

Building IN: The BNSF Corridor Initiative

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

by

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In Partial Fulfillment of the Requirements
for the degree of
Bachelor of Architecture

Primary Thesis Critic

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May 2006
Fargo, North Dakota

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Thesis Abstract

This project is an urban design study in the re-use of abandoned railway land as a potential for urban growth and development in the historic Fargo Downtown neighborhood. This project will examine the characteristic of architecture which allows it to take that which is already there and re-interpret it for a new use.

Project Typology

This thesis is an urban design project along the northern right of way of the Burlington Northern/Santa Fe railroad that runs through an historic Downtown Fargo neighborhood.

Theoretical Premise

The thesis will examine that characteristic of architecture which allows it to take that which is already there and re-interpret it for a new use. Design metaphors, analogies, or tectonics will be developed from this examination.

Project Justification

Fargo has an historic opportunity to recapture a major urban link and reuse it to benefit its community.



Building IN:
The BNSF Corridor
Initiative
Project Proposal

The whole is greater than the sum of its parts.

This is a phrase we have learned throughout our lives to illustrate the strength of an entity when it is made up of individual pieces that work together in unison for the good of the whole. Neighborhoods can be thought of in this way as well. The unity of a neighborhood is dependent on how well its individual parts work together. How they are related, how adaptable they are to change, and how responsive they are to all situations make up a neighborhood's ability to grow and develop into the future.

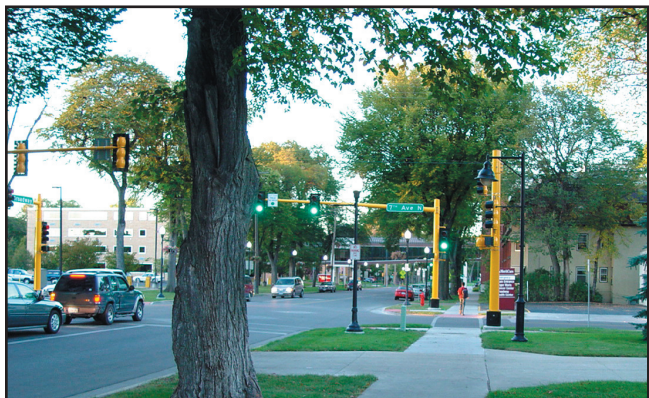
Historical neighborhoods are unique in that they change and develop while still preserving as much of the past as possible. They progress with as little destruction as possible in order to maintain their historical quality. Fargo's Historic Downtown is an example of this type of neighborhood.

Downtown Fargo has seen its share of good and bad times. It has declined in the past and is now experiencing a rebirth in the present day. There have been several beautification plans that have dramatically changed downtown into a destination once again. However, what can we do to strengthen this bonding of our neighborhood? How can we ensure that this transformation will last far into the future? Is it possible that Fargo's downtown could become as strong as many

other major cities in the United States? I am of the opinion that it can. I feel by strengthening the urban fabric of downtown we can ensure that our city will continue to grow and develop into the future.

In examination of this idea, I came across the question of what divides our neighborhoods. Roads, trains, barriers, fences, walls, concrete, glass, spaces, parking lots, even the people themselves can be a divisor. In Fargo's case, our main divisor of downtown is the railroad system. In the past, the railroad was the backbone of our city. The railroad was one of the reasons Fargo became the city that it is today. Understanding this makes the railroad continue to be important to Fargo. However, in the past couple of years there has been the issue of abandoning the north right of way track that runs through downtown Fargo. Limited use, noise, and safety concerns are a few of the reasons for this abandonment.

This issue brings fourth a tremendous opportunity for downtown, an opportunity to strengthen the urban fabric and design of downtown by taking this land and re-interpreting it for a new use. Herein lays my theoretical premise, the subject that I will examine. The vehicle for this examination is adaptive re-use of urban land in downtown Fargo in the hopes of strengthening the urban fabric that makes up this neighborhood.



This urban design study project will be designed primarily for the citizens of the downtown district in Fargo, ND as well as the citizens in the surrounding metro area. Secondly, this project will be designed for people who are traveling to Fargo as tourists for a multitude of reasons in order to enhance their perception of Fargo as a growing and prosperous city.

The peak usage of this project will be in the morning and afternoons during the week when businesses, offices, and schools are operational. There will also be many users during the late evening hours when people come to downtown to enjoy the many nightclubs and restaurants that Fargo offers. In addition, there will be peak demands from tourists attending special events such as the downtown street fair and events at the civic center.

