

An architectural rendering of a modern, low-profile building with a curved roof and large glass windows. The building is set against a light, cloudy sky. The text is overlaid on the image.

MEADOWLARK
RECREATION
CENTER

MINOT, NORTH DAKOTA

CHASE MOSSER

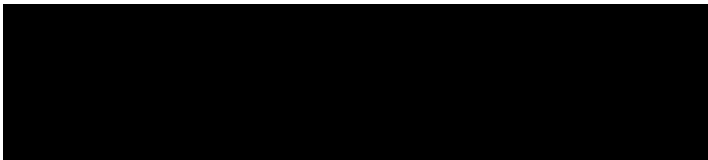
MEADOWLARK RECREATION CENTER

A Design Thesis Submitted to the
Department of Architecture
North Dakota State University

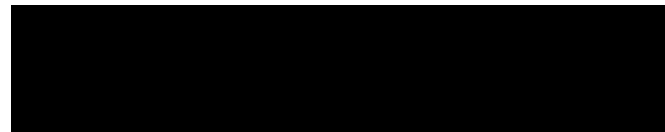
by

Chase Mosser

In Partial Fulfillment of the Requirements for the Degree of
Master of Architecture



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THESIS ABSTRACT

The Meadowlark Recreation Center is an all-encompassing recreation center with dedicated childcare facilities and programs intertwined within its architecture. The proposed facility will give the city of Minot a second recreation center that can serve as an exercise facility, sport hosting facility, civic gathering space, educational facility, and childcare/after school center. Research begins with compiling case studies of both recreation center and childcare facility typologies. Those case studies will serve to inform on necessary aspects to be included within the project but also inform on what those particular typologies often lack in regard to one another. The resulting design should take the form of a facility that promotes the health, happiness, entertainment, and safety of adults and children alike.

THE NARRATIVE OF THE THEORETICAL ASPECT OF THE THESIS

Among the core values that parents emphasize when it comes to their children are things like their happiness, their health, and their safety. A difficulty of parents, especially in Minot, ND, is what to do with their kids while they are at work, particularly in the summertime. Currently, a day care facility is the only real option for parents in the Minot area.

With daycare facilities come many stipulations or shortcomings. They can be crowded, difficult to get in to, have age limitations, be expensive, limited activity options, not educational, and so on. In my personal experience, an alternative was for parents to get their kids a pass to a recreation center like the YMCA and simply have them hang out there most of the day. While this allowed kids to be active

and hang out with friends with a decent level of independence, it lacked aspects parents would like for their children like nourishment options and employees with a primary focus of watching over and caring for their kids. Some recreation centers will have a daycare program in the facility, but they serve as more of a temporary babysitting service than an actual daycare. Parents must be present in the building to allow the children to stay there. It's meant for parents to have somewhere for their kids to go when they workout.

What's missing is a recreation center with dedicated staff and facilities that allow for the caring of children during the summer months or outside of school hours while their parents are working.

THE NARRATIVE OF THE THEORETICAL ASPECT OF THE THESIS

The question then becomes, how can architecture help create a recreational environment for any and all individuals but can also serve as a safe space where parents can send their kids and feel comfortable knowing they will be entertained, nourished, educated, and kept safe and out of trouble. This proposal offers a solution to multiple problems in the Minot area. An all-encompassing recreation center with dedicated childcare facilities and programs intertwined within its architecture will give residents in and around Minot another option for exercise, activities, event space, and childcare.

In Minot, North Dakota, there is currently only one recreation center, the YMCA. It is located in the southwest corner of town. If anyone from the north side of town wants to use the facility, they must drive anywhere from 15 to 20 minutes assuming no traffic. That may not sound like a long drive but in Minot, a town of less than 50,000 people, it's about as long as it gets. It is for that reason that a site in the northern region of Minot would be appropriate for this proposed recreation center.

PROJECT TYPOLOGY



Figure 2 - Childcare Center 1



Figure 3 - Childcare Center 2

This proposed facility will be a combination of recreation center and childcare facility typologies. It will have all the aspects and features of a traditional recreation center like gyms, pools, exercise equipment, etc., but with added features to provide additional services for children, especially those staying for longer periods of time. Features like classrooms, game rooms, kitchen and dining areas, and dedicated spaces for kids will be included in the design.



Figure 4 - Rec Center 1



Figure 5 - Rec Center 2



Figure 6 - Rec Center 3

MAJOR PROJECT ELEMENTS

Recreation Center Elements:

- Gymnasium(s)
- Rock Climbing Wall
- Racquetball
- Swimming Pool(s)
- Hot Tub
- Sauna
- Water Park
- Weight Training Area
- Cardio Machine Area
- Plyometric Area
- Crossfit Studio
- Running / Walking Track
- Locker Rooms



Figure 7 - Racquetball



Figure 8- Rock Climbing

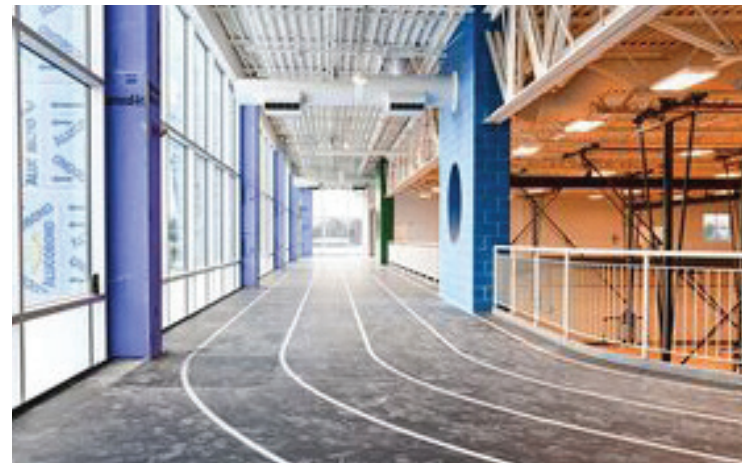


Figure 9 - Track

MAJOR PROJECT ELEMENTS

Childcare Elements

- Auditorium / Flex Space
- Classrooms
- Computer Room
- Game Room
- Kitchen / Dining
- Kids Gym(s)

General Facility Elements

- Restrooms
- Office Space
- Janitorial
- Laundry
- Mechanical
- Storage
- Parking



Figure 10 - Auditorium



Figure 11 - Cafeteria



Figure 12 - Classroom

USER / CLIENT DESCRIPTION

Morning (weekdays)

12:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00

CLOSED

workout before going into work

ADULTS

BABIES / TODDLERS

childcare while parents are at work

workout between classes / before or after work

YOUNG ADULTS

SENIOR CITIZENS

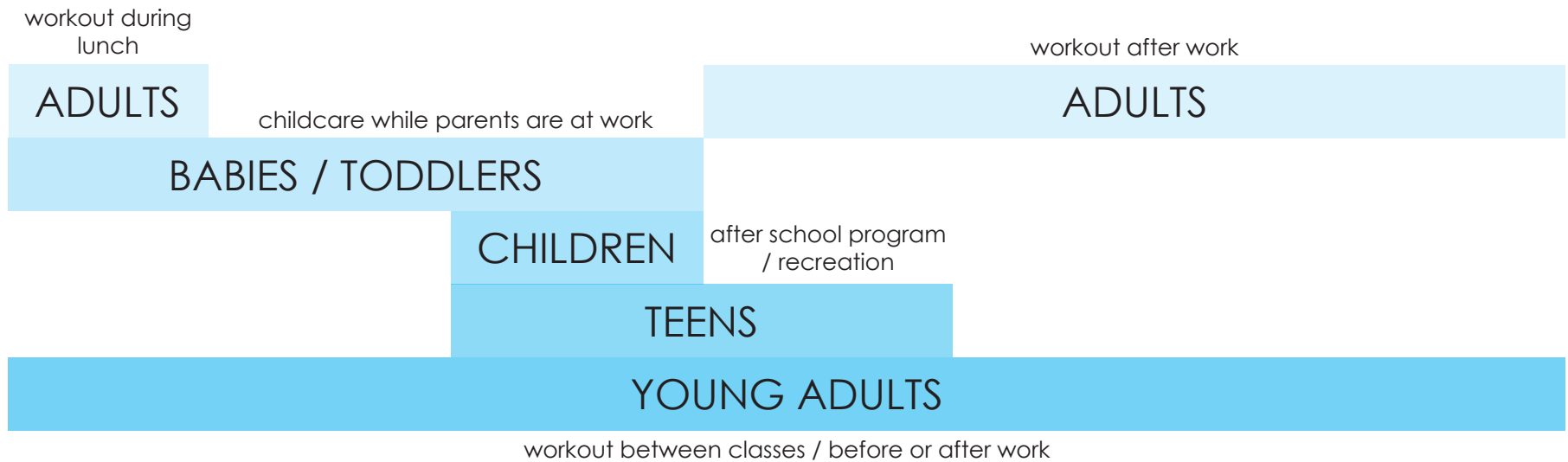
workout in the morning

WINTER MONTHS

USER / CLIENT DESCRIPTION

Afternoon (weekdays)

12:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00



W I N T E R M O N T H S

USER / CLIENT DESCRIPTION

Morning (weekdays)

12:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00

CLOSED

workout before going into work

ADULTS

childcare
while parents
are at work

BABIES / TODDLERS

CHILDREN

recreation / activities
during the day

TEENS

workout between classes / before
or after work

YOUNG ADULTS

SENIOR CITIZENS

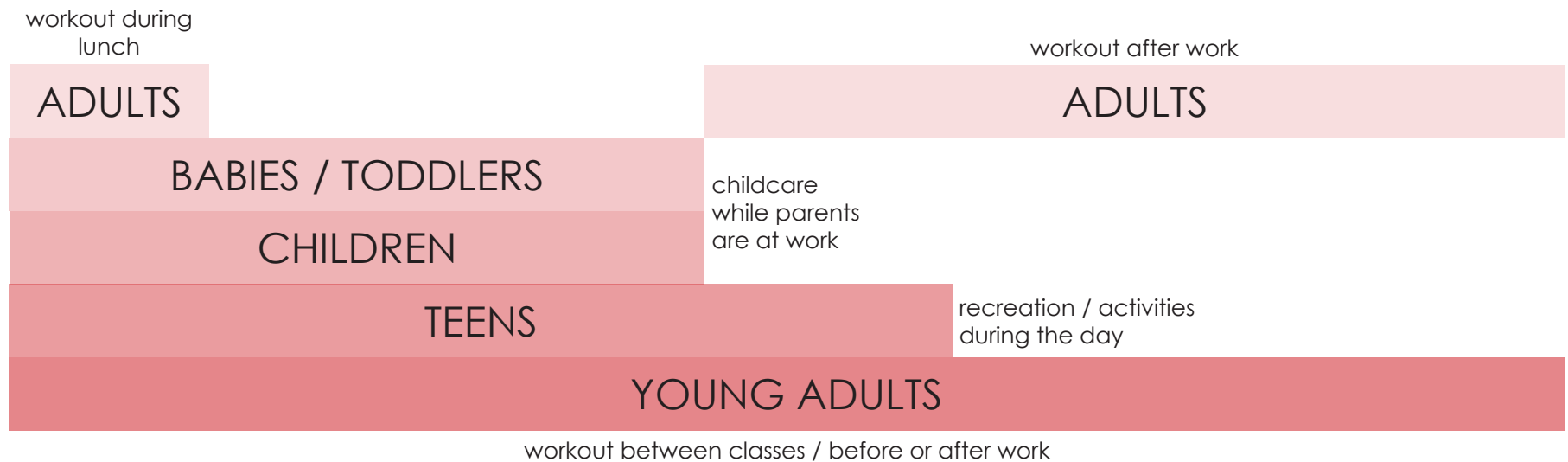
workout in the morning

S U M M E R M O N T H S

USER / CLIENT DESCRIPTION

Afternoon (weekdays)

12:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00



S U M M E R M O N T H S

USER / CLIENT DESCRIPTION

Summer Months

- Adults
 - often work out early in the morning before work...
 - during their lunch break...
 - after work (some as late as midnight)
- Babies / Toddlers
 - require childcare between the hours of 8:00 AM and 5:00 PM while their parents are at work
- Children
 - require childcare between the hours of 8:00 AM and 5:00 PM while their parents are at work
- Teenagers
 - younger teens will seek activities and entertainment, as well as nourishment during the day
 - older teens will seek recreation before or after work
- Young Adults
 - seek recreation or workout between classes / before or after work
- Senior Citizens
 - often workout in the mornings
 - often utilize fitness classes

Non-Summer Months

- Children and Teenagers now shift from occupying the facility all day to an after-school program

STAFF DESCRIPTION

Managerial Positions	facilitate the smooth operation of the facility
Secretary	work the front desk, answer phones, etc.
Security	protect the safety and well-being of those in the rec center
Trainers	help people achieve their fitness goals
Childcare	care for the children in the childcare service
Lifeguards	ensure the safety of those who use the aquatic center
Kitchen Staff	prepare food and snacks for childcare services and possibly concessions for events
Custodians	clean and maintain facility

THE SITE



Figure 15 - North Dakota Map

The chosen site for this project is in Minot, North Dakota. Minot is located in North central North Dakota, 100 miles north of the capital city, Bismarck. Minot has a population of about 50,000 people, making it the state's 4th largest city in both population and area.

THE SITE



Figure 16 - Site Map

Currently, there is only one recreation center in Minot, the YMCA. It is located in the furthest Southwest corner of town, with almost no development to the South or the West. The proposed site of this new facility is located in North Minot. While this site is well suited to service the citizens on the northern half of the city, including the fast-growing outskirts of town, it is also located across the street from the new Erik Ramstad Middle School. This allows for easy travel for students utilizing the after-school program at the rec center.

Figure 18 - Minot Map

THE PROJECT EMPHASIS

1. Childcare that promotes health and well-being of the children
 - » This project will emphasize physical activity in its childcare programs, as well as educational and developmental activities and programs.
2. Recreation center capable of diverse activities and programs
 - » This project will provide the city of Minot and its citizens a state of the art recreation center with numerous activities and opportunities to promote an active lifestyle.
3. Event venue for the city of Minot
 - » This proposed project will have the facilities necessary to host sporting events, tournaments, camps, workshops, and more.

PROJECT GOALS

1. Academic

- » I want to shed light on a combination of typologies that could be very beneficial to society.
- » I want raise the question of how we can improve recreational and/or childcare facilities

2. Professional

- » I want to nail down a workflow that works for me
- » I want to gain insight into a typology that I have yet to really dive in to in depth

3. Personal

- » I want to create a thesis project that I am proud of.
- » I want to work in an efficient enough manner to where I can accomplish everything I want to without having to omit things or forget things due to lack of time.
- » I don't want to stress myself out to the point that I get burnt out on this project!

A PLAN FOR PROCEEDING

DESIGN METHODOLOGY

Case Studies will likely be the most prominent research method for this thesis project. Collection and evaluation of case studies pertaining to both recreation center typologies and childcare center typologies will be emphasized.

Through these case studies, necessary components of the respective facilities will be noted and evaluated. These considerations will then be implemented in the conceptual design phase and have an impact on the project. Likewise, components of the facilities that are either missing or could be improved upon will also be noted, and appropriate measures will be taken in the design of my own thesis project.

Interviews will be conducted with employees of the pertinent typologies. Basic information will be gathered, both qualitative and quantitative, as well as the interviewee's opinions on what could change or be improved at their respective places of business. These insights will be compiled in order to inform the best possible design program solution.

In addition to case studies and interviews, general research on what people look for in a recreation center or childcare center will be done. Statistical data will be researched in order to inform what makes for a successful recreation/childcare center.

A PLAN FOR PROCEEDING

THE DESIGN PROCESS

Design Process / Investigation

Tools used for design:

1. By Hand...
 - a.) Sketching
 - b.) Modeling / Rip & Tears
2. Computer Aided Design
 - a.) Revit
 - b.) Sketchup
 - c.) AutoCAD
3. Computer Aided Representation
 - a.) Lumion
 - b.) Enscape
 - c.) Photoshop
 - d.) Indesign
 - e.) Illustrator

Design Preservation

1. File had drawn sketches and models / take pictures
2. Document and keep record of all research materials / sources
3. Continually update thesis book
4. Backup digital files to google drive on a regular basis

Content Publication

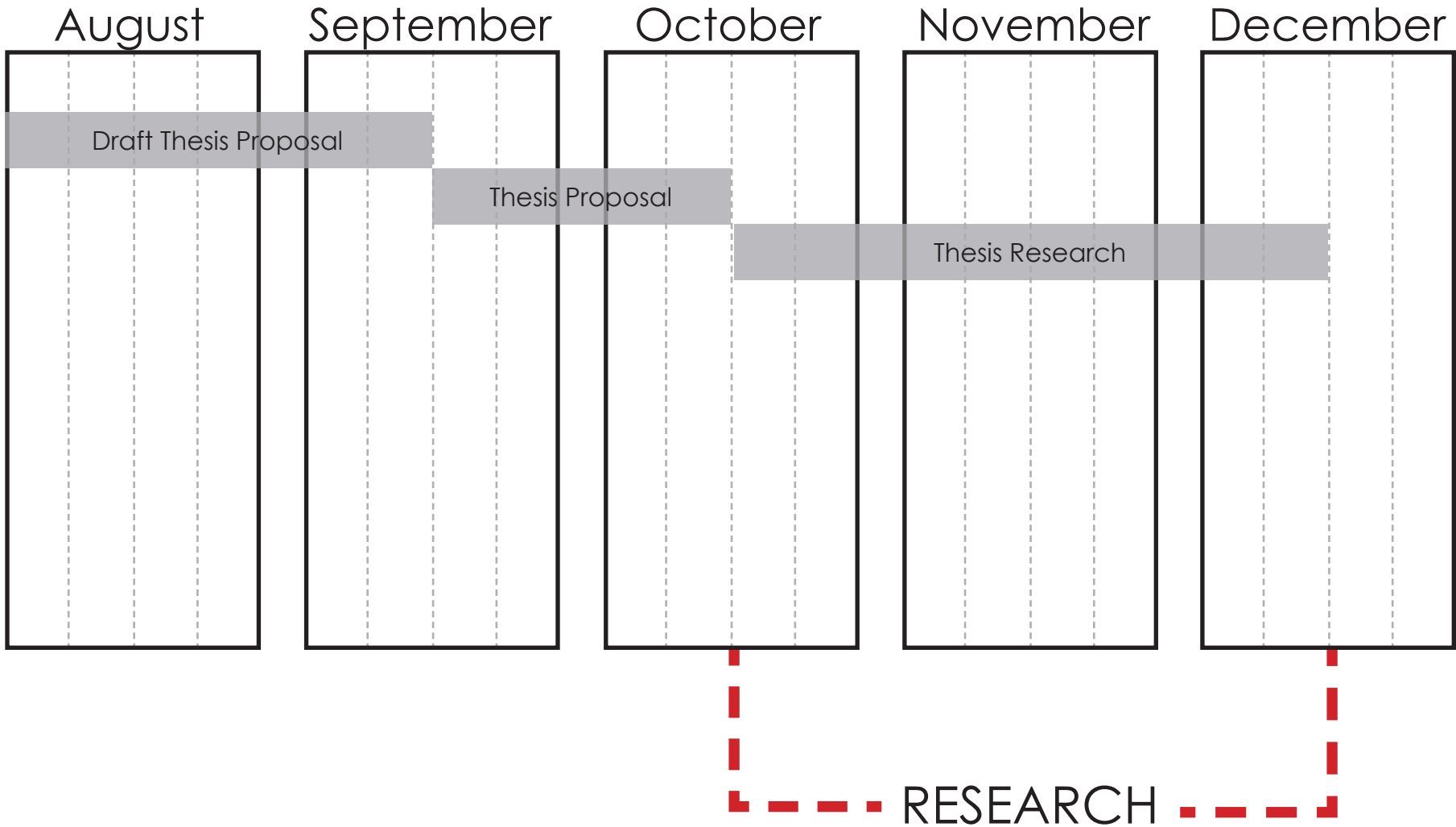
Final thesis project will be recorded in the thesis book and also made available digitally through the NDSU repository.

Final Presentation

1. Powerpoint presentation to guide viewers through my design process and ultimately, my final design solution
2. Presentation Boards
3. Physical Model

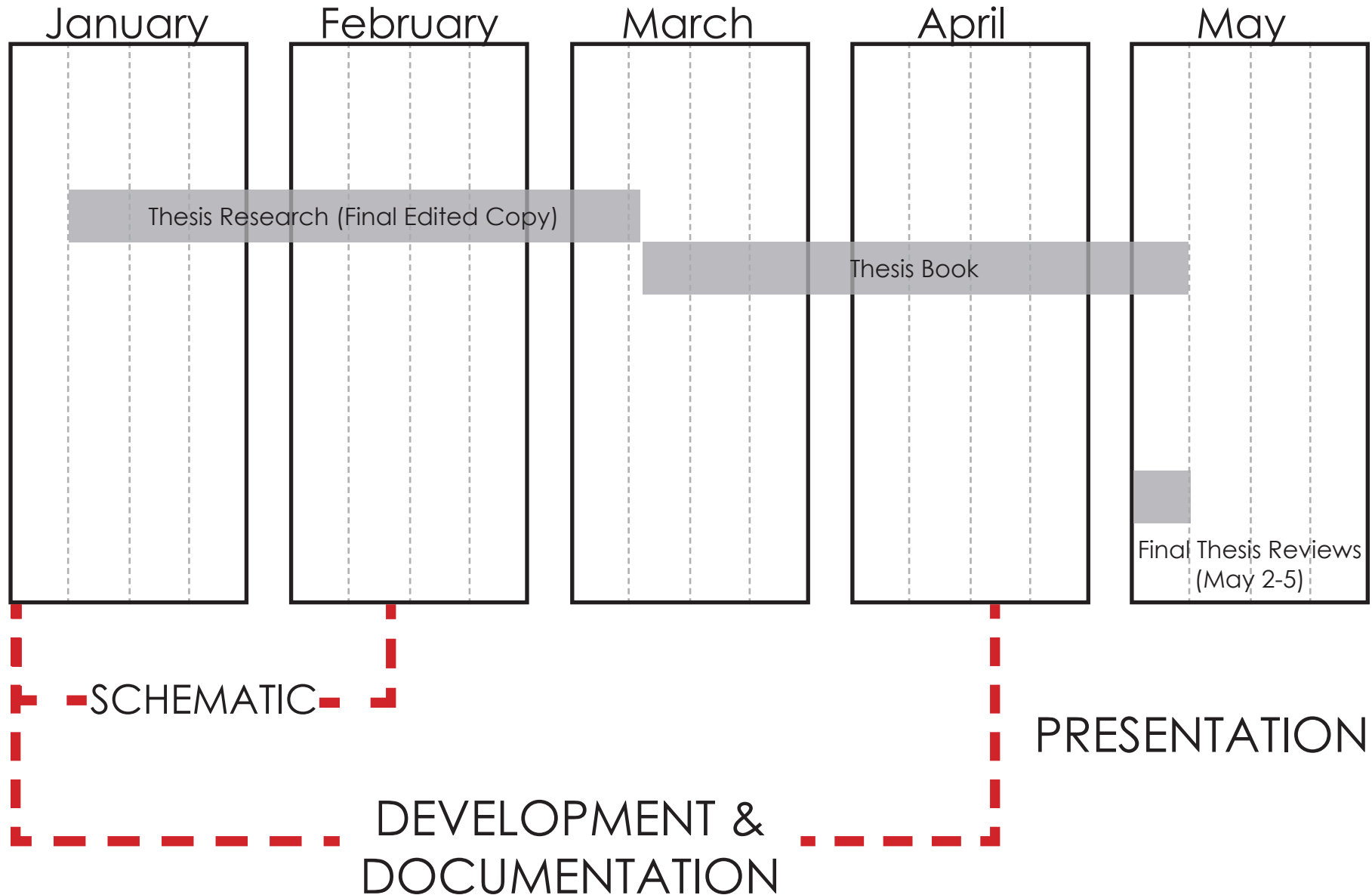
A PLAN FOR PROCEEDING

PROJECT SCHEDULE



A PLAN FOR PROCEEDING

PROJECT SCHEDULE



RESEARCH

RESEARCH

There were three primary areas of research that were utilized to inform this thesis.

1. Qualitative & Quantitative Research
 2. Interviews
 3. Case Studies
-

Qualitative and Quantitative research was gathered from three primary resources. One resource was a study conducted by Meghan Finch, Impact of a Population Based Intervention to Increase the Adoption of Multiple Physical Activity Practices in Center Based Childcare Services: a Quasi Experimental, Effectiveness Study. The second resource was a study by Lubna Razak titled Implementation of Policies and Practices to Increase Physical Activity Among Children Attending Center-Based Childcare: A Cross-Sectional Study. The third resource was a study by Nanci Weinberger titled, Looking Inside and Out: Perceptions of Physical Activity in Childcare Spaces.

Two interviews were conducted with employees of two of the aforementioned case studies. Ryan Williams, COO of TNT Kids Fitness & Gymnastics and Cody Borud, Membership director and HR Director at the Minot Family YMCA both provided tremendous insight into their respective businesses and their typologies as a whole.

The four case studies highlighted previously in the book focused on two main typologies: childcare centers and recreation centers. These case studies included the Minot Family YMCA, TNT Kids Fitness & Gymnastics, Maryland Heights Community Recreation Center, and SFU UniverCity Childcare.

RESEARCH RESULTS

Impact of a Population Based Intervention to Increase the Adoption of Multiple Physical Activity Practices in Center Based Childcare Services: a Quasi Experimental, Effectiveness Study

The lead on this study was Meghan Finch and it can be found in the International Journal of Behavioral Nutrition and Physical Activity. In this study, the primary focus was to describe the impact that the adoption of multiple policies and practices that promote physical activity had on childcare centers.

A quasi experimental study was conducted in 228 childcare centers in New South Wales, Australia. The study involved a three month long intervention that included the implementation of eight different practices that were intended to promote physical activity in children. Practices included staff training, resources, incentives, follow-up support, and performance monitoring and feedback. 164 other childcare facilities in New South Wales were designated as the comparison group and received no intervention. Self reported data on things like physical activity policies and sedentary time were collected at the start of the study and again 18 months later.

When compared with the control groups, the study found much greater increases in prevalence of intervention services that included a written physical activity policy, policies referring to placing limits on small screen recreation, and with staff trained in physical activity. There were also some less significant trends toward an increase in the proportion of intervention services conducting daily fundamental movement skill sessions, and such services having a physical activity policy supporting physical activity training for staff were also evident.



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Figure T8 - New South Wales

RESEARCH RESULTS

It was concluded that the intervention was effective in improving the childcare center service policies and practices that were associated with promoting childhood activity. According to the National Center for Educational Statistics, in 2019 59% of children ages 5 and younger who are not yet in kindergarten participated in at least one weekly non-parental care arrangement with 62% of those non-parental care arrangements taking place in childcare centers. This would conclude that childcare centers represent a promising setting for implementation of physical activity protocol interventions as they provide access to a large number of young children for prolonged periods of time.

It has been proven that adequate physical activity among children promotes bone health, helps prevent obesity, and is beneficial for children's social, psychological, and fundamental motor skill development.

Even with this knowledge, international research suggests that many children ages four and younger don't meet current recommendations for participation in physical activity, exhibit high levels of sedentary behavior, and participate in excessive viewing of television.

