SOCIAL ADAPTATION

CHANGING THE BUILT ENVIRONMENT

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SOCIAL ADAPTATION:
CHANGING THE BUILT ENVIRONMENT

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By

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TABLE OF CONTENTS

TABLE OF CONTENTS 5
LIST OF TABLES & FIGURES 6
ABSTRACT 8
PROBLEM STATEMENT 9
STATEMENT OF INTENT 11
PROPOSAL 15
NARRATIVE 16
USER-CLIENT DESCRIPTION 18
MAJOR PROJECT ELEMENTS 19
SITE INFORMATION 20
PROJECT EMPHASIS 22
PLAN FOR PROCEEDING 23
STUDIO EXPERIENCE 27
PROGRAM 29
THEORETICAL PREMISE RESEARCH RESULTS 30
TYPOLOGICAL RESEARCH RESULTS 38
TEL AVIV MUSEUM OF ART 40
MUSASHINO ART MUSEUM 52
MUMMERS THEATER 64
HISTORICAL CONTEXT 76
THESIS GOALS 88
QUALITATIVE SITE ANALYSIS 90
QUANTITATIVE SITE ANALYSIS 94
SITE RECONNAISSANCE 98
SITE INFLUENCES 100
PROGRAM REQUIREMENTS 106
PROJECT SOLUTION 111
PROCESS DOCUMENTATION 112
FINAL DOCUMENTATION 118
PHYSICAL MODEL 136
REFERENCE LIST 140
PERSONAL INFORMATION 144

LIST OF TABLES & FIGURES

Figure 1.01, *Digital Age* 10
Figure 2.01, *Conceptual City* 14
Figure 2.02, *Region* 20
Figure 2.03, *City/State* 20
Figure 2.04, *Birdseye of Grand Forks* 21
Figure 2.05, *Thesis Schedule* 24
Figure 2.06, *Renaissance Hall* 26
Figure 3.01, *Architecture Plaque* 28
Figure 3.02, *Typological Map* 39
Figure 3.03, *Tel Aviv Entrance* 41
Figure 3.04, *Tel Aviv Site Plan* 42
Figure 3.05, *Tel Aviv Integration Diagrams* 43
Figure 3.06, *Tel Aviv Detail* 44
Figure 3.07, *Tel Aviv Geometry Analysis* 45
Figure 3.08, *Tel Aviv Mass Analysis* 45
Figure 3.09, *Tel Aviv Hierarchy Analysis* 46
Figure 3.10, *Tel Aviv Plan to Elevation Analysis* 46
Figure 3.11, *Tel Aviv Cavity Detail* 47
Figure 3.12, *Tel Aviv Construction Detail* 48
Figure 3.13, *Tel Aviv Plan to Section Analysis* 49
Figure 3.14, *Tel Aviv Structure Analysis* 49
Figure 3.15, *Tel Aviv Circulation to Use Analysis* 50
Figure 3.16, *Tel Aviv Daylighting Analysis* 50
Figure 3.17, *Tel Aviv Daylighting Detail* 51
Figure 3.18, *Musashino Entry Sequence* 53
Figure 3.19, *Musashino Site Plan* 54
Figure 3.20, *Musashino Design Concepts* 55
Figure 3.21, *Musashino Main Entrance* 56
Figure 3.22, *Musashino Geometry Analysis* 57
Figure 3.23, *Musashino Mass Analysis* 57
Figure 3.24, *Musashino Hierarchy Analysis* 58
Figure 3.25, *Musashino Plan to Elevation Analysis* 58
Figure 3.26, *Musashino Entry Perspective* 59
Figure 3.27, *Musashino East Elevation* 60
Figure 3.28, *Musashino Plan to Section Analysis* 61
Figure 3.29, *Musashino Structure Analysis* 61
Figure 3.32, *Musashino Daylighting Analysis* 62
Figure 3.30, *Musashino Circulation Concept* 62
Figure 3.31, *Musashino Circulation to Use Analysis* 62
Figure 3.33, *Musashino Interior* 63
Figure 3.34, *Mummers Entry Sequence* 65
Figure 3.35, *Mummers Site Plan* 66
Figure 3.36, *Mummers Design Concepts* 67
Figure 3.37, *Mummers Geometry Analysis* 68
Figure 3.38, *Mummers Mass Analysis* 68
Figure 3.39, *Mummers Main Entrance* 69
Figure 3.40, *Mummers Night* 70
Figure 3.41, *Mummers Hierarchy Analysis* 71
Figure 3.42, *Mummers Circulation to Use Analysis* 71
Figure 3.43, *Mummers Structure Analysis* 72

Figure 3.44, *Mummers Plan to Elevation Analysis* 72
Figure 3.45, *Mummers Interior Theater* 73
Figure 3.46, *Mummers Concert* 74
Figure 3.47, *Grand Forks Penny Postcards* 77
Figure 3.48, *Grand Forks Flood* 78
Figure 3.49, *Change in Population* 80
Figure 3.50, *Historic Carnegie Libraries* 83
Figure 3.51, *Carnegie Library Building* 83
Figure 3.52, *Fisher-Watkins Library* 84
Figure 3.53, *Grand Forks Public Library Statistics* 87
Figure 3.54, *Downtown Photos* 91
Figure 3.55, *Downtown Photos* 92
Figure 3.56, *Sun Study Diagram* 94
Figure 3.57, *Wind Diagrams* 95
Figure 3.58, *Climate Data Diagrams* 96
Figure 3.59, *Site Light & Shadow Study* 97
Figure 3.60, *Site Reconnaissance* 98
Figure 3.61, *Site Influences I* 101
Figure 3.62, *Site Panorama* 101
Figure 3.63, *Site Influences II* 103
Figure 3.64, *Site Influences III* 105
Figure 3.65, *Interaction Matrix* 108
Figure 3.66, *Interaction Network* 109
Figure 4.01, *Project Solution* 110
Figure 4.02, *Sketches & Influences I* 112
Figure 4.03, *Sketches & Influences II* 114
Figure 4.04, *Sketches & Influences III* 116
Figure 4.05, *Elevations & Sections* 118
Figure 4.06, *Level 01 Plan* 120
Figure 4.07, *Interactive Gallery* 121
Figure 4.08, *Level 02 Plan* 122
Figure 4.09, *Digital Lounge* 123
Figure 4.10, *Level 03 Plan* 124
Figure 4.11, *Flexible Walls* 124
Figure 4.12, *Dirtt Wall System* 125
Figure 4.13, *Level 04 Plan* 126
Figure 4.14, *From Public Parking Garage* 127
Figure 4.15, *Lower Level Plan* 128
Figure 4.16, *Digital Exhibition* 129
Figure 4.17, *Exploded Parts* 130
Figure 4.18, *Details* 132
Figure 4.19, *PerSection Detail* 133
Figure 4.20, *From Corner Perspective* 134
Figure 4.21, *Physical Models* 136
Figure 4.22, *Presentation Layout* 138
Figure 4.23, *Personal Headshot* 145

ABSTRACT

Social Adaptation examines ways in which a building can adequately respond to the advancement of computing technology and social media dominance. Overwhelming access to computing technology and social media not only changes the way we look at the built environment but continues to persuade and inform our daily life decisions. Because our culture is exploding with these advancements, the character of design needs to reflect the current needs of today's society. Likewise, with the vast access to social media at our fingertips, we must strive to use this resource as a learning tool rather than a social crutch. Through the social elements of sustainability and use of smart technology, the built environment can enable healthier lifestyles and greater community cohesion through design (Bristow, 2012). The outcomes of this research are expressed through a social mediatheque, centrally located in downtown Grand Forks, ND for the community to utilize and better recognize society's changing aspects.

KEYWORDS

technology, social media, built environment, society, lifestyle

PROBLEM STATEMENT

How have computing technology and social media changed the way we envision the built environment?

Figure 1.01, *Digital Age*
Schneider, L. (Designer). (2011). *Digital* [Print Graphic].

[STATEMENT OF INTENT]

TYPOLOGY

The project for this thesis is a social mediatheque for the citizens of Grand Forks, ND and East Grand Forks, MN.

CLAIM

Through the increased presence of computing technology and overwhelming access to social media, the character of the built environment is changing.

PREMISES

Computing technology and social media are elements in our society that continue to persuade and inform our daily life decisions.

With computing technology at our fingertips, access to information becomes immediate and abundant.

Through the social elements of sustainability and use of smart technology, the built environment can enable healthier lifestyles and greater community cohesion through design (Bristow, 2012).

Overwhelming access to computing technology and social media changes the way we look at the built environment and its foreseeable future.

THEORETICAL PREMISE

Because our culture is exploding with technological advancement and social media is so widely prevalent, the character of design needs to reflect the character of today's society.

JUSTIFICATION

As society embraces the changes in computing technology and the access to social media, it must also allow a change of character of the built environment. Technological advancement provides a deeper consideration of—what can be? Or what needs to be? Likewise, with the overwhelming access to social media at our fingertips, we must strive to use this resource as a learning tool rather than a social crutch.

Figure 2.01, *Conceptual City*
Benke, B. (Designer), & Schneider, L. (Designer) (2011). *Conceptual city* [Print Graphic].

[PROPOSAL]

NARRATIVE

As society embraces the changes in computing technology and the access to social media, it must also allow a change of character of the built environment. Technological advancement provides for a deeper consideration of—what can be? Or what needs to be? Likewise, with the overwhelming access to social media at our fingertips, we must strive to use this resource as a learning tool rather than a social crutch.

The goal of this thesis is to explore ways in which a building can adequately respond to the advancement and social dominance of modern technology. By proposing a "social mediatheque" for Grand Forks, ND, this project will investigate new ways to utilize and interact with modern technology. Over the past decade there were huge political and social upheavals that roiled our world. Simultaneously, gradual lifestyle changes that are harder to see have noticeably affected our daily routines (The Associated Press, 2009). Computing technology and social media are quickly becoming more prevalent in our daily lives, influencing our social interactions and changing the way we process information. There is a myriad of individuals who believe that technology is advancing too quickly for our time, and social media symbolizes an end to face-to-face interactions. I view them as individuals who fear change. We must not be afraid of change; we must keep moving forward. A problem with our society is that we sit back, hesitate, and become fearful of change. Good or bad, change is all around us and a part of us. Our society is in constant motion, and computing technology is the hand pushing us forward. We must accept this element and learn from it. Typically, the built environment is incredibly static with obvious cultural time lags. As technology advances at an exponential rate, the built environment needs to find ways to concurrently adjust and respond in order to suit the needs of a changing society. We must look at ways in which the character of the built environment can reflect these changes. The cohesive nature of computing technology and social media provide a foundation for new ways buildings can be designed.

[we must not be afraid of change; but
embrace it and keep moving forward]

Urban environments typically progress quickly in order to maintain the desired fast-paced way of life. Grand Forks, North Dakota is growing quickly, and the built environment needs to support this growth by providing modern needs. Grand Forks needs such a facility to help it stay current, interconnected and competitive in today's society. The emerging downtown area will provide many other needs and grow as an upbeat district for city life. This mediatheque will serve as a downtown destination and hub to further boost the liveliness of the area.

How can design integrate and support these needs, bringing the people of Grand Forks further into the twenty first century?

How can an urban space, influenced by modern technology and social media, educate and connect a growing community?

USER-CLIENT DESCRIPTION

CLIENT

The client is the City of Grand Forks, and the site is owned, managed, and maintained by city employees.

The facility will work in conjunction with the current Grand Forks Public Library and offer similar privileges and services along with more resources and accommodations. The property will also be linked with the adjacent city-owned green spaces to offer a continuous cohesive downtown.

USER

Grand Forks Community
East Grand Forks Community
Tourists / Visitors

MAJOR PROJECT ELEMENTS

INTERACTIVE GALLERY

A compilation of digital media for public hands-on interaction

FLEXIBLE BREAKOUTS

Adaptable spaces for public and private use

CLASSROOMS

Rooms for teaching and learning

MULTIMEDIA STUDIOS

Studios for local entrepreneurs

RETAIL

Technological products and miscellaneous souvenirs

CAFÉ

A place to rest and relax and enjoy scenic views of downtown city life

CORE STRUCTURE

Physical and visual circulation connection

SKYWAY

Connection between Mediatheque and public parking garage

SITE INFORMATION

REGION	Midwest
CITY/STATE	Grand Forks, ND
SITE	Downtown

Grand Forks is one of the largest cities in North Dakota which has currently one of the most prosperous economies in the United States.

The site is located in the heart of downtown Grand Forks, on the corner of 4th street and Demers. Adjacent to the site is a city owned urban green space that extends towards the Greenway. A downtown, high pedestrian friendly site creates an optimistic space for social interaction.

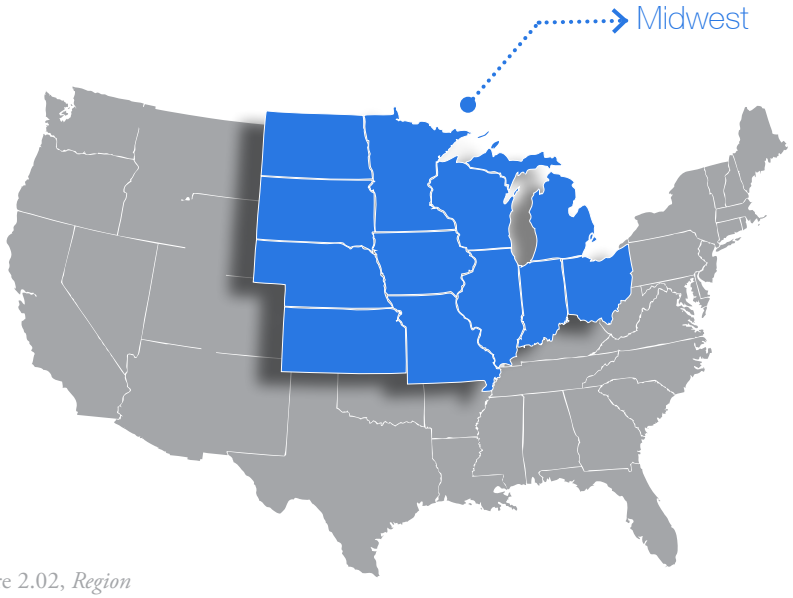


Figure 2.02, *Region*
Schneider, L. (Designer) (2012). *Region*. [Graphic]

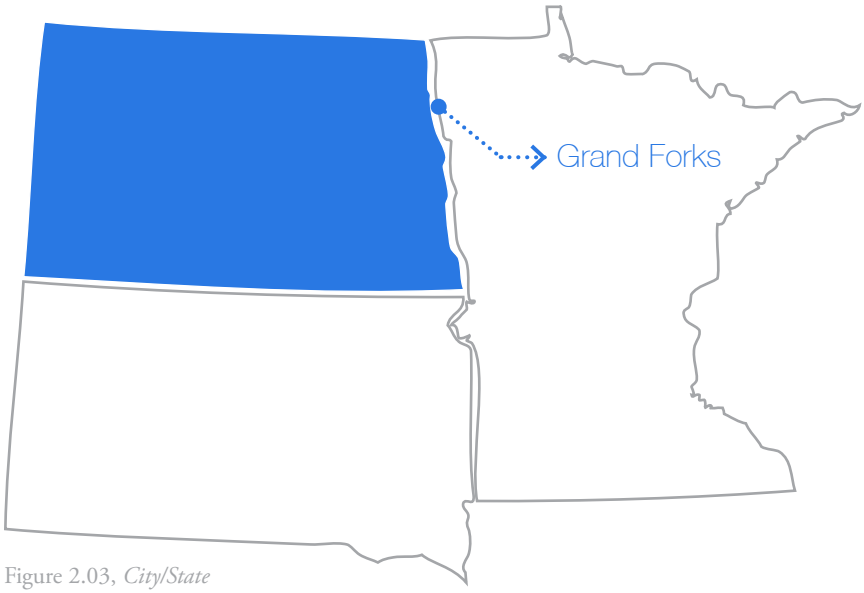


Figure 2.03, *City/State*
Schneider, L. (Designer) (2012). *City/State*. [Graphic]

Figure 2.04, *Birdseye of Grand Forks*
"Grand Forks, North Dakota." Map. Google Maps. Google, 3 October 2012. Web. 3 October 2012

PROJECT EMPHASIS

The emphasis for this project is how the built environment must respond to the influence of technology and social media, and how its occupants interact with it. The goal is to take our knowledge of innovative design techniques and integrate them with the ways of our modern culture to enhance future outcomes. By looking at past methods and trends assimilated with continuous development towards a digital age, socioeconomic and cultural fundamentals will drive society to design in a way that will reflect the foreseeable built environment. This project aims to translate this understanding into a building where cultures alike come together to be educated, and where built design can be examined and displayed for the people of tomorrow.

PLAN FOR PROCEEDING

RESEARCH DIRECTION

Comprehensive research of the relevant topic will focus primarily around the theoretical premise, project typology, historical context, site, and innovated building technology.

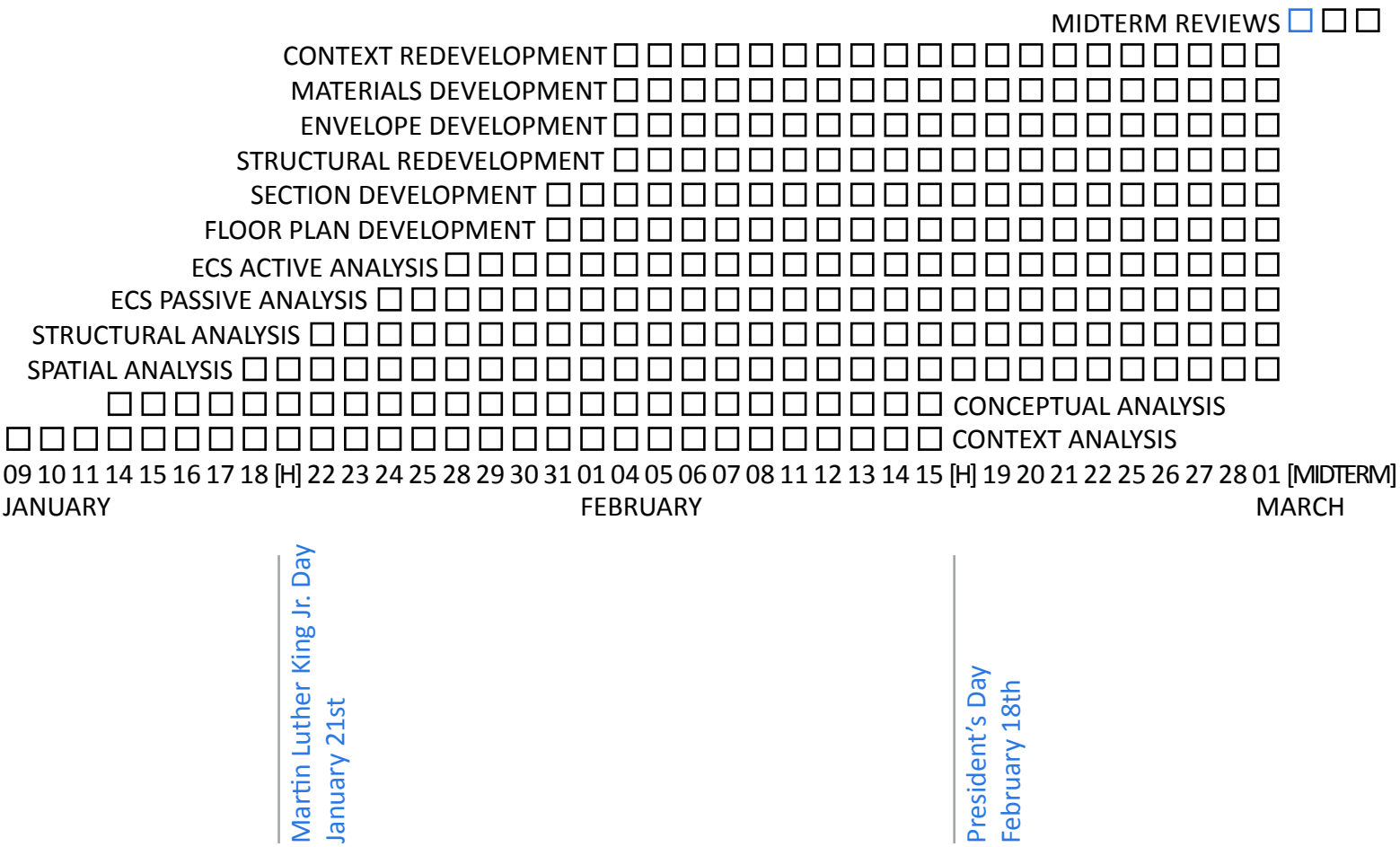
DESIGN METHODOLOGY

The research compiled will utilize a Mixed Method Quantitative/Qualitative Approach. This method makes a comparative judgment from the analysis of both qualitative and quantitative information gathered. While the qualitative data is comprised mainly of a subjective analysis, the quantitative data is objective and includes numbers and figures. Simultaneously, the research compiled will follow a concurrent conformative strategy.

PROCESS DOCUMENTATION

Documenting the process will play a major role throughout the entire project. Documenting methods will include photography, digital imagery, sketches, and 3D models. Each will be compiled in incremental phases and stored weekly in both digital and hard copy formats. To make sure all documents are filed safely, there will be digital copies stored on an external hard drive which will be updated regularly. Upon completion of the process, the findings/solutions will be presented through architectural drawings, figures and digital models. The necessary data will be studied and analyzed and ultimately assembled into this thesis book. This book will be digitally cataloged in the NDSU Institutional Repository which can be referenced and used by future students and the general public.

Figure 2.05, *Thesis Schedule*
Schneider, L. (Designer) (2012). *Thesis Schedule*. [Graphic]



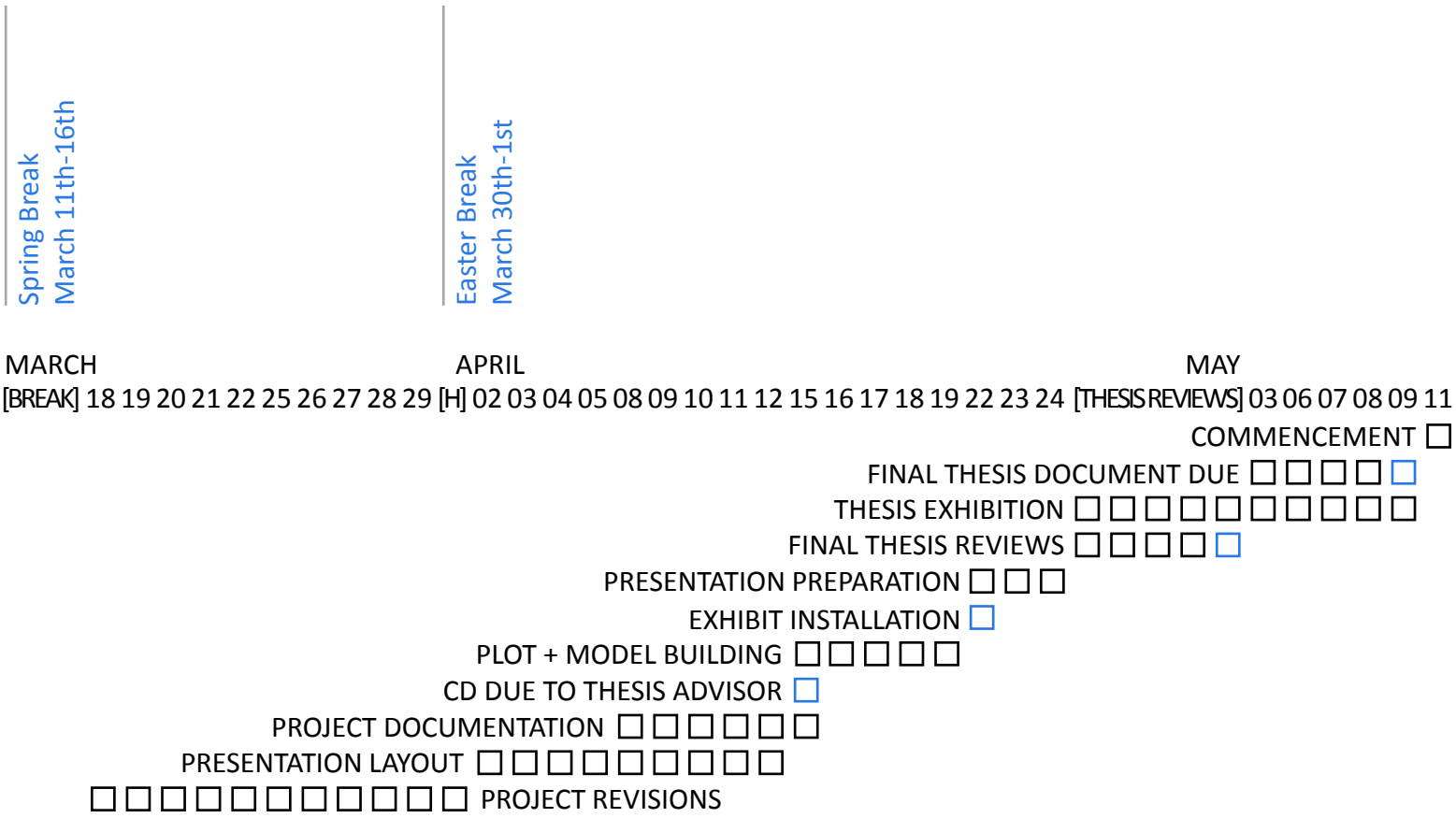

Spring Break
March 11th-16th
Easter Break
March 30th-1st
MARCH
APRIL
MAY
[BREAK] 18 19 20 21 22 25 26 27 28 29 [H] 02 03 04 05 08 09 10 11 12 15 16 17 18 19 22 23 24 [THESIS REVIEWS] 03 06 07 08 09 11
COMMENCEMENT
FINAL THESIS DOCUMENT DUE
THESIS EXHIBITION
FINAL THESIS REVIEWS
PRESENTATION PREPARATION
EXHIBIT INSTALLATION
PLOT + MODEL BUILDING
CD DUE TO THESIS ADVISOR
PROJECT DOCUMENTATION
PRESENTATION LAYOUT
PROJECT REVISIONS

Figure 2.06, *Renaissance Hall*
Schneider, L. (Photographer) (2012). *Renaissance Hall* [Photograph]

STUDIO EXPERIENCE

SECOND YEAR

Fall 2009
Professor - Joan Vorderbruggen
- Tea House
- Boat House

Spring 2010
Professor - Darryl Booker
- Montessori School
- Unconventional Dwelling
- For the Birds Birdhouse Competition

THIRD YEAR

Fall 2010
Professor - Cindy Urness
- Food Cooperative
- NDSU Satellite Wellness Center
- Snow Symposium Competition

Spring 2011
Professor - Ron Ramsey
- Shakerbarn [adapt re-use]
- Spiritual Center

FOURTH YEAR

Fall 2011
Professor - Frank Kratky
- High Rise Studio
- KKE Design Competition

Spring 2012
Professor - Paul Gleye [Lille, France]
- Waterfront Restoration Charette
- Square Foch Urban Renewal

FIFTH YEAR

Fall 2012
Professor - Mark Barnhouse
- Water Resource Experiment Station

Spring 2013
Professor - Mark Barnhouse
- Master Thesis

Figure 3.01, *Architecture Plaque*
Studio Ninaber. (Designer). (2012). *Architecture plaque*. [Web Photo]. Retrieved from http://www.ninaber.nl/en/projects/architecture-plaque

[PROGRAM]

THEORETICAL PREMISE RESEARCH RESULTS

THEORETICAL PREMISE

Because our culture is exploding with technological advancement and social media is so widely prevalent, the character of design needs to reflect the character of today's society.

INTRODUCTION

In the past twenty years, this generation has experienced an incredible technological shift. Singer/songwriter Bob Dylan states it concisely and clearly in one of his songs, "For the times they are a-changin'." It may have been for a different cause or for a different time, however, it is a phrase that society either fears or embraces. Times have been changing for a myriad of years now, and society has, more often than not, accepted these changes and moved forward. In the past decade or so, computing technology has become one of the most noticeable and exponential developments in our culture. Similar to the agriculture and industrial revolutions of the past, society is currently in the midst of a digital revolution which is influencing the way people live. The digitization of information is a global change that increases functionality and efficiency. Along with the advancement of technology, social media has risen to a point where it can be utilized for social interaction, marketing, daily news and much more, all while accessible at our fingertips. A combination of computing technology and the influence of social media will inherently cause our built environment to shift towards a more technological aesthetic. Historically, the built environment has gone through many technological, aesthetic and theoretical changes while learning from and manipulating from its predecessors. The future of the built environment will exemplify social and technological characteristics of the digital world.

DIGITAL AGE

Why were technologies such as the steam engine or the printing press so widely accepted upon their arrival? Or were they? The agent of change, as Adriann Van der Weel states, is what

historians and critics would refer to a large social change caused by an invention or technological advancement (Van der Weel, 2011). This agent of change is not something new in our society or even solely brought on by today's push towards the digital environment. It has been a part of an ongoing cycle of technological innovation and the humans persistent curiosity towards affectivity and efficiency. An original Luddite would say it is possible to live with technology as long as it does not shape our lifestyle; the digital screen must be able to turn off and be put aside. We do not want to become, as Thomas Carlyle states, "mechanical in head and in heart" (Carlyle, 2011).

In the digital world of today's society, people are increasingly using the internet and social media for everything from medical diagnoses to business marketing and research. Society must be intelligent enough to separate what is useful or valuable from what is worthless. The decision makers of tomorrow will be our children and our children's children. We educate them on good morals, social skills, communication and motor skills, but are they not learning the skills they will need in a world where enough information to overwhelm them is just a click away?

"So the whole question comes down to this: can the human mind master what the human mind has made?" (Van der Weel, 2011) If the human mind has made it, the human must be able to master it. Some speculators say that computing technology is getting out of control or beyond society's capacity to utilize. Humans have built buildings that stretch to the clouds, sent a man on the moon, and now created a digital world where ideas, business and social contact can be transmitted instantaneously. All these advancements have been brought on by computing technology over a period of time. However, I realize today's advancements come much quicker than in the past, but change is change and will continue to flourish at an exponential rate. If digital nature takes over, printed text will gradually lose its importance; and it's only a matter of time before digital order asserts itself. The digital age has transformed

and redefined economies, social relationships, and cultural production, reaching every corner in modern society. (Rahim, 2006)

TECHNOLOGY + TECHNIQUES

A decade ago, the Web was an unfamiliar environment where people were guided by this vast technological unknown interface and navigating mindlessly in cyberspace with no fixed rules, and no set structure. The cyberspace mentioned is comically characterized by our parent's generation as:

> the library you would expect to find in the type of gothic house you see in horror films: huge and rambling, with long corridors leading off into the middle of nowhere, small rooms packed with frequently used material in little order and yet other places shrouded in darkness from which one can hear rather nasty noises. The whole grand edifice is presided over by a half-insane librarian who is constantly coming up with new classification and cataloging schemes.[…] Meanwhile, minions of our insane librarian are busy working in different rooms, constantly arranging and rearranging their own collections, without reference to each other, and each convinced that they have the best collection and best scheme for its arrangement (Bradley, 2007).