Downtown Fargo encompasses a myriad of different cultures, ethnicities, social backgrounds, and economic conditions that make up this great neighborhood. Great care should be taken when making design decisions that affect all of these citizens, for these are the people that will benefit from this design project.

clude, but are not limited to:

- Residential developments
- Commercial/Retail developments
- Open Space developments
- Adaptive re-use of BNSF railway land for aesthetic purposes

Residential Developments:

- All residential developments shall follow the Fargo Downtown Land Development Code.
- All residential development will include low to high income units for rent/lease.
- Developments can be on any floor abiding by height restrictions set fourth in the building code.
- All residential developments will include access to open space where applicable.
- Residential developments shall provide proper open space for all tenants.
- Residential development requirements will be developed further through research and analysis in the program document.

Commercial / Retail Developments:

- All commercial and retail developments shall follow the Fargo Downtown Land Development Code.

-Development on the ground level shall provide store fronts that are appropriate for the Downtown Fargo Historical District.

-Development shall preserve the historical context and style of downtown Fargo, but also provide space for new, innovative development that further enhances the quality and strengthens the fabric of downtown Fargo.

Open Space Developments:

-Open space development will follow the Fargo Downtown Land Development Code.

-Open space should provide ample room for pedestrian travel as well as bicycle travel.

-Open space development shall provide ample green space, water features, landscaping, trees, and appropriate day lighting in order to enhance the quality of the open space environment of Downtown Fargo.

Adaptive re-use of BNSF railway land for aesthetic purposes:

-Development of railway land in this project will require current zoning use of this land in the downtown district to be changed from an industrial zone to a mixed use renaissance zone.

-Development of this space shall preserve the history of the BNSF railroad, and incorporate that land into an appropriate urban space that fits

Strengthening the urban fabric of Downtown

Fargo will require this project to be accomplished

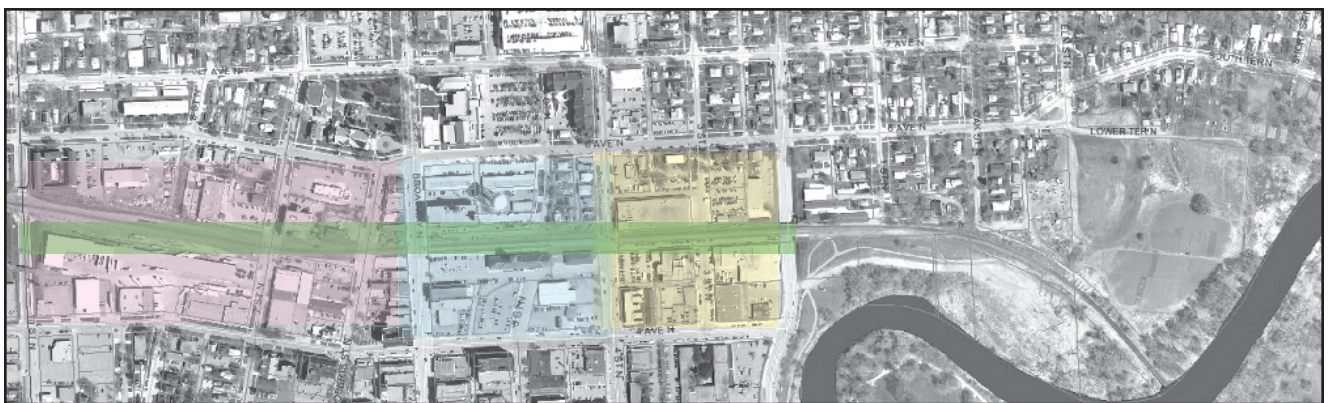
in phases because of the sheer size and scope of the site that is being examined. The phases of this project will be as follows:

Phase 1 Infill developments between Broadway and 4th St. North.

Phase 2 Infill developments between Broadway and 7th St. North.

Phase 3 Infill developments between 4th St. North and 2nd St. North.

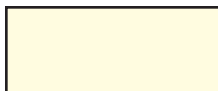
Phase 4 Open space developments between Phase 1, 2, and 3. Beautification of land between the BNSF rail bridge and 2nd St. North.



Phase 1



Phase 3



Phase 2



Phase 4

The site for this project is an excellent subject area to examine adaptive re-use in an urban setting. It exhibits an appropriate site for redevelopment of an urban area in order to strengthen the fabric of the Downtown Fargo neighborhood. After careful examination of a few other sites, this site proved to be the most beneficial to the community without disrupting many major historical and residential neighborhoods. This site is a unique and exciting opportunity for the downtown neighborhood and will prove to be a beneficial site for development after further investigation of its characteristics.

Economic Base Downtown Fargo's economic base is made up of many different income levels and business levels. There are many people from all backgrounds that make up this unique neighborhood. There are also many types of housing from single family homes to large scale apartment buildings. Businesses range from small, family owned shops to multi-million dollar corporations.