It can be reasonably concluded that the adoption of a broad range of practices and policies would prove to be beneficial in facilitating increased physical activity among youth in childcare centers. Compared to this study, a more intensive and prolonged intervention may be necessary in order to ensure adherence to a standard set of practices and/or policies.



Figure 19 - Ring Diagram

RESEARCH RESULTS

Implementation of Policies and Practices to Increase Physical Activity Among Children Attending Center-Based Childcare: A Cross-Sectional Study

This study can be found in the Health Promotion Journal of Australia. The lead of the study was Lubna Razak. This study was similar to the last study conducted by Meghan Finch in that it addressed the issue of improving children's physical activity through the implementation of several services in order to create more physically active environments in childcare centers. The study "aimed to describe the implementation of Physical Activity policies and practices by these services, and to examine the associations with service characteristics" (Razak, 2020).

The topic of this study is important for a variety of reasons. For one, physical activity helps to protect against non-communicable diseases like diabetes, strokes, cardiovascular disease, and even some cancers. The age range the study focuses on is especially important as healthy lifestyle behaviors are so often established in the early childhood developmental period. By ensuring children are sufficiently active, the odds of them developing future chronic disease is significantly reduced.

In Australia, where this study was conducted, guidelines recommend children under 5 years old get at least three hours of physical activity a day with at least an hour of that activity being moderate to vigorous. "However, similar to research findings in

other countries, less than 20% of Australian children under 5 years old currently met this recommendation" (Razak, 2020).

Environments where children spend a lot of time are a necessary component of any study that seeks to realize health benefits of physical activity in children. It is for that reason that childcare centers are an optimal target for these studies, and an effective place for the implementation of strategies to help improve physical activity in today's youth. These facilities also have existing infrastructure a programming that allow for the easy implementation of policies and practices that lead to increased child physical activity.

This was a cross-sectional study that included 364 childcare services in one region (Hunter New England Local Health District) of New South Wales, Australia. It took the form of a computer-assisted telephone interview (CATI). Interviews took place between May and July of 2017. Questions dealt with things like operational characteristics, number of children and staff, and current implementation of physical activity promoting policies.

RESEARCH RESULTS

Seven policies and practices were specifically assessed:

1. Service scheduling of >25% of opening time for physically active play
2. Service provision of accessible portable play equipment both indoors and outdoors
3. Service provision of enough quantities and types of portable play equipment for all children who regularly use them
4. Service scheduling time for daily fundamental movement skills (FMS) activities for 3- to 5-year-olds
5. Existence of a written PA policy with required elements
6. Existence of a written small screen recreation (SSR) policy with required elements
7. Service has at least 50% of staff who have received training (by an external agency or other trained staff) in promoting child PA in the past 5 years

Results

Of the childcare services included in the study, the median enrollment was 89 children. 96% of the childcare services were open 5 days a week with 74% of them being open for eight or more hours per day.

1. 98% of services reported providing physical activity opportunities for at least 25% of their operating hours.
2. 95% of services reported having sufficient portable physical activity equipment that was accessible for children indoors and outdoors.
3. 69% of services reported having sufficient types and quantities of such equipment.
4. 64% of services delivered daily FMS activities.
5. 69% of services reported having educators who had attended training on promoting child physical activity in care in the past 5 years.
6. 39% of services reported having a written physical activity policy (that included all recommended elements).
7. 26% of services reported a written SSR policy with all required elements.
8. 8% of services implemented all seven physical activity policies and practices.

While it is encouraging that almost all childcare services in the study reported physically active play time for at least 25% of their operating hours, there is a lot of room for improvement in the way of policies and procedures that promote physical activity. Having sufficient space and equipment to facilitate physical activity is also an important factor that could generally be improved upon. Something to consider moving forward would be the implementation of strategies that require less reliance on educator knowledge and skills.

RESEARCH RESULTS

Looking Inside and Out: Perceptions of Physical Activity in Childcare Spaces

This study by Nanci Weinberger “addresses the need to better understand how providers’ perceptions of indoor and outdoor childcare settings can set the stage for arranging play spaces to optimize children’s moderate-to-vigorous physical activity” (Weinberger, 2012).

It was found that in the years 2017 and 2018, 19.3% of children and adolescents between the ages of two and 19 were classified as obese. The childhood obesity epidemic and children’s inadequate levels of moderate-to-vigorous physical activity is of great concern to educators, health professionals, and policy-makers. In this study, as in the others addressed previously, childcare centers are identified as ideal settings for the promotion of physical activity. With physical activity comes a variety of benefits. “Undoubtedly, promoting physical activity in childcare settings is a key strategy for preventing excessive weight gain in young children. Moreover, the effects of physical activity for children are far-reaching and extend beyond physical health to include significant benefits for cognition and learning, motor development, and socio-emotional well-being such as improved mood and increased self-confidence” (Weinberger, 2012). Childcare professionals play a substantial role in facilitating physical activity amongst children. The presence and arrangement of certain features in childcare settings also play a vital role in how kids engage in physical activity.

This study had five primary goals...

1. to investigate providers’ perceptions of childcare spaces in terms of physical activity, safety, quality
2. to understand how providers perceive the impact of specific features on physical activity, safety, and quality
3. to examine whether providers’ perceptions of physical activity, safety, and quality are correlated
4. to survey providers’ existing beliefs about children’s physical activity
5. to examine whether previous attendance at physical activity training workshops impacts providers’ perceptions

RESEARCH RESULTS

Method

The sample consisted of 61 childcare professionals, 28 of whom reported having at least a bachelor's degree. These participants were recruited in the exhibitor's area of an early childhood education conference. Information for the study was gathered via a survey. The survey asked questions relating to three primary sections: demographics, belief ratings about physical play, and perception ratings and feature analysis of photographs of childcare spaces.

Results

Overall, it was found that spaces rated high in quality by the participants, also rated high in both physical activity and safety. A finding in regard to the participants' beliefs about physical play showed they are more prepared to provide opportunities for active play outdoors than indoors. Participants are also happier when children are playing outdoors rather than indoors. Results showed participants believed physical activity has a significant positive impact on both children's health and learning.

Ultimately, the physical environment of a childcare center can help to facilitate more physical activity among children. Having childcare providers that see and understand the features that support physical activity can make all the difference in whether a childcare setting fosters that increased activity or not.

“Gaining a better understanding of how childcare providers perceive the physical environment in childcare centers lays the groundwork for ultimately creating play spaces that will maximize children’s engagement in physical activity” (Weinberger, 2012).

RESEARCH RESULTS

INTERVIEWS

Ryan Williams
COO of TNT Kids Fitness & Gymnastics

Ryan Williams of TNT Kids Fitness & Gymnastics was gracious enough to give me tour of their facility, as well as answer the questions I had for him regarding TNT, how they operated, and what makes them such a unique organization. A tour of the facility allowed me to get a feeling for all of the programming that exists at TNT and the facilities and equipment that allow them to offer so much. It is evident within five minutes of being at TNT that they are an extremely unique organization that offers things no other business does. A detailed look at the programming is available in the Case Studies section of the book.

Much of the interview with Ryan consisted of him answering my questions that were categorized in three different sections. I asked informational questions pertaining to childcare, informational questions relating to recreation, and finally some opinion-based questions pertaining to TNT and their unique typology as a whole.

A condensed synthesis of information gathered from TNT as a whole, but especially through their childcare aspects would stress the ideas of learning, moving, and growing. TNT's partner company Learn n' Move operates the childcare within the facility but the lines between businesses are quite blurred. TNT's partnership with Learn n' Move, as well as their other in-house partnership with Anne Carlsen Center, are so integrated that they essentially act as one. The ideas of inclusivity and physical activity are consistently integrated throughout all programs. Kids ages 1.5 to 5 spend their days leaning, moving, and growing at TNT. Older children utilize TNT's after school program, summer camp program, and school's out day camps to help them progress physically, mentally, and socially.

RESEARCH RESULTS

INTERVIEWS

TNT is unique from other childcare organizations due to its multi-purpose. The facility offers so much in the way of recreation with opportunities like gymnastics, trampolines, rock walls, sport courts, the list goes on. With such unique facilities that no other childcare facility can offer, TNT can much more effectively facilitate physical activity among the kids that visit. The amenities and activity options are what draw parents to TNT.

TNT caters to the community like not many other organizations can. While they do offer some of the most desirable childcare opportunities in the region, they also cater to other populations with programs like the United States Veterans Fitness Club, Parkinson's Performance Boxing, and No Limits Fitness. TNT provides programs for members of the community that otherwise might not have many options for fitness activities. TNT even offers occupational therapy in house utilizing their own sensory gym as well as the rest of the facility just to further emphasize their objective of inclusivity.

It was evident to me that TNT was doing a lot of things right and when I asked Ryan what TNT takes the most pride in, inclusivity, collaboration and community relations were near the top of the list.

An area where Ryan thinks there is always room for improvement is how to increase TNT's influence to people outside of the facilities walls. They have made great strides toward doing just that with things like Explore Academy that is designed specifically for students with issues relating to behavioral and sensorial skillsets.

An aspect of the physical site of TNT that causes limitations is simply the site constraints. They are surrounded on all sides with very little room to expand should they ever want to. With an organization as popular as TNT, growth almost seems inevitable.

RESEARCH RESULTS

INTERVIEWS

Cody Borud
HR Director and Membership Director of
the Minot Family YMCA

Cody Borud was gracious enough to answer my queries regarding the Minot Family YMCA and offer me his insights into the facility. Having grown up in Minot as a member of the Y, I was already familiar with the facility and programming it had to offer. I asked some general questions to reinforce this knowledge and then moved on to a broader set of questioning having to do with the Y's current state and what they do well or could improve upon.

The Minot Family YMCA currently has about 3,400 members. Those members live in Minot, as well as surrounding communities like Burlington and Surrey. The population of the greater Minot area is about 50,000 which would mean about 7% of people in the region have a membership at the Y.

After going over the programming currently offered at the Minot Family YMCA, Mr. Borud offered up some potentially beneficial additional spaces that would enhance users experience at the Y. He noted how a second pool, a third gymnasium, a larger crossfit studio, and more studio space in general would all be extremely beneficial to the facility. Cody outlined space as one of the biggest issues that the Y is currently dealing with. As of now, due to the lack of space the staff at the Y is forced to repurpose rooms for different things as expanding isn't a very real possibility at the moment. The COVID-19 pandemic had a significant financial impact on the Minot Family YMCA, as it did most businesses. Fortunately for the Y, their site offers some flexibility in terms of expansion potential, should they ever choose to pursue that.

Along with space and money being current issues that the Y is dealing with, general operations and maintenance can also be problematic. The building itself is over two decades old and with large, fairly old buildings come significant maintenance costs.

RESEARCH RESULTS

INTERVIEWS

When asked what the Y does well, Cody offered up several examples. For one, he describes the Y as very inclusive. Handicap accessibility is a consideration in every inch of the building, from the pool, to machines, to the locker rooms. The Y is also accessible from a financial standpoint. They have a sponsorship program that people can apply for in order to receive a reduced rate on a membership. Cody also describes the Y as an extremely family friendly environment that is very active within the community. The Y offers things like organized youth sports and summer camps every year.

I asked Cody about the potential benefits and problems of a full time childcare center within a recreation center and he offered up a lot of valuable insight.

While the Minot Family YMCA does not have a full time childcare center, Cody mentioned that some other YMCA locations do and they provide a lot of financial income. He even mentioned that some YMCA locations make more from their childcare programs than from membership fees. That would be a significant amount of money seeing as how the Minot Y makes about \$120,000 a month in membership fees.

Mr. Borud noted some of the potential problems that could come along with implementing a full time childcare service within a recreation center are things like staffing and space. Also, obtaining certifications is a process that would need to be completed. Undoubtedly, implementing a full time childcare service in a facility that wasn't initially designed for it could potentially be troublesome. However, in a facility with childcare facilities taken into account every step of the design process, most of those concerns could be dealt with effectively and solved through thoughtful design.

RESEARCH RESULTS

SUMMARY

A number of conclusions were drawn from all forms of research. These resources were instrumental in informing the premise of how a recreation center with childcare elements ingrained within its architecture can help today's youth to lead healthier, more active lifestyles and help develop their physical, mental, and social well-being.

The three studies that were researched all, in some capacity, had to do with physical activity in childcare centers. Two of those three studies dealt heavily with the implementation of physical activity encouraging policies and practices in childcare centers and the effects of those policies and practices. Those studies largely found that the implementation of certain policies and practices does increase physical activity in children. Another conclusion drawn from these studies is the importance of having a physical activity friendly environment and equipment, as well as staff who are skilled at fostering this activity within the facility. The third of those three studies looked more at childcare workers perceptions of physical activity as it pertains to childcare centers. The study showed that overall, childcare center

staff recognize physical activity as having a positive impact on children's mental and physical health. These impacts were especially apparent to the participants in the study when it came to outdoor play settings. It became apparent that having the proper facilities and staff who know how to best utilize those facilities have a massive impact on activity levels of the children.

Having the opportunity to visit, and learn from professionals in the fields related to this thesis topic were invaluable for gaining insight into these typologies and how to make them successful.

When visiting with Ryan Williams, COO of TNT Kids Fitness & Gymnastics, it was immediately apparent that TNT is not like any other childcare organization. What makes TNT so unique and so valuable to my research, is their ability to effectively combine multiple typologies that work for the benefit of each other. In a nutshell, TNT combines childcare with recreation much like I plan to do for this thesis project. TNT gives parents the opportunity to drop their kids off at a facility where they know the kids will get

RESEARCH RESULTS

SUMMARY

everything that is expected of a standard childcare center, but they will also know that their kids will be getting high levels of physical activity and having fun and making friends while doing it. TNT sets the bar for standards like physical activity, inclusivity, and collaboration extremely high. They serve a great example for fostering physical activity in today's youth and were an extremely beneficial addition to this research.

Cody Borud, Membership and HR Director of the Minot Family YMCA was also extremely beneficial to this research. His insights into their facility and what makes it a successful recreation center will undoubtedly carry over into the design solution for this thesis project. While Cody offered up tremendous insights into their current facility, he also offered up insights into what their facility could improve upon and even broader, what would make for

a successful recreation center. His experience and expertise in the field of recreation make him a valuable resource for this project.

In conclusion, considerations will be taken from each of these sources on a variety of different aspects. The value of physical activity in youth is immeasurable. Physical activity helps children to grow physically, mentally, and emotionally. Effective environments and policies that are conducive to physical activity are arguably as important as physical activity itself. These implementations require a well-trained staff in order to be successful. Through the study and visitation of childcare centers as well as recreation centers, valuable insight into what makes those organizations successful was gathered. Applicable insights will be considered in preparation for a final design solution.

TYOLOGICAL PRECEDENTS

Minot Family YMCA
Minot, ND



Figure 20 - YMCA Logo



Figure 21 - TNT Logo

TNT Kids Fitness &
Gymnastics
Fargo, ND

Maryland Heights Community
Recreation Center
Maryland Heights, MO



Figure 22 - MHCRC 1



Figure 23 - SFUUC

SFU UniverCity Childcare
Burnaby, British Columbia,
Canada

TYOLOGICAL PRECEDENTS

MINOT FAMILY YMCA



Figure 24 - YMCA Entrance

TYOLOGICAL PRECEDENTS

MINOT FAMILY YMCA

As the only public recreation center in Minot, the YMCA is extremely popular for the citizens of Minot and its surrounding communities. The Minot Y began in 1943 and has evolved tremendously to become not only the most popular recreation center in the region, but a cornerstone of physical activity, public interaction, and civic engagement within the community. The Minot Y's first home was located on the corner of 1st and 1st in downtown Minot. Since the year 2000, it has called the corner on 3515 16th street in SW Minot home.

As the only public recreation center in the region, The Minot Y draws memberships from a large percentage of citizens of Minot and surrounding communities.

Currently, the Minot Y has about 3400 members. As the total population of Minot and its neighboring towns Surrey and Burlington is about 50,000 people, this would mean about 15% of the region's population is a member at the Y.

This statistic is nearly identical with the percentage of US citizens who have a gym membership (14%).



Figure 25 - YMCA Site

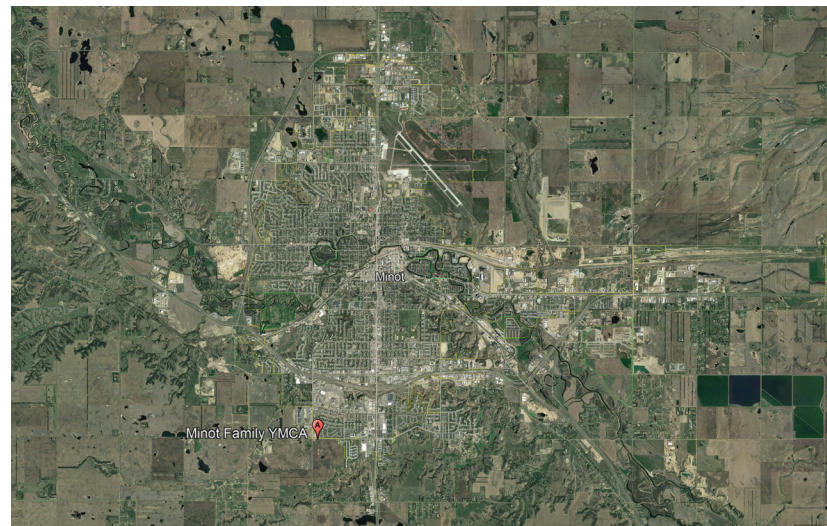


Figure 26 - Minot Site Map

TYOLOGICAL PRECEDENTS

MINOT FAMILY YMCA

Program

- Pool (25 yards)
 - Open Swim
 - Swim Lessons
 - Lap Swim
 - Fitness Classes
- Hot Tub
- Dry Sauna
- Steam Room
- Daycare
- Kids Gym
- Locker Rooms
- Gymnasiums
 - Basketball
 - Pickleball
 - More
- Rock Wall
- Crossfit Studio
- Sport Courts
 - Racquetball
 - Handball
 - Wallyball
 - More
- Training Center
 - Cardio Center
 - Selectorized and Free Weights
 - Indoor Track
 - Half Track and Equipment room
 - Family Cardio Room
 - Circuit Training Room
- Cycling Studio
 - Spin Classes
 - Virtual Trails
 - Open Cycling

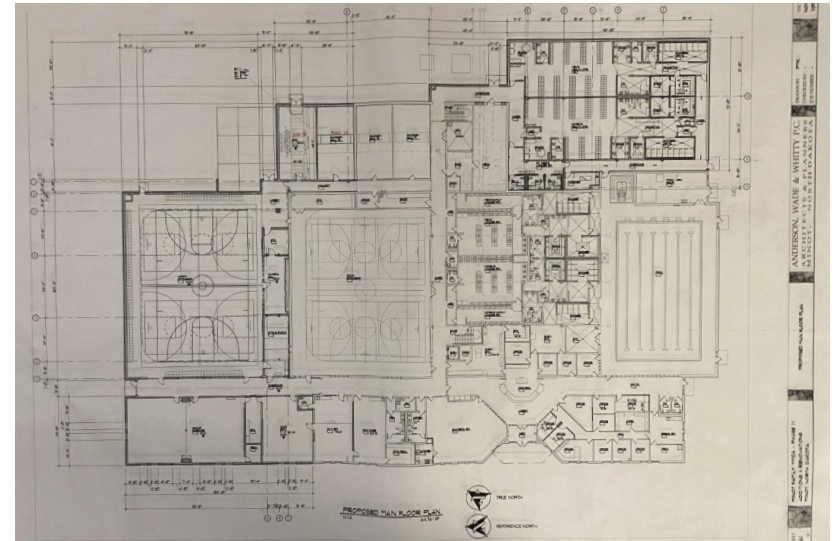


Figure 27 - YMCA Level 1

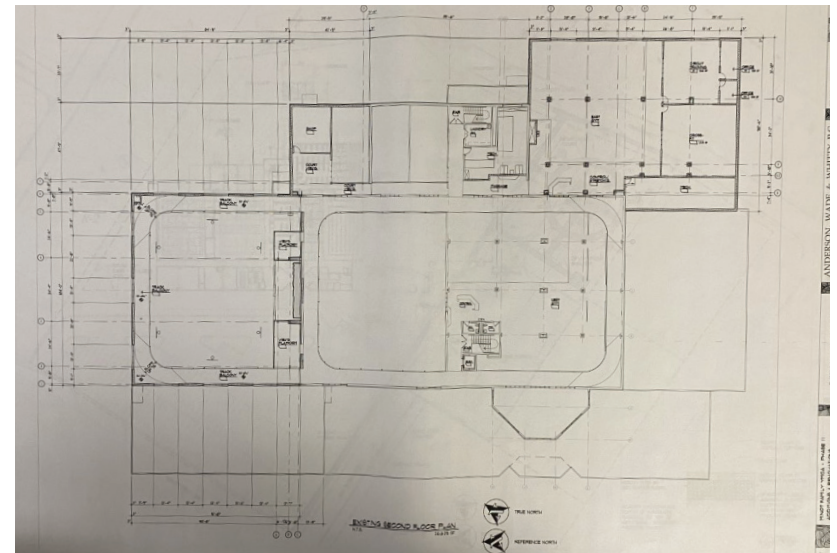


Figure 28 - YMCA Level 2

TYOLOGICAL PRECEDENTS

MINOT FAMILY YMCA

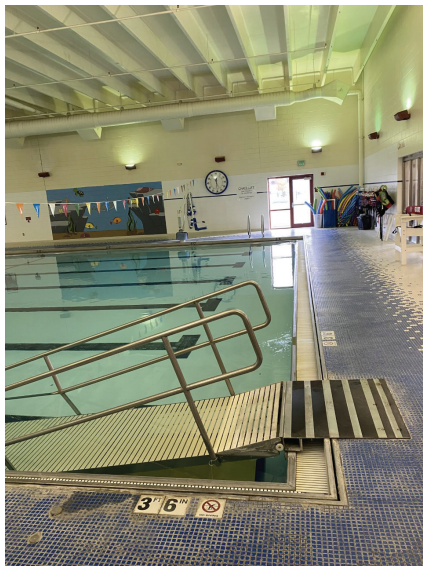
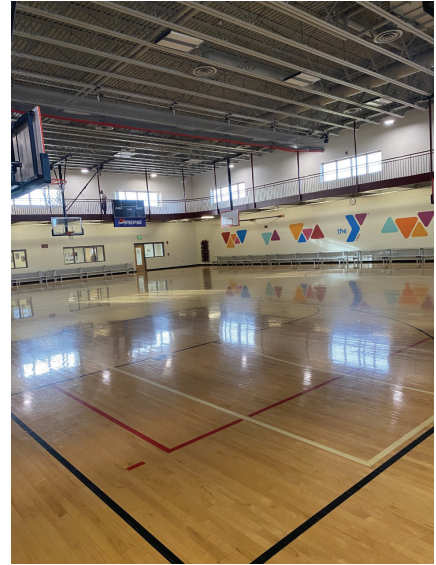
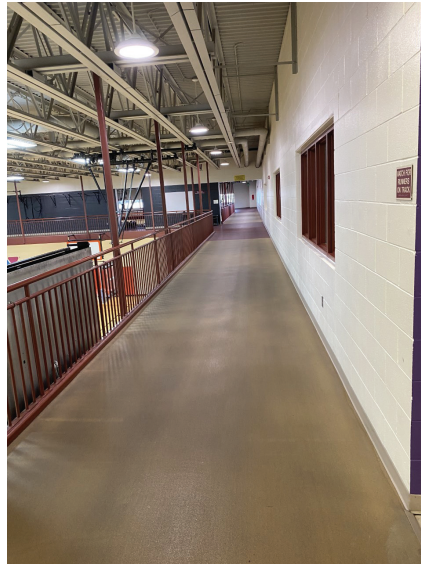


Figure 29 - YMCA Facility Photos

TYPOLOGICAL PRECEDENTS

MINOT FAMILY YMCA

While speaking with Cody Borud, HR Director and Membership Director of the Minot Family YMCA, much insight was gathered on the Minot Family YMCA's status, how they operate, where they excel, where they could improve, and more. That insight is dissected greatly in the interviews portion of the research section of the book.

Where the Minot Y Could Improve

In terms of potentially beneficial programmatic spaces that Cody believes would be a beneficial addition to the facility, he cited a second pool as being necessary. He also stated that a third gymnasium would get utilized quite extensively as the current two are occupied a majority of the time. A larger crossfit studio, and more studio space in general are considered needs in Mr. Borud's opinion as the current space they have for those activities is insufficient. More studios offers the opportunity for more classes and potentially more visitors to the recreation center.

The primary issues that the Minot Family YMCA is currently dealing with are space and money. As many other businesses during the COVID-19 pandemic, the Minot Y took a pretty big hit financially as a result of the pandemic. As it takes a lot of money to run such a large facility, especially one that is two decades old, there is not a lot of room in the budget to consider expansion at this point in time. That is a problem for the Minot Y as they are dealing with a pretty drastic lack of space. Currently, they are repurposing rooms in the building for different purposes to try and accommodate as many people and activities as possible.

Where the Minot Y Excels

The Minot Family YMCA is an extremely inclusive facility. They prioritize handicap accessible facilities as well as handicap friendly equipment. The Minot Y also offers a sponsorship program that is available to those in need of financial assistance. Inclusivity is a major point of emphasis at the Minot Y.

The Minot Y is also extremely family friendly. From things like family plan memberships and activities to designated family and children locker rooms, the Y makes sure to have everyone covered.

One area that the Minot Y takes great pride in is their community engagement. The Y offers a variety of community activities and programs like youth sports, swim lessons, camps, etc.

TYOLOGICAL PRECEDENTS

MINOT FAMILY YMCA

Daycare

While the Minot Family YMCA does feature daycare facilities, they are non-licensed and parents/guardians are required to be in the facility in order to leave their kids there for a maximum of two hours.

Kids eight years old and younger are welcome.

The kid's gym is a supervised kid-friendly space equipped with jungle gyms, tunnels, rock walls, toys and more.



Figure 30 - Child Playing

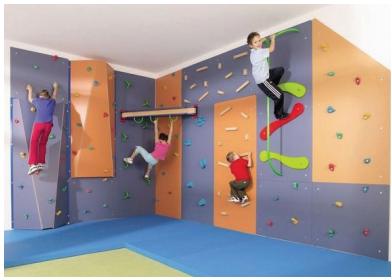


Figure 31 - Rock Wall

School's Out Days

The Minot Family YMCA does offer school's out days that provide a fun, safe place for kids ages 5-11 when they don't have school.

It is composed of a combination of fun, educational, and creative activities meant to develop the potential of every child.

School's out days are meant to help instill the four core values of the Y: caring, honesty, respect, and responsibility.

Potential Positives and Negatives of Combining Recreation Center and Childcare Center Typologies

Potential Positives

Mr. Borud states that a full service childcare facility within a recreation center would add significant financial income.

He mentioned that some other YMCA locations that do have full service childcare facilities make more money from the childcare than they do from membership fees.

This combination of typologies also gives kids increased exposure to all kinds of recreational activities.

Potential Negatives

As staffing is an issue nearly everywhere during these unprecedented times, finding additional staffing for the childcare facility could be potentially problematic.

Additional hoops to jump through involving childcare certification may be potentially troublesome.

However, with this combination of typologies taking precedent from the beginning of the design process, these issues shouldn't play as large a factor.

TYOLOGICAL PRECEDENTS

MINOT FAMILY YMCA

Conclusion

The Minot Family YMCA offers a great variety of physical activity and exercise options for the citizens in and around Minot.