Today, times have transformed into a technological haven where the Web is just another application on everyone's smartphone. With a touch on a smartphone and vast information can be extracted and consumed instantly. Despite its unfortunate underutilization, computing technology is leading many people to a greater understanding of the value of information. The ease of access to technology, and consequently information, becomes an opportunity, not a crisis.

The foreseeable future for built design relies heavily on architects engaging in more effective technological developments to produce forms

that generate feedback from their users and within the culture at large (Rahim, 2006). Feedback from the environment and users offer a better understanding of how emerging technologies can assist future design. Many architecture firms today are either uneducated in or lack the digital technologies that the future design generation is currently utilizing. On the contrary various firms that are prospering are the ones who have hired younger employees that bring along with them the digital techniques acquired in school. The younger generation is engulfed in the digital world and all of its technologies.

What are these new technologies that aid designers in formulating the built environment?

What advantages do they offer firms, clients, and owners?

A vast majority of architecture firms use conventional three-dimensional software, CAD, to implement the hand-sketched concepts of senior designers. Techniques such as these merely make tasks more efficient and run the risk of becoming routine and static over time. Firms that draw on technology to further design innovation are apt to generate more feedback from their environment and have the potential to be a catalyst for cultural transformative design.

SOCIAL MEDIA

In today's society the news is received from multiple platforms on a myriad of technological devices. A decade or so ago, news was received in more of a user preferred source, including TV, newspapers and radio. Nowadays, "some forty-six percent of Americans say they get news from four to six media platforms on a typical day, compared to the seven percent who get their news from a single media platform." The internet has changed the way daily and social news is received by the general public. It is a new relationship with the user to offer a myriad of different sources and information. "Six in ten Americans (59%) get news from a combination of online and off-line sources."

Currently, the internet is the second most popular news platform, only behind television. Its technological nature combined with an abundance of social media platforms makes it a convenient source of news and current information. (Purcell, Rainie, Mitchell, Rosenstiel & Olmstead, 2012)

With the general public conforming to the overwhelming popularity of the digital environment, social media and social networking sites are some of the leading sources of online news. People's experience of news, especially on the internet, is becoming a shared social experience as people share links, emails, and stories over social networking sites including Twitter, Facebook and MySpace. This new wave of social networking sites along with the connectivity via smartphones and similar devices plays an integral part of the media change of anytime, anywhere.

Mainstream journalists might disagree with that fact that social media is not only a good thing, but necessary for the delivery of news from one source to another. In past years, mainstream media were doing fine because information was hard to come by and even harder to distribute to the viewers. People trusted journalists to get the story, write an article, and deliver it to their door, television or radio. When major conglomerates decided to buy out local media stations, the news became less localized and personal. People became less connected with their communities and ultimately disappointed with their news. If people are disappointed, it does not take long before they will look elsewhere. What better time for the internet to emerge and offer people an alternative. "The truth is the internet didn't steal the audience. We lost it" (Skoler, 2012).

It basically comes down to personalized trust. Many people today do not rely on news stations to deliver their news, they find it either browsing the internet or shared through social media. People want news that connects to their life on a personal, social, and economic level. They want their information to be heard, they want their questions to be answered, and they

want the information now. "Trust is key. Many younger people don't look for news anymore because it comes to them" (Skoler, 2012). Social media has revolutionized how and how fast way we received information.

Today, almost every young adolescent has a Facebook, Twitter, and/or YouTube account. They are to be used as social tools to connect people, information and ideas. Are they abused? Has society completely let this new social trend take over the minds of our youth? The facts could support either side, but ultimately the social media trend is like any other trend. It has been abused in many circumstances, and has taken over many lives, but overall, most experience more good than harm. When reading about important news that breaks out in the newspaper, or local television station, more often than not that same piece of information has already been Tweeted or posted on someone's blog. Online social media has cut down the turnover time news has from getting from one source to another. Fact and fiction must be sorted out by the recipient, but today's society is an information-driven culture and will continue to be as long as the information is out there.

A question of more importance becomes, how can this social trend be utilized to better human lives? Likewise, how should the built environment respond to these social trends? One must break down and analyze how these social trends are affecting individuals' lives. The constant factors within these trends are likability, sociability, marketability and overwhelming access. By using these factors of social media success, companies must re-image themselves in a way that fits society's needs and wants. Companies are already marketing, but are they marketing in a way that is socially driven? If you look at the top retail and consumer goods companies, they probably are associated with that funny commercial, annoying advertisement, and/or that catchy slogan. This is social media marketability. With the overwhelming access to social media and the amount of consumers influenced by social media, likability and eye-catching marketing

equals a successful company. The same model should be used in today's built environment. Sociability, likability and overwhelming access can be design characteristics used by architects and designers. In a public building, such as the proposed Social Mediatheque, designs that are sociable and likable are places people want to be. People feel comfortable and safe with their community peers. People want the ability to interact, learn, socialize and be entertained at any given time. If the built environment responds to these factors of proven success, society will start to see changes that better the environment and better their lives.

SUMMARY

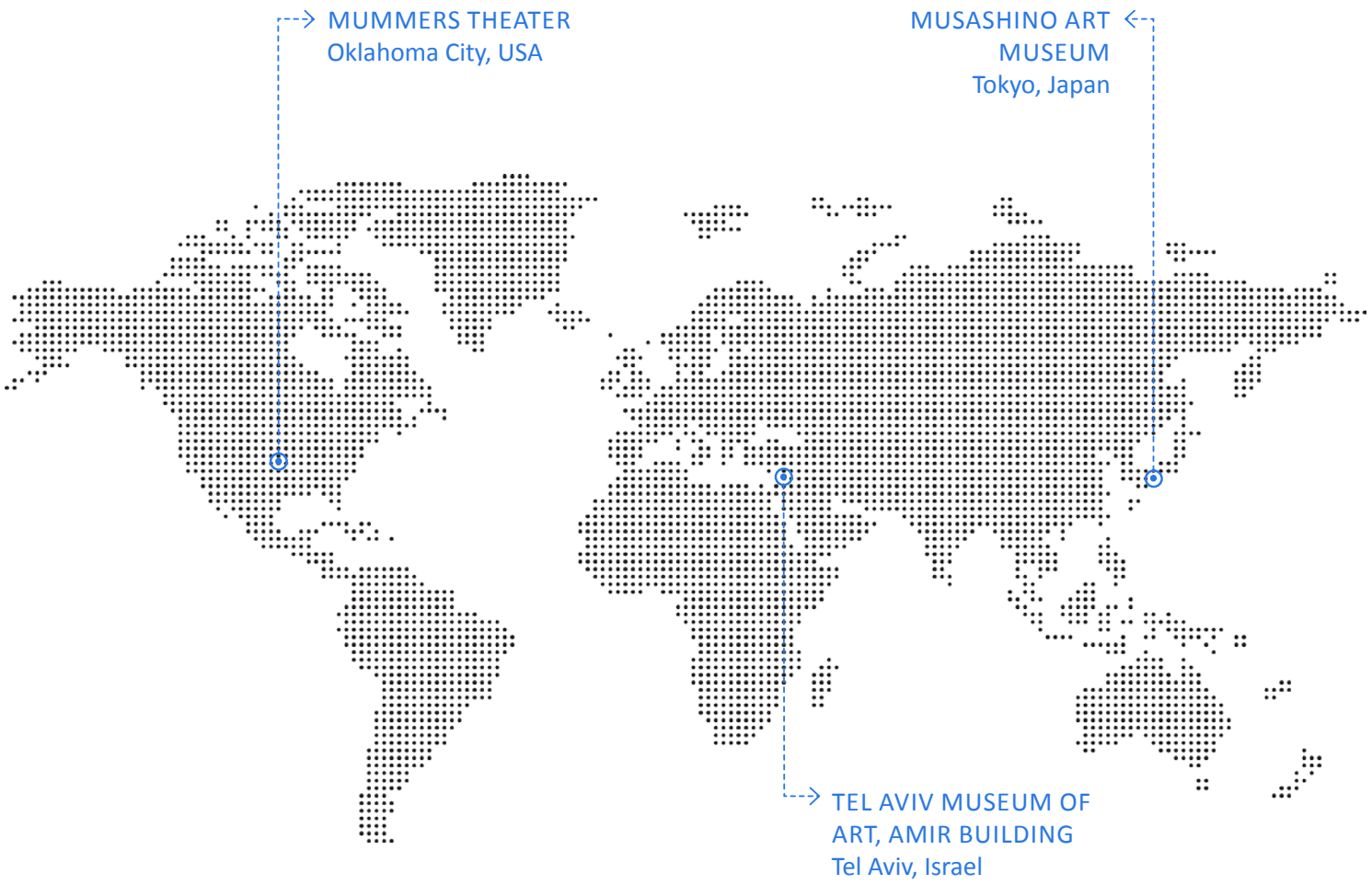
The technological shift in today's culture has proven to change the way people live and the way businesses operate. Daily routines are shifting, as the availability of information and data are exploding at an exponential rate. The way people communicate, document life moments, advertise, study, or access current events is drastically different than it was twenty years ago. With this technological revolution comes a different way in which people view their world. People see the world with a digital filter. Finding one's way to a new destination is through a phone's GPS rather than a fold-out, tactile map. Students walk to and from classes texting their friends or checking their Facebook, and this constant update of information changes the way they view their surroundings as they experience the present. In this new digital age, there should be a way that architecture can reflect this trend yet be able to adapt to its constant change and development. In order to stay up-to-date and relevant buildings need to start adapting a "digital aesthetic" the same way media has. As this research demonstrates, the character of society has changed alongside the technological shift; therefore the built environment must become a media suite. There is no end to our spatial experiences as the real and virtual spaces overlap in our experience.

TYPOLOGICAL RESEARCH RESULTS

These three typological case studies were chosen to supplement my research and understanding of how technology and social media can influence the way architecture and the built environment are utilized. Each case study examined looks at different physical, social, environmental and spatial characteristics of past design that can be exploited and reused with innovative technologies to inherently produce a new generation of architecture.

Each of these case studies is located throughout the world to provide a wide variety of common design solutions. Different international factors such as climate, economy, culture, religion and social values have a way of affecting these solutions. Understanding all of these factors will help inform my design strategy for a Social Mediatheque in Grand Forks, North Dakota.

Figure 3.02, *Typological Map*
Schneider, L. (Designer) (2012). *Typological Map*. [Graphic]



TEL AVIV MUSEUM OF ART

The Amir Building addition to the Tel Aviv Museum of Art has an architectural language that is progressive in its cultural orientation. From a visual aspect, the solution involves a synthesis of two opposing paradigms: contemporary white and architectural sculpture. The architectural challenge was to resolve the tension between the constricted, triangular site and the museum's need for large rectangular spaces. Through a series of twisting geometries around a single eighty-seven foot structural light atrium, the spaces are connected and the floor plates integrated as a whole unit.

Similar to the Amir Building, the proposed site for a Social Mediatheque has a constricted rectangular site that is subjected to a high volume of both vehicular and pedestrian traffic. With a downtown infill project comes visual and spatial design challenges that give rise to new innovative design solutions. An integration of opposing paradigms becomes one of many design challenges needed to be solved.

DESIGNER

Preston Scott Cohen, Inc

CLIENT

Motti Omer, Director and Chief Curator

LOCATION

Tel Aviv, Israel

TYPOLOGY

Art Museum

YEAR COMPLETED

2011

AWARDS

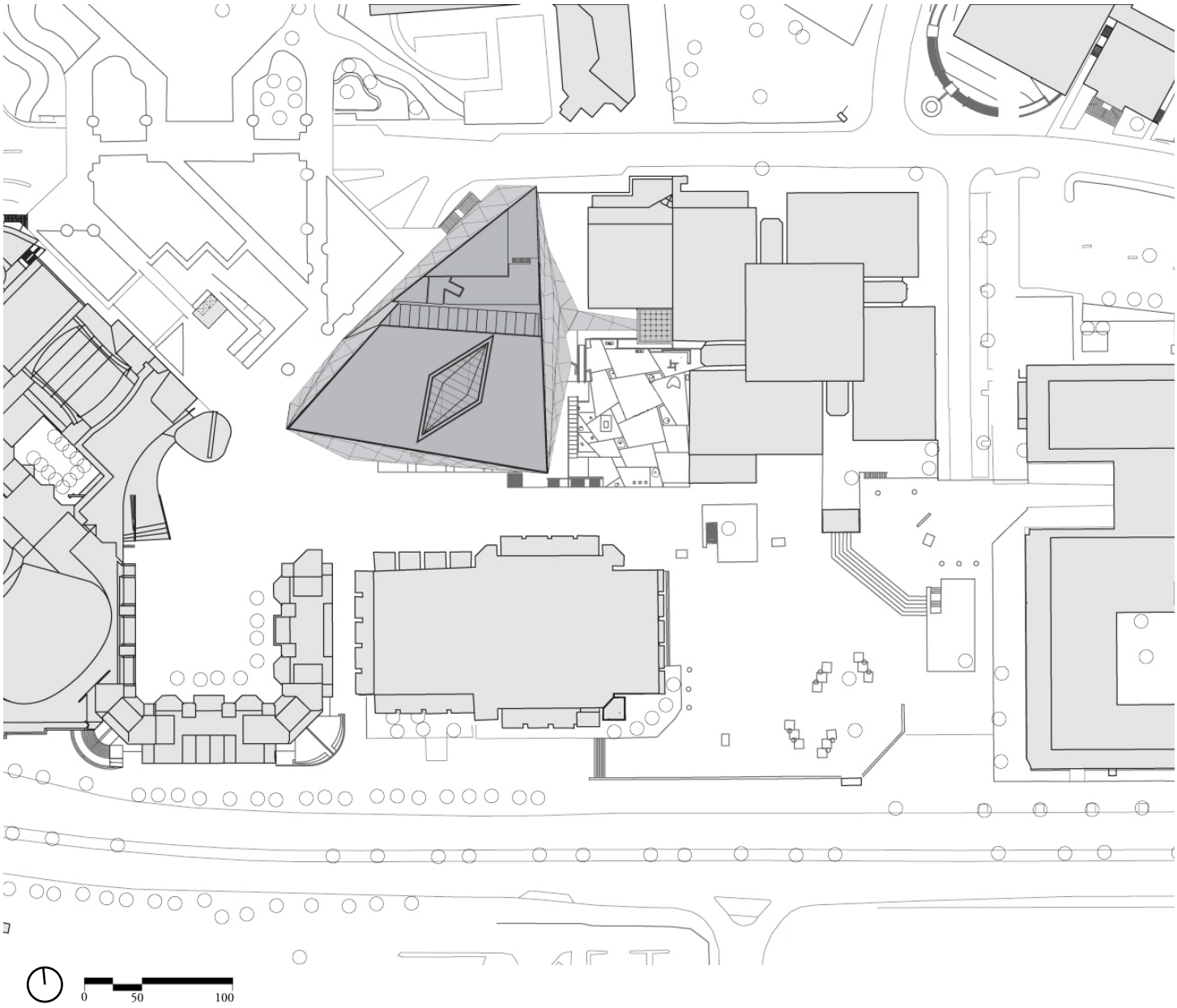
First Prize Winner in the Herta and Paul Amir International Competition

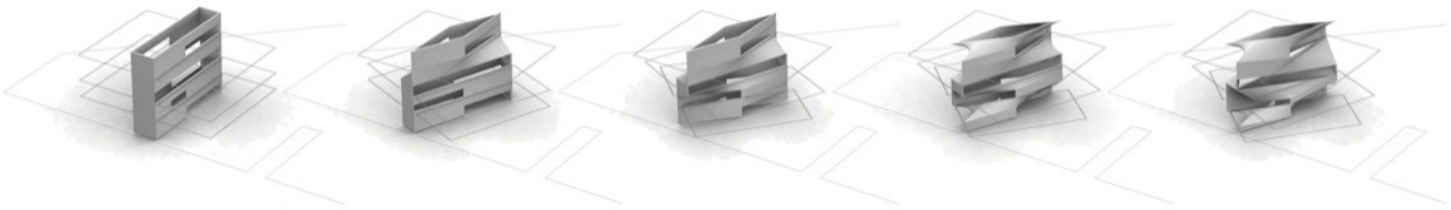
PROGRAM

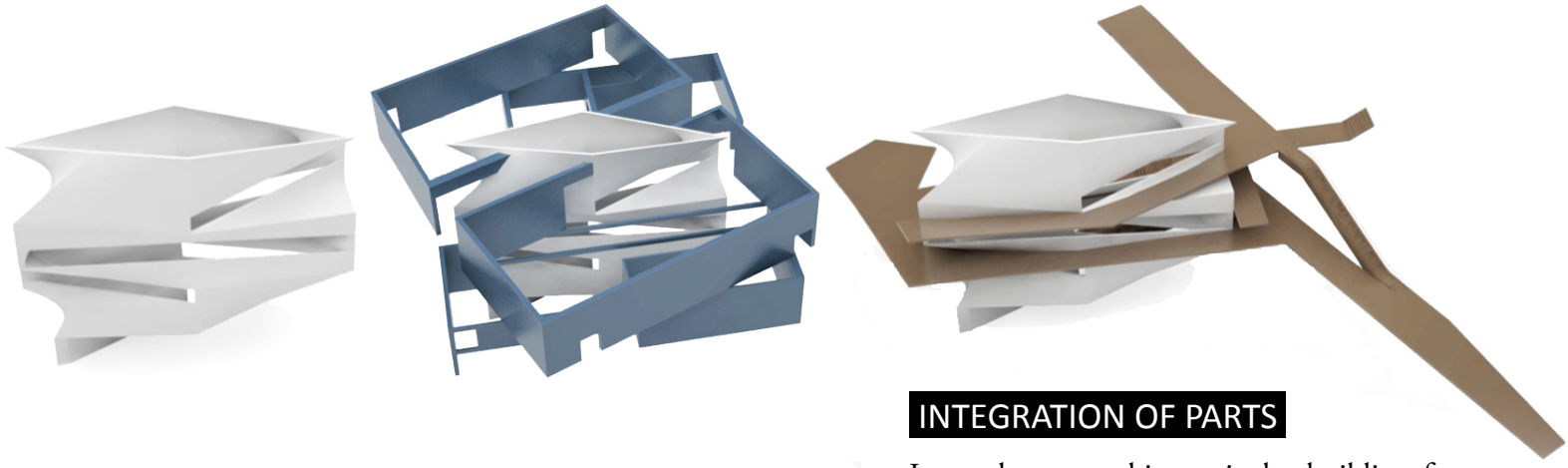
200,000 sq.ft.

Figure 3.03, *Tel Aviv Entrance*
Preston Scott Cohen Inc. (Photographer). (2011). *Tel Aviv Entrance*. [Web Photo]. Retrieved from http://www.pscohen.com/tel_aviv_museum_of_art.html

Figure 3.04, *Tel Aviv Site Plan*
Preston Scott Cohen Inc. (Photographer). (2011). *Tel Aviv Site Plan*. [Web Photo]. Retrieved from http://www.pscohen.com/tel_aviv_museum_of_art.html







INTEGRATION OF PARTS

I was drawn to this particular building from the start of my research, but it was not until I investigated the building thoroughly that I began to understand how it was conceptualized. Unlike most buildings I have encountered, the Amir Building starts with an intriguing 87-foot-high twisting atrium that connects several geometrical floor plates and free flowing circulation spaces.

Figure 3.05, *Tel Aviv Integration Diagrams*
Preston Scott Cohen Inc. (Photographer). (2011). *Tel Aviv Integration Diagrams*. [Web Photo]. Retrieved from http://www.pscohen.com/tel_aviv_museum_of_art.html

Figure 3.06, *Tel Aviv Detail*
Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/

Figure 3.07, *Tel Aviv Geometry Analysis*
Schneider, L. (Designer) (2011). *Tel Aviv Geometry Analysis.* [Print Graphic]

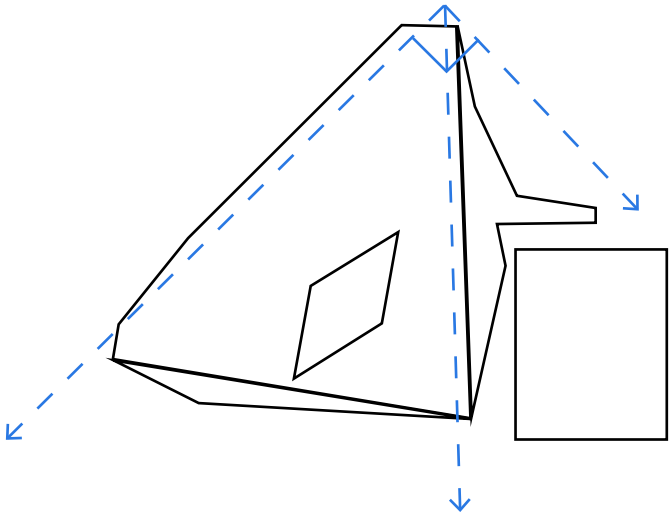


Figure 3.08, *Tel Aviv Mass Analysis*
Schneider, L. (Designer) (2011). *Tel Aviv Mass Analysis.* [Print Graphic]

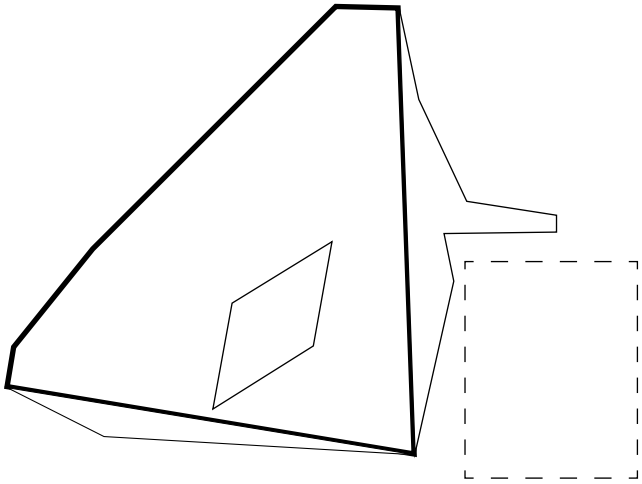
GEOMETRY

Given an odd triangular shaped site, the building embraces the physical context while using a similar geometry to fill the void. The exterior skin has a unique geometrical pattern that continues inside the building to inform spaces and circulation.

MASS

This building is massed in two parts: the structural atrium twisting up internally, and the geometrical precast-concrete panels attached to the building's steel frame that form the faceted, weatherproof envelope (Pearson & Gonchar, 2011). Together they form unique cohesion of exterior and interior spaces.

Figure 3.09, *Tel Aviv Hierarchy Analysis*
Schneider, L. (Designer) (2012). *Tel Aviv Hierarchy Analysis.* [Print Graphic]

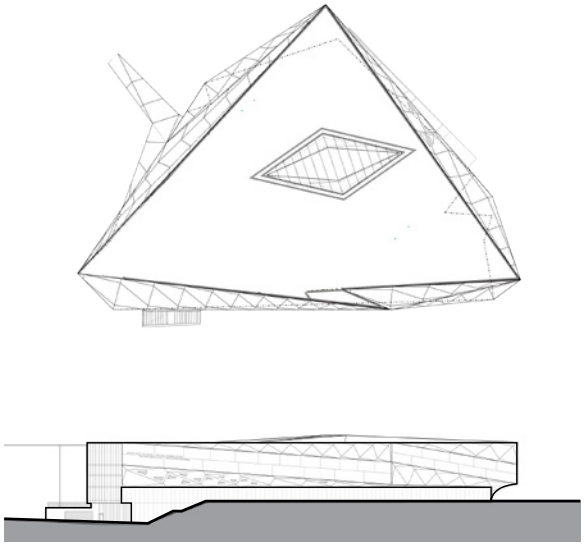


HIERARCHY

From the exterior, the building is arranged in a simple manner. The mass of precast-concrete panels dominate most of the structure, followed by a vertical atrium piercing through the roof exterior. In elevation you can clearly see the mass makes up most of the building with a lightweight curtain system below.

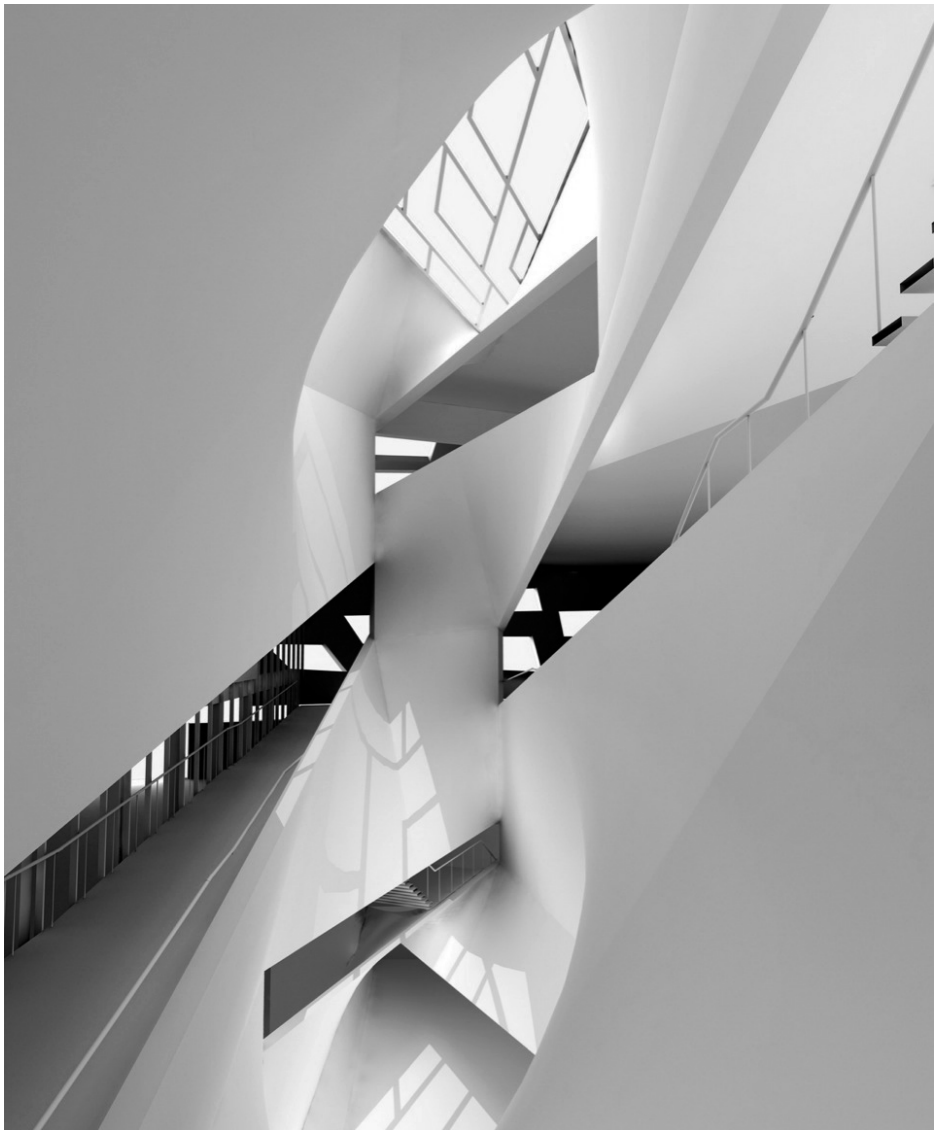
Figure 3.10, *Tel Aviv Plan to Elevation Analysis*
Schneider, L. (Designer) (2012). *Tel Aviv Plan to Elevation Analysis.* [Print Graphic]

Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/



PLAN TO ELEVATION

The triangular shape of the overall plan of the building is also brought out in the detailing seen in the elevation. The form of the design mostly runs parallel with the site with exception of the garden level that connects the Amir Building with the rest of the Museum of Art.



"LIGHTFALL"

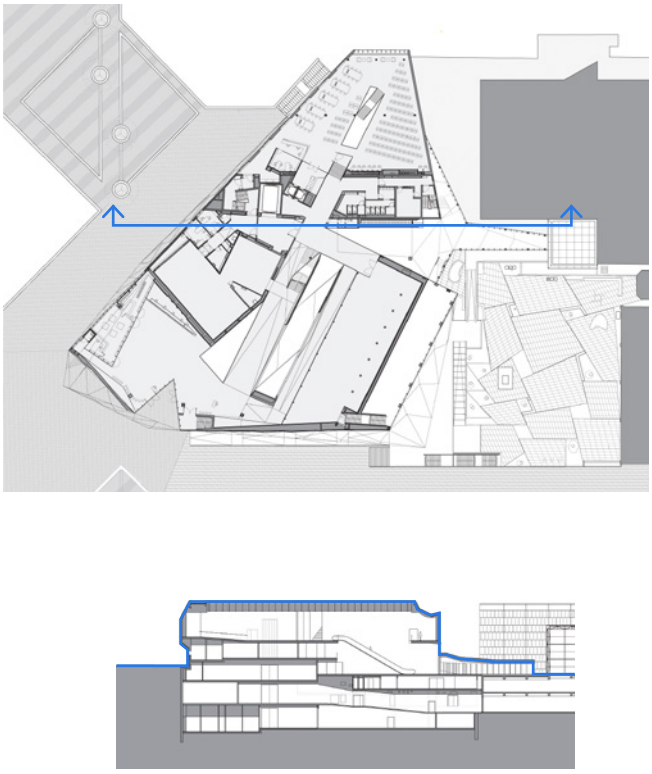
The image here illustrates how people in the space can experience the poured-in-place "Lightfall" feature (Pearson & Gonchar, 2011). It provides a dramatic contrast to the low-lying contemporary appearance of the exterior. Specific views are created from rectangular voids in the Lightfall. The pure white color allows natural light to bounce around effectively, but also illustrates a historical legacy of architecture referred to as "the White City" (Pearson & Gonchar, 2011). The design is an effective solution to a complicated problem. It effectively allows diffuse light to illuminate adjacent spaces, circulation paths are physically and visually connected, and an asserted sense of place is created by merging orthogonal galleries with the voids in the mass.