Demographics There are approximately 3,685 residents of the downtown neighborhood. According to The Forum, this number nearly triples during workdays when people commute from other communities and neighborhoods. (Springer, 2005)

History This neighborhood is made up of a rich history dating back to the mid-1800s. The railroad tracks that

run through the site were finished in 1889 followed by the construction of The Great Northern Depot in 1906. This site has gone from a thriving town center, to ruin as a result of flooding and fire damage. Then after many rebuilding efforts, this neighborhood thrived once again in the mid-1900s until urban sprawl and suburbanization became apparent in the Fargo-Moorhead area. (et. al., 1975)

Today, Downtown Fargo is going through a transition, a rebirth if you will. These changes will continue in the future and this site will become a major piece of that transition.

Site Location

The master plan for this site is bounded on the north by 7th Avenue North, on the south by 4th Avenue North, on the east by the historic BNSF railroad bridge spanning across the Red River, and on the west by 7th Street North in Downtown Fargo.

The major transportation links for this site include 7th Avenue North, University Drive North, 10th Street North, Roberts Street North, Broadway Street North, 4th Street North, 2nd Street North, and it crosses the Red River of the North in Fargo.

Site Area

The site area for the master plan includes approximately 110 acres of land. Most of this land is zoned for industrial use. In the Central Business District, the land is mostly mixed-use, commercial/retail/residential

buildings.

The following are a few examples of some of the major landmarks within the site focal area:



The Great Northern Depot



Broadway Historical District



The Fargo Theatre



The Ford Building



The BNSF Railroad Bridge

Topography

The majority of this site is flat land except near the river where the site drains toward the Red River. The site decreases in rise just east of 2nd Street North.

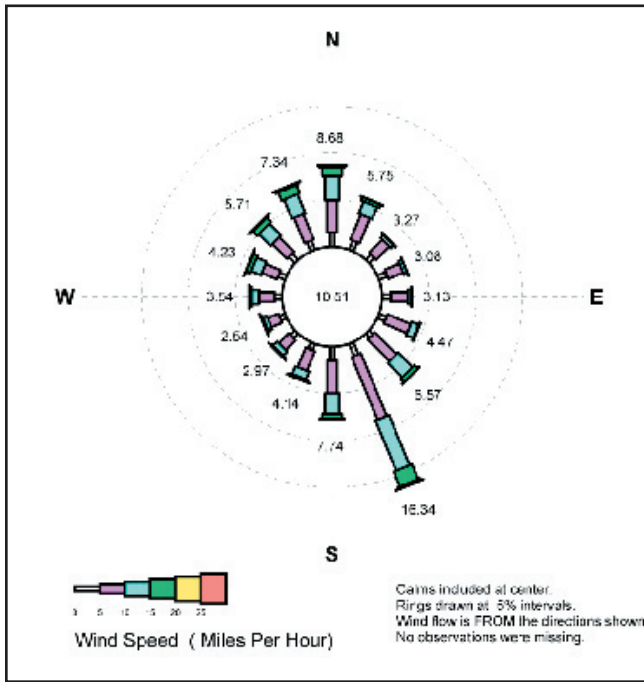
Views

There are many important views in this neighborhood including the strong views of downtown Fargo to the South and East, the Red River to the east, The Great Northern depot which is in the center of the focus site, as well as the myriad of historical buildings in the downtown neighborhood.

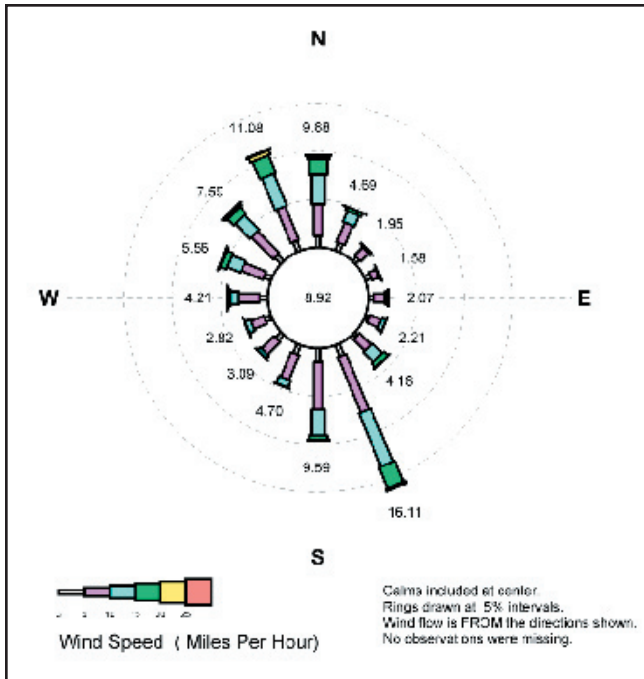
The following are two diagrams showing

the prevailing wind roses and average precipitation for the Fargo area: (n.d.)