As the only public recreation center in Minot, it is very popular with local residents. The Y also does a lot in terms of being involved with the community. Youth sports and camps are examples. The facility has had renovations and additions during its history in order to add accommodations that are popular with its members. They have been successful in integrating aspects and strategies in order to gain popularity with the community. The facility itself provides a wide variety of activities that cater to their members wants and needs.

In relation to childcare, the Y has made an effort to try and appease the parent who needs to keep their child occupied when they are working out. Also, while they have made strides to offer accommodation to parents who need a form of childcare on "no school days", they don't have much to offer a parent who needs supervision for their kids on any given day. This potential shortcoming will be considered and used to inform the program/design of this thesis project.

The insight gathered from Mr. Borud will help tremendously in establishing a program and design for a successful collaboration between childcare and recreation center typologies.



Figure 32 - YMCA Front Facade

TYOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS



Figure 33 - TNT Logo

TNT Kids Fitness & Gymnastics is a childcare center, a gymnastics facility, a fitness center that caters to the mental and/or physically disabled, but more significantly, TNT is a place where potential is unlocked through movement. They pride themselves on helping people, especially children, grow stronger physically, mentally, and emotionally.

TNT also takes pride in their inclusivity as well as their community engagement and partnerships.

TYPOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS

Partner Organizations

TNT currently collaborates with two other organizations within the same facility, those being Learn n' Move Childcare Center and the Anne Carlsen Center

Learn n' Move is a non-profit childcare center that, through collaboration with TNT and Anne Carlsen, has a truly innovative approach to childcare that focuses on the importance of learning, moving, and growing.

Anne Carlsen is a non-profit organization that provides individuals that have developmental disabilities or delays with services and supports

These three organizations all operate under one roof not as separate entities, but as one collaborative hybrid model that allows for maximum inclusion and opportunity.



Figure 34 - Learn n' Move Logo



Figure 35 - Anne Carlsen Logo

TYOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS

Learn n' Move

Mission: Provide endless possibilities for children to learn, move, and grow.

Learn n' Move offers childcare services to three different age ranges

- Littles (1.5-3 years)
- Middles (3-4)
- Bigs (4-5)

The facility emphasizes the importance of inclusivity, as well as physical activity and movement. Once a week, the children utilize the gymnastics facility. They also have access to a multi purpose gym as well as a sensory gym in the facility. Every part of the facility is available to kids in order to provide them with whatever they may need.

Through their collaboration with TNT, Learn n' Move as access to unique facilities and opportunities not usually available at other childcare centers.

Learn n' Move utilizes catering to provide their children with healthy snacks and meals. They have a kitchen in the facility as well.



52

Figure 36 - TNT Outdoor Area



Figure 37 - Flex Gym



Figure 38 - Learn n' Move

TYOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS

School-Age Children

TNT offers summer camps, after school programs, as well as school's out day camps.

During the summer, parents can sign their kids in grades kindergarten through 5th grade up for one week "camps" that essentially operate like childcare centers. Parents can sign their kids up for just one, or for all 12 weeks offered to allow for flexible schedules.

Kids get dropped off in the morning and spend their day playing games, doing activities, or going on fun and educational field trips.

For TNT's SOAR (Students of All Abilities Respected) after school program, students are picked up from school by TNT staff and brought to the facility where they can expect a snack, at least an hour of physical activity, as well as time for homework, studying, and activities.

School's Out Day Camps are offered on certain days that there is no school. Days spent at these camps look a lot like the summer camps, with the exception of a lot of the outdoor activities.



Figure 39 - TNT Kids 1



Figure 40 - TNT Kids 2



Figure 41 - TNT Kids 3

TYOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS

Recreation at TNT

There is something for everyone at TNT. Activities are offered for children as young as three months old with movement seminars for parents and their young children. There are also classes for the elderly and everyone in between.

Some activities available at TNT are gymnastics (both classes and competitive), cheer, ninja classes, a U.S. Military Veteran's Fitness Club (USMVFC), Parkinson's Performance Boxing, and No Limits Fitness which is an adult fitness class for those with special needs.

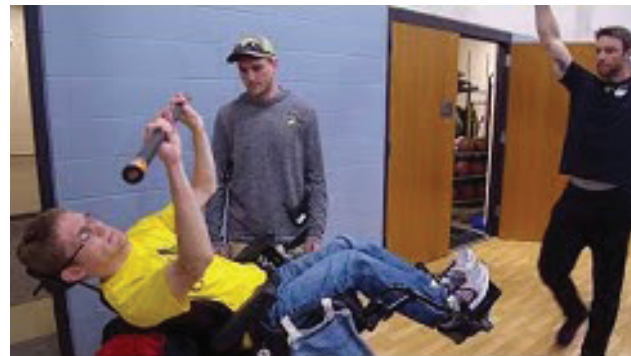


Figure 42 - TNT Activities

TYPOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASSTICS

Occupational Therapy

Something else unique offered at TNT is occupational therapy.

With a dedicated sensory gym that is sensitive to people of all physical and mental capacities as well as access to the rest of the facilities available at TNT, the on-site occupational therapist provides client centered therapy to improve physical development, sensory processing skills, social and emotional development, and cognitive development.



Figure 43 - Sensory Gym 1



Figure 44 - Sensory Gym 2



Figure 45 - Trampoline

TYOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS

Successes and Potential Opportunities

I was fortunate enough to have the opportunity to visit TNT and get some insight into who they are and how they operate.

In speaking with staff, a number of successes of TNT were identified, as well as a number of potential opportunities that could either be achieved or improved upon.

Some things, among the many, that TNT takes great pride in are their inclusion, collaboration, and community relations. TNT has been extremely successful in these categories and has even made strides in extending these ideas into other sectors of society like public schools and higher education.

One striking example of their influence in society is the new Explore Academy attached to Lewis and Clark Elementary School in Fargo. Explore Academy is North Dakota's first special education school with integrated project-based STEAM and gross motor program opportunities. TNT will have a hand in the school via a sensory gym where trained professionals can work with the kids just as they would at TNT. This is an example of TNT working toward one of their goals of extending their influence outside of their own walls into other parts of society.

Some things mentioned that could be improved upon at TNT are simply the site limitations. While TNT does have a very impressive facility, there is not much room

to grow as they are pretty much confined to their very much surrounded site. A good portion of the site is dedicated to parking yet it is still oftentimes not enough. The location of the site is great but it has its limitations.



Figure 46 - TNT Site



Figure 47 - TNT Building

TYOLOGICAL PRECEDENTS

TNT KIDS FITNESS & GYMNASTICS

Conclusions

TNT is a prime example of childcare collaborating with other typologies. They offer all of the basic necessities and then a whole lot more. Their passion for inclusivity and unlocking potential through movement should be goals to strive for.

TNT is a real-life example of successful community engagement. TNT's impact can be felt even outside of the walls of their facility. I believe that to be an admirable trait in any facility wishing to make a difference in their community.

A number of successful facility aspects should be taken into consideration during the design of this thesis project. Even more than that, however, is the programmatic aspects of TNT and its partner organizations.



Figure 48 - TNT Sign

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER



Figure 49 - MHCRC 2

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

About

Maryland Heights Community Recreation Center is located in Maryland Heights, Missouri.

It is located at 2300 McKelvey Road

It was designed by CannonDesign with the lead architect being David Polzin

It was completed in 2017

Its 91,800 SF consists of a variety of recreational, wellness, and civic engagement activities.

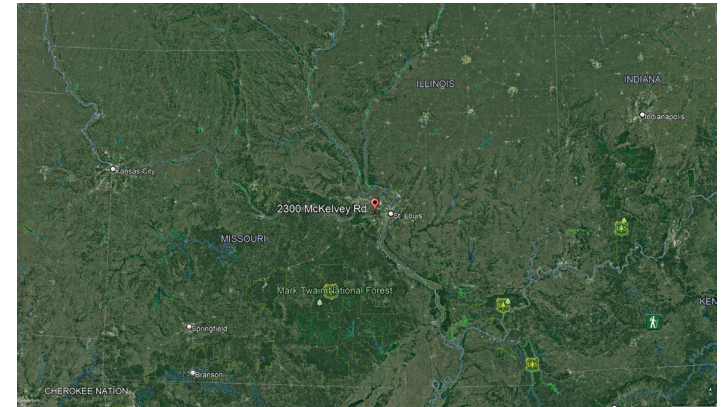


Figure 50 - Maryland Heights Map

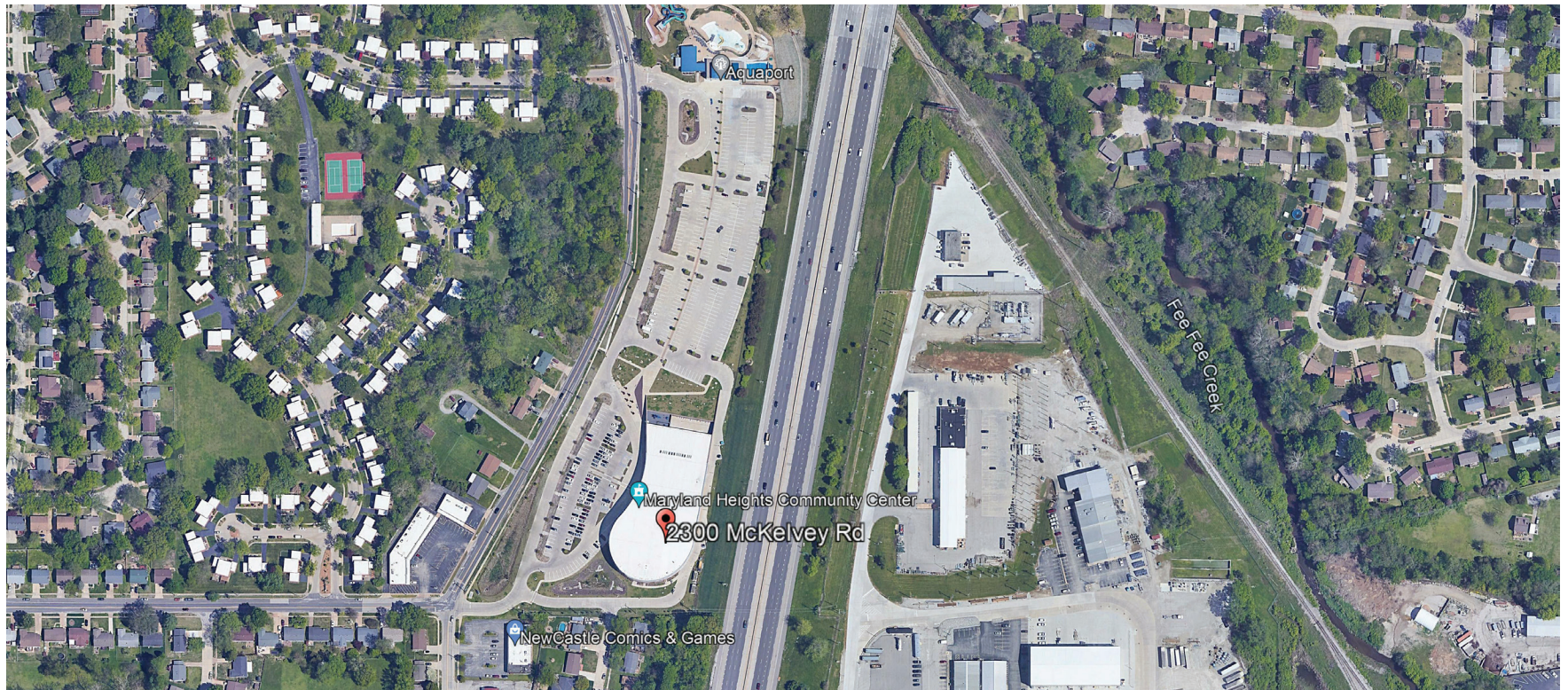


Figure 51 - MHCRC Site

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Facility

Pool

Locker Rooms

Senior Center

Jogging Track

Multi-Activity Court

Playground

Meeting Rooms

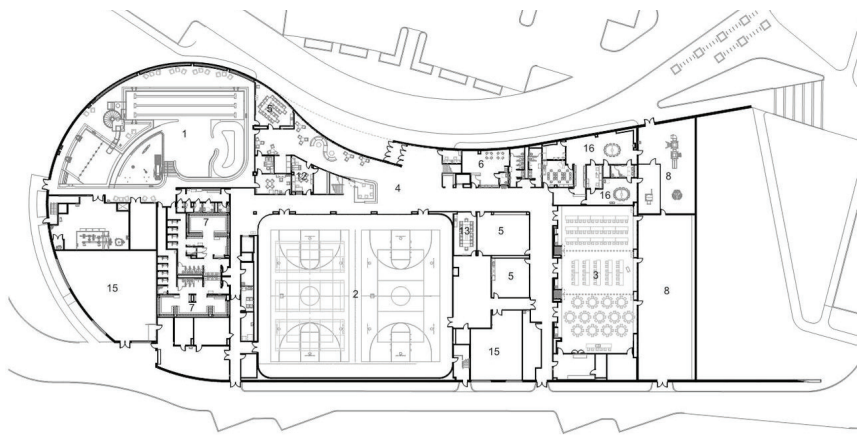
Preschool

Play Center

Group Exercise Rooms

Weights/Fitness Area

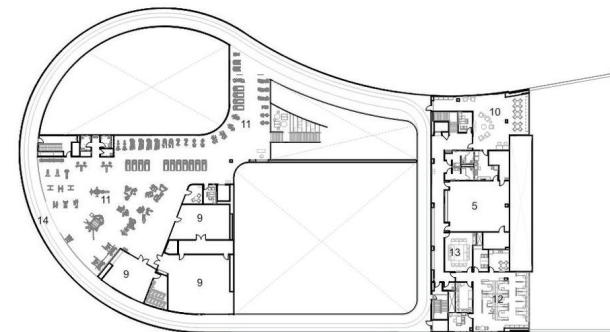
Lobby



- 1. NATATORIUM
- 2. MULTI-ACTIVITY COURT
- 3. MILLENNIUM ROOM
- 4. LOBBY
- 5. MULTI-PURPOSE
- 6. PLAY CENTER
- 7. LOCKER ROOMS
- 8. COURT/PLAYGROUND
- 9. GROUP EXERCISE
- 10. SENIOR CENTER
- 11. WEIGHTS/FITNESS
- 12. ADMINISTRATION
- 13. MEETING ROOM
- 14. JOGGING TRACK
- 15. MECHANICAL
- 16. PRESCHOOL



Figure 52 - MHCRC Level 1



- 1. NATATORIUM
- 2. MULTI-ACTIVITY COURT
- 3. MILLENNIUM ROOM
- 4. LOBBY
- 5. MULTI-PURPOSE
- 6. PLAY CENTER
- 7. LOCKER ROOMS
- 8. COURT/PLAYGROUND
- 9. GROUP EXERCISE
- 10. SENIOR CENTER
- 11. WEIGHTS/FITNESS
- 12. ADMINISTRATION
- 13. MEETING ROOM
- 14. JOGGING TRACK
- 15. MECHANICAL
- 16. PRESCHOOL



Figure 53 - MHCRC Level 2

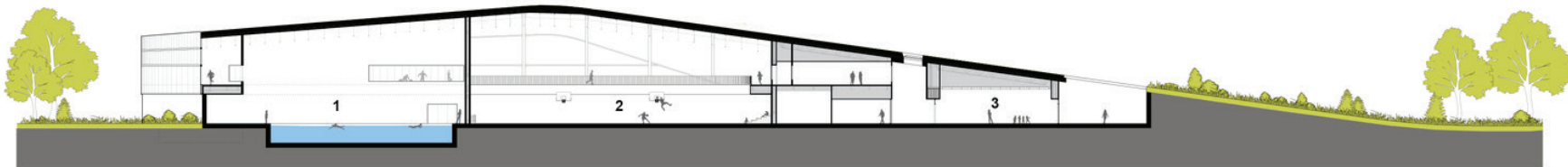


Figure 54 - MHCRC Section

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Site Adaptation

The site for the recreation center is located right along a main highway that runs through the community. While this may have been a major challenge, CannonDesgin embraced it as an opportunity.

By lifting the ground plane and nestling the building into the landscape, a sheltering form was created while creating occupiable space oriented away from the highway.

This alteration of the ground plane also created the opportunity to preserve green space by allowing the site to crawl up over the building.

The project's principal architect, David Polzin, describes what they were able to achieve through the form of the building and site alterations as an "acoustic shadow" that effectively disrupts the propagation of sound waves.



Figure 56 - MHCRC Site Plan



Figure 55 - MHCRC Highway View



Figure 57 - MHCRC Night View

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Aquatic Center

The 9,000 SF indoor aquatic center is prominently on display in the south end, allowing for maximum sun exposure.

It boasts three lap lanes, zero entry leisure pool, current channel, 4-foot drop slide, climbing walls, accessibility lift, and a kids area

Water aerobics classes, swim lessons, and open swim times are all available.



Figure 58 - MHCRC Pool 1



Figure 59 - MHCRC Pool 2

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Gymnasium

The Maryland Heights Community Recreation Center boasts a gymnasium that can accommodate two full size basketball courts, or four smaller courts. The gymnasium is not just used for basketball however. With retractable hoops and drop down court dividers, this space can be used for a variety of activities ranging from pickleball to volleyball and more.

The 12,800 sf gymnasium's eastern facade is clad in a translucent triple-walled polycarbonate facade that was used in order to control noise and glare yet provide natural light by day and a lantern-like glowing quality at night.



Figure 60 - MHCRC Gym 1

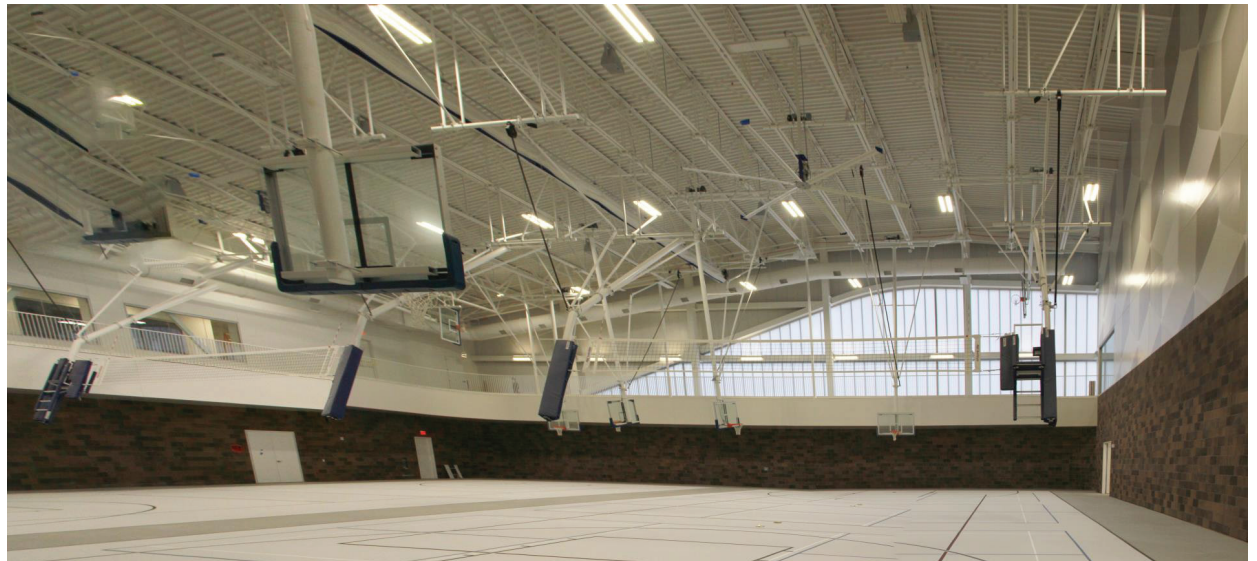


Figure 61 - MHCRC Gym 2

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Play Center

Much like the Minot Family YMCA, the Maryland Heights Community Recreation Center has a play center with staff who will supervise children whose parents are actively in the facility.

Children ages 6 months to 9 years old are welcome to stay for up to two hours

The play center operates from 3:30 to 7:30 p.m.



TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Preschool

The on-site preschool is available to children 3-5 years old

The preschool consists of a play area, classroom, computer room, separate toddler room, private bathroom, and direct and private access to an outdoor play area.

Goals of the preschool are to teach kids how to share, cooperate, problem solve, gain independence, learn self-awareness, and focus on the needs of individuals in a structured environment.



Figure 63 - Children at Play 3

TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Maryland Heights Academy

With the onset of COVID-19, the Maryland Heights Community Center offered a solution to working parents with kids who had to stay home for virtual learning. They provided space for kids in grades 1-5 to complete schoolwork, participate in physical activities, art, and more.

The staff managing this program do not have teaching certifications but will assist with schoolwork when possible. It is not the most optimal situation for kids but it is a viable solution for parents during uncertain times.



TYOLOGICAL PRECEDENTS

MARYLAND HEIGHTS COMMUNITY RECREATION CENTER

Conclusions

The Maryland Heights Community recreation Center is a terrific example of a rec center that serves as a hub for sports and activities, wellness, and civic engagement. This particular facility is also a remarkable example of adaptation and problem solving. Its form comes as a direct result of its environment. By lifting the ground plan and inflecting the form away from the highway, sound is dissipated by nearly half. This design solution also preserves green space on the site. Many aspects about the design of the facility itself are noteworthy and will be considered in regard to this thesis project.

Another thing to consider would be their implementation of a preschool within the facility. While they also offer a daycare service to parents who are working out at the facility much like the Minot Family YMCA, the Maryland Heights Community Recreation Center takes the concept a step further by offering preschool programs for kids ages three to five. While this is not quite childcare in a broad form it is still a step toward caring for and empowering today's youth to excel.

The building's form, program, and site adaptation are all valuable insights into what a successful project can look like and will serve as an important piece of research into this thesis project.



Figure 65 - MHCRC Aerial

TYOLOGICAL PRECEDENTS

SFU UNIVERCITY CHILDCARE



Figure 66 - SFUUC 2

TYOLOGICAL PRECEDENTS

SFU UNIVERCITY CHILDCARE

About

Located in Burnaby, Canada, SFU University Childcare lies at the heart of Simon Fraser University's sustainable community known as UniverCity.

The 5700 square foot facility was opened in 2012 and can host up to 50 children anywhere from 3 to 5 years old.

The facility serves as a full-service childcare center but academic researchers from the university also have the opportunity to use the facility as somewhat of a living lab to conduct research and studies of early childhood education, meaning SFU University Childcare serves more than one purpose.



Figure 68 - SFUUC 3



SIMON FRASER
UNIVERSITY

Figure 67 - SFU Logo



Figure 69 - SFU Site Map

TYOLOGICAL PRECEDENTS

SFU UNIVERCITY CHILDCARE

Educational Programming

SFU UC the first childcare center in the world to integrate the Living Building Challenge, a building requirement that goes beyond even LEED Platinum.

SFU UC utilizes the Reggio Emilia approach which is essentially a student-centered, constructivist curriculum that is largely self-guided and utilizes experiential learning focused on the ideas of exploration, discovery, and play.

In addition to this unique programming, the environment is considered the third teacher as beauty and wonder are infused within the materials, surfaces, and light qualities.

SFU UC provides unique opportunities, both indoors and out, for children to explore water, light, air, gravity, vegetation, and seasonal changes.



Figure 70 - SFUUC Interior 1



Figure 71 - SFUUC Interior 2



Figure 72 - SFUUC Play

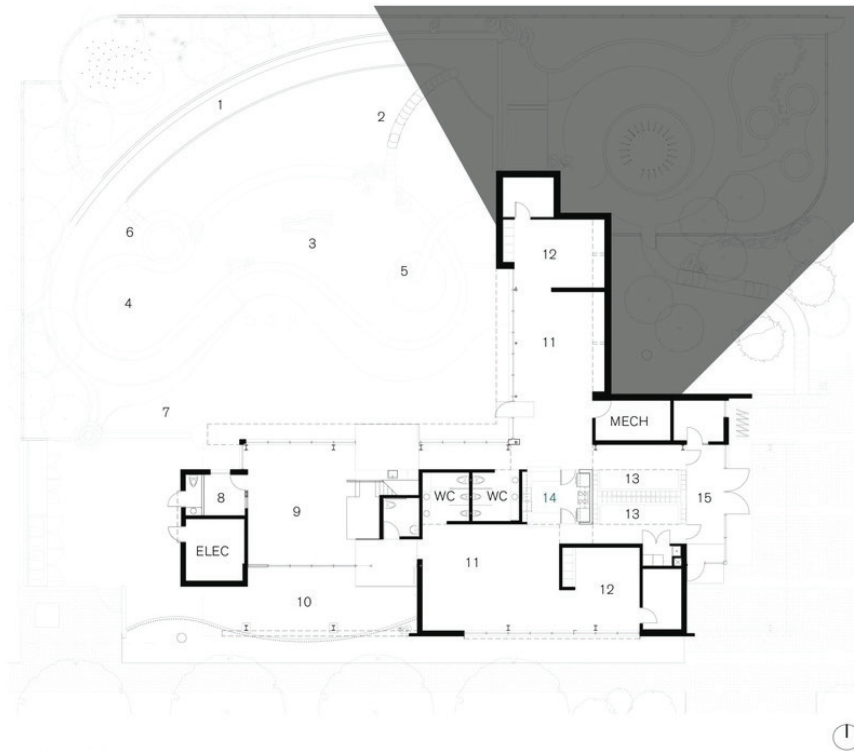


Figure 73 - SFUUC Interior 3

TYOLOGICAL PRECEDENTS

SFU UNIVERCITY CHILDCARE

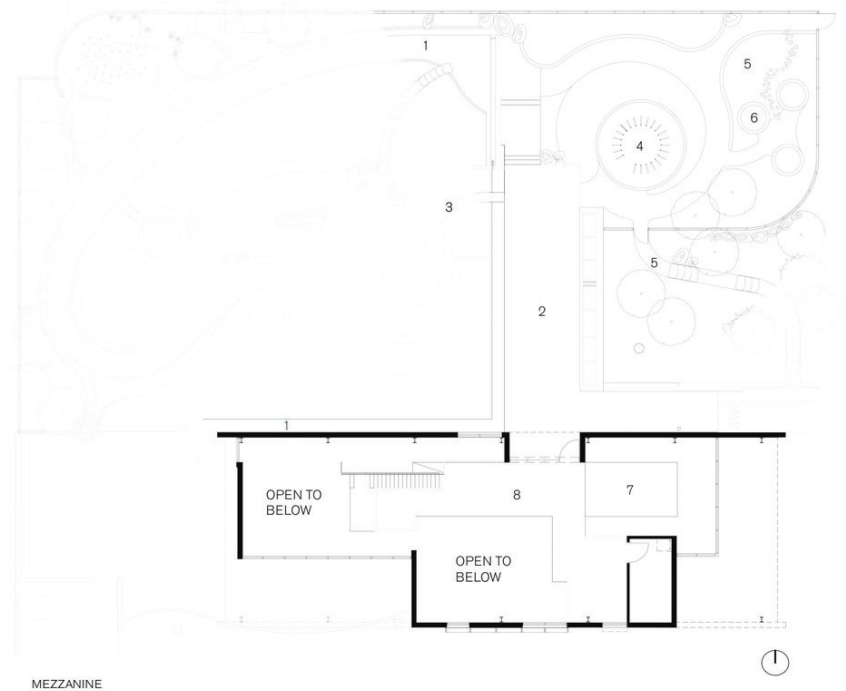
Plans



MAIN FLOOR

- 1 Ramp
- 2 Stone Steps
- 3 Log climber
- 4 Sand play
- 5 Slide
- 6 Lookout platform
- 7 Waterfall
- 8 SFU Research office
- 9 Community space
- 10 Covered outdoor play area
- 11 Activity room
- 12 Gross Motor nap room
- 13 Cubbies
- 14 Kitchen
- 15 Lobby

Figure 74 - SFUUC Main Floor



MEZZANINE

- 1 Rainwater channel
- 2 Deck
- 3 Slide
- 4 Rope nest
- 5 Stepping stones
- 6 Woven willow huts
- 7 Net play
- 8 Community loft

Figure 75 - SFUUC Mezzanine

TYOLOGICAL PRECEDENTS

SFU UNIVERCITY CHILDCARE

Sustainability

As per requirements for the Living Building Challenge, the project was built on a previously developed site to minimize impact on the natural ecosystem.

