants the "seed" for social interactivity. Life between buildings includes the full spectrum of activities that create communal space, giving a reason for people to gather.[10] Where there are people gathering and collective human activity, the active space tends to attract other people.

In creating quality public space, there are essential conditions to consider in influencing the activity levels of a city. Where many cities include multilevel and below-grade conditions, neither contribute positively to the livelihood of public spaces. These conditions result in people staying indoors, unaware of the activity taking place in the public realm. Low-rise buildings that are in close proximity to each other with walkable distances and open areas for outdoor activity are elements that would contribute to an active city. These conditions allow people to see and hear activity within the public realm, therefore attracting them to the open public space. As a result, this would improve levels of activity within the city.

Gehl also emphasizes the importance of levels of contact that impact the differing levels of participation of community members. The only requirement for these varying levels of contact is the need for people to be present and to participate.[11] Participation is the first level of contact, which includes any activity that would take place within the open space. By being in the same space, users position themselves for opportunities to

meet and interact. The second level provides access to make contact, whether planned or spontaneous. This may be as simple as small talk or the acknowledgment of another person. Creating uncomplicated opportunities to maintain existing contacts can assist in the development of interactive situations. This can be dependent on mood, convenience, and environment. In the context of this thesis, attending the same institution or having the same class places students in a position to interact. The next level of contact involves information about the social environment. This involves community members to be kept up-to-date about other individuals on a daily basis. These people could vary in closeness. The opportunities to see, hear and interact with people soon become a source of inspiration for activity. This progresses to intentionally seeking out interaction with particular people within the community. These actions then create a stimulating experience, bringing more purpose to our lives and improving overall social health and well-being.
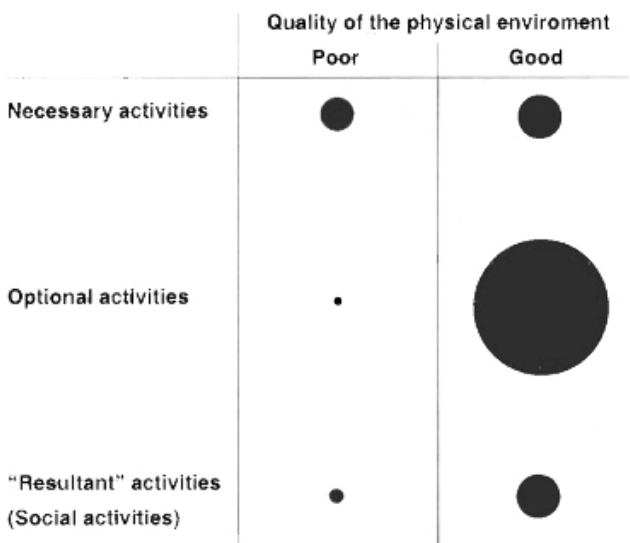
Social health and well-being require interaction and contact with others. There are various degrees of contacts for interaction, from high to low levels of intensity. High-intensity contact ranges from family and close friendships to common friends, acquaintances, to situational contacts (people you interact with due to the environment or situation), and to lower intensity contacts, which include passive contacts (people you see and hear).[12] All of which are various forms of contact, whether direct or indirect, that feed into the social well-being of the communal construct.

If activity between buildings disappears, the forms of contact at the lower end of the spectrum vanish. The passive contacts where individuals are aware but do not necessarily make contact are gone.[13] The result is a distinction between isolation and desired contact. The demand for life between buildings, according to Gehl, provides the opportunity to be around people in an undemanding, natural way.[14] The only prerequisite to life between buildings is to be present. If no one is present within public or interstitial spaces, the circumstances for spontaneous and unplanned activity disappears.

In a study of circulation by Gehl, less-used benches sat in quiet areas of a park and the most used benches were along main paths of circulation.[15] Some benches were placed back to back, where those facing human activity were more busy. This arrangement involved a natural desire to be around human activity. Additionally, sidewalk cafés are a prime example of using circulation in order to draw people to stay within a public space.

Quality of the physical enviroment

	Poor	Good
Necessary activities	●	●
Optional activities	·	⬤
"Resultant" activities (Social activities)	·	●

Fig. 5 Jan Gehl's diagrams showing the relationship of the quality of the physical environment and the different types of activities

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The impact of architecture and urban planning on the interaction that takes place within the physical environment means that if there are more people outdoors, or outside of the private realm, the more often they will meet.[16] In order for any form of interaction to take place, there is a prerequisite. The prerequisite is for there to be a background, interest, or commonality between individuals.[17] This allows for a common ground and therefore more meaningful forms of contact, interaction, and conversation beyond the surface. Physical infrastructure also plays a vital role in impacting forms of contact. The physical framework impacts the social and cultural condition, as well as by demographic and geographic location, setting, and in turn, provides opportunities for relatable social situations, backgrounds, and issues that may spark conversation.

Gehl states that in university situations, there is a hierarchy of social structure (which includes faculty members, departments and social study groups) that provides individuals with differing points of reference.[18] This is where communal space within the institutional condition comes into play. Although there are varying levels of hierarchy where users may be less able to interact within the private realm, the communal areas within the public realm open up the ability for connectivity.

With varying degrees of privacy and publicness, the residential condition has a semi-public or semi-private condition that includes the balcony, garden, front lawn, among others. This creates the interstitial realm where individuals from both the public and private realms can interact freely. It provides a middle ground for people to feel safe, to develop a sense of place and belonging before completely entering the public realm.[19] This in-between space creates a more relative scale and therefore a gradual separation between the public and private. It also encourages users to have a sense of ownership and responsibility for the communal space. This becomes an important factor in subdividing larger-scale conditions to create a hierarchy and a more relatable scale for users.[20] It is essential to recognize the significance of the transition from public to private, from large to small in scale. The transition allows for acclimation and a sense of ownership so the individual may be a part of the larger collective. These transitional zones can be seen in a complex project by Ralph Erskine in Sweden, creating transitional zones for the social and physical. The transition reduces the hardness of zones or boundaries, allowing people to feel they are welcomed into a space.[21]

The distinction between private institutional buildings and the public grounds of the university campus is clear-cut. Where some buildings are designated as semi-private, their access to the public (with some restrictions) makes this designation unclear. The openness of the campus allows anybody to enter the premise, where most institutional buildings would be open to the public during the typical school or work hours. In the evenings, they would be locked to prevent ease of unwanted access. The built form within the campus condition lacks an emphasis on the semi-private or semi-public condition. This interstitial realm focuses on how users interact in residential conditions, where the front yard or sidewalk acts as

the in-between, creating a connection between the privacy of the individual home and the openness of the public street. Buildings on campus do not have a clearly defined space for this interstitial condition, connecting the public and private and providing the infrastructure for social interactivity. This thesis, therefore, explores the potential of this interstitial zone and its application to the university campus.

1.3   Stan Allen: Interconnectivity and Flow

In discussing interconnectivity and flow, Stan Allen talks about the field condition in urbanism and architectural design. This condition is fluid as a whole and focuses less on the relationships of individual parts. The urban experience determines many factors that fall under scale and variance in flow and movement. Interconnectivity, overlapping, and interweaving creates a dynamic experience, as opposed to stacking or regularized arrangements of activity.

In architecture today, we seek to create free-flowing, biological solutions in design. Allen compares architecture to the surrounding nature, a change of landscapes, where the hardness of rocks and fluidity of living things define architecture today. Folds in natural surfaces create new forms of interconnectivity, programmatic relationships, and a new form of transition in architectural design. "The boundary between interior and exterior is fluid and permeable.[22] The improvement of flow and permeability of architecture opens up infinite possibilities for physical and visual connectivity from the inside-out.

The New York City High Line by James Corner and Diller Scofidio + Renfro as well as Weiss and Manfredi's Olympic Sculpture Park in Seattle are examples of landscape architecture in urban conditions designed as open public spaces. The reconfiguration of existing infrastructure allows for a life of unused urban form in New York's High Line. Alternatively, Seattle's Olympic Sculpture Park uses landscaped planes, seamlessly integrated to create an open public space.

In an interview with Marc McQuade, Stan Allen states, "As architects, we need to leave space for the public to define itself."[23] Limiting opportunity to define one's experience in architecture hinders the autonomy of its users and therefore its success. The necessary infrastructure in conjunction with the autonomy of users, urges a sense of identity and individual experience through programmatic circulation.

Mirko Zardini discusses an important issue regarding building program in an interview with Allen.[24] He proposes there be a shift in perspective. As opposed to the idea of building program, program should be viewed as activity or use. With this change in outlook, the ideas of movement, experience, procession, atmosphere, among others, can come together without the restriction of predetermined programs of space. The way spaces are used and how they connect through circulation opens up new doors in conceiving how buildings can be designed with interconnectivity and flow in mind.

Allen examines the condition as a whole, as opposed to individual units. In the condition of the university campus, fluidity of circulation is campus-wide, not only from one building to another. Collectively, the importance of increasing activity into and around campus will improve the ability for users to interact. Fluidity in architecture and design also requires an innate ability to connect or reduce barriers from the internal to external, in creating permeability of the built form. This allows for fewer restrictions in accessibility, and a stronger sense of freedom when circulating around campus (Fig.6).

Fig. 6 Circulation and flow diagram by Stan Allen

Chapter 1 examined the theories of Oscar Newman, Jan Gehl, and Stan Allen. Each contributes to the concept of creating a coalescent community in architecture. The targeted areas independently examine important concepts in social architecture, together creating a holistic perspective on the development of human relationships. Coalescence in architecture focuses on the collectivity and connectivity of individuals, program, and space, integrating and moving together as a unitized whole.

Oscar Newman's community development theories generate principles that may be followed to create a tighter and safer community. The organization and accessibility of a neighbourhood is similar to that of a campus. Both utilize a commonality: a condition where most hours of the day are spent. This allows users to see and be seen in the same space. Newman's principles look at creating a defensible community. This applies to the institutional condition as well as the residential, where users seek safety and security where they spend their day. In breaking down the realms from public to private, we can also understand how a sense of territoriality is important when creating a safe and open learning environment.

Jan Gehl analyzes the relationships between built form, its related public space and how its potential can be achieved to immerse users into the community. The importance of analyzing the quality of the physical environment is often overlooked, by merely providing a space and not understanding how to bring people into the public realm. Some activities occur regardless of the quality of the physical environment. By improving the

ability for optional activities, however, we can improve the resulting social activities that provide opportunity for users of private and semi-private space to connect.

Stan Allen focuses on interconnectivity and flow of users, which can help guide circulation and bring people together. This includes the connection of programmed space, where there may be barriers or a lack of connectivity for fluid circulation. These ideas may be viewed from space to space, or building to building, but the main focus should be campus-wide. Where circulatory paths have a tendency to be contained, bordered, or otherwise restricted, a solution would be to open up the circulation. If the circulation can be opened up, it would allow users to recognize collective activity.

Architects tend to lose focus on an important area of architecture: the people who inhabit it. There is a common misconception regarding how objects or programs should be viewed: not as independent factors but as a collective whole that interconnects users in space. A greater focus should be placed on the social implications of design and how architecture improves the ability for users to connect. In addition to providing the necessary program and space for its users, the perspective of architecture and design should be shifted to improve the social and communal constructs of society as well.

CHAPTER 2   STRATEGIES

This chapter looks at how the theories examined by Oscar Newman, Jan Gehl, and Stan Allen can be applied to this thesis. Their concepts will be analyzed and introduced in the form of strategies to achieve communal coalescence within the university campus. Jan Gehl's strategies focus on social conditions that create change within the immediate built form, Oscar Newman's theories impact the contextual organization, and Stan Allen's theories influence the circulation and flow of the campus as a space.

In addition to applying the theories and concepts by Newman, Gehl, and Allen, we will look some factors that impact these new strategies. With all conditions, a series of factors need to be considered to achieve communal coalescence. In understanding the relationship of the factors and strategies, we can determine how to appropriately apply these strategies to the existing campus condition to encourage communal development, social interactivity, and interconnectivity and flow.

2.1 Strategies

Strategies were created using the theories of Oscar Newman, Jan Gehl, and Stan Allen, reinterpreted in a way to best apply to the conditions of this thesis.

Oscar Newman's theories of defensible space influence how we understand and therefore organize urban conditions. Within the university campus, spatial organization deals with territoriality, creating a safe yet accessible environment while separating the public and private realms on campus. The significance of privacy and accessibility of institutional buildings on campus allows us to find other ways to open up the university campus to allow users and spaces to connect within the public realm.

Stan Allen's ideas on circulation and flow in architecture impact how to encourage movement within the university campus. In conjunction with Newman's defensible space, Allen's motives are to encourage fluidity from building to building, within programmed spaces. The theories on this topic affect the ability for users to seamlessly connect, enhancing modes of circulation with a focus on social and communal awareness. This influences the campus as a whole and how students may move through and in between buildings to arrive at their destination. Following this path, a shift in the arrangement of form may allow for a more unique and dynamic experience that allows users to connect at various levels.

Among the theories analyzed, Jan Gehl's theories relate most closely to the social and communal aspects of architecture within an urban campus. Looking at the intersection of public and private space, Gehl goes into detail on how architecture can help create a unique and positive experience. In Life Between Buildings, Gehl describes the necessity to understand experiences that come with human senses as well as their importance to architecture and the design of public space.[25] The importance of understanding human contact comes into play when organizing programmed communal space. This is a necessity in promoting social interaction within the built form as a whole. Gehl creates a list of factors that encourage or inhibit contact between users in architecture. These factors influence the quality of physical environments, relating to how impactful the incorporation of necessary, optional, and resultant social activities are toward community development and social interactivity. The factors are (Fig.7): [26]
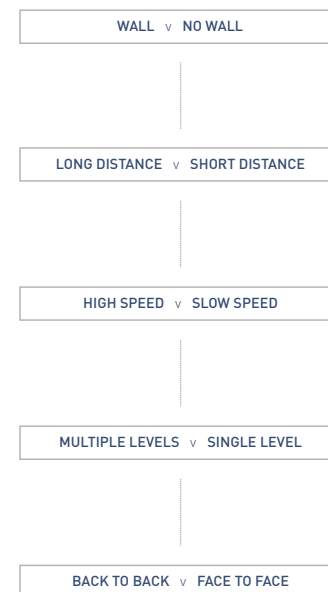
Fig. 7 Jan Gehl's strategies influencing interaction

The development of community and social interaction can be encouraged through three strategies: collection, connectivity, and circulation (Fig. 8).

Collection focuses on the gathering of people in a space. By gathering community users into a defined space, more opportunity is provided for people to socialize and interact, whether planned or spontaneous in form. The first step toward improving social interaction is to be within the same space. This allows users to acknowledge others, whether or not they directly interact.

Where collection provides the space and initial step for people to gather, the second strategy, connectivity, seeks to create the framework that enables users to connect. This framework provides the infrastructure for programmed and circulatory spaces to be pieced together. It allows individuals to circulate within the campus and built form in order to arrive at a collective destination.

The third strategy, circulation (or flow), is a strategy that focuses on the movement paths connecting programmed spaces. The overlap in activity permits unique connections, and therefore, new relationships and experiences. Circulation is a crucial focus, enabling people in different spaces to physically connect. It uses the framework to create the necessary openings or paths to provide opportunity for interactivity. This encourages fluidity throughout the campus, promoting collectivity and therefore connectivity.

To compare urban plans of major cities around the world, Gehl turns the focus to Los Angeles, Radburn, Delft, and Venice (Fig.9). [27] Los Angeles integrates vehicular traffic as the primary means of transportation, with less focus on pedestrians. Therefore, using a simplified vehicular grid system is ideal. The example uses the circulatory planning of Radburn separating pedestrians and vehicular traffic in order to create a safer urban environment.[28] Unfortunately, pedestrians
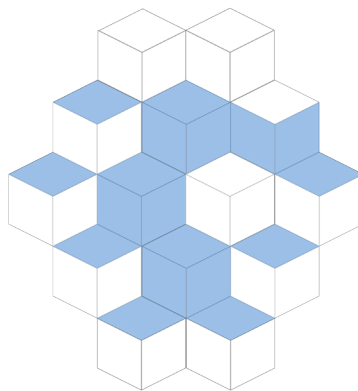
COLLECTION   CONNECTIVITY   CIRCULATION
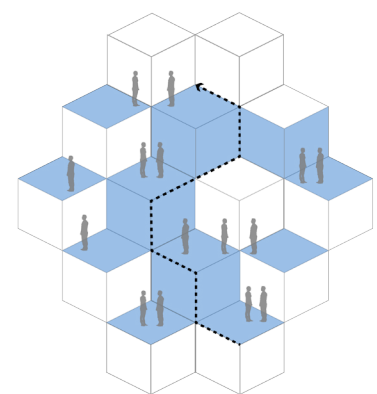
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Fig. 8 Design strategy diagrams

ended up taking riskier shortcuts rather than taking the longer, safer routes. Delft utilized a system that slowed traffic, creating separation from pedestrian routes but allowing for integration if slowed to a safer, pedestrian pace. This allows users to gather and move through the community, keeping a sense of autonomy while also improving safety. The last example Gehl utilizes is the city of Venice, which is mostly a pedestrian-focused city. Vehicular traffic separates from pedestrian circulation and gathering spaces, allowing for freedom of activity away from major roads. This provides space for people to gather without having to worry about external factors.

The analysis of urban plans examined by Gehl is comparable to the spatial organization of the university campus within the urban context. A university campus located within the urban context must allow for enough open public spaces to gather but must also provide ease of access to these spaces. The various cities Gehl analyses provide different approaches in how to manage space when considering urban design. Similar to the university campus, external conditions such as vehicular circulation and the separation of the public realm and the semi-public realms, affect how users may behave. The organization of space, as well as the interstitial space, determines how users will move and interact within the campus.

Gehl also looks at strategies that enhance physical and visual connectivity. He discusses the understanding of thresholds concerning building heights (Fig.10). [29] The higher the building, the greater the distance needed to connect users in spaces above. But also, the higher the angle, and the more difficult it becomes to connect.
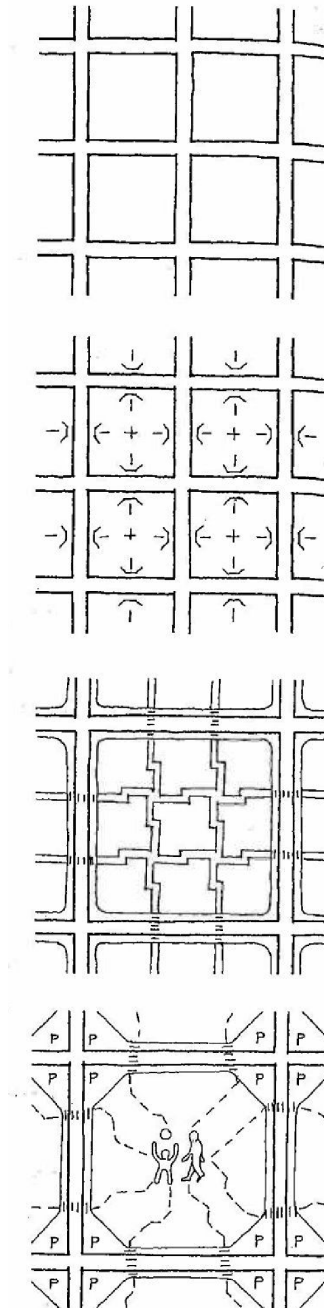
Fig. 9 City plan explorations of Los Angeles, Radburn, Delft, and Venice, displaying the hierarchy of circulation

By the third storey, it becomes unnatural to look down into a space but instead to look forward, off into the distance. By the fourth storey, a "major threshold" limits the connection to people or activity below. By the sixth storey there is no longer a connection below and the only connection is to the view of the horizon. This disconnection continues as the building grows farther from the ground level. In architecture today, if we continue to build up, we hinder relationships between inhabitants and the public below, creating a disconnect from the built form to the program at grade.

These strategies of collection, connectivity, and circulation are methods in which the goal to enhance social interactivity and community growth can be achieved. In applying Newman, Allen, and Gehl's work, we can develop a basis for applying these strategies to an important campus building discussed in this thesis. These strategies compile to create an assembly of architectural methods in encouraging social and communal interactivity on campus. Alone, they tackle a single concern; but together they create a solution that is well-rounded to achieve a common goal.
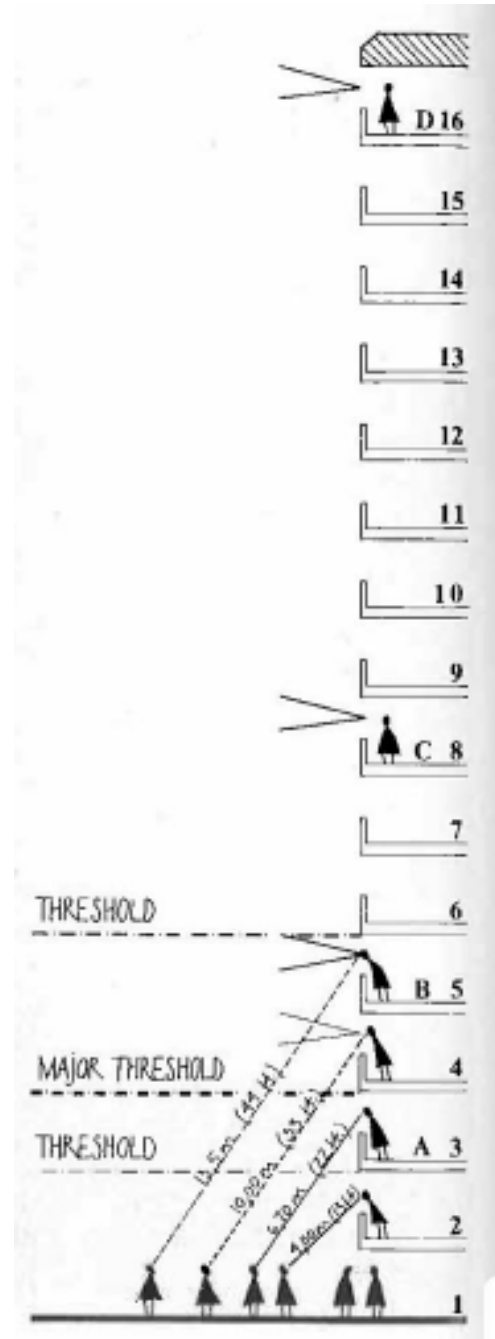
Fig. 10 Jan Gehl explores the connective impacts of vertical thresholds

architectural **coalescence**

23

2.2   Factors Impacting Strategy

In order to apply these strategies effectively, consider these factors:

Collectively, the six factors determine the successfulness of the aforementioned strategies (Fig.11). For example, the immense scale of an open space creates a disconnect for users and activities. If the open space is too large or has little separation between activities, the space may become less used and thus appears less active. This hinders the development of social interaction if the space is unable to bring people together.

Visibility impacts the ability for users within the space to see others, while access determines how easily users can enter or move through a space. Territory creates a distinction between realms and therefore activities that occur within a space. This ties into proximity, where the focus is on the distance between programmed space and users and how they connect. Program defines the types of activities that take place within a space. Scale involves the relationship of the space or built form to the user. This impacts how users perceive the space, as well as how useable the programmed space becomes.

Not all factors can be addressed through a single strategy. This argues that some potential strategies should be used together to address these factors (Fig.12). The focal strategy creates a communal place to congregate. This strategy addresses all issues mentioned above, including visibility, territory, proximity, and program. It increases porosity and openness of an otherwise enclosed building by increasing visibility,

accessibility, proximity, and breaking down substantial forms to create a more humane scale. The improvement of circulatory flow into a space allows for visibility, ease of access, relative proximity. Lastly, interconnectivity considers the factors of visibility, access, territory, and program.
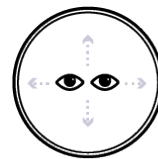
VISIBILITY
The ability to see others and their activity
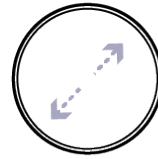
ACCESS
The ability to enter the space

TERRITORY
The definition of the space from the other realms
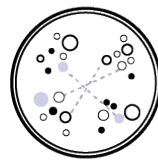
PROXIMITY
The closeness to one another, and to surrounding program

PROGRAM
The definition of various program and activity

SCALE
The relationship of the built form to the human scale

Fig. 11 Factors impacting design strategies
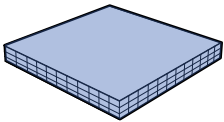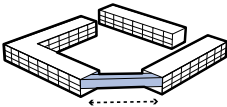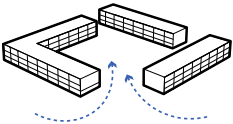
	COLLECTION	CONNECTIVITY	CIRCULATION
FACTORS IMPACTING INTERACTIVITY			
VISIBILITY	●	●	●
ACCESS		●	●
TERRITORY	●	●	●
PROXIMITY	●	●	●
PROGRAM	●	●	
SCALE	●		

Fig. 12 Matrix relating factors and design strategies

architectural **coalescence**

Chapter 2 analyzed theories examined by Oscar Newman, Jan Gehl, Stan Allen, and how these concepts could be implemented in this thesis. Where the goal is to create a coalescent community on campus, it becomes intriguing in how we reformulate these ideas to apply them to the conditions of this thesis.

The factors that impact the strategies of visibility, accessibility, territoriality, proximity, scale and program create the boundaries or conditions of which to determine how to create an appropriate solution for the existing issues. The resultant strategies are: collection, connectivity, and circulation. These strategies provide a goal to strive toward in creating a more unique and livelier environment for students to experience.

A community is a group of people within the same locality, having a similarity or commonality in interest

A sense of community is associated with having boundaries, an emotional safety, a sense of belonging and identification, a personal investment and a common symbolic system

Fig. 13 What creates a community on campus?

PART II CONTEXT AND ANALYSIS OF RYERSON UNIVERSITY CAMPUS, BUILT FORM, AND PROGRAM

The Ryerson campus is examined in this thesis with a focus on Kerr Hall as its perceived "heart." This focus provides a central location on campus where students would circulate through or adjacent to in order to get to their respective destinations.

Part II provides research and statistics on the trends of Ryerson University, particularly in the growth of the number of students attending the university and the physical expansion of the urban campus. It also looks at various projects Ryerson has taken on in order to fulfill the needs of the students and its growth as an institution. Ryerson continues to plan for the future in order to better integrate the university campus into the urban context while maintaining a separation of public and private.

This section will also present the history and growth of Ryerson University as a campus, Kerr Hall as a built form, and its organization of student programs. It will analyze this research in addition to site conditions, programs provided, and existing and historical elements scattered throughout the built form. Through this research analysis, this thesis proposes to revitalize an otherwise underused and missed opportunity to create a collective hub that opens up and connects users on campus.

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CHAPTER 3   PHYSICAL AND SOCIAL CONTEXT

This chapter provides a contextual background of the physical and social conditions of Ryerson University. It examines the conditions of the campus, the built form, and the current programs in place. Each section provides further detail on the university condition.

The statistics provide an impression of the continuous growth of Ryerson as a university, and how its physical growth becomes necessary despite an increase in availability of online courses. Student attendance continues to grow, resulting in a need for an expansion plan.

Furthermore, context is provided on the condition of the university campus within the urban context, the existing built form of Kerr Hall, and the implemented programs.

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3.1 Statistics

Ryerson University continues to grow exponentially as an educational institution, its attendance increasing every year. The number of programs provided has also grown as well, expanding into fields that were formerly unavailable by the university.

Over the past decade (statistics dating back to the 2008-2009 school year), the number of undergraduate students enrolled at Ryerson University increased by more than 10,000. On average, the number of students enrolled increased by almost 1300 per year, with the lowest increase, of 795 students, occurring in 2016-2017 (Fig.14).

The number of graduate students also increased every year. The growth per year would fluctuate, but still showed an increase year after year. On average, the number of students enrolled in graduate programs increased by 73 students per year (Fig.14).

The continual rise in student enrollment suggests the need for expansion. To fulfill the teaching needs of particular programs, Ryerson has expanded into existing infrastructure with beneficial and relevant programs. For example, the university incorporated a Ryerson Lab within the MaRS building in order to

provide necessary space for chemistry and biology research. This growth is also evident in a campus map comparison, as Ryerson has expanded in all directions (Fig.15). The number of buildings has grown drastically over the past decade or so, from 34 campus buildings in 2006 to 52 campus buildings in 2018.

Some of Ryerson's expansion projects include:

the Real Institute at College Park

the Ryerson Lab at MaRS

the Ryerson School of Performance

the Student Learning Centre

the Daphne Coxwell Health Sciences Complex

the Centre for Urban Innovation

These projects take advantage of the closeness as a university campus within the urban context to allow students in specific programs to use the existing infrastructure of nearby facilities. This comes in addition to many new buildings Ryerson has completed or that near completion over the next couple of years. This allows for an expansion of educational programs and results in growth as an institution.

RYERSON UNIVERSITY ENROLLMENT STATISTICS

UNDERGRADUATE STUDENTS

YEAR	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018
# OF STUDENTS	24475	25574	26663	28001	29202	30875	32421	33834	35166	35961

GRADUATE STUDENTS

YEAR	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018
# OF STUDENTS	1966	2120	2246	2322	2349	2358	2410	2513	2605	2624

Fig. 14 Ryerson University enrollment statistics

Ryerson University has implemented elements from its 2008 Campus Master Plan as well as its updated 2017 Campus Public Realm Plan. Each addresses ways to strengthen connectivity despite an expansion of the campus. This has resulted in a dilution of Ryerson to better integrate into the urban context and to consider growth for the near future. In addition to the educational buildings mentioned above, Ryerson is constructing residential buildings to accommodate an increased number of students.

Understanding the limitations of an urban campus, Ryerson University also acknowledges that it is a commuter school. Many Ryerson students attend class from across the Greater Toronto Area. Previously, Ryerson had plans for a brand-new campus in the city of Brampton. As of late October 2018, this plan has been cancelled due to a lack of government funding, according to the National Post.[30] This alternate campus would have provided students with the same teaching platform without the extensive travel. Although this would have been a move that could prove beneficial, it would also disrupt the factor of proximity when considering growth as a student community where there would be no direct interaction. The addition of a satellite campus would create two separate institutions under the same body. These two campuses would have no social, physical, or communal relationship. This solution is not uncommon, as the University of Toronto expanded into both Mississauga and Scarborough. Similarly, many consider these institutions to be separate entities despite being under the same name due to their disconnect in proximity.

Fig. 15 Ryerson University campus map, ca 2005
Fig. 16 Ryerson University campus map, ca 2014
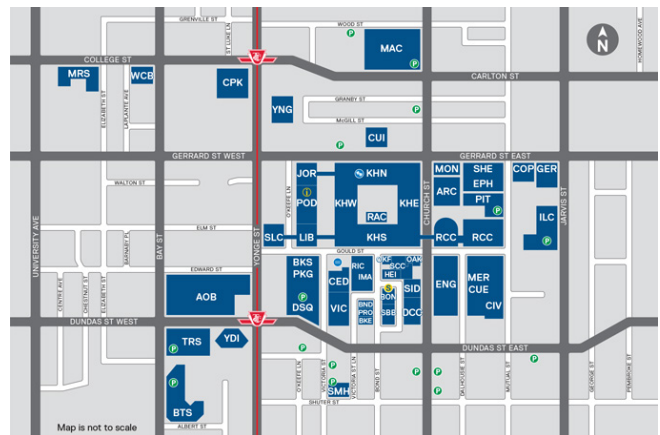
architectural **coalescence**

3.2   Campus

Ryerson University is located in the heart of Toronto, providing a need to be interwoven into the fabric of the city. Ryerson's integration into the urban context brings users of immediate space together as a community, whether part of the campus or not. Activities including events, marketplaces, coffee shops, among many others, collectively contribute to the livelihood of the campus grounds.

The importance of the public realm with the university campus is in how it creates accessible open spaces for the community to come together and interact. An example of becoming more pedestrian-focused and community-oriented is the closure of Gould Street, which became a safer environment separated from vehicular traffic, providing additional public space for community events to take place.

Campus life extends beyond the classroom, as students seek positive post-secondary experiences through social interaction. This occurs through public and recreational programs and activities, fostering a culture that enhances student experience. In order to foster a sense of community, the campus must provide the necessary infrastructure for these programs and activities to take place. For example, a public square within the city core provides a platform for public events and a reason for people to gather. This includes the built form, public streets, green areas, as well as other open communal space.

Ryerson's 2008 Campus Master Plan identifies the importance of the public realm, arguing that Ryerson's public realm needs to be emphasized in order to develop the infrastructure for a welcoming community.[31]
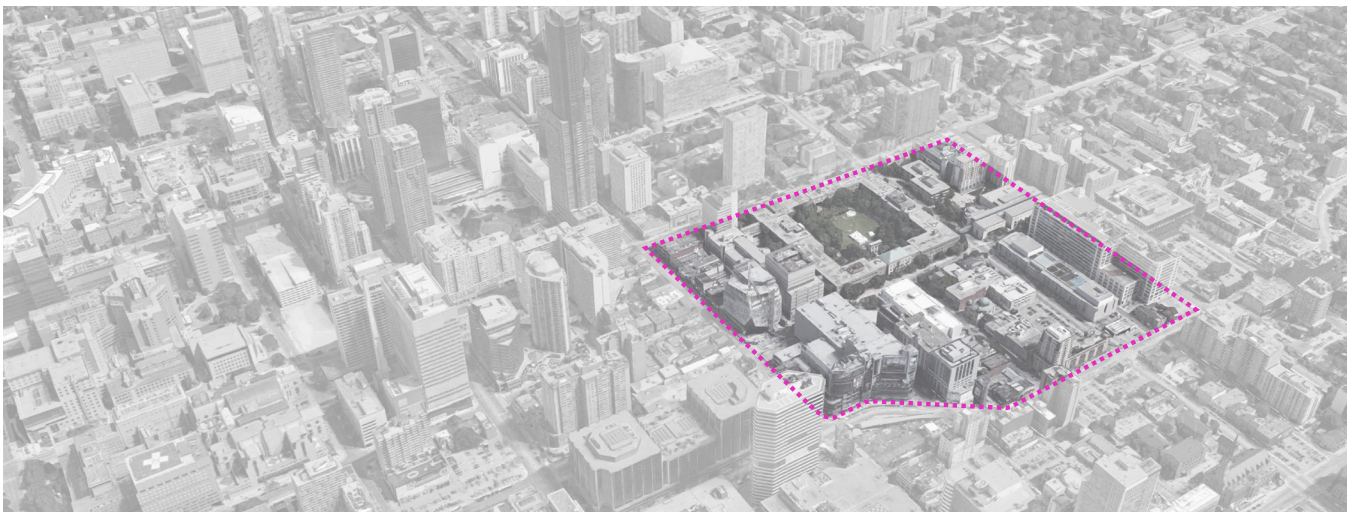
Fig. 17 Ryerson University's urban campus precinct

In order to achieve these goals, the Campus Master Plan recommends: [32]

> to define the campus precinct within the urban context.
>
> to enhance the vitality of green spaces, streets, and sidewalks.
>
> to promote a collegial pedestrian environment within the university.
>
> to enhance accessibility to and within the campus.

The 2016 Ryerson University Campus Public Realm Plan goes a step further, providing guiding principles relating to architecture or urban design including: [33]

> defining the campus utilizing signature public realm elements
>
> creating a signature identity
>
> enhancing a sense of connectivity
>
> improving walkability
>
> integrating alleyways into the pedestrian network
>
> enhancing overall accessibility
>
> providing small-scale retail at grade
>
> creating an active and transparent ground plan
>
> solidifying existing as well as new visual and transitional axes

By incorporating the recommendations and guiding principles of both the 2008 Campus Master Plan and the 2016 and 2017 Campus Public Realm Plan, Ryerson University can improve on the way it integrates itself into the social and communal constructs of the urban fabric.

3.3   Built Form

Kerr Hall stands as it did half a century ago, with few changes to its existing construction. As an early building during Ryerson's inception as a polytechnic institution, Kerr Hall's built form carries historical significance. Distinct facades from the original building have been deemed part of Toronto's heritage, and therefore, cannot be altered or modified.

Kerr Hall is a quadrilateral building, situated at the heart of the Ryerson University campus, enclosed on all four sides with few arched openings into the open courtyard space. Located at the centre of the quad is the Ryerson Community Park, one of the few open gathering spaces for students at Ryerson that allows students to congregate and partake in communal activities.

Underneath the quad field is one of Ryerson's athletic facilities, the Ryerson Athletic Centre, accessible via

a retained facade from the original Toronto Normal School. At the southwest corner of the quad is a daycare for students and parents to drop off their children, whether they work for or attend Ryerson or not. It is closed off from the rest of the quad but provides an outdoor play area for the children.

Circulation through Kerr Hall comes in the form of an internalized hallway with classrooms and lockers on either side. Students are therefore only aware of their immediate surroundings, crowding circulation and program together in a double-loaded corridor.

Though built in the form of a quadrangle, the interior of Kerr Hall is often confusing. Its restricted openness and accessibility to the streets cause students to feel disoriented when circulating through the building. Its lack of openings contributes to this as the inability to locate one's self with no visibility to the outdoors makes it inherently difficult to navigate.

Fig. 18 Kerr Hall's enclosed form within the urban context

3.4   Program

Ryerson's Kerr Hall consists primarily of classrooms and laboratories, housing many diverse departments including fashion, engineering, biology, and communications, among others. Most programs at Ryerson University utilize its large number of classrooms, as they are organized to maximize occupation, providing only for the needs of classrooms and lecture halls.

Computer and testing labs also sit within Kerr Hall. Many of these labs have undergone renovations to be more transparent while retaining privacy due to the presence of expensive lab equipment.

Communal programs include the Ryerson Athletic Centre, an upper and lower gymnasium, a swimming pool, as well as a theatre space where performances, events, and convocation are usually held. Outside of these communal programmed spaces, public activity in

Kerr Hall is lacking. Students loiter in the halls before and after classes, while outside of regular hours, night school classes occupy a small number of classrooms. As a teaching space, Kerr Hall is visibly active only when classes take place.

A lack of common activity or gathering spaces prevents Kerr Hall from maximizing opportunities for social interactivity. Many students utilize Kerr Hall as a means of circulation, traveling from one class to the next, or from one end of the campus to the other.

Bridges connect the offices and café in Jorgenson Hall, the library at the Podium Building, as well as the Rogers Communication Building. Each provides points of access that open up circulation throughout campus and its built form, in addition to the communal program.

Fig. 19 Communal program spaces located in and adjacent to the Ryerson campus

Chapter 3 laid out the physical and social context of the university campus as the campus, built form, and its various programs. Background information on Ryerson University as a growing institution aids in understanding the need for future development regarding the campus and its buildings.

The context provides the research to move forward in analyzing the aforementioned information to determine the moves needed in order to create a more open and dynamic university campus.

The growth of Ryerson University as an institution in a dense urban context creates the need to bring students back to its core. As the university campus grows and students have less reason to gather or cross paths, it becomes difficult for students to interact. Although it may be inevitable with its continual growth, Kerr Hall as a communal hub could act as a precedent for future expansion of campus nodes.

architectural **coalescence**

CHAPTER 4   CAMPUS CONDITIONS

This chapter analyzes the existing conditions of the site, the built form, and its program.

The first section defines the precinct of Ryerson University within the urban context, despite the non-existence of precinct borders. This creates an understanding of why and how these borders are broken. It also considers Kerr Hall's placement in relation to the rest of the campus and its significance to the social and communal potential for its students regarding proximity.

The next section looks at the built form and its examination of communal spaces within the built form. It considers the relationship of the public and private sectors and how the privacy of the institutional building as well as the public access and adjacent streets create a unique relationship bordering different people and program.

The last section analyzes existing programs within the built form. This includes the social and cultural impact of the community as an idea and in creating an identity for Ryerson as an institution. It also examines existing communal program within, adjacent to, or as part of the existing Kerr Hall.

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4.1 Current Site Conditions

Many of Ryerson's buildings sit within a defined precinct, bordered by Yonge Street, Gerrard Street, Jarvis Street, and Dundas Street (Fig.21). This precinct becomes blurred as Ryerson expands. Ryerson's Mattamy Athletic Centre is located just north of this precinct, overtaking Toronto's historic Maple Leaf Garden at Church and Carlton Street. Ryerson's Ted Rogers School of Business is also off-campus, just west at the intersection of Bay and Dundas Street. Ryerson is also completing construction on a residence located south of Dundas and Jarvis Street.

Ryerson University's Kerr Hall is situated at the centre of campus, as the institution's campus has expanded, based on the availability of land. Due to the cost and lack of readily available property, the urban campus is a patchwork of university-owned land, creating a disconnect between buildings and communal gathering space. With the few communal gathering spaces located on campus, the separation of campus buildings and properties requires students to move through property that is not owned by the Ryerson campus. With this break in connected university property, students may feel disconnected from the rest of campus. As a result, the only factor that maintains connected between the university's buildings and its open spaces is their closeness in proximity.

Figure 21 displays the campus, building properties, and their program use. Ryerson's institutional buildings, while not all side-by-side, are within a 400-metre radius, or 5-minute walk from the centre-most point

of campus. As Ryerson grows, interstitial conditions should be considered for future developments. These conditions would act as linkages between campus buildings. The in-between space — whether an alley, an open path, or form of designation — connects these buildings, especially if they relate only by proximity and programmatic use.

The integration of campus developments over the years has resulted in the dispersion of campus buildings. This trend will continue due to the difficulty of property ownership in a dense core of an urban condition, in addition to Ryerson's continual growth as a campus. This integration has forced the campus to integrate into the urban fabric, often disconnected by property not owned by the university. This interweaving of forms and spaces creates connections between public and private sectors that create diverse interactions between people. As people unassociated with the university would also utilize these streets encroaching university property, it creates a mix of users and programs that allow individuals to become a part of the community. Paths of circulation, open public spaces, and various programs come together to create a conglomerate that makes the urban condition so unique. This integration of people and programs create a community in and around campus that brings people together.

On campus grounds, varying degrees of spaces could be deemed either public or private. Shared spaces within neighbourhood communities in the city core are "somewhat public," such as the Ryerson Quad or Lake Devo, while spaces such as Dundas Square or Nathan Philips Square are considered to be entirely public.[34]

Figure 22 presents points of access circulating through the university, as well as the implied precinct that defines the now blurred borders of the campus edge. Circulation throughout campus is defined by the edges of and passing through campus. The most important street is Gould Street, as its closure has opened up opportunities for social events and communal gathering. With future plans to close a portion of Church Street as an extension of the pedestrian-focused Gould Street, many of the significant paths of circulation on campus will become pedestrian-only.

Circulation crosses not only within the public realm but in the private, semi-public, and semi-private realms as well. People move through university buildings as public buildings during the day but require card access at night. As a result, many utilize campus buildings as gathering, shelter, or circulation.

Students, as well as the public, utilize the Ryerson Quad as it attracts people as a public gathering space and as one of the few open green spaces in the downtown core of Toronto. Its lack of defined program opens up opportunities for users to define the space themselves, partaking in spontaneous recreational activities, or planned social events if the space is reserved. Located at street level, the quad provides accessibility for the public and private realms while still openly accessible from the street. The quadrangle's enclosed form creates restrictions from the street, as people who are unaware of activity or the space would not enter unless it was their intended destination, or if they were passing through.

4.2   Existing Built Form and Historical Elements

Before the construction of Kerr Hall, in its place was the Toronto Normal School, a teacher's college started by Egerton Ryerson (ref). The Normal School was eventually torn down in order to construct the Ryerson Polytechnic Institute, where a piece of the Normal School's historic facade was retained and now acts as the main entrance to the Ryerson Athletic Centre located below-grade of the quad.

Kerr Hall is enclosed from all sides, enveloping a communal courtyard in the middle. The only entry points are a single portal at the north of the building and two portals at the south. Kerr Hall connects to adjacent buildings by internal bridge connections: the Rogers Communications Centre to the east and the Ryerson Library and Podium building to the west. This circulation features a double-loaded corridor, lacking openings and therefore, limiting social opportunities by means of overcrowding. The result is less movement or fluidity, and a less dynamic space.