Figure 3.11, *Tel Aviv Cavity Detail*
Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/

Figure 3.12, *Tel Aviv Construction Detail*
Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/

Figure 3.13, *Tel Aviv Plan to Section Analysis*
Schneider, L. (Designer) (2012). *Tel Aviv Plan to Section Analysis.* [Print Graphic]

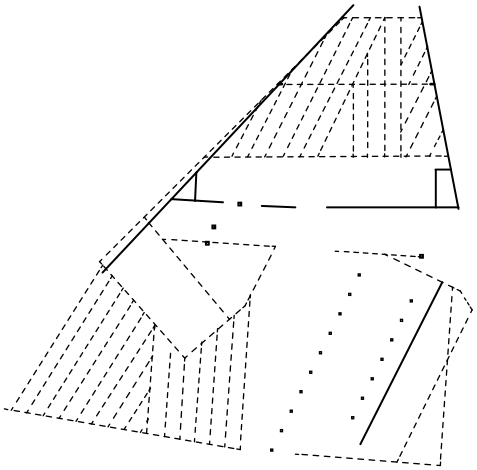
Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/preston-scott-cohen/



PLAN TO SECTION

Here one can see how the design houses many different orthogonal spaces within a triangular mass. The buildings low-lying appearance from the exterior is contrasted by the subterranean floors. The building becomes much larger in section than it appears in elevation. You can also see how the new Amir Building is connected to the rest of the Museum of Art.

Figure 3.14, *Tel Aviv Structure Analysis*
Schneider, L. (Designer) (2012). *Tel Aviv Structure Analysis.* [Print Graphic]

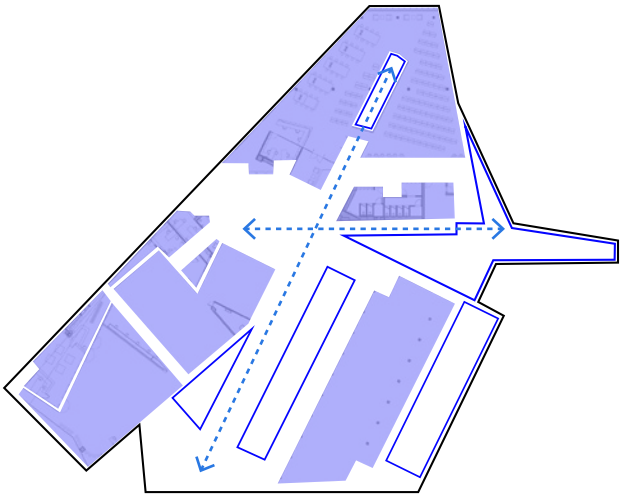


STRUCTURE

The structure consists of precast-concrete panels forming the exterior, faceted envelope. These panels are connected to a steel frame system that is also connected to the central poured-in-place concrete form.

Figure 3.15, *Tel Aviv Circulation to Use Analysis*
Schneider, L. (Designer) (2012). *Tel Aviv Circulation to Use Analysis.* [Print Graphic]

Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/preston-scott-cohen/

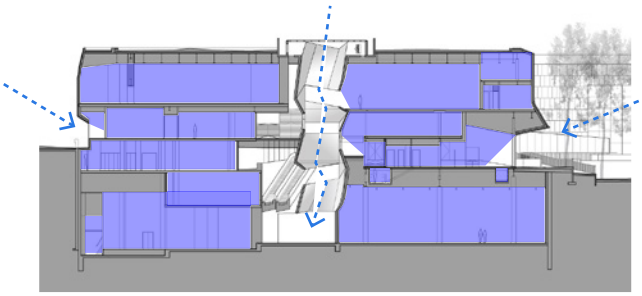


CIRCULATION TO USE

I find the circulation in the Amir Building to be very effective and efficient as well as adding a permanent sculptural characteristic to the design. The circulation throughout the building turns into expressive alleyways connecting and inviting users to each space.

Figure 3.16, *Tel Aviv Daylighting Analysis*
Schneider, L. (Designer) (2012). *Tel Aviv Daylighting Analysis.* [Print Graphic]

Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/preston-scott-cohen/



DAYLIGHTING

From the exterior views and this diagram, natural daylighting seems to be lacking throughout most of the building. I would assume this is an intended design to keep visitors engaged to the exhibitions. A considerable amount of light is let in through the central 87-foot Lightfall. This light is bounced around and distributed through the adjacent spaces.

Figure 3.17, *Tel Aviv Daylighting Detail*
Minner, K. (2010). Tel aviv museum of art amir building / preston scott cohen. Archdaily. Retrieved from http://www.archdaily.com/137601/tel-aviv-museum-of-art-preston-scott-cohen/

EFFECTIVE GLAZING

Localized natural light becomes abundant in particular spaces where needed. Here at the top of the Lightfall, a large amount of glazing is used to capture the daylight that will bounce down 87 feet to the museum floor.

MUSASHINO ART MUSEUM

The Musashino Art Museum and Library employs a sense of connection between the users and their surroundings. In a digital driven age, many physical feelings and characteristics get neglected. Here, Sou Fujimoto demonstrates how real feelings and light are precious and should be the fundamental stating point to architecture. The possibility of the internet to change our feelings is exciting, and combining these feelings becomes a challenge for emerging architects. The building is comprised of a myriad of book shelves at a scale which the user is surrounded and sheltered by books and light.

This simple but elegant solution for an art museum and library is an interesting project on many levels. It has a simple, rectangular plan with two floors that mesh together to create a single cohesive form. Overall, the physical scale is rather large for the user, but it seems to work with the feeling of how the user connects with their surroundings.

DESIGNER

Sou Fujimoto

CLIENT

Musashino Art University

LOCATION

Tokyo, Japan

TYPOLOGY

Library

YEAR COMPLETED

2010

AWARDS

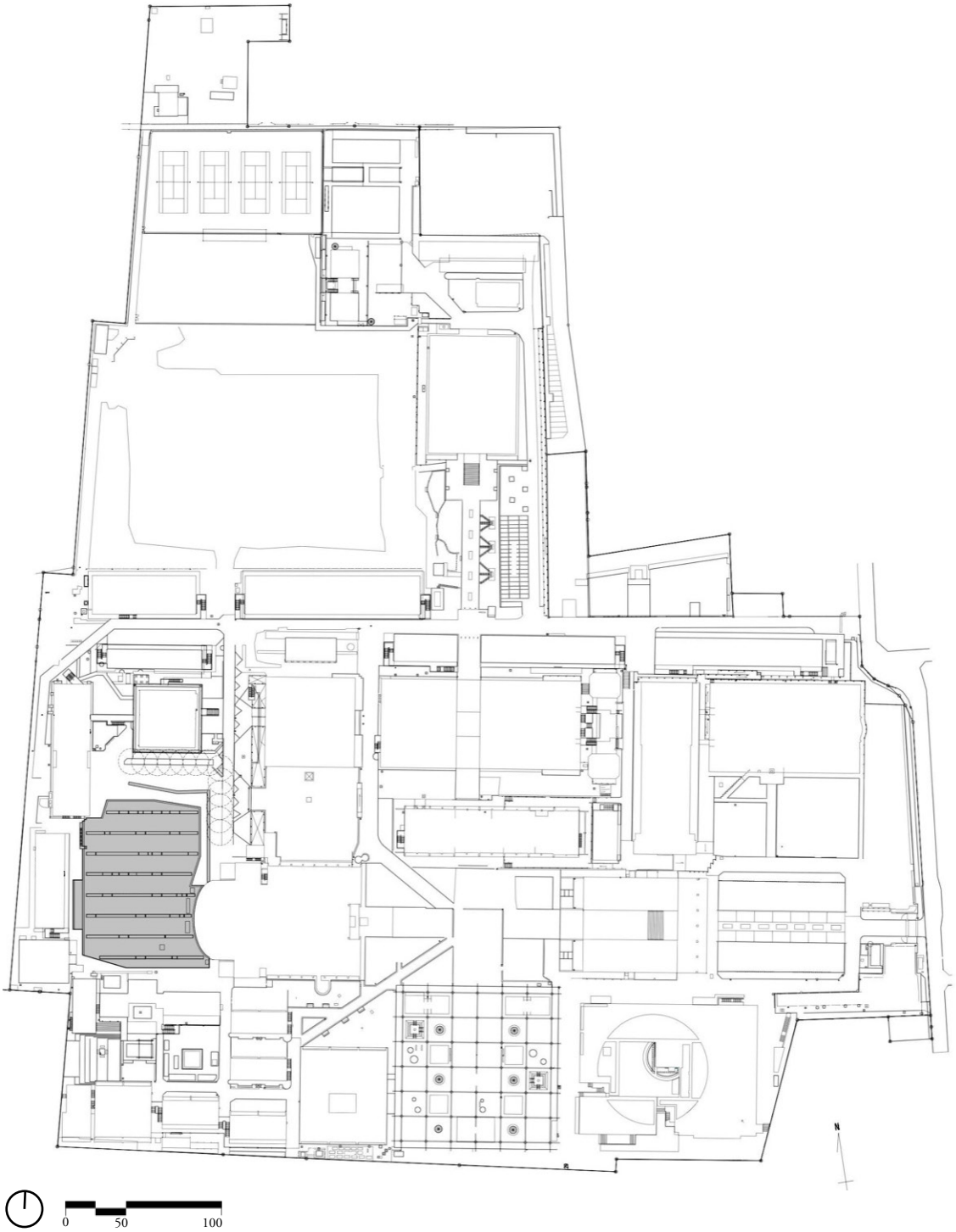
First Prize Winner 2012 Emirates Glass LEAF Awards

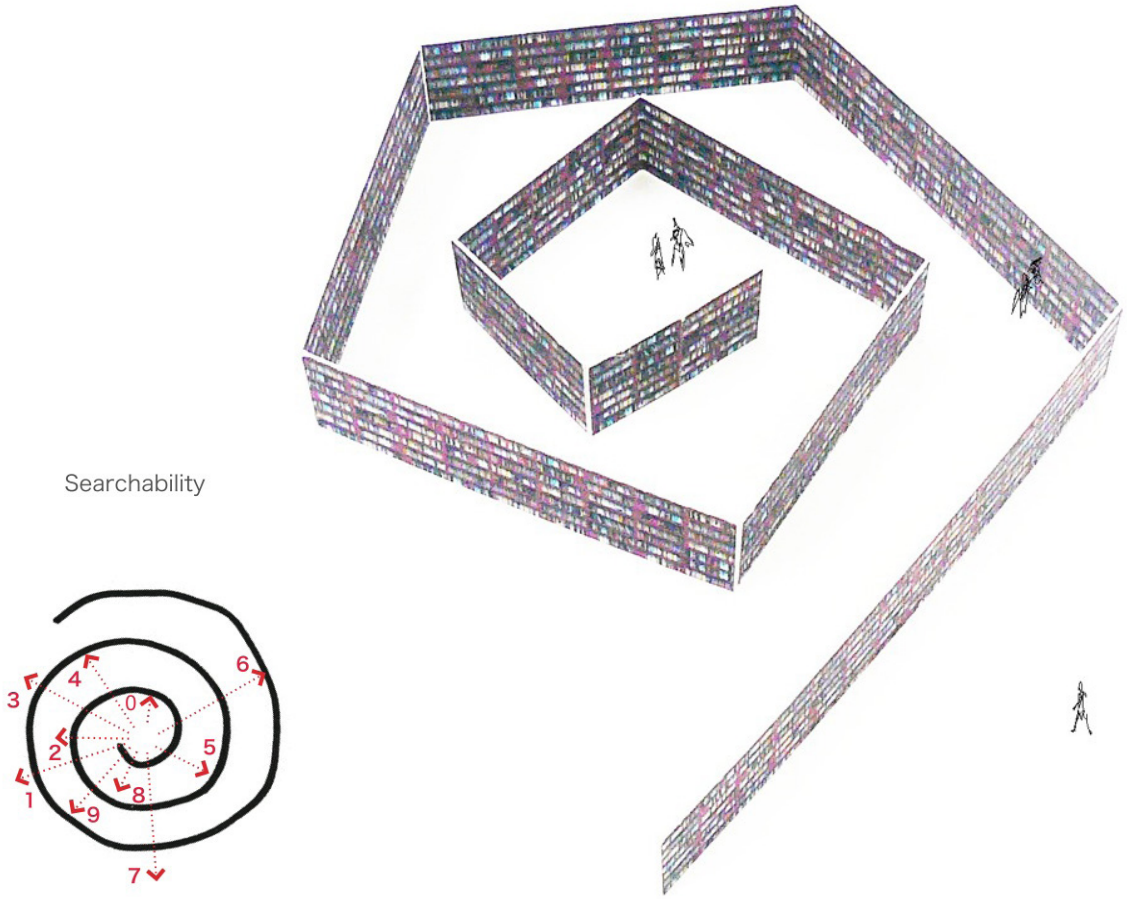
PROGRAM

9,459 sq.ft.

Figure 3.18, *Musashino Entry Sequence*
Ano, D. (Photographer) (2011). Musashino art university museum & Library / Sou Fujimoto. [Web Photo]. Retrieved from http://www.archdaily.com/145789/musashino-art-university-museum-library-sou-fujimoto/

Figure 3.19, *Musashino Site Plan*
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789





DESIGN CONCEPTS

When Sou Fujimoto initially prepared for this project, they imagined books, bookshelves, light and the atmosphere. The concept diagrams illustrate a single bookshelf in the form of a spiral. The bookshelves inherently become the buildings form and function both internally and externally. The user is encased in an infinite "forest of books" (Basulto, 2011).

Figure 3.20, *Musashino Design Concepts*
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

Figure 3.21, *Musashino Main Entrance*
Ano, D. (Photographer) (2011). Musashino art university museum & Library / Sou Fujimoto. [Web Photo]. Retrieved from http://www.archdaily.com/145789/musashino-art-university-museum-library-sou-fujimoto/

ENTRY

As much as I find this building an interesting and efficient design, the grade level entry seems to be poorly designed. It brings the colossal scale of the building down to the user but contrasts heavily with the nature of the building.

Figure 3.22, *Musashino Geometry Analysis*
Schneider, L. (Designer) (2012). *Musashino Geometry Analysis.* [Print Graphic]

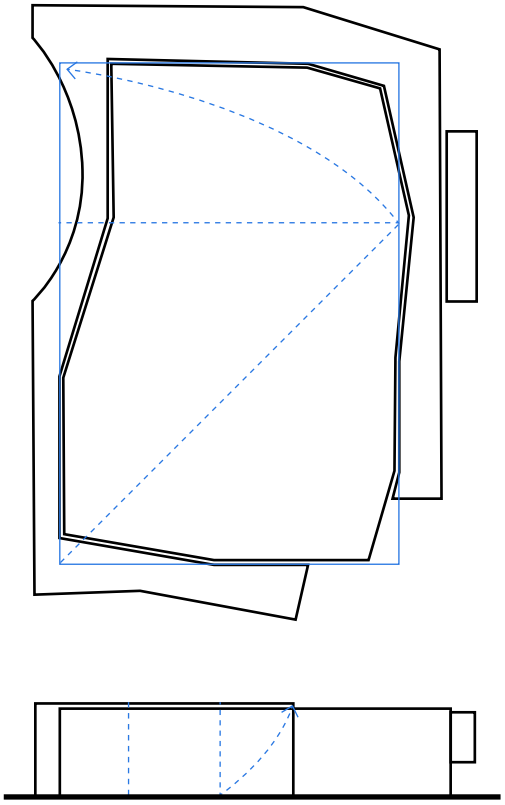
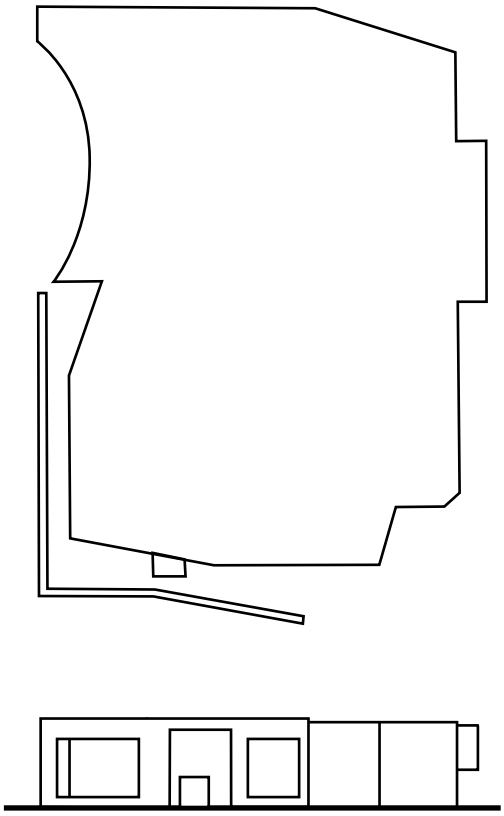


Figure 3.23, *Musashino Mass Analysis*
Schneider, L. (Designer) (2012). *Musashino Mass Analysis.* [Print Graphic]



GEOMETRY

The geometry is very simple, an almost pure rectangle organized into a spiral. Likewise in elevation, the geometry consists of three rectilinear shapes.

MASS

The building consists of one solid mass and an external wall that guide the user into the building. The mass has large rectangular voids cut out to share the same elemental composition of a typical bookshelf in a library.

Figure 3.24, *Musashino Hierarchy Analysis*
Schneider, L. (Designer) (2012). *Musashino Hierarchy Analysis.* [Print Graphic]

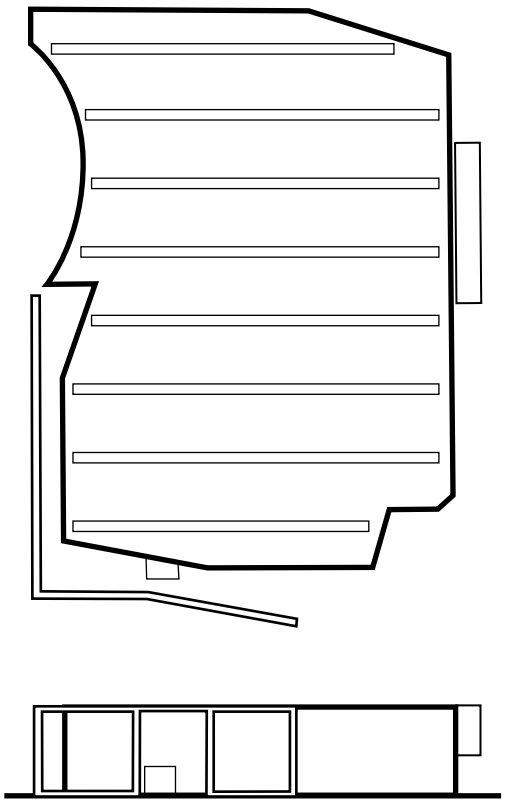


Figure 3.25, *Musashino Plan to Elevation Analysis*
Schneider, L. (Designer) (2012). *Musashino Plan to Elevation Analysis.* [Print Graphic]

Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

HIERARCHY

The arrangement of the library is very simple, a large two-story mass consisting of walls shaped in a spiral. The other most noticeable design characteristic is the roof system which is made up of a series of linear skylights.

PLAN TO ELEVATION

In plan and elevation, the building's functional characteristics take form. The spiral-shaped program has non constricting feeling of openness and freedom. Likewise, the elevation has the same feel with the massive voids providing a welcoming feeling.

Figure 3.26, *Musashino Entry Perspective*
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

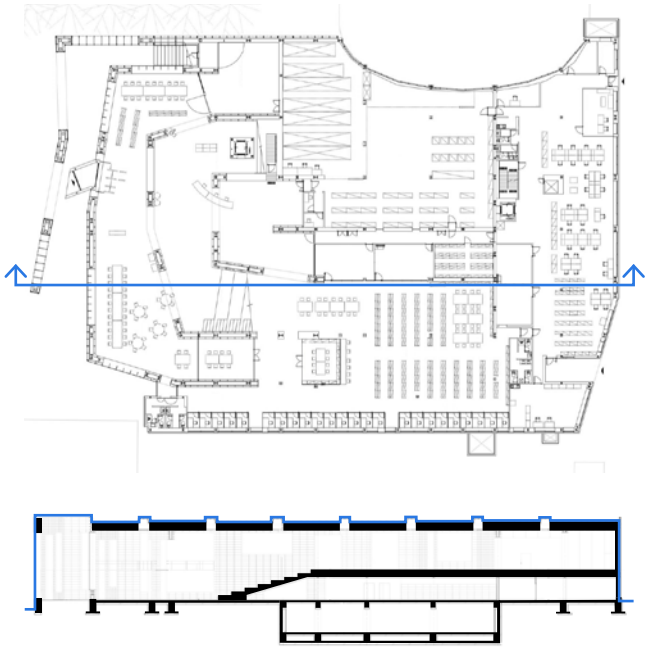
Figure 3.27, *Musashino East Elevation*
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

SCALE

In this figure the building's scale can truly be seen and analyzed. Sou Fujimoto worked to create a typological space where people get a sense of place. The user becomes immersed in a library sense by just walking by the building.

Figure 3.28, *Musashino Plan to Section Analysis*
Schneider, L. (Designer) (2012). *Musashino Plan to Section Analysis.* [Print Graphic]

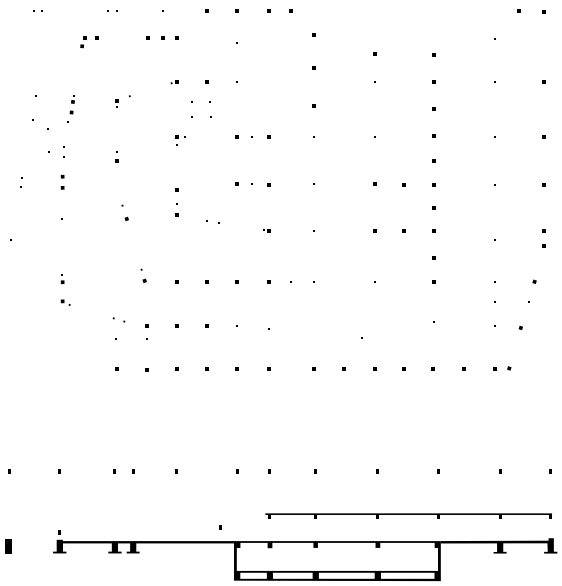
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789



PLAN TO SECTION

Although in plan the program seems confusing, the building gets simplified when analyzed in section. The program becomes an open two-story structure with bookcase-walls running from floor to ceiling creating a sociable space for users.

Figure 3.29, *Musashino Structure Analysis*
Schneider, L. (Designer) (2012). *Musashino Structure Analysis.* [Print Graphic]



STRUCTURE

The structure consists of different sized columns and girders seen above. The structure is concisely concealed within the detailing of the thick interior and exterior walls.

Figure 3.30, *Musashino Circulation Concept*
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

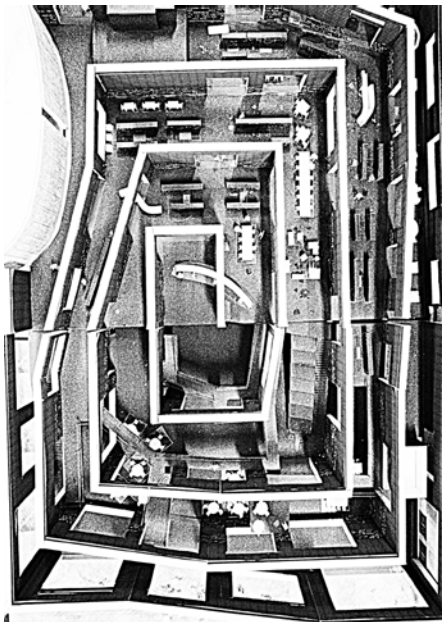
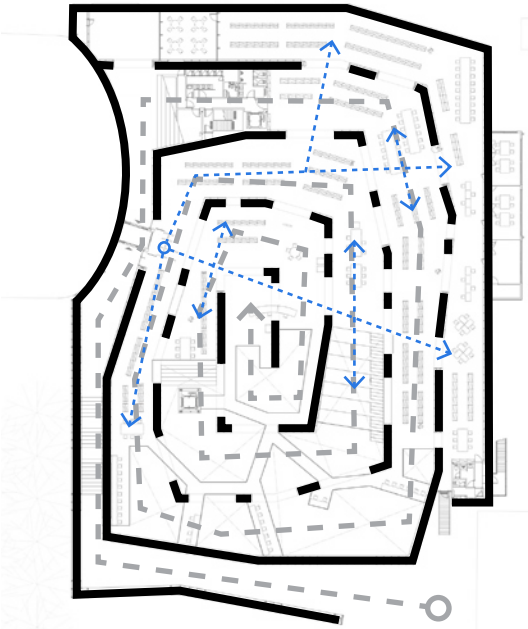


Figure 3.31, *Musashino Circulation to Use Analysis*
Schneider, L. (Designer) (2012). *Musashino Circulation to Use Analysis.* [Print Graphic]

Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789



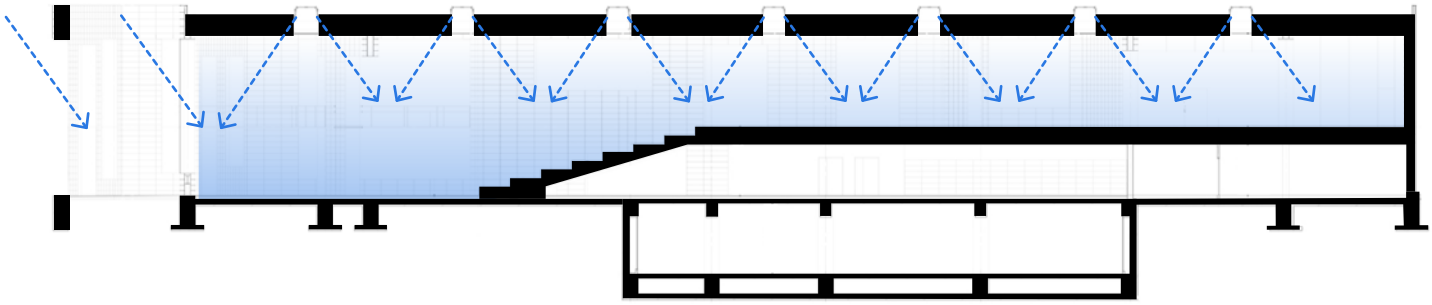


Figure 3.32, *Musashino Daylighting Analysis*
Schneider, L. (Designer) (2012). *Musashino Daylighting Analysis.* [Print Graphic]

Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

Figure 3.33, *Musashino Interior*
Basulto , David. (2011) Musashino art university museum & library / sou fujimoto. ArchDaily, Retrieved from <http://www.archdaily.com/145789

CIRCULATION TO USE

An initial concept of circulation is shown in Figure 3.30, and then translated further in Figure 3.31. Users have the ability and are encouraged to move freely throughout the spaces just as they would be searching for a single literature piece on a vast array of bookshelves. Purposefully designed walls from grade level extending up to the second level roof act as a guide and weave users in and out as well as vertical.

DAYLIGHTING

Natural daylighting skylights run the length of the building allowing almost all of the light needed throughout the day. They become as much a part of the building's design as the bookshelf-walls. Sou Fijimoto describes it as a forest of bookshelves extending up into the atmosphere.

MUMMERS THEATER

Johansen's Mummers Theater at its time was a highly controversial project that people either hated or loved it. This project was a divergence from Johansen's past design work of heavy concrete and on to a period of lightness and mobility. "My investigation into electronic systems opened my mind to new and liberating ideas" (Johansen, 1995). I chose to investigate and learn from this project because I thought it had a certain "controlled rebellion" conception I was interested in. To push my limitations would allow myself to open up and see a design process that can be utilized for innovation. Mummers Theater is designed in a technological process where similar parts come together to make a unified, cohesive system. I was attracted to this project and other projects by Johansen, for the fact that it suggested a change, and the ability to accept it.