In addition, an equal amount of land away from the site was designated to be preserved as a habitat exchange.

Stormwater runoff will be reduced by way of a 10,000 gallon cistern that collects rainwater for use within the building. Any additional water will be infiltrated on-site and diverted to the community's sustainable stormwater treatment system.

Native plants on the site will require no irrigation.

While the childcare facility has no parking spaces, it is located just one minute away from the University transit hub and is located near residents within University lands.

SFU UC is achieving all of this at a cheaper construction cost than conventional childcare centers in the same region.

The building is net-zero energy and net-zero water with exceptional indoor air quality

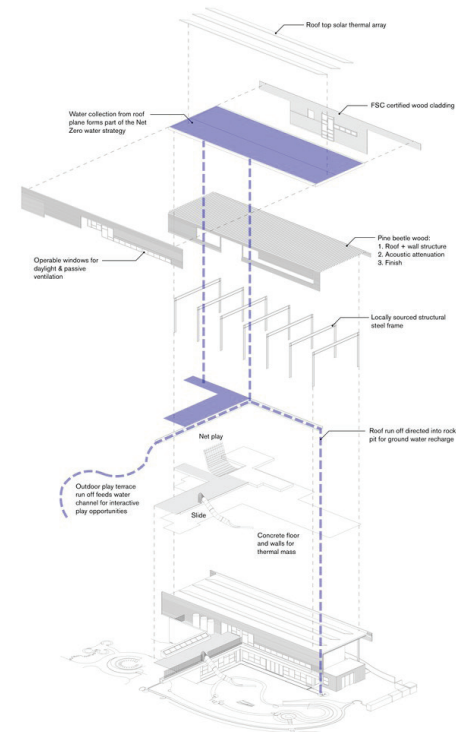


Figure 77 - SFUUC Diagram 2

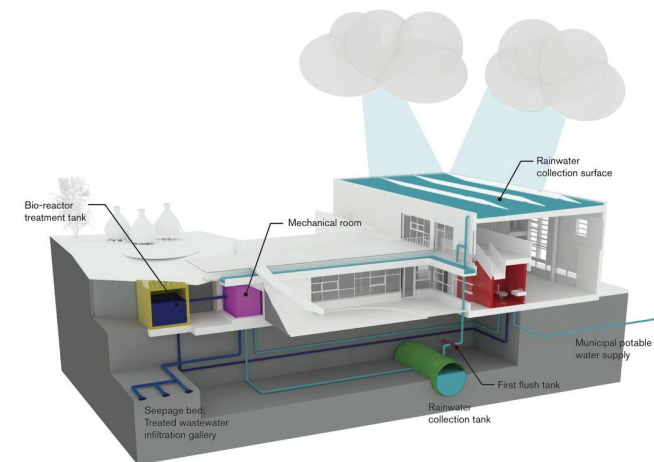


Figure 76 - SFUUC Diagram 1

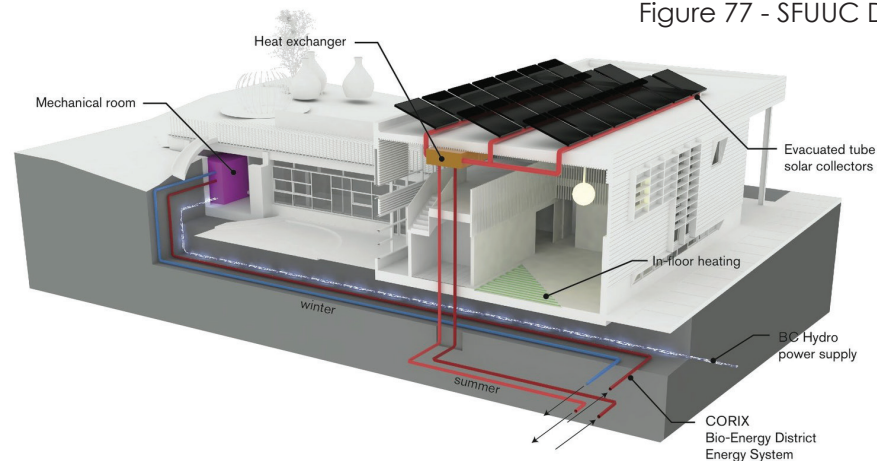


Figure 78 - SFUUC Diagram 3

TYOLOGICAL PRECEDENTS

SFU UNIVERCITY CHILDCARE

Conclusions

SFU University Childcare is a remarkable example of sustainable design that not only meets the users needs but exceeds them.

In terms of sustainability, a net zero building is truly impressive. While any form of sustainability is better than none, SFU UC is an example of exceptional sustainability.

An effective strategy they implemented was a dual-purpose childcare facility on a college campus that provides its intended service but also serves as a valuable tool to students on that campus in terms of their studies and research. Any time a space, or whole facility can serve more than one intended purpose, that is extremely beneficial.

For this thesis project, aspects of programming and especially sustainability will be referenced from this project.

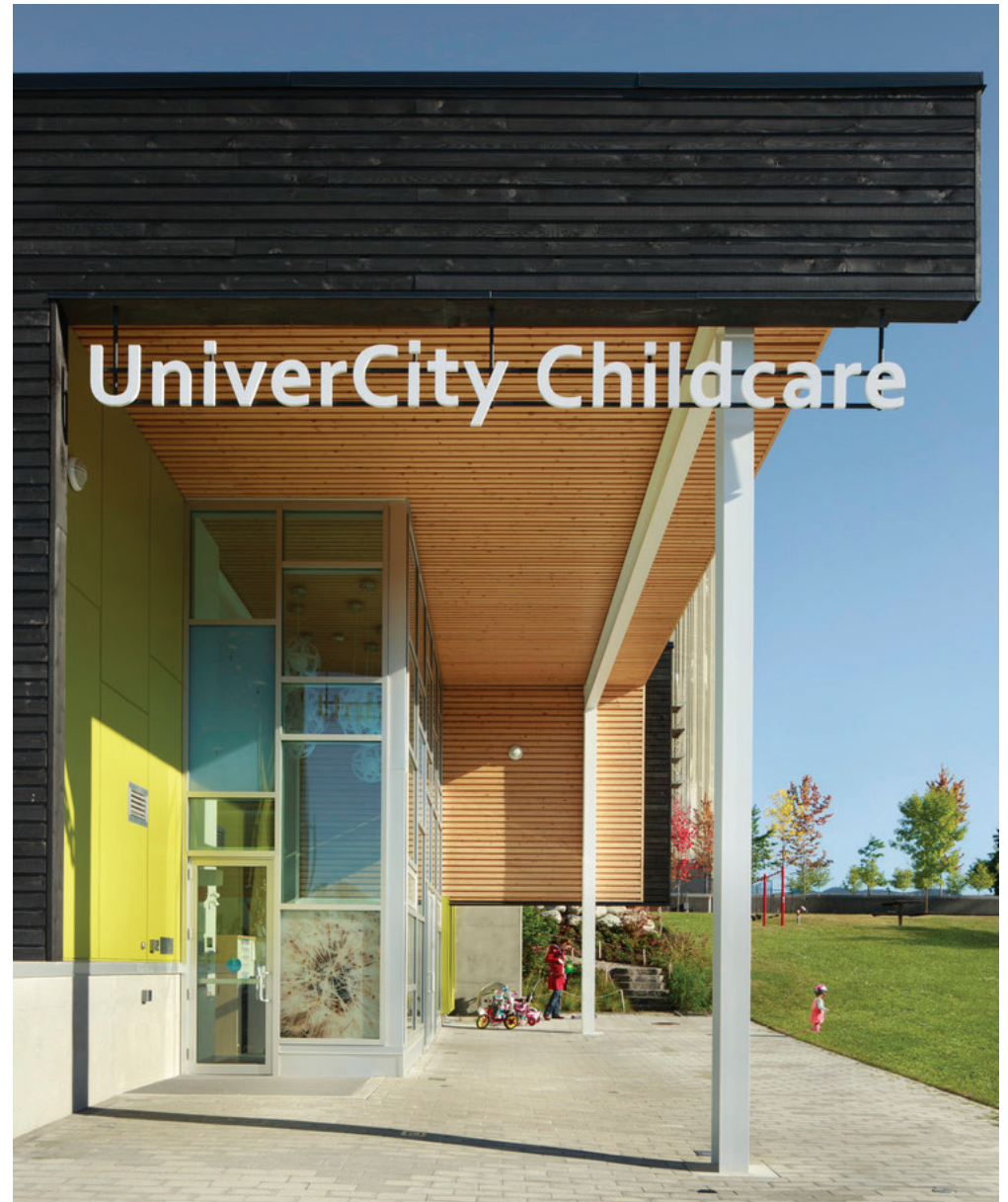


Figure 79 - SFUUC 4v

TYOLOGICAL PRECEDENTS

SUMMARY

These four precedent studies were vital in gathering important information concerning childcare center and recreation center typologies. The precedent studies on the Minot Family YMCA, TNT Kids Fitness & Gymnastics, Maryland Heights Community Recreation Center, and Simon Fraser University's UniverCity Childcare all helped contribute applicable knowledge to the research for this thesis project in their own way. Some of the precedent studies were more focused on physical form and aspects of the facility itself while others concentrated more on the programming of the business and how they interact with users and the community they are located.

The premise of combining childcare and recreation center typologies and how they could benefit from one another was kept in mind during research of these precedent studies. Based off of the information that was gathered, a combination of the two typologies would not only be possible, it would be extremely successful. TNT operates on a similar basis of combining typologies and they have proven to be very successful. Organizations that don't necessarily combine the two typologies actively note potential benefits of doing so.

The precedent study done of the Minot Family YMCA uncovered a lot of programmatical information

regarding the recreation center typology. Valuable spaces to include were noted for consideration during the design process. Recognized shortcomings were noted so that they may be considered and hopefully avoided in my final design solution. Insight gained from HR Director and Membership Director Cody Borud was invaluable as a successful project in the recreation field is pursued.

The precedent study done of TNT Kids Fitness & Gymnastics proved to be extremely valuable in regards to research for this project as it follows this projects premise fairly closely. Since TNT shares a roof with a childcare center and they interact so closely, they are essentially operating as a combination of recreation center and childcare center typologies. By sharing the facilities and allowing employees and kids to utilize all manner of spaces that the facility has to offer, true integration is occurring and it is creating benefits for all parties involved. TNT sets the bar for inclusion and always makes it a top priority. COO Ryan Williams could not have been more generous with his offering of information related to TNT and the typologies of childcare and recreation as a whole. Insights gained from TNT will be used to influence the design of this final project.

TYOLOGICAL PRECEDENTS

SUMMARY

The precedent study done of Maryland Heights Community Recreation Center gave tremendous insight into potential forms and design of a recreational facility. This recreation center is a tremendous example of a building adapting to the site and creating an environment that people want to be in. The technique of bringing the ground plane up to the roof plane of the building is effective at wind and noise dissipation, but also creates a beautiful form and unique experiential opportunities for its users. Just like the Minot Family YMCA, this precedent study also gave great insight into what a successful program of a recreation center includes. Maryland Heights Community Recreation Center's site adaptation will be a primary consideration when it comes time for design.

The precedent study done of Simon Fraser University's UniverCity Childcare was informative in a number of ways. For one, it provided insight into the programming

of a successful childcare center. It also is a tremendous example of the implementation of sustainable design. UniverCity Childcare has even gone to the extent of integrating the Living Building Challenge. Sustainable implementations at UniverCity Childcare will serve as examples to possibly integrate in my own design. UniverCity Childcare also relates more closely to my premise as the facility serves multiple purposes. While it does function as a full-service childcare facility, it also serves as a living lab for researchers from the University to conduct early childhood education studies. Flexible and multi-function

Each of the precedent studies provided valuable insight into one or more aspects that had to do with one of the two applicable typologies. While the types of information vary from study to study, they are all valuable in guiding this project toward a successful design solution.

PROJECT JUSTIFICATION

On a broad scale, the need for childcare facilities exists everywhere. The need for physical activity and recreation also exists everywhere, including regions with colder climates. A facility that services both these needs allows for a healthy conglomeration of these two typologies year round would be an extremely valuable societal contribution in any part of the world.

This project is important to me on a personal level due to the fact that I plan on locating it in my hometown of Minot, ND. I believe a project such as this would go a long way in improving the lifestyles of Minot residents, young and old. The city of Minot has a severe lack of childcare facilities and parents are struggling with how to care for their children and still work to be able to provide for their families. Aside from providing just any old childcare facility, I want to implement a facility that facilitates physical activity, learning, and social interaction among children at a level beyond the standard daycare. Another reason that this project would be a serious benefit to the community of Minot is because currently, there only exists one public recreation center in town. The citizens of Minot and the surrounding communities would benefit from an additional recreation center that provides all the amenities one could want in a new recreation center. With the existing recreation center on the far southwest corner of town, locating the site for this

project on the northern half of town would benefit the greatest number of people and serve the growing city of Minot.

It is important that this project be implemented in its social context due to the importance of physical activity, especially in the youth of today. Providing more opportunities for exercise and physical activity plays a key role in creating a healthier population. In a climate like North Dakota's, special emphasis is placed on indoor recreation space as most months in the year, weather does not permit outdoor activities. This is why recreation centers are popular, necessary aspects of society in this region.

This project would be an extremely practical solution to both childcare and recreational needs in the city of Minot. Having the opportunity to work on a project such as this and attempt to solve multiple properties in the community that I grew up in will prove to be a very rewarding and valuable experience. Furthermore, shedding light on the combination of childcare and recreation center typologies and possibly working out the best way that these two typologies can interact is an important question that deserves to be explored for the benefit of all people, especially today's youth.

PROJECT JUSTIFICATION

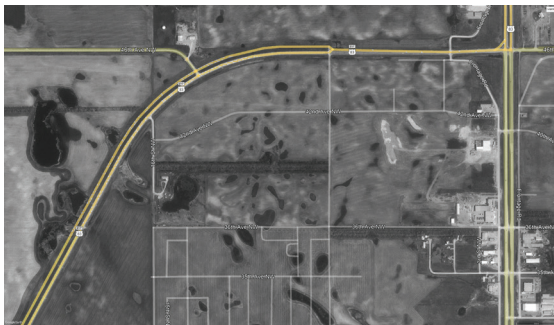


Figure 80 - Minot Sign

HISTORICAL, SOCIAL, AND CULTURAL CONTEXT

Development in this far Northwest portion of Minot didn't really take off until the groundbreaking of the new Erik Ramstad Middle School in 2012. Once the school actually opened in 2014, development in the area started to take off. In present day 2021, an abundance of housing exists to the south and east of the chosen site and Erik Ramstad Middle School. There is even growing numbers of multi-family housing on the other side of

the highway 83 bypass. With future housing planned for either side of the school as well as just northwest of the school, this area is only going to continue to grow, as is the rest of the city. The northern half of Minot has seen major increases in development in just the past few years. If this trend continues, as it is expected to, a recreation and childcare center in the area would prove to be extremely beneficial.



1995

Figure 81 - Site 1995



2002

Figure 82 - Site 2002



2009

Figure 83 - Site 2009

HISTORICAL, SOCIAL, AND CULTURAL CONTEXT

Prior to being the newly bustling residential district that it is now, this area of town was utilized primarily as farmland and industrial property for companies in the area. Within just a couple decades ago, this region was considered

quite a ways out of town. Currently, this area is teeming with development and activity. Within the next couple decades, it would not be surprising to find the northern edge of town quite a distance north of this site.



2011

Figure 84 - Site 2011



2013

Figure 85 - Site 2013



2016

Figure 86 - Site 2016

HISTORICAL, SOCIAL, AND CULTURAL CONTEXT

The history of recreation, games, and sport are believed to date back to even our primitive ancestors. Practical activities having to do with things like hunting or warfare became a form of sport that offered individuals and groups the opportunity to display their skills and expertise outside of their intended purposes. The ancient game of Tlachtli played by Central Americans centuries ago is an example of such a contest. Two teams attempted to hit a rubber ball through a stone hoop mounted high on a wall using their knees or hips. Oftentimes, the losers of these games of sport were offered up as sacrifices. While competitors who come

up short of victory in the sports and games of today do not share the same fate, games like Tlachtli are examples of one of mankind's earliest forms of competition in the form of sport. These games were spectacles that drew many people to the arena to spectate. Along with giving athletes the opportunity to demonstrate their skills and pursue glory, these games served as high priority events in the community that gathered everyone in one place. Much like how sporting events serve as such prominent social events in our modern times, these games gave people an opportunity to gather for a common purpose.

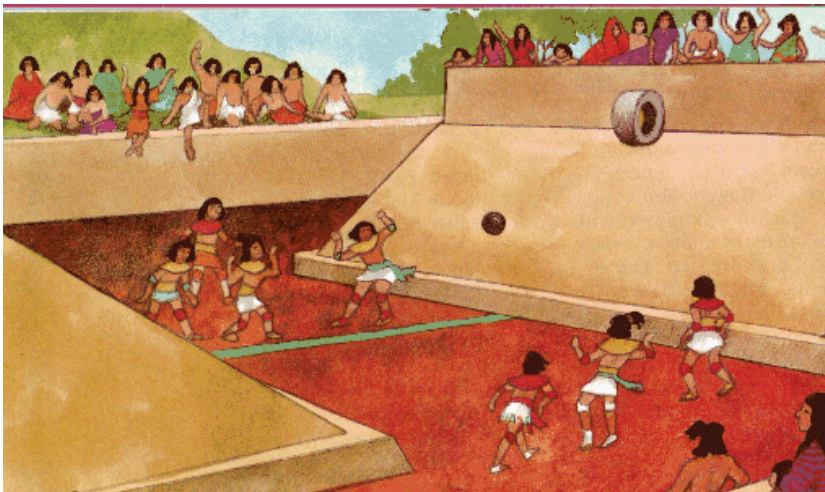


Figure 87 - Tlachtli 1



Figure 88 - Tlachtli 2

HISTORICAL, SOCIAL, AND CULTURAL CONTEXT

In today's day and age where physical fitness is becoming such a prominent piece of so many people's everyday lives, recreation centers serve as such a vital place for communities in terms of users' social interaction, exercise and physical fitness, and community engagement in the form of events, sports, and activities. Rec centers offer their users so much more than a place to work out. They offer a facility where people congregate under one roof the ability to interact socially and form connections.

Rec centers serve as valuable host facilities for things like organized sports. These types of events bring increased numbers of people to the community and facilitate commerce among other businesses in town as well. Recreation centers are major focal points of communities that are flexible in function. A state of the art recreation center would bring a number of beneficial factors to the community with citizens' physical, social, and mental health being just a few.



Figure 89 - Gym Socialization



Figure 90 - Rec Basketball

SITE ANALYSIS

NARRATIVE

At first, the most apparent descriptors when it comes to my chosen site may be empty, barren, lack of interest, indistinguishable, or indifferent. What exists currently as an empty field with hardly anything to offer in the way of visual interest has the opportunity to become something great. When you visit the site and feel wind blowing unobstructedly through the open expanse, it can invoke a sense of vulnerability to those who occupy it. The sound of kids playing outside of the school across the street brings to mind what could be with this site.

In a part of town that is growing ever so rapidly, it won't be long until this area no longer evokes the feelings mentioned prior. Within the next decade fields will transform into

neighborhoods. Clusters of brush will evolve into manicured lawns. Dirt roads will become paved streets. The quiet whistling of wind passing over the landscape will morph into the bustling noise of an active neighborhood.

While this site currently lies on the NW edge of town, it is very likely edge of town will transition much further North than it is now. The city of Minot is growing very rapidly, especially to the North. It won't be long until this site finds itself at the center of a not yet established neighborhood. The area has a bit of a headstart with some housing and apartment buildings to the West of the site. With more housing developments planned for the areas just West and South of the site, the current quiet nature will cease to exist within a few years.

SITE ANALYSIS

NARRATIVE

The great horizontal expanses that seem to go on forever thanks in large part to the flat topography, lack of trees, and lack of built structures, will be a thing of the past once development takes over. It is possible that the design solution for this site preserves some of its current character, and uses it to influence the final design. Horizontality may play a major factor in the form of design concepts.

With Erik Ramstad Middle School across the street as the only established structure in the immediate area, the possibilities are seemingly endless for what this area could become. With minor and major roadways in close proximity to the site, travel times for citizens from any area of town would be minimal. Two of the

major arteries in Minot, Broadway (Highway 83) and the Highway 83 Bypass are both within less than a five minute drive from the site. User groups would not be limited to just people who live nearby. The entire city of Minot would be within about a 15 minute drive time to the site. Not only would people from all over Minot be able to easily access the site, but seeing as how there are major arteries extremely close to the site, people from nearby towns would not even have a terrible commute to this location.

With childcare and recreation both being in such high demand, combined with the convenience of this site location, it is my belief that a facility of this typology would be extremely successful.

SITE ANALYSIS

PARCEL INFORMATION

SITE ADDRESS: 900 36TH AVENUE NW

DEEDHOLDER: HUDYE GROUP, LP

ACREAGE: 13.84

SQUARE FEET: 603,015

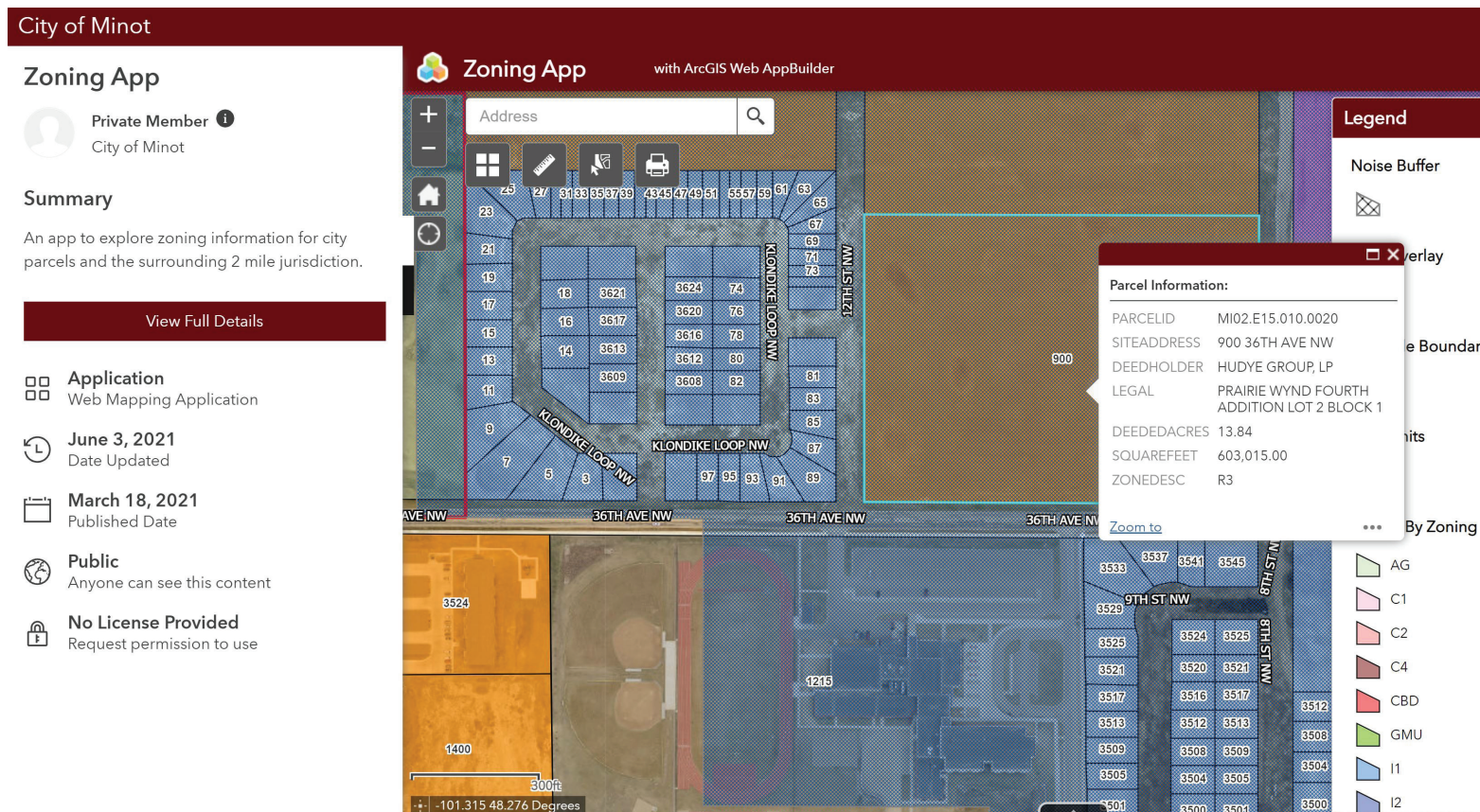


Figure 91 - Parcel Map

SITE ANALYSIS

VIEWS

Views Out of the Site

The only views out of the site worth noting are likely pointing toward Erik Ramstad Middle School. Any views to the West, North, or East will yield open field. Ramstad exists to the South. The lefthand image shows Ramstad, the far right image shows an Eastward view of 36th Avenue.