As Kerr Hall has undergone few renovations to alter its spatial organization, the current method in organizing space does not unlock the potential of the building at such a key location. The double-loaded corridor restricts circulation, closing off users from the outside world. The only openings sit within classrooms and labs, all of which have hindered views, deterring connectivity from the inside-out. Many of these openings are also barred off for security purposes, particularly at grade level. Computer labs or rooms with expensive equipment are visually hindered to reduce awareness of valuables inside. The solution is logical from a security standpoint, but results in a low-quality social and learning environment.

Many historical elements would be required to remain as part of Kerr Hal as well. At each facade, a segment utilizes granite stone panels, which requires that this portion of the facades be preserved. Sitting above many of these stone panel segments, are historical relief panels, for example, one entitled "The Greek Roots of Democracy." Many of the others include elements portraying life at Ryerson.

In addition to these historical elements, there are sculptures or art pieces are scattered in or around Kerr Hall. Most notably, just outside the south facade on Gould Street is a statue of Egerton Ryerson, the chief superintendent of the Canada West educational system. Within the Ryerson Quad are other artistic sculptures portraying the art and culture of Ryerson as a community and institution.

4.3   Organization of Existing Program and Communal Spaces

In integrating the public with the private or, more appropriately, the semi-private, this intersection can serve beneficial in encouraging social interaction. Programs overlapping in function can be placed at grade along the street. This emphasizes the interstitial realm where public and private meet. Where "borders between different functions and groups of people are removed. Each activity is given a chance to work with another." [35] Academic programs and university-related activities are spread across campus. These programs provide space fostering social interactivity, generating real opportunities for planned and spontaneous interaction to take place.

The more notable communal program spaces around campus include the pond (or rink depending on the season) at Lake Devonian, the library, the café, the gymnasiums (upper, lower, and at the MAC), the athletic centres (Ryerson Athletic Centre and Mattamy Athletic Centre), studios, and lounge areas (at the Student Learning Centre and elsewhere).

These activity spaces can be divided into public, semi-public, semi-private, or private. In analyzing existing programmed spaces, classrooms or lecture halls are deemed private or semi-private spaces, the courtyard is considered entirely public, and the library and cafés are semi-private.

Figure 20 displays the location of significant communal programmed spaces, such as the pool, theatre, and athletic centre. It also highlights the historical elements of the built form mentioned in the previous section. Together, this diagram portrays the necessary communal and historical elements that would be retained in the best interest of the university and its communal culture. Areas that do not contribute to the social and communal development of Ryerson may be open for improvement in future considerations.

ryerson quad
pitman quad
lake devo

RYERSON PUBLIC SPACE

RYERSON BUILT FORM

RYERSON URBAN CONTEXT

architectural **coalescence**
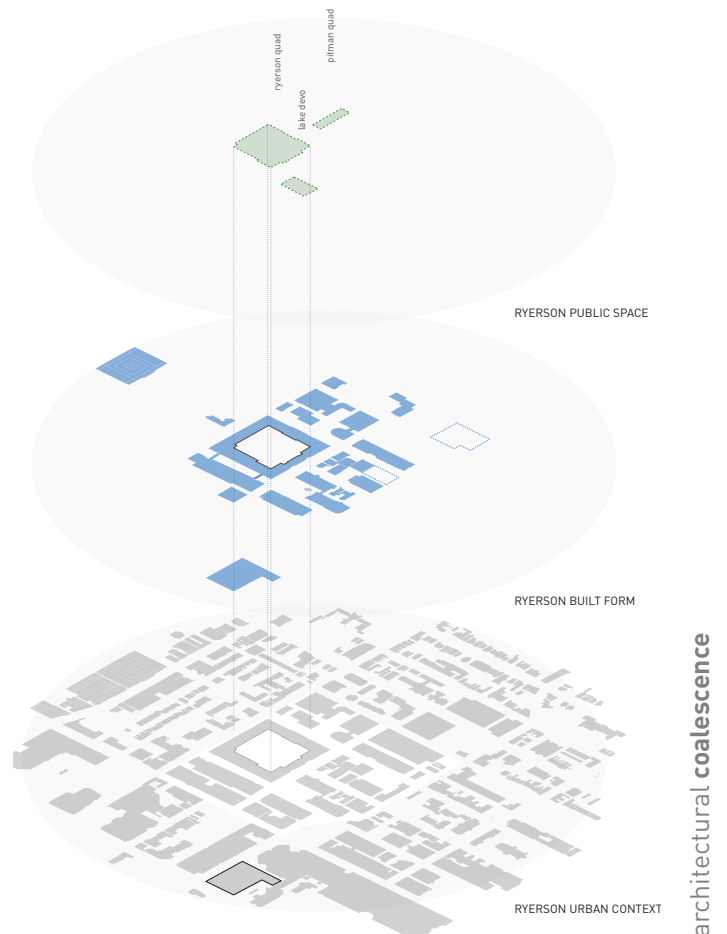
Fig. 20 Map of Ryerson University's open public spaces
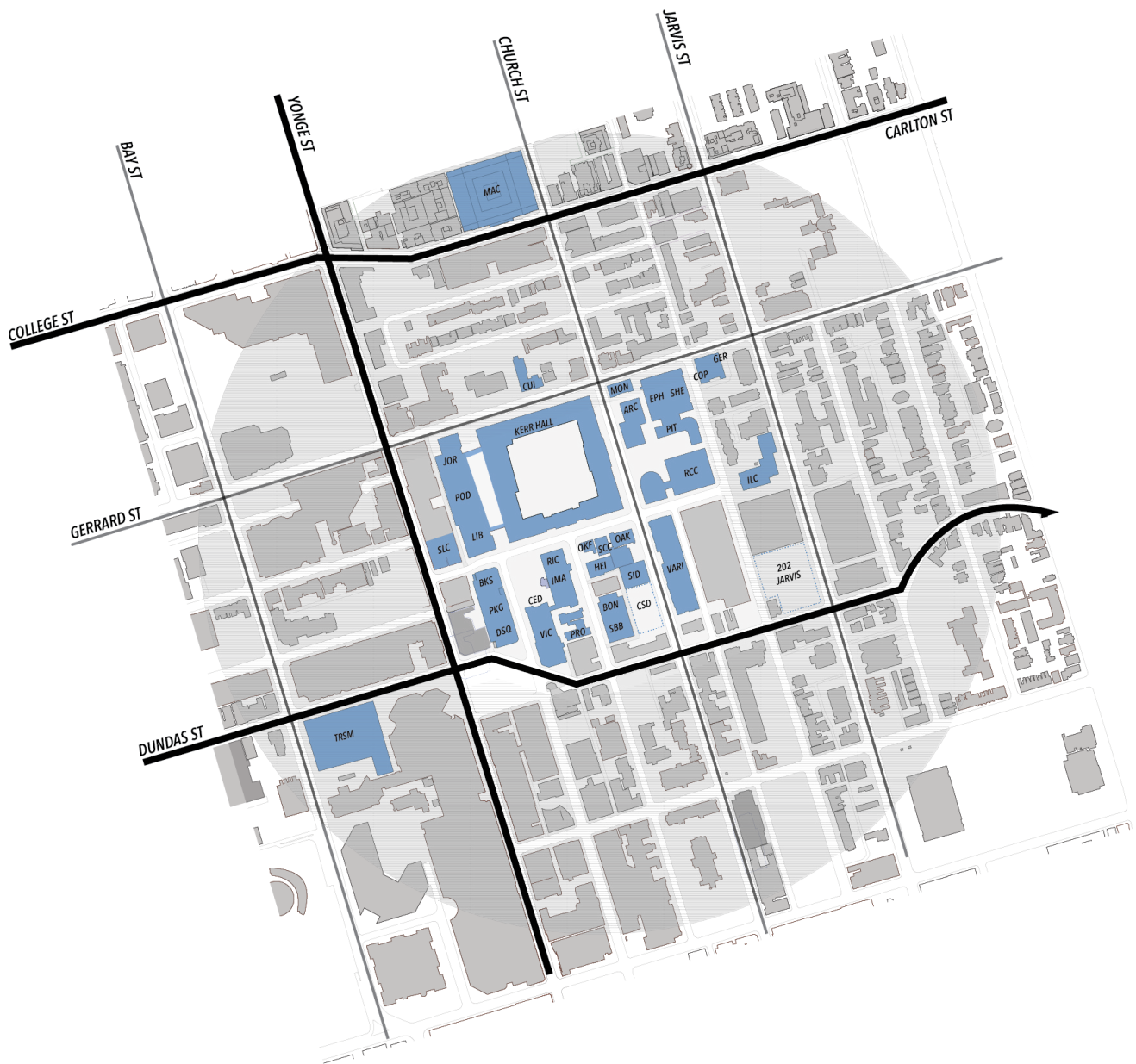
Fig. 21 Map of Ryerson University campus buildings and surrounding context
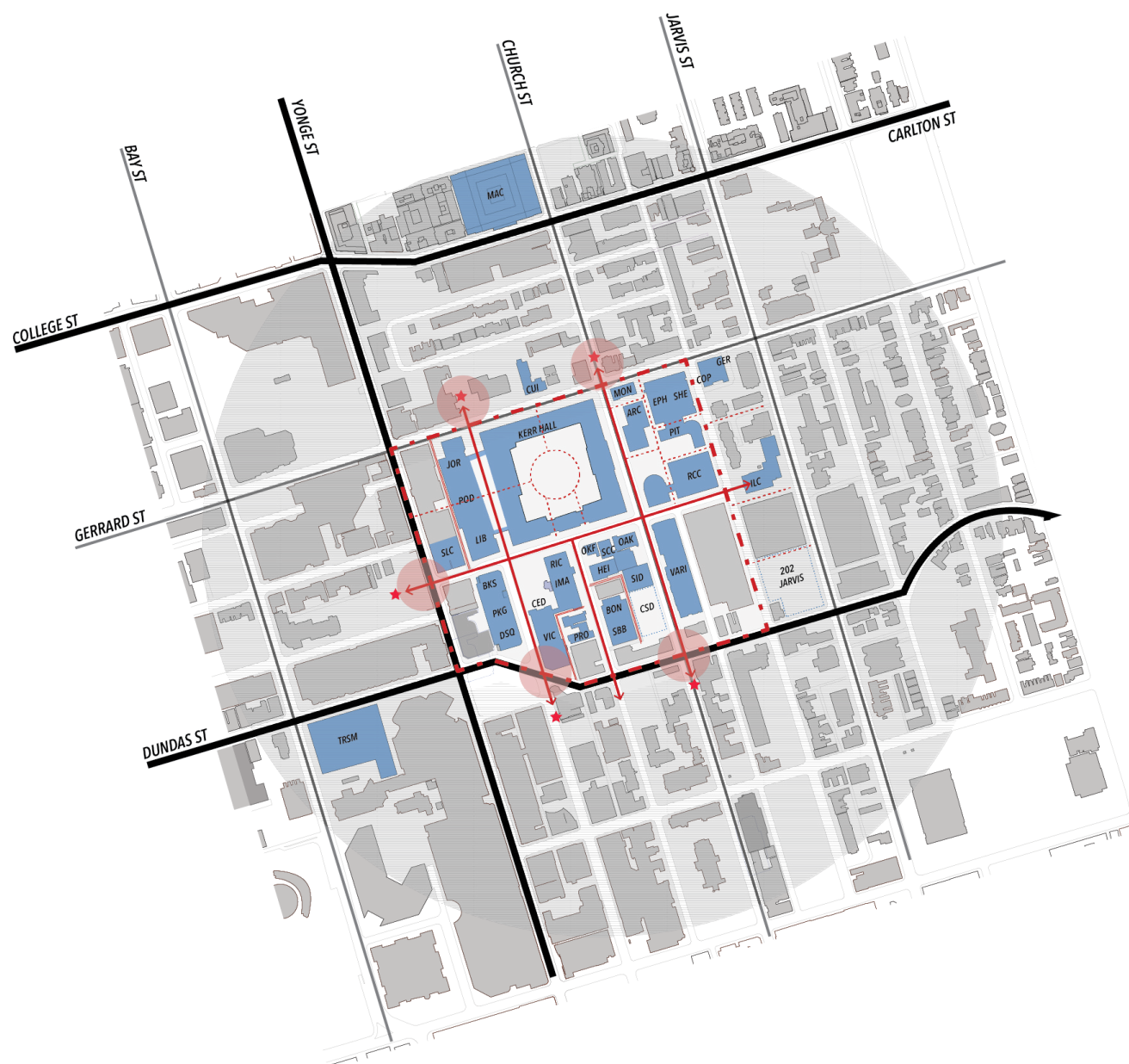
Fig. 22 Map of Ryerson University campus showing main points of access within the urban fabric

Fig. 23 Ryerson's Kerr Hall under construction, ca 1962

Chapter 4 presented a thorough analysis of the existing conditions of the campus site, built form, existing programs, and historical elements at Kerr Hall. The analysis of Ryerson campus and its relationship to the urban context provides not only reasons as to why the application of this thesis is necessary but also the social and cultural benefits for the university and city of Toronto. The expansion of Ryerson, in addition to the difficulties of a collecting property forces the university to be integrated into the urban context. This mix of users, university-affiliated or not, provides a knitted community through its programmatic use and emphasis of the interstitial realm. Although this may create some issues regarding safety and security, the university no longer has a defined precinct, as its apparent openness and scattered properties provide additional eyes on the street.

From historic sculptures to materiality, the consideration of existing elements provides set restrictions that are necessary to architectural design. These elements tie architecture with culture, as well as with the users who make up the community. The built form and its restrictive circulation would require some changes in order to open up the campus. This would allow for a stronger connection into and out of Kerr Hall, as well as into the quad as a communal gathering space. Understanding the issues with Kerr Hall as it stands is the first step to improving existing and potential campus buildings for the near future.

The emphasis on the relationship between the public and private realms is the focus of this thesis. By establishing the significance of Ryerson University's campus, its integration into the urban context, and Kerr Hall opening up to allow for better circulation on campus, the organization and connection of these programs would be the final bow to tie all these factors together.

Fig. 24 Views of Ryerson Quad ca 1970

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collaborative space

study room

workshop

SWIMMING POOL

LIBRARY

common area

athletic centre courts

breakout space

CAFE

classroom

dance studio

COURTYARD

weight room

lounge space

auditorium

performance space

communal study

GYMNASIUM

THEATRE

lecture hall

laboratory

art studio

gallery space

entertainment space

terrace

collaborative studio

— private
— semi-private
— semi-public

Fig. 25 Network of existing public, semi-public, semi-private, private programs in Kerr Hall

PART III   DESIGN BARRIERS, TACTICS, AND CASE STUDIES

Part III examines three main areas considered for the design of this thesis. The first is the design barriers. This area recognizes obstacles that hinder the successfulness of this thesis. The second area of focus is the design tactics. These design tactics look at ways to overcome the barriers. Lastly, this thesis studies specific precedents to prove that the methods could work in accordance to the issues discussed.

Several case studies and precedents that implement the strategies and tactics of this thesis are available at the end of this part. These projects examine similar issues or conditions to this thesis. The importance of these projects would be to analyze how they followed-through with the original concept and how the resulting design resolved the issue. Other case studies and precedents focus on implementation of the design. The exploration of these select projects looks into how similar design interventions could be used to resolve similar issues or barriers encountered.

Fig. 26 Exploded axonometric of the proposed layering of communal program at Kerr Hall

CHAPTER 5   DESIGN BARRIERS

Chapter 5 looks at the barriers to overcome in order for this thesis to be successful. By analyzing the site, context, and conditions, we can determine obstacles that may hinder the progression of this thesis.

To foster social interactivity and communal development, it is essential to be able to identify the barriers. These barriers would restrict the ability of Ryerson University, as a physical campus as well as an educational community to connect. The ability to overcome these obstacles will directly correlate to the ability for students to be able to co-exist with one another within the conditions of the university campus (Fig.27).

Fig. 27 Kerr Hall Levels 0-3, showing retained communal program spaces and historic elements

architectural **coalescence**
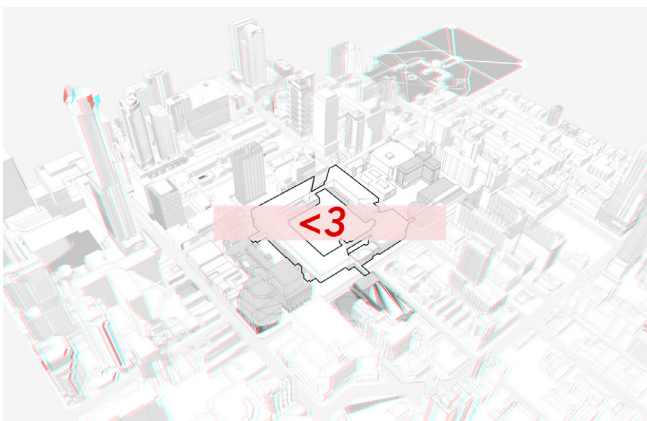
Fig. 28 Where is Ryerson's heart to the campus?
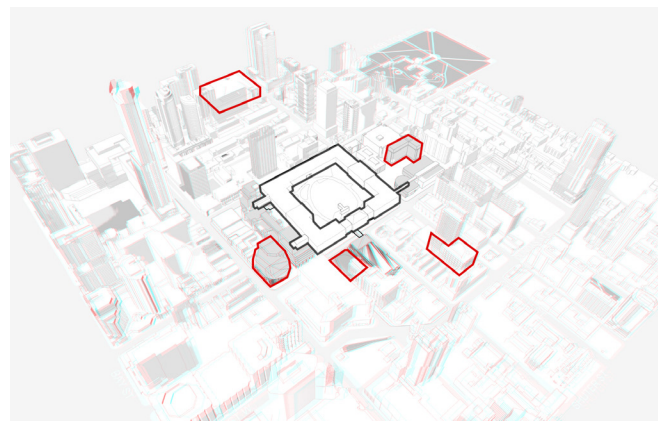
Fig. 29 Ryerson's collective programs are dispersed across campus

5.1   Barriers to Connectivity

In order to achieve the goals of these strategies and tested tactics, we must identify the barriers to overcome. These barriers are restrictions in organization that hinder the possibilities of Ryerson University as a community.

The first barrier is that the campus lacks a "heart" or identifiable central node on campus. The existing condition does not have a focal point for students to congregate. Currently, the Student Learning Centre, located at the intersection of Yonge and Gould Street acts as the only acceptable place for students to gather and participate in communal activity. As the Student Learning Centre was designed to act as a gateway to the campus, it does not have the necessary infrastructure for elaborate collective activity.[36] It does provide space for students to lounge or participate in limited activities, but as a central domain, Kerr Hall can utilize existing program and incorporate new communal program to act as a hub for the university campus.

The second barrier includes the physical restrictions that are a part of the existing built form. These restrictions include a lack of required openings, or a lack of transparency hindering the awareness of students, preventing visual or physical connectivity from taking place. Kerr Hall's existing condition deters students from seeing activity within its walls or in the courtyard. Being unable to see other people or activity taking place within these communal spaces hinders the natural curiosity of the passerby.

The third barrier is programmatic stagnancy. The existing campus places students within their individual programs or departments, where they already spend most of their time. Most programs have a designated building or space for their students. The result of staying within these designated spaces, whether for lectures, lab hours, or studios is a separation of students, limiting activity on campus. The encouraging perspective of displaying campus activity is that it allows students to be aware and participate, whether in clubs and school teams. These programs require students to move around, creating more activity and therefore more opportunity outside of their designated buildings.

Lastly, inaccessibility in and around campus disallows users to easily enter or circulate through a space. The existing condition lacks the connectivity for users to access public program or gathering spaces. Modes of entry exist, but the lack of ease of access deters the frequency of access. Kerr Hall's closed-off form hinders access into the courtyard, where students would typically congregate. This inability contributes to the lack of flow and circulation through communal spaces. A well-designed campus or building will naturally bring people into a space, allowing for optimal activity and social interaction.

Acknowledging the potential barriers hindering the development of this thesis urges us to move forward with the design objectives. As a result, these design objectives can help overcome the obstacles and influence how students can co-exist within the campus condition.

As Chapter 5 examined the barriers that hinder the existing campus from maximizing its social and communal potential, by identifying these obstacles, we can improve upon areas to focus on.

Lacking a heart to the campus limits the ability for students to gather as they are not provided with the proper infrastructure or spaces for this to take place. Where necessary activities would take place under any conditions, favourable conditions are required to help bring students together. Noting the physical restrictions of the existing campus and identifying areas of intensity assist in locating where interventions need to take place. If there is a physical barrier that could open up to improve visibility and connectivity, then identifying the location of these issues is a first step. A lack of dynamism on campus could be improved by providing connected program while interweaving paths of circulation. These changes could open up areas of restricted access. Breaking down these barriers could improve circulation on campus and therefore create more accessible programmed spaces.

Each of these barriers deter the potential ability of social interaction and communal development in different ways. However, as we analyze the areas and ways that these barriers restrict the common goal of this thesis, they can also be resolved by utilizing similar solutions.

CHAPTER 6   DESIGN TACTICS

The design barriers in the previous chapter laid out issues with the existing condition. This chapter assembles potential tactics to counter those barriers. The following design tactics analyze the issues in order to come up with potential site or context-specific solutions. These solutions are tactics that would apply to similar scenarios and a similar goal.

Utilizing the strategies mentioned earlier, a series of design tactics could occur in order to achieve the objectives of improving social interaction and communal development within the university campus. These tactics tested in the following chapter utilize case studies and precedents with relatable conditions.

architectural **coalescence**

6.1   Design Tactics

To implement these strategies, we use a series of design tactics. By analyzing the site, building, and use, our research can translate strategies into specific tactics to target the issues with Ryerson University's urban campus and Kerr Hall.

With the three strategies — collection, connectivity, and circulation — there are many potential tactics to employ. Through a series of case studies, relevant sites and conditions use similar tactics to achieve congruent goals. The results show whether or not they would work if implemented in a similar scenario.

This thesis proposes to achieve collectivity by turning Ryerson's Kerr Hall into a communal hub. By retaining existing communal program and improving interconnectivity through a means of extensive circulation, it may assist in achieving our social goals. Creating spatial overlaps where different activities occur creates an overlap of personnel and therefore more opportunity for interaction. This approach blurs the separation between programs. "Everywhere people move about and are engaged in activities, they do so on horizontal planes. It is difficult to move upward or downward, difficult to converse upward or downward, and difficult to look up or down."[37] Any visible gathering of people or activity within the public realm should occur on the ground floor. In most cases, this is where the public and the private can intersect. According to Kim Herforth Nielsen, "we activate potential to create life in and around buildings by letting plazas, squares and buildings blend. The interaction between people

occurs where the buildings and street meet. Buildings need activity at ground level."[38]

Connectivity improves through the creation of direct pathways. Increasing the number of access points provides points of intersection, and therefore, points of interaction. Currently, Kerr Hall has access at grade at the north and south facades. A single entrance into the courtyard opens up along Gerrard Street, and two entrances open up to Gould Street, into the campus. These restricted views and the limited number of access points into the Ryerson Quad limits the potential opportunity users have to gather within the courtyard. On the upper levels of Kerr Hall, multiple bridges connect adjacent buildings, allowing students to travel from one building to another without having to step outside. On the west side of Kerr Hall, two bridges are available. One at the north end of Kerr Hall West, leading to Jorgenson Hall, and a second on the south end, connecting to the Ryerson Library and Podium building. This second bridge connects through to the Student Learning Centre, providing a pathway for users to travel from the proclaimed gateway to the university and move indoors through to the centre of campus. On the opposite side of Kerr Hall, a bridge connects above Church Street to the Rogers Communications Centre.

The framework provides options for students to circulate through campus. These connections allow students to move freely to Kerr Hall, providing the opportunity for the connection to take on a further role as a gathering hub for the campus. Encouraging circulation and flow further then improves connectivity. The significance of increasing fluidity of activity in circulation allows for

movement from space to space within the built form, providing opportunities for interaction. Visible collective activity draws human interest and more reason to gather.[39] Where predetermined programs limit the forms of activity that may take place, autonomic activity is unplanned and provides a sense of freedom for its users. This freedom is achievable by providing the necessary networks to allow for fluid circulation. With the potential closure of Gould Street, existing circulation on campus grounds have improved. Students may move around campus, taking whichever paths they like. With Kerr Hall's closed-off form and double-loaded corridors, circulation through the building is dull and stagnant. Moving through the built form allows students to be protected but also deters them from connecting with outdoor activity.

These specific tactics point to issues of the existing built form that hinder potential growth in communal development and social activity within the campus.

Chapter 6 presented potential tactics to test in tackling the design barriers mentioned in the previous chapter. These design tactics take the strategies and apply them to the urban campus condition of Ryerson's Kerr Hall. Where these situations are specific to the Ryerson University campus, they are typical conditions of urban campuses across the country. These potential solutions would resolve issues regarding a lack of community and connectivity on campus.

These design tactics tested improve circulation and the flow in and around campus, let alone Ryerson's Kerr Hall. The fluidity of circulation from building to building improves the ease of accessibility and overall movement of students, therefore providing plenty of opportunities for interaction.

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CHAPTER 7   CASE STUDIES SETTING PRECEDENT

Chapter 7 looks at various case studies that examine focal areas that set precedence to the design of this thesis. These case studies were chosen with the following in mind: context, condition, program, and intent, among other factors. Many of these areas overlap with other precedents, displaying just how these projects follow-through with their design intent and are implemented into the project. The consideration of design interventions when dealing with existing conditions also plays a vital role in the selection of these case studies. Where some projects sit on an empty site, their relevance to this thesis is on the core concepts and design intentions.

This chapter is divided into three sections: case studies that test design tactics, case studies that explore design concepts, and case studies that inform design implementation. The first subsection selects case studies that utilize similar design tactics mentioned in this thesis. These case studies set precedence to this thesis as to how these tactics apply under similar circumstances, but within a different setting. The second subsection examines design projects from a conceptual standpoint, including projects created for a design competitions that may have never come to fruition. These designs cannot be ignored despite the fact they were not constructed because the brainstorming, thought processes, and endless iterations contribute to the resultant solutions. Many of these concepts target similar goals in their designs so were chosen as precedents to this thesis. The third section looks at projects that inform design and how this thesis is taken

into action. Analyzing real-life projects with similar circumstances provide precedent as to how conditions of this thesis design would work. The focus does not touch on its relevance to anything other than implementation, for example, regarding historic preservation.

In order to determine the success or failure of the strategies and tactics in the previous chapters, we look at existing precedents that utilize strategies and tactics to overcome similar barriers. The projects differ in location, program, environment, but they provide options as potential solutions for these many issues. Each of these case studies tackles similar issues in multiple ways, each applying its approach to encouraging social interaction and community development through means of collection, connectivity, and circulation. The following will be examined within the parameters of this thesis.

7.1   Testing Design Tactics

The case studies used in this section implement similar tactics and strategies as discussed in this thesis.

	CREATE COLLECTIVE HUB	IMPROVE POROSITY	ENCOURAGE CIRCULATION AND FLOW	INCREASE CONNECTIVITY
TANGEN POLYTECHNIC 3XN ARCHITECTS	●	●		●
ORESTAD COLLEGE 3XN ARCHITECTS	●	●		●
LINKED HYBRID STEVEN HOLL ARCHITECT	●		●	●
TIETGEN DORMITORY LUNDGAARD + TRANBERG ARCHITECTS	●	●	●	●
MISSION TOWERS MoDa	●		●	●
VANKE CENTRE STEVEN HOLL ARCHITECT	●		●	●
CAMPBELL SPORTS CENTRE STEVEN HOLL ARCHITECT	●	●	●	
VILLA VPRO MVRDV	●	●	●	
TRES GRANDE BIBLIOTHEQUE OMA	●	●		●
THE CLOUD STUDIO FUKSAS	●	●		●

Fig. 30 The 10 case studies demonstrate a variety of tactics to achieve the goal of improving social interactivity

CREATE COLLECTIVE HUB   IMPROVE POROSITY   ENCOURAGE CIRCULATION   INCREASE
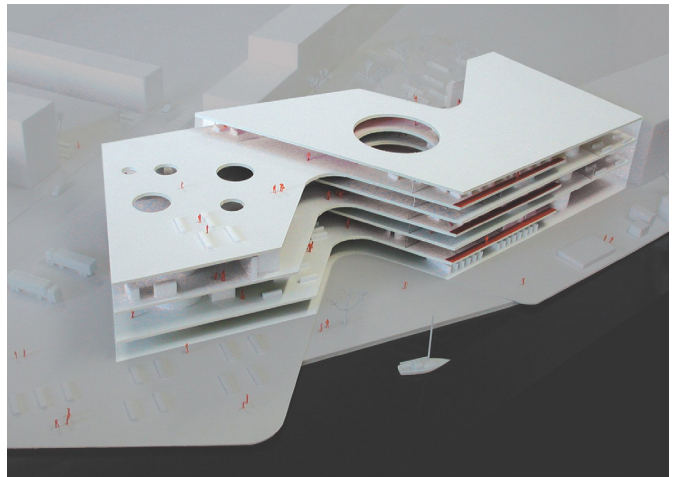   AND FLOW   CONNECTIVITY

TANGEN POLYTECHNIC
3XN ARCHITECTS
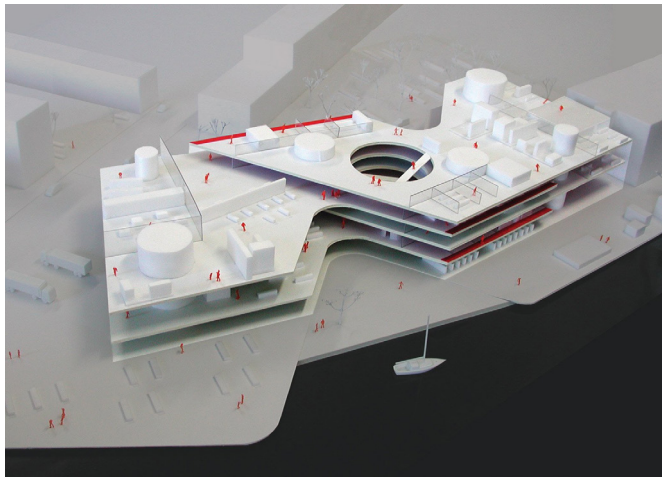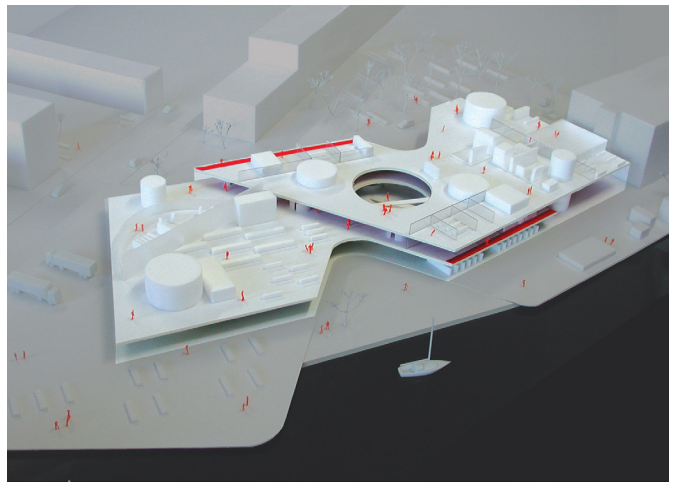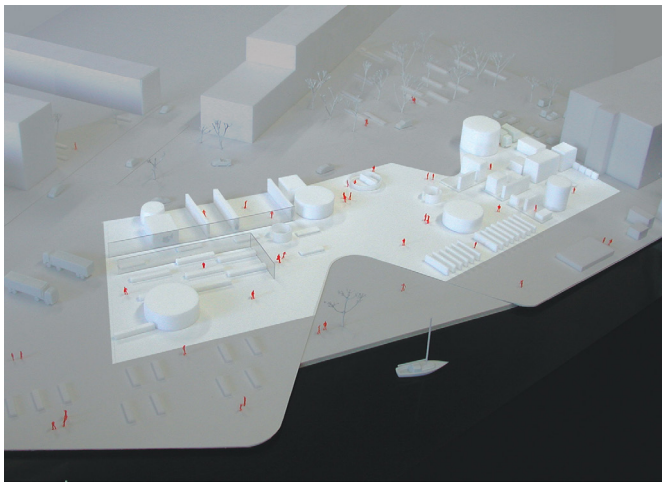

Fig. 31 Physical model of Tangen Polytechnic

Tangen Polytechnic

Location   Tangen, Norway
Architect   3XN Architects
Year   2009
Program   Institutional

Tangen Polytechnic is a multidisciplinary, educational institution designed by 3XN Architects. This project creates a synergetic relationship between various programs within a single campus building.[40]

With so many disciplines under a single roof, it becomes essential to have each one identifiable from the public. Interconnected platforms allow for visual connections between different floors providing views of other activities taking place within the building.

An atrium opens up each floor of the building, allowing for natural light as well as a level of connectivity to each floor. Stairways cut across this atrium, allowing the space to act as a social program as well. As it sits within the heart of the building, it provides a sense of connection with users on each floor as one circulates through the building. The result is a strong sense of awareness of others within the building.

Tangen Polytechnic is an example of a post-secondary institution that aims to create a hub to tie public programs together. It provides spaces for students to gather, creating a heart to the campus. Its openness utilizes its views to connect users with the outside, strongly emphasized by its unique angles. A circular atrium allows for connectivity in all ways, providing precedent for this thesis to open up the building centre.

architectural **coalescence**

CREATE COLLECTIVE HUB   **IMPROVE POROSITY**   **ENCOURAGE CIRCULATION AND FLOW**   **INCREASE CONNECTIVITY**
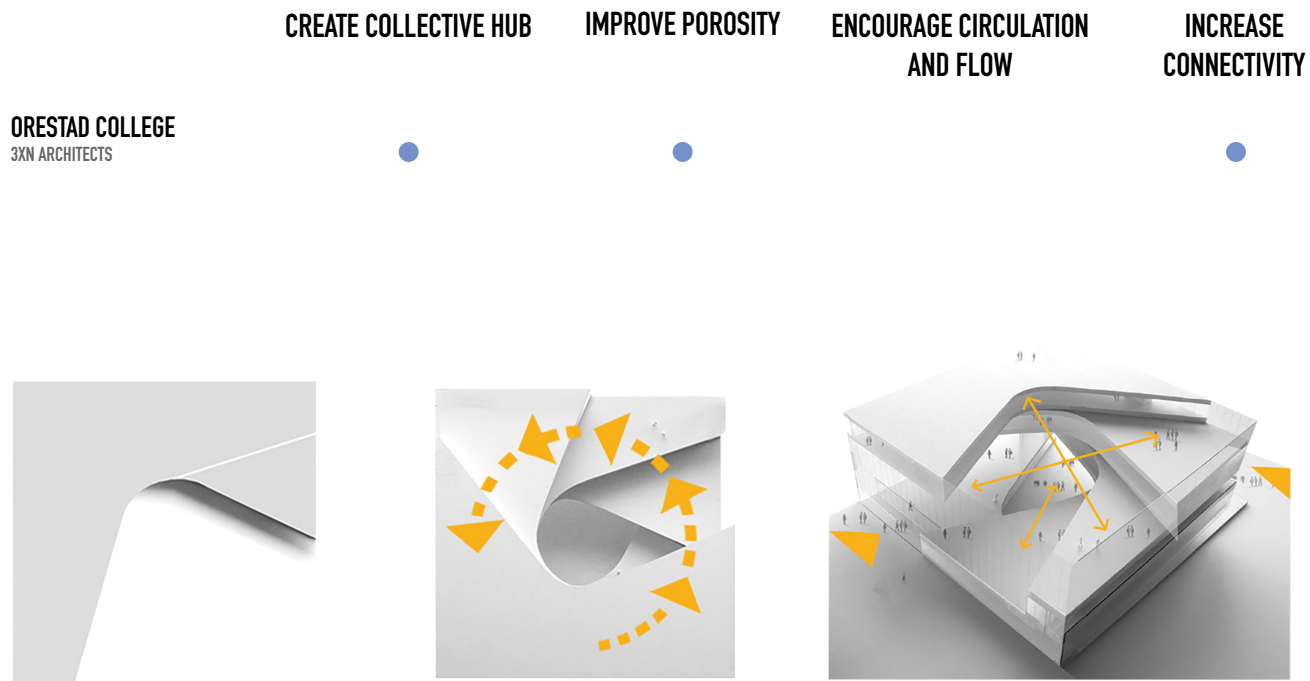
ORESTAD COLLEGE
3XN ARCHITECTS

Fig. 32 Physical model of Ørestad College
Fig. 33 Drawing displaying the layering and openness of Ørestad College

Ørestad College

Location	Copenhagen, Denmark
Architect	3XN Architects
Year	2006
Program	Institutional

Ørestad College is another project by 3XN Architects that utilizes the similar strategy of a communal hub. By creating a form that embodies a series of public programs, it helps bring people together. The openness of the building allows for a sense of transparency that develops physical and visual connections into and out of the building.[41]

"We have the possibility of creating something completely new; the facilities of this building form the framework for a constantly evolving project that encourages us to find interrelation and behavioural patterns suitable for the time in which we live"[42]. The experience of the Ørestad College building allows students to connect with others through circulation, claiming it to be "impossible to feel uncomfortable anywhere" due to its openness and hierarchical separation.

This lack of separation also creates a more open environment, where glazing replaces solid walls. While the initial reaction may be of discomfort, people become less aware or conscious over time, as it becomes more inviting to be a part of the student community.

According to 3XN Architects, the competition design requested that use of a typical spatial layout for a learning environment be avoided. Instead, a focus on

generous open spaces that would also work on a smaller scale was requested.[43] Floors stagger, opening up to the upper levels of communal space, allowing students to be visible to other classmates. The flexibility of spaces also allows users to determine what type of learning environment suits them best.

Ørestad College looks to focuses on the development of openness to be visible to the rest of the campus, and improves accessibility and visual connectivity to activity inside and out. Its success lies in its ability to connect users within the building. The design staggers floors in a way that follows the theories of improving connectivity by limiting the typical, direct stacking of program.[44]

architectural **coalescence**

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CREATE COLLECTIVE HUB   IMPROVE POROSITY   ENCOURAGE CIRCULATION AND FLOW   INCREASE CONNECTIVITY

LINKED HYBRID
STEVEN HOLL ARCHITECT

DINING DECK

READING ROOM

13F: ART GALLERY   13F: VIEWING PLATFORM

12F: EXHIBITION SPACE   12F: ART GALLERY

15F: DESIGN STORE   14F: ARCHITECTURE GALLERY

14F: BOOK STORE

SCULPTURE / ARCHITECTURE GALLERY

ULTRA LOUNGE

12F: BAR / COCKTAIL LOUNGE

15F: COFFEE SHOP

CAFE SEATING

BOOK EVENT SPACE

LISTENING LOUNGE

TEA SEATING

16F: TEA STORE

15F: GAMING SPACE

	SPORTS CLUB
	HEALTH SPA
	ENTRY POINT
	COFFE HOUSE / BAR
	BOOK SHOP
	EXHIBITIONS

VIEWING PLATFORM

17F: BRIDGE ENTRY LOUNGE

16F: HEALTH FOOD STORE

17F: HAIR / NAIL SALON

SUSPENDED CATWALK

3 LANE LAP POOL

GROUP EXCERCISE SPACE

18F: STRENGTH TRAINNING

17F: FITNESS TRAINING

17F: MEETING PLACE

18F: PERSONAL TRAINER

17F: JUICE BAR / BRIDGE ENTRY

18F: SPA / MASSAGE

17F: WOMEN'S LOCKER ROOM

18F: OFFICE / MEN'S LOCKER ENTRY

18F: SPINNING ROOM

17F: MEN'S LOCKER ROOM

17F: MEN'S LOCKER ROOM

16F: LAUNDRY / MECH

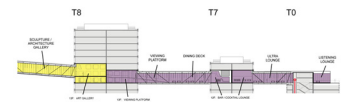T1   T2   T3   T5   T6   T9   T8   T7   T0
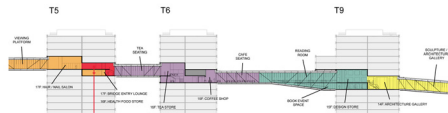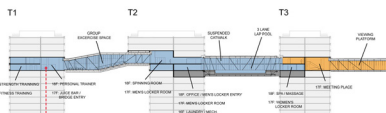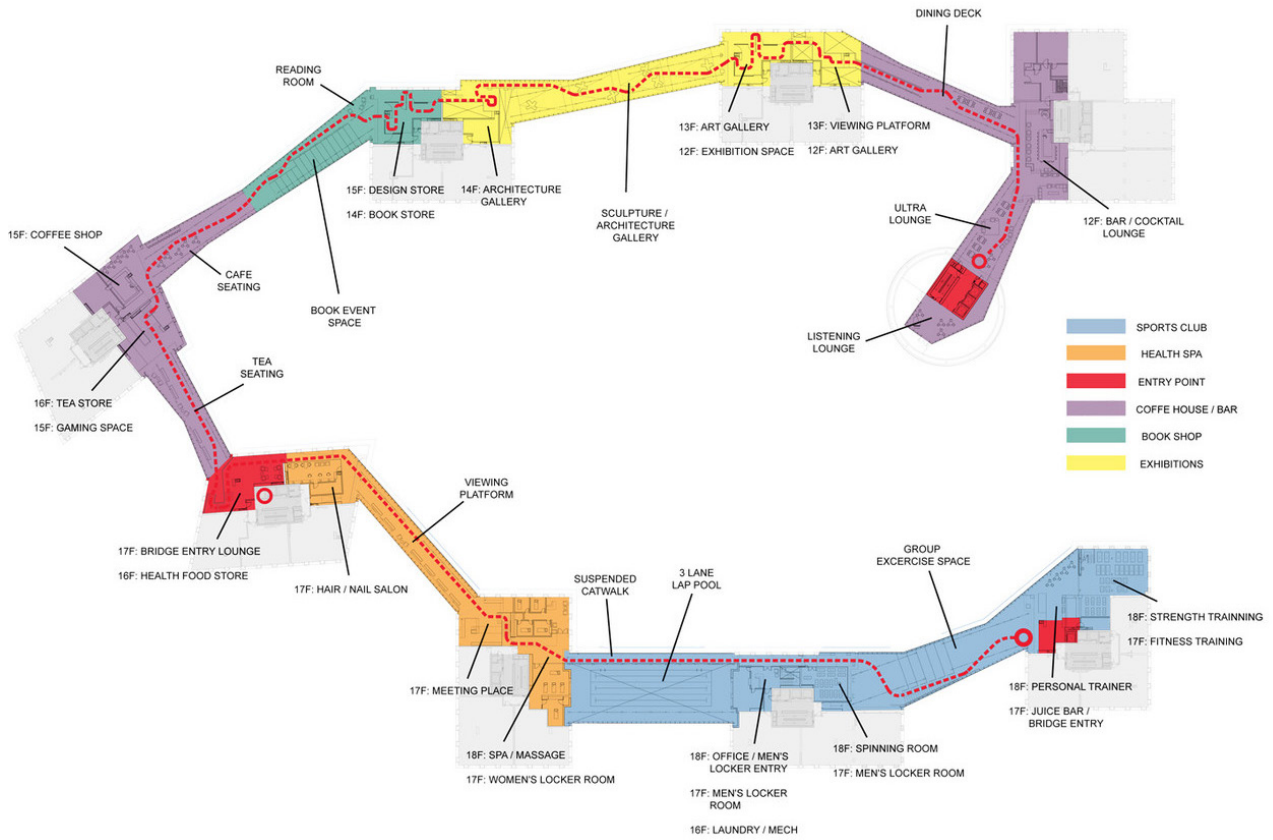
Fig. 34 Plan of program organization of the Linked Hybrid
Fig. 35 Sectional relationship of program within the Linked Hybrid

Linked Hybrid

Location	Beijing, China
Architect	Steven Holl
Year	2009
Program	Residential

The Linked Hybrid by Steven Holl connects a series of buildings to create a programmatic circulatory path that brings people together. By integrating a series of mixed programs through this linked circulation, it increases the level of connectivity between users and each building.[45]

The complex focuses on the user, as the urban space is open from all sides allowing for interconnectivity to the public realm. The Linked Hybrid is described as an "open city within a city"[46] as its many connections create a network, much like a city.