DESIGNER

John Johansen

CLIENT

Oklahoma City

LOCATION

Oklahoma City, USA

TYPOLOGY

Theater

YEAR COMPLETED

1970

AWARDS

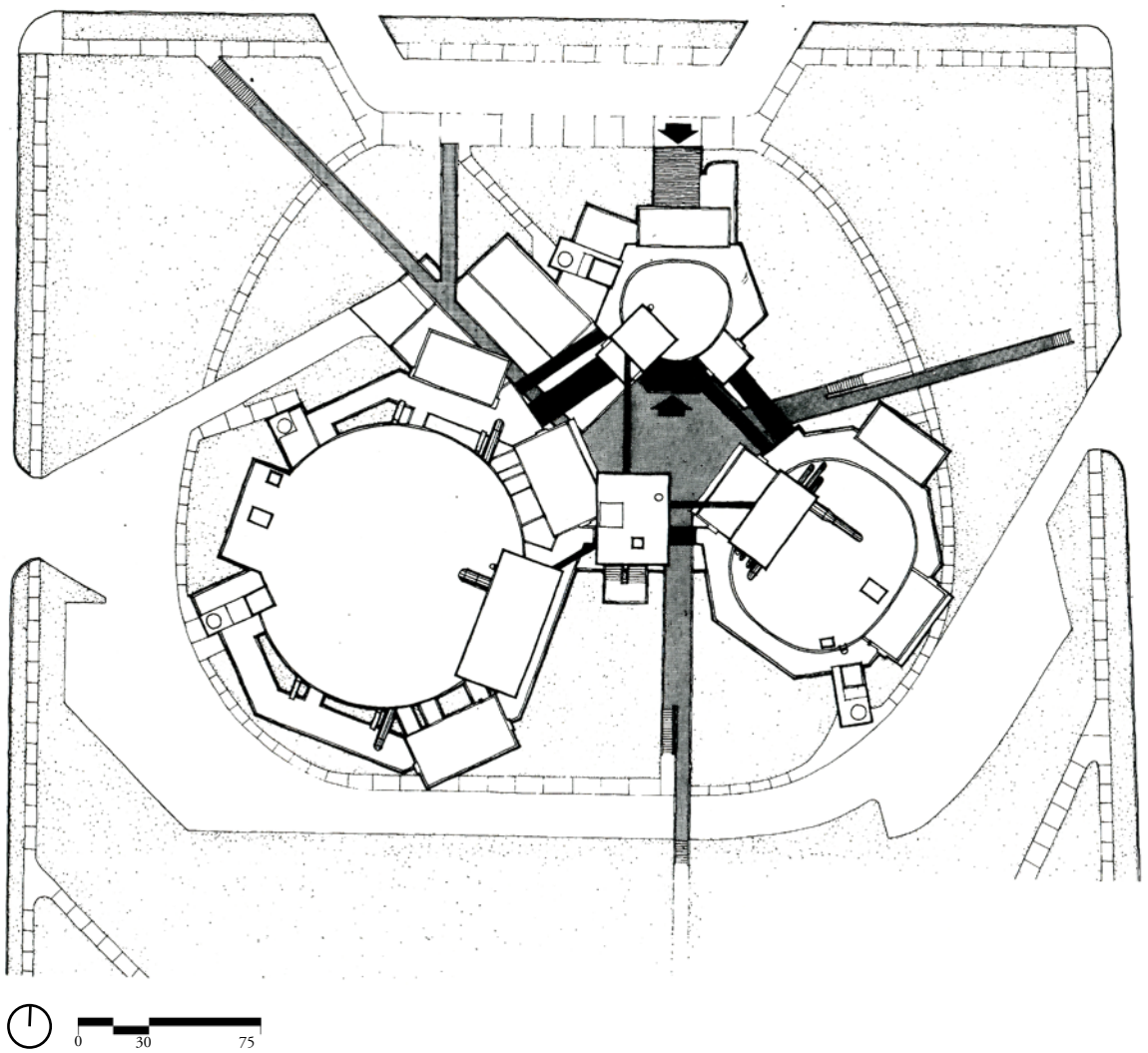
N/A

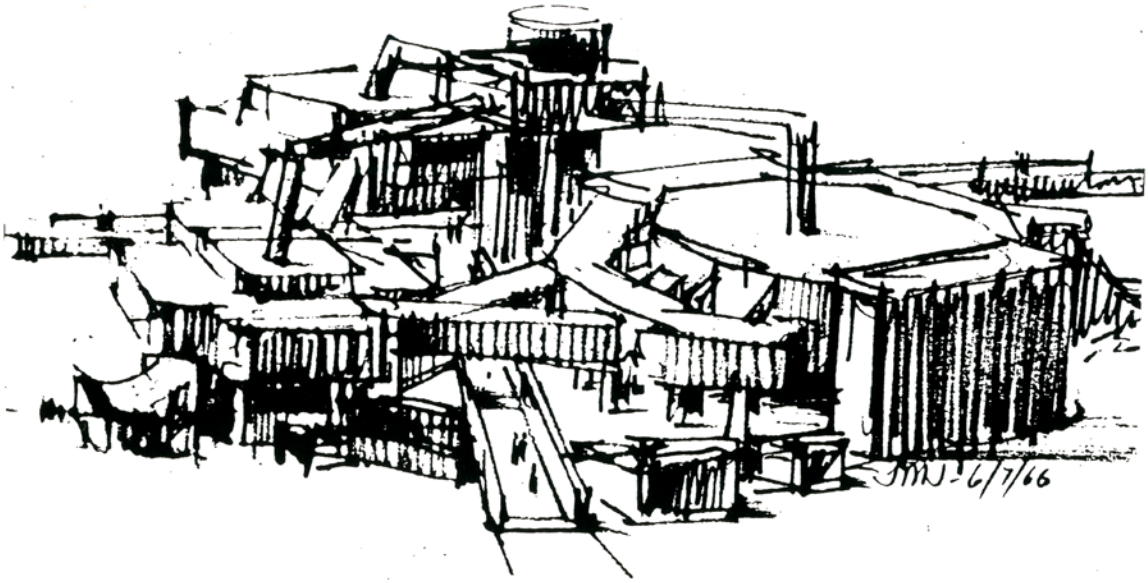
PROGRAM

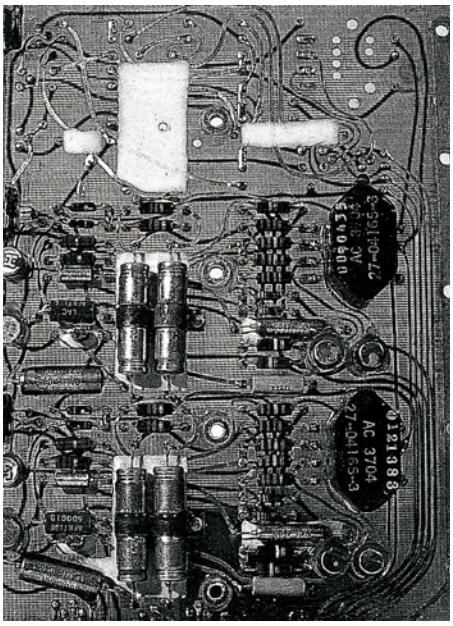
39,321 sq.ft.

Figure 3.34, *Mummers Entry Sequence*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.

Figure 3.35, *Mummers Site Plan*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.







DESIGN CONCEPTS

Diving into the electronic age, Johansen analyzed a circuit board and translated it into an architectural expression. He examined the elemental functions of a circuit which consisted of a base, components that were plugged into the base, and subcomponents that exactly defined what the components. Also, these components could be attached and detached with wiring. The adaptation of these components and wiring became the basis of the theater's functions.

Figure 3.36, *Mummers Design Concepts*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.

Figure 3.37, *Mummers Geometry Analysis*
Schneider, L. (2012). *Mummers Geometry Analysis.* [Print Graphic]

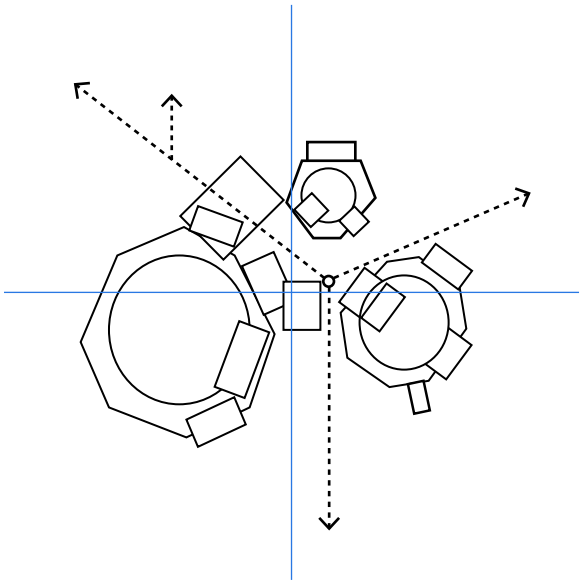
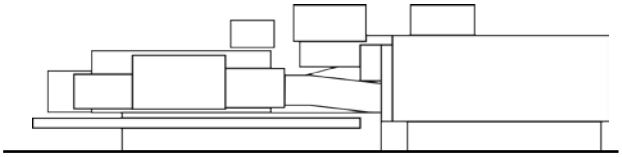


Figure 3.38, *Mummers Mass Analysis*
Schneider, L. (2012). *Mummers Mass Analysis.* [Print Graphic]



GEOMETRY

The geometry consists of three main circular shapes with many different sizes and shaped supporting parts. It is hard to pinpoint the exactly geometry for it is a free-flowing jungle gym of parts and shapes.

MASS

Johansen has delineated three main masses for the theaters, and supported them with separate functioning connection elements. He has designed and constructed his first bubble diagram sketches while allowing the user to "act" in the process.

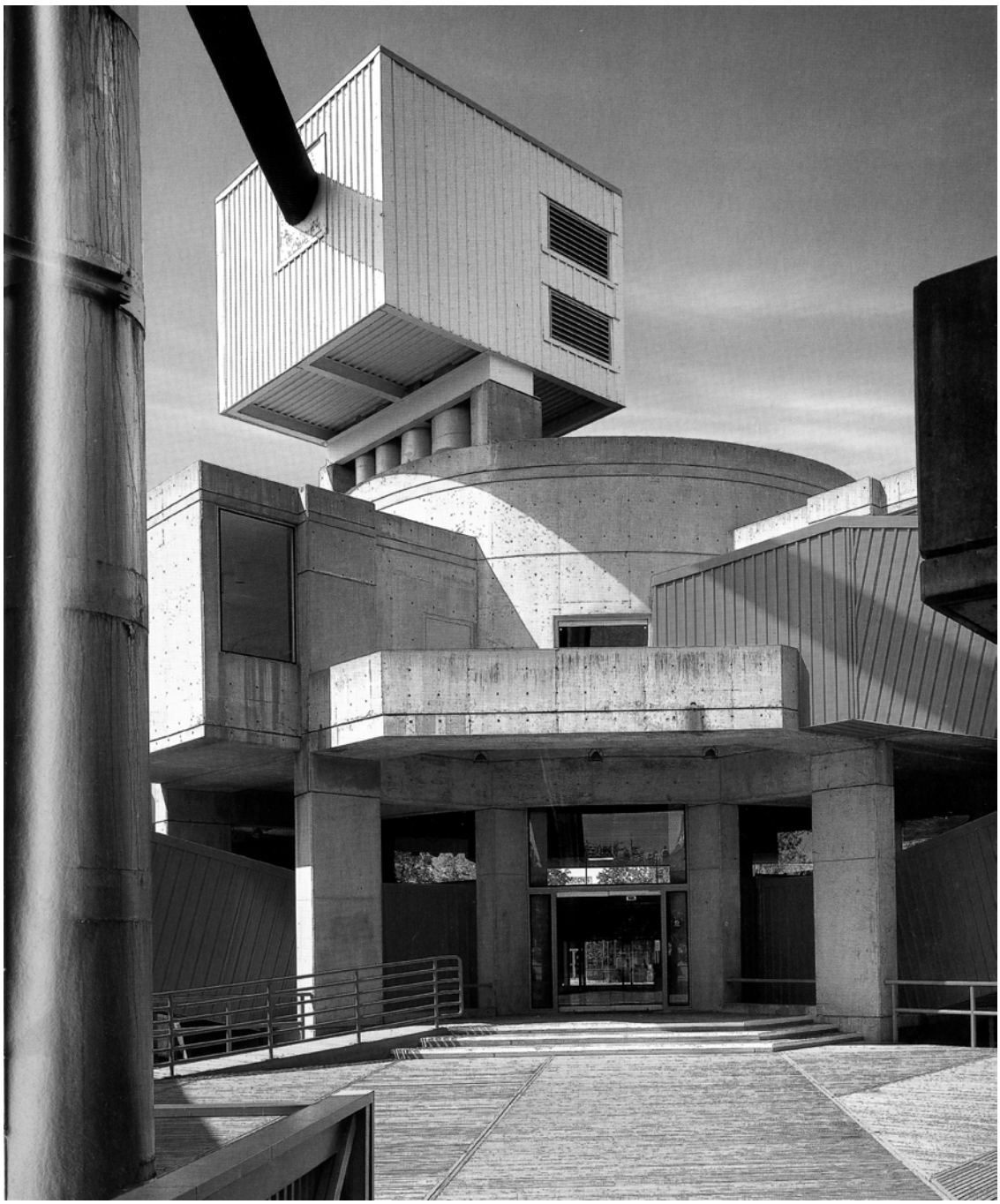


Figure 3.39, *Mummers Main Entrance*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.

Figure 3.40, *Mummers Night*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.

Figure 3.41, *Mummers Hierarchy Analysis*
Schneider, L. (2012). *Mummers Hierarchy Analysis.* [Print Graphic]

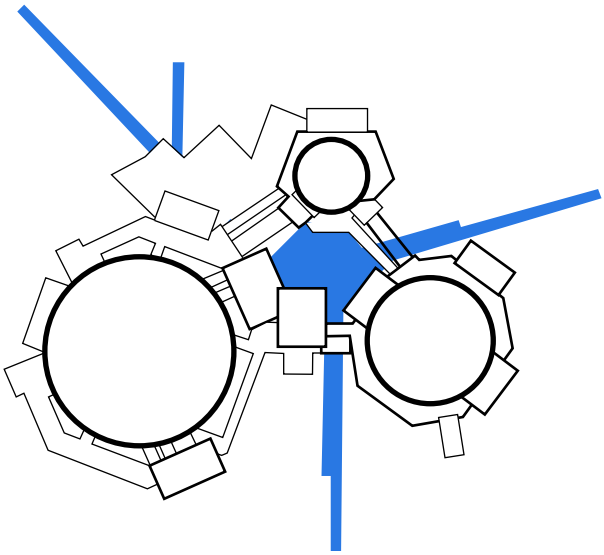
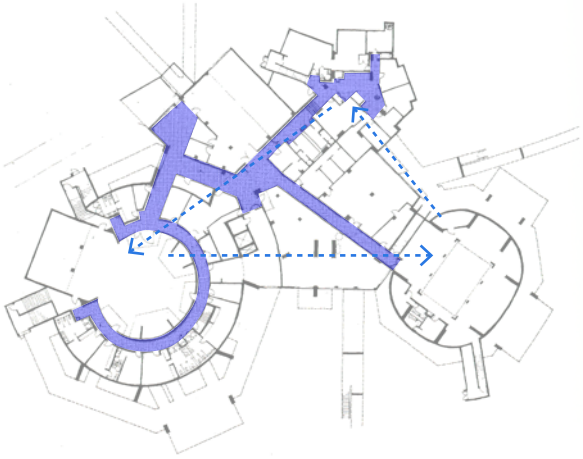


Figure 3.42, *Mummers Circulation to Use Analysis*
Schneider, L. (2012). *Mummers Circulation to Use Analysis.* [Print Graphic]

Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.



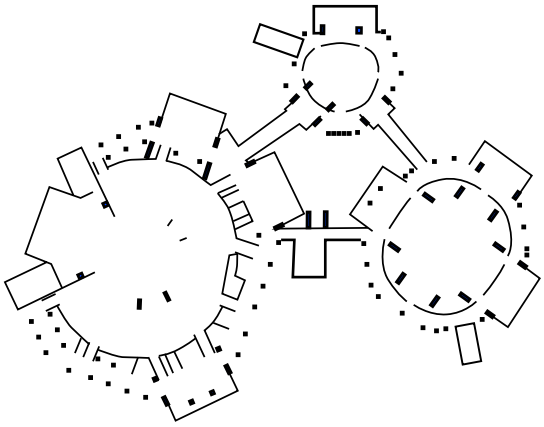
HIERARCHY

The arrangement is separated in between three theaters and five supporting connection parts. The theaters are the most prominent circles or main components, and the supporting geometries, or "subcircuits", become the circulation, mechanical, and lobby spaces. The subcircuits are divided into five areas: (1) a corridor layout within the base connecting

CIRCULATION TO USE

all understage areas; (2) a confluence of paths by means of bridges connecting the sidewalks; (3) the automobile circuit passing under these bridges, connecting entrances, parking, and service; (4) the theatergoer's tube system which leads ticket office to seating; (5) the overhead mechanical distribution (Johansen, 2011).

Figure 3.43, *Mummers Structure Analysis*
Schneider, L. (2012). *Mummers Structure Analysis.* [Print Graphic]

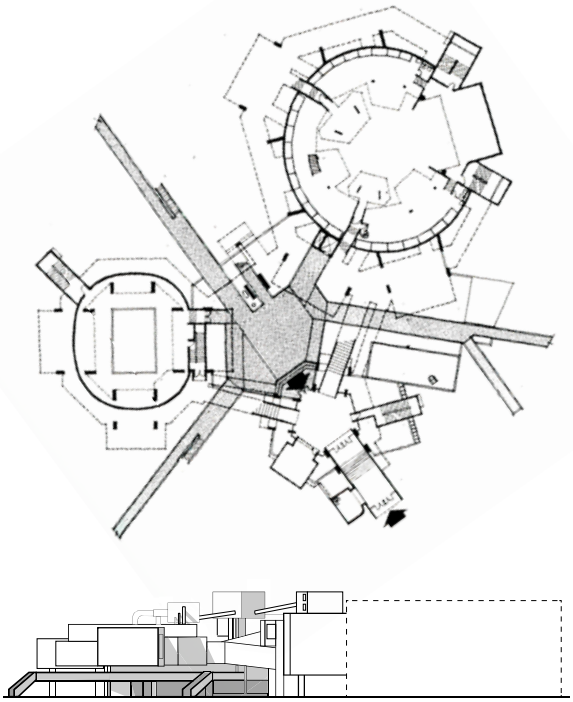


STRUCTURE

The main structure of the three theaters and lobby spaces are concrete. Concrete was a typical material choice during the time; however, Johansen went with a lighter, less expensive sheet metal for the rest of the building's components. Illustrated above are the concrete foundation walls and supports.

Figure 3.44, *Mummers Plan to Elevation Analysis*
Schneider, L. (2012). *Mummers Plan to Elevation Analysis.* [Print Graphic]

Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.



PLAN TO ELEVATION

The building seen in elevation is Johansen's personal three-dimensional circuit board. The elevation drawings could not be produced in such a building. "I drew plans and sections and tied them all together. There was no way to do an elevation. I said, 'good luck,' on the bottom (Johansen, 1995). Above is a drawing of how one would begin to look.

Figure 3.45, *Mummers Interior Theater*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.

Figure 3.46, *Mummers Concert*
Johansen, J. M. (1995). John m. johansen: A life in the continuum of modern architecture. Milano: L'Arcaedizioni.

SUMMARY

After analyzing each typological case study, I have gained a great deal of insight regarding different processes used in a design solution. The spaces created offer a direction to where architecture in the past has gone, and what social and culture boundaries may have been hard-pressed. Each case study offered solutions to similar challenges I will be facing with a Social Mediatheque.

Each building had certain design characteristics I could take apart, analyze and interpret for future use. For example, there were instances where one or two had a particular feature I thought was important, but the third was severely lacking. It was these differences that will be evaluated to help inform my design process.

All the buildings analyzed had a similar connection, people ultimately become part of the process. Johansen respectfully states, "To be part of the process is to affect part of the process and therefore be a part of the performance" (Johansen, 1995). In the Amir Building, the core circulation and atrium is designed how a person experiences a museum. Wondering aimlessly from exhibit to exhibit, a person wants to be guided but also have the luxury to socialize. The atrium twists from floor to ceiling connecting the galleries as a piece of artwork, always allowing the users to come back to a central area. This similar in Musashino where a single wall becomes a personal connection with the user. A forestry of books stacks tower into the atmosphere while graciously allowing the user to be immersed within the building. Furthermore, Johansen's Mummers Theater has gone above and beyond to allow the user to experience the process, and ultimately become part of the performance. Its chaos and wonderment offer the user to experience each space as they please. The circulation of tubes or pathways leads to different stages where fortune or misfortune, tragedy or comedy, will unfold. The user must choose their destiny; therefore become a part of the process.

HISTORICAL CONTEXT

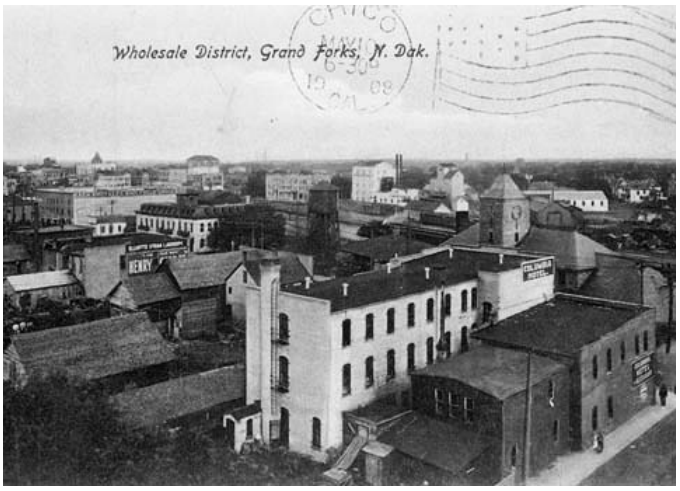
SITE HISTORY

The site chosen for this thesis is located in the downtown historic district of Grand Forks, North Dakota. Grand Forks has a strong and prosperous community, coming from various historical backgrounds and professions, who emigrated to find wealth and well-being on the beautiful plains. An evolution of prospering economic, industrial and agricultural industries have laid the foundation for a place that is silently one of the leading and continually growing places to live in United States.

After the Native Americans, the first visitors to the area were fur trappers and traders who set up an economic trading post in the present day area. Located at the convergence of the Red River and Red Lake River, Grand Forks was a suitable location for shipping and receiving goods up to Fort Gary (present day Winnipeg). With the arrival of the steamboat and Captain Alexander Griggs, Grand Forks became not only a trading post but established itself as a stimulated economic town. The land settled by Griggs, what is now downtown Grand Forks became the site for a nine-acre town (Tweton, 1986).

Upon the arrival of the Great Northern Railroad and Northern Pacific Railway in 1880 and 1887 respectively, Grand Forks experienced a rapid growth of merchants and professional people from Minneapolis and other cities. As technology increased, old wood-frame buildings were replaced with five-story brick buildings that dominated the community's skyline. Just as the town's population and industry were rising quite rapidly, Grand Forks was chosen as a site for a US Air Force base. This brought a myriad of new job opportunities for the community's current and future residents (Tweton, 1986).

Grand Forks, along with many other cities in the nation, experienced a "decentralization", as Tweton describes it, or an outward movement to suburban living. The decentralization movement led many cities, including Grand Forks, to ignore the historic downtown center



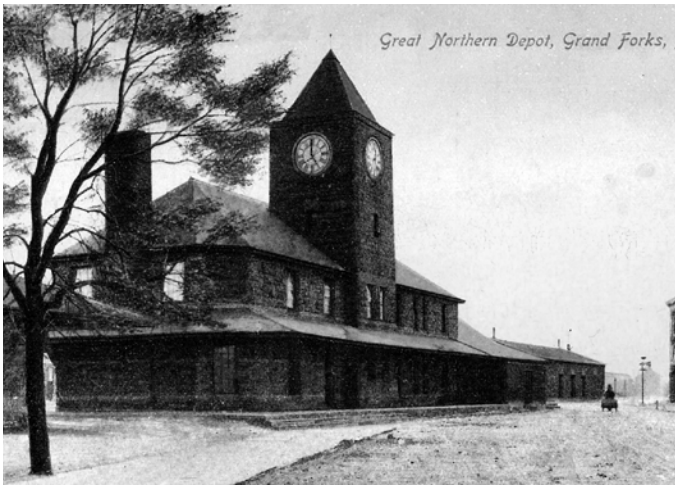


Figure 3.47, *Grand Forks Penny Postcards*
US Genweb Archives. (n.d.). *Penny postcards from north dakota.* Retrieved from http://www.usgwarchives.org/nd/grandforks/postcards/ppcs-gf.html

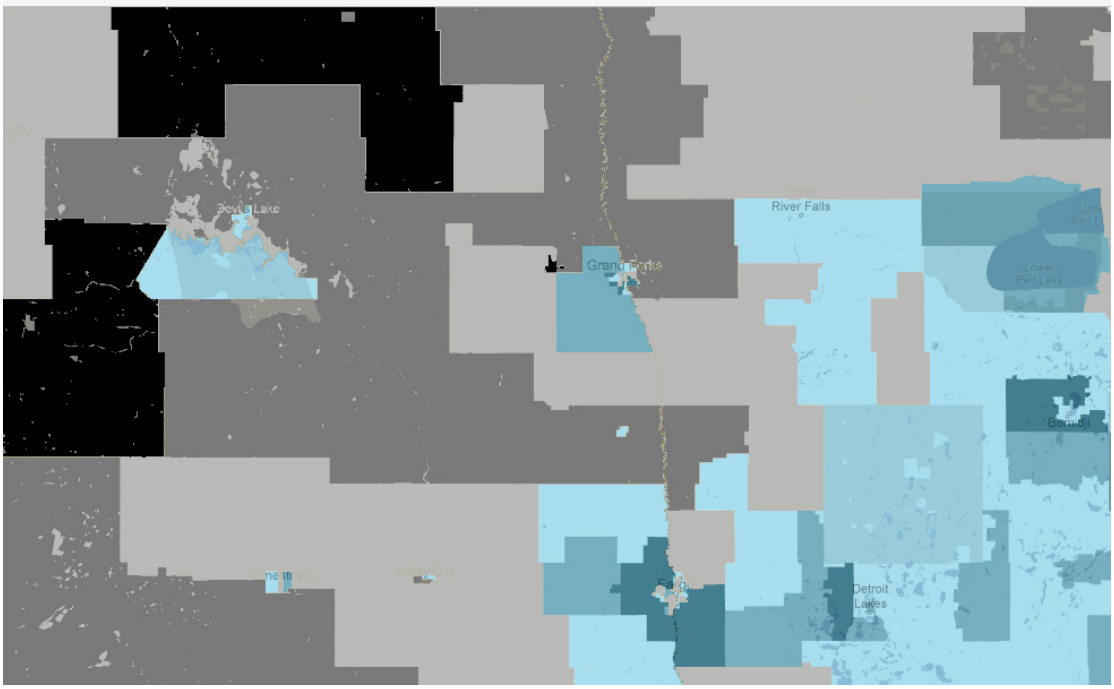
Figure 3.48, *Grand Forks Flood*
Hylden, E. (Photographer). (1997). *Come hell high water.* [Web Photo]. Retrieved from http://www.grandforksherald.com/

and relocate housing, schools and businesses to its perimeters. Over time society has neglected the pre-World War urban culture, which has left vacant downtown lots and unkempt historic buildings.

The Flood of 1997, which caused an estimated loss of over one billion dollars to the community, was a major disaster of flood and fire that still has lasting influence on social and economic growth in the city. The destruction left more than 1,000 houses and nearly 500 other structures to be demolished for reasons such as: health and safety, flood-damage beyond repair and to clear land for a new flood protection project (City of Grand Forks, 2007). Although physically and emotionally devastating to the community, the flood offered the city an opportunity to plan, rebuild and energized its economy. After receiving help from all over the country and 300 million dollars in federal aid, Grand Forks has not only recovered, it has flourished. Major urban planning and construction resulted in the following being built: 985 single-family dwellings, 594 townhouses, 1,328 multi-family units, 213 commercial structures, and 56 public buildings (City of Grand Forks, 2007).

After years of urban flight, cities alike are finding the appeal of downtown living. The 1990's trend marks a reversal of the post-war decentralization and brings about a new urban living movement. Figure 3.50 illustrates the vast population movement in the last decade from rural and suburban areas into the urban cities. "I think it is likely to continue for the next fifteen years," says John McIlwain, senior fellow for housing at the Urban Land Institute. "Boomers are aging and people think of cities as a good place to retire" (Christie, 2006). Young professionals also account for a high percentage of the urban growth. Attracted to nightlife and carefree living, today's young generation of urban dwellers is aiding the revitalization of the city's downtown. "Since the flood of 1997, the City of Grand Forks, and especially its downtown have been revitalized by redevelopment, investment and a renewed interest in living and working downtown."

CHANGE IN POPULATION SINCE 2000



Over 20% increase
10% to 20%
0% to 10%
-10% to 0%
-20% to -10%
Over 20% decline

Figure 3.49, *Change in Population*
Christie, L. (2006, June 16). Cities are hot again. CNN Money, Retrieved from http://money.cnn.com/2006/06/15/real_estate/return_to_cities/index.htm

With the recent shift of economic growth and prosperity in the region, Grand Forks has assigned a Downtown Study Group to establish a plan of redevelopment and infill to the downtown area. This re-imaged downtown will result in a new Corporate Center, restoration of historic buildings, upgraded infrastructure, streetscape enhancements, unique public art spaces and mini pocket-parks (Metroplains, 2012).

LIBRARY REVITALIZATION

Is the printed word dead? Have we seen an end to the long, repetitive rows of countless books patiently awaiting their retrieval? Has an evolution of the digital age inherently caused the death of the book?

Although people often forget, books are technologies too, that will have to share its dominance with any other form of technology or media. A library instead of being a place to share knowledge has a secondary role—a social role. A library should be more than a place to read books; it should also be a meeting place and a place for social interaction and education. Robert Darnton of Harvard University makes a good point that "libraries are the one place in the world where books and technology meet. And since copyright issues will most likely never be resolved, people will always need to find a physical book on a physical shelf" (Darnton, 2009).

The history of the printed word dates back over several thousand years. Other than the invention of codex and movable text over these thousand years, there have not been any mind-blowing developments to advance the printed word. However, with the advancement of technology and the advent of internet in 1969, the digitization of the printed word has socially and economically changed today's lifestyle (Raab, 2010).

As society is immersed in a technological change, there is a natural tendency for people to get caught up in the moment and disregard everything in the past. This notion seems to be common in many peoples' lives, but none more

than the idea that the printed word is inferior to digitization. The nation is undeniably immersed in new technological era with everyone receiving immediate information via digital device and/or smartphone. These digital devices are transforming how we live in all kinds of thrilling ways, and we've only begun to explore their potential (Tracy, J., Gray, L., Carr, N., & Powers, W., 2010). While the availability of these technologies is used constantly, they are no means of permanent replacements of the old tools that continue to serve useful purposes.

The understanding that libraries and books are outdated is based on a common misconception. Just as the television supposedly would kill off the radio or vehicles would cause trains to become obsolete, the e-book is supposed to terminate the printed book. Why does the decision have to be one over the other? In past years libraries have experienced a substantial decrease of daily use, however; according to the American Library Association, public libraries in the United States have seen numbers rise 23 percent between 2006 and 2009 (Murdock, 2011).

Reconceptualizing the library starts with knowing the problems of the past and re-imaging and branding the library to high modernism. The problem with the historic and archetypal libraries is that they have a tendency to be generic and unsociable. Historical lineage of libraries consist of the political statement of Michelangelo's Laurentian Library, in Florence, to a neoclassical twist of the Boston Public Library, and the Carnegie-funded neighborhood libraries that stretched nationwide encouraging people to better themselves. The modern library has always been something of a community gathering space—a place to meet, educate and observe. With the advancement of computing technology and overwhelming access to social media, future libraries must be hybridized to encompass all practical and social needs. They must be reconstructed and re-imaged to remain vital to our cities. "The brutal economic climate poses an obvious challenge for architects. It also creates an opportunity for them to help libraries make a transition to an

Figure 3.50, *Historic Carnegie Libraries*
Aulik, J. (2011). Dakota carnegie libraries. Retrieved from http://home.comcast.net/~jaulik/dakotas.html

Figure 3.51, *Carnegie Library Building*
Schneider, L. (Photographer) (2012). *Carnegie Library Building.* [Photograph]
(below)

Figure 3.52, *Fisher-Watkins Library*
CCHS Library Learning Commons. (2010, December 10). [Web log message]. Retrieved from http://concordcarlislelibrary.blogspot.com/2010/12/cushing-new-model-for-libraries-in.html

increasingly digital world" (Murdock, 2011). These transitions become more than just providing meeting and conference rooms, or installing electrical outlets for multiple users. The changes must overcome and separate from the past and look at current and future social trends. A new trend in contemporary library design involves sustainability, natural light and embracing increased noise. "Libraries must satisfy as many different user needs as possible with a range of flexible spaces: some quiet, some active" (Murdock, 2011). Past libraries controlled user's movements to a central aisle, while a new conceptualized library will allow the user to navigate uncontrollably. Books, digital media and social spaces become the library's future with its ability to be a destination where people come together and socialize.