Figure 92 - View South



Figure 93 - View East

Views Into the Site

There is currently little in the way of visual interest as you look into the site. One is greeted with open field as they peer in. A triangular depression in the SE corner and a small hill in the NE corner serve to break up the predominantly flat plot of land



Figure 94 - SE Corner of Site 1



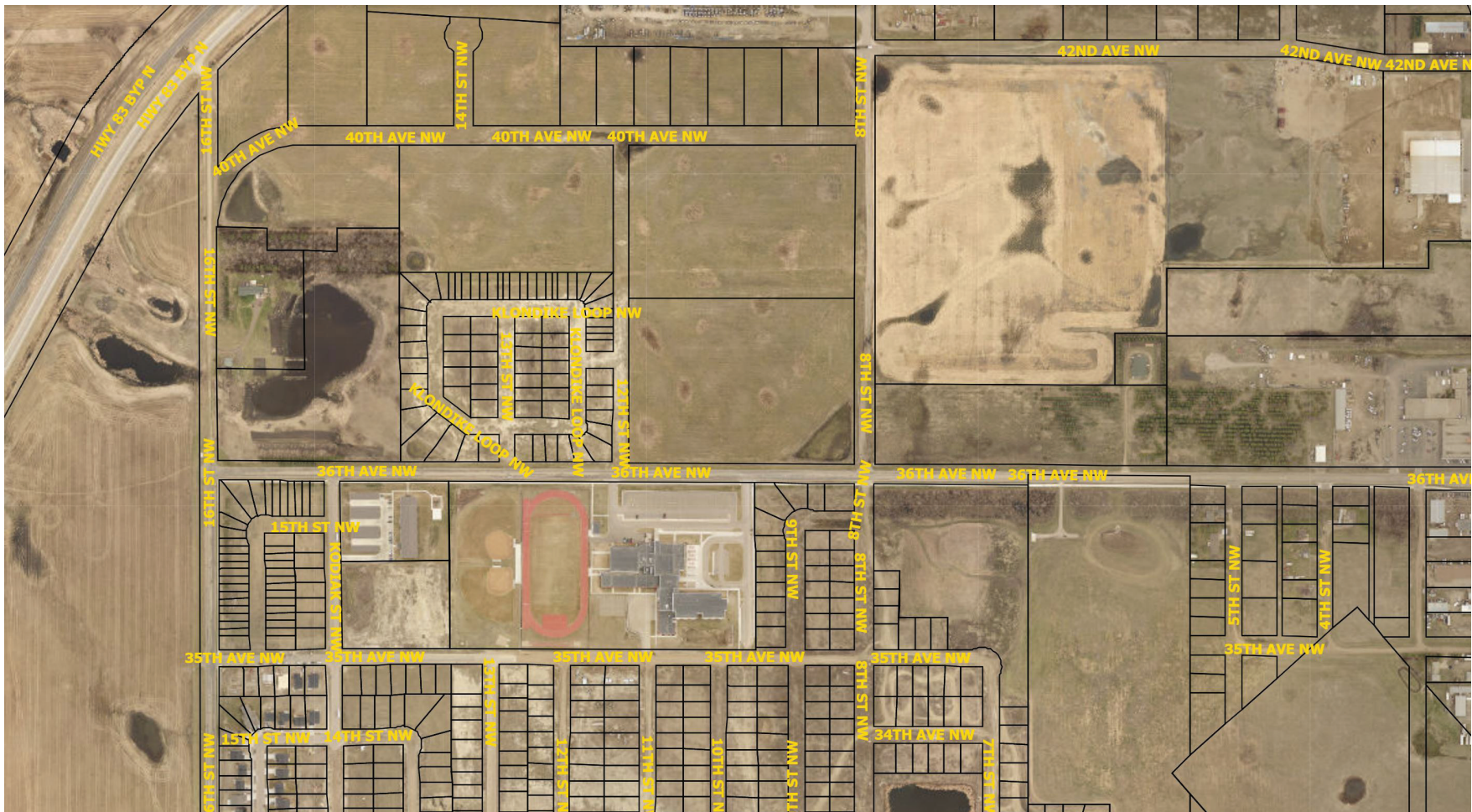
Figure 95 - View North Into Site

SITE ANALYSIS

BUILT FEATURES

There are no built structures on the site and only one nearby (Erik Ramstad Middle School).

There are planned housing developments directly adjacent to the site on the West and South sides that have yet to be developed.



SITE ANALYSIS

LIGHT



Figure 97 - Lighting

The only lighting near the site are the street lights that line 36th Avenue. Specifically, three street lights are situated on the site's side of the street approximately 325 feet apart. As the planned housing development to the West hasn't yet begun construction, there are currently no street lights in that area. Nor are there any lights along 8th Street NW, the gravel road running along the site's East side.

SITE ANALYSIS

VEGETATION



Figure 98 - Tree Cluster



Figure 99 - Coniferous Trees

While the site itself does not have any trees present, there is a fairly large cluster of a variety of different types of trees, coniferous and deciduous, diagonal from the site in the SE direction.

There are a few small coniferous trees along 36th Avenue just across from the site. These trees are backed by some fairly overgrown shrubbery that exists on the unoccupied site just East of Ramstad.

This image of the site directly East of the chosen site shows the type of vegetation that currently inhabits the unoccupied lots in this area. Dense knee-to-waist-high shrubs cover the landscape. Left unaltered, these plants can quickly overwhelm a site.

The only area of the site that seems void of any consistent growth is the depression in the SE corner. This area seems largely barren as evidenced from site visits, and digital viewing.

The majority of the site seems to get mowed on a semi-regular basis. Cut field makes up most of the site with some overgrown vegetation existing along the edges of the aforementioned depression that was unable to be reached by the mower.



Figure 100 - Neighboring Site



Figure 101 - Depression 1



Figure 102 - Site Vegetation

SITE ANALYSIS

WATER

While there was no visible pooling of water on the site during site visits or in view through digital means like Google Earth, there is a chance that water would pool up in the depression located in the SE corner of the site. This point is the lowest elevation of the site and has no areas of drainage leading out of it. Any water that does pool up in this location would be stagnant.



Figure 103 - Depression 2

SITE ANALYSIS

WIND

There are a variety of factors that lead to excessive wind on this site. For one, the site is predominantly flat. Little to no change in topography means there is no landscape that offers shelter from wind gusts. Two, there are essentially no trees on the site. Trees can be very effective at wind dissipation and without any, the site is vulnerable to high wind. Lastly, there are essentially no nearby structures that could offer some wind protection. The closest structure is Erik Ramstad Middle School that is quite a distance south of the site across 36th Avenue. These factors all lead to the conclusion that the site is extremely vulnerable to the strong North Dakota Winds.



Figure 104 - SE Corner of Site 2



Figure 105 - View Toward Ramstad 1



Figure 106 - Panorama 1

SITE ANALYSIS

HUMAN CHARACTERISTICS

The site seems to be largely unused at the moment. It is not being used as farmland. It is not fenced in, nor are there animals grazing on the site. It is maintained in that it seems to get mowed on a semi-regular basis. Other than the mowing, there is seemingly no sense of human interaction when it comes to the site.



Figure 107 - Human Characteristics

SITE ANALYSIS

SOILS

The soil classification of the site is described as 100% Hamlet-Souris-Tonka-Complex

The composition of the soil is...

- 43% Hamlet and similar soils
- 23% Souris and similar soils
- 13% Tonka and similar soils
- 21% minor components

The soil of the site is considered moderately well drained and is in the “low” runoff class.

This site has a very low water erosion potential.

The pH value of the site comes in at 7.9 and the electrical conductivity comes in at 6.1 decisiemens per meter.

This site would be considered prime farmland if drained.

In terms of wind erodibility, this site is scored a 6 on a scale of 1 to 8 with 1 being the most susceptible to wind erosion and 8 being least susceptible to wind erosion. This site being fairly resistant to wind erosion is a good thing considering it doesn't have many environmental or built structures providing it with wind protection.

The water table of the site lies between 18 and 48 inches with 24 inches being the representative value.



Figure 108 - Soils

SITE ANALYSIS

UTILITIES

Water Utilities

The only utilities currently existing on the site itself are main water lines that run through the site both east-west and partially north-south. The water mains also run around the West, South, and East perimeter of the site. Fire hydrants are located on the Southeast corner, Southwest corner, and the center west edge of the site. There is currently an abandoned water line running along 36th Avenue to the South of the site. A control valve exists in the Southwest corner of the site, as well as system valves that are scattered along the West and East edges of the site, with a couple included at the center of the site.

Storm Utilities

There is storm piping running along the south edge of the site with manholes scattered along them. There are also catchbasins in the Southwest corner and South central parts of the site.

Sanitary Sewer Utilities

Three manholes are spread along the West edge of the site that access a sewer main. No other sanitary sewer utilities exist around the site.

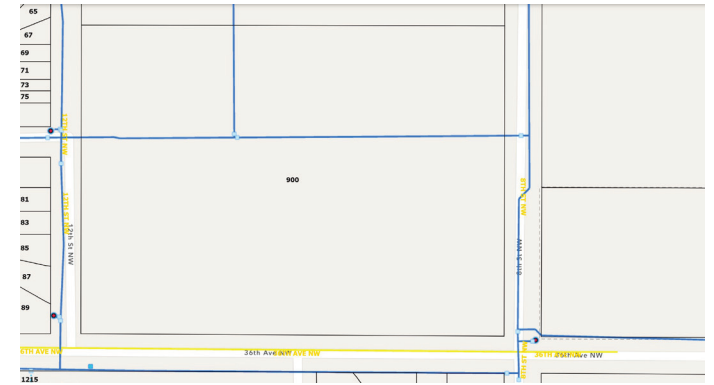


Figure 109 - Water Utilities

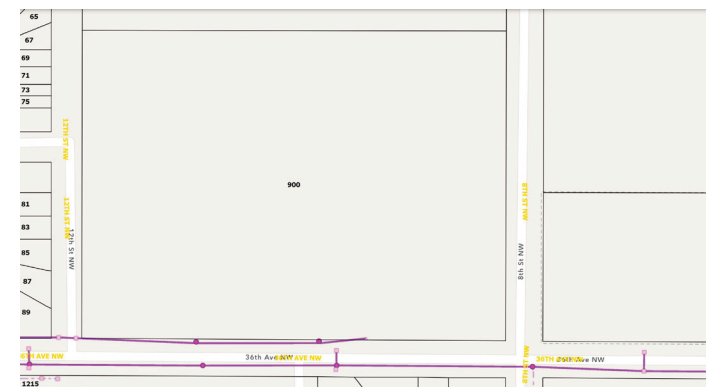


Figure 110 - Storm Utilities

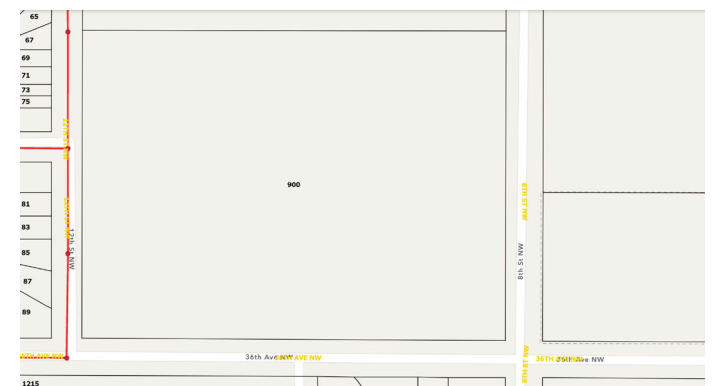


Figure 111 - Sanitary Sewer Utilities

SITE ANALYSIS

VEHICULAR TRAFFIC

Currently, there is only one paved road that is adjacent to the site, 36th Avenue NW. There is also a gravel road that runs along the Eastern edge of the site that doesn't attract much traffic as it leads to Baker Hughes, an energy technology company, and they have a much more prominent entrance that can be accessed right off the Highway 83 bypass.

36th Avenue NW receives limited traffic during non-school hours as it really only serves as access to Erik Ramstad Middle School at the moment. There are some apartment buildings and homes west of the site but they wouldn't likely use 36th Avenue unless they were heading somewhere directly East, which there is not much until you reach Broadway (Highway 83).

During school drop off and pickup times, this road sees a major uptick in traffic. As school faculty, parents dropping their kids off, and school buses are all arriving to the area at similar times in the morning, it could get fairly congested. Likewise, around the time when school gets out, the lines of parents coming to pick their kids up may become prominent.

36th Avenue is a three-lane road and Ramstad has fairly large paved areas to allow for a congregation of vehicles so traffic likely doesn't get held up too severely.



Figure 112 - 8:00 AM Traffic

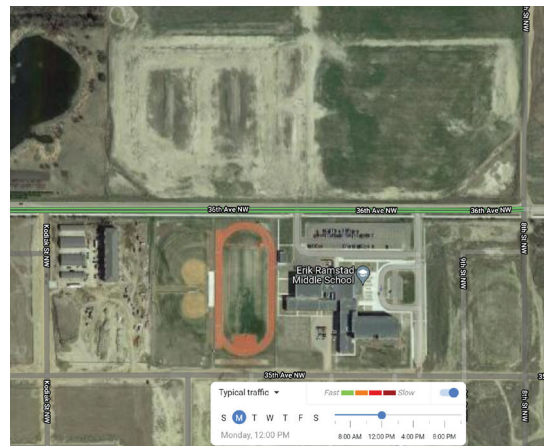


Figure 113 - Noon Traffic

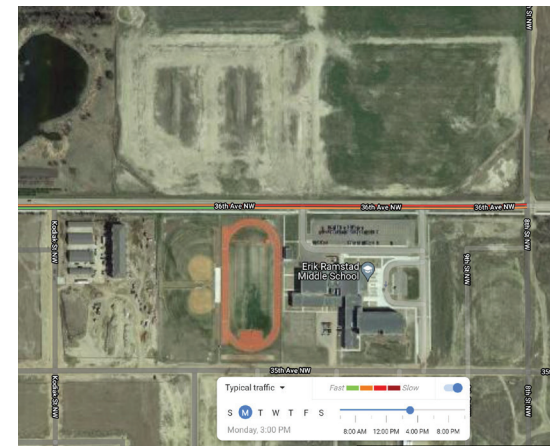


Figure 114 - 3:00 PM Traffic

SITE ANALYSIS

PEDESTRIAN TRAFFIC

As there is currently not much to offer in the area other than the middle school, pedestrian traffic is assuredly minimal with the exception of students walking to and from school and the occasional walker or bike rider who lives nearby. As housing developments continue to pop up in the neighborhood, it is likely that pedestrian traffic will increase. As there are no retail opportunities in the area, it is unlikely pedestrian activity will ever get very high in this area. The prospect of a park or other attraction nearby may cause an increase pedestrian activity however.



Figure T15 - View Toward Ramstad 2

SITE ANALYSIS

TOPOGRAPHIC SURVEY

The site is relatively flat for the majority of its square footage. The height disparity between the site's lowest and highest points is 12 feet. There is a triangular depression that exists in the Southeast corner of the site. Without proper drainage utilities, this area is likely to pool water. The highest elevation of the site exists in the form of a small hill in the Northeast corner of the site. This "hill" is only about six or seven feet higher than the surrounding terrain. Almost equal to the high point of the site in the Northeast corner is another high area in the Northwest corner. This point is just a couple feet lower in elevation. Other than some relative steepness in the Northeast and Southeast corner, the site is predominantly flat.

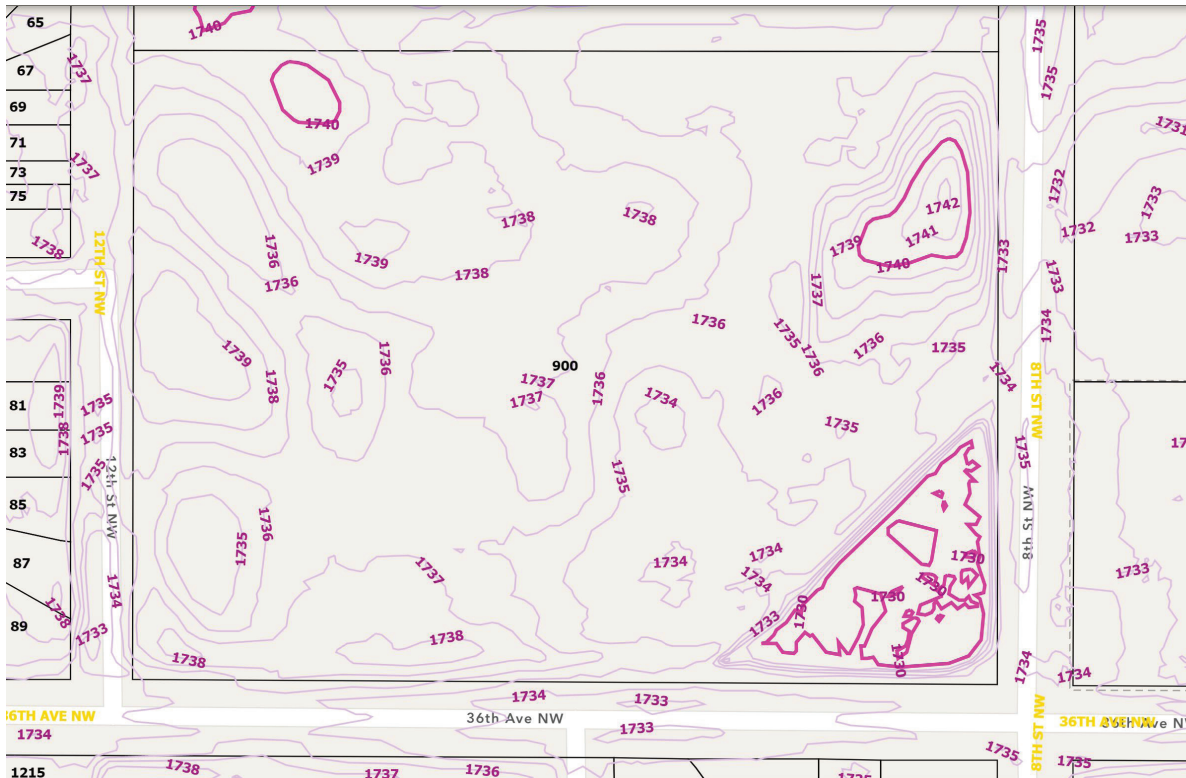


Figure 116 - Contours



Figure 117 - Depression 3



Figure 118 - Depression 4

SITE ANALYSIS

VISUAL FORM

This site only contributes to the overall atmosphere of the area being vastly open. Other than a cluster of trees to the SE of the site, there is almost nothing vertical to break up the expansive horizontality of the region. Apart from the middle school, and 36th Avenue, it feels as if you are almost in untouched country when at the site, even though you are just minutes from the busiest roadways in town.



Figure 119 - Panorama 2

SITE ANALYSIS

SITE CHARACTER

There were no visible signs of erosion or changes that were occurring on the site during the site visit. The lack of overall vegetation and plant life gives an almost spiritless vibe to the site. However, as a rapidly growing part of town, life and activity are becoming more and more prominent and bringing a rejuvenated spirit to this location. The new middle school across the street brings youthful energy to an otherwise quiet and bleak landscape.



Figure 120 - Ramstad 1

SITE ANALYSIS

SITE RECONNAISSANCE



Figure 121 - Ramstad 2

In the site map to the right, you will notice a panoramic graphic labeled “A” noting the orientation of the view shown in the image below. The image labeled “B” to the left is the contrasting view to the South of Ramstad Middle School.

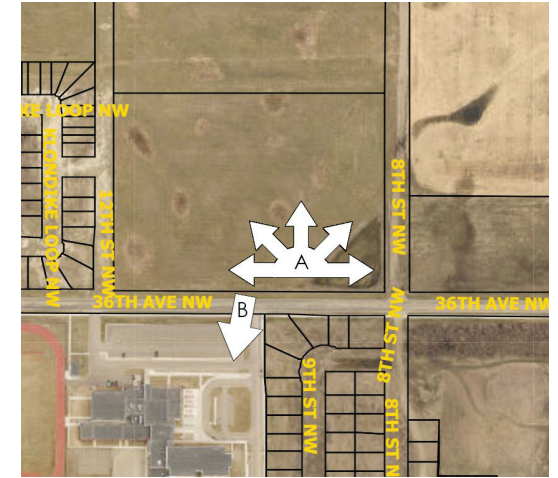


Figure 122 - Site Reconnaissance



Figure 123 - Panorama 3

SITE ANALYSIS

CLIMATE DATA

Temperature

The temperature in Minot, ND varies an incredible amount over the course of a year. This temperature variation typically ranges from about 5° up to 83°, but can be as severe as -16° and up to 92° or even more severe.

During the 3-4 month warm season, the average daily temperature is usually around 70°. The hottest month July, has an average high of 82° and low of 59°.

During the 3-4 month cold season, the average daily temperature is usually around 33°. The coldest month January, has an average low of 6° and a high of 21°.

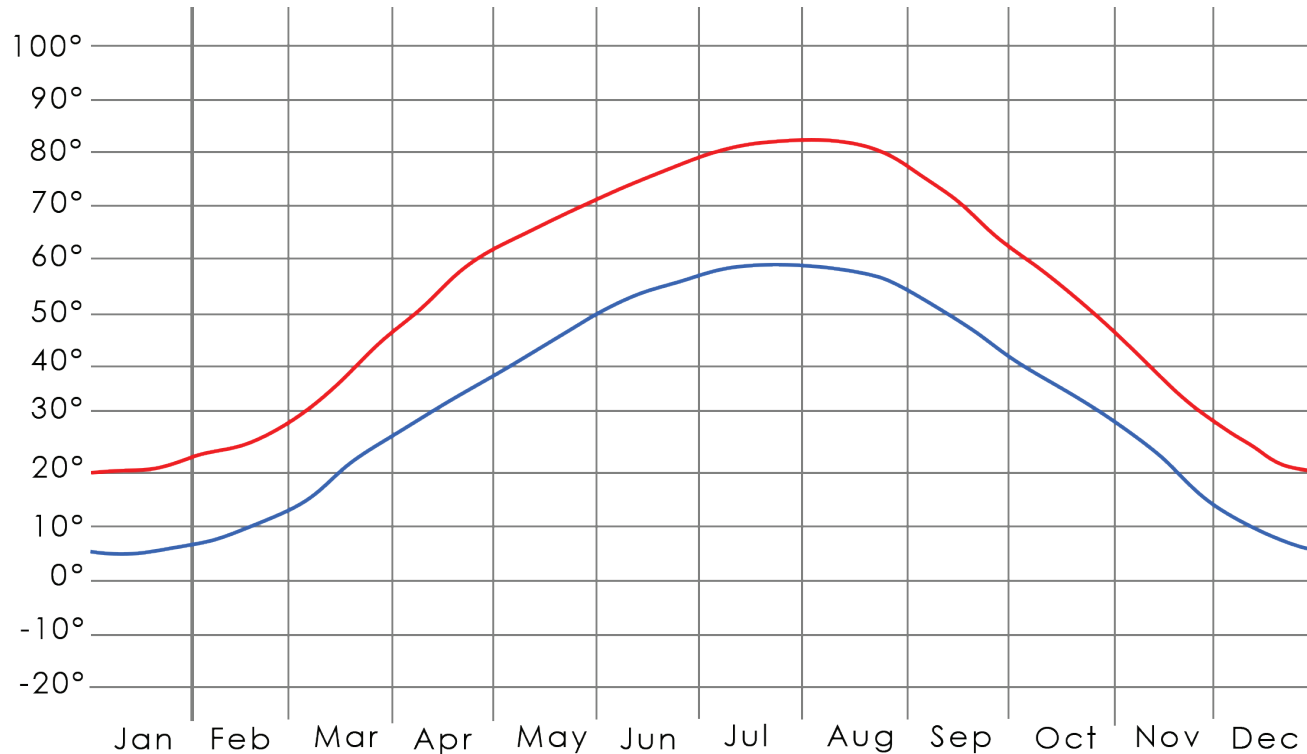


Figure 124 - Temperature Graph

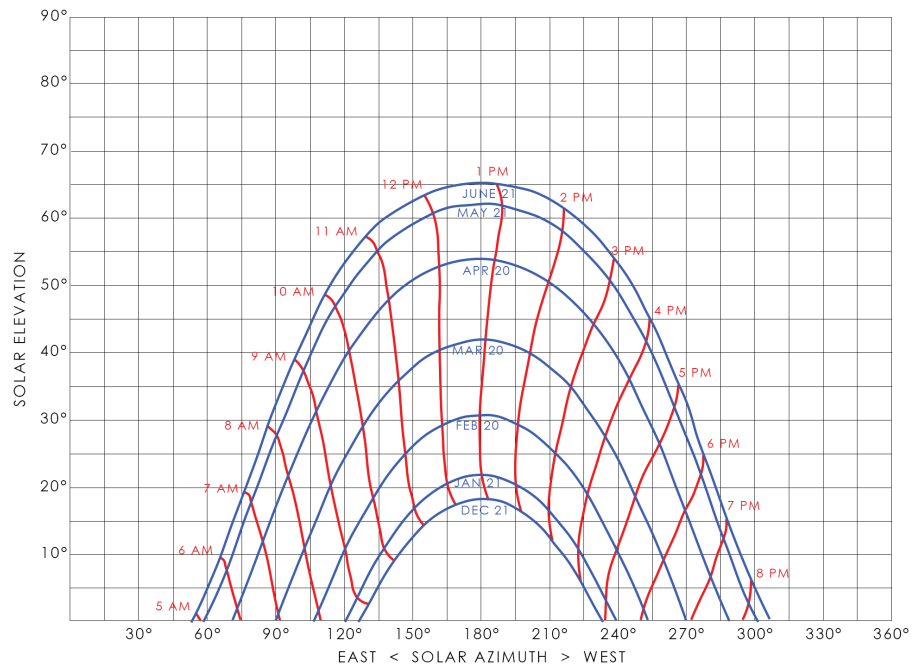
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature	13°	17°	28°	43°	55°	64°	70°	68°	58°	44°	29°	16°

Figure 125 - Temperature Table

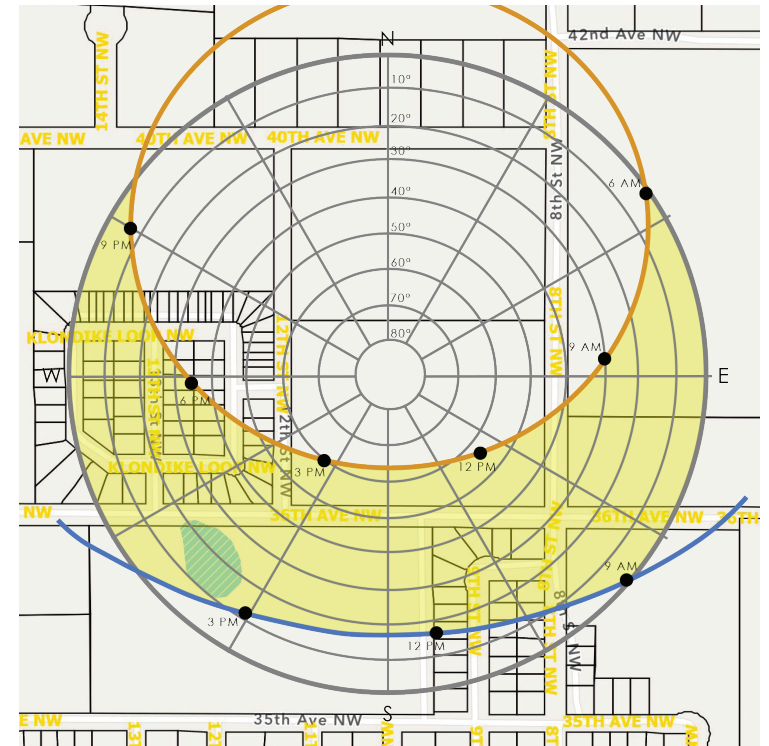
SITE ANALYSIS

CLIMATE DATA

Sun



As there are no existing features to block sunlight from getting to the site, this area is vulnerable to strong direct sun rays at all hours of the day. This will play a major role in site orientation as it comes time for design.



On the summer solstice, the sun will rise at about 5:44 AM and set at about 9:49 PM.

On the winter solstice, the sun will rise at about 8:33 AM and set at about 4:54 PM.

SITE ANALYSIS

CLIMATE DATA

Precipitation

The rainy period of the year in Minot lasts for seven months from April to November. The rainiest month is June with an average rainfall of 2.8 inches.

The rainless period of the year in Minot lasts for 5 months from November to April. The least rainy months are January and December with an average rainfall of 0 inches.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	0.0"	0.1"	0.2"	0.9"	2.1"	2.8"	2.2"	1.5"	1.3"	0.9"	0.2"	0.0"

Figure 128 - Rain Table

The snowy period of the year in Minot lasts for about 7 months from October to May. The snowiest month is November with an average snowfall of 2.8 inches.