Passageways are located at grade, creating a human scale while allowing users to move throughout. Public programs such as shops, restaurants, a kindergarten, and theatre space sit at the ground level, while having connections to the green spaces surrounding the site.

A series of sky bridges connect the programs above, such as a pool, fitness centre, café, gallery space, auditorium, and salon. They connect the residential buildings (including a hotel) to create a circulatory loop. The intention of the programmatic loop according to Steven Holl is to "generate random relationships."[47] It also acts as a social condenser to bring activity to the building and its users.

The Linked Hybrid sets a precedent for this thesis as a design that utilizes interconnected program. The series of linkages from program to program show the success of this linked system. The design shows how form can organize program sequentially. The links act as circulation space but also as a space for interactivity. This interactivity shows how the integration of multiple programs within a single space introduces an overlap of activity that can provide opportunities for interaction.

CREATE COLLECTIVE HUB	IMPROVE POROSITY	ENCOURAGE CIRCULATION AND FLOW	INCREASE CONNECTIVITY

TIETGEN DORMITORY
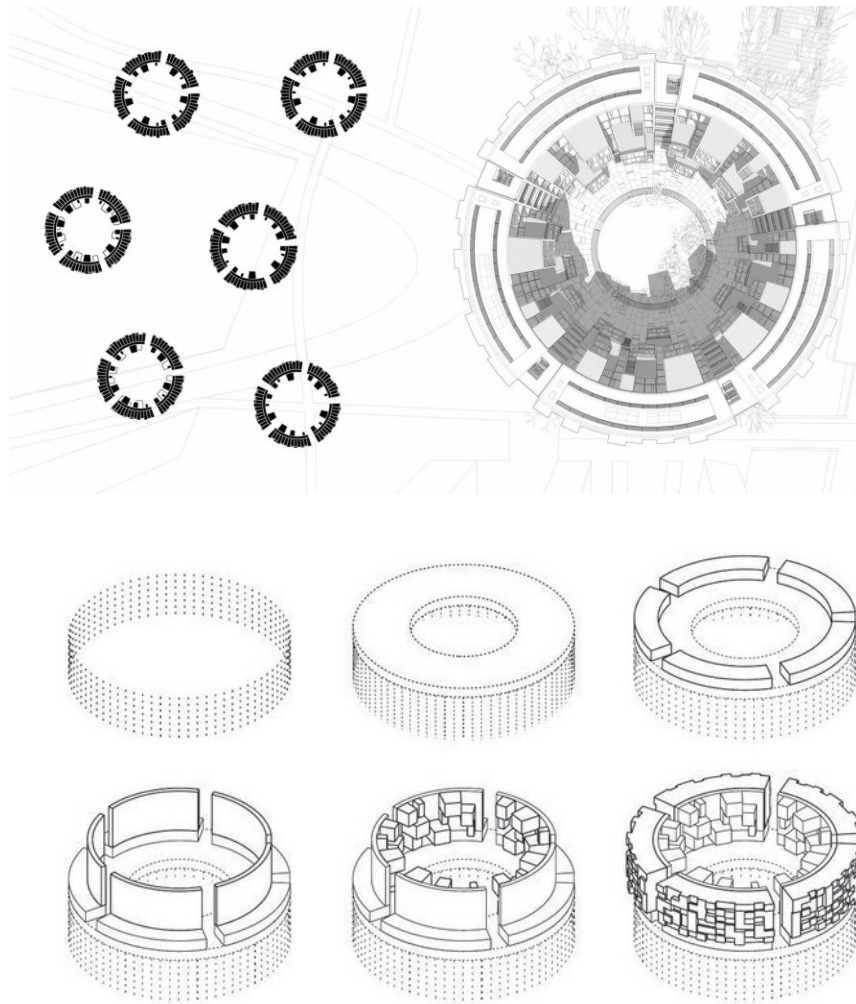LUNDGAARD + TRANBERG ARCHITECTS

Fig. 36 Porosity diagram and plan view of the Tietgen Dormitory
Fig. 37 Layering axonometric diagram

Tietgen Dormitory

Location	Copenhagen, Denmark
Architect	Lundgaard + Tranberg Architects
Year	2005
Program	Residential

The Tietgen Dormitory by Lundgaard + Tranberg Architects is a student residence situated in Copenhagen, Denmark. It fully utilizes its courtyard and circular form to create an open gathering space for students to congregate.[48] Its openness allows for circulation into, through and around the residence building creating opportunities for social interaction, communal activity, and interconnectivity.

Located near Copenhagen University, the residence sits in a relatively new neighbourhood contrasting the fluidity of the canal to that of the surrounding rigid structures. The built form comes from a representation of the public program within the residence. Each volume extrudes from the donut shape, creating a sense of individuality for each resident.

The circular form of the residence provides a visual connection into a courtyard. Communal programs look into the courtyard while residences sit on the outer ring looking out towards the neighbourhood. At grade, the courtyard opens up as well as the shared facilities.

The building design deals with the concept of individuality versus the collective. It opens up the building physically at grade and visually above, allowing for a porous structure, open to visual connectivity and awareness of users and activity.

The Tietgen Dormitory focuses on the student residence, but its relationship to this thesis is in how the built form surrounds the courtyard as a gathering space. The form does not restrict access into the public space, allowing for visual porosity and physical access for users outside. It also allows for a visual connection within the building to see activity within the space. This project is seen as a highly successful post-secondary institution building, primarily as a gathering space. Students circulating the building can see activity within the courtyard, which also allows them to join or utilize the space as they please.
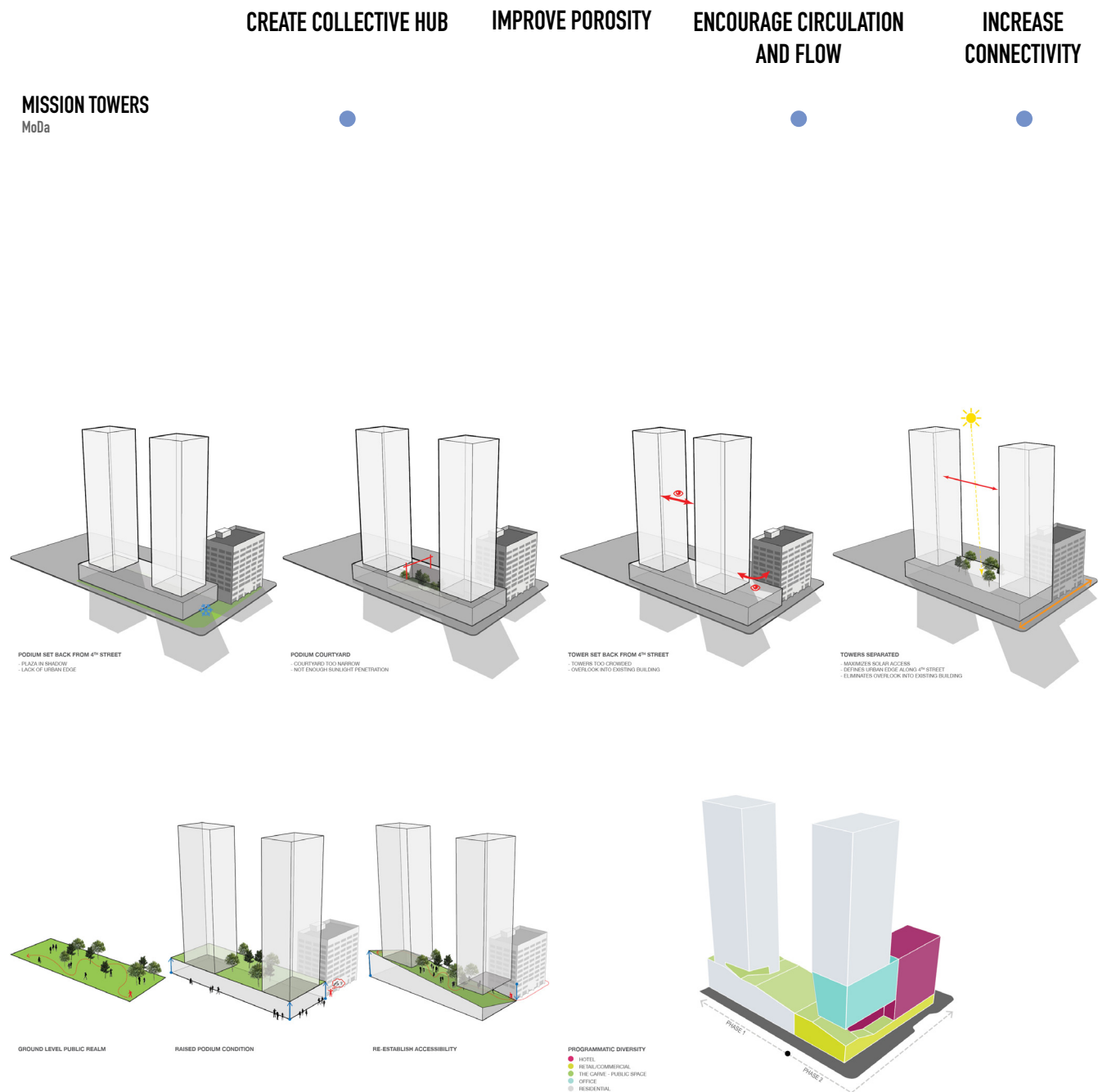
architectural **coalescence**

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CREATE COLLECTIVE HUB   **IMPROVE POROSITY**   **ENCOURAGE CIRCULATION AND FLOW**   **INCREASE CONNECTIVITY**

MISSION TOWERS
MoDa

PODIUM SET BACK FROM 4TH STREET
- PLAZA IN SHADOW
- LACK OF URBAN EDGE

PODIUM COURTYARD
- COURTYARD TOO NARROW
- NOT ENOUGH SUNLIGHT PENETRATION

TOWER SET BACK FROM 4TH STREET
- TOWERS TOO CROWDED
- OVERLOOK INTO EXISTING BUILDING

TOWERS SEPARATED
- MAXIMIZES SOLAR ACCESS
- DEFINES URBAN EDGE ALONG 4TH STREET
- ELIMINATES OVERLOOK INTO EXISTING BUILDING

GROUND LEVEL PUBLIC REALM

RAISED PODIUM CONDITION

RE-ESTABLISH ACCESSIBILITY

PROGRAMMATIC DIVERSITY
- HOTEL
- RETAIL/COMMERCIAL
- THE CARVE - PUBLIC SPACE
- OFFICE
- RESIDENTIAL

PHASE 1

PHASE 2

Fig. 38 Massing and circulation diagrams of MoDa's Mission Towers

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Mission Towers

Location   Calgary, Canada
Architect   MoDa
Year   2015
Program   Residential

The Mission Towers by the Modern Office of Design and Architecture (MoDa) is located in Calgary, Alberta. The project tackles the issue of the typical tower and podium typology, where the design goal sought to "provide great spaces for gathering and interacting."[49]

The design of the Mission Towers took the podium condition and reconnected it with the public realm at grade to create a new rooftop topography within the urban context. This solution creates a landscaped condition that enables accessibility and interactivity to the public street.

In addition, the design created a smaller environment by providing mixed-use programs interconnecting program and its users. The design also utilizes the facade of the tower and its pixilation to create a sense of identity and individuality to the building and its users. These moves ultimately tackle the issue of the typical tower and podium design, creating a sense of homogeneity within the residential condition.

In addition to these issues, MoDa considers the experience a user has when moving through the city. Its change in scale when moving from one end of the podium to the other relates to the human experience creating a unique user experience.

The program of this precedent does not align with the focus of this thesis. Where it does relate is how the communal spaces within the building tie together through active and open circulation in addition to how it manages scale at points of access. The building provides the infrastructure for gathering but also encourages an ease of access into the site, making it successful from a topographical and circulatory perspective. Where the design of this thesis may be seen similarly to this podium condition, the modification of planes improve accessibility and prove beneficial in moving people from the ground level of the quad to upper levels, and vice versa, therefore encouraging fluid circulation.
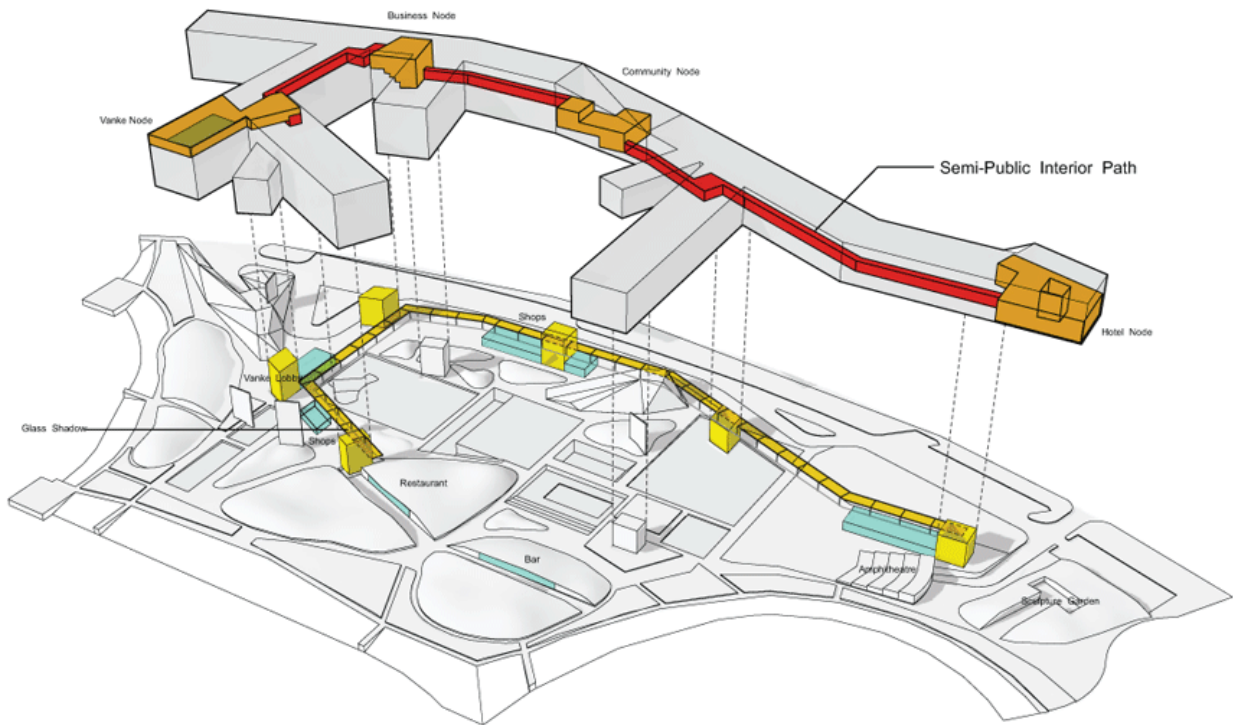
CREATE COLLECTIVE HUB   IMPROVE POROSITY   ENCOURAGE CIRCULATION   INCREASE
                                                        AND FLOW   CONNECTIVITY

VANKE CENTRE
STEVEN HOLL ARCHITECT

Fig. 39 Circulatory path diagram of the Vanke Centre in Shenzen, China

Vanke Centre

Location   Shenzhen, China
Architect   Steven Holl
Year   2009
Program   Mixed-Use

The Vanke Center by Steven Holl is described as a "horizontal skyscraper,[50] including programs such as offices, residential units, and a conference centre. Located in Shenzhen, China, the Vanke Center incorporates a mixed-program building into a public park to create a unique and diverse site.

As a "horizontal skyscraper" the building has a limit of 35 metres and is a single large structure rather than a series of smaller parts. The intention of this design was to create views over the water but to also maximize the amount of green space open to the public realm at grade. This design allows for gathering space for users to congregate while emphasizing a connection with the public realm at the eight "legs" that connect this floating structure to the ground.

The views are the building's main attraction, allowing for a level of transparency to connect users and the activity taking place within to those outside at the adjacent park. A path runs the full length of the building, connecting the programs within the building including the hotel and the offices.

The Vanke Center is similar to the Linked Hybrid in how it interconnects program. It becomes more relatable on a vertical scale, not dealing with a tower condition. With this lower, integrated height in relation to the ground level, a stronger connection with the public realm at grade is possible. Its series of vertical connections further seeks to tie the activity in the public park to the activity above. Akin to this thesis, there is an emphasis on how the ground level connects to the program above.

CREATE COLLECTIVE HUB   **IMPROVE POROSITY**   **ENCOURAGE CIRCULATION AND FLOW**   **INCREASE CONNECTIVITY**

CAMPBELL SPORTS CENTRE
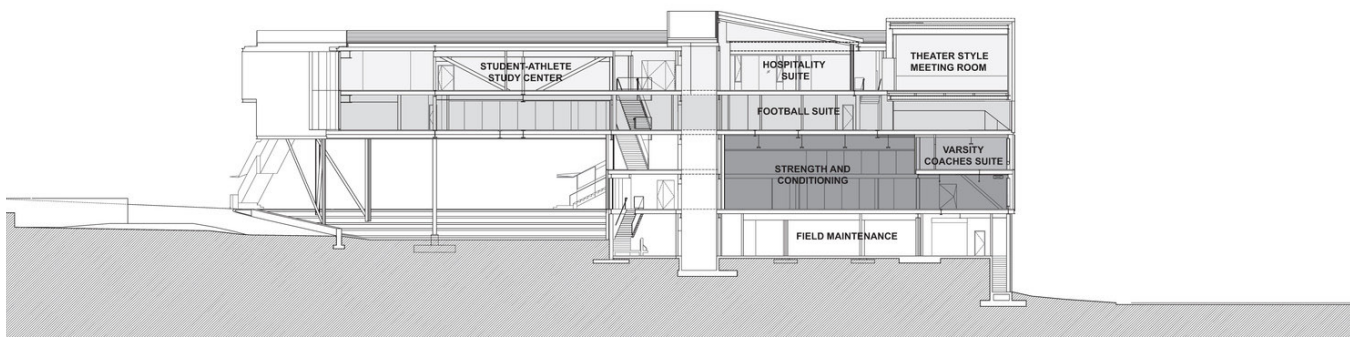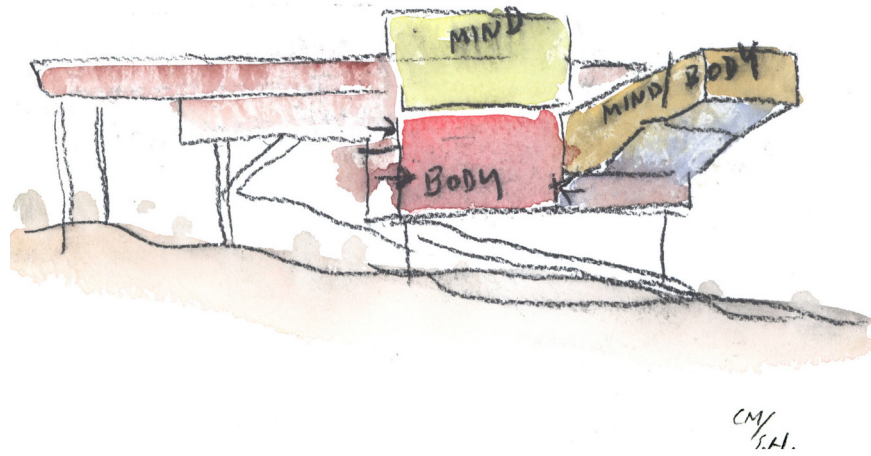STEVEN HOLL ARCHITECT

● ● ●

Fig. 40 Concept sketch of the Campbell Sports Centre
Fig. 41 Programmatic Section

Campbell Sports Centre

Location	New York, United States
Architect	Steven Holl
Year	2013
Program	Institutional

The Campbell Sports Center by Steven Holl, in New York, is a gateway to Columbia University's Baker Athletics Complex. Outside of its athletic studios, weight rooms, and gymnasium, it includes communal program such as meeting rooms, hospitality suites, and study rooms.[51]

"'Points on the ground, lines in space' is a design mantra incorporating similarities to drawing out plays in sport. This concept results in a series of pushes and pulls of facades and spaces to create the dynamic form that is the Campbell Sports Centre. Its external circulation and terraces act as 'lines in space.'" [52]

Where its focus is on the minds and bodies of the students who use the space, its program and common interest create a reason for users to gather. The Campbell Sports Center provides a facility that allows for the growth of its users to flourish as they strive toward a common goal. As team sports are a means of developing relationships and growing together, this complex acts as a catalyst in bringing together students who would not otherwise have a chance to interact. The building acts as a gateway to the rest of the complex, aiding community development and social interaction through circulation and program.

The Campbell Sports Center as an institutional building at Columbia University creates a relationship with the site, as well as a purpose for gathering. This thesis utilizes externalized circulation to create the infrastructure for movement and interaction onsite. It also shows how the gathering of students through a communal program as its primary source of collective activity can be successful.

architectural **coalescence**

CREATE COLLECTIVE HUB	IMPROVE POROSITY	ENCOURAGE CIRCULATION AND FLOW	INCREASE CONNECTIVITY

VILLA VPRO
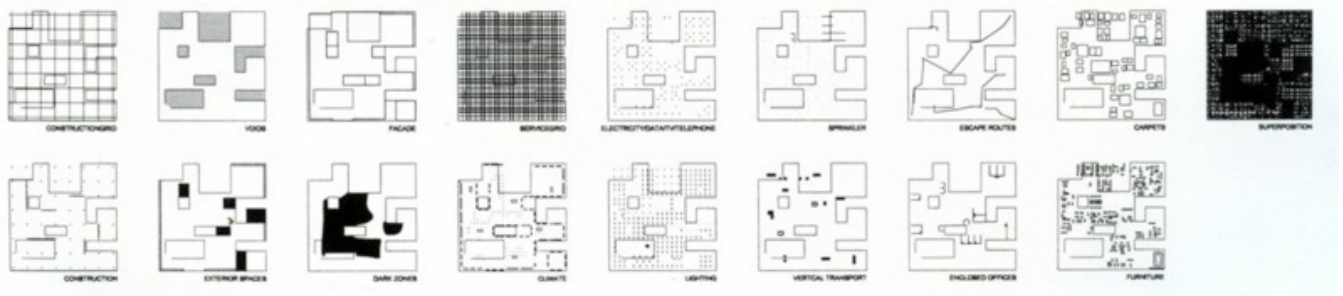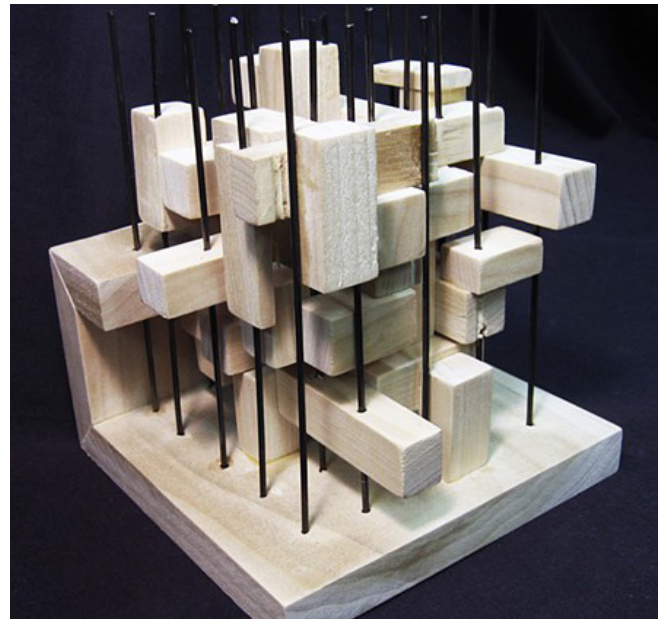MVRDV

Fig. 42 Villa VPro physical model
Fig. 43 Separated element plan

Villa VPRO

Location   Hilversum, Netherlands
Architect   MVRDV
Year   1994
Program   Office

The Villa VPRO, a broadcasting company located in the Netherlands, was MVRDV's first project in 1994.[53] The construction of the building is a geological form creating varying floors, connected through ramped floors, "monumental" steps, and segmented risers to provide a circulatory path to the rooftop.

A grid of structural columns supports varying heights, filled with the communal program to fit VPRO's pre-existing variety of activity. The structure maximizes visual connectivity and transparency.

Most important is its unique form at its entrance. Its organic form guides users to the entrance, focusing strongly on an intuitive flow of circulation. This unique form guides people into the building, where other forms of circulation guide users through the programmatic spaces and up onto the rooftop.

The Villa VPRO utilizes its grand circulation to move users vertically. By using a structured grid system, the public program is organized to encourage connectivity within the built form. Its structural system opens up to allow for a visual connection with the activity inside. Particularly with its mode of construction and programmatic organization, users can circulate the building and in-between program in a variety of ways, providing precedence for this thesis. Though the organization of the program in this thesis is more linear in fashion, with a chain of programs, this relationship to circulation shown can be successful.

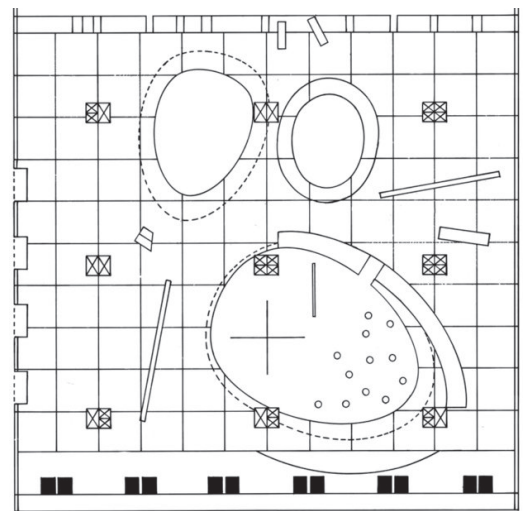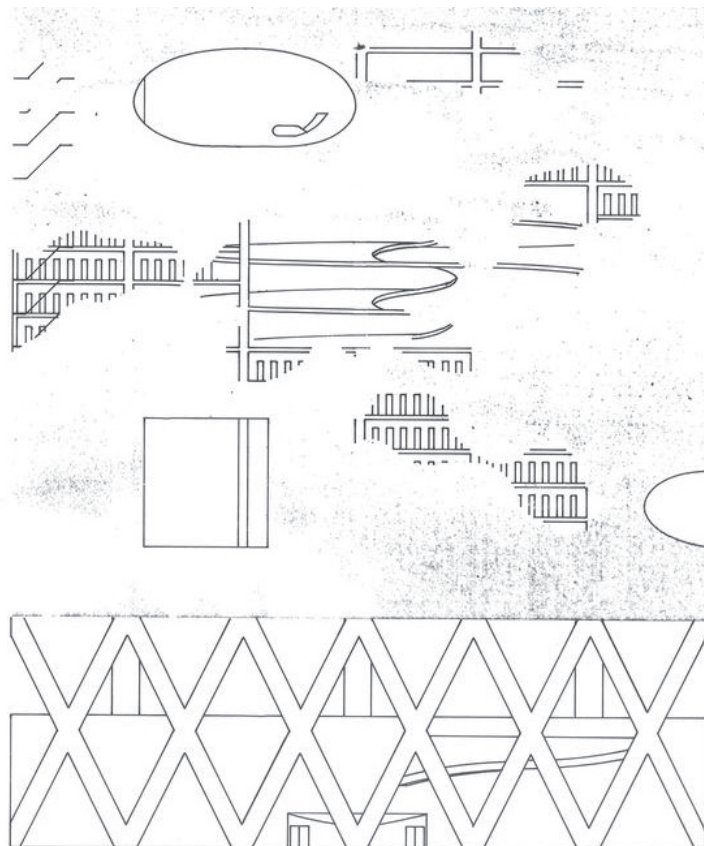**TRES GRANDE BIBLIOTHEQUE**
OMA
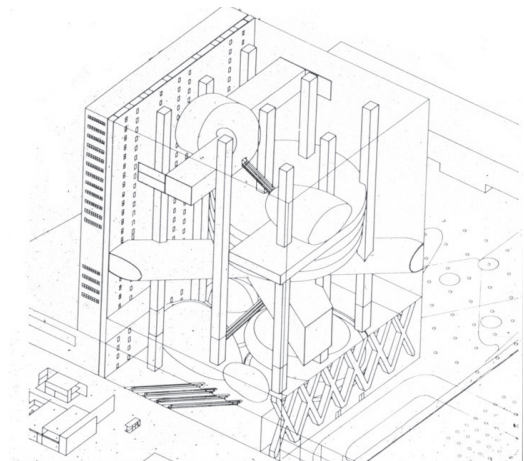
Fig. 44 Conceptual drawing of le Très Grande Bibliothèque
Fig. 45 Spatial organization plan
Fig. 46 Axonometric massing diagram

Très Grande Bibliothèque

Location   Paris, France
Architect   OMA
Year   1989
Program   Institutional

Très Grande Bibliothèque by OMA focuses on the Strategies of the Void, by Rem Koolhaas. Situated in Paris, le Très Grande Bibliothèque was a competition to construct a new library.[54] The program required a number of smaller libraries to be placed in a single shell. This collection included different types of libraries: ones for scientific research, reference, and moving images. The amount of information stored became the idea behind the design. The concept of the library is imagined as a block of information, whereas voids created out of this block serve as a metaphor for the absence of floating in memory.[55]

The goal of the project was to eliminate the responsibilities of architecture to require the need to create space designated for social collectivity.[56] In addition to the library, the design was to include a café, restaurant, conference centre, and offices that acted as the communal program for everyday activity.

The resulting design was a series of excavated spaces from a solid block. Many programmed communal spaces were organized to act as an inversion of information within the library. The internal structure and programmed spaces made up the interior with the rest as a void. This structure created a series of networked programs allowing for a means of vertical and horizontal circulation, connecting spaces that let users gather within what is now a communal hub as the typical library condition.

Très Grande Bibliothèque relates its theories and design intentions into this thesis through Rem Koolhaas's Strategies of the Void. Its integration of multiple smaller scale programs is housed within a larger shell is similar to how this thesis creates a collective hub. Its relationship of communal spaces and network of vertical and horizontal circulation allows users to connect within a central condition. With Le Très Grande Bibliothèque, programs are strategically organized to provide interstitial circulation between spaces. This thesis seeks to organize program in a way to provide an interstitial realm. This interstitial realm acts like a sidewalk condition, as circulation but also as the in-between space between program where users from each program can interact. Structurally, Très Grande Bibliothèque also uses a system to connect these programmatic elements in a unique and dynamic way.

CREATE COLLECTIVE HUB   IMPROVE POROSITY   ENCOURAGE CIRCULATION AND FLOW   INCREASE CONNECTIVITY
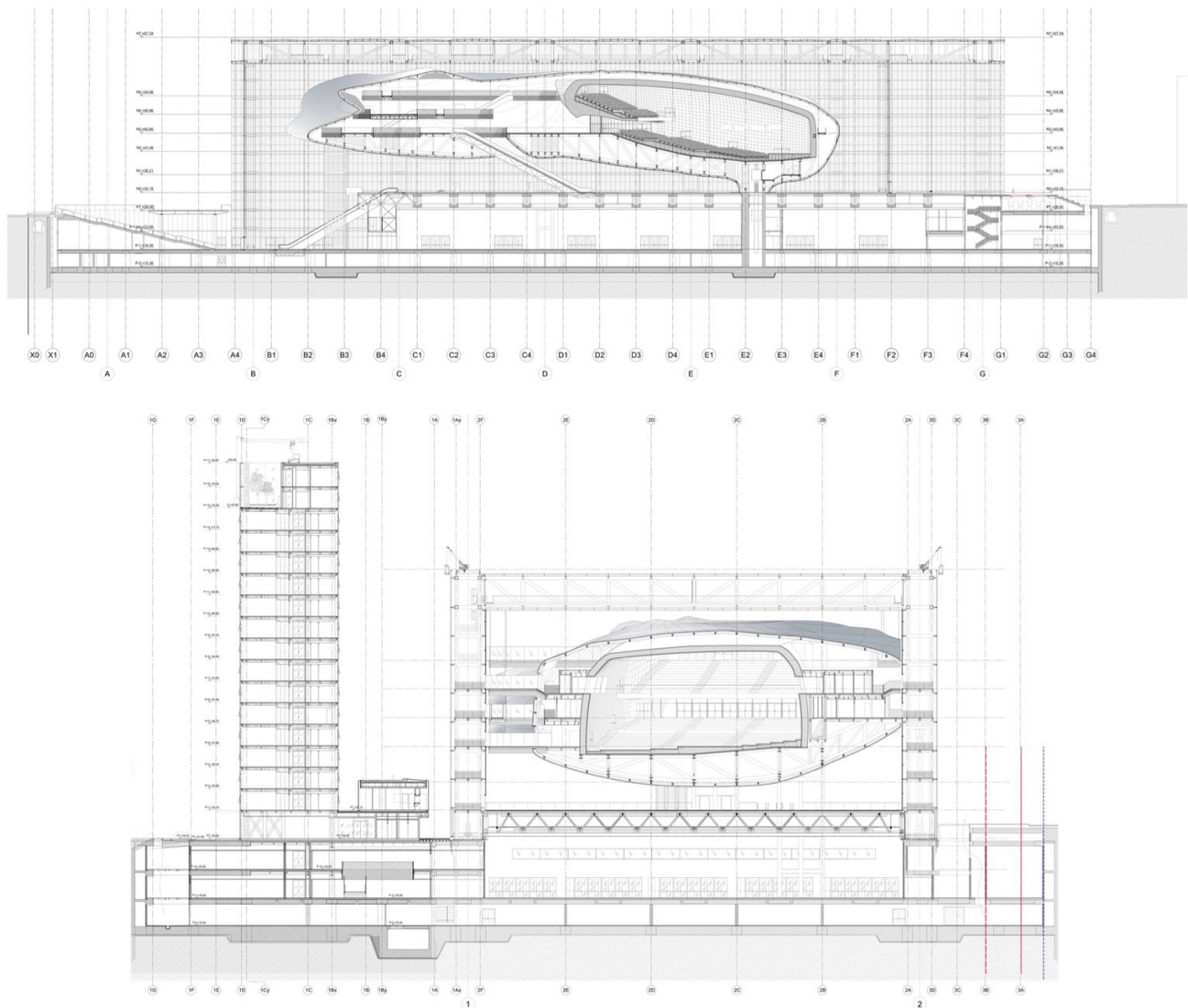
THE CLOUD
STUDIO FUKSAS

Fig. 47 Longitudinal section of The Cloud
Fig. 48 Transverse section of The Cloud

The Cloud

Location   Rome, Italy
Architect   Studio Fuksas
Year   2016
Program   Institutional

The Cloud by Studio Fuksas is a building complex located in Rome that utilizes the centre to form two public squares. These public squares provide space for people to gather and participate in leisurely communal activities, creating a new space to meet.[57]

The structure has three concepts: the basement, the "Theca" and "Cloud," and the "Blade." The basement connects via vertical circulation leading to an exhibition hall that gathers 6000 people (Fig.47,48,49).[58]

The "Theca" is the facade of the building, where within a generous public space hosts public and private events from conventions to exhibitions. Within the "Theca" is the "Cloud," located at the centre of the structure, or at the heart. The "Forum" acts as an artery or circulatory path and connects the two.

The last concept is the "Blade" which is the building adjacent to the "Theca" and the "Cloud" that includes sufficient communally programmed spaces such as a spa, a hotel, and a restaurant.

The overall program of the building aims to bring people together, providing infrastructure for communal program and activity. By dealing with issues such as working with such a massive scale, the building utilizes circulatory "arteries" to connect the spaces.

The Cloud relates to this thesis in how it creates a gathering complex for users to congregate. As an enclosed building, its network of spaces that tie to its exhibition hall display how a series of linkages can improve ease of access into a programmed space. The Cloud is designed to create a series of connections from external circulation. These forms of circulation are similar to the framework system that houses the public program. As this framework provides the infrastructure for movement but also communal program, the design can be related to that of this thesis as well.
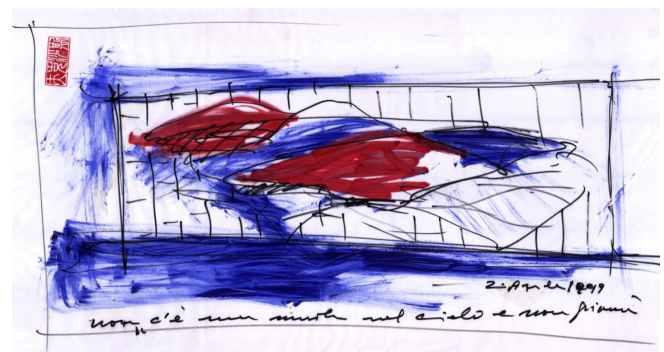
Fig. 49 Conceptual drawing of The Cloud

7.2   Explorations of relevant design concepts

The following case studies in this section explore similar design concepts. Where factors such as scale, program, and use, among others, may have little to no relevance to the conditions tested for this thesis, the intentions of the design as well as its implementation are inspirational.

Fig. 50 Serpentine Pavilion in its blurred, natural context
Fig. 51 Serpentine Pavilion and its spatial qualities

Serpentine Pavilion

Location	London, United Kingdom
Architect	Sou Fujimoto
Year	2013
Program	Pavilion

The Serpentine Pavilion by Sou Fujimoto, located in London, England, was constructed for the Serpentine Gallery, with an intention to blur the distinction between nature and human-made. Fujimoto states that he "tried to create something — of course artificial — but nicely melding together with these surroundings, to create a nice mixture of nature and architecture."[59] In combining two figurative elements, Fujimoto utilizes a visibly transparent yet still structured, system to organize space and provide an area for people to socialize and gather (Fig.50,51,52).

The concept of this project uses a framework system to immerse programmed structure into its surroundings. This layering of framework, in addition to its grid matrix, allows for the manipulation of space to provide opportunities for social gathering. The constructed form blurs the separation of open space to its surroundings, using its form to create programmed spaces within. This blurred distinction varies as one moves through the pavilion, where some areas appear more opaque than others.

The application of this project is relevant to this thesis in how it identifies two factors and makes the separation of the two less distinguishable. This application is similar in the line separating the public and the private, where the two realms are to open up or have the separation blurred to allow for the interstitial or semi-condition to be defined. This interstitial realm would bring users of the two realms together and provide more opportunity for social interactivity.

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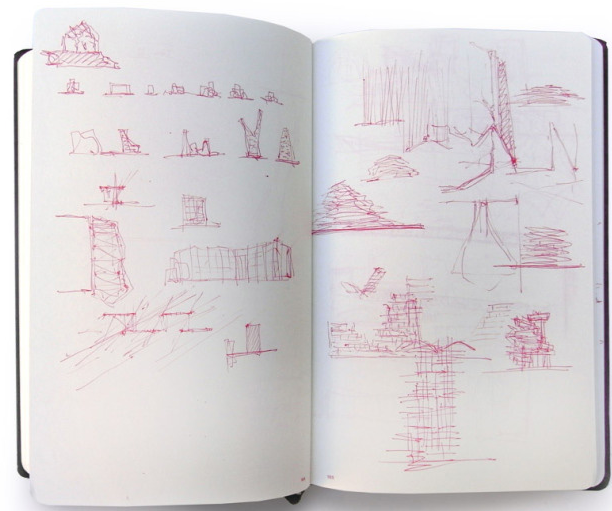
Fig. 52 Initial sketches of Sou Fujimoto's Serpentine Pavilion
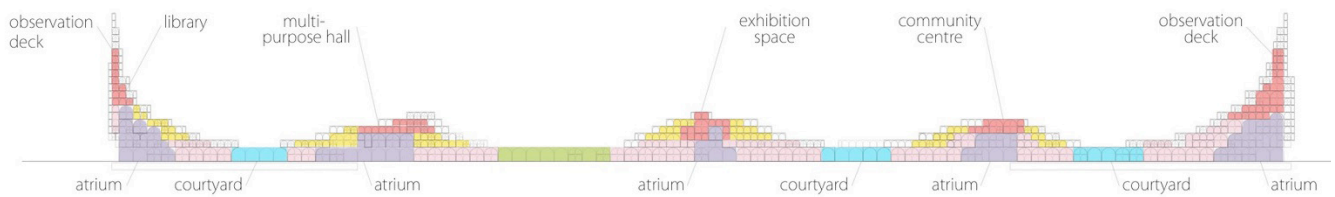
Fig. 53 Spatial organization in plan of the Souk Mirage competition
Fig. 54 Programmatic section of the Souk Mirage's vertical spatial organization

Souk Mirage

Location	Jeddah, Saudi Arabia
Architect	Sou Fujimoto
Year	2013
Program	Mixed-Use

The Souk Mirage, designed for Jeddah, Saudi Arabia, is another precedent done by Sou Fujimoto, taking on the title "Particles of Light."[60] Although this design never came to fruition, there is value in the concept. It utilizes endless arches to create a system where there is a strong use of transparency to allow light to penetrate but also openness to allow for spaces of gathering (Fig.53,54).

The design was intended to create an icon or landmark in the Middle East, with its multiplicity of open-framed systems creating numerous communal and commercial spaces. The focus on openness is beneficial, opening up the building for circulation, increasing visual transparency, and allowing for natural lighting and ventilation in a climate with that specific type of weather conditions (Fig.55).

The project's relevance to this thesis focuses on its openness and visual connectivity. Programmatically, it is relevant as it creates a complex for users to gather and socialize, layering a framework to provide circulation but also visibility into other spaces.

Fig. 55 Open atrium condition of the Souk Mirage

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7.3   **Projects information design implementation**

This section presents that set precedence for the real-world applications of this thesis. Projects include a focus on similar conditions of this thesis, considering an existing building that would require interventions to apply the design strategies. The focus of these precedents displays how an existing project could change in function and how it could preserve historic elements.

Fig. 56 Opened entrance of the Negozio Olivetti
Fig. 57 Re-organized circulation of the Negozio Olivetti

Negozio Olivetti

Location   Venice, Italy
Architect   Carlo Scarpa
Year   2011
Program   Institutional

The Negozio Olivetti is a renovation project done by Carlo Scarpa in Venice, Italy, completed to be a showcase for Olivetti products.[61]

Because the previous layout of the space was insufficient as a showroom, Scarpa needed to improve its organization for circulation and displays. Its previous layout would not have been sufficient as a showroom. In considering a historic preservation, he utilized a series of interventions to improve the overall design and spatial qualities of the building.[62]

Scarpa incorporated transparency at the front of the showroom to allow for visibility from the outside, but also to put the items and activity in the showroom on display (Fig.56). He eliminated a dividing wall that separated the space and placed two extended balconies for circulation on the upper floor (Fig.57). These changes opened up the building, both for circulation and visual connectivity (Fig.58).[63]

Scarpa merged the new and the old, while retaining historic elements and introducing contemporary architectural design into the existing condition. Many of these interventions required to open up previously enclosed areas to achieve the goals of visibility in the building and improving means of pedestrian circulation.

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Fig. 58 Opened circulation of the Negozio Olivetti
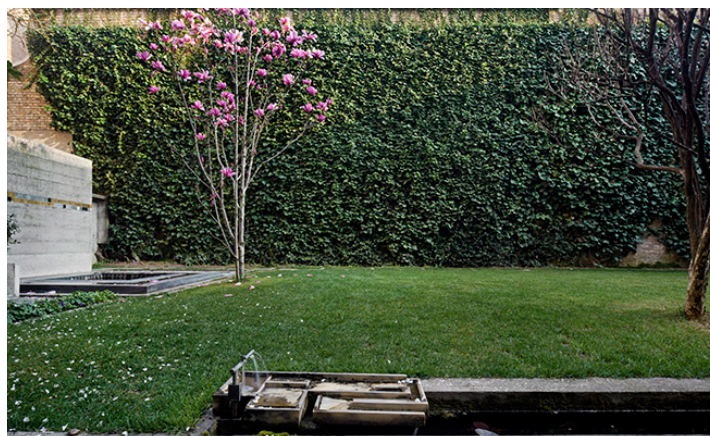
Fig. 59 Portego condition of the Fontazione Querini Stampalia
Fig. 60 Opened walkway of the Fontazione Querini Stampalia
Fig. 61 Retained garden of the Fontazione Querini Stampalia

Fontazione Querini Stampalia Renovation

Location   Venice, Italy
Architect   Carlo Scarpa
Year   2008
Program   Institutional

Fontazione Querini Stampalia was another renovation project completed by Carlo Scarpa. The intention of the design was to be able to integrate the new with the old while still emphasizing significant elements and historic materiality.[64]

Scarpa utilized four main themes to focus on in the design: the bridge, the entrance, the portego (or porch), and the garden (Fig.59,60,61).[65] These elements were used to bring the design together. Individually, each theme carries a significance, but collectively it becomes whole. The bridge brings people over the water to approach the museum, the entrance allows users to enter the space, the portego allows people to circulate, and the garden provides a place to gather.