With the digitization of libraries, decreased shelving opens up space for social compartmentalization and dynamic, interactive learning spaces. In 2009, the Fisher-Watkins Library underwent a digital transformation to a more sociable and user-friendly environment (Cushing, 2012). In place of book stacks, the library replaced the majority of its books and replaced them with electronic media. They are spending over 135,000 dollars on digital monitors, laptop-friendly study carrels, a coffee shop and industrial cappuccino machine. When asked about the technological re-imaging of the library, head master of Cushing Academy James Tracy stated, "When I look at books, I see an outdated technology, like scrolls before books. We're not discouraging students from reading. We see this as a natural way to shape emerging trends and optimize technology" (Abel, 2009). The major design change might have been prescient by dismissing over 20,000 books for Kindles, but it was more than just a digital re-imaging; it was the installation of new furniture, a café, and a social environment they encourage (Murdock, 2011).

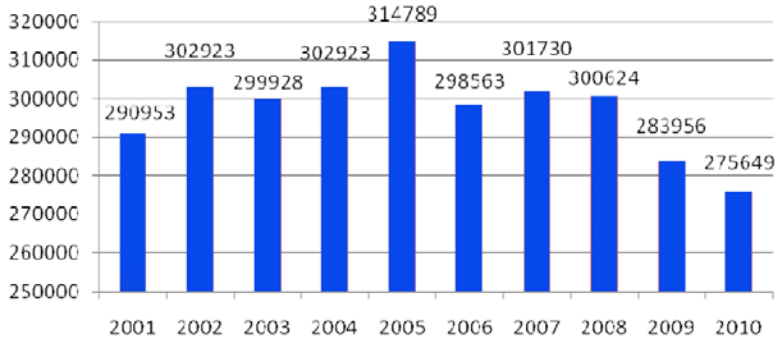
The current Grand Forks Public library has reported levels of use higher than ever before. In 2010, the library circulation rate averaged 2,355 items per day, 789,983 loaned items for the year, and issued out 3, 681 new library

cards to users throughout the region (Grand Forks Public Library, 2011). What is wrong with the current library? Not enough space and patrons not coming into the library as often plague the library from running in a safe and effective manner. The current library was built to accommodate 60,000 books, records, prints, magazines, pamphlets and maps; whereas its current collection size exceeds 267,000 pieces of media. To accommodate the media, the book stacks have been placed closer together resulting in tight spaces that fail ADA requirements. Also, the reported patrons that are checking out material are not coming into the library as frequently. However, internet users have exponentially increased annually from 2005 to 2010. These growing statistics along with the failed ADA building requirements are a few of the reasons why the Library Board has contracted services to assess the current building, determine usage levels, project future growth and ultimately estimate a new proposed building.

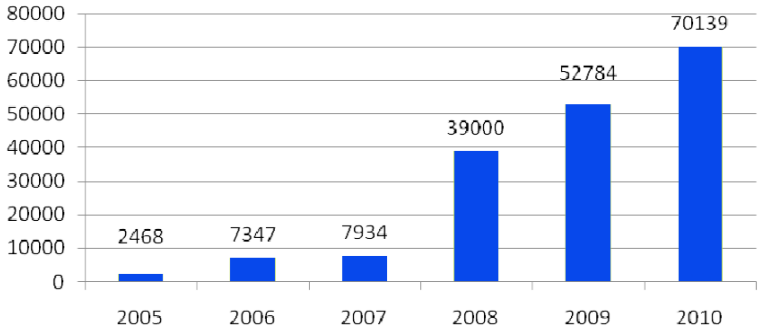
We don't know the future of the library, and we don't know the future of the book. Studies may show in the inclination of textual library use or that libraries need to go entirely in a digital format, but all that can be said for sure is that the future of libraries must be a hybrid of the past and the social and technological present. Grand Forks has a rising population of hardworking, educated young professionals that would benefit greatly from a second public media institution. A social mediatheque, proposed in centrally downtown, not only becomes a cultural city icon but a place for social interaction and educating the public.

Figure 3.53, *Grand Forks Public Library Statistics*
Grand Forks Public Library. (2011, March 3). Frequently asked questions- library revitalization project. Retrieved from http://www.gflibrary.com/index.aspx?NID=102

TOTAL LIBRARY PROGRAM ATTENDANCE



NUMBER OF USERS OF PUBLIC INTERNET COMPUTERS PER YEAR



THESIS GOALS

ACADEMIC

The academic-base goals of this thesis project revolve around the understanding and knowledge for architecture. The primary goal is to educate and provide insight to future architecture students who want to make the world a better place, not only for their generation but for future generations alike. The ideas and solutions presented are meant to be a tool for understanding my design processes that can inevitably be used for further interpretation. Research within this thesis will help others understand the design concepts as well as the practical implications of research in a graduate thesis.

To create a sense of place in an urban environment that is continuing to rebuild and regain its historical entity.

To explore how today's built environment can be shifted towards a more social and technological realm.

To provide a place for people to educate and instill the notion of technology in the built environment.

To design a structure that has the ability to adapt to a myriad of functions it will hold.

PROFESSIONAL

The professional goals associated with this thesis rely heavily on execution, exploration, time management and continued involvement in the architecture field. Executing at the highest level possible will be a necessary transition to the professional field. Exploring multiple solutions to a problem will result in a well-rounded and diverse project. Using the time allotted to fully investigate all concepts and possibilities while achieving deadline goals will not only cut down on long hours and late nights but will allow for the most efficient and effective design solution. The final result will consist of a well-developed thesis project, professionally displayed and communicated effectively to my audience.

PERSONAL

This thesis will allow me to engage in a sophisticated and comprehensive process that will lead to a thorough and well thought out design solution. Ultimately, the only thing that personally matters is that I create something I am proud of. I often set high standards for my work and am constantly striving for personal growth. As cliché as it may sound, I do believe that you can always do better. Another personal goal is to learn. I firmly believe a person can never stop learning. I want to explore further realms of design and push my knowledge and understanding in the field of architecture to a professional level. Last but not least, a main goal of this thesis is to educate the public on how technology and social media in our society can and ultimately should be utilized to design the built environment.

QUALITATIVE SITE ANALYSIS

SITE NARRATIVE

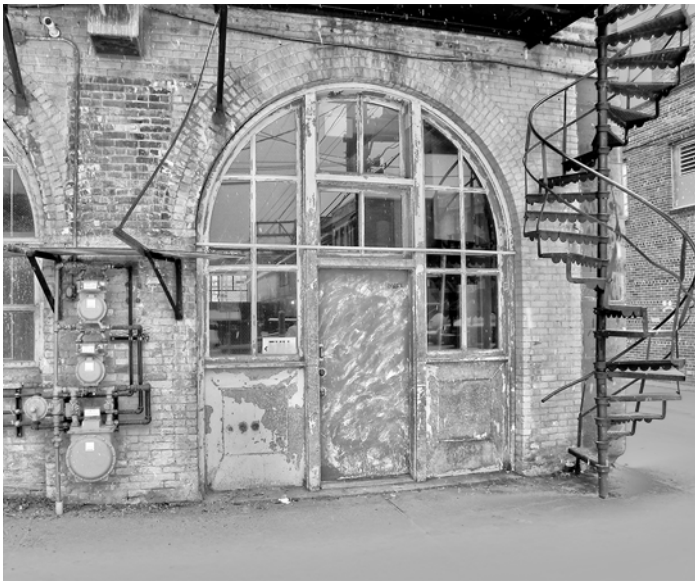
The site chosen happens to be an important void in a revitalized urban cityscape. Located at one of the most prominent and historic intersections in Grand Forks, a lone American flag stands tall on a bare parcel of property. Its existence dates back from the birth of the city while hosting either successful establishments or an out of place landmark. Currently one might walk by the site and see merely an empty plot of land, whereas another might see an idea, a solution to a problem, a profit, and a change to better the community.

Located on the corner of Demers Avenue and 4th Street, an empty parcel lies stripped of its potential. Adjacent to the site is the city's recently renewed financial district, locally owned small business retailers, popular nightlife attractions, and local coffee shops and restaurants. A string of urban pocket parks stretch outward from the riverfront Greenway and come to an end south of the adjacent building. Localized on the corner of two major streets downtown, along with the urban pocket parks leading pedestrians to the area, the site becomes a necessary point for social and educational assemblies.

As an urban site, the surrounding area is very densely built up. Directly adjacent on either side is a Subway with overhead apartments and a single two-story multi-use building. Across the street to the southwest and west house the renewed financial district with a Corporate Center, a parking ramp and the bus station. North of the site consists of multi-use buildings with popular nightlife venues and local restaurants. Likewise, continuing southeast along 4th Street will lead to popular nightlife, local restaurants and coffee shops, and city government buildings. The site has a mix of neighboring influences but lacks that certain connection where all community members can use as a means of socialization and betterment. Physically, the site is rectangular with a noticeable man made pedestrian path running diagonal across it. Brick, stone, and a sparing amount of glazing are used as a historic textural constant throughout downtown. Most of the buildings in the area have been noticeably weathered and have patchy, mismatched

Figure 3.54, *Downtown Photos*
Schneider, L. (Photographer) (2012). *Downtown Photos.* [Photograph]

Figure 3.55, *Downtown Photos*
Schneider, L. (Photographer) (2012). *Downtown Photos.* [Photograph]



physical characteristic. Graffiti and other forms of distress are sporadically visible in alleyways and underutilized areas. The site is merely flat and was flooded back in 1997. Since the construction of the permanent dike, flooding has not been an issue. Proper drainage techniques and water harvesting will play a major role in the design of the structure for it will not only give back to the community but also provide as a sustainable catalyst for future design.

Vegetation is used sparingly and is visible on the sidewalks but altogether, outside of the pocket parks, is short in supply. Vegetation must be brought in and utilized in the design of the site to provide a connection to the land, block wind, minimize snow drifts and provide sustainability. The primarily northwest and south winter winds are minimized by the tall, multi-story buildings surrounding the site. Located on a corner lot and the flatness of the site, however, will create street-level wind tunnels coming up and down Demers Avenue and 4th Street.

With the southeast adjacent building only stretching two floors, natural light becomes abundant on the site. An opportunity for solar gain capture along with the teeming amount of diffuse light from the north allows for a design solution that will become a sustainable project and provide a sustainable precedent to downtown design standards.

Growing up and living in Grand Forks, I can attest to many of the physical and personal feelings described, however, none more than the human intervention of the site and the rest of the downtown area. Grand Forks is a growing city and its downtown is in a period of re-imaging and revitalizing. Several new affordable housing projects, urban infill projects, and the renewed financial district are helping the downtown to regain its importance in the city. With the addition to these new businesses, housing and nightlife, daily human activity is abundant and steadily increasing. With a new informative amenity that is socially and culturally engaging to the pubic added to the current urban development, the Greater-Grand Forks community will see a rise in economic stability, cultural awareness, and community togetherness.

QUANTITATIVE SITE ANALYSIS

CLIMATE DATA

Wind Speed & Direction
Temperature
Humidity
Snowfall
Cloudy Days

Sunshine Days
Precipitation
Sun Path Diagram
Sunlight & Shadow Study

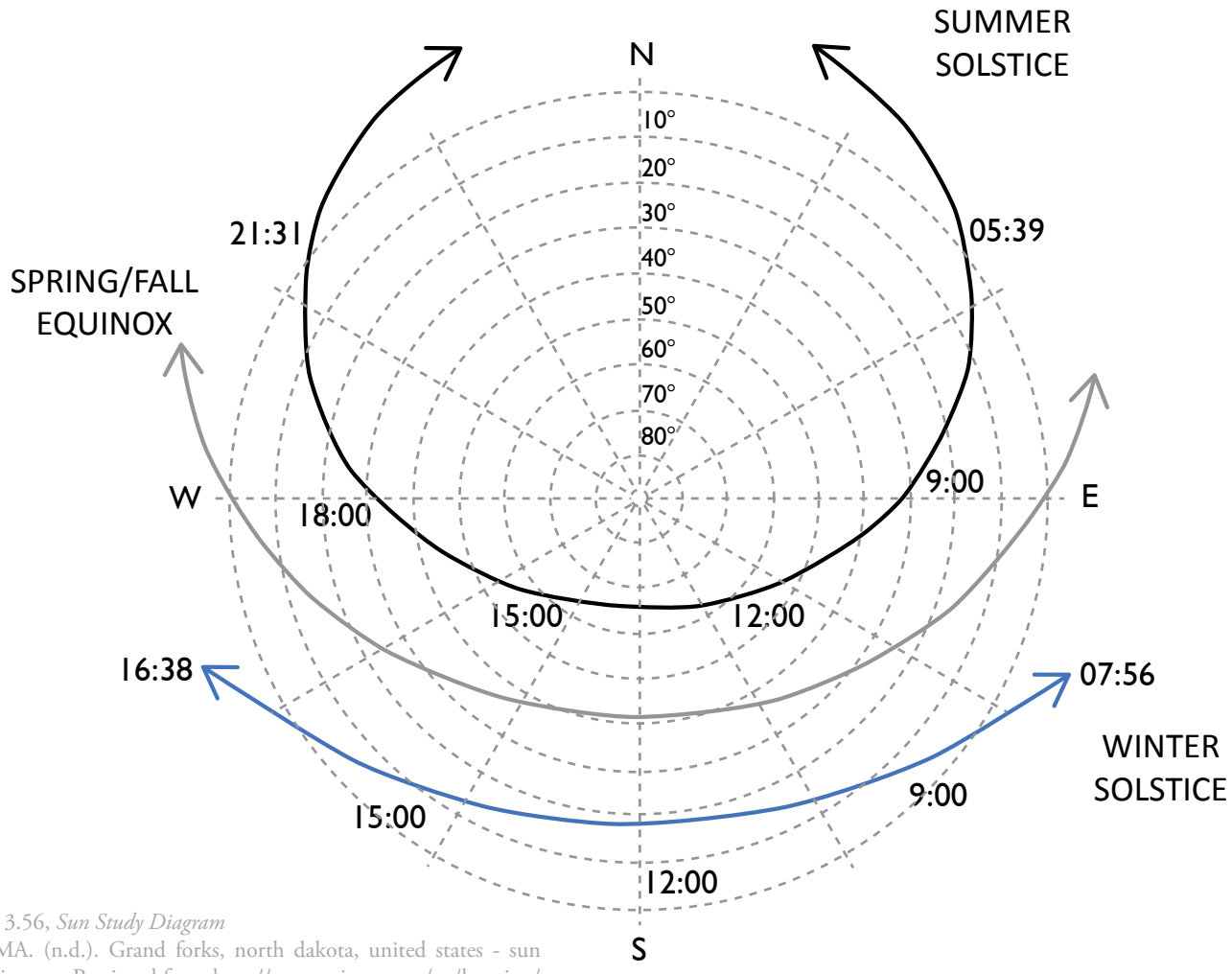
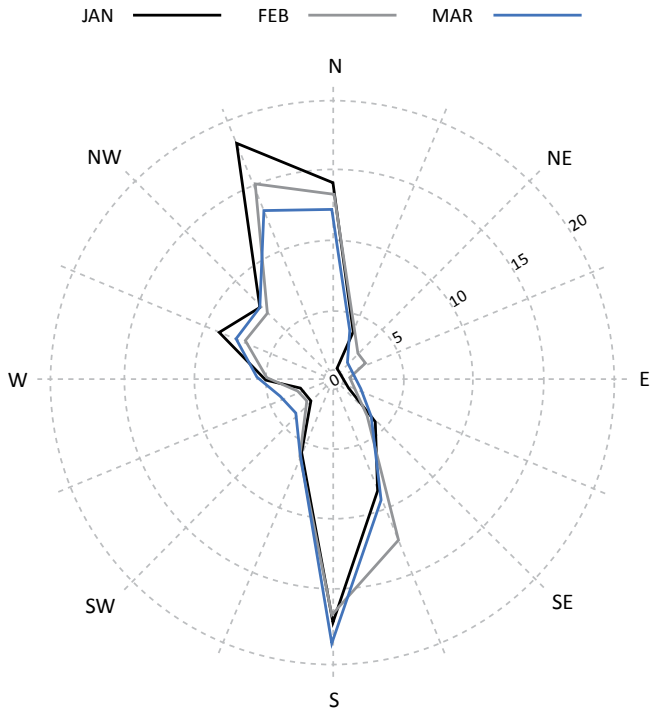
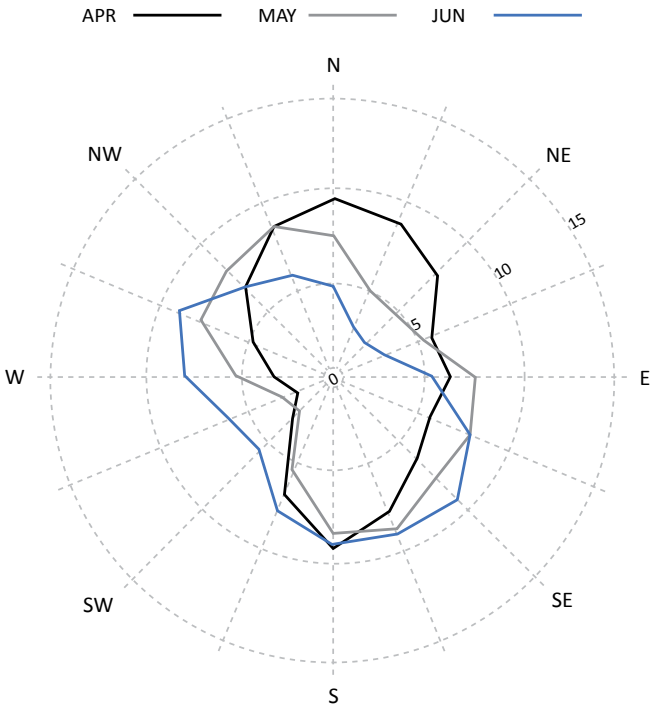
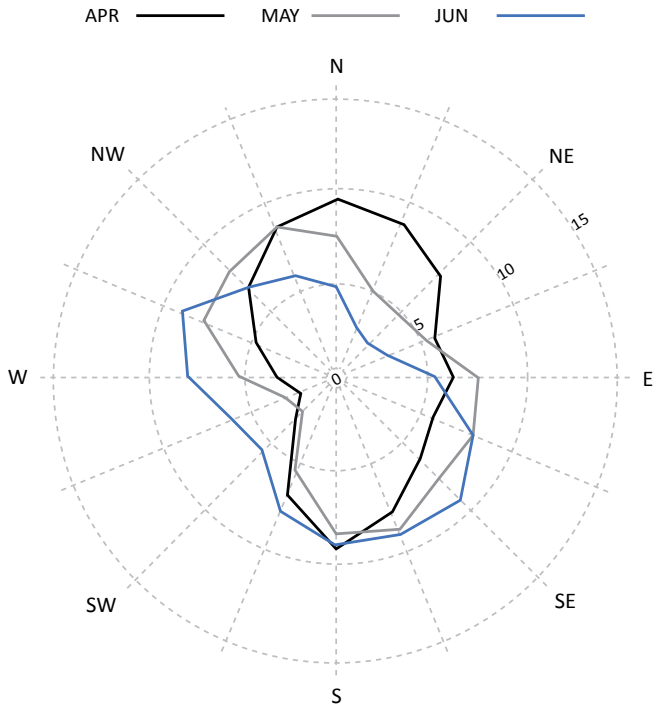


Figure 3.56, *Sun Study Diagram*
GAISMA. (n.d.). Grand forks, north dakota, united states - sun path diagram. Retrieved from http://www.gaisma.com/en/location/grand-forks-north-dakota.html

Figure 3.57, *Wind Diagrams*
Minnesota Climatology Working Group. (Designer). (2004). Wind roses for grand forks, nd (kgfk). [Web Graphic]. Retrieved from http://climate.umn.edu/wind/kgfk.htm







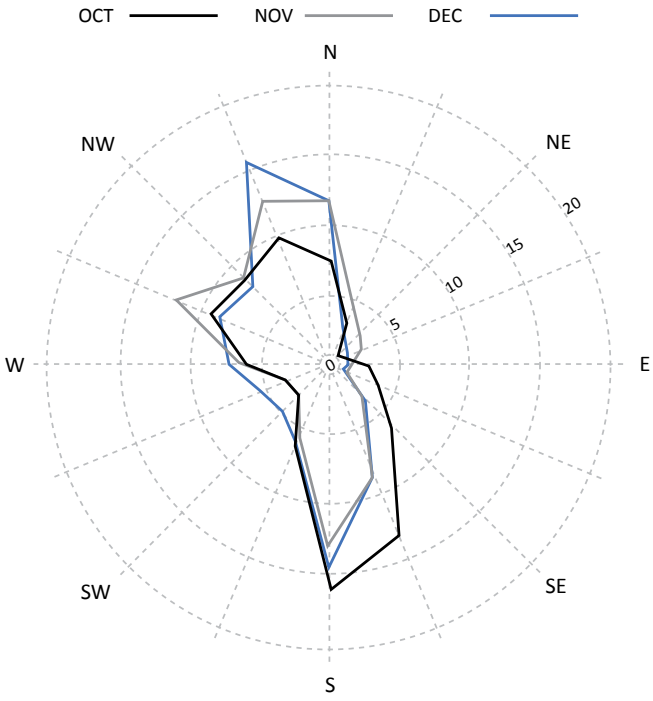
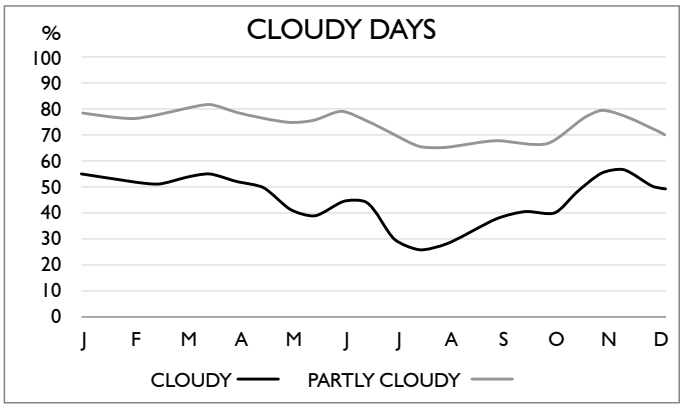
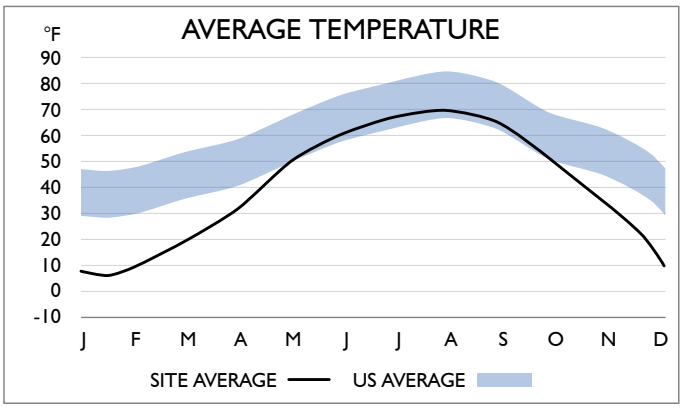
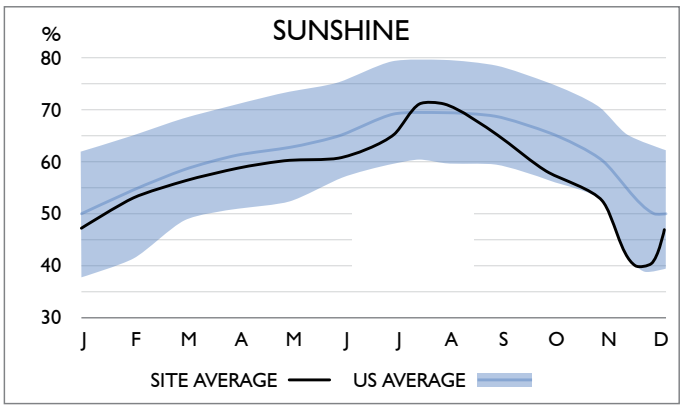
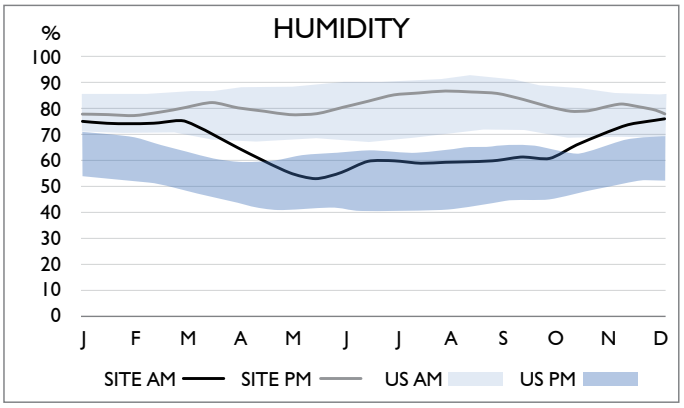


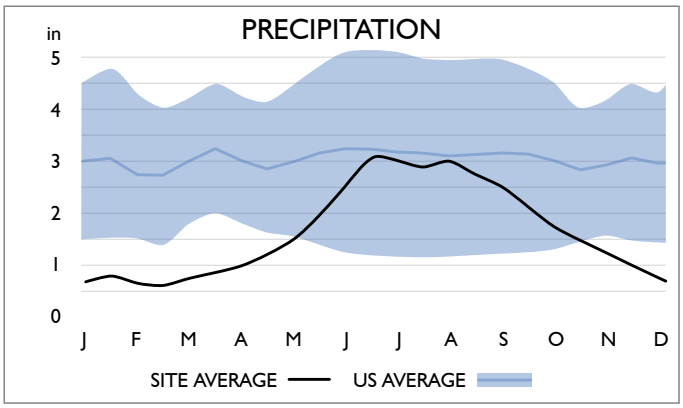
Figure 3.58, *Climate Data Diagrams Grand forks, north dakota* [Web log message]. (2012). Retrieved from http://www.city-data.com/city/Grand-Forks-North-Dakota.html











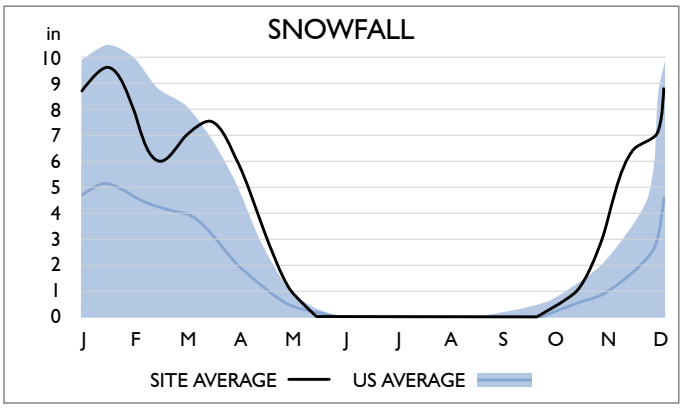
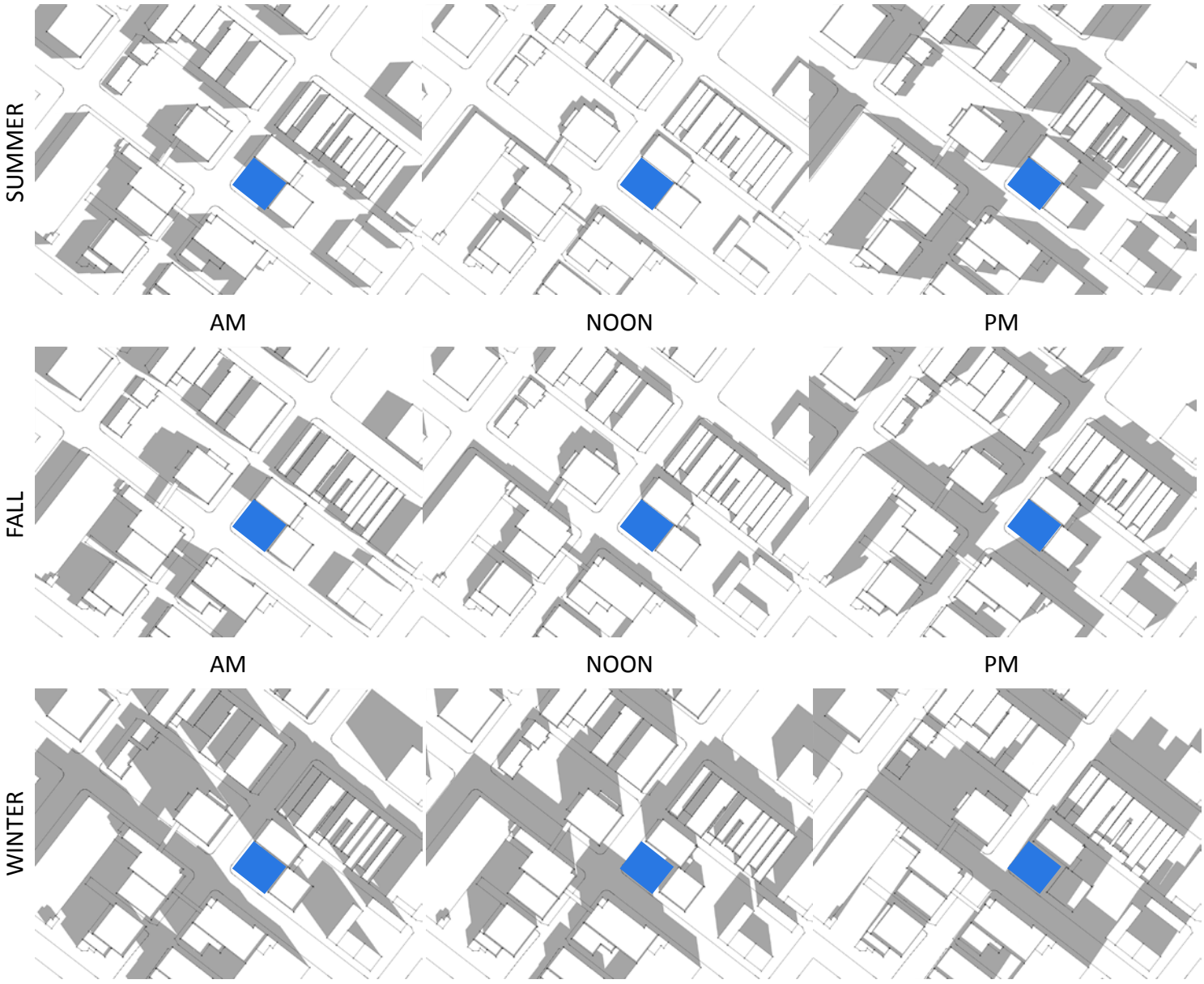


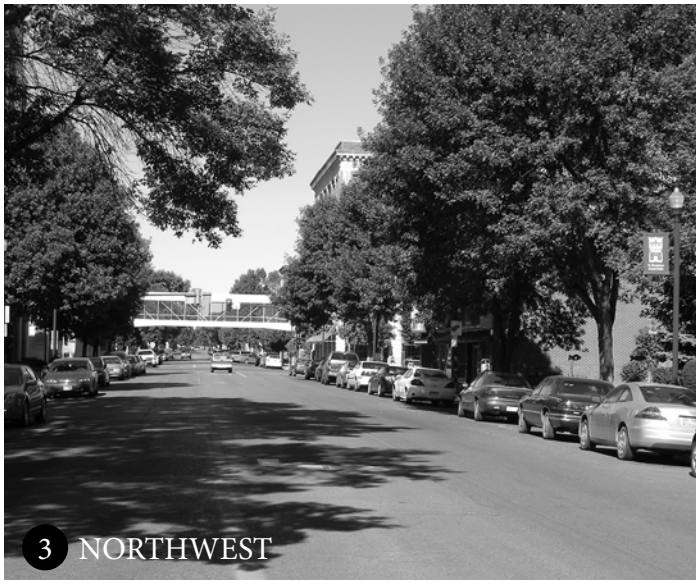
Figure 3.59, *Site Light & Shadow Study*
Schneider, L. (Photographer) (2012). *Site Light & Shadow Study.* [Photographs]



SITE RECONNAISSANCE

Figure 3.60, *Site Reconnaissance*
Schneider, L. (Photographer) (2012). *Site Reconnaissance.* [Photographs]

3 NORTHEAST



3 NORTHWEST

4 SOUTHWEST

4 NORTHEAST

SITE INFLUENCES

A further in-depth analysis of the site takes into account many different, but important aspects of the design problem. Along with the climatic influences that affect a site on a macro scale, a site also has many different tangible and intangible influences disturbing it on a micro scale. Presented in Figure 3.62 is how humans interact and influence with the site on a regular basis. Pedestrian foot and bicycle traffic occur quite frequently around the site for it is located in the heart of downtown Grand Forks. Over the lunch hour pedestrians are briskly mobile on Demers Avenue, 3rd Street and 4th Street. Many patrons working in the financial district buildings have to migrate past the site to get to local restaurants near the river. During the winter, the number of people walking and riding bicycles is minimal due to the harsh climate Grand Forks endures. The skyway system has an increase in pedestrians during these months, however, it only connects alike financial buildings. I believe by connecting the skyway system even further to public amenities and restaurants would create more downtown pedestrian circulation and social interactions.