The snowless period of the year in Minot lasts for 5 months from May to October. The least snowy months are June, July, and August as they average zero inches of snow.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Snowfall	2.5"	1.7"	2.6"	2.0"	0.6"	0.0"	0.0"	0.0"	0.1"	1.0"	2.8"	2.6"

Figure 129 - Snow Table

SITE ANALYSIS

CLIMATE DATA

Wind

The wind speeds listed in the chart below denote the average *hourly* wind speeds. Wind speeds will be different at different locations due to things like topography, structures, and other factors.

Minot is windy pretty much all year with the windiest times occurring between September and June. The windiest individual month is March with an average hourly wind speed of 12.2 MPH.

Between June and September is the slightly more clam part of the year with July being the least windy month with an average hourly wind speed of 9.5 MPH.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wind Speed (mph)	11.8	11.7	12.2	12.0	11.6	10.6	9.5	9.8	10.9	11.7	11.6	11.6

Figure 130 - Wind Table

January Wind

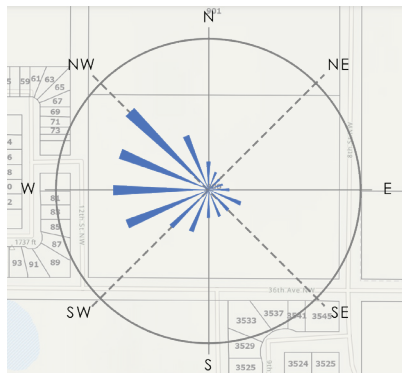


Figure 131 - January Wind

April Wind

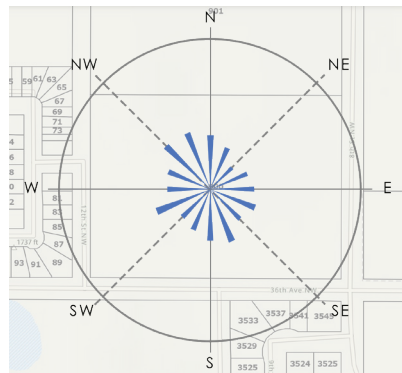


Figure 132 - April Wind

July Wind

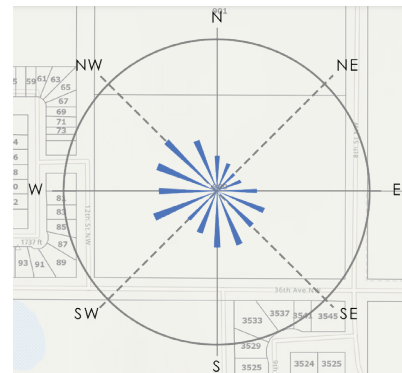


Figure 133 - July Wind

October Wind

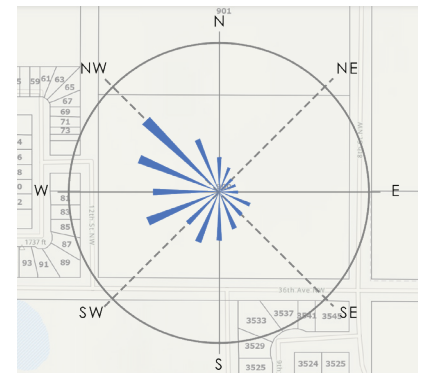


Figure 134 - October Wind

PERFORMANCE CRITERIA

EXECUTIVE SUMMARY

Overall, a successful project will take the form of a recreation center with interwoven childcare facilities that provides people with ample space and amenities to exercise, compete in recreational sports, and ultimately pursue a more active and healthy lifestyle. The building itself should be as sustainable as possible while offering enough space to give people the opportunity to participate in a wide variety of activities. The facility should facilitate a positive mental attitude to its users in order to promote more frequent visitors and as a result, a healthier user population. Parents should be able to feel comfortable with their kids at the facility, knowing they will be safe, getting educated, being socially active, and getting an abundance of physical activity. The new facility should be a valuable asset to the city of Minot and the region as a whole.

PERFORMANCE CRITERIA

Facility

The facility will take the form of a recreation center with childcare typologies ingrained within its architecture. There will be a large number of spaces in the building, likely to be arranged in a cluster-like format. Access to any portion of the facility should be relatively quick from a central lobby location. The facility will have a variety of uses including exercise, recreational sports, childcare, workshops, meetings, private events, parties, and more. Hours of operation will likely be 5 AM - 12 AM. Square footages of spaces within the facility will be based off of precedent studies and standards for the expected occupancy.

Energy

According to iotacommunications.com, a public assembly building uses approximately 15 kWh/SF. At roughly 70,000 SF, that translates to 1.05 million kWh. It would be ideal to be able to generate energy on site to reduce the need for outside energy consumption. Sustainable strategies and implementations will help toward the goal of a more independent energy consumption throughout the facility. Generating energy will not only help to reduce cost of operation for the facility, but it will also help to make the facility more sustainable and lessen its impact on the environment. LEED certification is a goal to strive for with this project.

Behavioral and Psychological Performance

A successful recreation center is a place where people want to be. Users shouldn't feel like coming to the facility is just something they have to do. It would be ideal if users looked forward to coming to the facility for whatever reason they may be there. Ample natural light and brighter colors will serve to create a happier feeling within the building and facilitate more positive mindsets. When people feel comfortable with their rec center experiences, it creates a healthier population.

Code Compliance

Compliance with the IBC, local code, and ADA requirements will be prioritized.

Cost

Income generated from things like membership fees will be compared to the cost of construction, operation, and maintenance in order to find the feasibility of this project.

PERFORMANCE CRITERIA

SPACE ALLOCATION TABLE

	Quantity	Average SF	Total SF	%
Gymnasium(s)	2	8,000	16,000	23%
Rock climbing	1	2,500	2,500	4%
Racquetball	3	800	2400	3%
Aquatics	1	15,000	15,000	21%
Weight training	1	1,500	1,500	2%
Cardio machine area	1	1,500	1,500	2%
Plyometric area	1	1,500	1,500	2%
Crossfit studio(s)	2	2,500	5,000	7%
Locker rooms	3	1,200	3,600	5%
Auditorium	1	3,000	3,000	4%
Classrooms	4	1,000	4,000	6%
Computer room	1	1,000	1,000	1%
Game room	1	1,000	1,000	1%
kitchen	1	750	750	1%
Dining	1	2,000	2,000	3%
Kids gym	1	4,000	4,000	6%
Restrooms	2	200	400	1%
Office space	8	120	960	1%
Janitorial	2	100	200	0%
Laundry	1	500	500	1%
Mechanical	1	2,000	2,000	3%
Storage	1	1,500	1,500	2%
Indoor track	1	Ideally at least ¼ mile track		
FACILITY TOTAL	41	51,670	70,310	100%

Figure 135 - Space Allocation Table

INTERACTION MATRIX

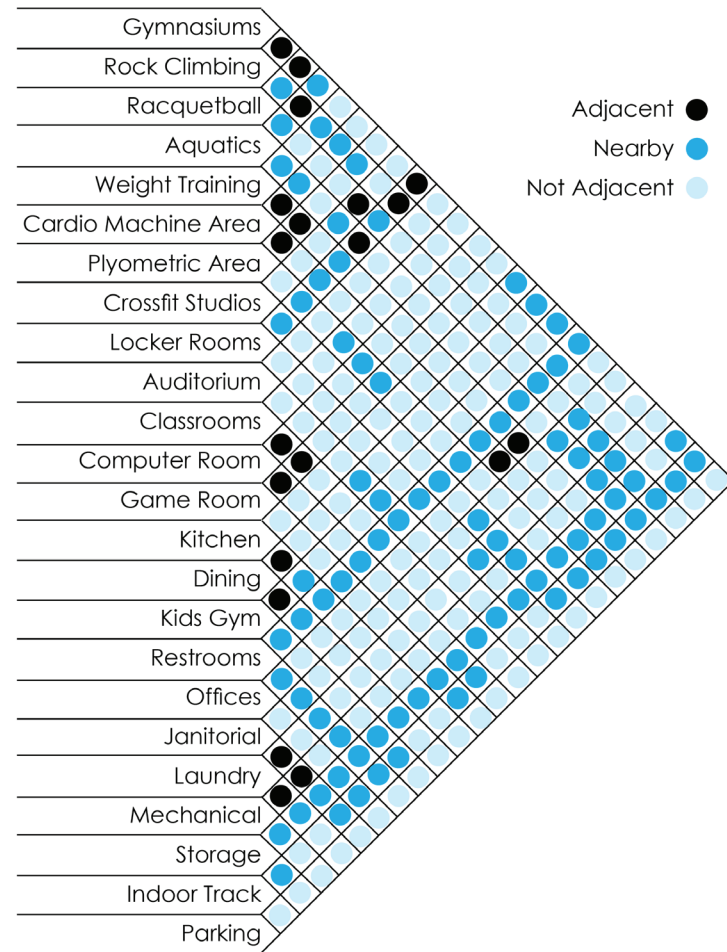


Figure 136 - Interaction Matrix

PERFORMANCE CRITERIA

SPACE INTERACTION NET - LEVEL 1

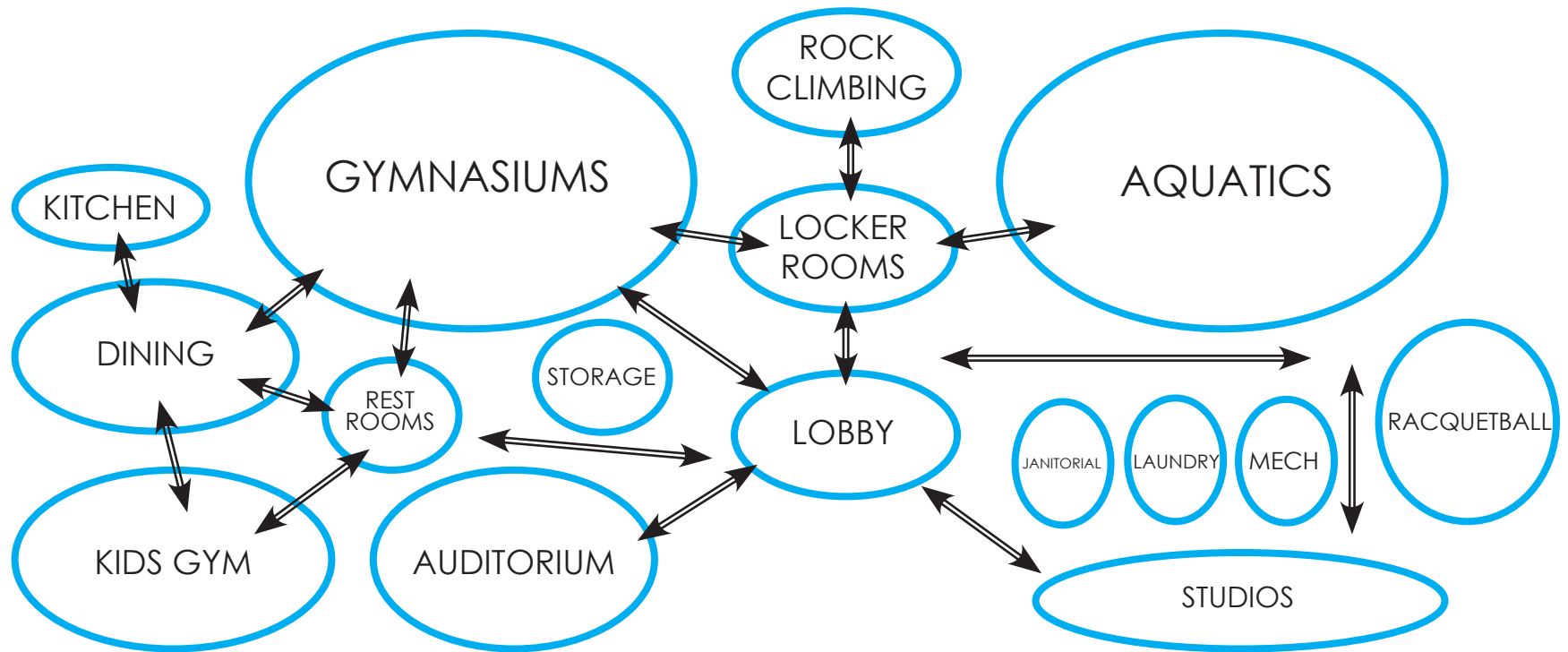


Figure 137 - Space Interaction Net 1

PERFORMANCE CRITERIA

SPACE INTERACTION NET - LEVEL 2

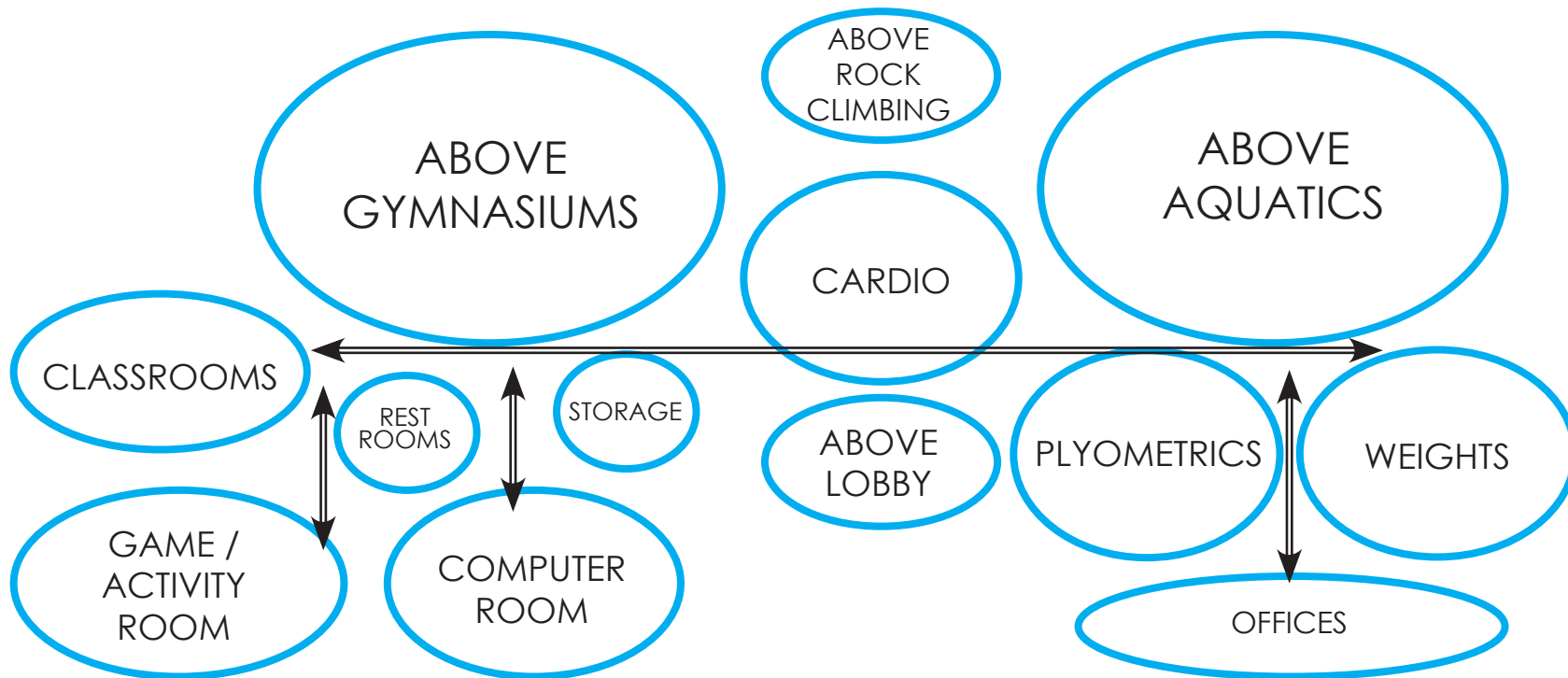
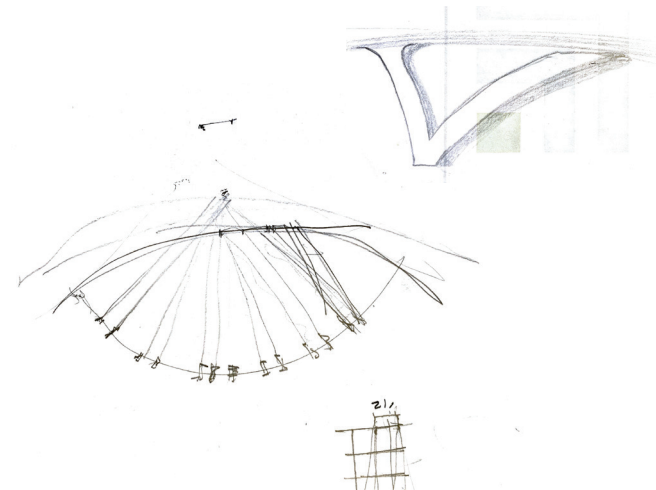
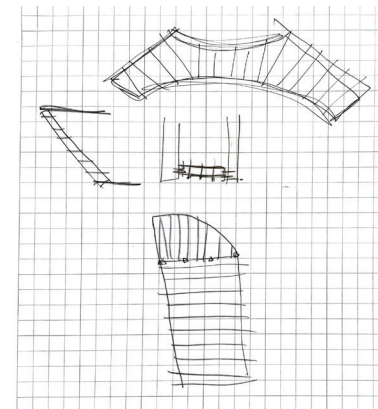
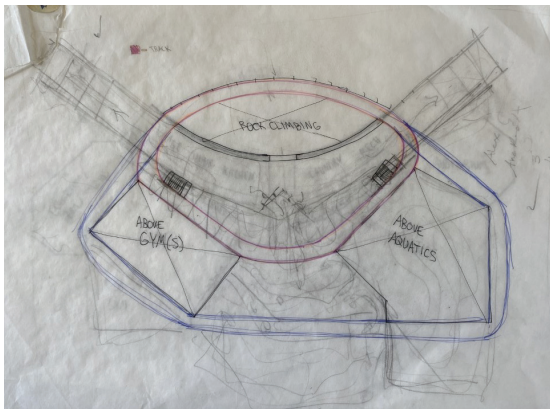
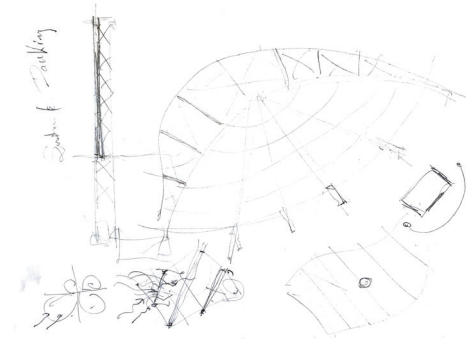
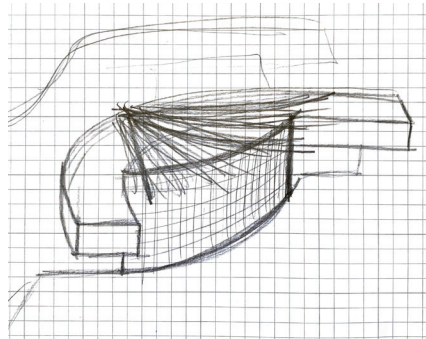
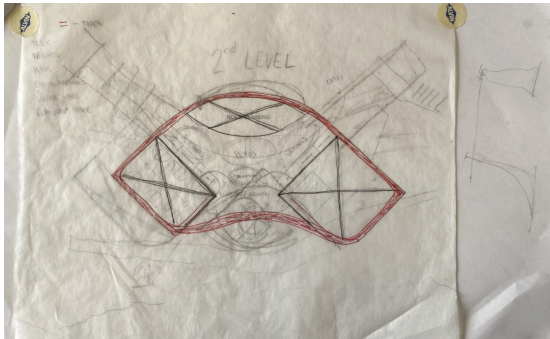
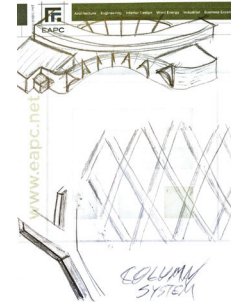
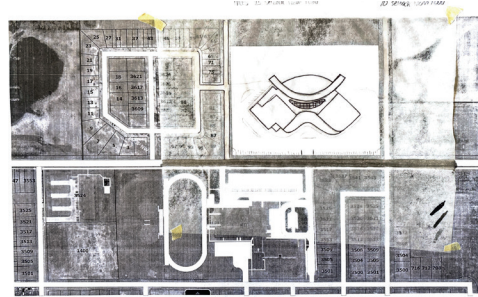
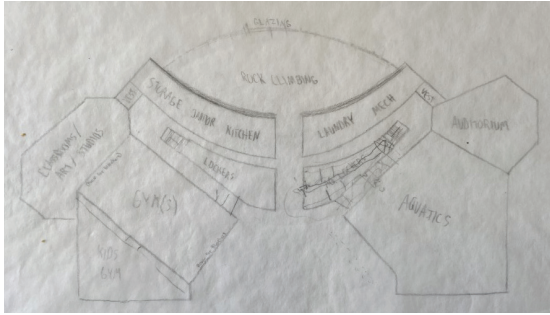


Figure 138 - Space Interaction Net 2

DESIGN SOLUTION

PROCESS DOCUMENTATION



PROJECT SOLUTION



MEADOWLARK RECREATION CENTER

Located in Minot, North Dakota, the Meadowlark Recreation Center seeks to solve multiple problems prominent in the region as well as the rest of the world. A climate like North Dakota's creates an increased demand for indoor recreation space during a majority of the year when the outdoors aren't quite as occupiable. Indoor recreation space comes at a premium in this part of the country and this facility seeks to offer new and exciting recreational opportunities for the citizens of Minot and the surrounding communities. Additionally, the Meadowlark Recreation Center puts an emphasis on children with disabilities, and children's elements intertwined within its architecture. Along with a full-time daycare, a variety of child dedicated spaces and programs create extensive opportunities for children to both learn and play in a safe environment. Through the combination of both recreation center and childcare center typologies, the Meadowlark Recreation Center provides the community with a facility that promotes the health, happiness, entertainment, and safety of adults and children alike.



SITE PLAN



NORTH SIDE



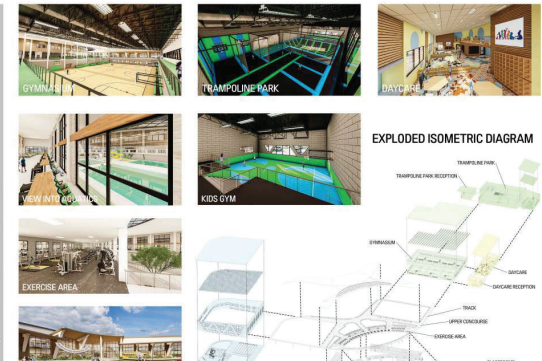
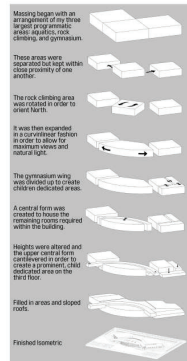
CENTRAL SECTION



GYMNASIUM SECTION



AQUATICS SECTION



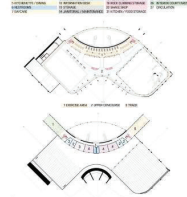
OUTDOOR BASKETBALL COURTS



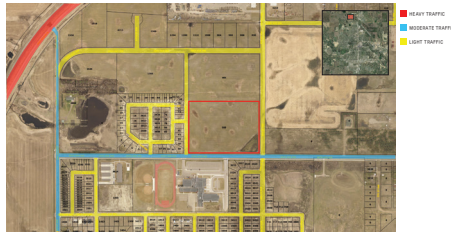
SOCCER FIELDS



MAIN ENTRANCE



RESPONSE TO THE SITE



As stated in the research portion of this Thesis Document, the chosen site is predominantly flat with very limited built surroundings. As a result, there were few limitations in terms of design freedom when beginning the process of finding a design solution for this project.

Shown to the left are a few site aspects that influenced the design in some capacity.



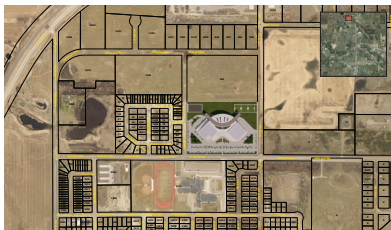
Starting at the top is a map depicting the roadways and traffic surrounding the site. The Highway 83 bypass to the Northwest is the busiest nearby road seeing a fairly reasonable amount of traffic during almost all hours of the day. 36th Avenue and 16th street serve as the main arteries through the neighborhood and see moderate traffic during most parts of the day. During pickup and dropoff hours for Erik Ramstad Middle School located across the street from the chosen site, traffic will undoubtedly increase, especially on 36th Avenue. The roads shown in yellow will see just light traffic throughout the day. Shown on these maps are planned residential lots (highlighted in the fourth image from the top). The areas where these lots will be located are currently empty and as a result, many of the roads highlighted in yellow don't yet exist. With the development of these residential neighborhoods, more traffic will come to the area and the chosen site for the Meadowlark Recreation Center will be in the midst of a bustling residential neighborhood.



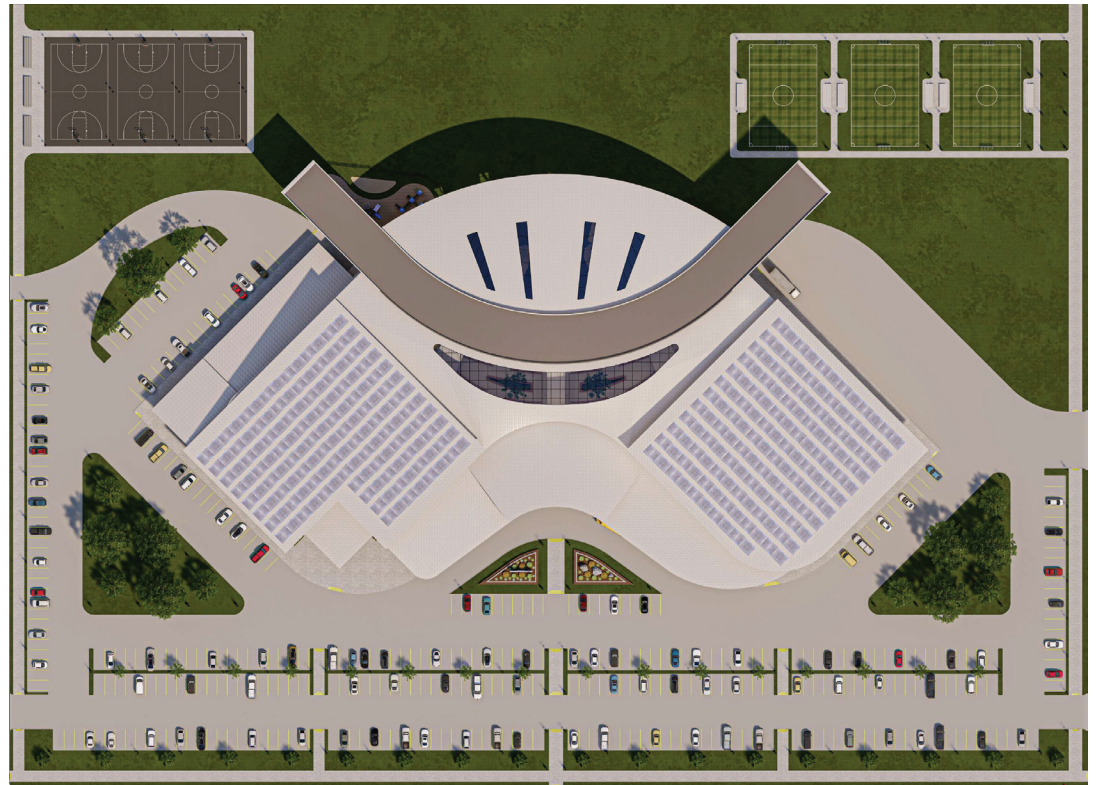
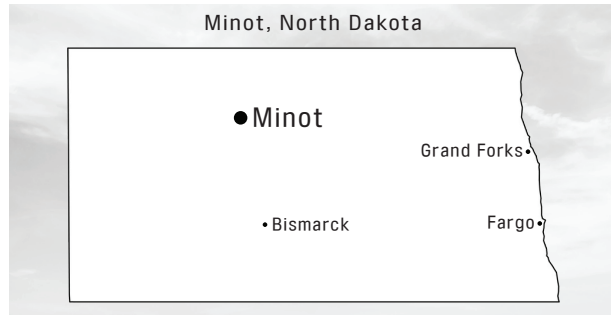
Shown in the third image from the top is Erik Ramstad Middle School which is located across the street from the chosen site. Ramstad holds about 750 students in grades six through eight. The proximity of this school to the Meadowlark Recreation Center gives students a convenient opportunity to walk over for after school programs, practices, etc.