Carlo Scarpa's creation of a new entrance, by removing the use of the pre-existing one, is vital to this design. As the entrance limited access into the building, he opened up a new segment to improve pedestrian flow. He retained the historic properties of the existing elements of the built form while shifting to a different area of the building to include his design interventions. To connect the new entrance to the frontal plaza, Scarpa constructed a new bridge, defining the entrance and improving accessibility.

The historic renovations of this project focused on achieving two things: to retain the heritage elements of the building and to identify areas of work and introduce contemporary design into these spaces.[66] This design opens up an entire section of the building to introduce a new entrance where there was little ability to utilize the existing. This move improved the quality of the space and circulation into the building.

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EXISTING CORRIDOR

COLLECTIVE SPACE
AT THE BUILDING'S
CENTER

DOUBLE LOADED
CORRIDOR WITH
NEW NORTH FACE

EXISTING CORNER ROOMS
EXTEND ORGANIZATION OF
MAJOR SPACES OFF THE
MAIN LOOP

CORES ANCHOR
CORRIDOIRS

INTERNAL EAST-WEST
STREET
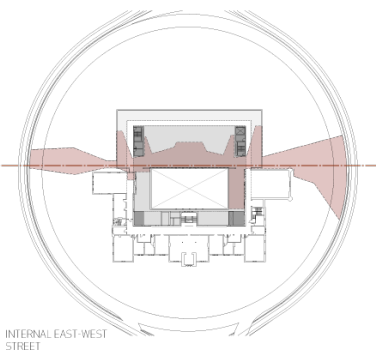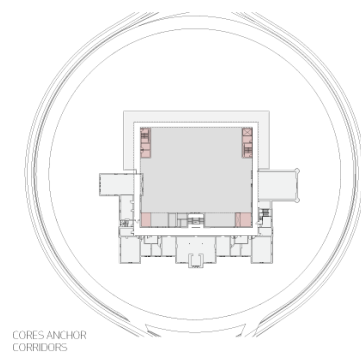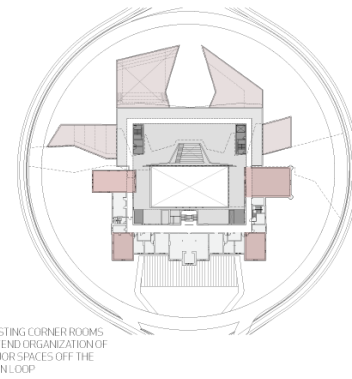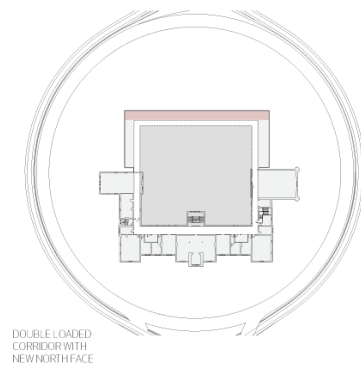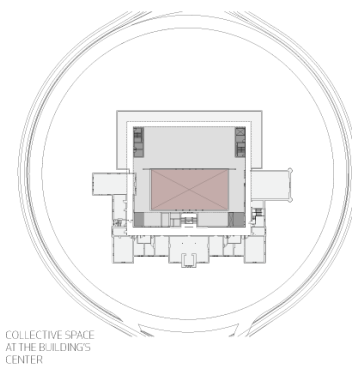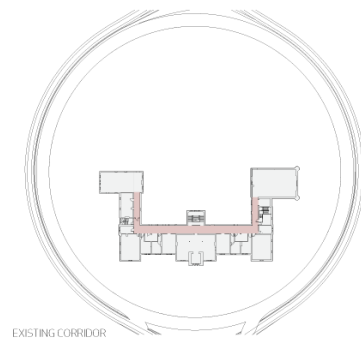
Fig. 62 Plan drawings of the Daniels Faculty Architecture Building
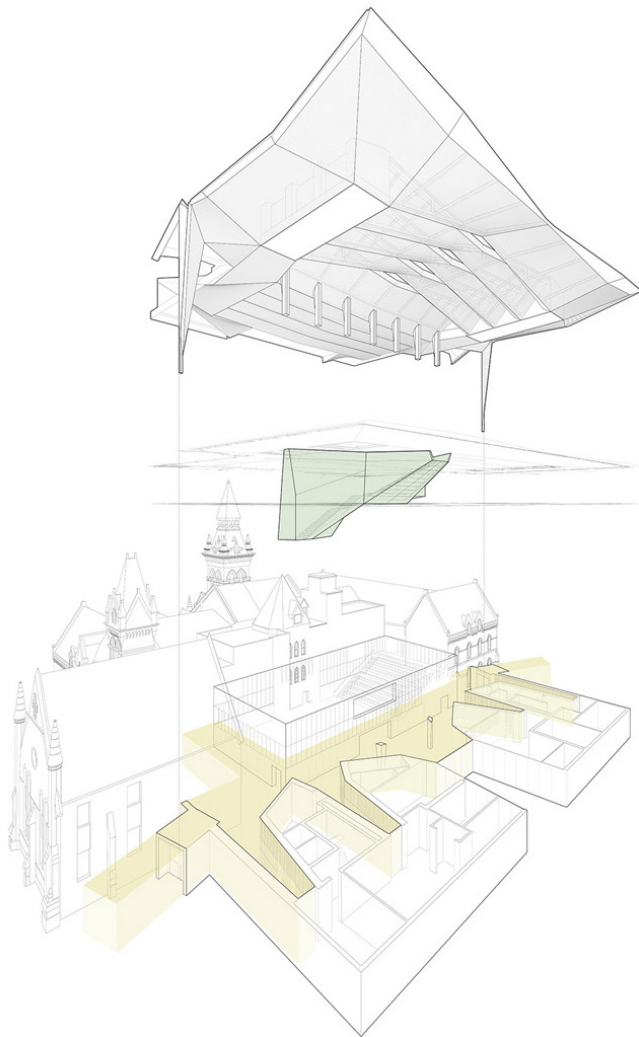
University of Toronto's John H. Daniel's Faculty of Architecture, Landscape, and Design at 1 Spadina Crescent

Location   Toronto, Canada
Architect   NADAAA
Year   2017
Program   Institutional

The University of Toronto's John H. Daniel's Faculty of Architecture Landscape and Design, in Toronto, Ontario, was designed by architects NADAAA, working with Adamson & Associates, and ERA to integrate contemporary architecture into a grand heritage building (Fig.62,63).[67]

This project was seen as a revitalization project of a historic building, while introducing new spaces. The intent was not only to house a rapidly growing faculty but also to create a landmark building for the institution. Completed in 2017, Nader Tehrani and Katherine Faulkner, two principals at NADAAA, focused on incorporating the past to create a design catered for the future.[68]

Design interventions were used to protect the views of the heritage building with the incorporation of steel structures and glass. The most commendable area of the design was the reorganization of space for individual and collaborative work while providing a studio for students to work collaboratively. The design also introduced a public gallery, exhibition space, and collaborative activity. This reconfiguration of space displays how the shell of a historic building can be retained while improving the user experience within.

architectural **coalescence**

Fig. 63 Circulation diagram of the Daniels Faculty Architecture Building

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Chapter 7 elaborated on case studies that faced similar conditions as this thesis. Having examined the factors influencing the design of these precedents, it allowed us to consider how similar design interventions could be used to resolve the issues at hand.

Where some case studies tested design tactics, others merely examined design concepts and potential implementation. Precedents utilizing similar design tactics, concepts, or interventions as this thesis could be broken down to individual focuses and their impact on the users. These moves provide direct methods on how to encourage social interactivity, for example, by opening up the circulation of the building. Improving visibility of users and activities is another way some of these case studies would encourage a sense of community and overall awareness. These design moves show the success in a real-life, constructed example, where similar conditions and interventions could result in similar success. Each precedent takes on similar issues in a variety of ways, applying different approaches that can be taken and used in this thesis. As a result, these precedents will be utilized as guidelines to achieving the goals of this thesis.

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PART IV   DESIGN

Part IV explains all things related to design, as it begins with the objectives of the design of this thesis. These design objectives are aims or goals achieved through strategies and tactics mentioned in earlier chapters to measure the success of this thesis.

These objectives lead to additional theoretical research, focusing on the application of collective forms in relation to the individual buildings on the university campus. Theories by Fumihiko Maki and Jerry Goldberg analyze the relationships of built forms as a whole and how these units connect.

The final design proposed for this thesis will specify design intentions, in reference back to the accumulation of research and theories completed for this thesis.

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CHAPTER 8   DESIGN OBJECTIVES

This chapter highlights the design objectives that seek to accomplish the goals of this thesis. In order for the design to be successful, changes are to be made to the existing design of the university campus and its built form in order to improve social interactivity and communal development. These changes would be made through a reorganization of programmed activity space and circulation.

8.1   Design Objectives

The design objectives presented in this subsection are goals tested through a series of previously mentioned strategies and tactics. The success of these strategies and tactics would translate to an overall improvement in the amount of campus activity, quality of social interaction, and communal development as a whole.

The first design objective is to develop a heart or identity to the campus as a built form.[69] The existing campus lacks a go-to place for students to gather when outside of class, to spend time with friends, or partake in communal activity. There are spaces and programs scattered across campus that provide these communal activities, but a lack of centralization deters students from travelling due a lack of convenience and time constraints. This thesis proposes the conversion of Kerr Hall into a communal hub, to provide the necessary space and program for students to gather and interact at a central location.

The next objective focuses on providing visual and physical openness. The existing built form restricts the potential for activity through a lack of awareness and connectivity due to its physical barriers. By opening up the building, students are more aware of others and the activities around them. An appropriate amount of transparency reduces the restrictions created between the semi-condition spaces, while still retaining a sense of privacy where necessary. This applies particularly within the private realm, including: administrative offices, washrooms, changerooms, and laboratories with expensive equipment.

The third objective involves encouraging collective activity. Retaining existing program in Kerr Hall and incorporating additional communal program would bring more people to the building. Increasing the amount of activity on campus, within buildings, and within gathering spaces help pique interest, thereby bringing more people onto the site. Focusing attention at grade allows the spatial organization of the building to maximize the impact of the interstitial space between the public and private realms.[70] Where the public realm focuses horizontally on the ground level, connected to public streets, the private realm defines territories and build vertically. Intersecting at grade, public programs such as coffee shops, gallery spaces and lounge spaces can be easily accessible to the community, increasing both planned and spontaneous activity as the both the programmed space and circulation allows for more interaction.

The final design objective seeks to make the building and campus more accessible. This goal involves emphasizing the location of vertical cores, where the public and private intersect, allowing for circulation along the z-axis with the x and y planes. Opening up the building and creating throughways allow users to cut through the building and circulate through active spaces, encouraging opportunities for intersect. There is a stronger emphasis on the accessibility of communal space as this allows for greater flow in and around campus. This increased fluidity is the key to enhancing collective activities and chances for students to interact.

These objectives create a framework that can be directly applied to the Ryerson University campus at Kerr Hall as they can be tested through a series of case studies under similar conditions. We can utilize the factors that impact strategy to determine precedents that would be best fitted for this case scenario.

The design objectives in Chapter 8 set the stage for this thesis in its final chapters. Where the objectives laid out the goals of this thesis, the following chapters will prove the potential success of this thesis.

The goals of creating an identity for the campus, providing a sense of openness, encouraging collective activity, and improving accessibility connect with an aim to enhance community on campus. These goals put this thesis in a position to have a successful impact on current and future campus conditions.

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CHAPTER 9   DESIGN THEORY

Chapter 9 takes a look at the theory behind the design. Though much of the theory was discussed in Chapter 1 of this thesis, this discussion looked at theories of the concepts, not theories of design. This chapter analyzes the theories by Fumihiko Maki and Jerry Goldberg on the design of this thesis.

Work by Fumihiko Maki discusses the topic of built forms or, more specifically, the relationships of these forms. Where Maki's ideas have developed from metabolic architecture and group form, the relevant focus of this thesis is on the collective form and the linkages between these forms.

9.1   Fumihiko Maki: Collective Form

Fumihiko Maki, one of the founders of metabolic architecture in Japan, developed theories on collective form in architecture: the idea of "group form." His publications date back to 1964, when he stated that architects, designers, and planners should not merely observe and critique, but utilize these observations and criticisms to create strategies and tools to reform our physical environment.[71] While many researchers critique problems with designs, they rarely make efforts to find a solution.

Collective form begins with the characterization of our urban society: coexistence and heterogeneity, physical and social transformations, rapid modes of communication, and technology and its impact on culture. The focus is not to create a single solution but a system that allows the building to be applicable in creating and organizing space. "Do we have in urban design an adequate spatial language with which we can create and organize space with the master program?", Maki asks.[72]

According to Maki, collective form includes a collection of buildings that "have reason to be together."[73] These forms include compositional form, megastructure form, and group form, as well as compositional approach, structural approach, and a sequential approach (Fig.64).[74]

Compositional form includes independent buildings that interconnect within a two-dimensional plane via functional, visual, and spatial variances. These separate from other buildings with little connection outside of their close proximity. The buildings appear together but have little to no relationship with their surrounding buildings otherwise.

Megastructure form utilizes a framework where all programs exist; diverse functions zero in one location. Kenzo Tange, another metabolist in architecture, proposed two types of megaforms: hierarchical megaforms and open-ended megaforms. The former is static and rigid, whereas the latter is dynamic and open. Tange states that "each system makes the whole, maintains its identity and longevity without being affected by others while at the same time engaged in dynamic contact with others."[75]

Group form comes from elements within the same space. It is impacted by factors that determine spatial organization such as material, construction method, architectural expression, geography and topography, as well as human scale. These group forms may have an implied linkage. The essence of group form is in collectivity, functionality, sociality, and spatiality, and growth by the grouping of people in a society.[76]

Fumihiko Maki's research is integral to the organization and relationships in this thesis. Understanding the types of form help determine the type of relationships campus buildings have with each other. Campus buildings relate as being of the same institution, often due to their close proximity. As the urban campus grows, future changes are required with few discernable relationship aside from program and signage. Materiality, architectural style, and proximity may have less of an impact on the

relationship of campus buildings, as designs change and land becomes difficult to obtain. As a result, there needs to be another way to link circulation and the built form.
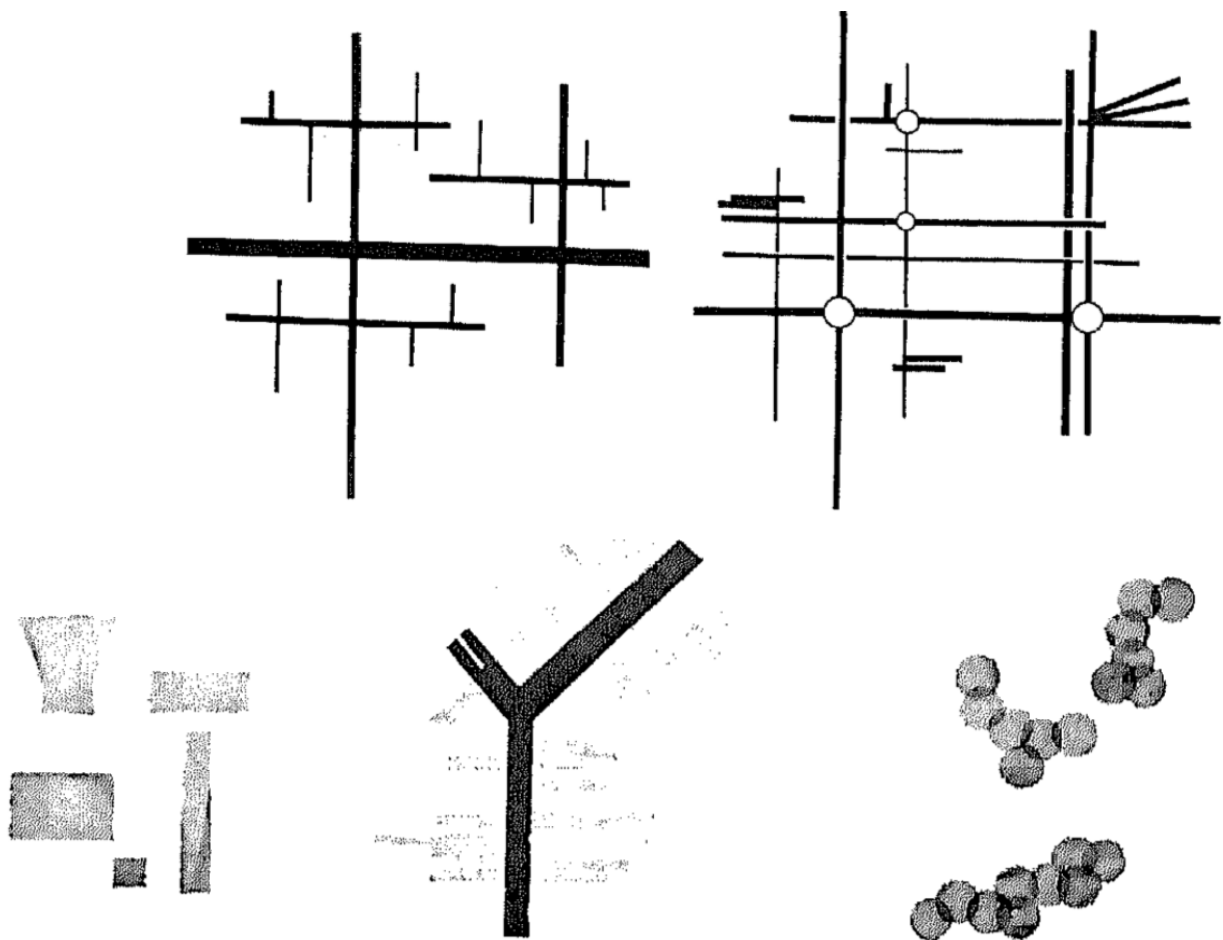
Fig. 64 Collective form diagrams by Fumihiko Maki

9.2 Fumihiko Maki and Jerry Goldberg: Linkages in Collective Form

In addition to his initial concepts, Fumihiko Maki worked with Jerry Goldberg to produce "linkages," which further developed the concepts of collective form. Maki and Goldberg claim the "investigation of collective form forces us to re-examine the entire theory and vocabulary of architecture."[77]

The components of collective form create a change in perspective when dealing with traditional elements of independent buildings. The following list of components impact the spatial qualities within a building, creating the separation or connectivity of built forms (Fig.65).[78] Walls separate spaces in a building horizontally, floors or roofs separate spaces in a building vertically, columns

supports loads vertically, including gravitational, physical, and human loads, a unit is a space that has program or function to it, and links are elements that enable the connectivity of form.

The theory behind 'collective form' broadens views on the methodologies of construction as well as managing structural and mechanical systems in architecture. The methods in which collective forms relate helps us understand how to connect or separate built forms. The understanding requires the need for more intricate construction to be able to connect in design.

"If urban design is to fulfill its role, to contribute to the form of the city, it must do more than organize mechanical forces, and make physical unity from diversity. It must recognize the meaning of the order it seeks to manufacture, a human-significant, spatial order."[79] The ultimate goal of collective form seeks to gather and collect built form in order to make architectural sense as a whole.

Linkages within the collective form incorporate its "discrete forms" in a way to connect them and make them comprehensible. As collective forms are an "agglomerate of decisions and past in ways things fit together or are linked," it is essential in the collection of forms. It is also stated that "once a link is established for any reason, it takes on a complicated secondary system of meanings and uses."[80] This explanation exhibits that the connection, circulation, and linkage become their own entity. This linkage space can itself be functional; programmed to improve activity and connectivity throughout.

WALL

FLOOR/ROOF

COLUMN

UNIT
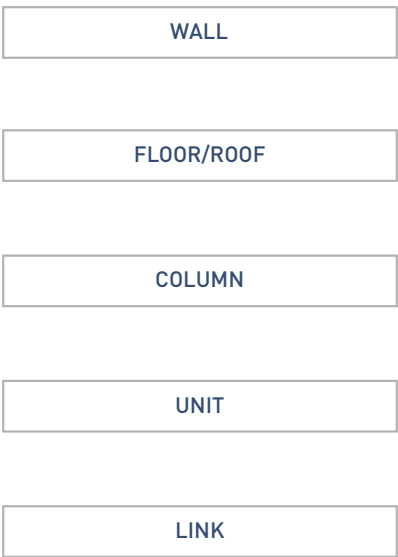
LINK

Fig. 65 Components that impact the qualities of spaces

Spatial linkages are better understood in high-rise conditions. Its multiple layers disallow for any connectivity of activity, creating a separation of each layer. If there was an open connection or a form of transparency between layers, there could be an potential for "three-dimensional linkage."[81]

In addition, the concept of "decaying" or working with the existing conditions enhances the rationale behind linkages. This concept opens up opportunities to replace existing structures with new ones, while remaining within a pre-existing environment, thereby creating a connection between the new and old. Connections between all aspects in architecture create linkages, making our "cities fluid and mobile."[82]

Linkages within collective forms become the "glue of the city," where the connection of activity results in the built form that makes up the city. There are five modes to linkages: to mediate, to define, to repeat, to make a working path, or to select. Each of these linkages may be either physical or implied.[83] Physical linkages are functional, structural elements and implied links are understood visually or experientially with landscaping, elements, and compositions to make architectural sense.

The actions of linkages are as follows (Fig.66):[84]

> TO MEDIATE

> TO DEFINE

> TO REPEAT

> TO MAKE SEQUENTIAL PATH

> TO SELECT
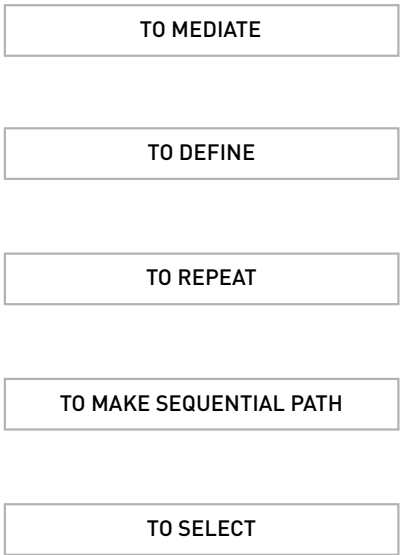
Fig. 66 Potential actions to create linkages

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To mediate: connects elements displaying a symbiotic relationship of masses. To define: borders a site with physical elements or barriers that create a sense of protection or confinement. To repeat: creates a commonality between elements whether directly, through materiality, or functionality that develops similarity in order. To make a sequential path: gives direction of circulation through predetermined path. Lastly, to select: determines a choice of the site to reinforce a visual or physical connection.

Linkages in collective forms create the necessary connections that make individuals form a group (Fig.67). A cluster of buildings is meaningless without either the physical or implied relationships that create a sense of interconnectivity in architecture. The campus condition has an implied relationship of program and signage, and a weaker connection through physical and circulatory — the linkages connecting buildings as part of a collective need to be more than just physical. These connections have implications that tie the circulation and flow of people. In the condition of the campus, strong linkages in collective forms encourage circulation and flow through space, improving activity and opportunities for interaction.
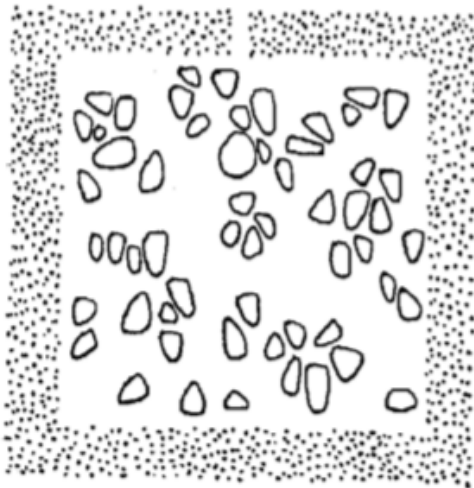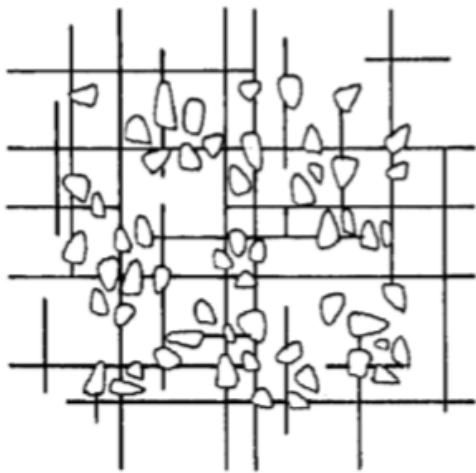
Fig. 67 Diagrams showing potential different collective forms

The design theory in Chapter 9 analyzed the work by Fumihiko Maki and Jerry Goldberg in dealing with the built form as a collective, as well as the links between collective forms. Maki has a history of working with independent forms and bringing them together to create a more extensive system, evident in his work in metabolic architecture. Where metabolism in architecture allows for modular growth within a holistic system, collective forms are independent, yet have a relationship making them unique in identity.

In the case of this thesis, the working scale of individual forms are much larger, where campus buildings group to create the whole university campus. At a closer scale, Kerr Hall similarly would separates into individual parts. Where the separation of Kerr Hall for improved openness, visibility, and circulation has already been justified, the individual forms still have an implied relationship. This relationship is created by utilizing placement, materiality, and program.

This implied relationship of these linkages are literal, physical forms that connect these buildings. In the form of a framework system, these links should be seen as units as well, to be utilized as programmed space in addition to its use as circulation. For this thesis, the significance of these connections mends the fragmentation of the built form allowing for improvement where the existing condition had failed.

CHAPTER 10   PROPOSED DESIGN

The final chapter of this thesis summarizes the overall design, analyzing the research, case studies, and theories to produce a final design to resolve the existing issues.

Section 10.1 covers the most critical aspect of this thesis, design intent. The intention of this design is the source of why this thesis exists in the first place. If the design intent is unclear, the design itself has no merit and is unable to gauge any measure of success.

Section 10.2 and its subsections discuss the main themes behind the design of this thesis: framework, program, and circulation. These themes work at a large scale to a smaller scale, creating the basis for this thesis and the ultimate focus: the circulation of people. Where the framework is largest in scale, it sets the groundwork for the other two themes. The program is inserted into the framework with space for communal activities and gathering to occur. Circulation and its fluidity focus on the flow of people through these spaces. Where the structure is essential and programmed spaces are evident, methods in enabling fluid circulation through these spaces is the key to this thesis.

10.1   Design Intent

By utilizing the design strategies of collection, connectivity, and circulation, we explore the potential of a centralized building to redefine the connection of space between the public and private realms. The design of the built form is a result of the integration of these strategies within the existing condition, using the framework, program, and circulation to encourage the collectivity of individuals in space.

This design proposal explores the strategies utilized for a typical university campus, blurring the separation of the public and private realms and encouraging social opportunities between them. This proposal incorporates the research and theories on public and private territoriality, resulting interactivity within the interstitial realm, and a focus on circulation and flow throughout the built form. In order to improve collective activity on campus, the community-focused design aims to counter student isolation and improve the ability for students to interact on a daily basis. An analysis of isolation within the university campus suggests a lack of direct, available opportunities to socialize and interact as many post-secondary students encounter this issue, negatively impacting their social and mental well-being.

As the final objective seeks to open the semi-public and semi-private realms, the design aims to redefine community architecture as more integrated and free-flowing. By using the design strategies and tactics of this thesis, spatial relationships and programmatic organization can create a new form of interstitial communal space. As Ryerson University is ever-expanding, both in population and as a campus, the university campus is an ideal subject to test these new views on interstitial perspective.

architectural **coalescence**

10.2 Design

The following subsections — framework, program, and circulation — focus on a significant theme that implements a different intervention contributing to the design of this thesis. The themes develop from a larger scale to finer detail, from framework to program to circulation. The framework provides the structure for program and circulation as an interstitial element of the built form and the open public space. Program is inserted into the framework and overlaps into the existing building and communal activity in the quad. The circulation ties together the activity in these programmed spaces, connecting via user flow, utilizing paths and bridge connections as means of dynamism in fluidity.

architectural **coalescence**
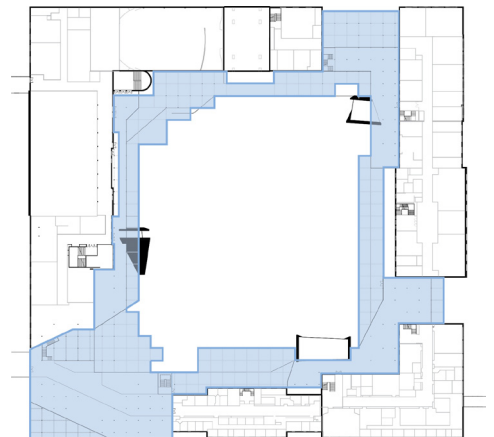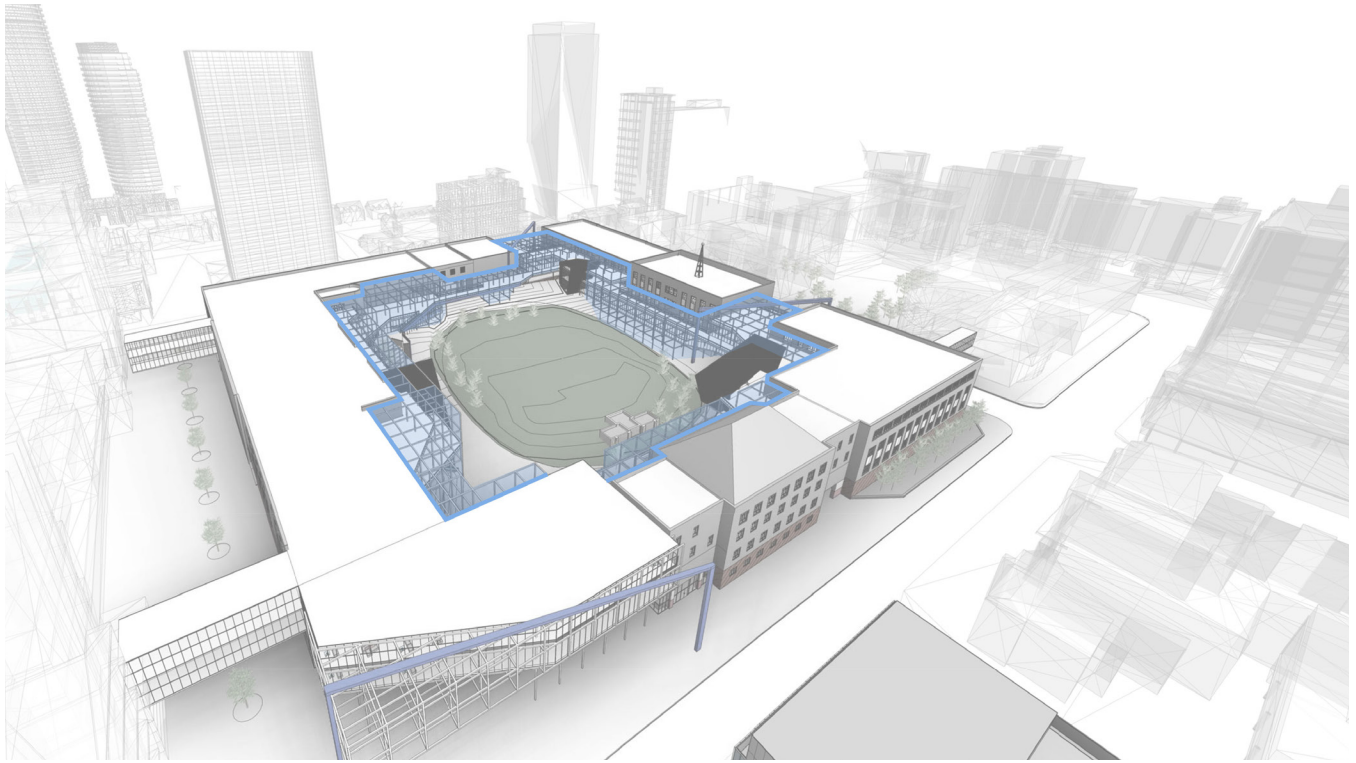
Fig. 68 New framework system + reference plan

10.2.1 Framework

The design breaks down the separation of the public and private, opening up the interstitial realm where the two intersect. To both blur the distinction of the public and private realms but also to accentuate the semi-condition realms, the framework creates a unique balance of the solid and transparent. This balance opens up the building from both a physical and visual perspective while providing the necessary program for communal use. The visual layering of framework creates an indistinct separation between the publicness of the courtyard to the privacy of the classroom (Fig.68).

This new framework is the base to the design of this thesis. Its addition to the existing condition breaks down external walls and extends the communal program out from the inside. It creates an extension of the program but also provides the infrastructure for circulation. This infrastructure allows for the interstitial space to act as a front yard or sidewalk condition, where users who enter the theatre, gymnasium, gallery space, or other communal programs may congregate within the program of this framework that acts as a foyer to the entrance of the program. In considering Jan Gehl's theories on social interactivity and the degrees of publicness, an interstitial realm divides and assembles the public and private. This interstitial realm is where users would interact, as it intersects users of the private space and public space.[85] Individuals who are gathering in the courtyard space are visible from within the building. The framework blurs the two realms, creating the appearance of solidity in some areas when looking at the framework and transparency in others.

The framework extends beyond the courtyard, as Kerr Hall, which was once completely enclosed, will be fragmented to allow for physical and visual connectivity. The framework lines the quad and ties back fragmented pieces of the building. Incorporating theories by Fumihiko Maki and Jerry Goldberg, linkages between the parts, whether implied or distinct, help reconnect the building together. Where the separation of the built form is a necessary move to allow for visual openness and access at grade, the framework mends the circulatory properties of the building to maintain its internalized functionality. This circulation is shifted to the external face to improve the visibility of circulation and shift the existing buildings spatial organization from a double-loaded corridor to a single-loaded corridor wherever possible. This shift enables the framework circulation to be the interstitial platform of the public and private while allowing for views that were desperately lacking. These views would only be available from the classroom, where corridors would almost always be in use. Classrooms, on the other hand, are used selectively, particularly during afterhours. The lack of use limits the visibility of activity within Kerr Hall, as well as the Ryerson Quad as an open public space.

Ultimately, the intervention of the physical framework works in multiple ways. It connects activity and visibility at all levels while providing improved circulation and open programmable spaces. With the move to open up Kerr Hall to bring more people and activity into the courtyard, the framework allows for the connectivity of program and circulation throughout the building.

architectural **coalescence**
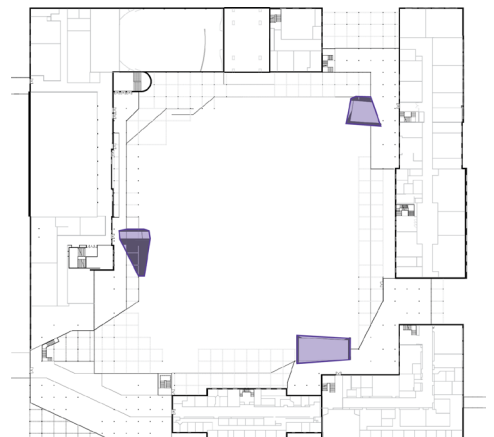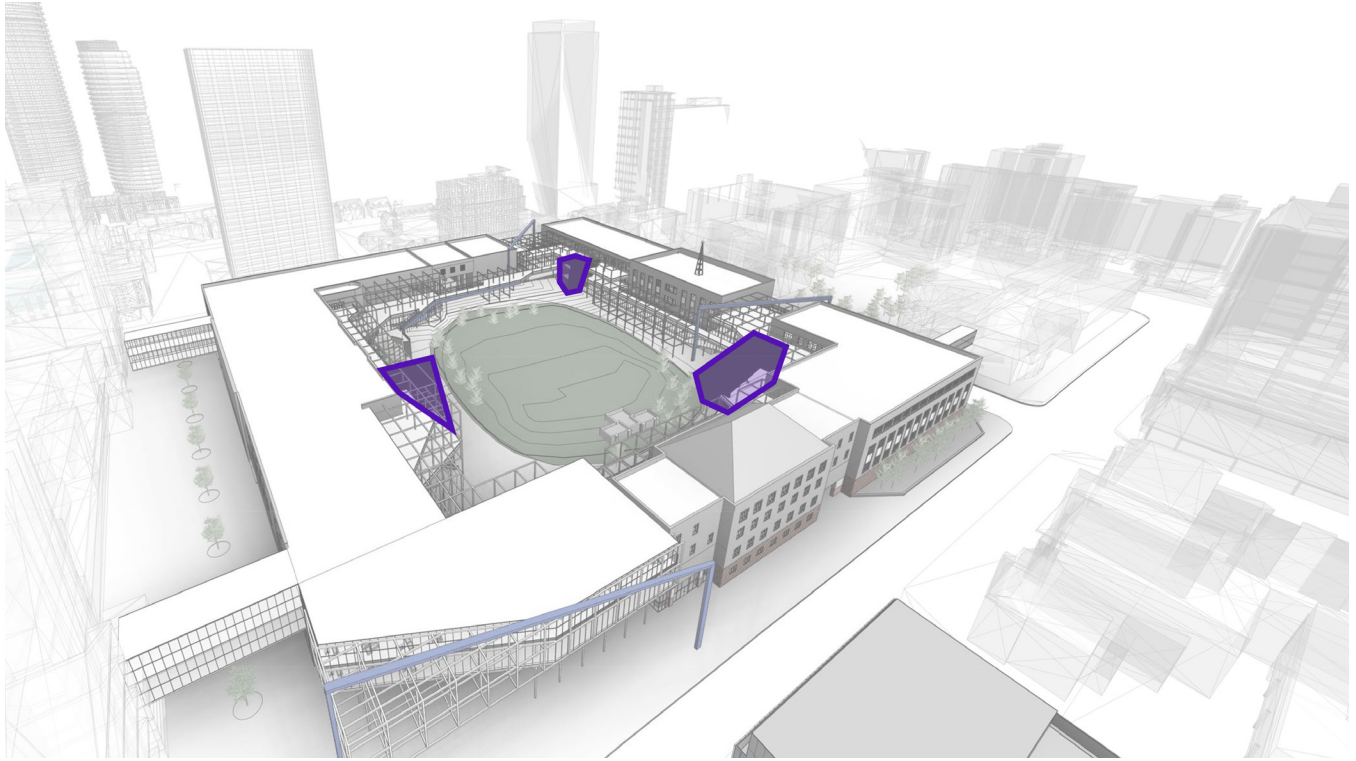
Fig. 69 New program modules + reference plan

10.2.2 Program

Additional space for communal programs integrates into this new framework. Where current communal program such as the gymnasiums, theatre, daycare, and pool are kept within the existing form, the new framework creates an extension of these programmed spaces to provide additional areas for people to gather before and after these communal activities. The additional communal program would include spaces for studios, galleries, lounging, studying, and additional teaching.

These breakout spaces sit within the new framework, providing areas for students to gather and socialize. They act as multipurpose spaces to allow for a variety of activity. Alternatively, they provide the infrastructure for flexibility, allowing users to define the space for themselves. These program modules face the quad, while accessible from the framework behind (Fig.69). They become a focus as it contrasts the framework by emphasizing the gathering spaces that intentionally disrupt the purity of the framework system. The design intent puts on display the collective activity occurring within Kerr Hall, making it visible from all levels of the quad. It shows the use of space and its success as a gathering space.

In addition to these breakout spaces, new programs are inserted within the existing building that flow out into the framework system. With the reorganized building, primarily single-corridor, there is available space for additional communal programs. The new organization emphasizes the in-between space as an overlap of public and private programs. This overlap brings people from the public space and people from the private space into an area where public programs can take place. This zone mixes the circulation and activity of programmed spaces to create a flexible zone. Contributing to the larger-scale existing programs, these smaller-scale programs allow for open communal spaces in between.

The gathering within a space with the continuous movement and flow along the framework circulation creates a contrast of static and dynamic in and out of the public and private realms. The organization of the frameworks' programs allows for the interstitial realm to thrive. Each program is spaced out along the framework to allow for an accentuation in circulation space to act as circulation, as well as intermittent spaces for seating and lounging. The focus on fluidity of movement throughout the gathering space improves social interactivity and communal development. Its significance ties with how the framework provides the infrastructure for improved circulation.

architectural **coalescence**
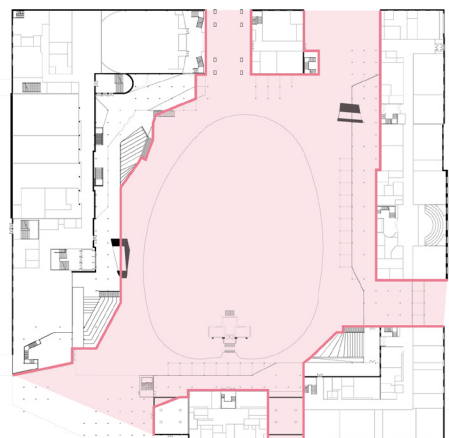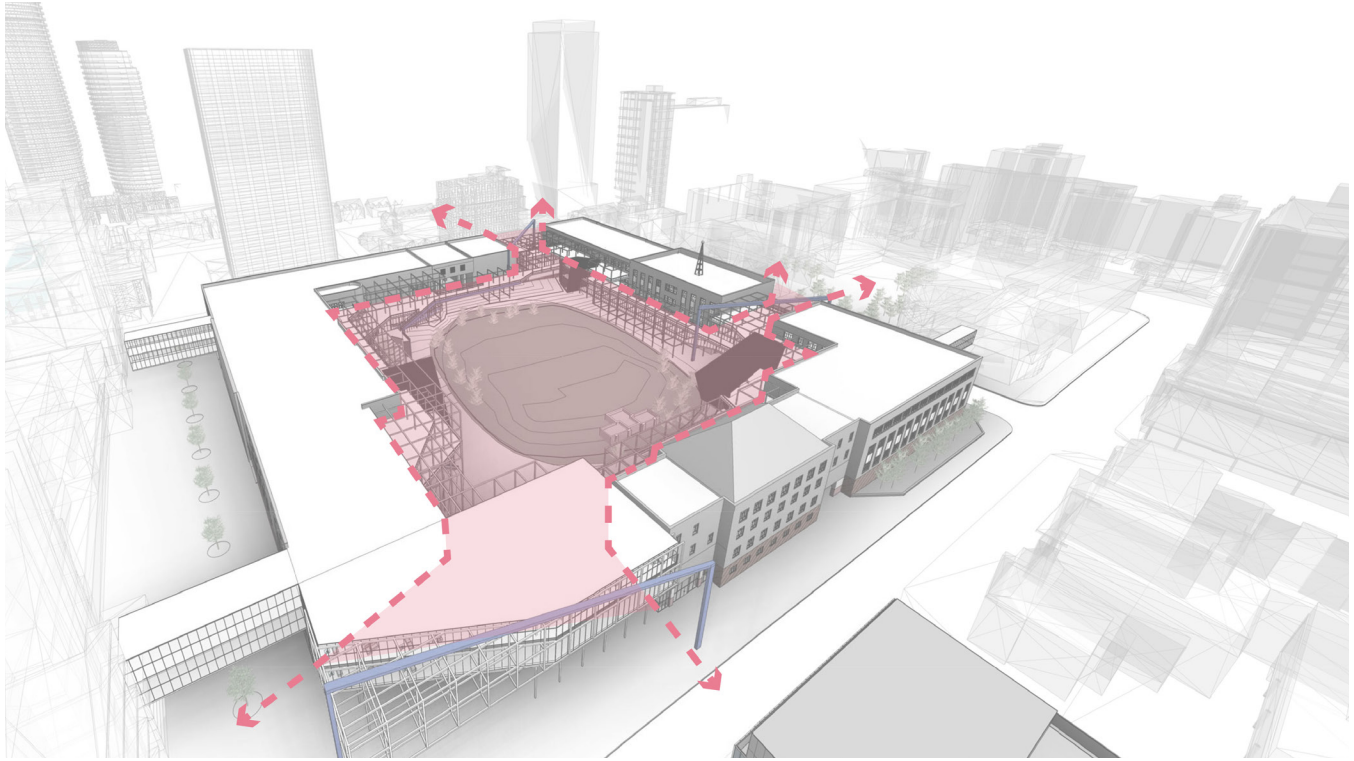
Fig. 70 Opened building circulation + reference plan

10.2.3 Circulation

The framework design also acts as a means of circulation. It provides the necessary infrastructure for dynamic movement to take place. Its network of vertical and horizontal circulation allows students to determine their own paths as they move within the building. It also allows the transition from the public realm to the private realm to be "fluid and permeable.[86] Angular platforms permit free-flowing movement in all directions, creating freedom of movement, while also directing pedestrian circulation. The circulatory properties of this thesis are examined by Stan Allen, tying into concepts of interconnectivity and flow. The concept of moving people through space requires viewing the built form and site as a whole, not as a unification of parts, relating back to the work of Fumihiko Maki.[87] Although Kerr Hall is divided into individual parts, it creates a strong sense of unity while also allowing circulatory penetration.