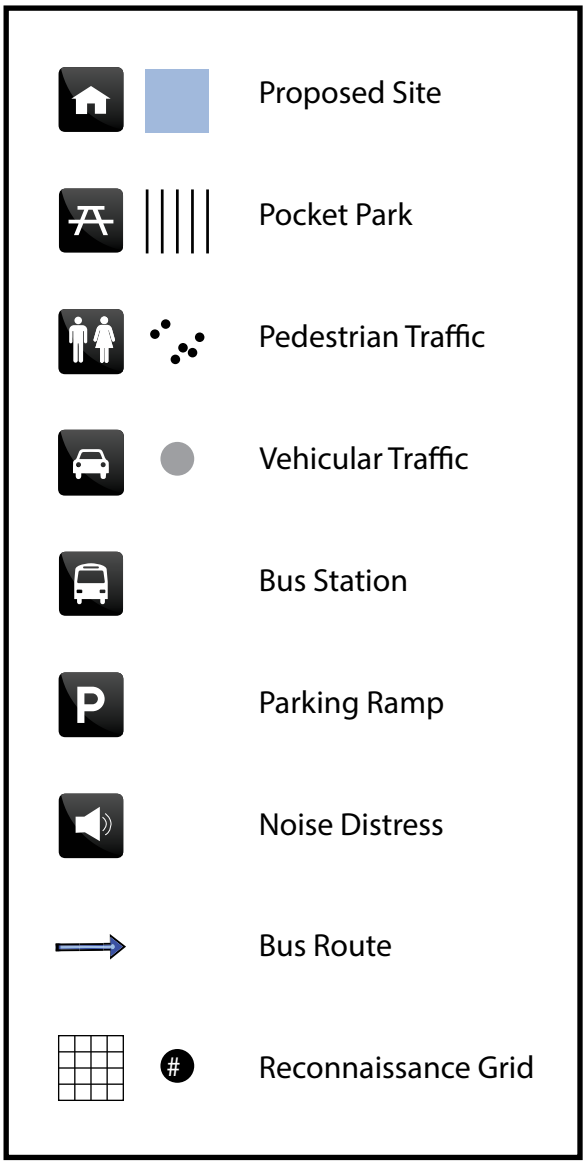


Figure 3.61, *Site Influences I*
Schneider, L. (Photographer) (2012). *Site Influences I.* [Graphic]

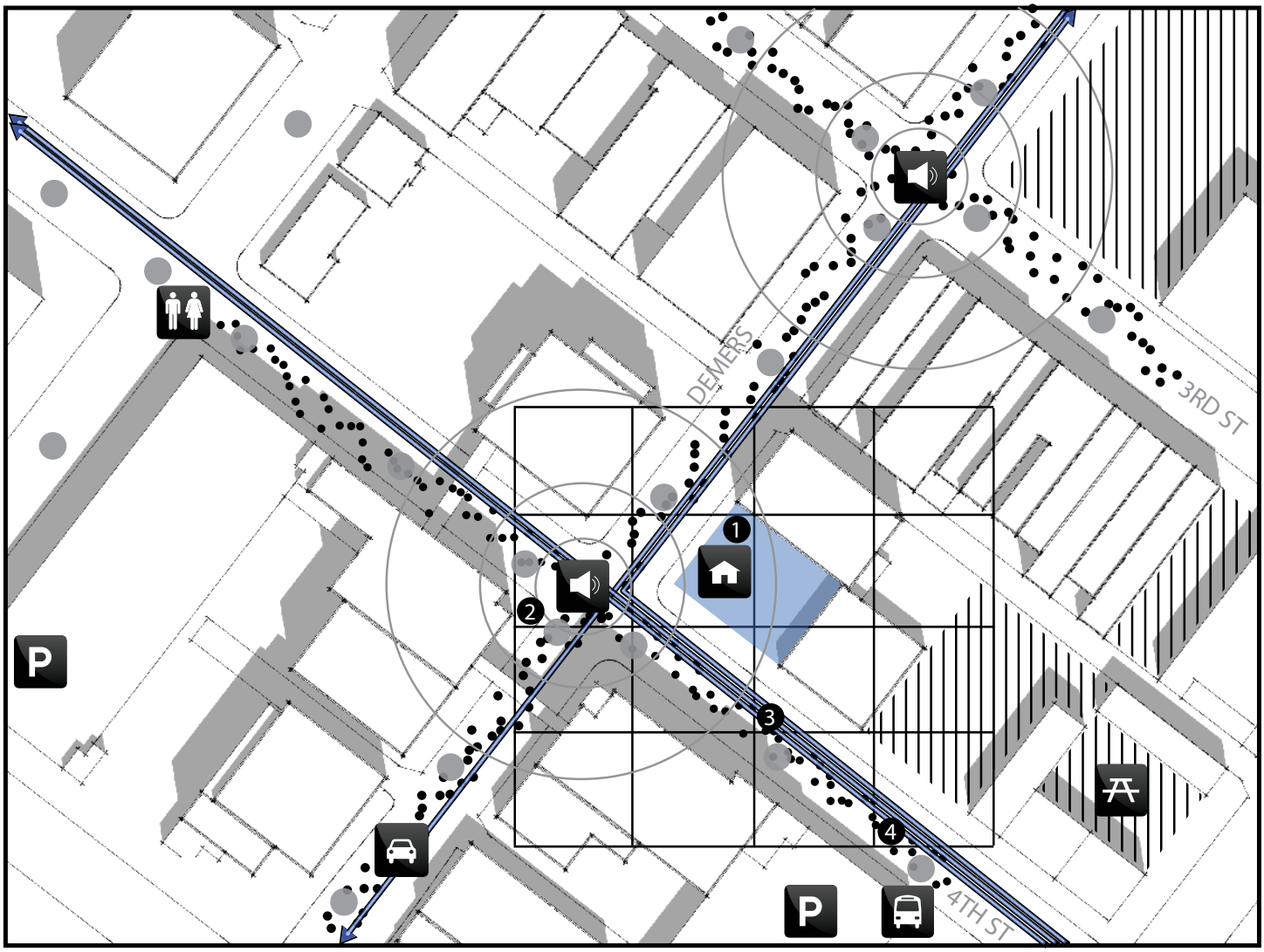


Figure 3.62, *Site Panorama*
Schneider, L. (Photographer) (2012). *Site Panorama.* [Photograph]

Vehicular traffic is at its peak in the early mornings, over lunch hours, and in between five and seven in the evenings. This causes slow moving, high volume traffic that tends to bring elevated noise distress. The frequently located stoplights house most of the traffic jams and noise disturbances during these hours. Two public parking ramps are located adjacent and a block away from the site which allows users to drive downtown for an extended period of time. Likewise, the Metro Transit Center is conveniently located at the southern end of the block, where buses circulate both Grand Forks and East Grand Forks.

Downtown Grand Forks has historically been located well within the floodplain, but with a federal donation after the 1997 Flood, a permanent dike has been installed and dramatically confined the floodplain. Figure 3.64 illustrates the difference between the past floodplain with the more recent dike confined floodplain. Also illustrated in this diagram are the different soil types present along with the

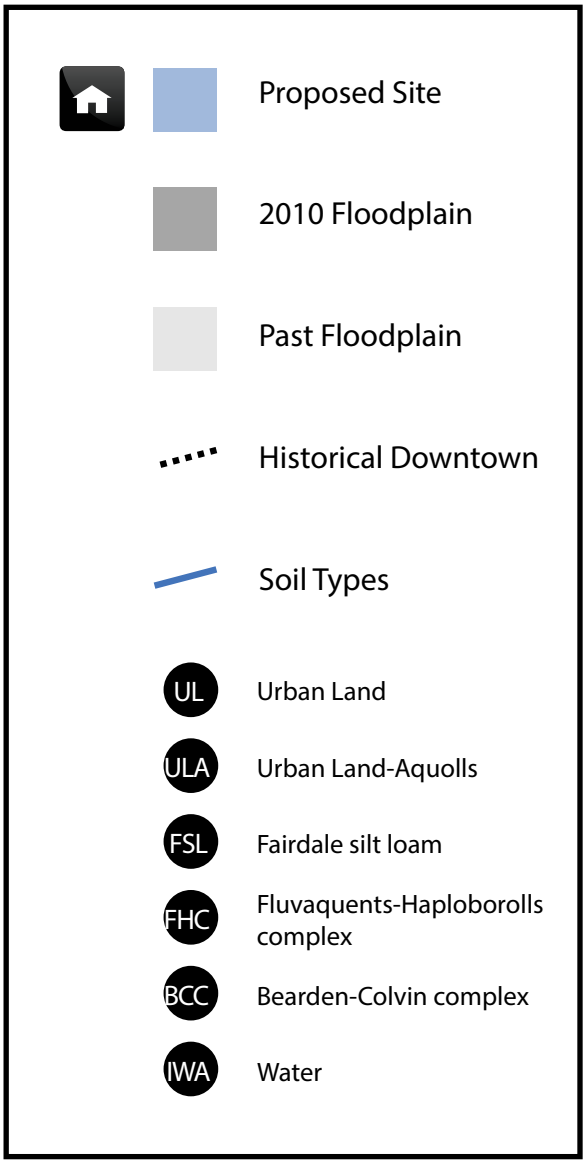
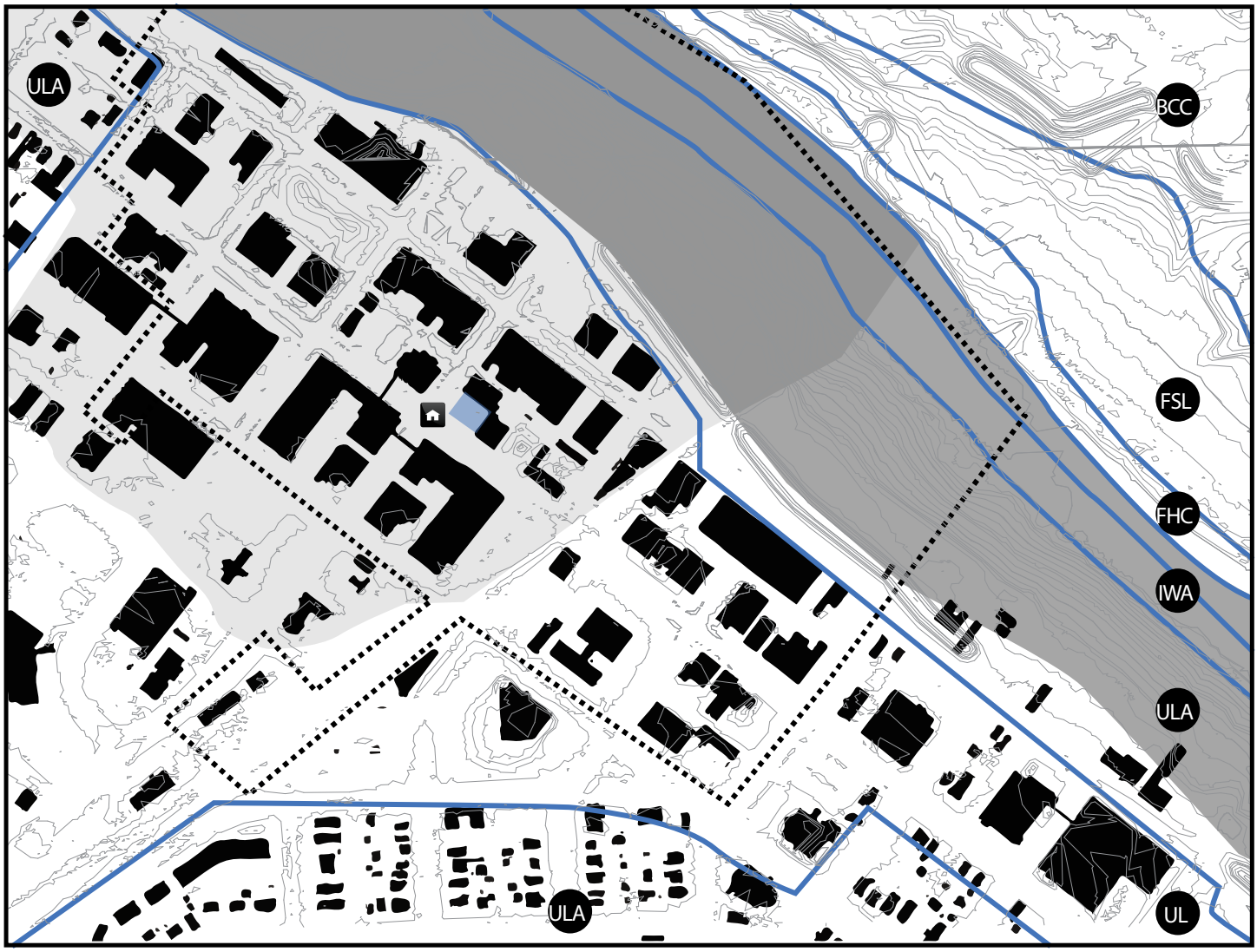


Figure 3.63, *Site Influences II*
Schneider, L. (Photographer) (2012). *Site Influences II.* [Graphic]



Urban Land	Urban Land-Aquolls	Fairdale silt loam	Fluvaquents-Haplloborolls	Bearden-Colvin
Silty	Fine silty glaciolacustrine	Alluvium	Alluvium/Glaciolacustrine	Lacustrine
Elevation: 750-1250ft	Elevation: 750-1250ft	Elevation: 650-2350ft	Elevation: NA	Elevation: NA
Slope: 0-2%	Slope: 0-2%	Slope: 1-6%	Slope: 0-30%	Slope: 0-2%
Landform: Lake Plains	Drainage: Somewhat poorly	Drainage: Moderately well	Drainage: Very poorly/ Well Drained	Drainage: Somewhat poorly/ Poorly
Frost-free per: 110-135 days	Frost-free per: 110-135 days	Frost-free per: 105-140 days		

historical downtown district line outlining the boundary of buildings located within the historical part of Grand Forks.

Displayed in Figure 3.65 are the built features located around the site, along with the city's utility lines and vegetation. Besides in the pocket parks, most of the vegetation consists of twenty foot deciduous trees sparingly located along the streetscape. There is not a single building downtown that takes advantage of a sustainable green roof. Looking at the section elevation, the elevation change is less than two percent throughout the site and adjacent sites. Most of the elevation change occurs two to three blocks northeast by the Red River.

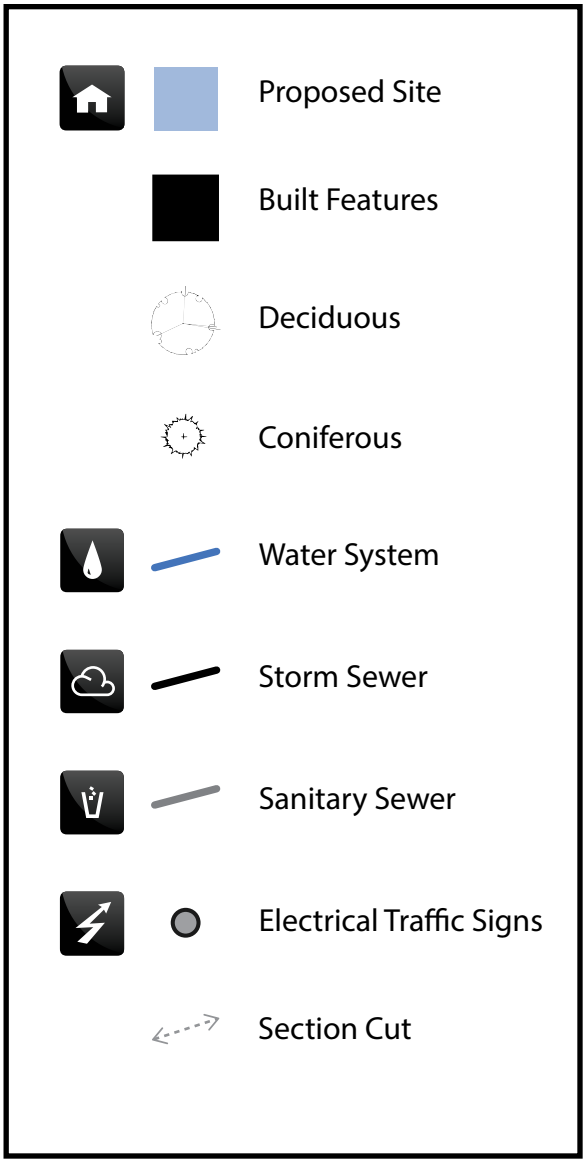
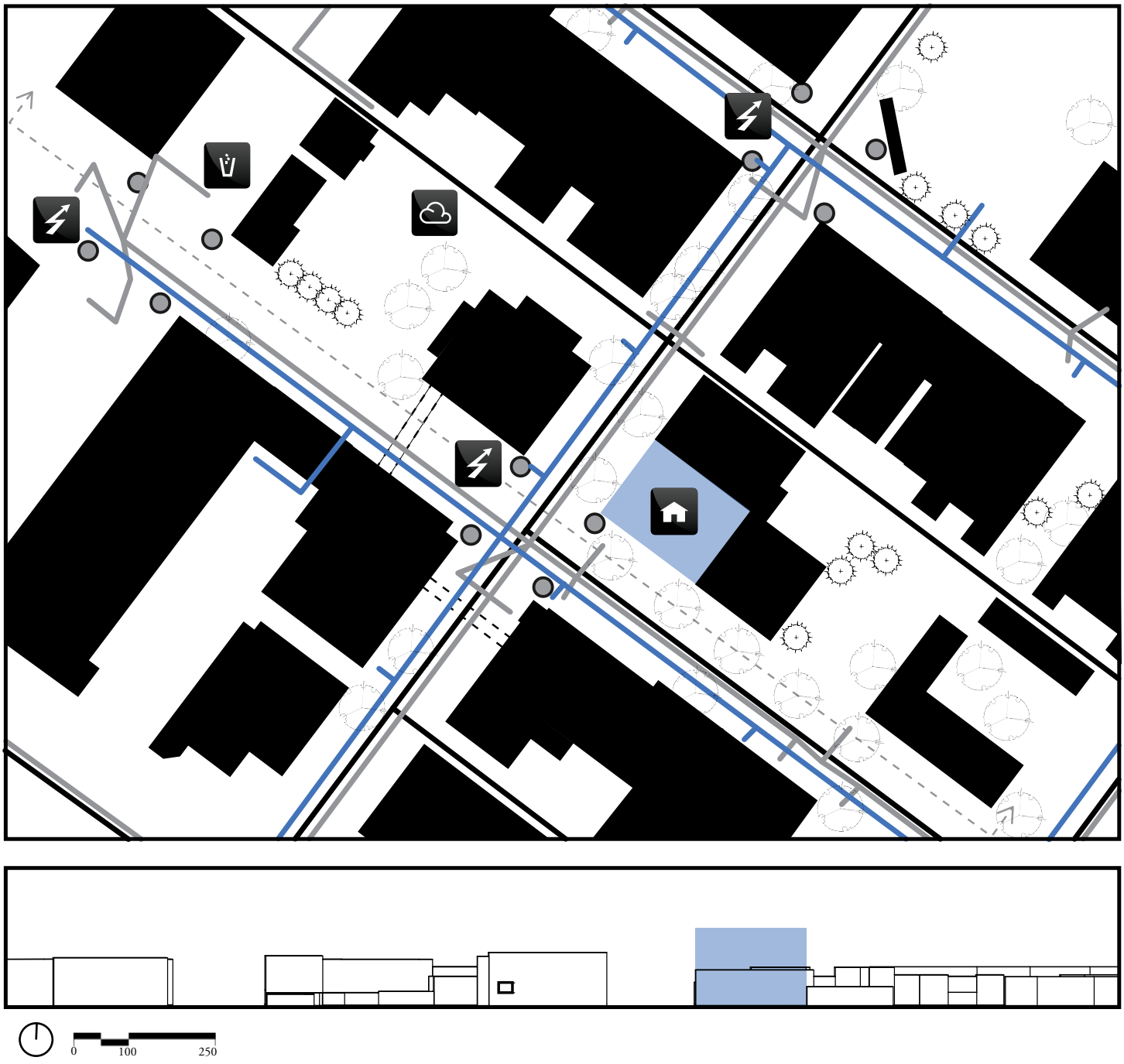


Figure 3.64, *Site Influences III*
Schneider, L. (Photographer) (2012). *Site Influences III.* [Graphic]



PROGRAM REQUIREMENTS

The program for the Social Mediatheque consists of a combination of both public and private spaces intertwined with open circulation and a multistory atrium. Flexibility becomes an important part of the design in order to allow almost any activity to occur. The building has a designed program, not separated into rooms and individual spaces, but into unique multi-functional spaces to allow for human interaction. Located centrally in downtown Grand Forks, the program must account for specific design codes and restrictions while at the same time become an architectural template for future urban design.

PROGRAM SPACES

Total Area -	32,250 sq.ft.
Max height-	6 floors or 75 ft.
FAR-	4.0 or 6.0(w/atrium)

ENTRY + LOBBY

(1,200 sq.ft.)
reception
atrium

PRIVATE OFFICES

(1,200 sq.ft.)
director's office
administrative offices
break room

EXHIBITION + GALLERY

(2,700 sq.ft.)
interactive gallery
temporary & permanent exhibition

SERVICES

(15,500 sq.ft.)
retail
café
multimedia studios
classrooms
conference rooms
breakout spaces
workshop
support & information
restrooms

EXTERIOR

(1,800 ft)
streetscape
bus stop

PEDESTRIAN CONNECTIONS

(1,000 ft)
skyway

CIRCULATION

(5,750 ft)
atrium
corridors
vertical circulation

AUXILIARY SPACES

(3,100 ft)
mechanical
janitorial
server
storage

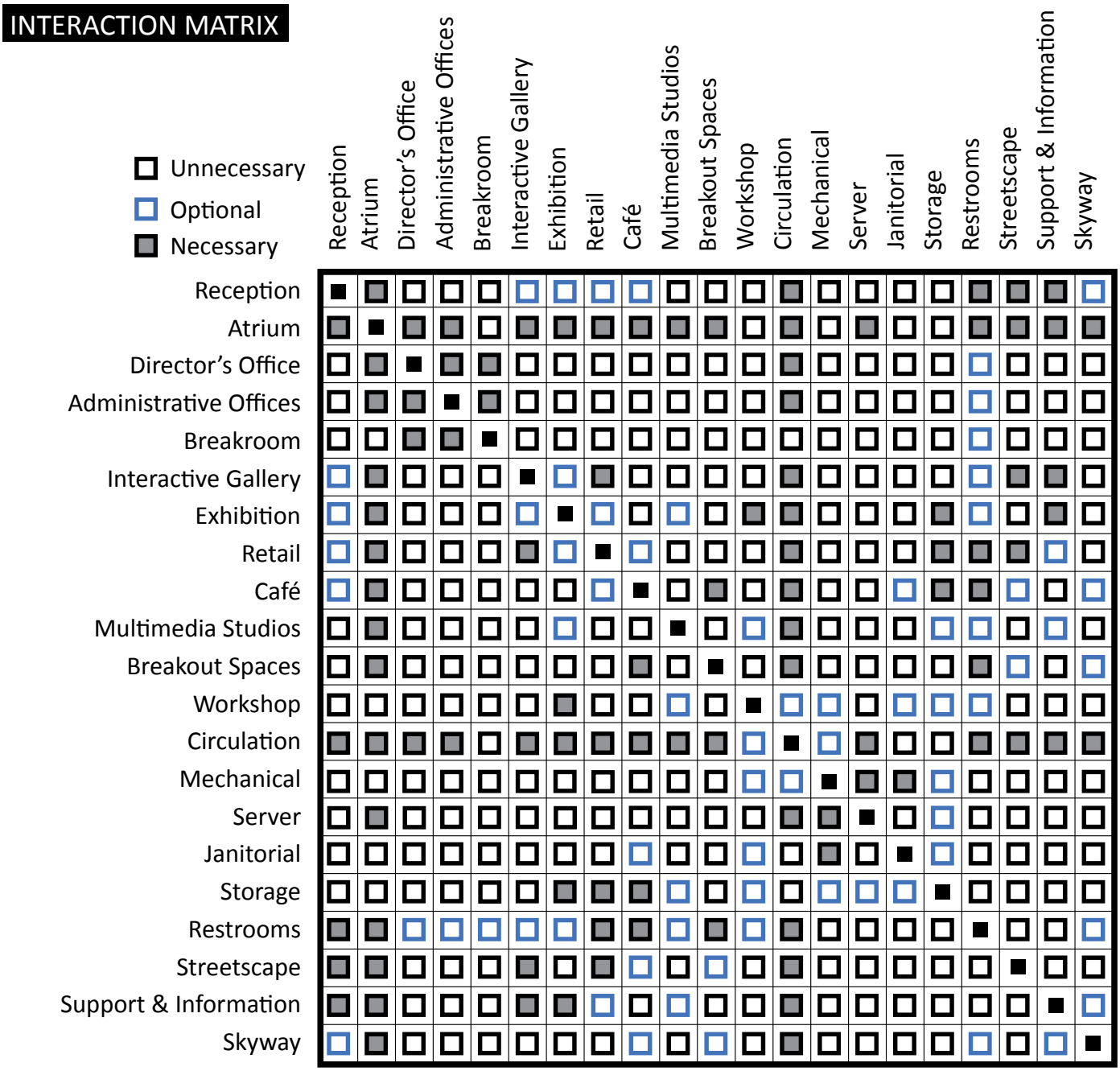


Figure 3.65, *Interaction Matrix*
Schneider, L. (Photographer) (2012). *Interaction Matrix.* [Graphic]