Shown in the bottom image is the developed design solution site plan in its surrounding context.



RESPONSE TO THE SITE



More bigger picture site context can be seen in the two smaller images to the left. On the right is a close up view of the entirety of the chosen site. As you can see, an abundance of parking separates the building itself from 36th Avenue. The building serves as a divider between the outdoor recreation spaces to the North and the parking as well as 36th Avenue. There are four vehicular access points into the site, two on the West side and two on the East side. A primary pickup and dropoff loop is located at the center of the building protected by large overhangs. There is also a convenient vehicular circulation loop to the West outside of the daycare. Finally, there is a large expanse of pavement on the East side of the building outside of the loading dock area to allow trucks to get in and out of the site as conveniently as possible.

RESPONSE TO THE SITE

Solar Solutions



- Solar panels
- Mechanical Louvers
- Extended canopies on South-facing facades
- Skylights and North-facing glazing to capitalize on natural light

Due to the fact that the chosen site is mostly surrounded by open field with few to no obstructions, it was evident that the harnessing of solar energy could be possible and beneficial. Solar panels can be found on the south-sloping roofs of the aquatics center and gymnasium.

South-facing facades are either equipped with large overhangs to protect the inside of the building from harsh direct sun rays, or, as shown in the large image above, mechanical louvers that can rotate depending upon the sun angle and desired amount of light permeation.

Skylights and an abundance of glazing are used to capitalize on natural light to fill the interior of the building.

RESPONSE TO THE PRECEDENT RESEARCH

Case Study Research of Recreation Center and Childcare Center Typologies



SFU UniverCity
Childcare
Burnaby, B.C.
Canada



Minot Family
YMCA
Minot, ND



Maryland Heights
Community
Recreation Center
Maryland Heights,
MO



TNT Kids
Fitness &
Gymnastics
Fargo, ND

There were four primary precedent studies conducted to inform this thesis project. Each of the four studies gave insight into the typology of recreation, the typology of childcare, or both.

RESPONSE TO THE PRECEDENT RESEARCH

SFU UniverCity Childcare



Main Influences
on the
Meadowlark
Recreation
Center

Sustainability

Form

Multi-purpose

The three primary influences that SFU UniverCity Childcare had on the Meadowlark Recreation Center were sustainability, form, and its multi-purpose capabilities.

This building is net zero and has achieved the highest pedigree of sustainability. Its sustainable implementations were looked at closely for compatibility withing this thesis project. In terms of form, the design of this building both interior and exterior served as great inspiration in the design of the Meadowlark Recreation Center. The materials used throughout the building and their effectiveness in a childcare environment also served as great inspiration. Lastly, this childcare center being located on a college campus gives them the unique opportunity to offer the facility as a place of study or "lab" if you will where students can conduct studies or learn in a childcare center environment.

RESPONSE TO THE PRECEDENT RESEARCH

Minot Family YMCA



Main Influences on
the Meadowlark
Recreation Center

Amenities

Layout

Accessibility

The three primary influences that the Minot Family YMCA had on the Meadowlark Recreation Center were the amenities that they offer, the layout of those amenities and spaces within the building, and their accessibility.

The YMCA serves as a tremendous example of what amenities people value and look for in a recreation center. From gymnasiums and pools, to workout equipment and locker rooms, The Minot Family YMCA offers a multitude of options for their members. The way that they were able to organize those amenities and spaces throughout the building was just as valuable in guiding this thesis project. Their adjacencies and efficiency with which the facility is designed went a long way in informing the design of the Meadowlark Recreation Center. Lastly, the Y serves as a great example of accessibility in terms of ADA accessibility with things like ramps and handicap accessible equipment, but also in terms of finances by offering sponsorship programs to give the less fortunate an equal opportunity at pursuing a healthier lifestyle.

RESPONSE TO THE PRECEDENT RESEARCH

Maryland Heights Community Recreation Center



Main
Influences
on the
Meadowlark
Recreation
Center

Form

Layout

Site adaptation

The three primary influences that the Maryland Heights Community Recreation Center had on the Meadowlark Recreation Center were the form, layout, and site adaptation of the building.

The Maryland Heights Community Recreation Center has a distinctive organic form that is both beautiful and functional. Given the fact that I have a lot of organic forms in my design as well, this study was extremely beneficial both in achieving an appealing design, but also fitting my program within that organic form in an efficient manner. Just as the designers of the Maryland Heights Community Recreation Center had to get creative in how they fit elements within their organic form, I too had to come up with efficient ways of fitting so many different spaces within a more organic form. Lastly, the site adaptation of this project stood out. Located along a highway, one big challenge the designers dealt with was traffic noise. A solution they had for this challenge was to bring the ground plane up over the building and create an “acoustic shadow” where the noise was decreased by half. Their ability to turn a design challenge into a design opportunity was admirable and had an influence on the Meadowlark Recreation Center.

RESPONSE TO THE PRECEDENT RESEARCH

TNT Kids Fitness & Gymnastics



Main Influences on the Meadowlark Recreation Center

Amenities

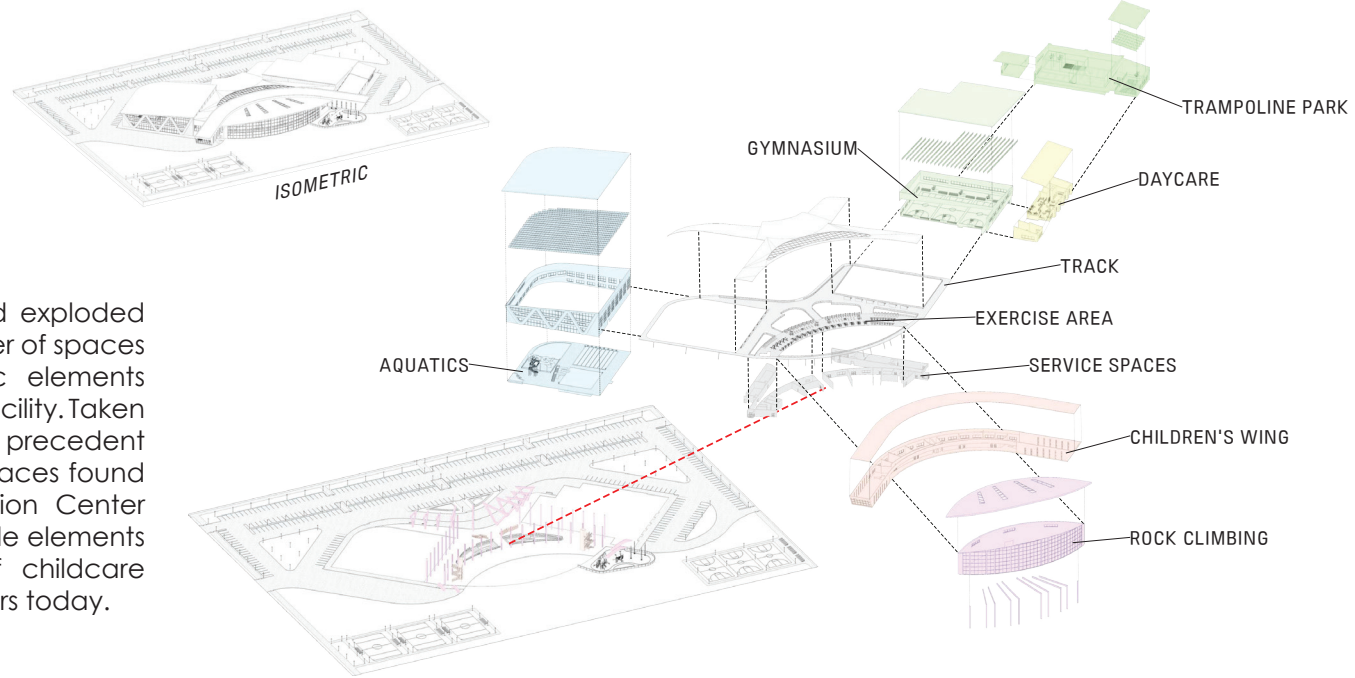
Inclusivity

Impact on youth

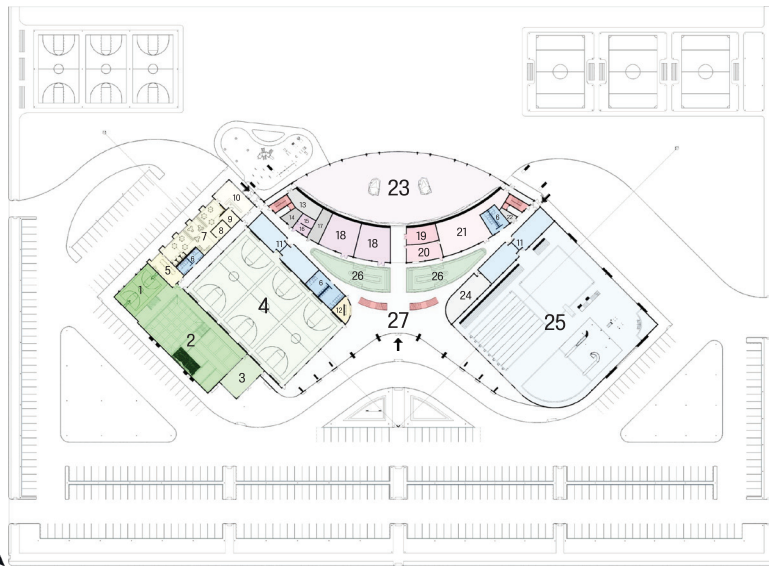
The three primary influences that TNT Kids Fitness & Gymnastics had on the Meadowlark Recreation Center were the amenities that they offer, the inclusivity of the facility, and the impact that they have on the youth.

As mentioned earlier in the document, TNT is unique in that they offer what no other childcare center does in terms of recreation. By implementing similar things as TNT like trampolines, climbing walls, and kids gyms, unique opportunities for play and physical activity are available and increase the activity level of the kids. The design of the Meadowlark Recreation Center is intended to give people of every ability the opportunity to play, be active, and lead a healthier lifestyle, just as they do at TNT. Lastly, if the Meadowlark Recreation Center could influence the lives of the youth in Minot and surrounding communities just as TNT does for kids in and around Fargo, it will be a successful project. Facilitating physical activity through games, activities, and play will go a long way in creating a healthier youth.

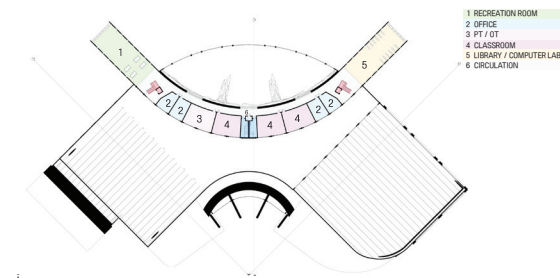
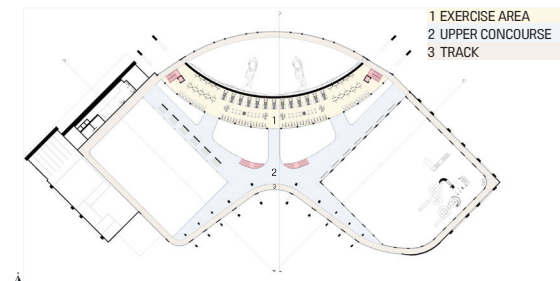
RESPONSE TO THE PRECEDENT RESEARCH



Shown in the floor plans and exploded isometric are the large number of spaces and different programmatic elements that can be found within the facility. Taken as a direct influence from precedent studies, the amenities and spaces found in the Meadowlark Recreation Center are a response to the desirable elements and necessities required of childcare centers and recreation centers today.



- 1 KIDS GYM
- 2 TRAMPOLINE PARK
- 3 TRAMPOLINE PARK RECEPTION
- 4 GYMNASIUM
- 5 KITCHENETTE / DINING
- 6 RESTROOMS
- 7 DAYCARE
- 8 NAP ROOM
- 9 DAYCARE OFFICE
- 10 DAYCARE RECEPTION
- 11 LOCKER ROOMS
- 12 INFORMATION DESK
- 13 STORAGE
- 14 JANITORIAL / MAINTENANCE
- 15 NURSE (EXAMINATION)
- 16 NURSE (OFFICE)
- 17 LAUNDRY
- 18 FLEX STUDIO
- 19 ROCK CLIMBING STORAGE
- 20 SHAKE SHOP
- 21 KITCHEN / FOOD STORAGE
- 22 STORAGE
- 23 ROCK CLIMBING
- 24 MECHANICAL
- 25 AQUATICS
- 26 INTERIOR COURTYARDS
- 27 CIRCULATION



RESPONSE TO GOALS AND PROJECT EMPHASIS

The three main points of emphasis at the start of this project were to...

- create a childcare opportunity that promotes the health and well-being of children
- create a recreation center that is capable of diverse activities and programs
- create an event venue for the city of Minot

I am of the opinion that all these main points of emphasis were achieved or surpassed with this design solution. By providing a wide variety of amenities and outlets for physical activity, the Meadowlark Recreation Center does indeed provide a childcare opportunity that promotes the health and well-being of children.

With such a large number of amenities and opportunities in the facility, members and visitors of the Meadowlark Recreation center should never feel limited in what they can partake in when they visit.

The Meadowlark Recreation Center is more than capable of hosting a large variety of events ranging from swim meets and basketball tournaments, to camps and workshops.

RESPONSE TO GOALS AND PROJECT EMPHASIS



MEADOWLARK RECREATION CENTER

PLAYGROUND



MEADOWLARK RECREATION CENTER

ROCK CLIMBING



MEADOWLARK RECREATION CENTER

VIEW INTO AQUATICS



MEADOWLARK RECREATION CENTER

GYMNASIUM



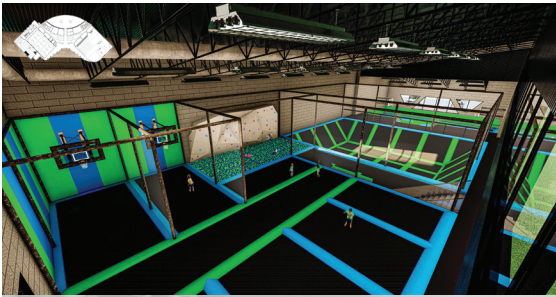
MEADOWLARK RECREATION CENTER

LIBRARY/COMPUTER LAB



MEADOWLARK RECREATION CENTER

EXERCISE AREA



MEADOWLARK RECREATION CENTER

TRAMPOLINE PARK



MEADOWLARK RECREATION CENTER

KIDS GYM



MEADOWLARK RECREATION CENTER

DAYCARE

CRITIQUE OF APPLIED RESEARCH METHODS USED IN THE THESIS PROJECT

The process of finding and looking over studies related to applicable typologies gives a designer insight into what they need to keep in mind when designing, as well as the purposes for which they are creating this project. General qualitative and quantitative studies are a necessary component of research to inform a designer of ideas and aspects within their project.

The procedure of looking into applicable typologies (in this case recreation centers and childcare centers) and using information gathered from those studies such as provided amenities, layout of spaces, or the facilities impact on its users to inform my own design turned out to be an efficient manner in coming up with an effective design solution.

Only adding to the valuable insight gained from case studies is the otherwise inaccessible information gathered from interviews with professionals working in the applicable typologies. Being fortunate enough to have the opportunity to interview a professional regarding their place of work and their typology as a whole gives insight you can't gather through regular means. Things like day-to-day operations, motivations, goals, and opinions are all things gathered through interviews that are extremely beneficial to the design process.

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Previous Design Studio Experience

2nd Year (2018-2019)

ARCH 271: Milton Yergens - Meditation Room - Boathouse

ARCH 272: Cindy Urness - Dwelling - Mixed-Use - Birdhouse

3rd Year (2019-2020)

ARCH 371: Bakr Aly Ahmed - Olympic Facility - Beach Resort

ARCH 372: Niloufar Alenjery - Immigrant Respite Center - Landscaper Office Building

4th Year (2020-2021)

ARCH 471: Amar Hussein - Capstone Highrise Project

ARCH 472: Kristi Hanson - Marvin Windows Project - Medora Masterplan

FINAL PRESENTATION SLIDES

MEADOWLARK RECREATION CENTER

MINOT, NORTH DAKOTA

CHASE MOSSER

The Meadowlark Recreation Center is an all-encompassing recreation center with dedicated childcare facilities and programs intertwined within its architecture.

This proposed facility will give the city of Minot a place that can serve a variety of functions:



exercise
facility



sport hosting
facility



educational
facility



childcare
center



after-school
center



event venue

The primary goal of this project is to promote the **health, happiness, entertainment, and safety** of adults and children alike.

MEADOWLARK

The Meadowlark carries with it a variety of both symbolic and physical allusions that relate directly to the goals and aspirations of this project.

Symbolic Connections

- state bird
- commonly associated with the ideas of warmth, light, and life
- emblem of knowledge and wisdom, but also finding happiness through lifelong pursuits of learning

Physical Connections

- The crescent form on the chest of the Meadowlark resembles that of the crescent form that runs through the upper portion of the recreation center that continues to cantilever to either side.
- This cantilevering form could also be said to resemble the outstretched wings of a bird in flight.



MEADOWLARK RECREATION CENTER

NAME SIGNIFICANCE

There were three primary areas of research that were utilized to inform this thesis...

1. Qualitative and Quantitative Research
2. Case Studies
3. Interviews

MEADOWLARK RECREATION CENTER

RESEARCH

Qualitative & Quantitative Research

Qualitative and quantitative research was gathered from three primary resources...

1. a study conducted by Meghan Finch titled, Impact of a Population Based Intervention to Increase the Adoption of Multiple Physical Activity Practices in Center-Based Childcare Services: a Quasi Experimental , Effectiveness Study
2. a study by Lubna Razak titled, Implementation of Policies and Practices to Increase Physical Activity Among Children Attending Center-Based Childcare: a Cross-Sectional Study
3. a study by Nanci Weinberger titled, Looking Inside and Out: Perceptions of Physical Activity in Childcare Spaces

MEADOWLARK RECREATION CENTER

RESEARCH

Qualitative & Quantitative Research

All three studies had to do with physical activity in childcare centers in some way, shape, or form.

A distillation of their findings shows that simply providing adequate space and the means for physical activity increases the activity levels of children within those facilities.

- Implementing policies and/or practices
- Hiring knowledgeable staff

The value of physical activity in youth can not be overstated. Physical activity helps children grow physically, mentally, and emotionally. Through simply providing the means for children to have fun through physical activity, a great leap has already been made in creating a healthier youth.

ADEQUATE
FACILITIES



INCREASED
PHYSICAL
ACTIVITY



HEALTHIER
YOUTH

MEADOWLARK RECREATION CENTER

RESEARCH

Case Study Research of Recreation Center and Childcare Center Typologies



SFU UniverCity
Childcare
Burnaby, B.C.
Canada



Minot Family
YMCA
Minot, ND



Maryland Heights
Community
Recreation Center
Maryland Heights,
MO



TNT Kids
Fitness &
Gymnastics
Fargo, ND

MEADOWLARK RECREATION CENTER

CASE STUDIES

SFU UniverCity Childcare



Main Influences
on the
Meadowlark
Recreation
Center

Sustainability

Form

Multi-purpose

MEADOWLARK RECREATION CENTER

CASE STUDIES

Minot Family YMCA



Main Influences on
the Meadowlark
Recreation Center

Amenities

Layout

Accessibility

MEADOWLARK RECREATION CENTER

CASE STUDIES

Maryland Heights Community Recreation Center



Main
Influences
on the
Meadowlark
Recreation
Center

Form

Layout

Site adaptation

MEADOWLARK RECREATION CENTER

CASE STUDIES

TNT Kids Fitness & Gymnastics



Main Influences on
the Meadowlark
Recreation Center

Amenities

Inclusivity

Impact on youth

MEADOWLARK RECREATION CENTER

CASE STUDIES

Interviews

Ryan Williams
COO of TNT Kids fitness &
Gymnastics

Visiting TNT allowed me the opportunity to see firsthand, what a unique facility they are. No other place in the area offers what they can in terms of amenities and program.

Ryan was gracious enough to provide tremendous insight not only on TNT, but the typologies of childcare and recreation as a whole.

Learning, moving, and growing are three main pillars at TNT and everything they do facilitates those ideals.

The number one takeaway from interviewing Ryan was how TNT effectively combines multiple typologies that work for the benefit of one another.

Cody Borud
HR Director and Membership
Director of the Minot Family YMCA

Getting the opportunity to interview Cody provided an abundance of information that would not have otherwise been obtainable.

His years of experience in the field of recreation were evident as he explained to me how the YMCA operates and what makes them so successful.

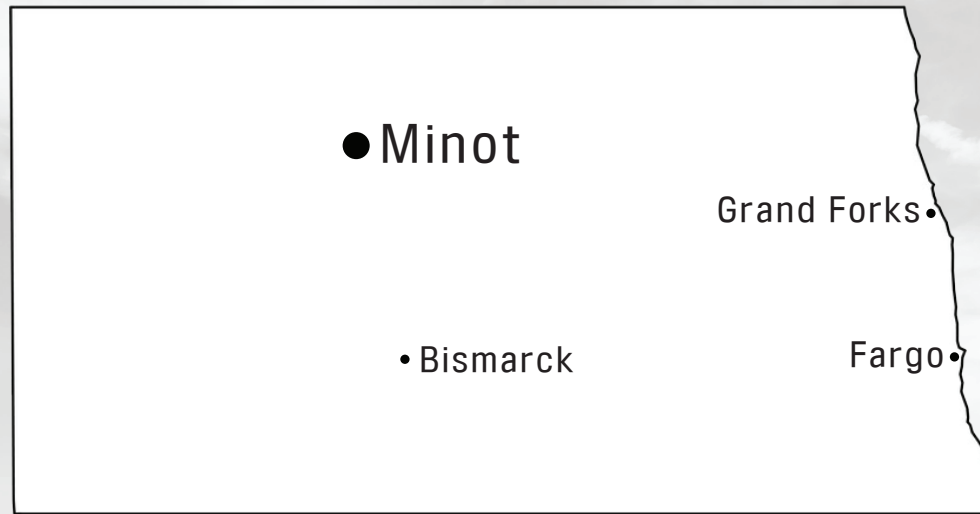
What I found to be most beneficial from my interview with Mr. Borud were not only his insight on what makes the Minot Y so successful, but what would potentially make them even more successful.

Identifying areas of potential improvement are invaluable in the early design stages of a project.