The penetration of the built form allows for circulation through the quad. The importance of circulation in this thesis determines how people are brought together into a space to interact, spontaneously and through planned forms, while increasing the presence of and dynamism of activity. A central hub would act as a gathering space and should have activity visible. The emphasis on dynamism allows group activities to bring energy and livelihood to the campus, encouraging social interaction and as a result, developing communal growth and camaraderie. When this concept of unity and flow is implemented throughout campus, it becomes evident how the university is a whole, even though it is physically dispersed as individual buildings. Maki explains the implication of connections, as this does not have to be direct but would influence how buildings and spaces relate.

This connection of forms and spaces utilizes the linkages to allow for circulation and movement through space.[88] This circulation flows through the integrated framework and into the interstitial realm that sits between the private built form of Kerr Hall. The framework acts as a network to provide the infrastructure for movement into, out of, and through the gathering space. Circulation is accessible to and from all levels, with a series of cores that allow movement from the ground level and up. This connection of program creates a link of programmatic spaces that allow for movement in between, allowing for overlap and therefore opportunities for interaction. The circulatory framework provides the necessary infrastructure for students to move through interstitial space, providing more chances to interact, develop, and grow as a community.
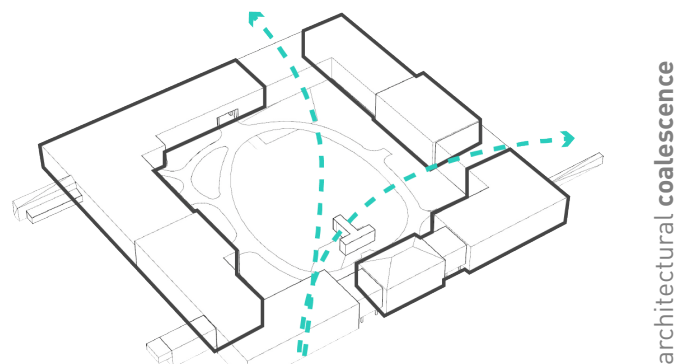
Fig. 71 Diagram showing new circulation routes through the Quad

10.3   Final Design

The final design of this thesis follows.

1 RYERSON UNIVERSITY QUAD
2 STUDENT WELCOME CENTRE
3 STUDENT LOUNGE AREA
4 STUDENT CAFE
5 MAIN QUAD ENTRANCE SW
6 TIERED SEATING GATHERING SPACE
7 TIERED SEATING GATHERING SPACE
8 QUAD EAST ENTRANCE
9 GYMNASIUM POOL
10 LOWER GYMNASIUM
11 RYERSON ATHLETIC CENTRE
ENTRANCE

0   10   20   50   100

GERRARD ST

VICTORIA ST LN

CHURCH ST

9

10

1

3

2

6

11

7

4

5

GOULD ST
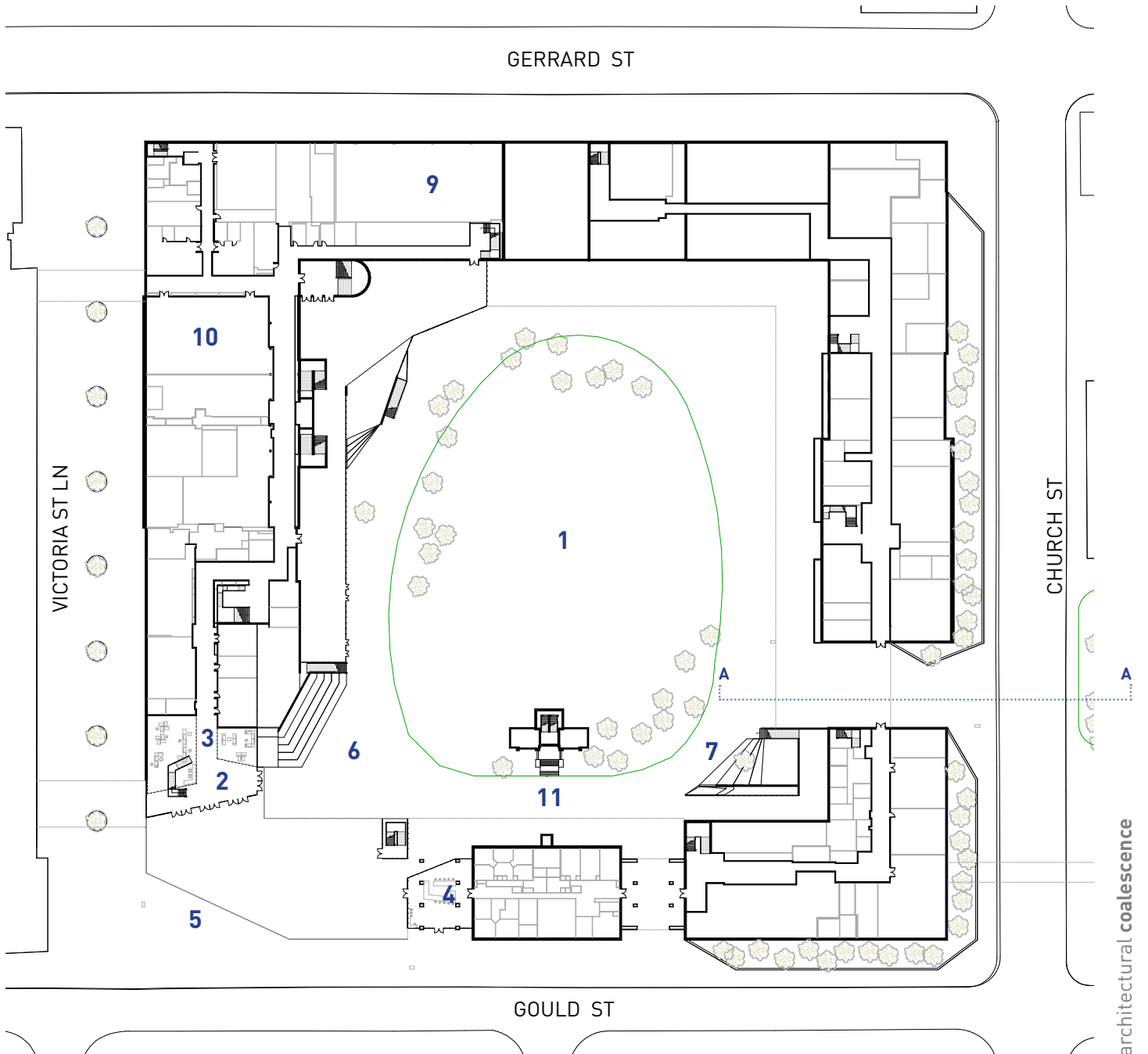
Fig. 72 Plan 00

1 RYERSON QUAD

2 STUDENT LOUNGE AREA

3 MAIN QUAD ENTRANCE SW

4 TIERED SEATING GATHERING SPACE

5 TIERED SEATING GATHERING SPACE

6 BREAKOUT TEACHING SPACE

7 QUAD NORTHEAST ENTRANCE

8 THEATRE

9 LOWER GYMNASIUM

10 THEATRE/GYMNASIUM LOBBY

11 TIERED SEATING GATHERING SPACE

12 BREAKOUT TEACHING SPACE

13 CHILDREN'S DAYCARE

0   10   20   50   100

GERRARD ST

8

7

9

10

6

11

13

1

A   A

2

12

5

4

3

VICTORIA ST LN

CHURCH ST

GOULD ST
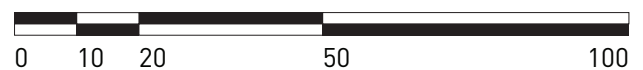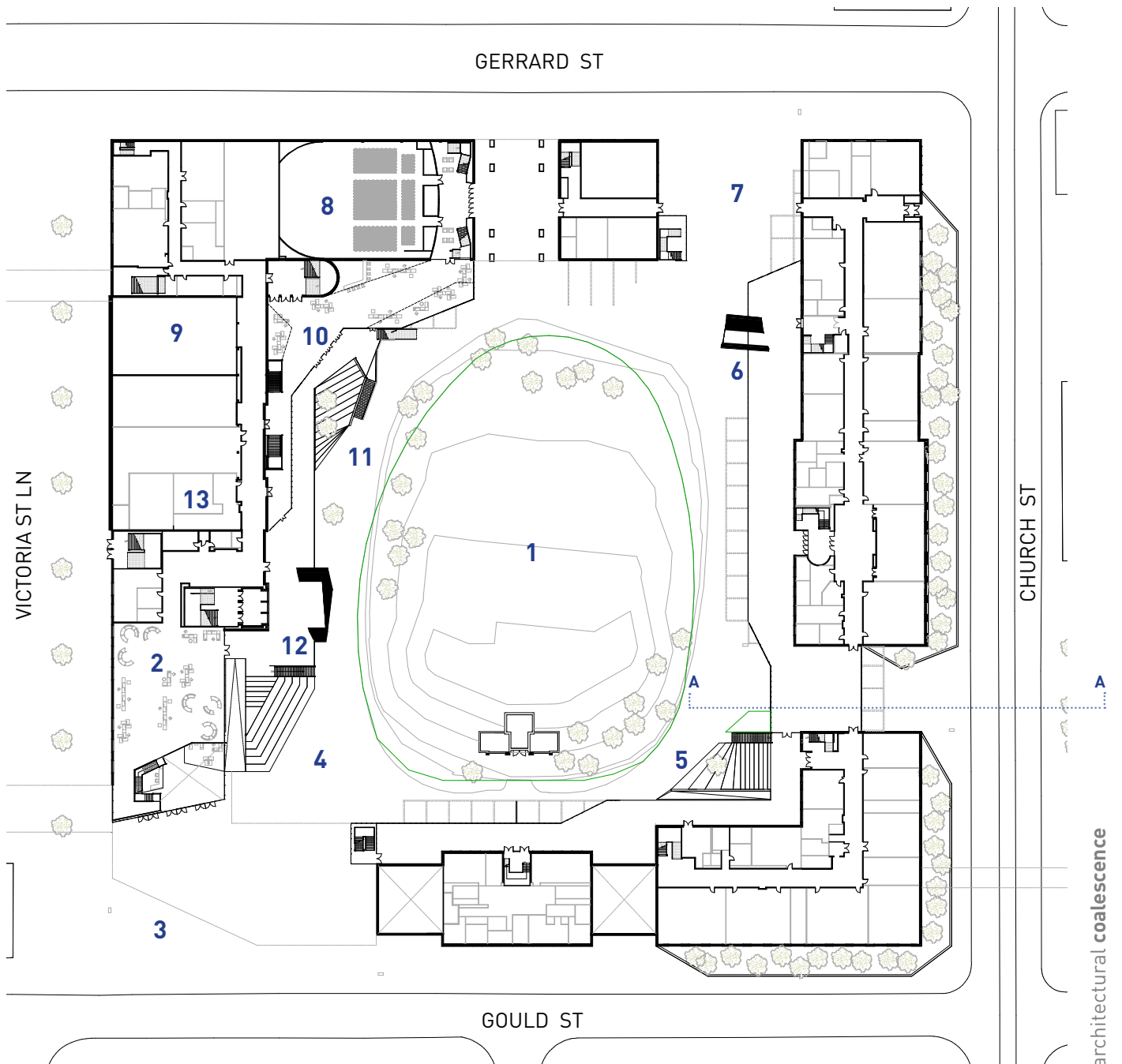
Fig. 73 Plan 01

1 SW STUDENT LOUNGE AREA

2 BREAKOUT TEACHING SPACE

3 BREAKOUT TEACHING SPACE

4 UPPER THEATRE

5 UPPER (MAIN) GYMNASIUM

6 BREAKOUT TEACHING SPACE

0   10   20   50   100

GERRARD ST

GOULD ST

VICTORIA ST LN

CHURCH ST

1

2

3

4

5

6

A

A

architectural **coalescence**

Fig. 74 Plan 02

141
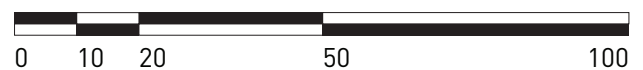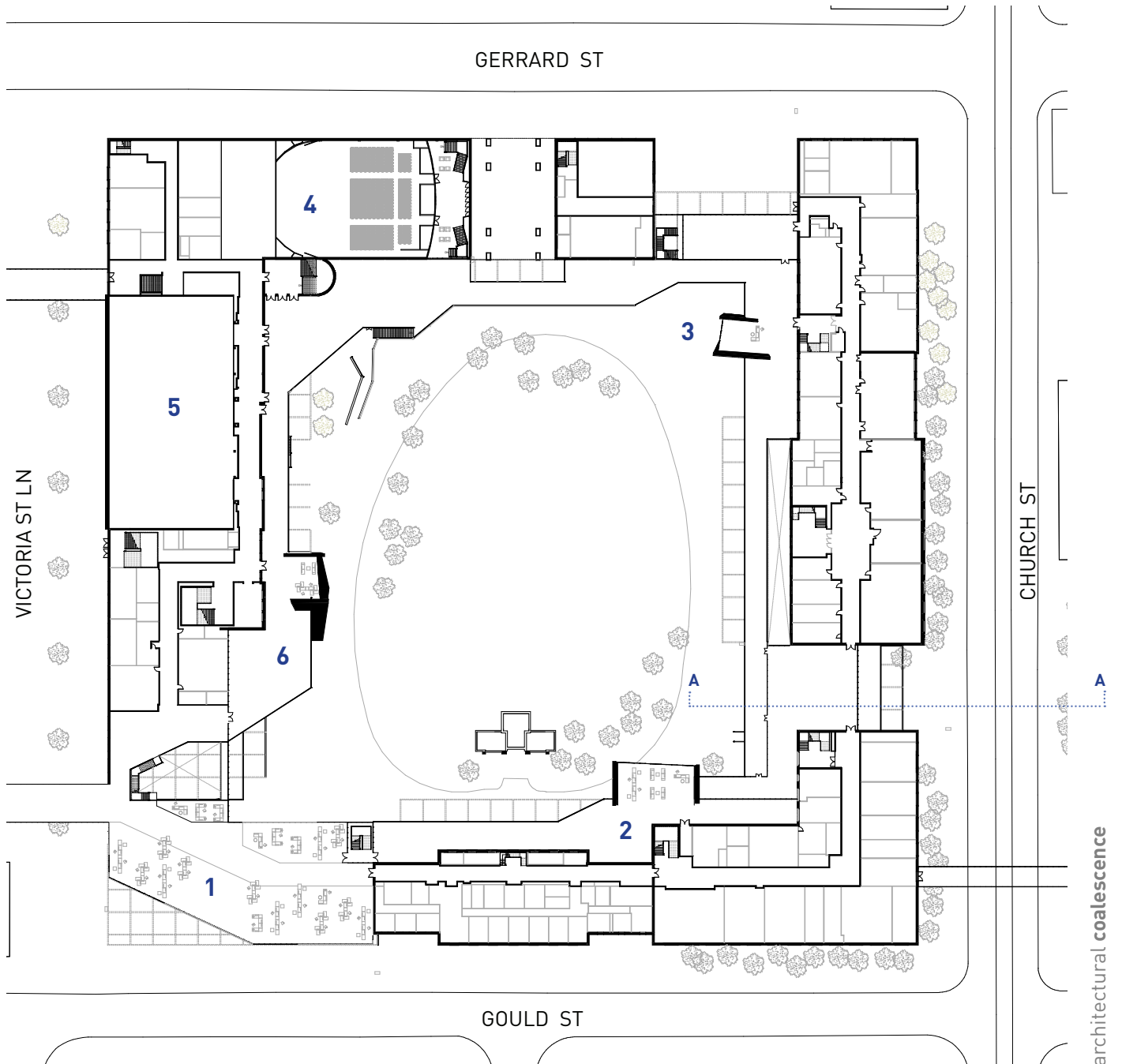
1 STUDENT LOUNGE AREA

2 STUDENT LOUNGE AREA

3 BREAKOUT TEACHING SPACE

4 BREAKOUT TEACHING SPACE

5 UPPER THEATRE

6 UPPER GYMNASIUM

7 BREAKOUT TEACHING SPACE

| 0 | 10 | 20 | 50 | 100 |

GERRARD ST

VICTORIA ST LN

CHURCH ST

5

6

4

7

2

3

1

A .... A

GOULD ST
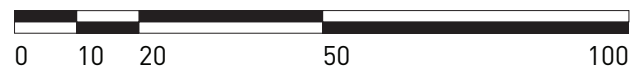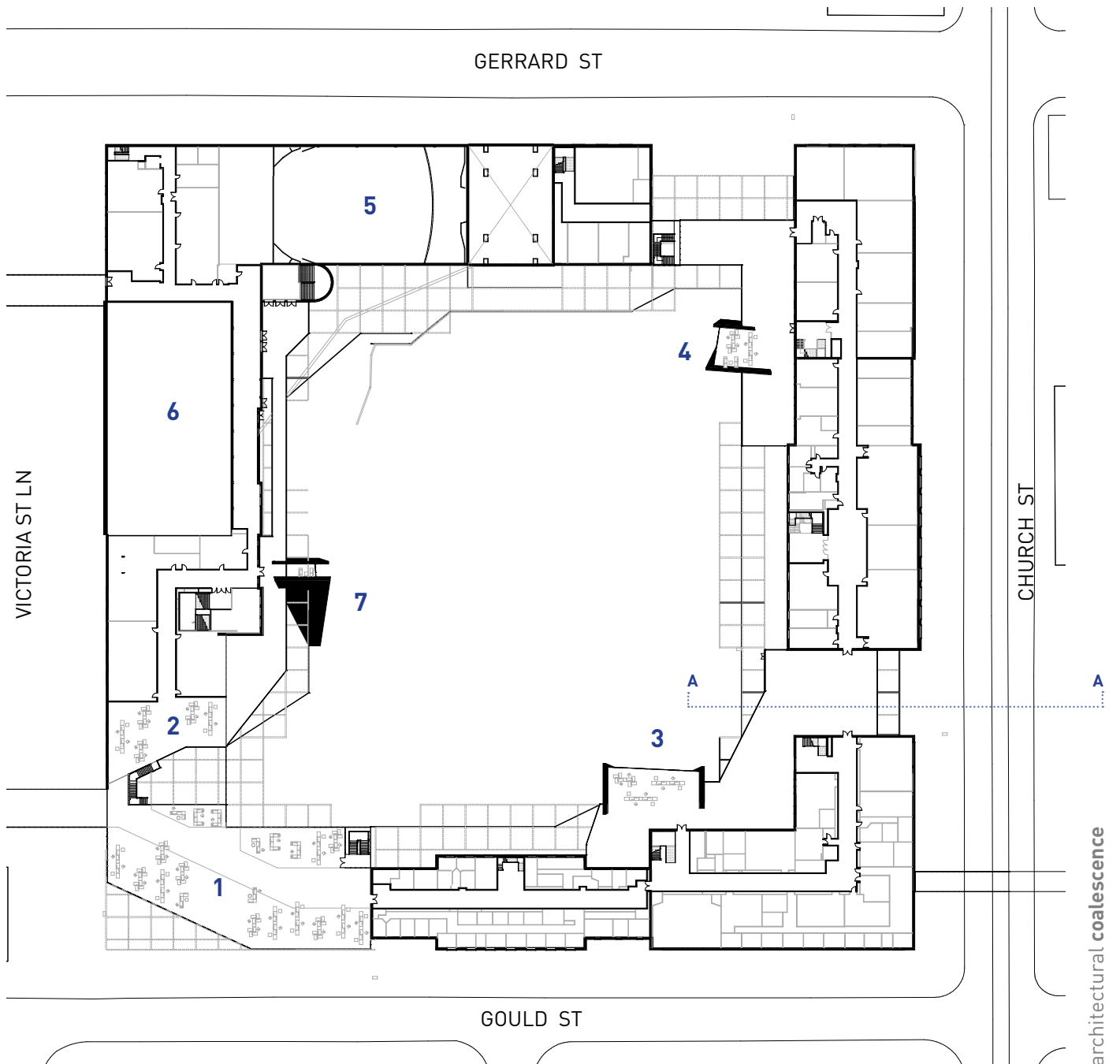
Fig. 75 Plan 03

ROOF PLAN LEVEL **04**

1 RYERSON QUAD

0	10	20	50	100

GERRARD ST

VICTORIA ST LN

CHURCH ST

GOULD ST

1

A .... A
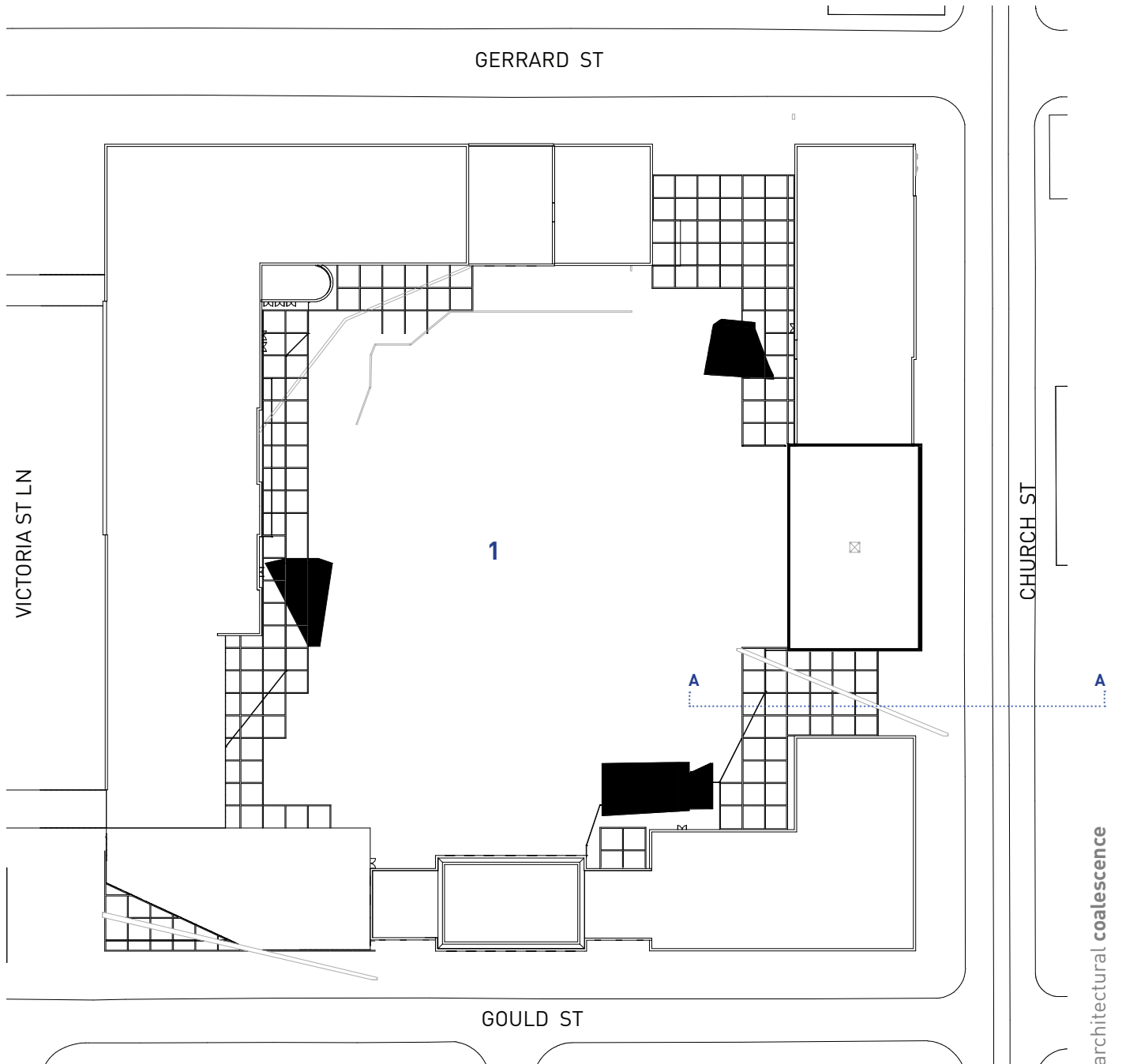
Fig. 76 Roof Plan
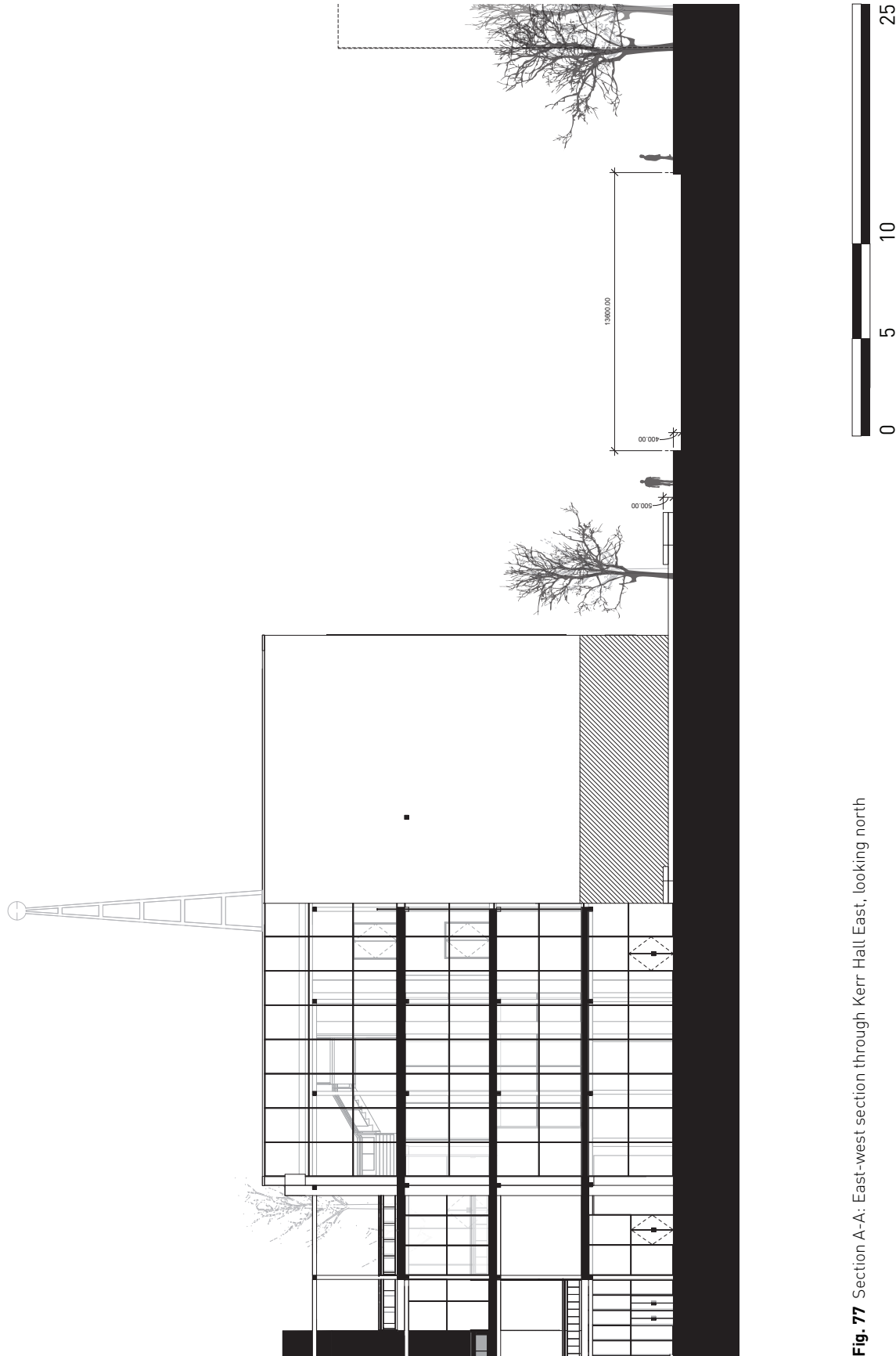
Fig. 77 Section A-A: East-west section through Kerr Hall East, looking north

architectural **coalescence**
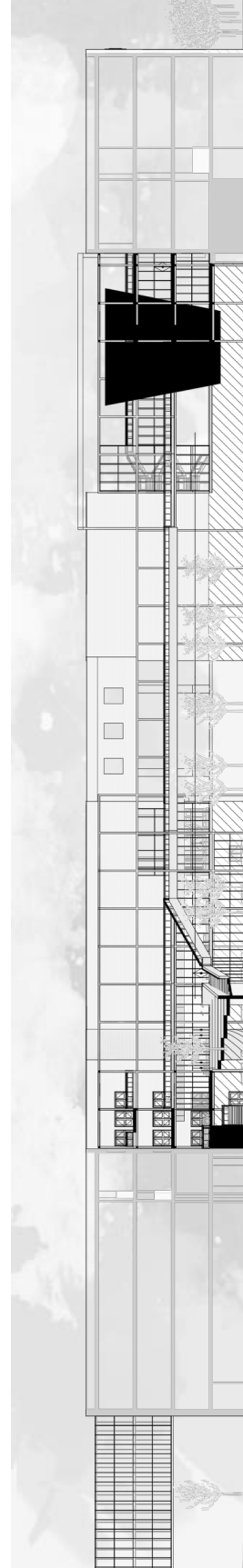
Fig. 78 Kerr Hall North Exterior Elevation from Gerrard Street E
Fig. 79 Kerr Hall North Interior Elevation from Ryerson Quad
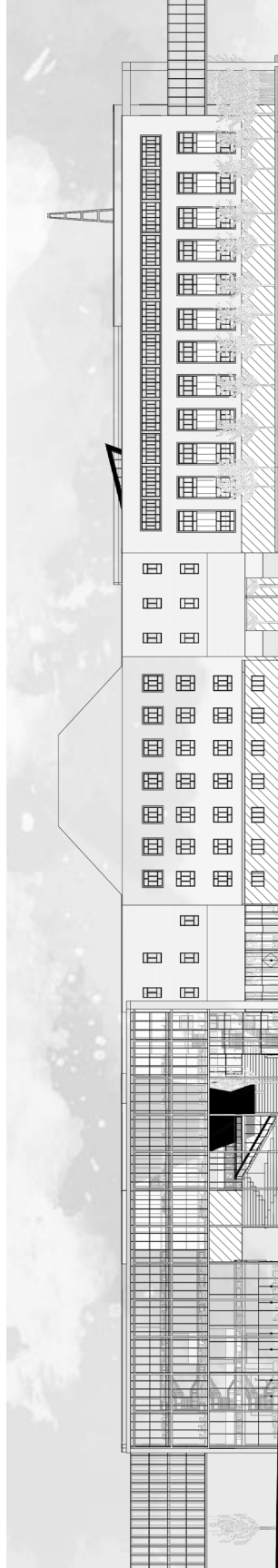
Fig. 80 Kerr Hall South Exterior Elevation from Gould Street
Fig. 81 Kerr Hall South Interior Elevation from Ryerson Quad

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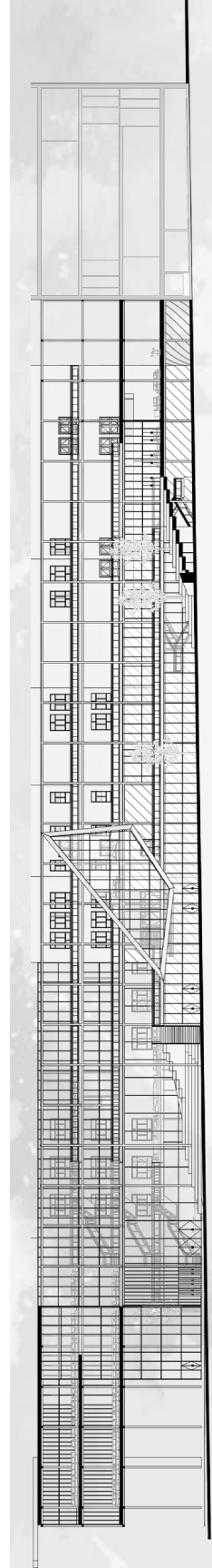
Fig. 82 Kerr Hall West Exterior Elevation from Victoria Street Lane
Fig. 83 Kerr Hall West Interior Elevation from Ryerson Quad

150
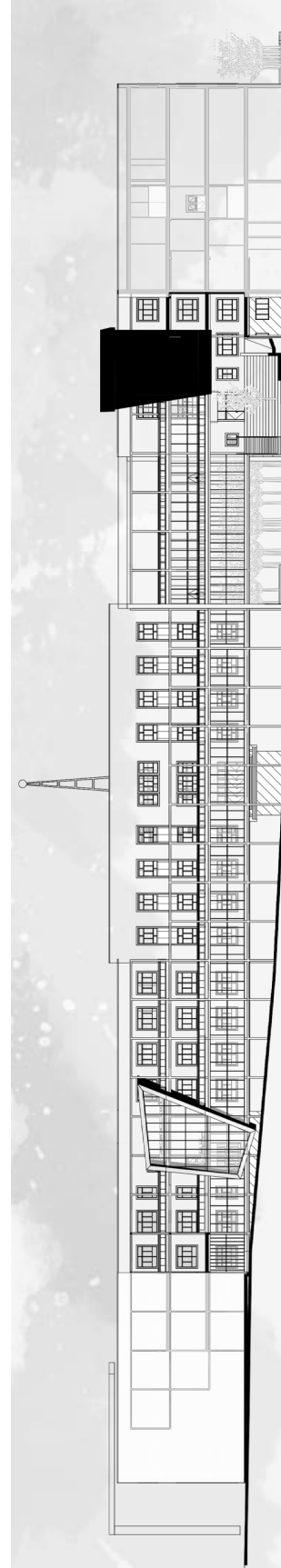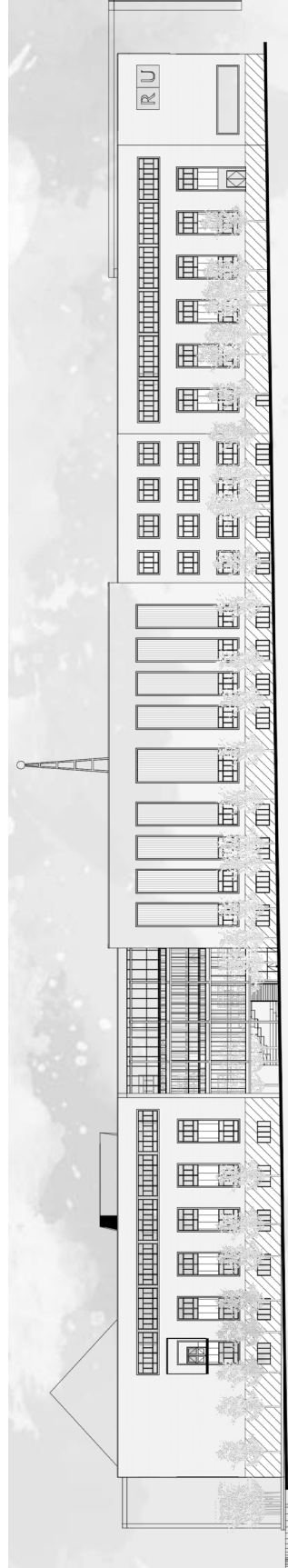
Fig. 84 Kerr Hall East Exterior Elevation from Church Street
Fig. 85 Kerr Hall East Interior Elevation from Ryerson Quad

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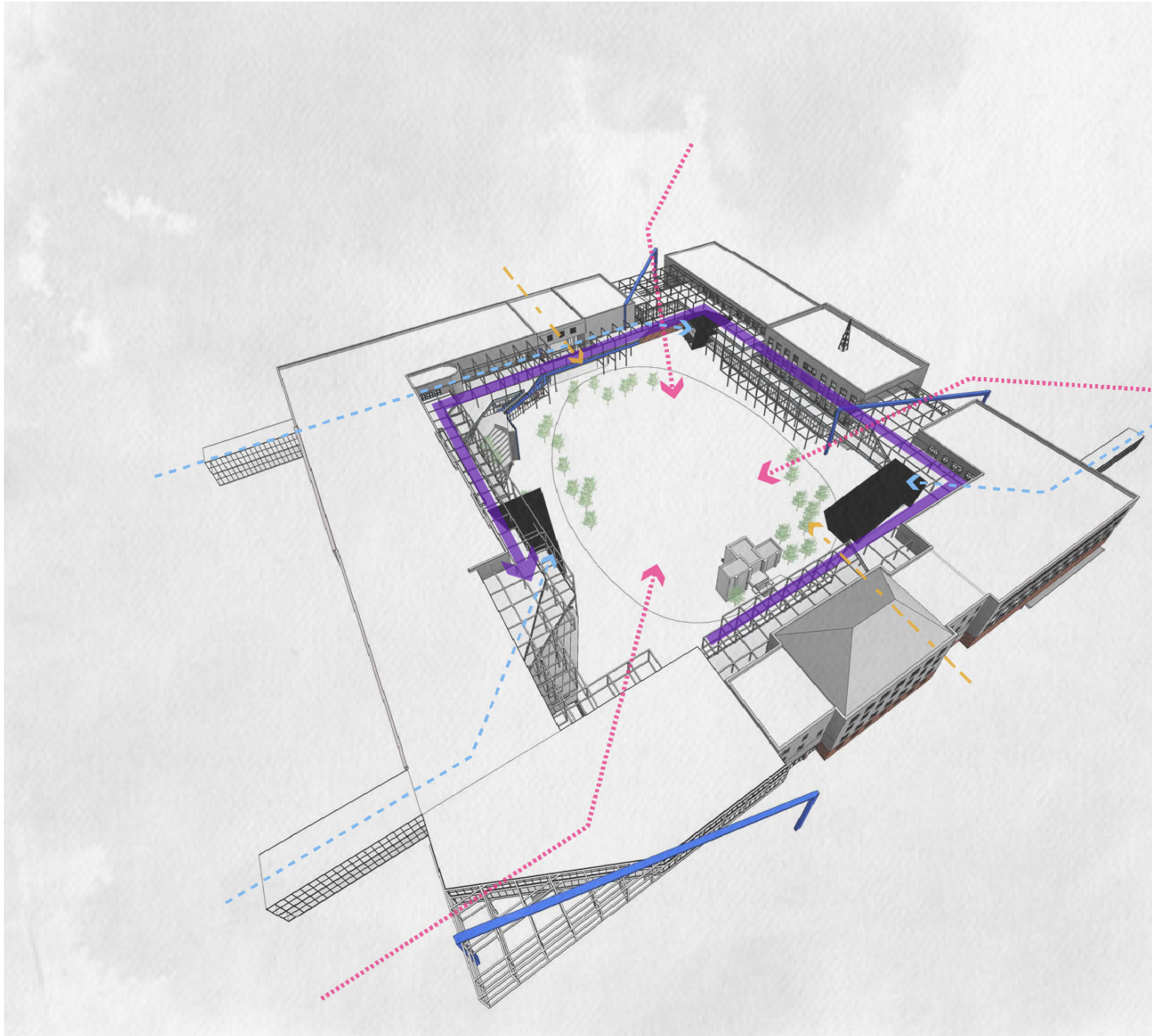
Fig. 86 Circulation + flow diagram

collective circulation

entry at-grade

existing entry

entry above-grade
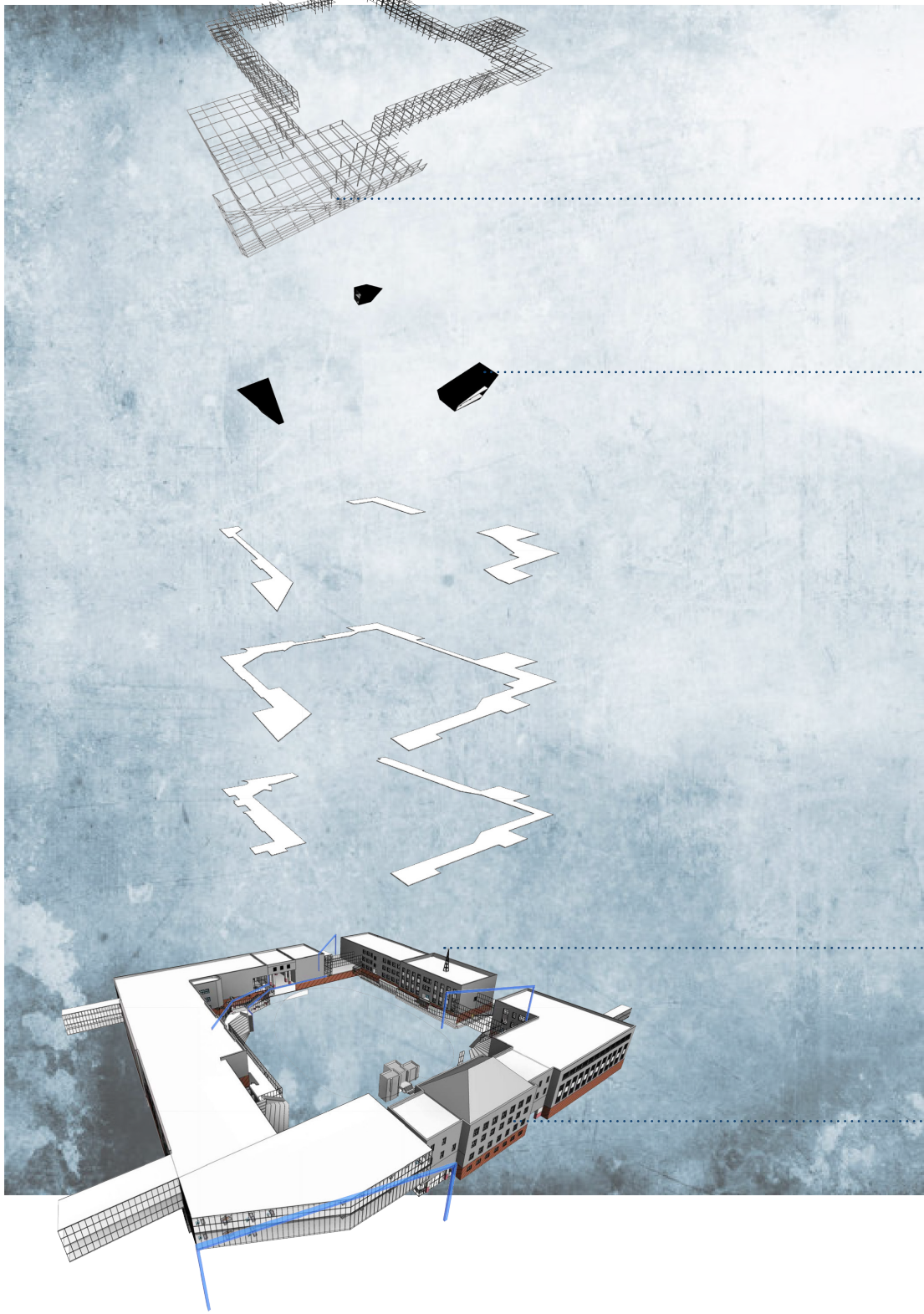
Fig. 87 Exploded axonometric drawing showing location of proposed materials