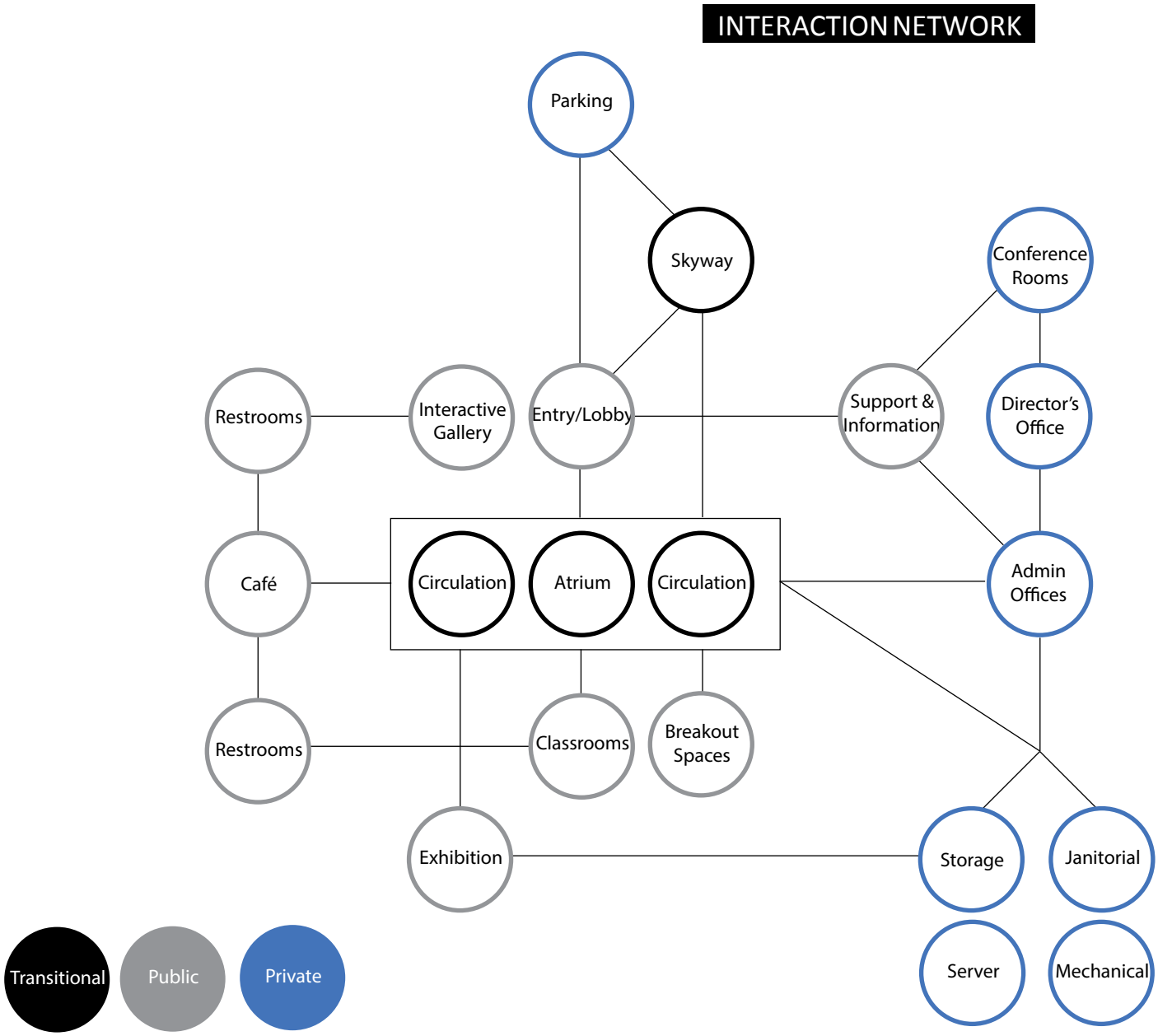


Figure 3.66, *Interaction Network*
Schneider, L. (Photographer) (2012). *Interaction Network.* [Graphic]

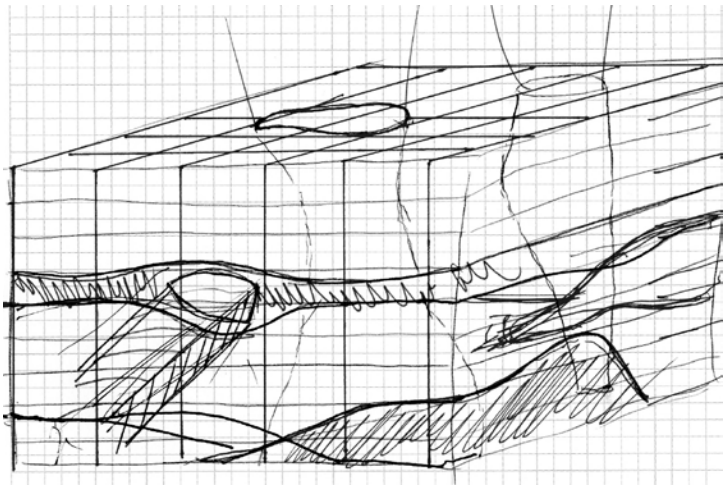
Figure 4.01. *Project Solution*
Schneider, L. (Photographer). (2013). *Project Solution*. [Graphic]

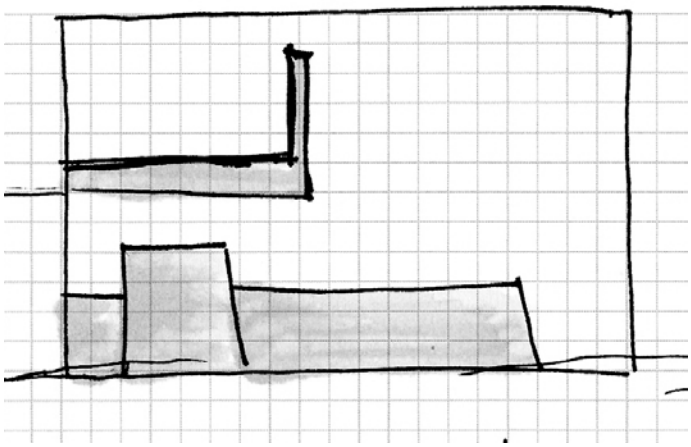
[PROJECT SOLUTION]

PROCESS DOCUMENTATION

SKETCHES & INFLUENCES

I wanted to sketch and model key concepts to address and ultimately fulfill.





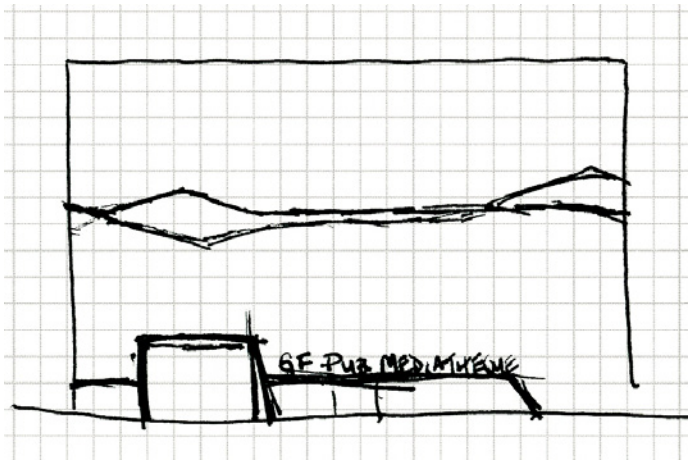
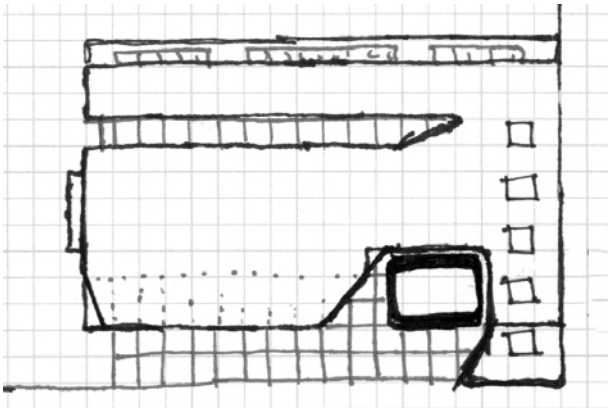
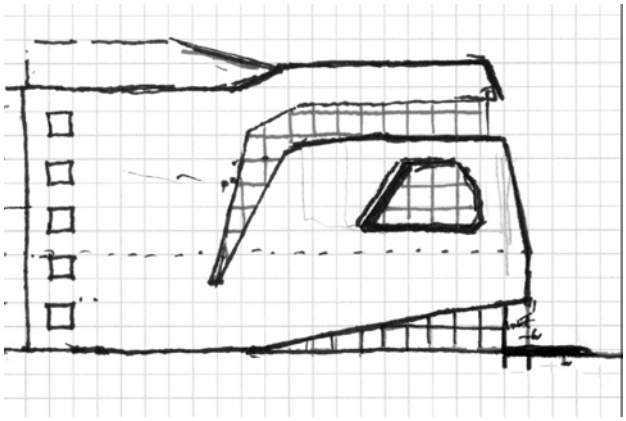
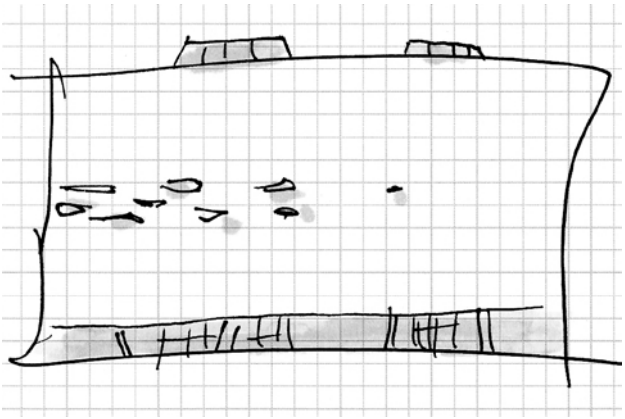


Figure 4.02, *Sketches & Influences I*
Schneider, L. (Photographer) (2013). *Sketches & Influences I.* [Graphic]





Sketching a “revealing” concept was an exploration into how I wanted to reveal a glimpse of the buildings interior identity, inherently causing a dialog between the user and the building and giving the building an unique identity and sense of place.



SKETCHES & INFLUENCES

Similar to the Sendai Mediatheque, I want transparency to play a major role in the building's street level.

I want people outside to be able to visually interact with what was going on inside. To draw them in or maybe just to get them thinking and talking to their friends about the building.

I also knew I wanted the structure of the building to be visible to the users, as an intentional design aesthetic.

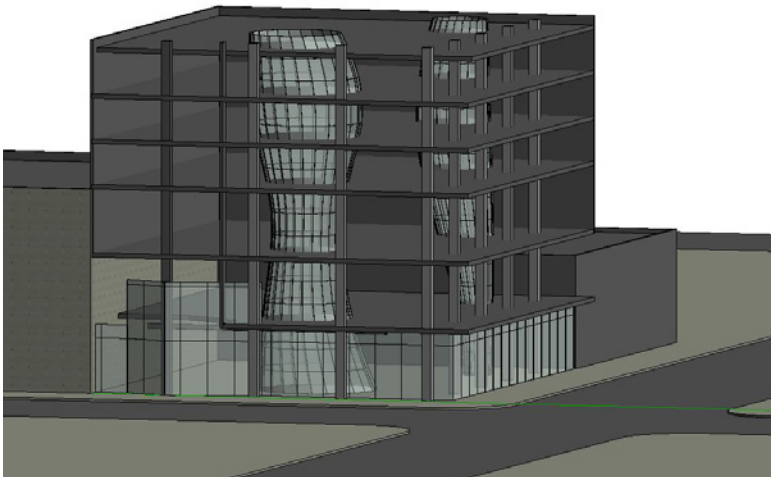
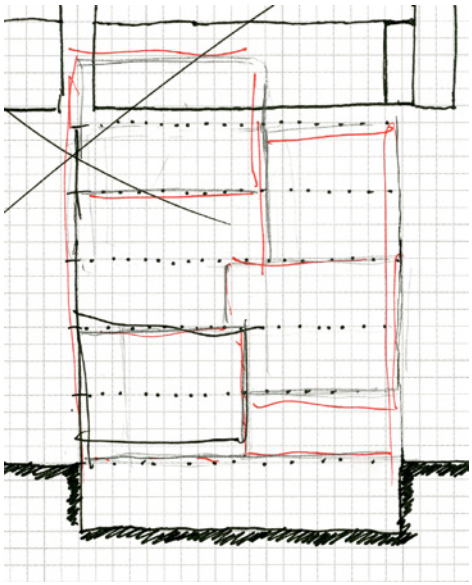
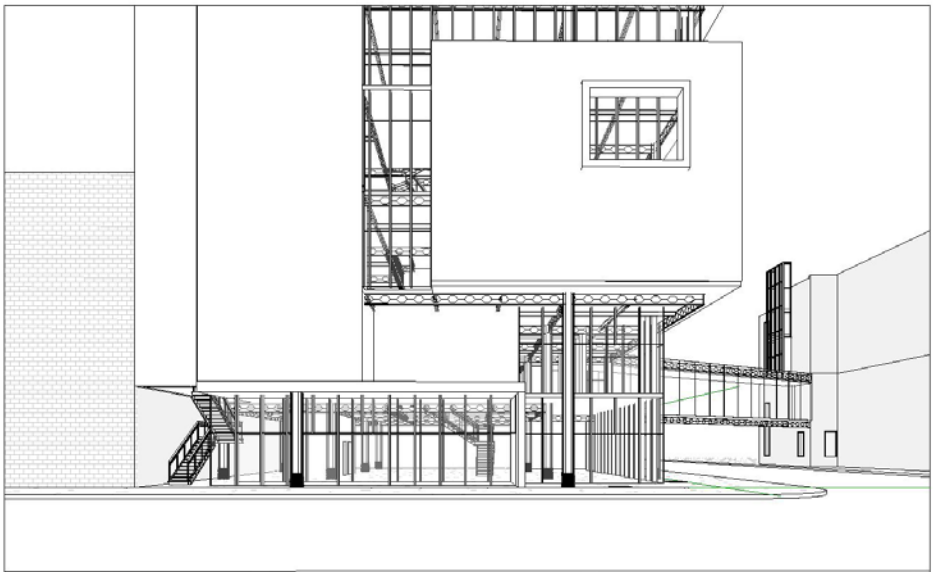
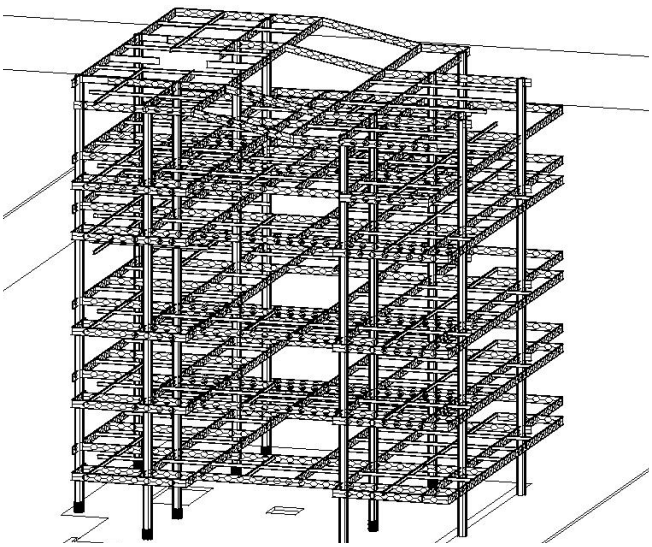


Figure 4.03, *Sketches & Influences II*
Schneider, L. (Photographer) (2013). *Sketches & Influences II.* [Graphic]



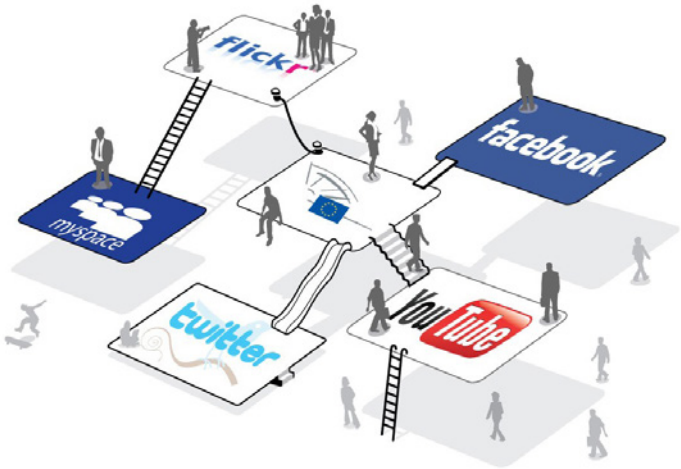




SKETCHES & INFLUENCES

An exploration of how social media and the idea of different platforms could inform my design decisions.

It is not the actual platforms themselves, but the way they were interacting with each other which had the most effect on my decision.



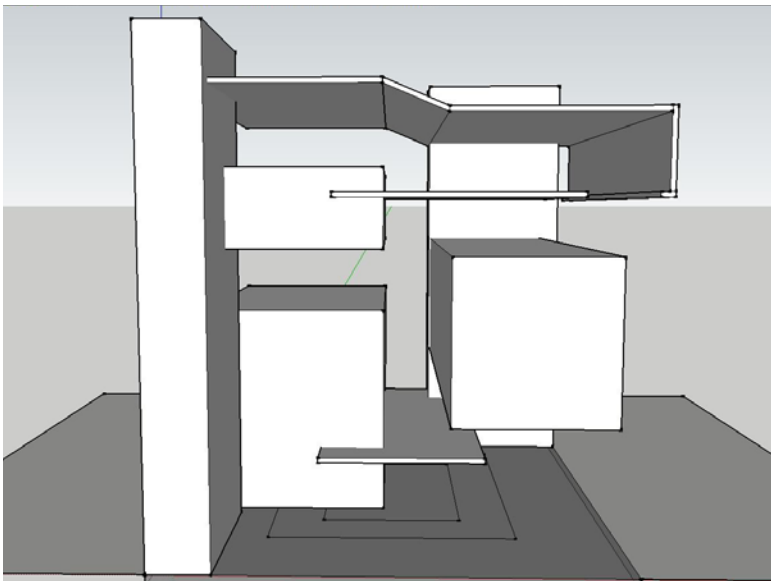
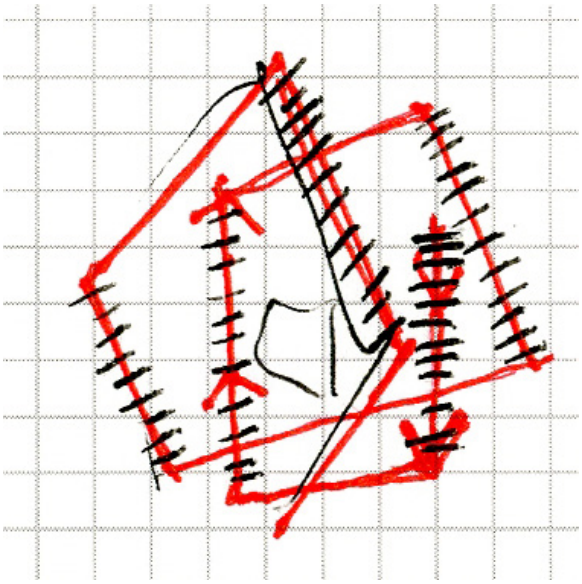
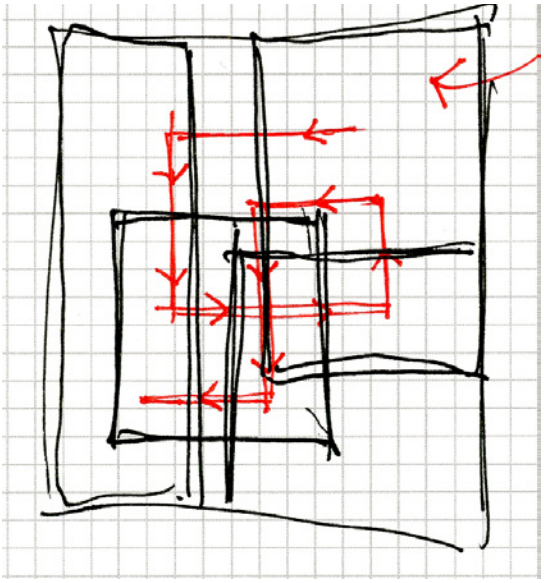
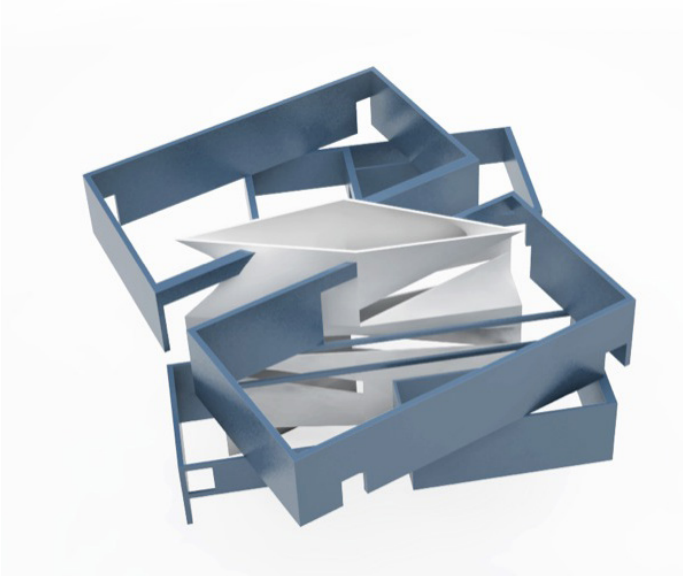
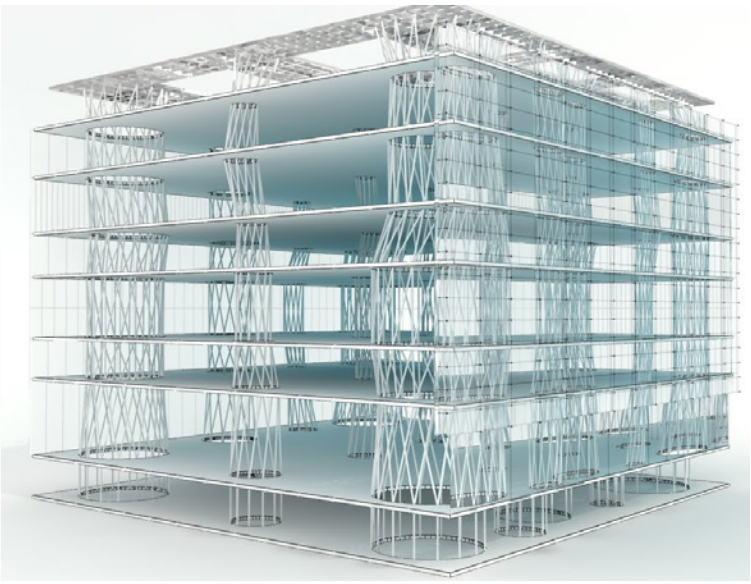


Figure 4.04, *Sketches & Influences III*
Schneider, L. (Photographer) (2013). *Sketches & Influences III.* [Graphic]



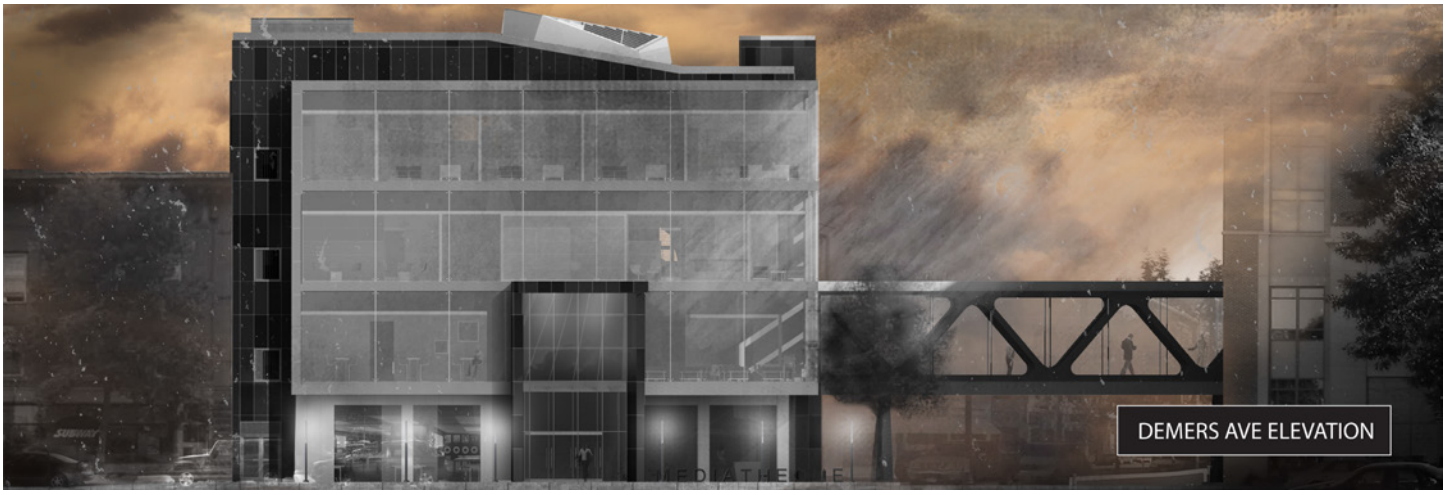






FINAL DOCUMENTATION

Figure 4.05, *Elevations & Sections*
Schneider, L. (Photographer) (2013). *Elevations & Sections.* [Graphic]


DEMERS AVE ELEVATION

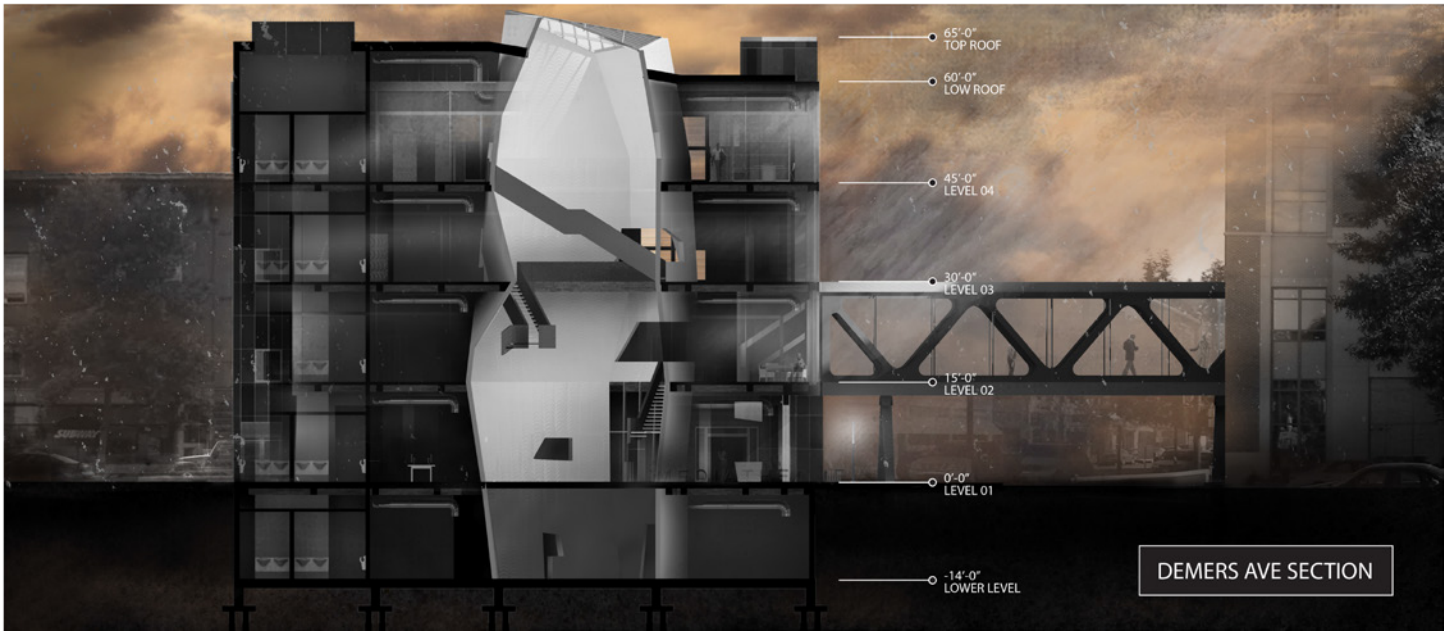

65'-0"
TOP ROOF
60'-0"
LOW ROOF
45'-0"
LEVEL 04
30'-0"
LEVEL 03
15'-0"
LEVEL 02
0'-0"
LEVEL 01
-14'-0"
LOWER LEVEL
DEMERS AVE SECTION

Figure 4.06, *Level 01 Plan*
Schneider, L. (Photographer) (2013). *Level 01 Plan.* [Graphic]

Figure 4.07, *Interactive Gallery*
Schneider, L. (Photographer) (2013). *Interactive Gallery.* [Graphic]

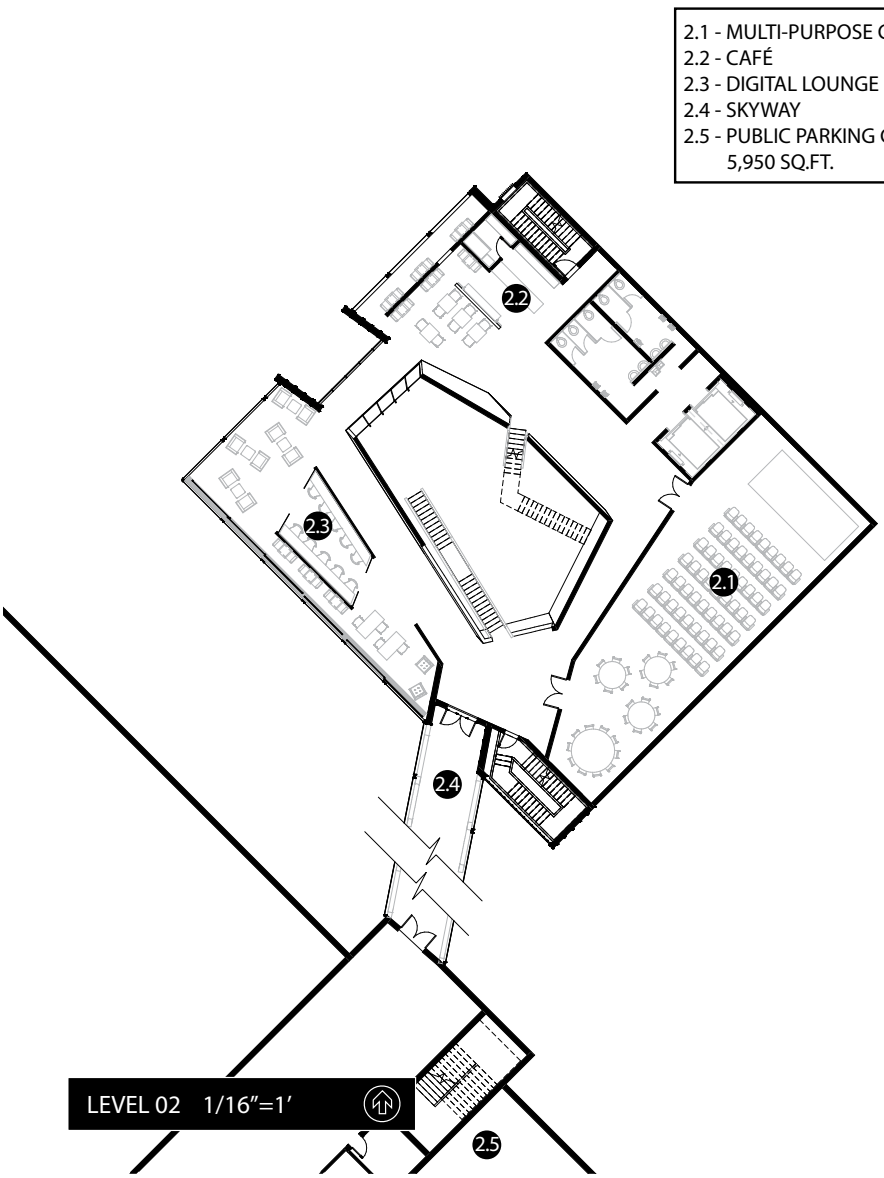


Figure 4.08, *Level 02 Plan*
Schneider, L. (Photographer) (2013). *Level 02 Plan.* [Graphic]