MEADOWLARK RECREATION CENTER

INTERVIEWS

Minot, North Dakota



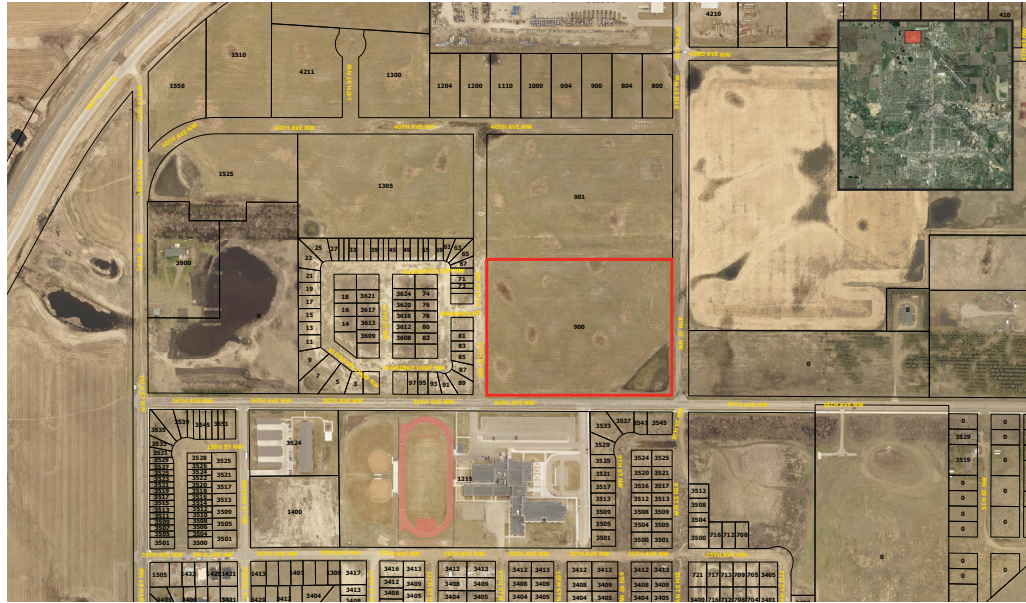
MEADOWLARK RECREATION CENTER

SITE



MEADOWLARK RECREATION CENTER

SITE



MEADOWLARK RECREATION CENTER

SITE



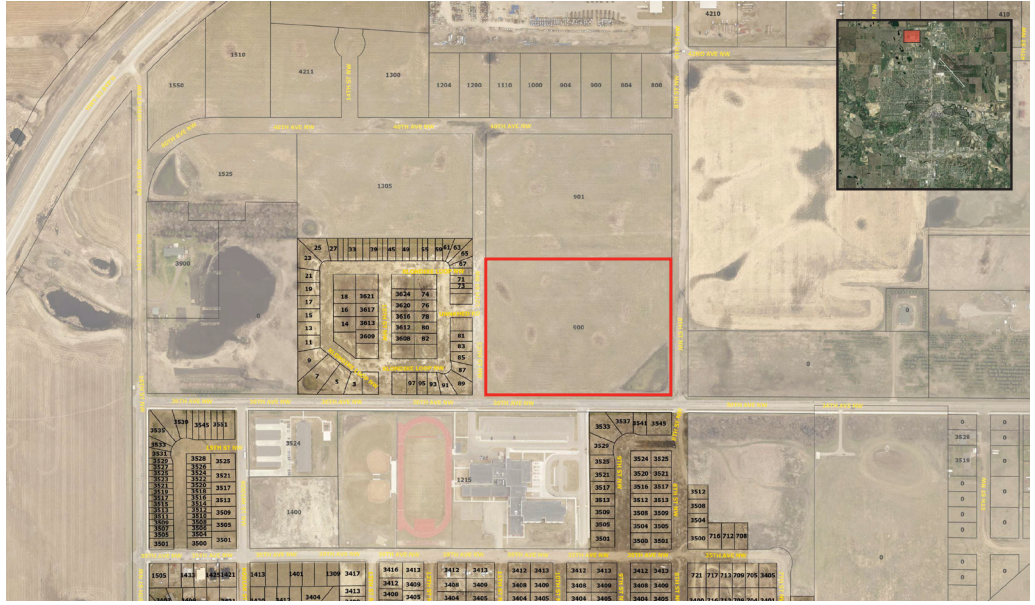
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SITE



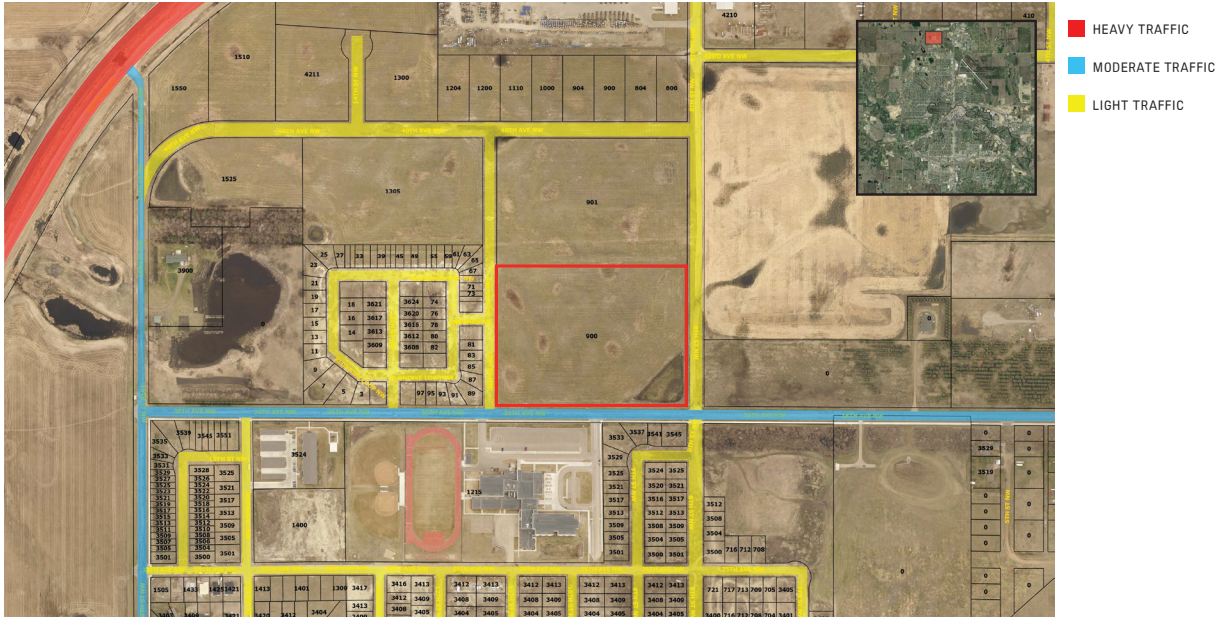
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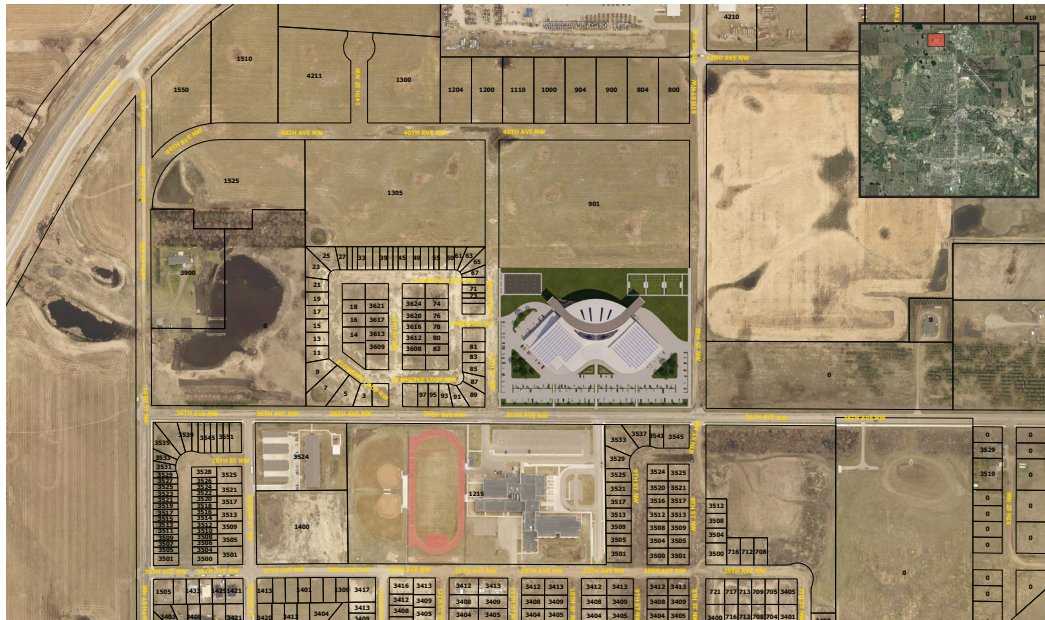


MEADOWLARK RECREATION CENTER

SITE



MEADOWLARK RECREATION CENTER SITE



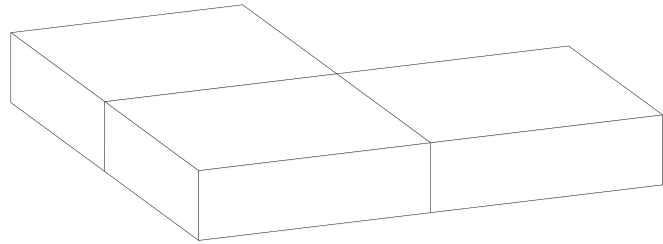
MEADOWLARK RECREATION CENTER SITE



MEADOWLARK RECREATION CENTER

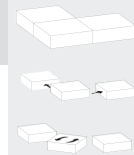
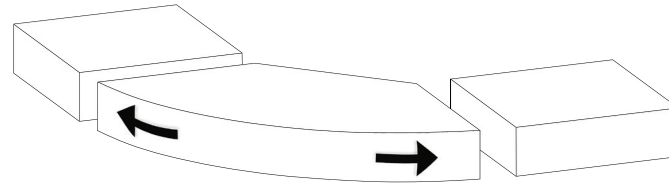
SITE

MASS PROGRESSION



RUNNING PROGRESSION

MASS PROGRESSION



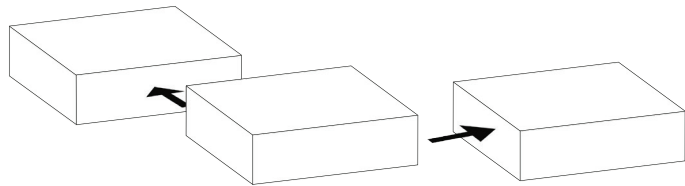
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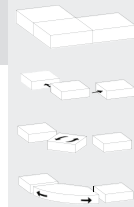
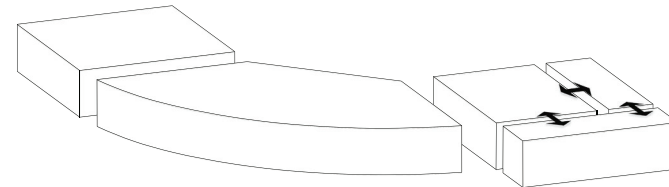
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MASS PROGRESSION

MASS PROGRESSION



MASS PROGRESSION



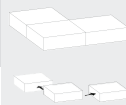
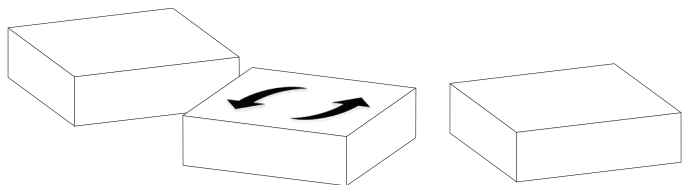
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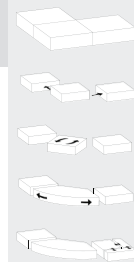
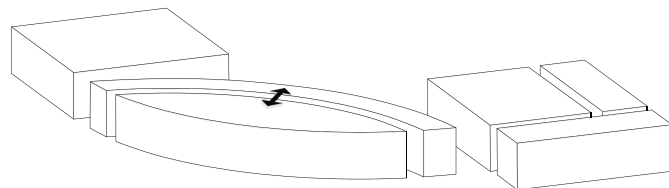
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MASS PROGRESSION

MASS PROGRESSION



MASS PROGRESSION



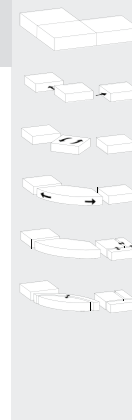
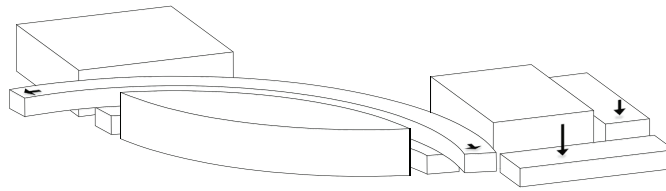
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MASS PROGRESSION

MEADOWLARK RECREATION CENTER

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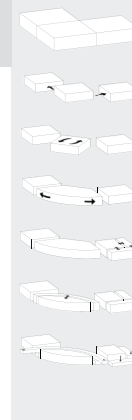
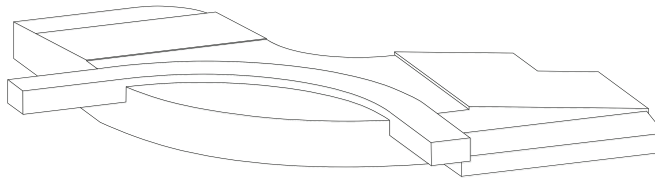
MASS PROGRESSION



MEADOWLARK RECREATION CENTER

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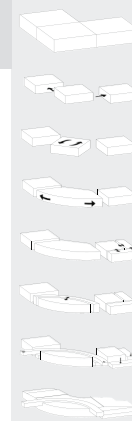
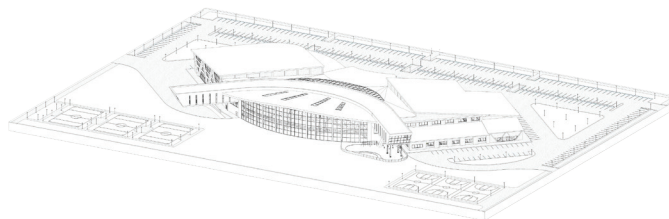
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MEADOWLARK RECREATION CENTER

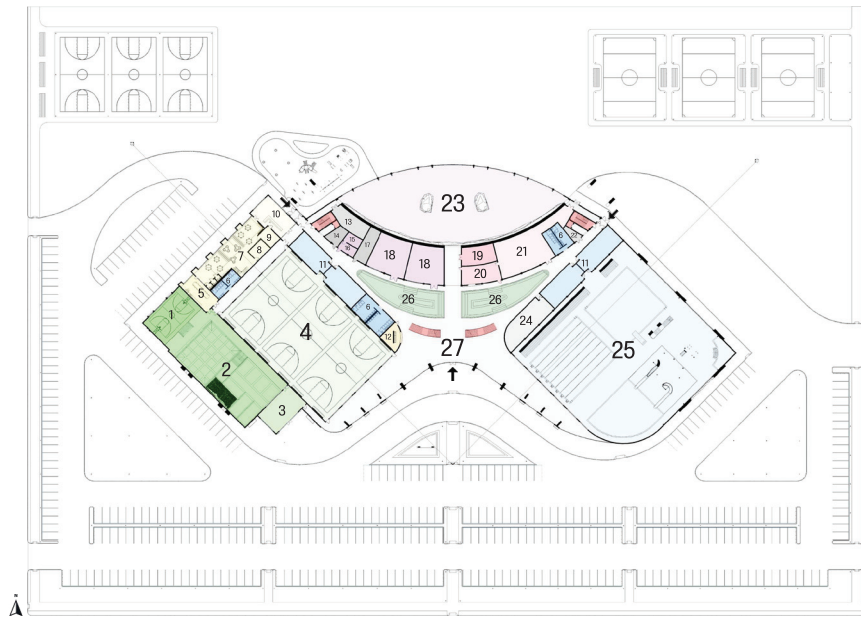
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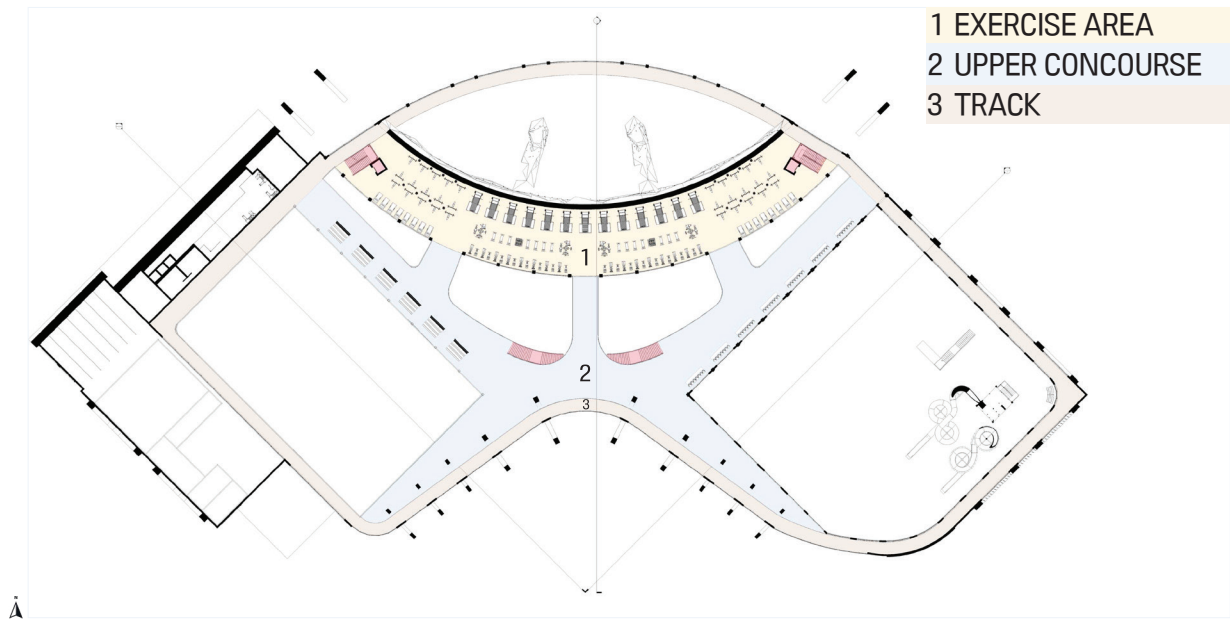
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MASS PROGRESSION



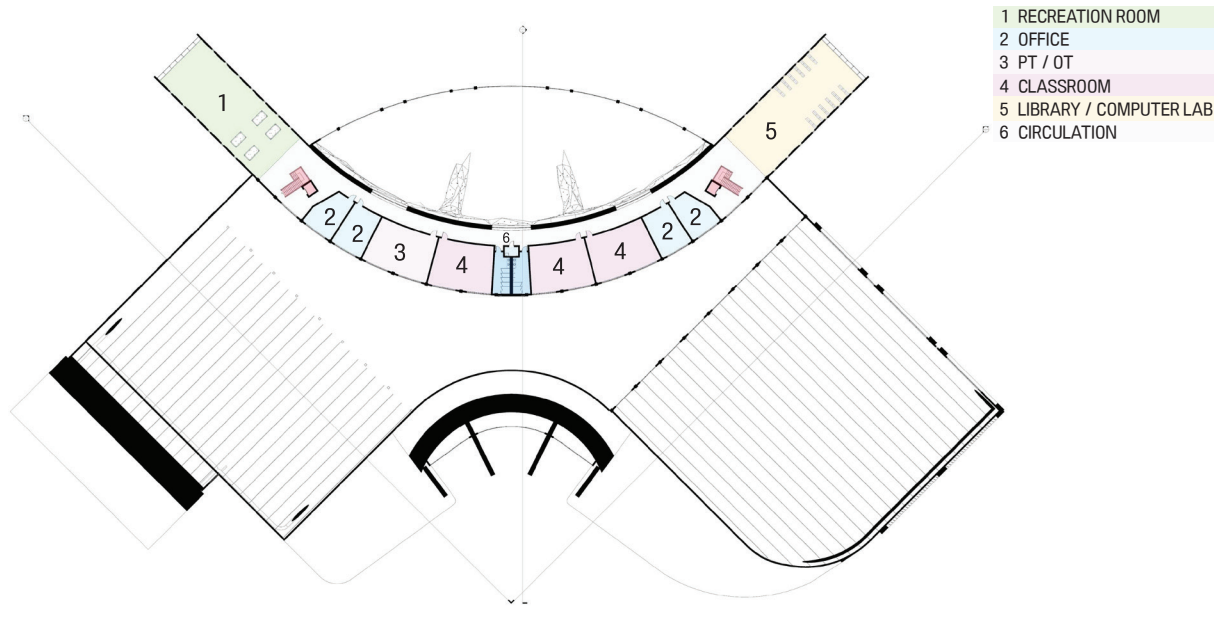
- 1 KIDS GYM
- 2 TRAMPOLINE PARK
- 3 TRAMPOLINE PARK RECEPTION
- 4 GYMNASIUM
- 5 KITCHENETTE / DINING
- 6 RESTROOMS
- 7 DAYCARE
- 8 NAP ROOM
- 9 DAYCARE OFFICE
- 10 DAYCARE RECEPTION
- 11 LOCKER ROOMS
- 12 INFORMATION DESK
- 13 STORAGE
- 14 JANITORIAL / MAINTENANCE
- 15 NURSE (EXAMINATION)
- 16 NURSE (OFFICE)
- 17 LAUNDRY
- 18 FLEX STUDIO
- 19 ROCK CLIMBING STORAGE
- 20 SHAKE SHOP
- 21 KITCHEN / FOOD STORAGE
- 22 STORAGE
- 23 ROCK CLIMBING
- 24 MECHANICAL
- 25 AQUATICS
- 26 INTERIOR COURTYARDS
- 27 CIRCULATION

MEADOWLARK RECREATION CENTER FLOOR PLANS

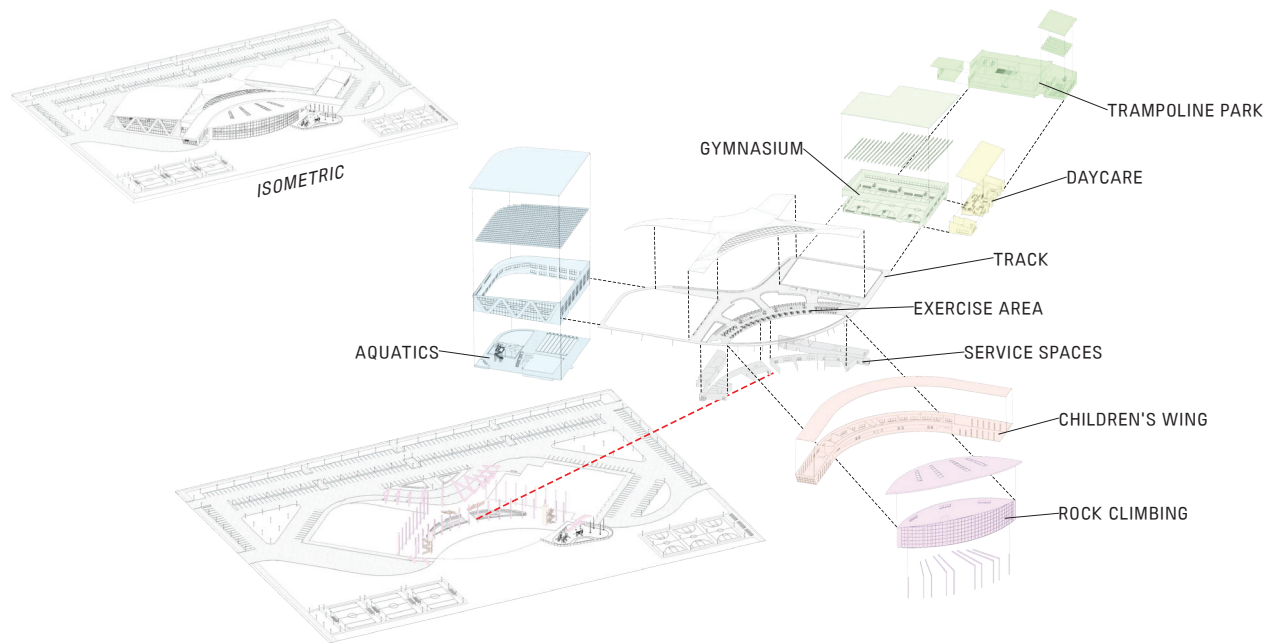


- 1 EXERCISE AREA
- 2 UPPER CONCOURSE
- 3 TRACK

MEADOWLARK RECREATION CENTER FLOOR PLANS



MEADOWLARK RECREATION CENTER FLOOR PLANS



MEADOWLARK RECREATION CENTER FLOOR PLANS



MEADOWLARK RECREATION CENTER NIGHT PERSPECTIVE



MEADOWLARK RECREATION CENTER NORTH FACADE



MEADOWLARK RECREATION CENTER

SOCCER FIELDS



MEADOWLARK RECREATION CENTER

OUTDOOR COURTS



MEADOWLARK RECREATION CENTER

PLAYGROUND



MEADOWLARK RECREATION CENTER

ENTRY APPROACH



MEADOWLARK RECREATION CENTER

MAIN ENTRANCE

Solar Solutions



MEADOWLARK RECREATION CENTER



- Solar panels
- Mechanical Louvers
- Extended canopies on South-facing facades
- Skylights and North-facing glazing to capitalize on natural light

SOLAR SOLUTIONS



MEADOWLARK RECREATION CENTER

AQUATICS SECTION



MEADOWLARK RECREATION CENTER

GYMNASIUM SECTION



MEADOWLARK RECREATION CENTER

CENTRAL SECTION



MEADOWLARK RECREATION CENTER

INTERIOR COURTYARD



MEADOWLARK RECREATION CENTER

UPPER CONCOURSE



MEADOWLARK RECREATION CENTER

EXERCISE AREA



MEADOWLARK RECREATION CENTER

ROCK CLIMBING

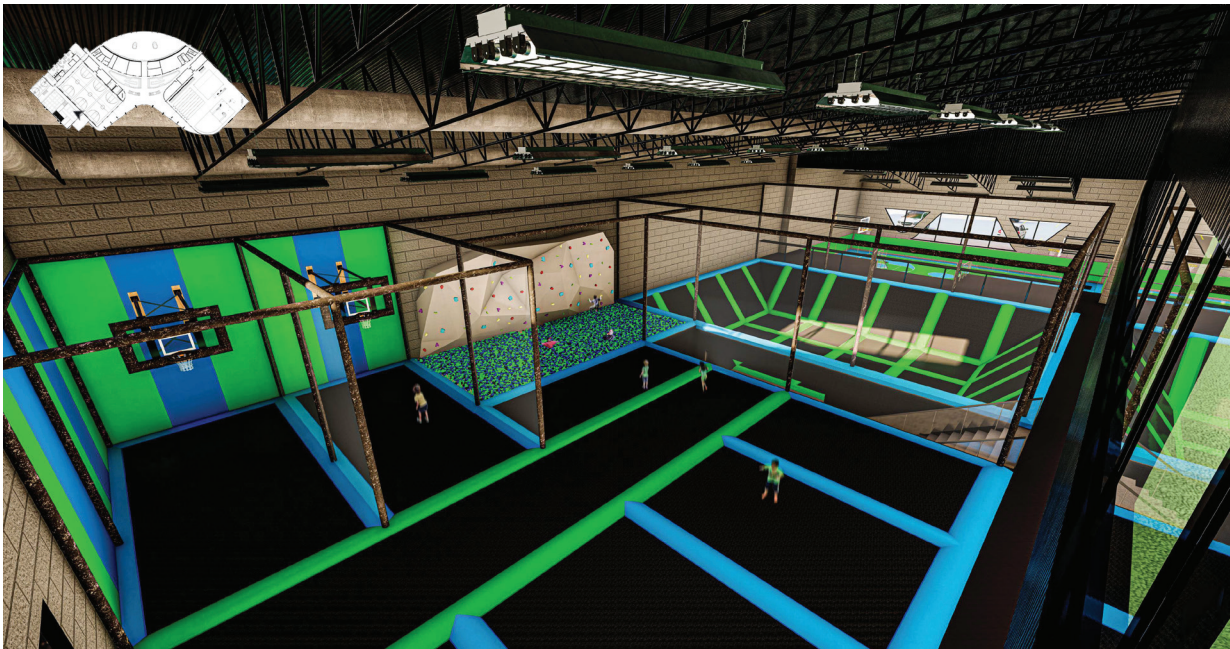


MEADOWLARK RECREATION CENTER

VIEW INTO AQUATICS



MEADOWLARK RECREATION CENTER GYMNASIUM



MEADOWLARK RECREATION CENTER TRAMPOLINE PARK



MEADOWLARK RECREATION CENTER

KIDS GYM



MEADOWLARK RECREATION CENTER

DAYCARE



MEADOWLARK RECREATION CENTER LIBRARY/COMPUTER LAB



MEADOWLARK RECREATION CENTER REC ROOM



MEADOWLARK RECREATION CENTER

Located in Minot, North Dakota, the Meadowlark Recreation Center seeks to solve multiple problems prominent in the region as well as the rest of the world. A climate like North Dakota's creates an increased demand for indoor recreation space during a majority of the year when the outdoors aren't quite as occupiable. Indoor recreation space comes at a premium in this part of the country and this facility seeks to offer new and exciting recreational opportunities for the citizens of Minot and the surrounding communities. Additionally, the Meadowlark Recreation Center puts an emphasis on children with childcare, and childcare elements intertwined within its architecture. Along with a full-time daycare, a variety of child dedicated spaces and programs create extensive opportunities for children to both learn and play in a safe environment. Through the combination of both recreation center and childcare center typologies, the Meadowlark Recreation Center provides the community with a facility that promotes the health, happiness, entertainment, and safety of adults and children alike.



SITE PLAN



NORTH SIDE



CENTRAL SECTION



GYMNASIUM SECTION



AQUATICS SECTION

Massing began with an arrangement of five discrete areas: aquatics, rock climbing, and gymnasium. These areas were separated but kept within close proximity of one another.

The rock climbing area was rotated in order to orient North.

It was then expanded in a southwesterly fashion in order to allow for maximum views and natural light.

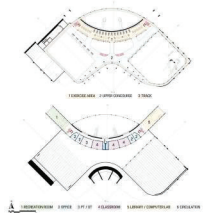
The gymnasium wing was elevated up to create child-enriched areas.

A central form was created to house the remaining rooms required within the building.

Heights were altered and the upper levels were cantilevered in order to create a prominent, child-dedicated area on the third floor.

Filled in areas and sloped roofs.

Finished isometric.



OUTDOOR BASKETBALL COURTS



SOCCER FIELDS



MAIN ENTRANCE