WHITE STEEL FRAMING

BLACK STEEL PANELS

NEW
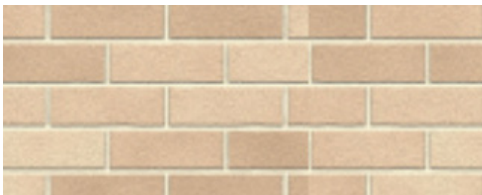
LIGHT BRICK
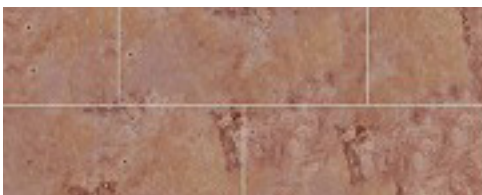
GRANITE STONE PANELS

EXISTING

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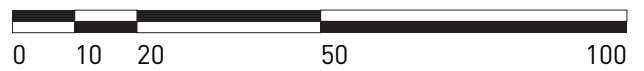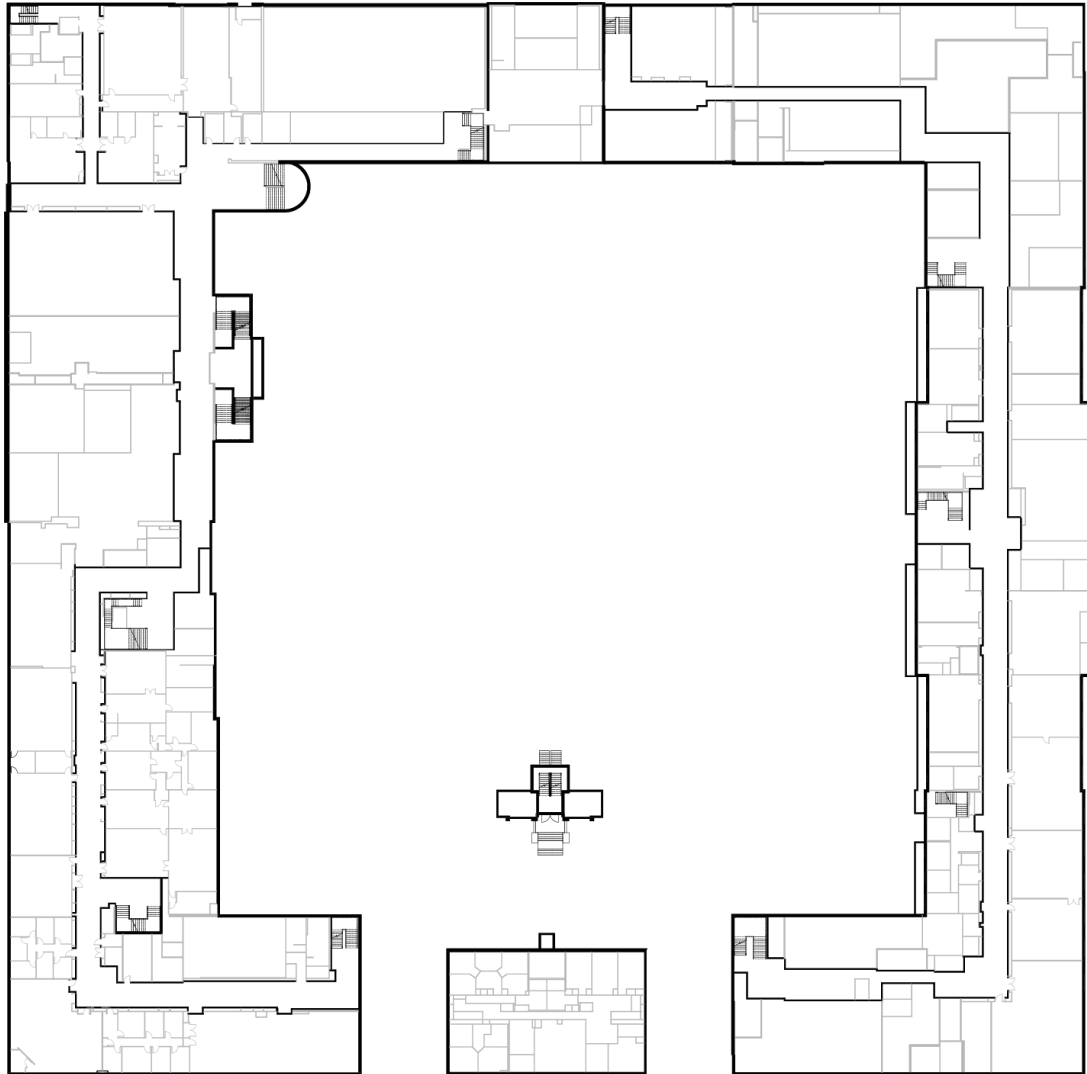
Fig. 88 Plan 00 Existing

0   10 20   50   100

0 10 20   50   100
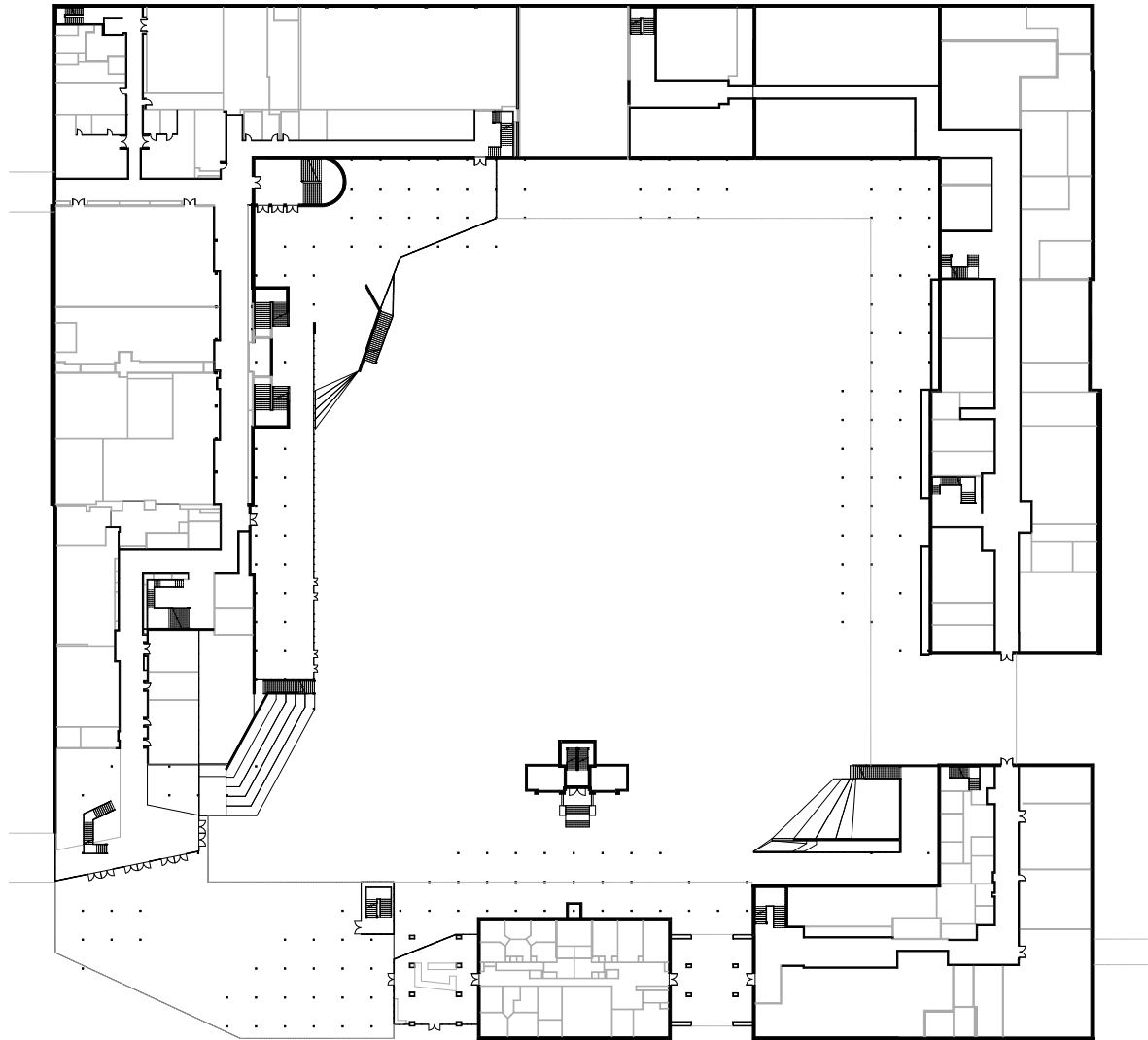
Fig. 89 Plan 00 New
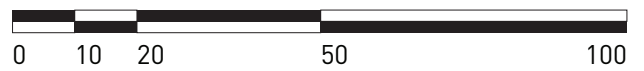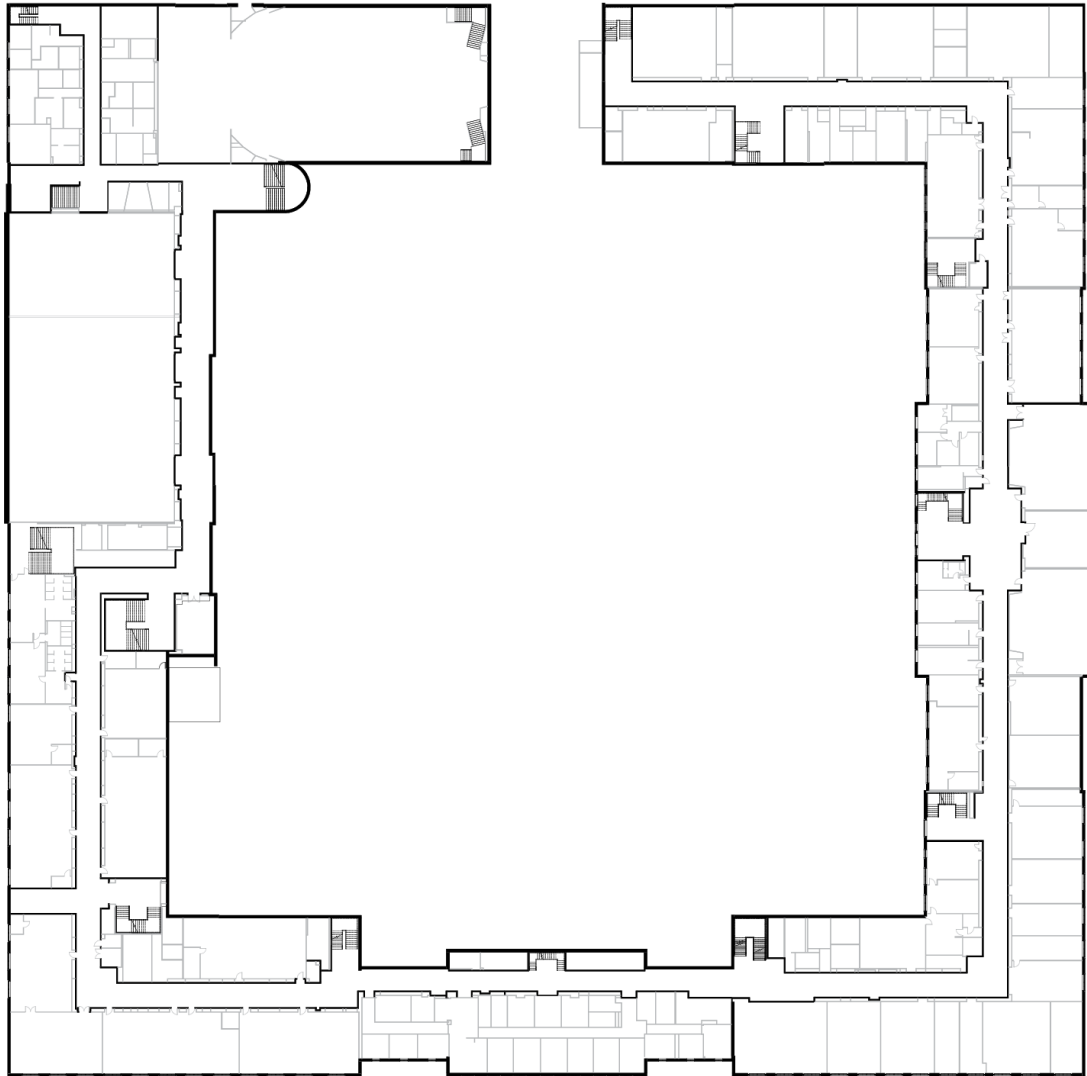
Fig. 90 Plan 01 Existing

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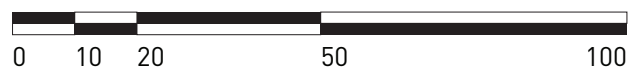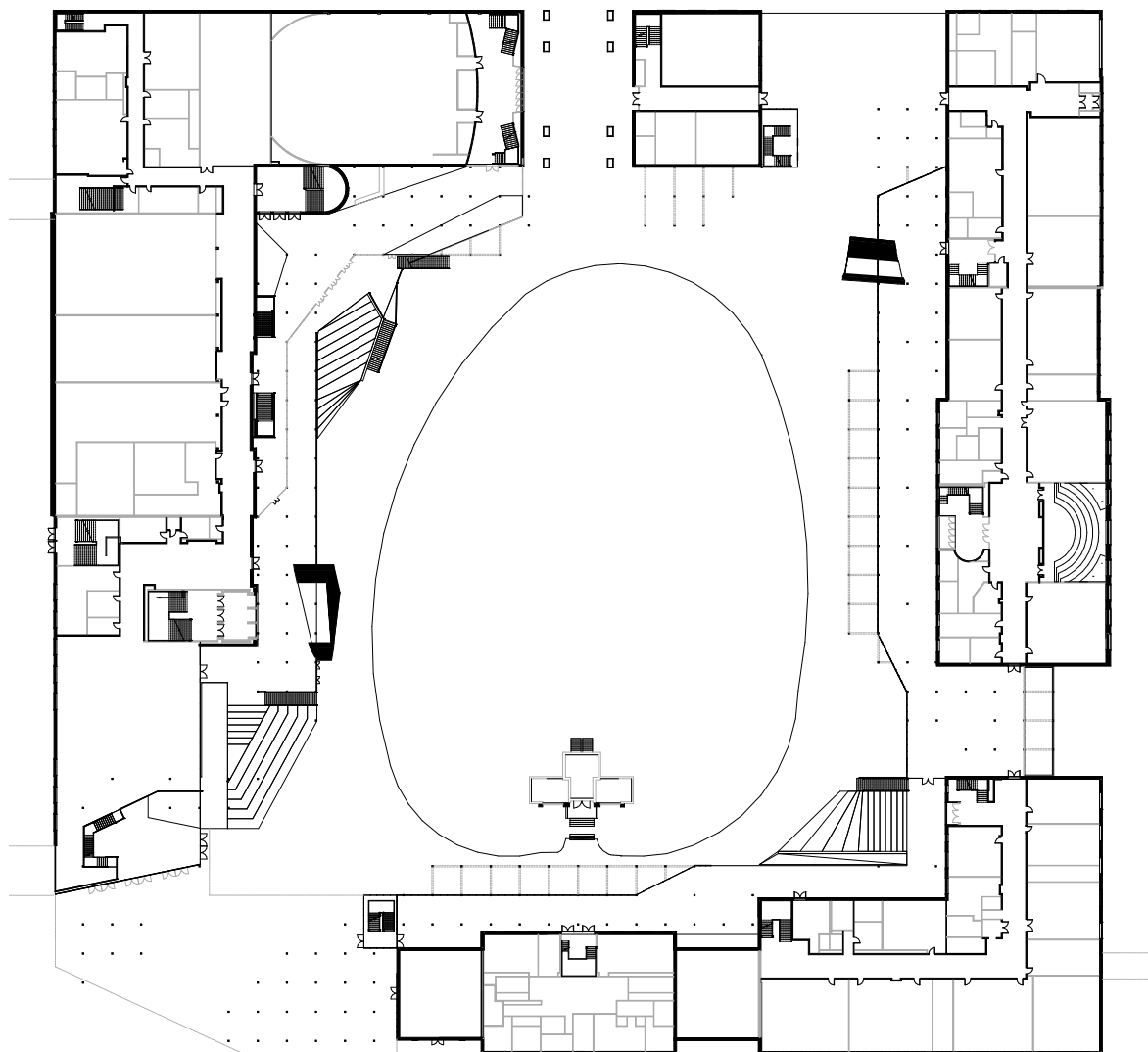
Fig. 91 Plan 01 New
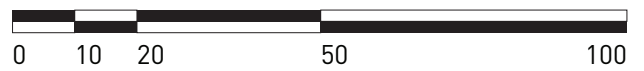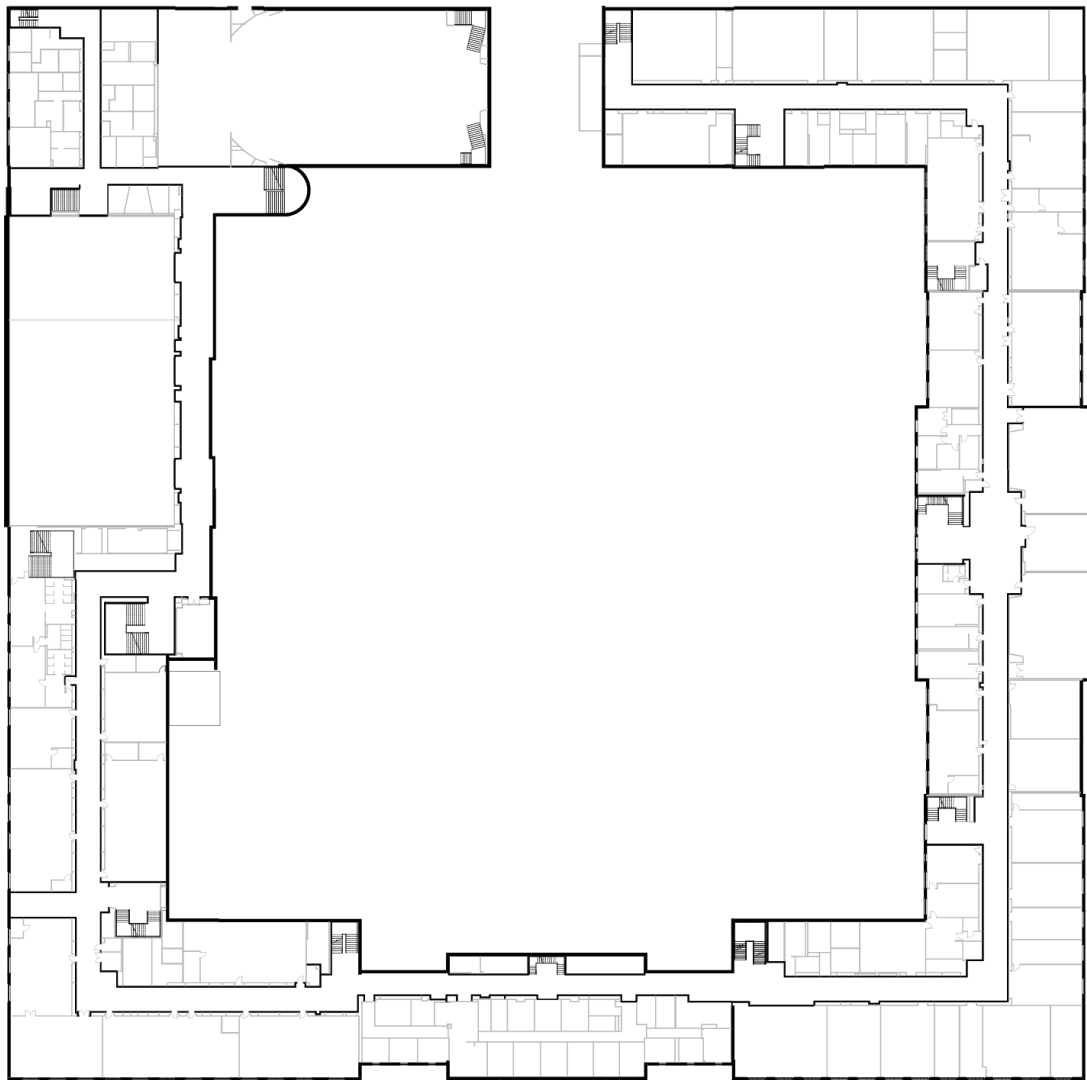
Fig. 92 Plan 02 Existing

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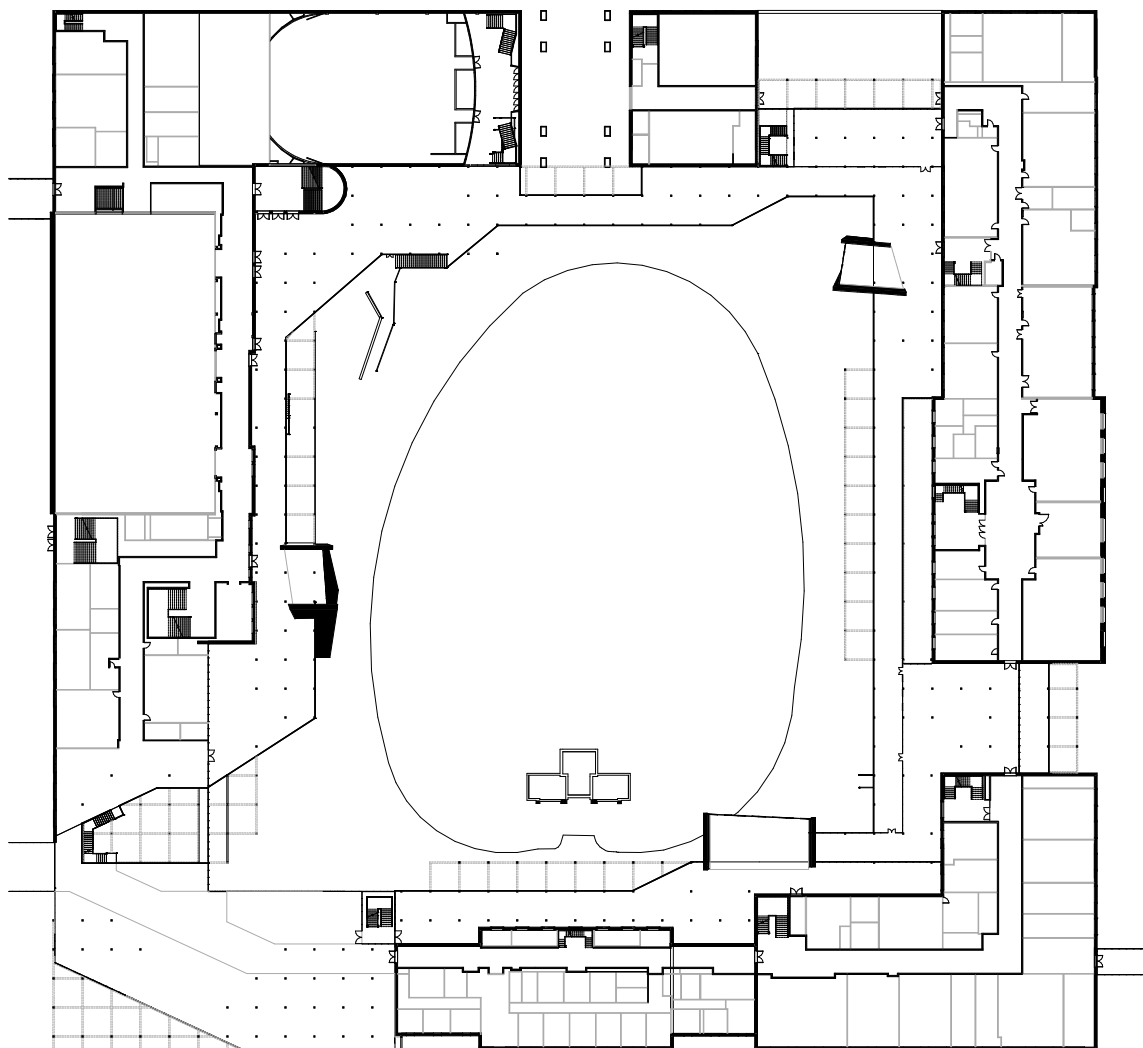
Fig. 93 Plan 02 New
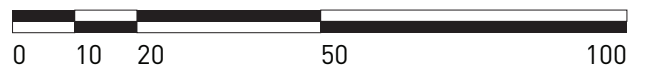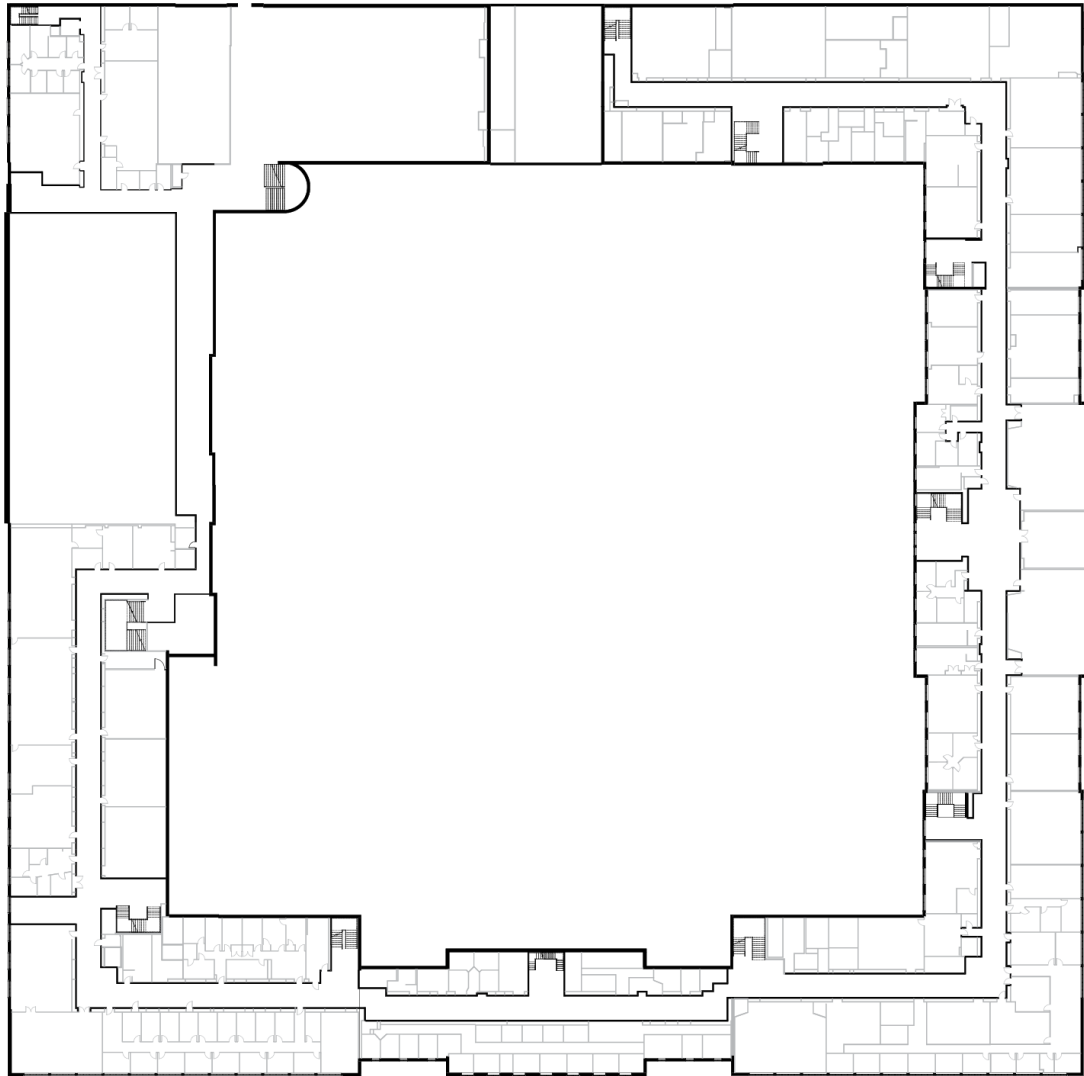
Fig. 94 Plan 03 Existing

0   10   20   50   100

0   10   20   50   100
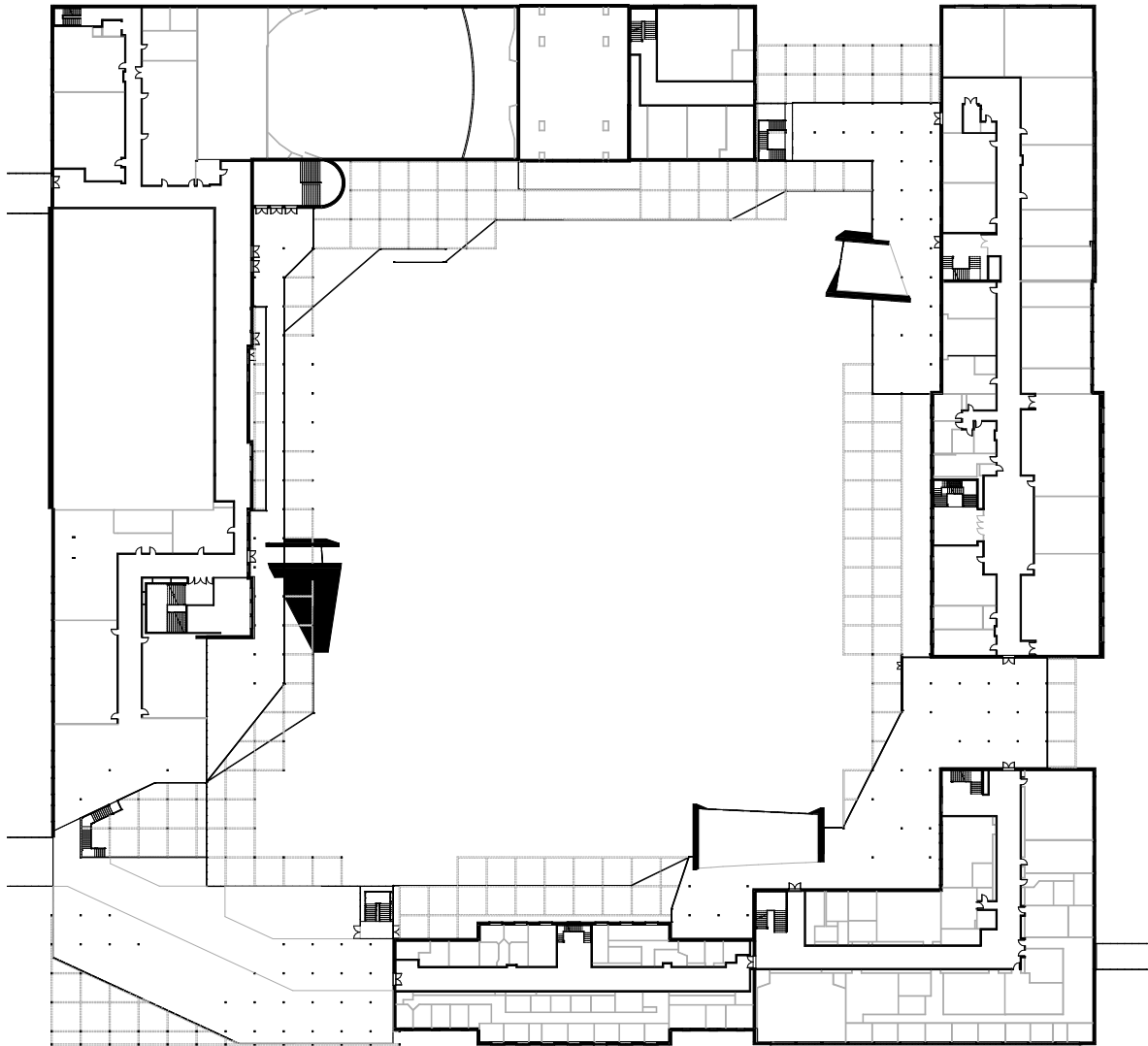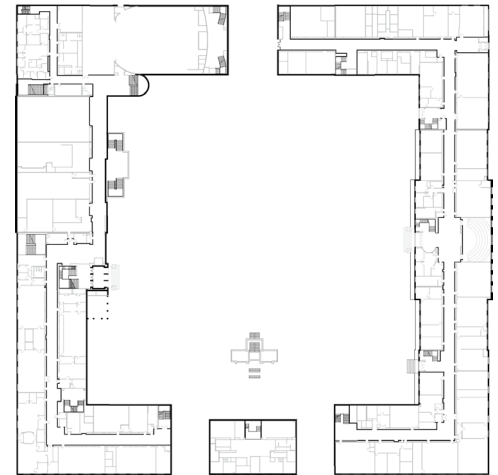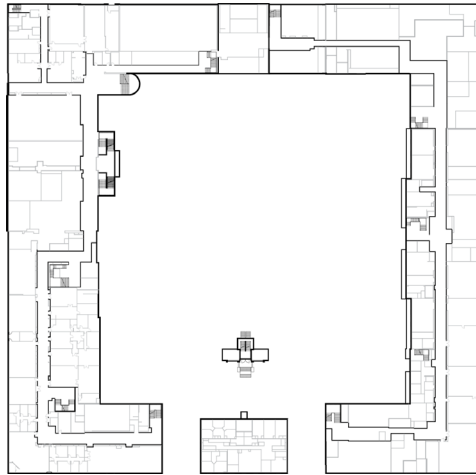
Fig. 95 Plan 03 New
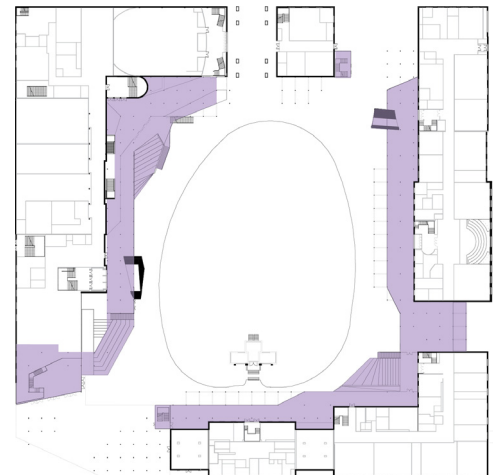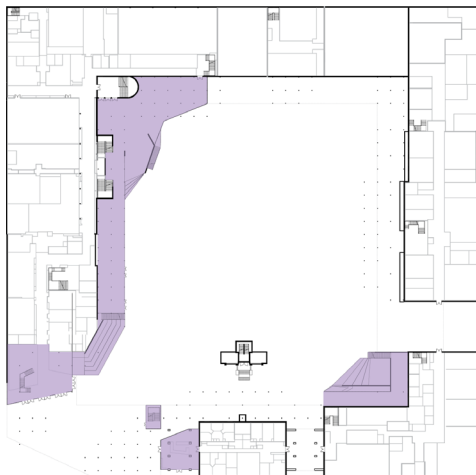
Fig. 96 Plan of existing building and location of new elements
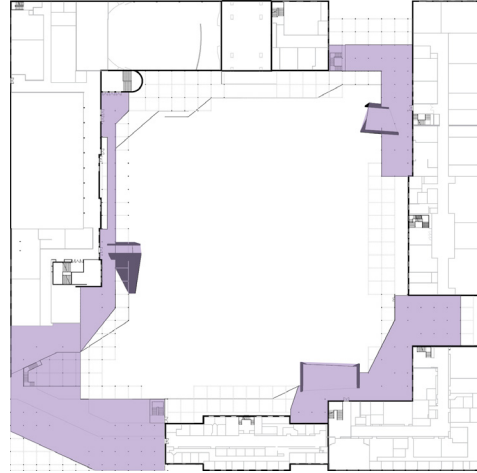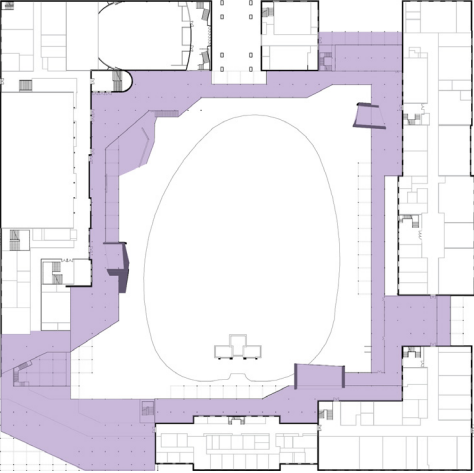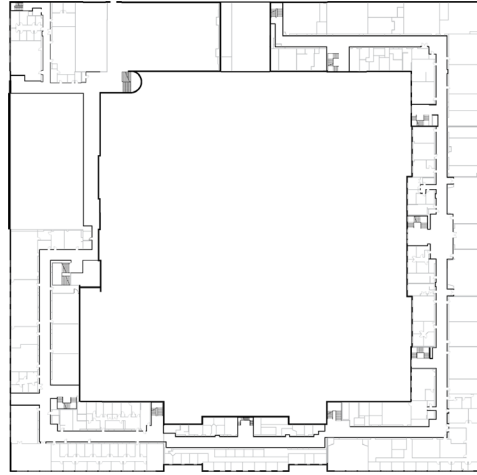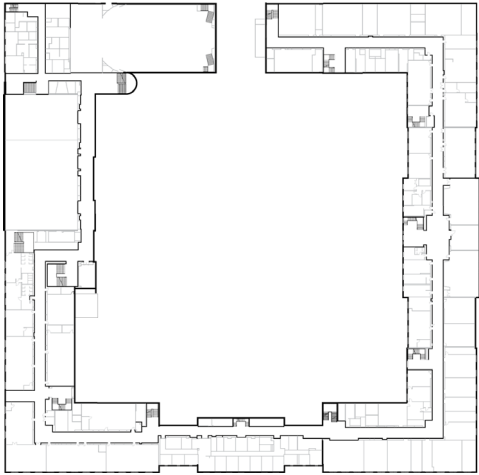
new elements
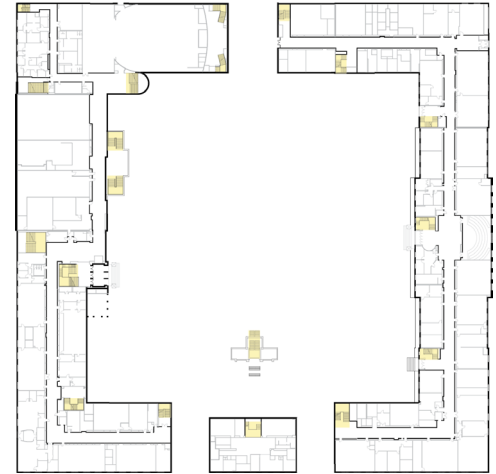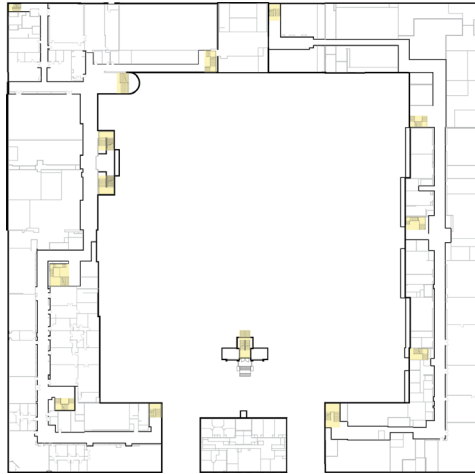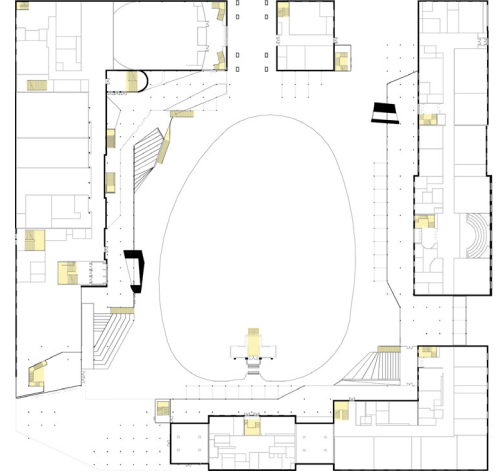
Fig. 97 Plan of location of existing vs new vertical circulation
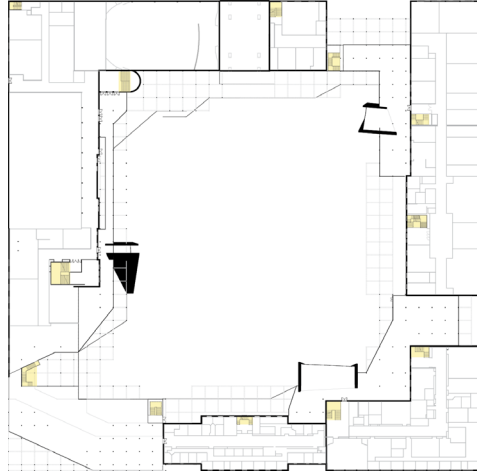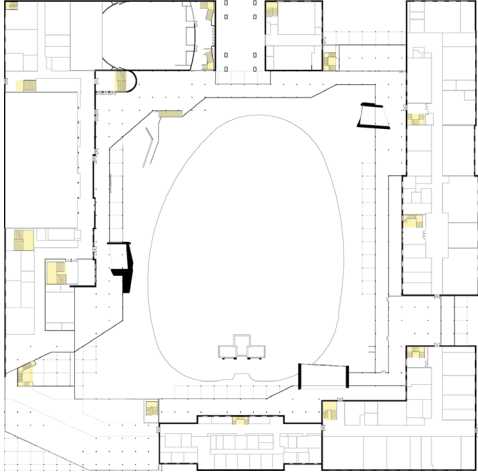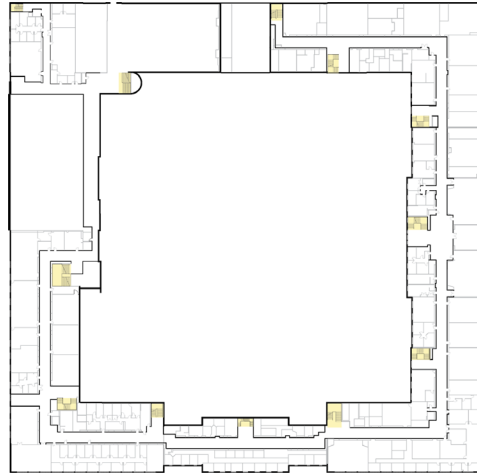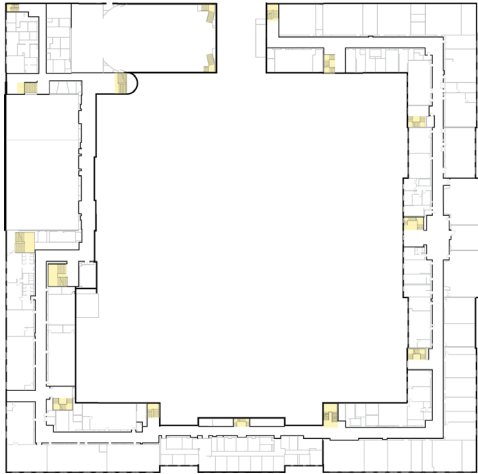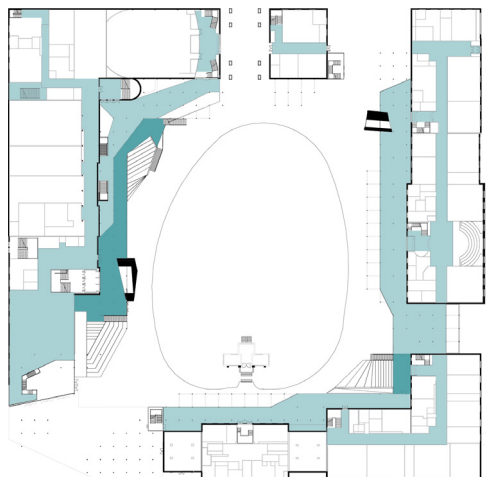
vertical circulation
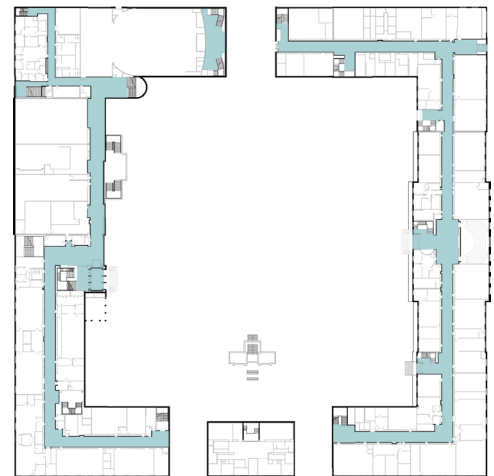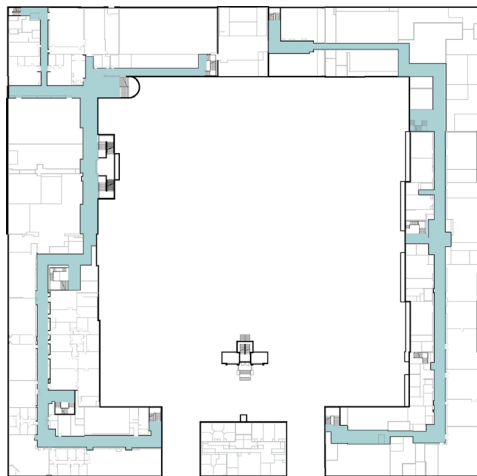
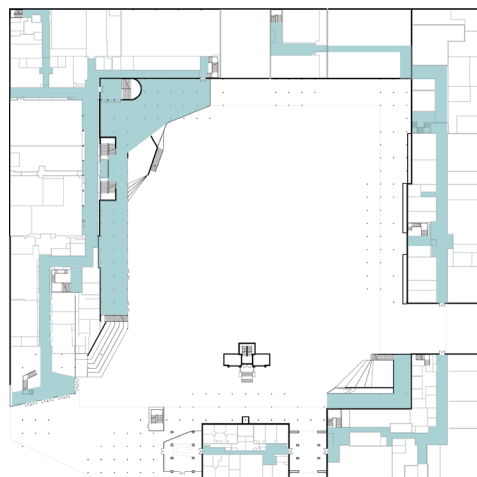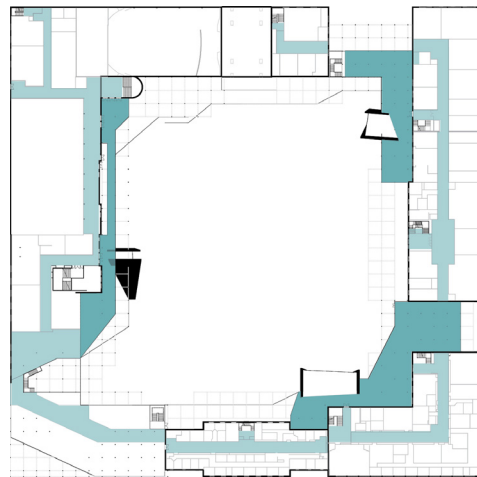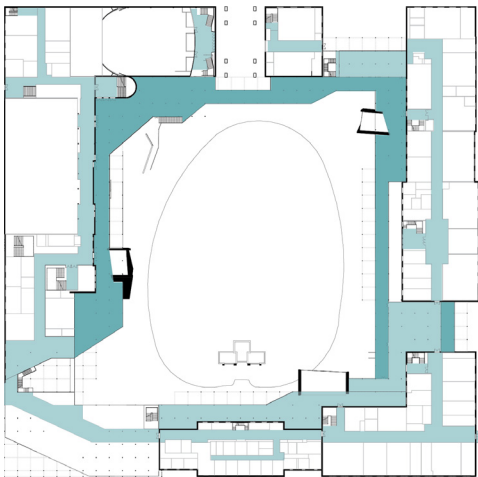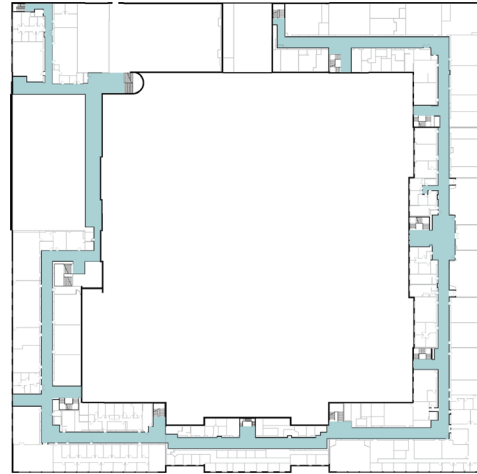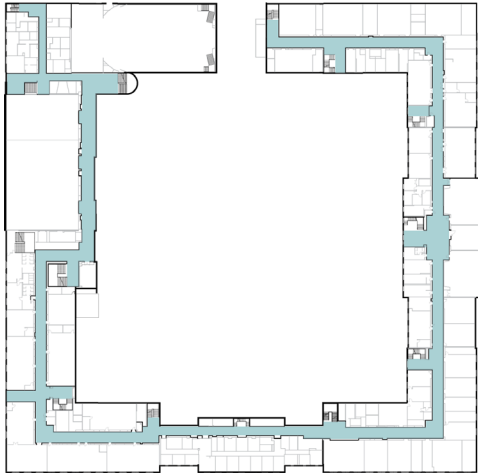**Fig. 98** Plan of existing vs new internal + external circulation