Figure 4.09, *Digital Lounge*
Schneider, L. (Photographer) (2013). *Digital Lounge.* [Graphic]

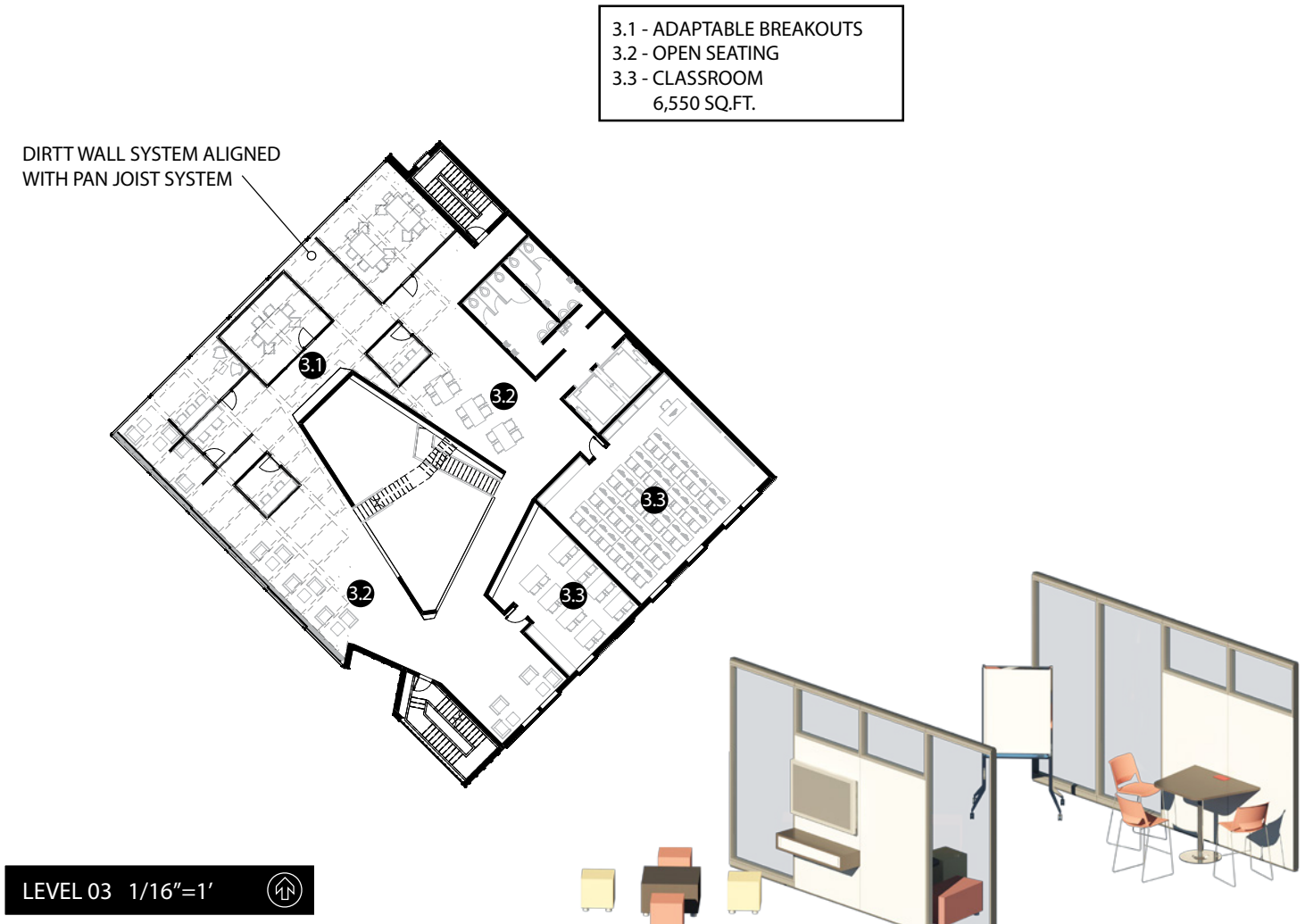


Figure 4.10, *Level 03 Plan*
Schneider, L. (Photographer) (2013). *Level 03 Plan.* [Graphic]

Figure 4.11, *Flexible Walls*
Schneider, L. (Photographer) (2013). *Flexible Walls.* [Graphic]

Figure 4.12, *Dirtt Wall System*
Dirtt Environmental Solutions. (n.d.). Dirtt product applications. (2013). Retrieved from http://www.dirtt.net/public/products/applications_2013.php?cat=technology

Figure 4.13, *Level 04 Plan*
Schneider, L. (Photographer) (2013). *Level 04 Plan.* [Graphic]

Figure 4.14, *From Public Parking Garage*
Schneider, L. (Photographer) (2013). *From Public Parking Garage.* [Graphic]

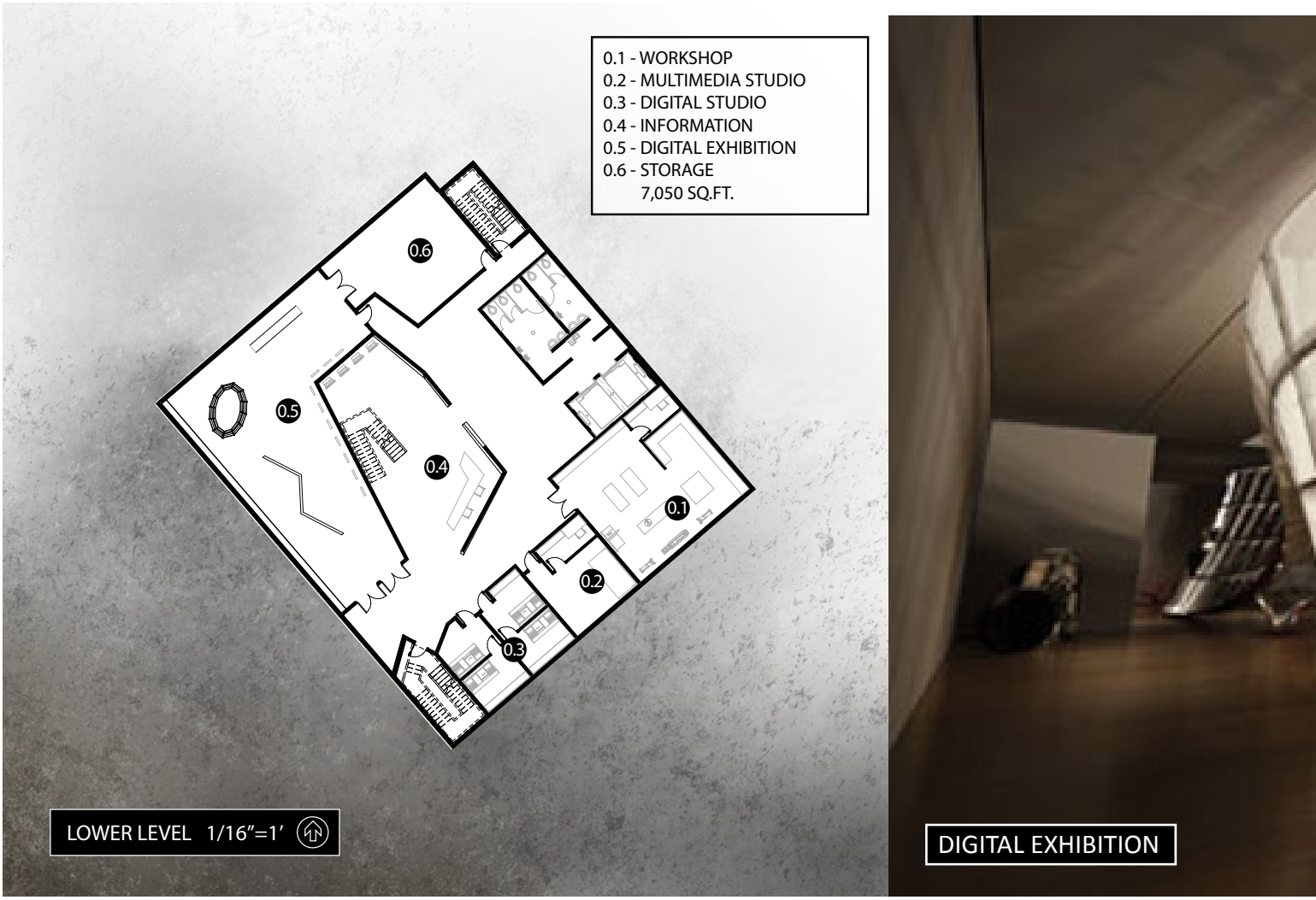


Figure 4.15, *Lower Level Plan*
Schneider, L. (Photographer) (2013). *Lowee Level Plan.* [Graphic]

Figure 4.16, *Digital Exhibition*
Arad, R. (2009). *No disipline / moma 2009*. Retrieved from http://www.ronarad.co.uk/

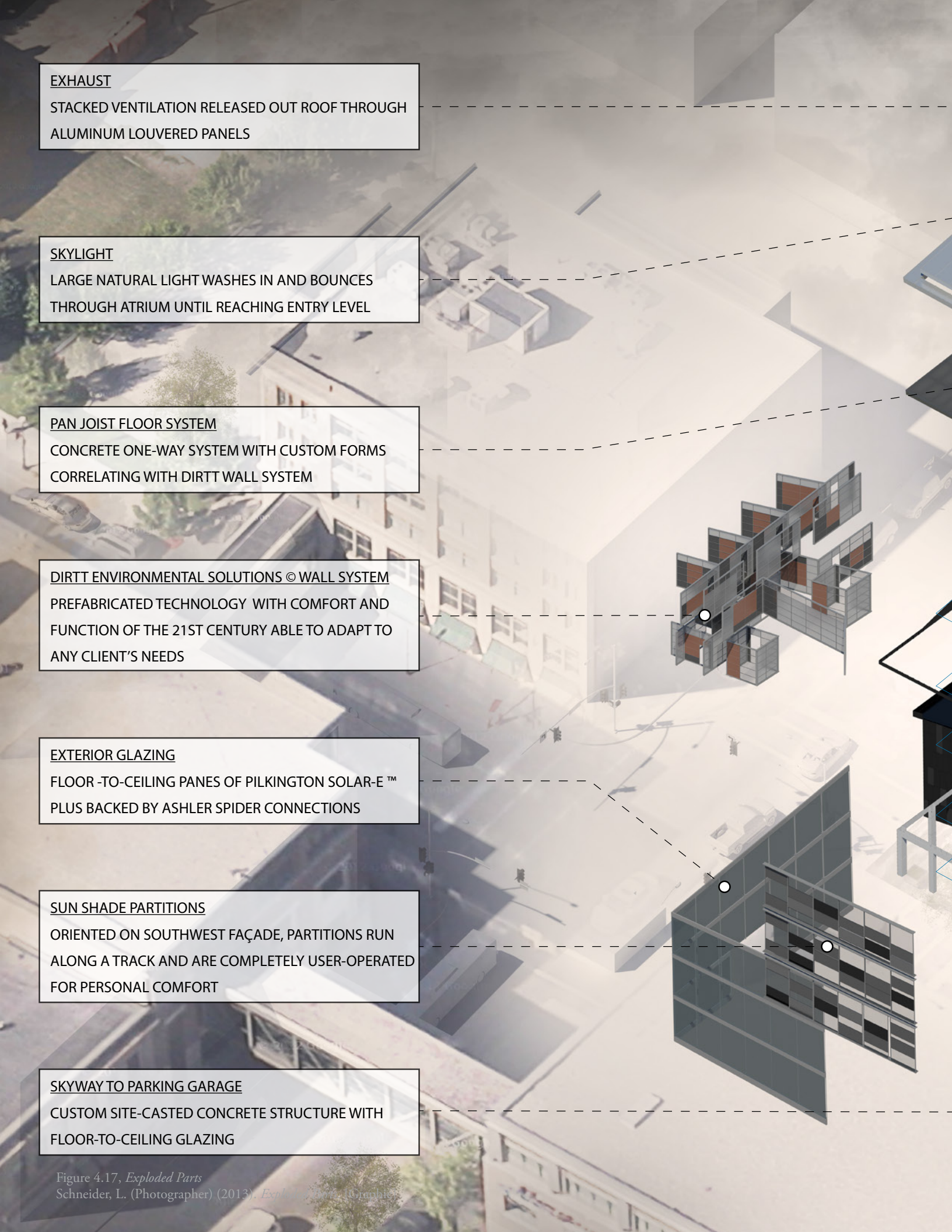
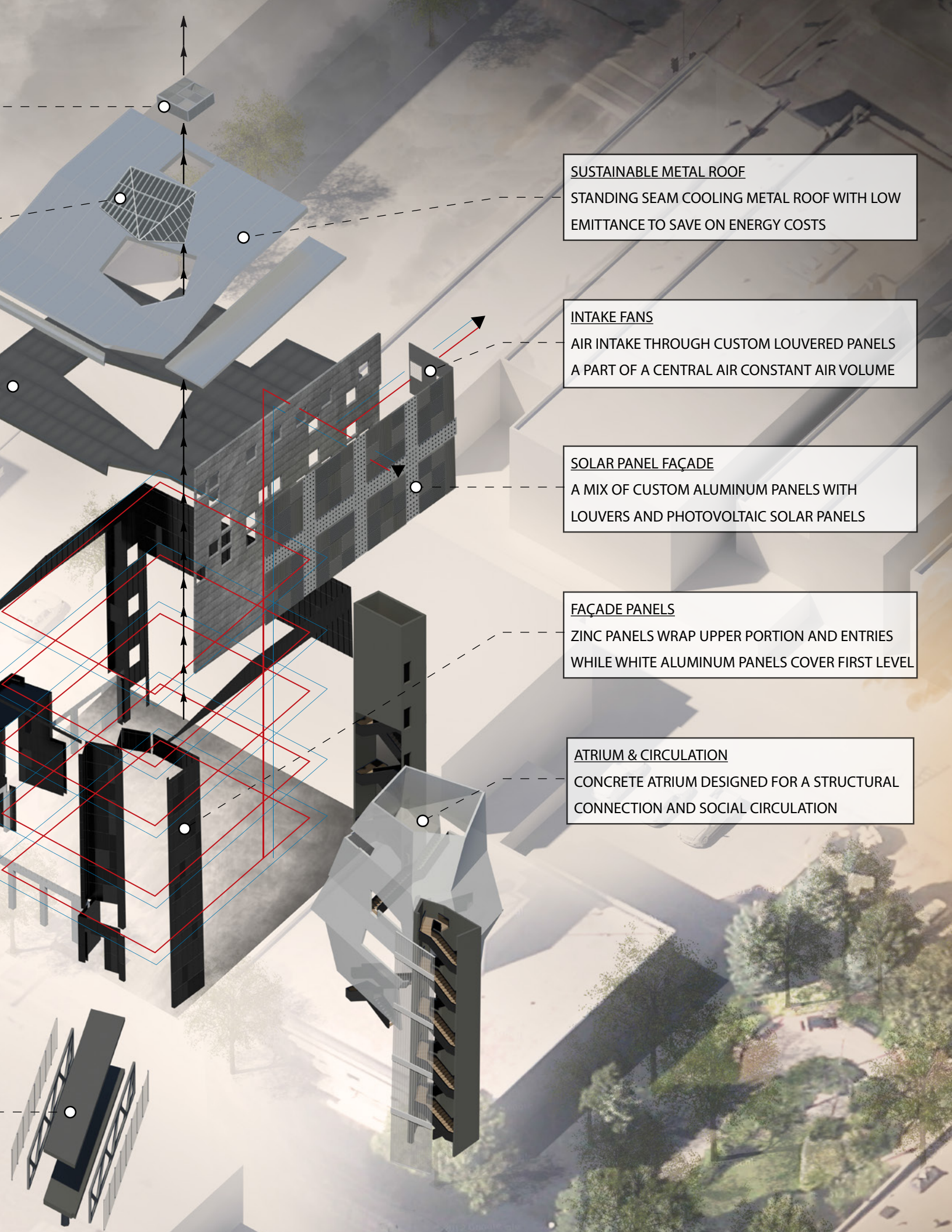


Figure 4.17, *Exploded Parts*
Schneider, L. (Photographer) (2013). *Exploded Parts* [Graphic].



SUSTAINABLE METAL ROOF

STANDING SEAM COOLING METAL ROOF WITH LOW EMITTANCE TO SAVE ON ENERGY COSTS

INTAKE FANS

AIR INTAKE THROUGH CUSTOM LOUVERED PANELS A PART OF A CENTRAL AIR CONSTANT AIR VOLUME

SOLAR PANEL FAÇADE

A MIX OF CUSTOM ALUMINUM PANELS WITH LOUVERS AND PHOTOVOLTAIC SOLAR PANELS

FAÇADE PANELS

ZINC PANELS WRAP UPPER PORTION AND ENTRIES WHILE WHITE ALUMINUM PANELS COVER FIRST LEVEL

ATRIUM & CIRCULATION

CONCRETE ATRIUM DESIGNED FOR A STRUCTURAL CONNECTION AND SOCIAL CIRCULATION

DETAILS

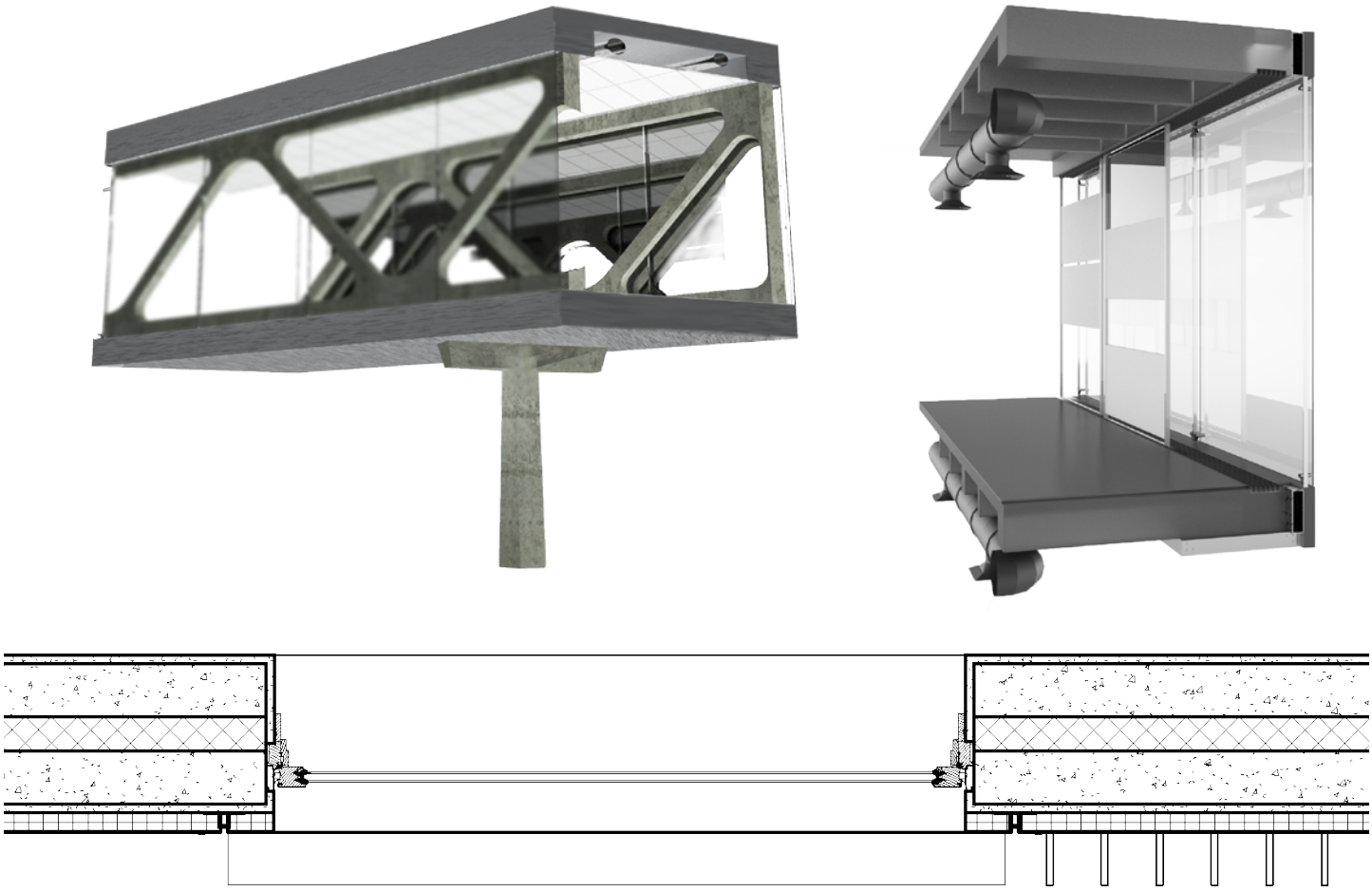


Figure 4.18, *Details*
Schneider, L. (Photographer) (2013). *Details.* [Graphic]

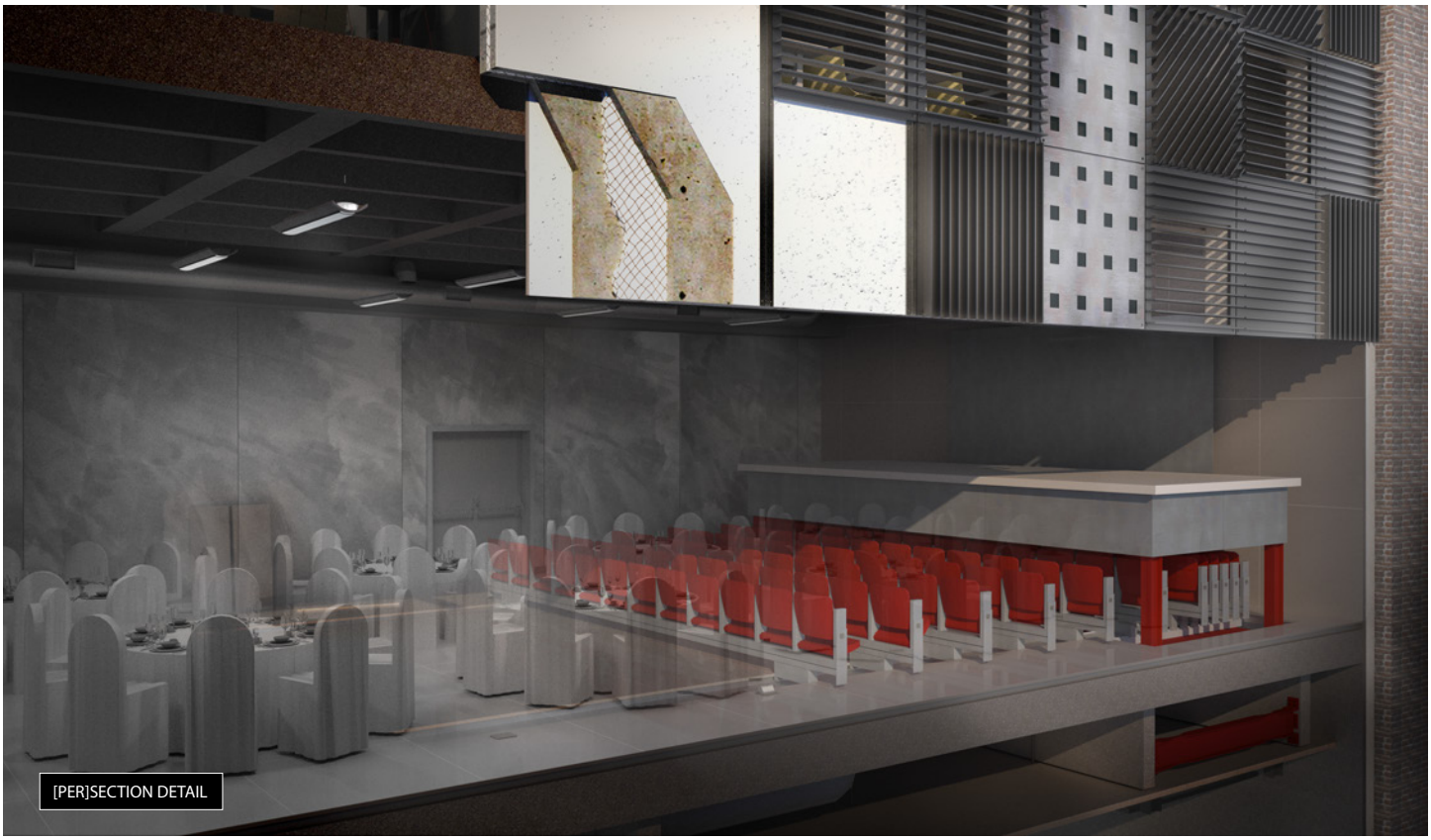


Figure 4.19, *PerSection Detail*
Schneider, L. (Photographer) (2013). *PerSection Detail.* [Graphic]

Figure 4.20, *From Corner Perspective*
Schneider, L. (Photographer) (2013). *From Corner Perspective.* [Graphic]

SOCIA

CHA

PROBLEM STATEMENT
HOW HAVE THE COMPUTING TECHNOLOGY AND SOCIAL MEDIA CHANGED THE WAY WE ENVISION THE BUILT ENVIRONMENT

TYPOLOGY
MEDIATHEQUE FOR THE CITIZENS OF GRAND FORKS AND EAST GRAND FORKS

AL ADAPTATION

ANGING THE BUILT ENVIRONMENT

THEORETICAL PREMISE

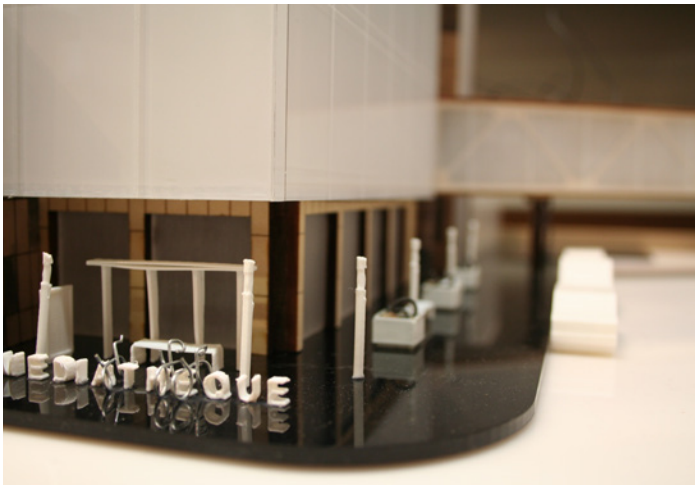
BECAUSE OUR CULTURE IS EXPLODING WITH TECHNOLOGICAL ADVANCEMENT AND SOCIAL MEDIA IS SO WIDELY PREVALENT, THE CHARACTER OF DESIGN NEEDS TO REFLECT THE CHARACTER OF TODAY'S SOCIETY

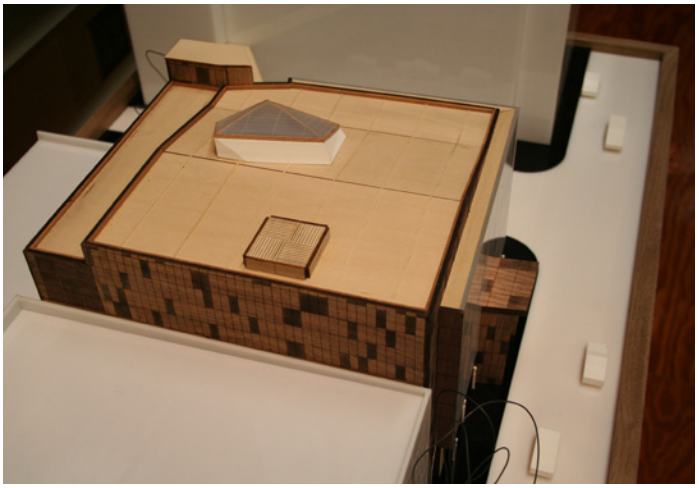
JUSTIFICATION

AS SOCIETY EMBRACES CHANGES IN COMPUTING TECHNOLOGY AND THE ACCESS TO SOCIAL MEDIA, IT MUST ALSO ALLOW A CHANGE OF CHARACTER IN THE BUILT ENVIRONMENT

PHYSICAL MODEL

Figure 4.21, *Physical Models*
Schneider, L. (Photographer) (2013). *Physical Models.* [Photographs]





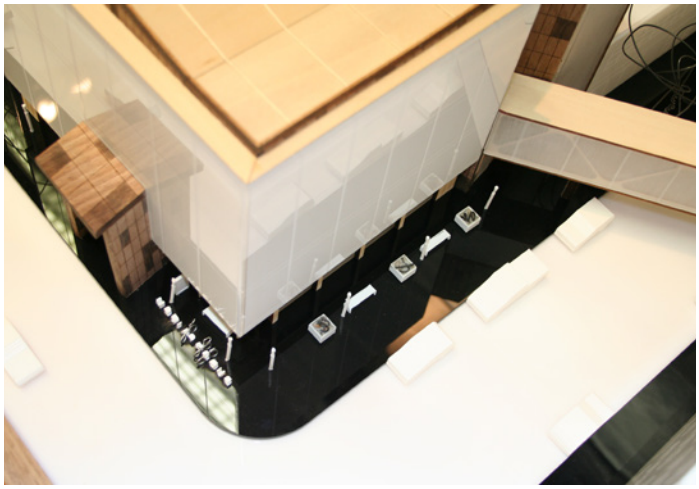


Figure 4.22, *Presentation Layout*
Schneider, L. (Photographer) (2013). *Presentation Layout.* [Photograph]

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"The future of the built environment will have to provide an understanding of intellectualism rather than an instant gratification."

Figure 4.23, *Personal Headshot*
Schneider, L. (Photographer) (2012). *Personal Headshot.* [Photograph]