168

internal circulation

external circulation

Fig. 99 View from the Ryerson Podium Building looking east
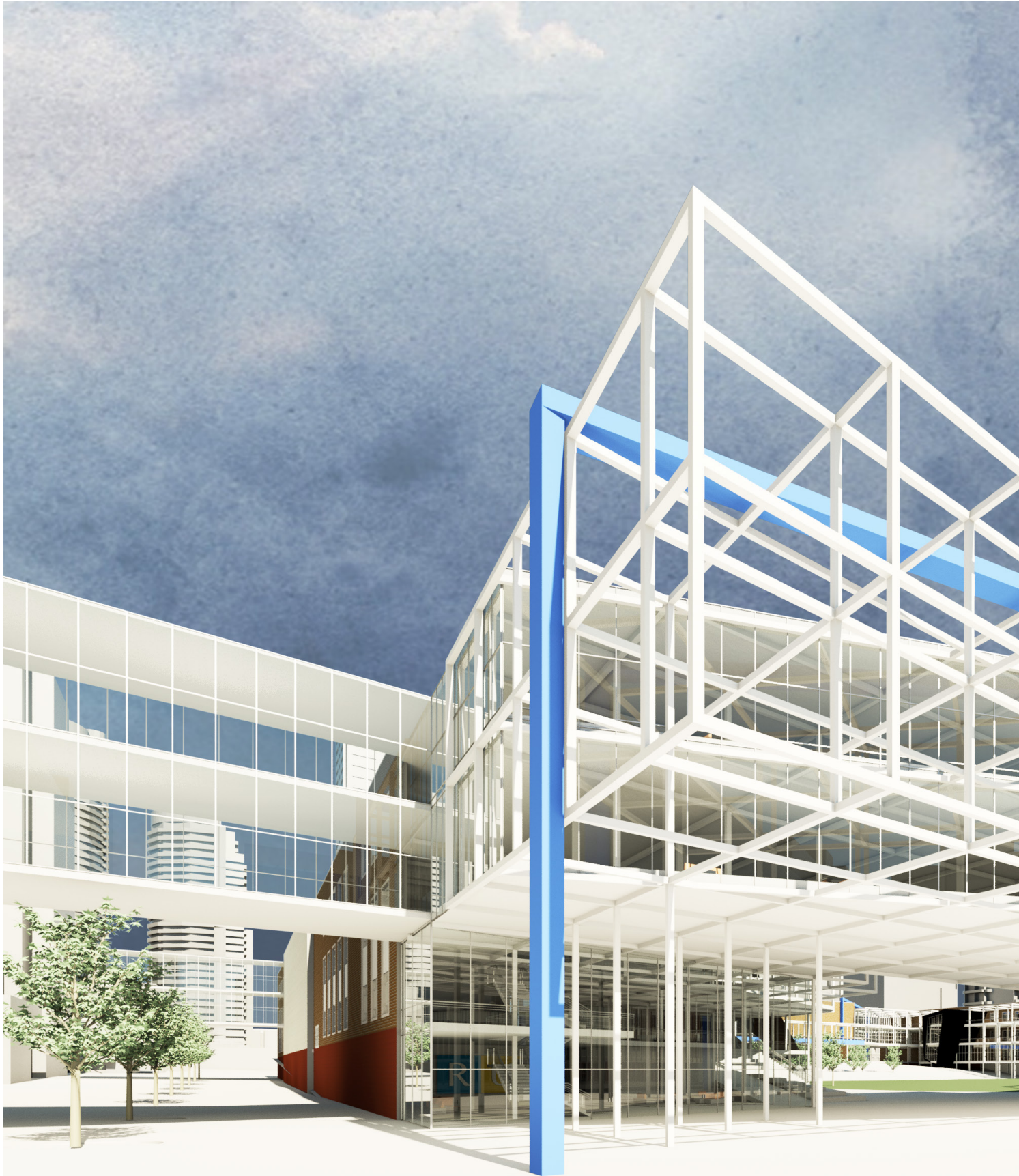
Fig. 100 View from the corner of Gould and Victoria Street, looking northeast towards quad entrance portal
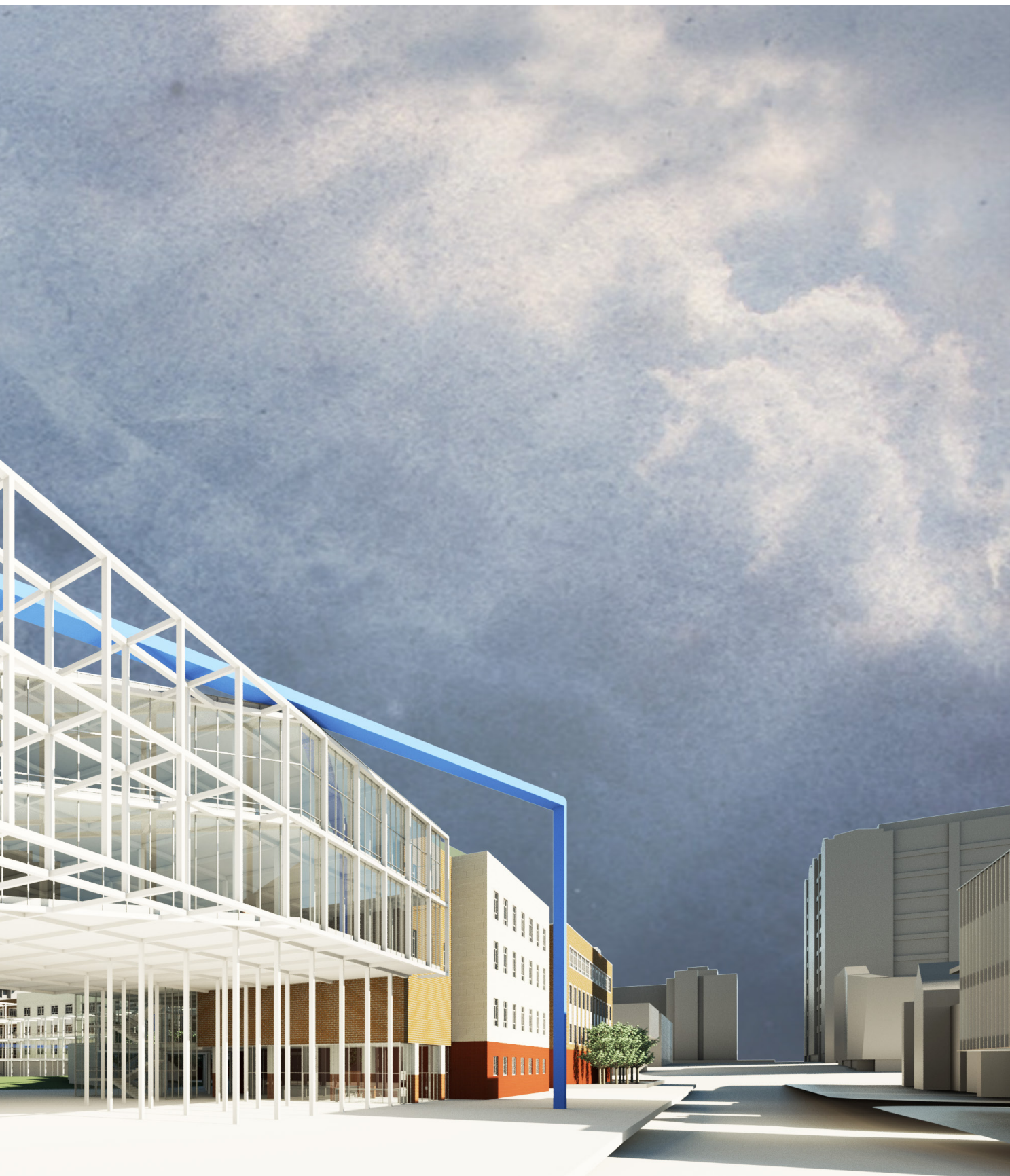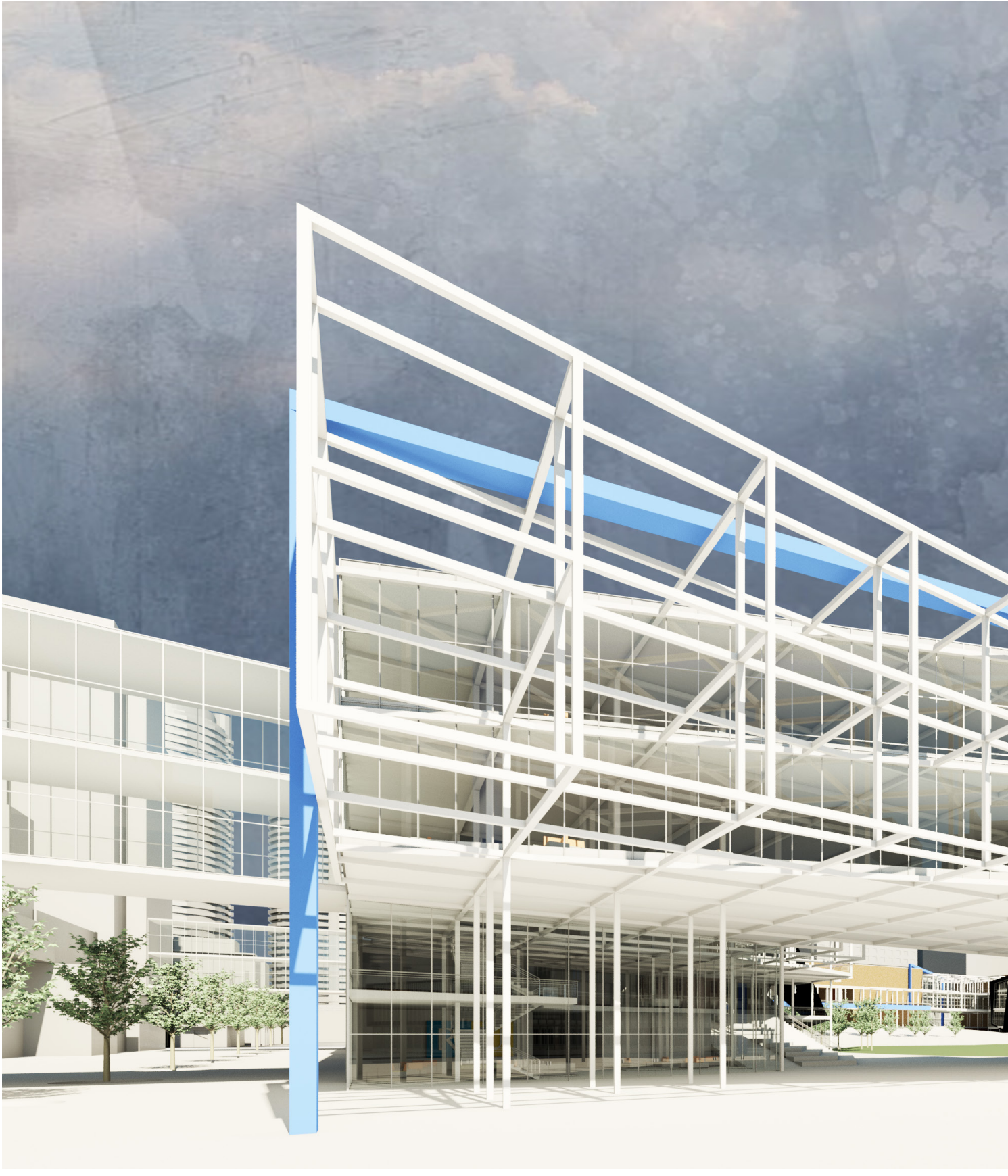
Fig. 101 View of southwest portal looking northeast from Lake Devonian

architectural **coalescence**
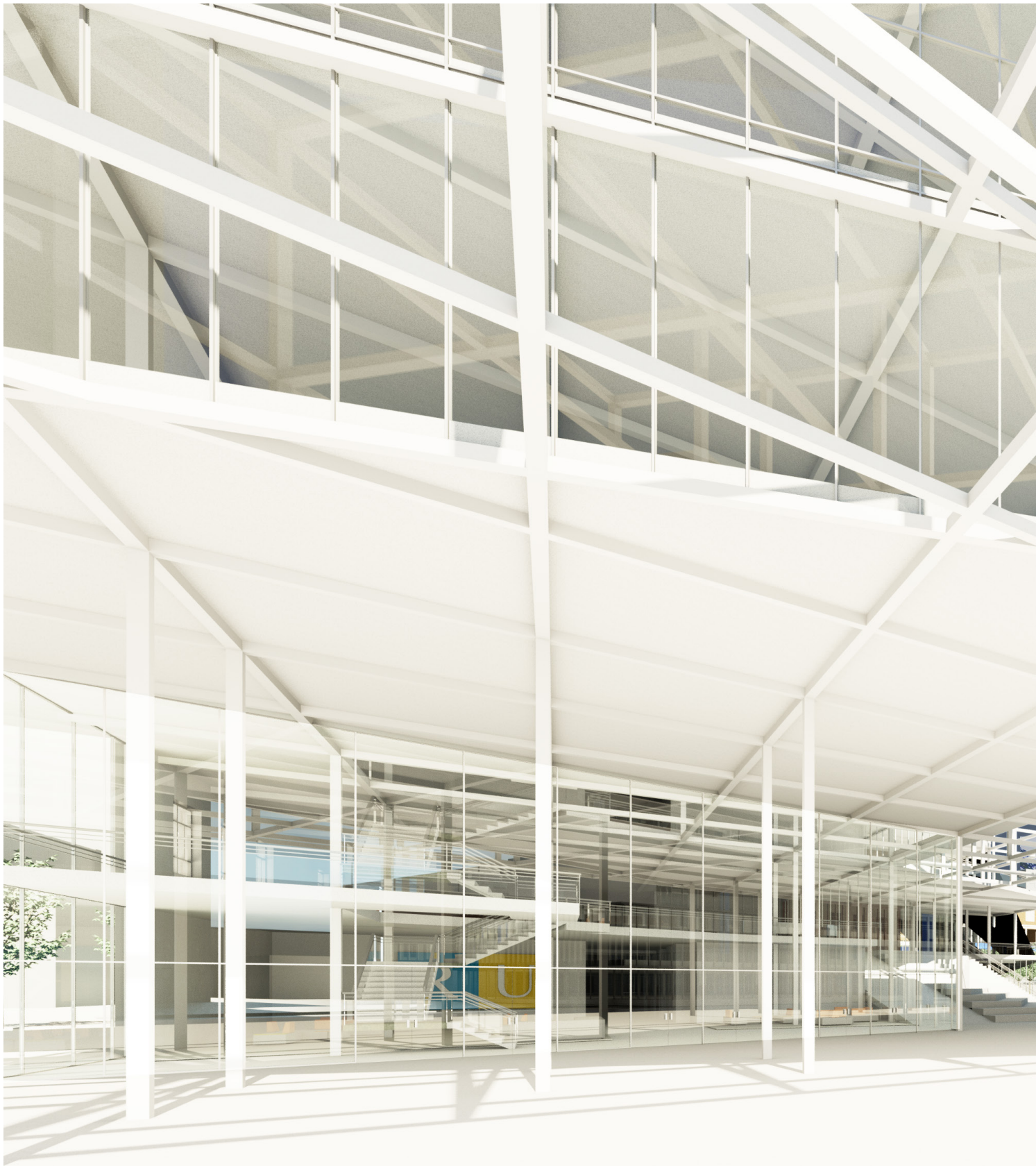
Fig. 102 View from Gould Street looking north-east into the Quad
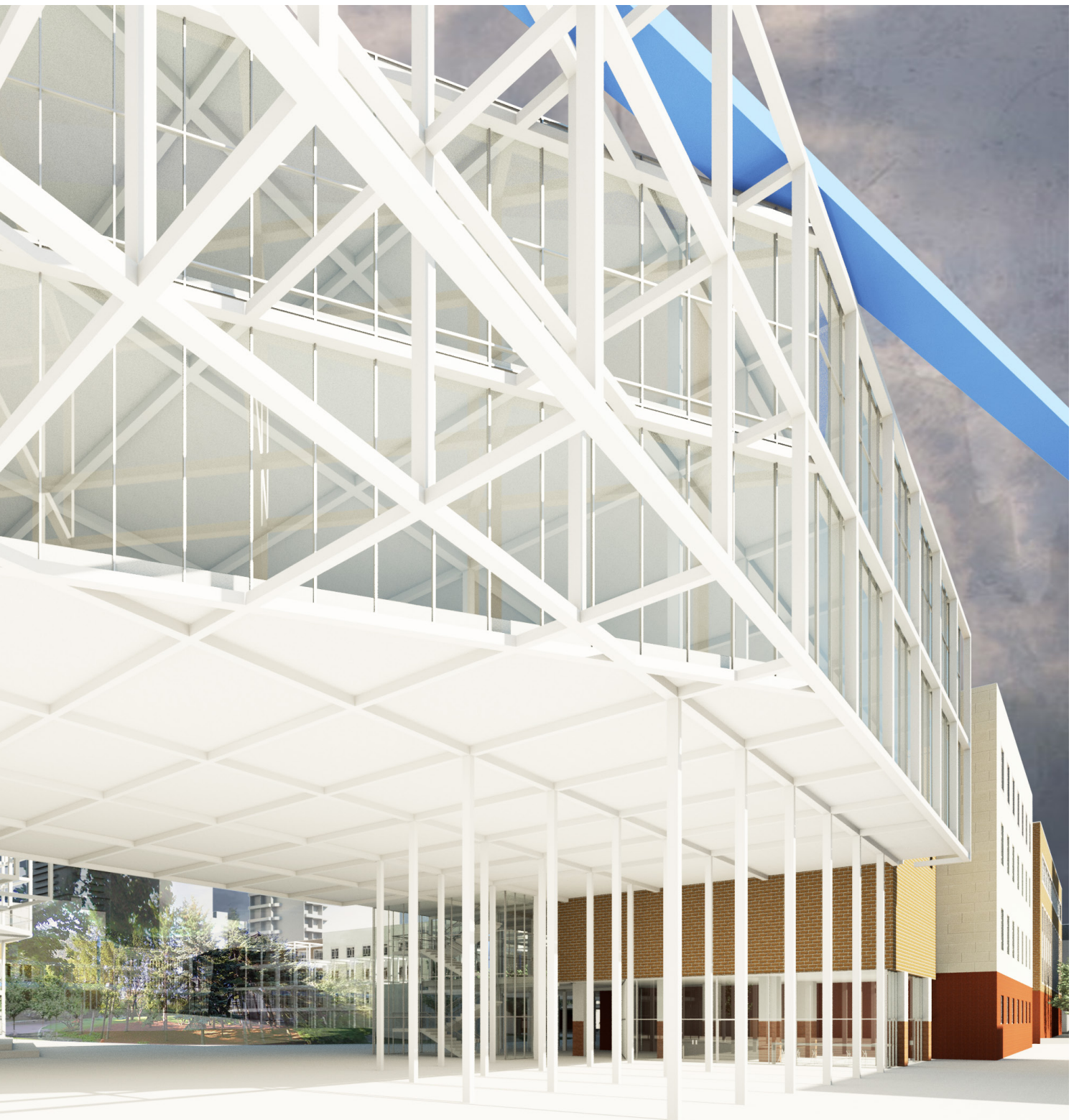
architectural **coalescence**

Fig. 103 View of the new shared lobby from the gymnasium looking north

Fig. 104 View of the new shared lobby from the theatre looking south

Fig. 105 View of the east entrance into the Quad from Church Street

Fig. 106 View of the east entrance towards Church Street from the Quad

Fig. 107 Aerial View from the northeast corner

architectural **coalescence**

The themes behind the design of this thesis — framework, program, and circulation — appear in this chapter. As the design progressed by laying out structure, providing space for program, and providing intent for the building, this design takes an improperly used campus building and gives it more purpose.

The intention behind the design is two-fold: to create a social node or landmark on campus and to provide a single place of gathering. These points are emphasized in every aspect of this thesis, from the tactics, to the objectives, to the final themes in creating this thesis. The framework of this design creates a structure to build off and to connect space. The program inserted provides the platforms for users to interact and congregate. The circulation ties it all together with its fluidity of movement, within the building and its extension to the rest of the university campus.

Ryerson University's campus lacks the identity that gives students a go-to place to gather. Campus circulation lacks any dynamism with most activity moving in rigid directions. Opening up the largest building on campus in Kerr Hall not only allows for movement through the courtyard but also improves circulation into the building and through adjacent buildings. The introduction of this design liberates activity at grade due to its vertical flow of travel to circulation on the ground.

Circulation and active programmed space emphasizes the interstitial space of this thesis. Where this condition creates a realm in which the public and private can co-exist, it provides the opportunity for users from both realms to unite.

PART V   CONCLUSIONS

This thesis examined the missed opportunities of the current socio-spatial conditions of Kerr Hall as the heart of the university campus as a potential site for architectural coalescence. Coalescence in this context focuses on the gathering of characteristics and the fluidity of activity in order to provide a sense of community in architecture. The expectations for this thesis looked at the fluidity on campus, questioning whether circulation would be dynamic or more stagnant. In and around campus, students would move around freely, but when it came to the individual built forms, circulation and collective activity became less evident. The lack of openness and accessibility to campus buildings and their circulation hides any movement or activity. As a result, the findings garnered similar results as was expected. Kerr Hall is not unlike most institutional buildings. It lacks visibility and accessibility, creating a feeling of obtrusion, a common issue that is relatable to many campuses in North America.

In analyzing the existing situation of the Ryerson University campus, the restrictions in circulation and flow become apparent, in addition to the lack of visibility and accessibility to Kerr Hall's courtyard space. From the outside, Kerr Hall appears impenetrable, making it difficult for users to enter the public courtyard space, therefore limiting the social awareness of students and faculty. Exterior solid facades disallow visibility into and out of active communal spaces, creating an impression of unfriendliness, inactivity, and a lack of transparency, all factors that are crucial to the livelihood of a university campus.

Architecture and design have a direct correlation to the way users interact. The organization of space either encourages or deters students from meeting, impacting the collective, connective, and circulatory properties of the architectural form. This thesis focuses on a potential new form of spatial organization: a method of organization that allows for the openness of the public realm and the intimacy of the private realm to come together and intersect. This thesis examines the intersection of program and circulation, analyzing existing conditions and how they can improve activity and movement on campus, maximizing opportunities to interact. The resulting form of socio-spatial organization in architecture helps provide students with a platform or vehicle to co-exist within the grounds of the urban campus.

This thesis takes the research of past, present, and future ideas of community design in architecture and seeks to develop a universal guideline that can apply to the urban campus. Although students are on campus to learn and grow, the development of social relationships within the student community is equally important. This thesis utilizes existing design precedents and research findings to inform designers of educational institutions on how to improve the organization of space with a focus on social development. Buildings designed for education often comes down to the accommodation of a certain number of students and type of program, but this should not be the case, particularly at this stage of students' post-secondary education. This stage is often the final stage of a student's academic career. It is the stage where students develop a sense of autonomy and learn responsibility. As a result, their social stability and

architectural **coalescence**

mental health should not be overlooked. Students who spend time with or around others in public gathering spaces, as well as participate in communal activities live healthier and happier university lives. This participation in collective activity is an influential factor on students' health and well-being, as well as on how they interact within a community setting in the immediate future.

This thesis looks at and proposes a solution to not only the organization of programs but also the circulation and fluidity of users in architecture. This area of focus examines the existing conditions of Kerr Hall's public and private spaces as well as unlocking the potential of the social and communal properties of the interstitial condition. The application of this design targets an essential area in the field of architecture: the movement of people. Its implications in the real world are crucial, particularly within educational and institutional buildings, where community and social interactivity is so important. The significance of creating open public spaces and allowing for ease of access into these spaces in institutional buildings allows its users to connect as a community. It creates a sense of belonging and improves social well-being within a community, whether these institutional buildings be hospitals, educational, or governmental, among others.

In essence, this thesis seeks to create a study for architects and designers focusing on community development and social interactivity in architecture. Although architecture is designed for people, the human-centric perspective of design often becomes an afterthought. No single design iteration can be used to resolve every issue in architecture but identifying relatable design goals and situations can help. This thesis specifies the activity and interaction of its users as the main focus, looking for ways to improve both existing and new communal architecture. By identifying open public spaces and restrictive private spaces, an interstitial realm can be created to safely and securely connect the two realms. The connection blurs the harsh separation of the private building, creating a transition space that allows access for both the public and private. It also creates a sense of transparency towards the public realm. Where the clear distinction of public and private severely restricts any form of interaction, the addition of a transition blurs the line between the two. Visual connectivity allows users to see and acknowledge activity, making them aware of the presence of others around them. Though it is indirect, the awareness creates a genuine connection. The importance of breaking down barriers in architecture while retaining a sense of safety and security tends to go unnoticed. These barriers create a gated, unfriendly environment that inhibits relationships from growing and developing. Architecture today is becoming more and more transparent as it continues to enhance community development. This thesis, therefore, portrays an analyzed perspective on how a change in thinking can improve community in architecture. In a campus condition, the intention of architectural design is to create a safe and connected community, allowing this focus to create a stronger relationship between users of the public and private realms. As a result, the proposed changes in the way we design will yield improvements upon the social conditions we live in and on the communal outlook of architecture of the foreseeable future.
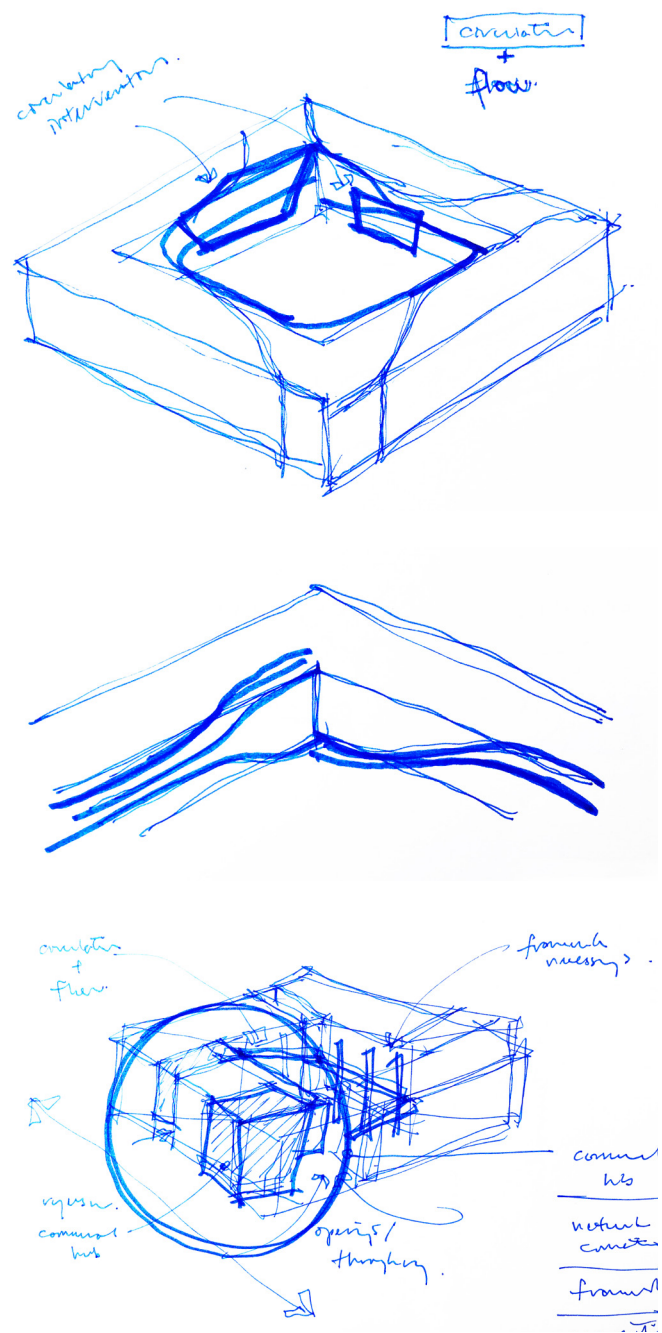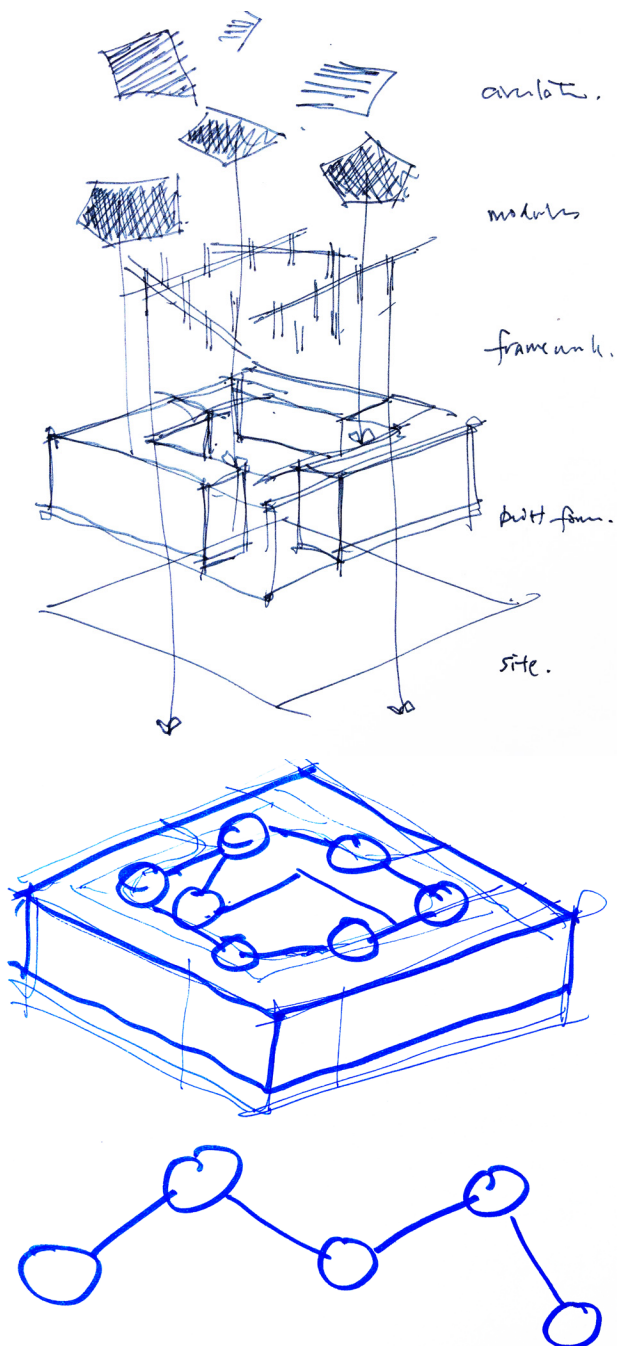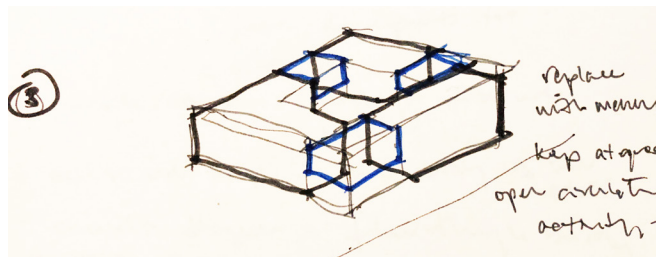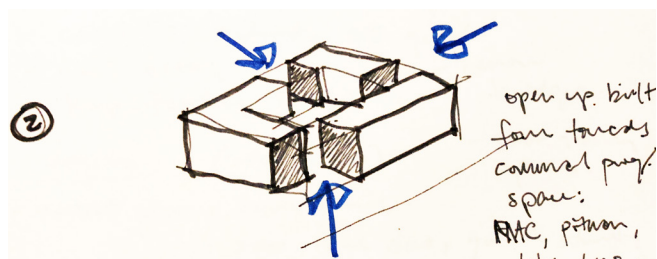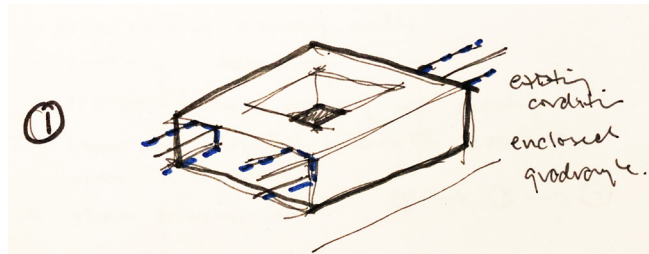
Fig. 108 Preliminary sketches of design ideas

APPENDIX A

The following appendix shows process work for this thesis.
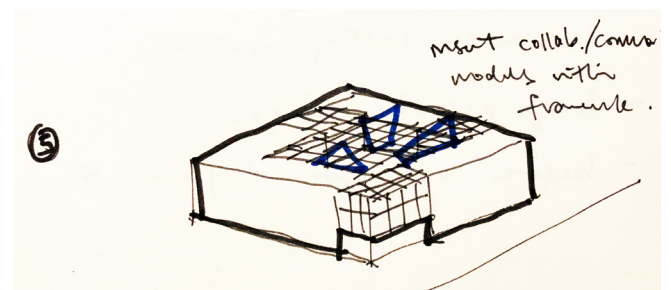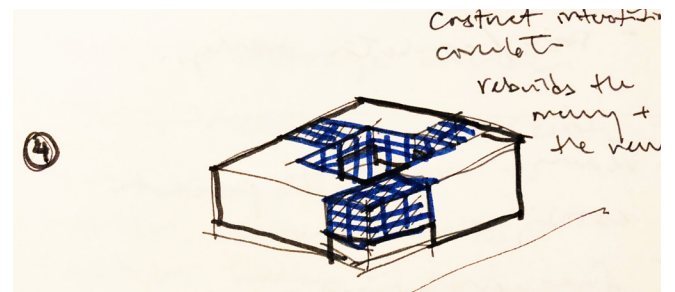
Fig. 109 Process sketches of design implementation

Single point of access to the Quad
from Gerrard Street E

Two points of access to the Quad
from Gould Street

Fig. 110 Points of access into the Ryerson Quad
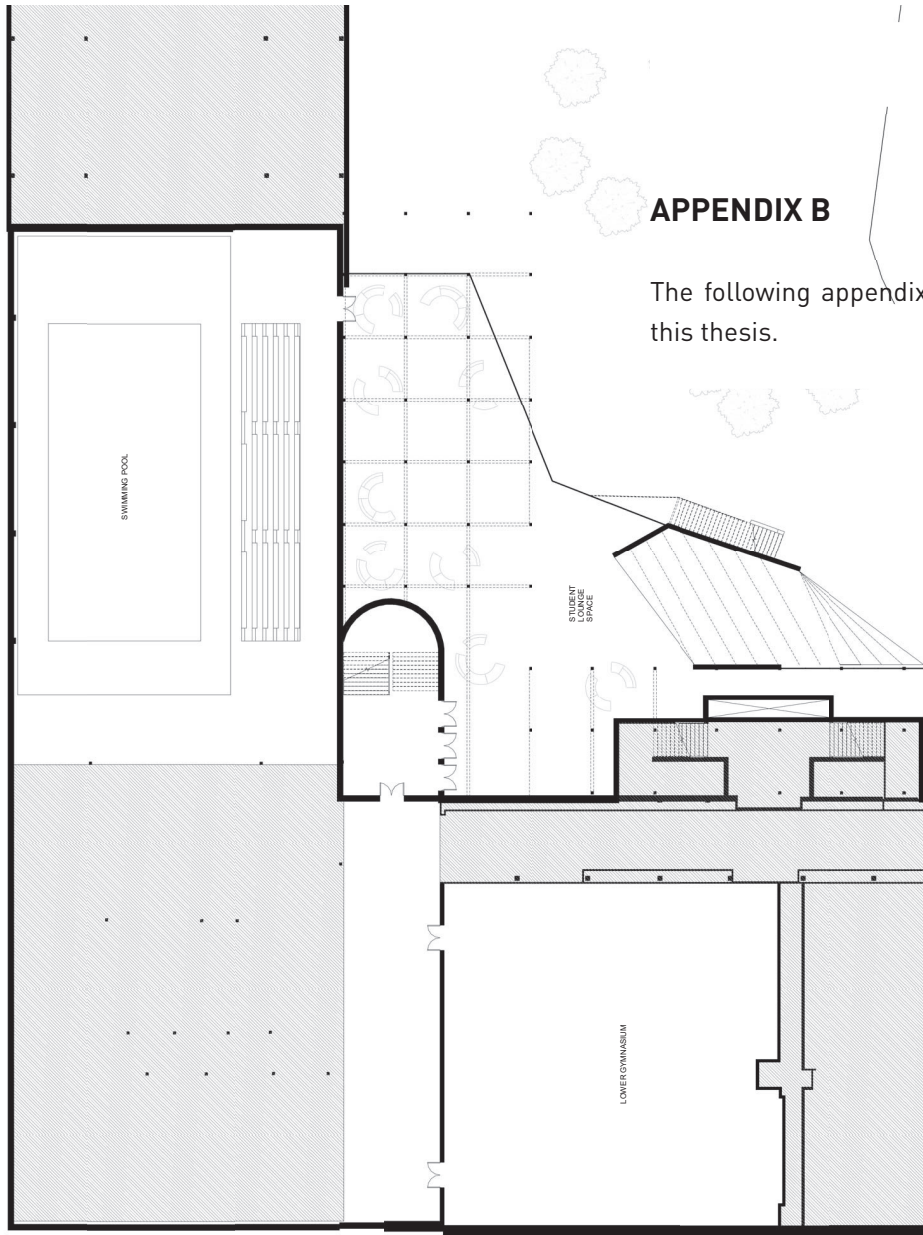
APPENDIX B

The following appendix shows reference drawings for this thesis.

SWIMMING POOL

STUDENT LOUNGE SPACE

LOWER GYMNASIUM

architectural **coalescence**
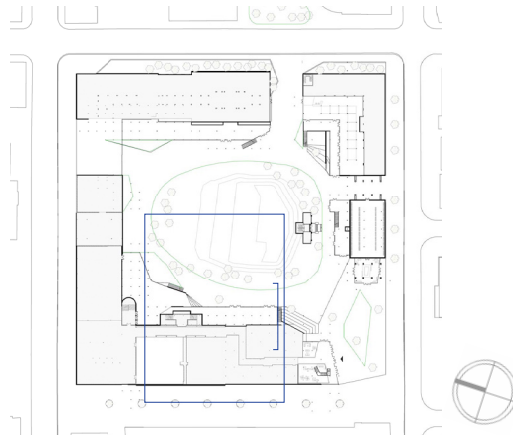
Fig. 111 Shared Lobby Plan Level 00

ENTRANCE LOBBY

AUDITORIUM LOBBY

AUDITORIUM

LOUNGE SEATING

BAR/CAFE

LOUNGE SEATING

UPPER PART OF LOWER GYMNASIUM
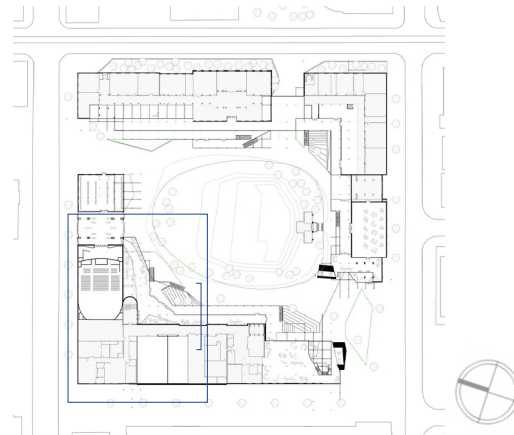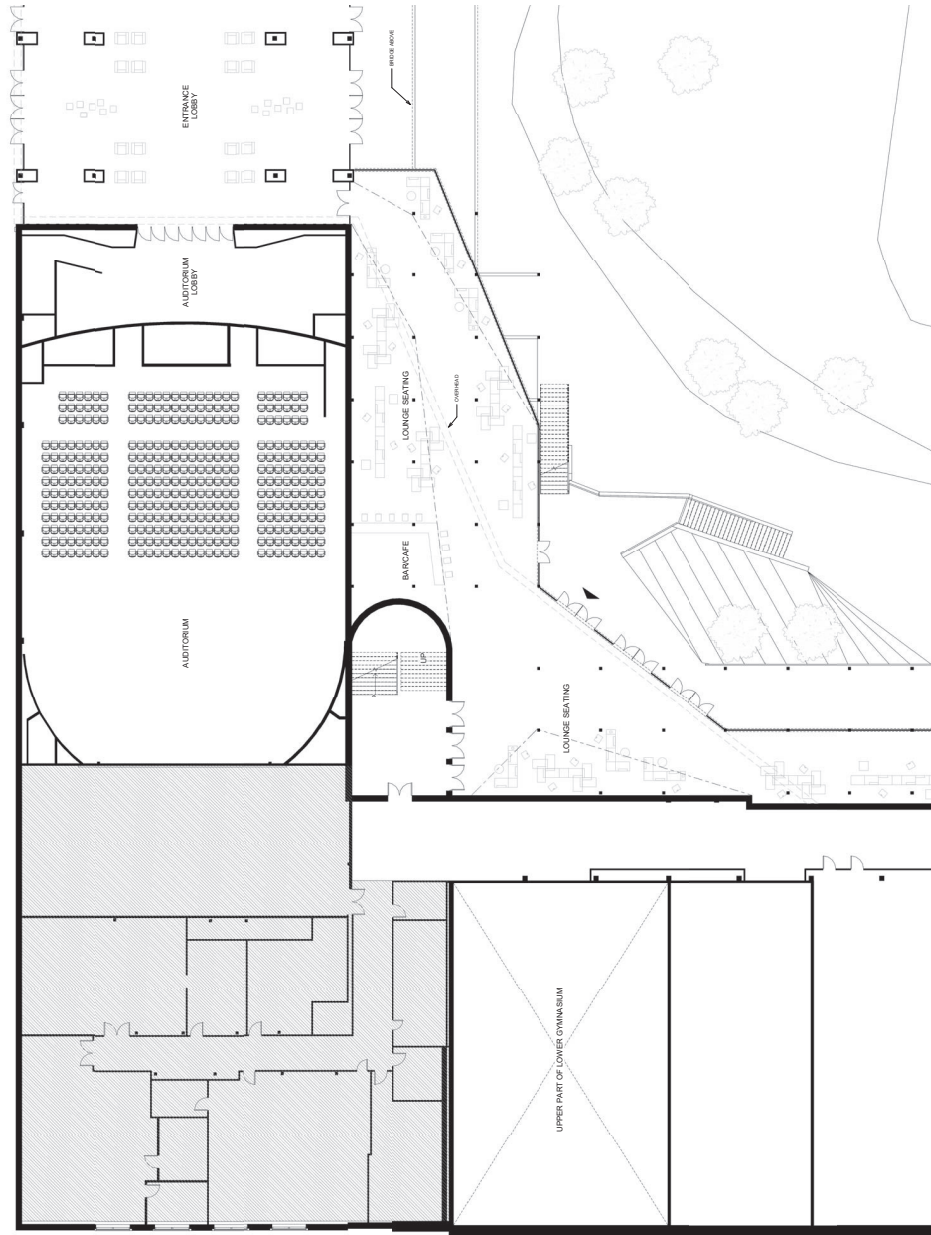
Fig. 112 Shared Lobby Plan Level 01

THEATRE LOBBY
OPEN TO BELOW

OPEN TO BELOW

ROOFTOP GARDEN

OUTDOOR GROUP SEATING

OVERHANG ABOVE

THEATRE
OPEN TO
BELOW

GYMNASIUM
OPEN TO BELOW
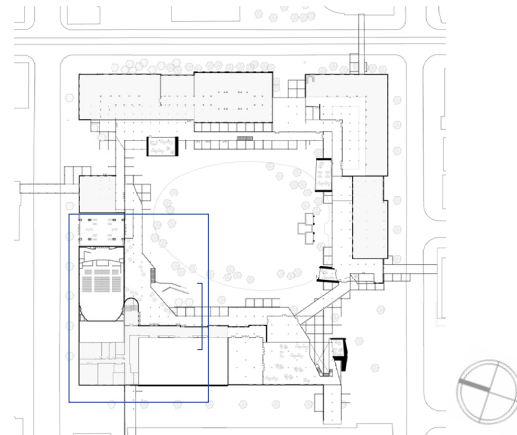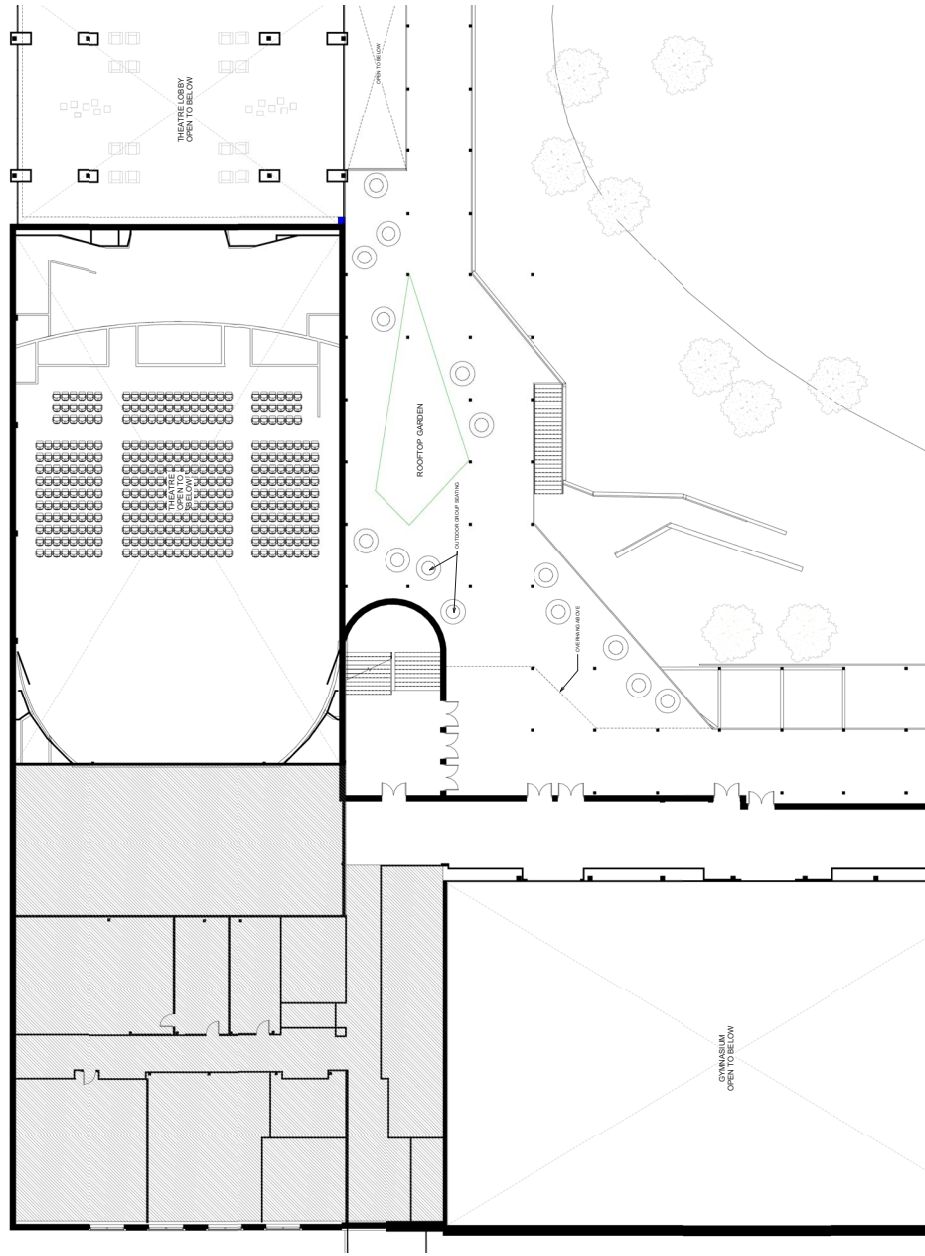
Fig. 113 Shared Lobby Plan Level 02

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1 STUDENT LOUNGE SPACE

2 LOBBY CAFE

3 LOBBY SEATING AREA

4 THEATRE LOBBY ENTRANCE

5 TERRACE GROUP SEATING
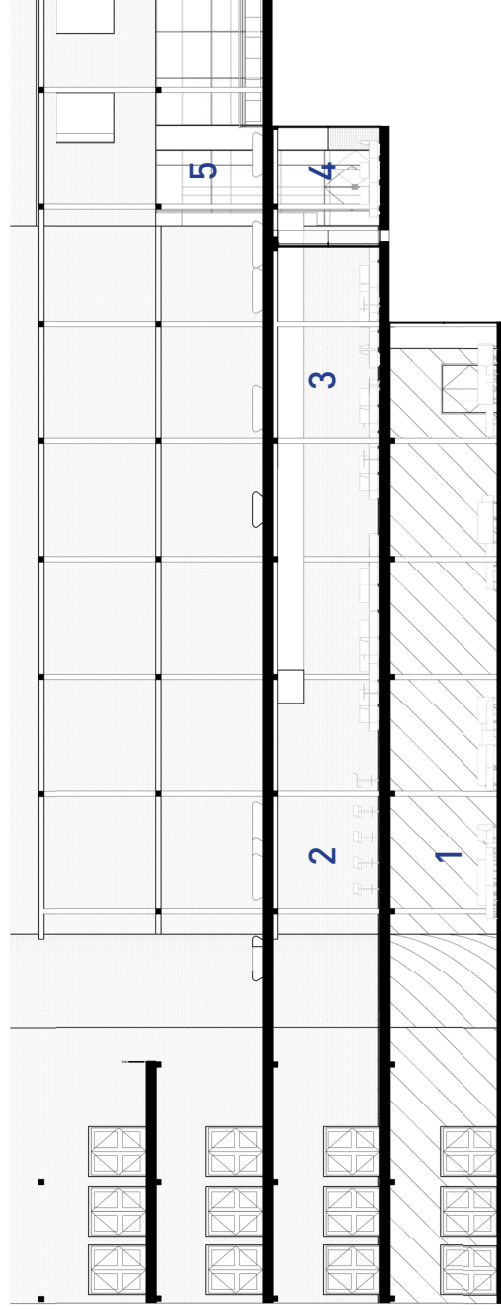
Fig. 114 Shared Lobby Interior Elevation Longitudinal
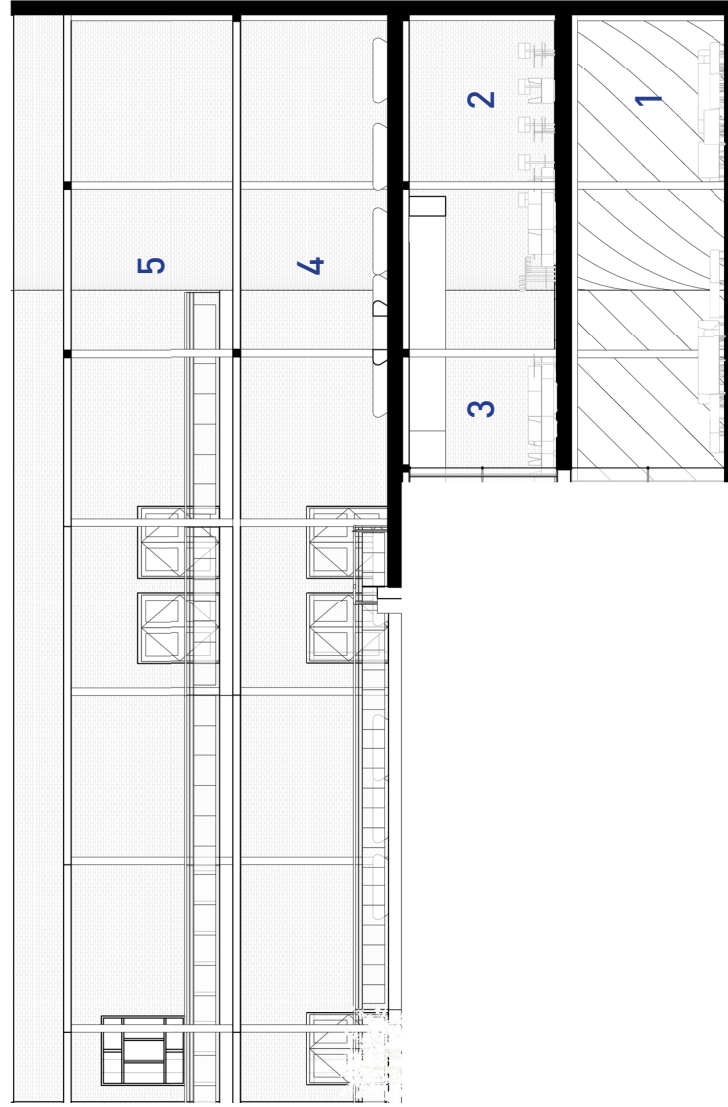
1 STUDENT LOUNGE SPACE

2 LOBBY CAFE

3 LOBBY SEATING AREA

4 THEATRE LOBBY ENTRANCE

5 TERRACE GROUP SEATING

Fig. 115 Shared Lobby Interior Elevation Transverse

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STREET SECTION

PITMAN QUAD

CHURCH STREET

GALLERY

198
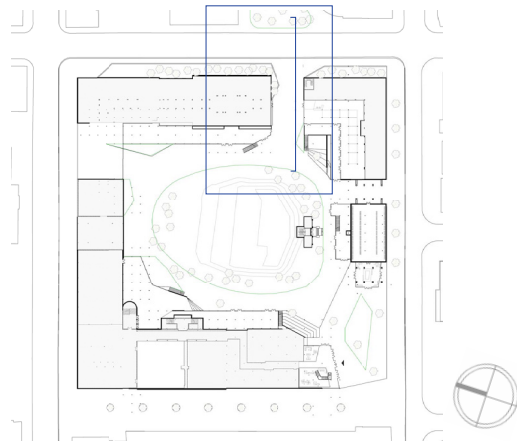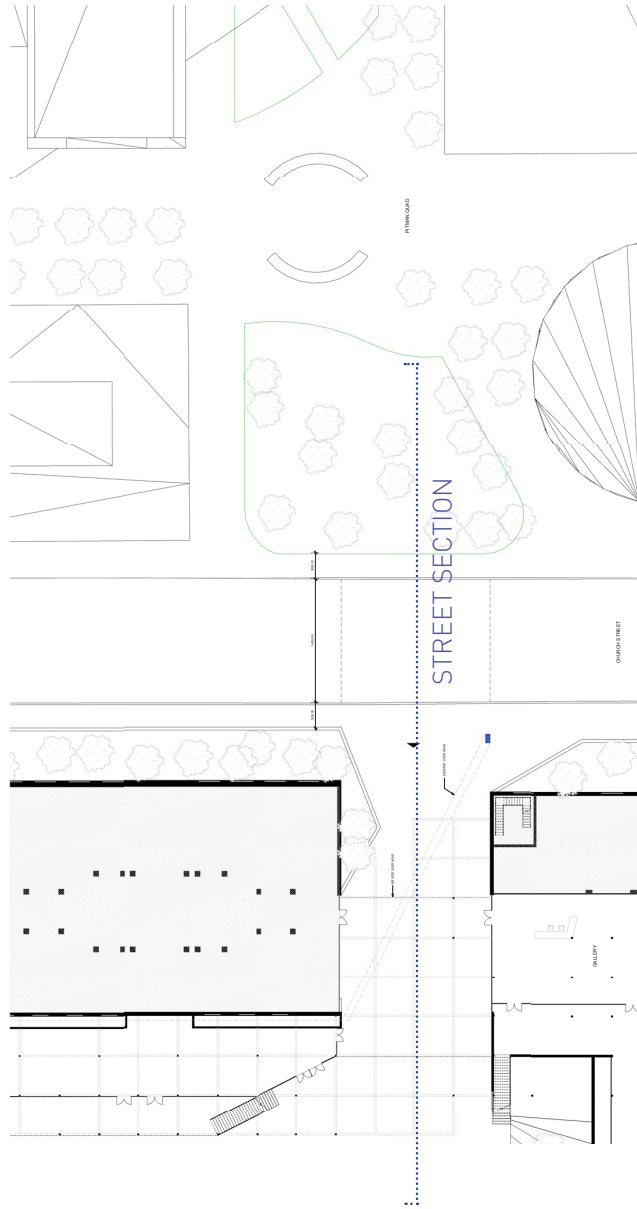
Fig. 116 East Portal Plan Level 00

STREET SECTION
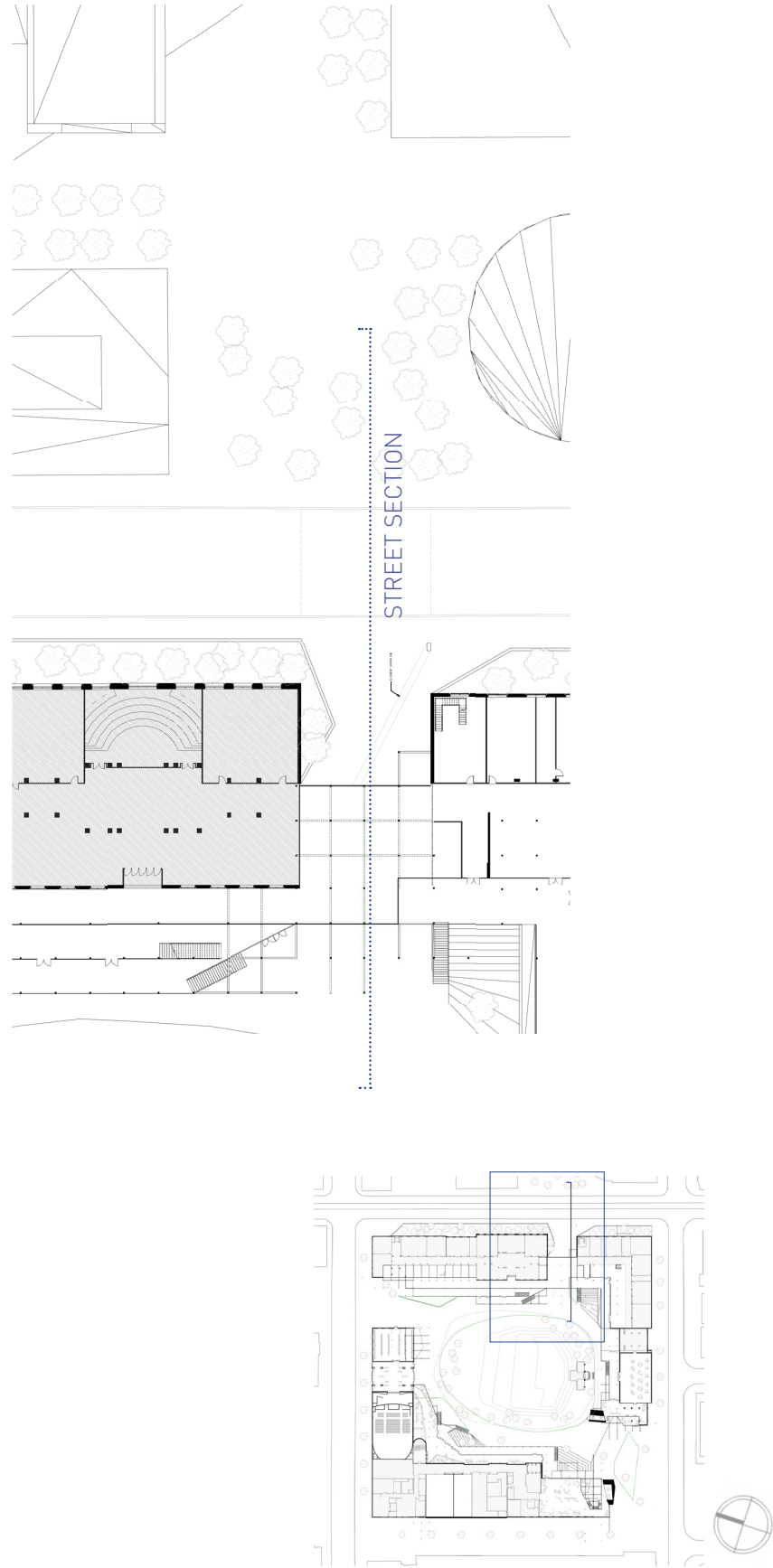
Fig. 117 East Portal Plan Level 01

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STREET SECTION
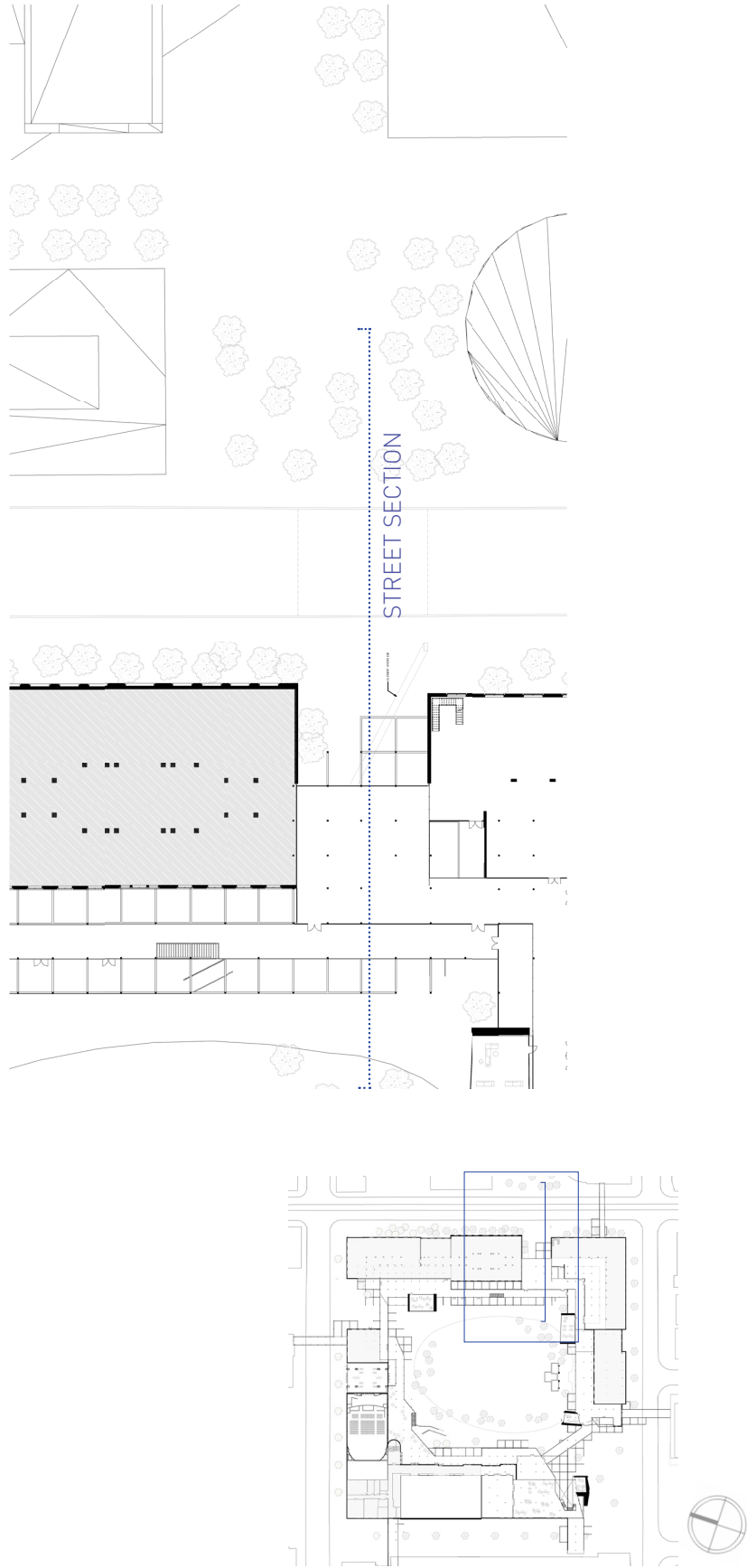
Fig. 118 East Portal Plan Level 02/03
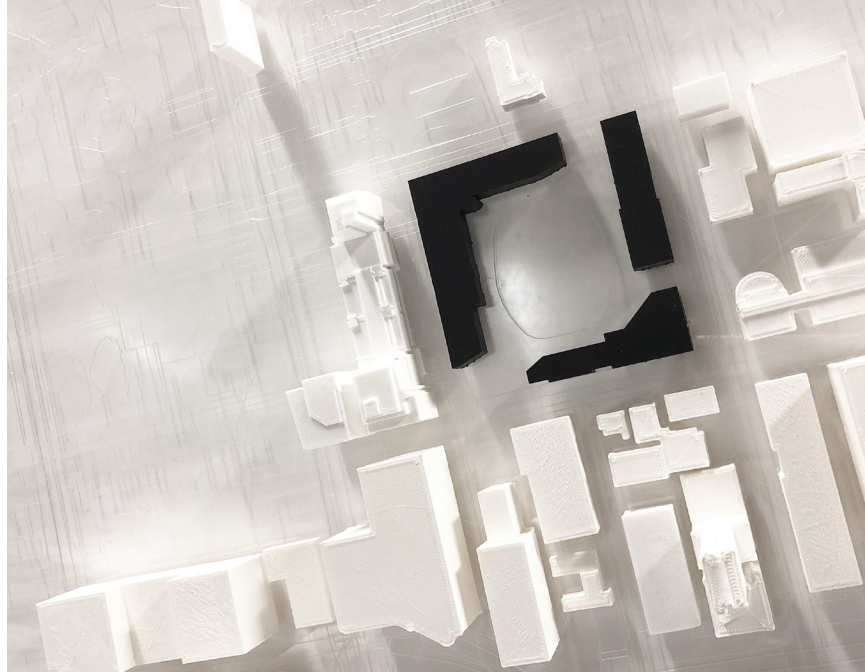
Fig. 119 Ryerson University campus context model close-up

APPENDIX C

The following appendix shows photographs of models made for this thesis.
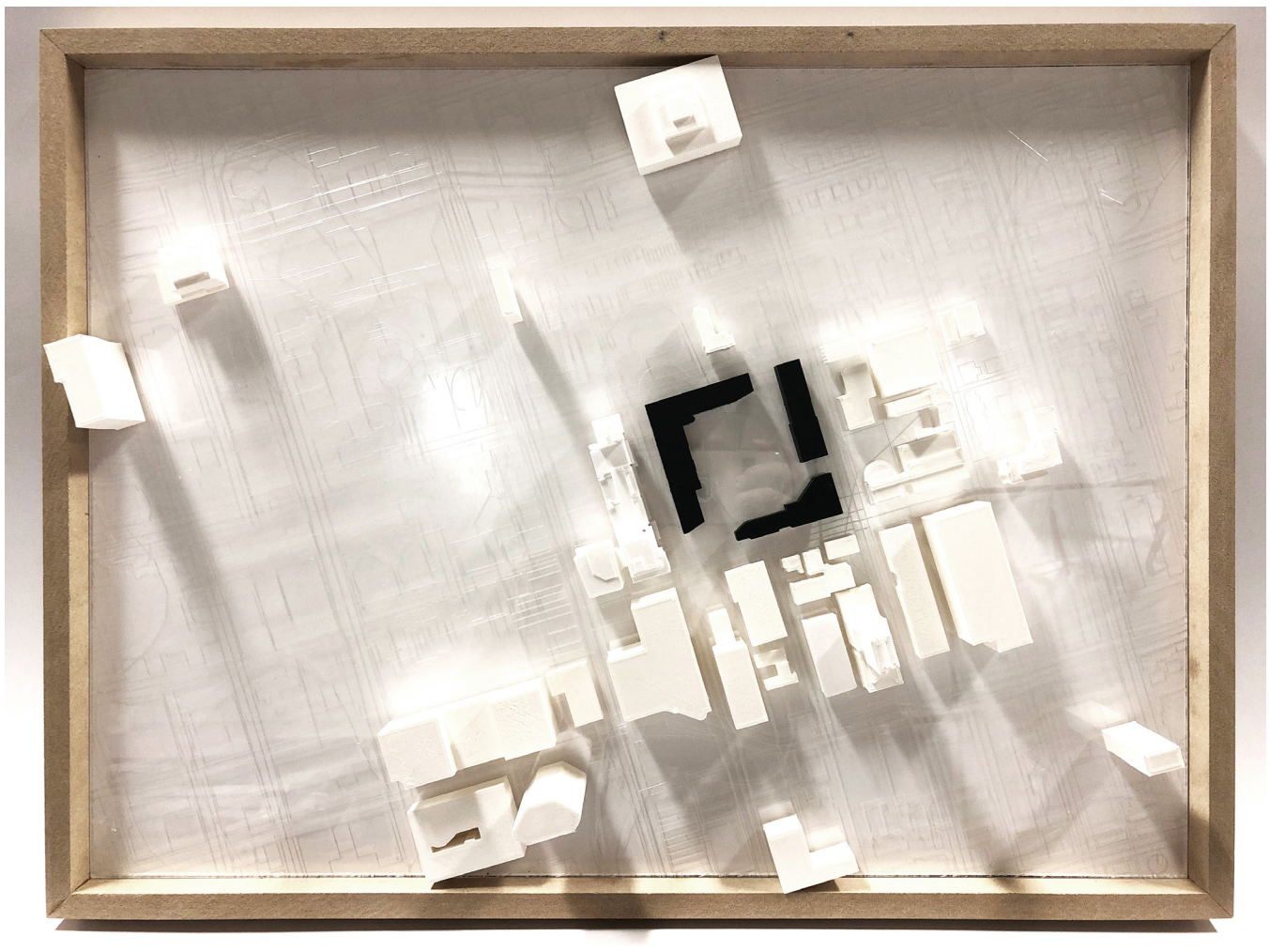
Fig. 120 Ryerson University campus context model full
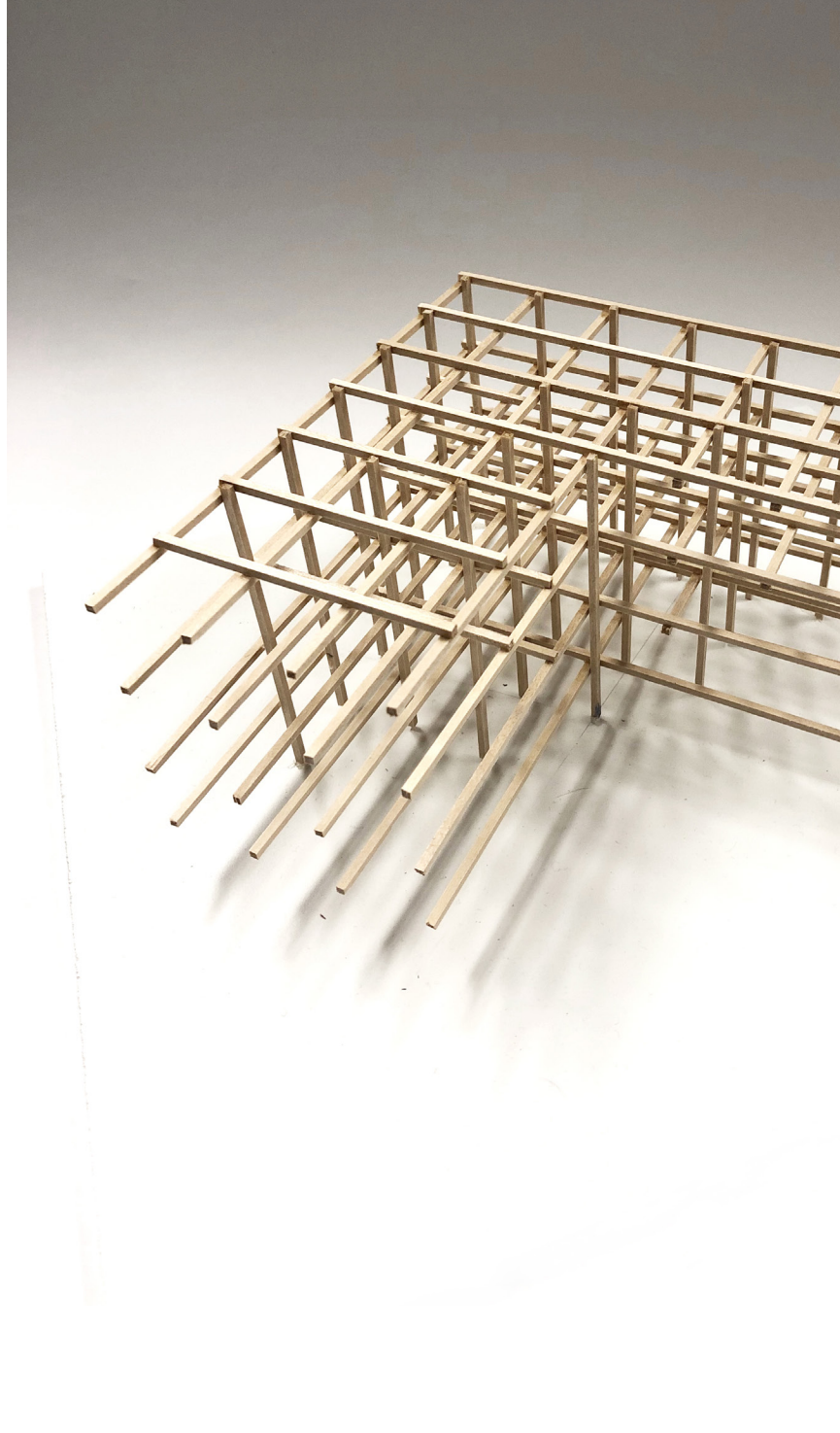
Fig. 121 Framework concept model
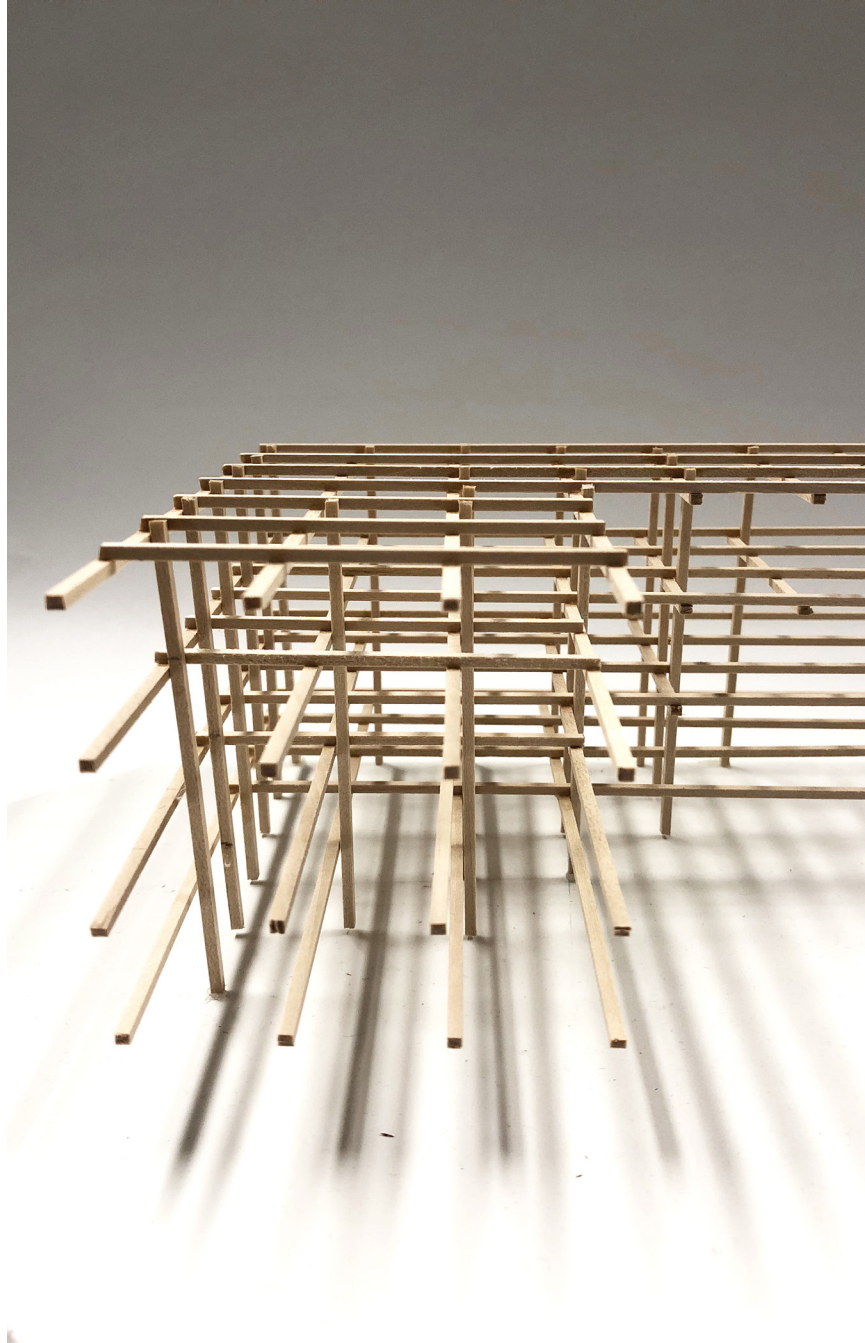
Fig. 122 Framework concept model

Fig. 123 Break-out module 1 model through view
Fig. 124 Break-out module 1 model angular view

Fig. 125 Break-out module 1 model

Fig. 126 Break-out module 2 model through view
Fig. 127 Break-out module 2 model angular view

Fig. 128 Break-out module 2 model
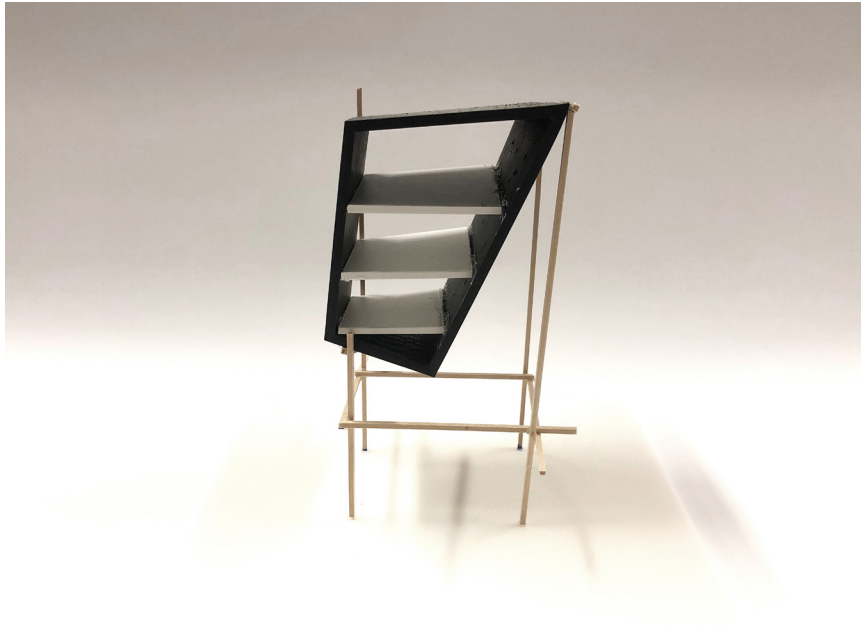
Fig. 129 Break-out module 3 model through view
Fig. 130 Break-out module 3 model angular view

Fig. 131 Break-out module 3 model

Fig. 132 Break-out modules

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3   Ibid, 9.

4   Ibid.

5   Jan Gehl, Life Between Buildings. (Washington, DC: Island Press, 2011), 11.

6   Ibid.

7   Ibid., 9.

8   Ibid., 11.

9   Ibid.

10   Ibid., 15.

11   Ibid., 19.

12   Ibid.

13   Ibid.

14   Ibid.

15   Ibid., 27.

16   Ibid.

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GLOSSARY

access
the ability or opportunity to enter or connect

barrier
hindrance or disruption of the ability to achieve a goal

breakout space
space that allows for gathering and connectivity

circulation
active user movement through architecture

collective form
a group of buildings that have reason to be together

community
a group of people within the same locality, having a similarity or commonality in interest

compositional form
interconnected buildings within a two-dimensional plane, connected primarily due to proximity

courtyard
an outdoor area that is surrounded by built form

flow
movement and circulation through architecture that is fluid, transitional, and natural

framework
infrastructure for a building, vehicle, object, or activity

group form
connectivity via spatial organization, materiality, construction, geography, topography, relative scale

high-rise
building height above twelve storeys

infrastructure
the basis of providing the means or ability for activity or program to occur

interconnectivity
connections that go beyond the physical

interstitial realm
realm between the public and the private realms

linkage
elements that connect architectural forms

low-rise
building height below five storeys

megastructure form
systematically connected buildings within a framework that includes function and location

mid-rise
building height between five and twelve storeys

mixed program
program within a space not limited to a single activity

necessary activity
everyday activities that would take place regardless of condition or circumstance

openness
transparency or accessibility from the inside-out

optional activity
activities that occur according to favourable conditions; would not need to occur if infrastructure limits it

planned interactivity
closest level of social interaction between intimate relationships; involves recurring interactivity, typically taking place within the private realm, but may expand into the public realm

private realm
the realm that is within the control by the users of the space, separated from the public

private space
intimate and controlled space that provides the infrastructure for private activity and interactions

porosity
means of openings that allow for through connectivity, physically and visually

program
the activity that occurs within a space

proximity
the closeness or distance of space or relationship

public realm
the realm that opposes the private realm, providing the grounds for freedom, autonomy, and social interactivity. there is little to no control of this space, designated by the city, neighbourhood, and community

public space
open and free space that provides the infrastructure for public activity and interactions

scale
a relationship in size between two or more factors; in this case, space or building to the relative size of an individual

semi-private space
space in between the private and semi-public space that may initially be designated as private space, but includes characteristics deemed as public

semi-public space
space in between the public and semi-private space that may initially be designated as public space, but includes characteristics deemed as private

social activity
activities that are dependent on the presence of people within a public space may be direct or indirect connections amongst individuals

social isolation
an issue in society or within the community that does not encourage or enable users to interact

social interaction
the activity of individuals connecting in society

socio-spatial
how the organization of space impacts the patterns and behaviours of users within its context

spontaneous interactivity
the most distant form of social interaction that occurs without intention or prior commitment; occurs during one's daily routine within public space, including indirect interaction through senses, i.e. visual or auditory connections

strategy
general means or methods of achieving a goal, indirectly attainable through a series of tactics

tactic
specific means or methods of achieving a goal, directly attainable through specific actions

territory
a sense of ownership or responsibility for a space or place, often defined by a boundary of some shape or form

architectural **coalescence**