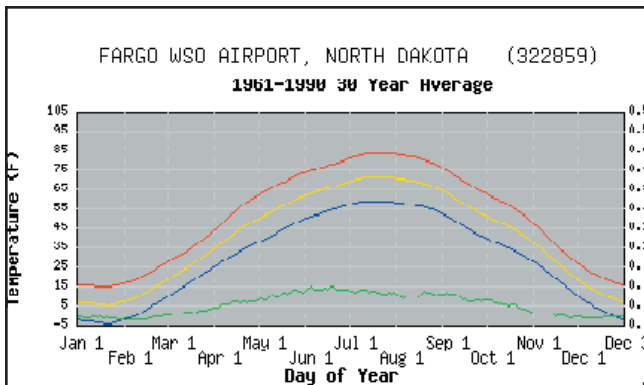
Fargo Wind Rose for summer months



Fargo Wind Rose for winter months



Average precipitation table



My emphasis of examination of the theoretical premise will be in several different areas but will be prioritized as follows:

1. To strengthen the urban fabric of Downtown Fargo by further enhancement of spaces and connections within the neighborhood.

2. To emphasize open space as a major component of how neighborhoods can be strengthened and beautified.

3. To establish new residential neighborhoods in order to make our downtown more densely populated and in order to promote living and working downtown.

4. To incorporate mixed use commercial and retail spaces within downtown in order to further strengthen downtowns economic base.

The research analysis for this project will be a mixed method, quantitative-qualitative approach. A concurrent, transformative strategy will be employed and will be guided by the theoretical premise.

Both qualitative and quantitative data will be gathered concurrently in the implementation phase.

Priority will be assigned by the requirements of the theoretical premise. Integration of the data will occur at several stages in the process of research and will depend on the requirements of the examination of the theoretical premise.

Quantitative data will include, but not be limited to:

- Statistical data gathered and analyzed locally or obtained through an archival search.
- Scientific data such as measurements obtained through instrumentation and/or observation.
- This data can be gathered directly or through an archival search.

Qualitative data will include, but not be limited to:

-Observation: I will observe how the city of Fargo's downtown operates on a daily basis. I will point out the areas that need to be strengthened in order to efficiently revitalize my site within this neighborhood.

-Archival Searches: I will search the NDSU Library as well as the Fargo Public Library in order to find out data on building and development in the region. I will use this information to figure out what is possible for development on the site.

-Direct Interviews: I will interview public officials and residents in order to attain opinions on what to do with this site in order to adapt it into a destination point for downtown.

The design methodology will be examined in two ways:

1. Graphic analysis done by hand or using computer software programs.

-Interaction Matrix and Interaction Net:
To achieve proper placement of items within the site in attempts to not disrupt what is already there historically.

-Venn Diagramming: To represent how certain aspects of the site work together such as parking, vehicular and pedestrian traffic, residential and commercial developments, and open spaces.

-SWOT Analysis: To find the different strengths, weaknesses, opportunities, and threats that affect the site and the people that use the site.

2. Language based analysis including:

-Philosophical logic using abduction and deduction: To examine how this site can be worked with in a philosophical manner.

-Phenomenology: To examine what phenomena arises from the adaptation of this site, and what can be done about them.

Documentation of the design process

will be shown in various ways:

-Preliminary sketching: A way of displaying how my design ideas begin, and how they are refined.

-Photography: To display my site, the context surrounding, and the process of design.

-Models: To show off three dimensionally how my design works.

-Computer Modeling: To display what my project will look like in the real world.

-Film Media: To show how my site connects to its city the people who use it.

Week of 10-10 to 10-16

- Finish rough draft of proposal
- Meet with Ganapathy on Friday, October 14 to discuss final draft of proposal
- Proposal rough draft due Thursday, October 13

Week of 10-17 to 10-23

- Work on Final Draft of proposal
- Begin Theoretical Premise research
- Draw conclusions from this research
- Proposal final draft due Thursday, October 20

Week of 10-24 to 10-31

- Compile case studies and begin researching them
- Develop connections and relationships from these case studies
- Draw conclusions and connect them to thesis project
- Meet with Ganapathy on Wednesday, October 26 to discuss my case studies

Week of 11-1 to 11-6

- Begin site analysis work
- Do a site inventory
- Compile and compare research findings
- Draw conclusions from this research

Week of 11-7 to 11-13

- Begin historical research of thesis project
- Draw conclusions from this research
- Meet with Ganapathy on Friday, November 11 to discuss my thesis goals and research
- Write thesis goals

Week of 11-14 to 11-20

- Work on reference page
- Do final refinements for rough draft
- Begin preliminary InDesign work

Week of 11-21 to 11-27

- Final preparations for program rough draft
- Finish document presentation
- Program rough draft due Thursday, November 23

Week of 11-28 to 12-4

- Work on final draft of program
- Meet with Ganapathy on Friday, November 2 to discuss final program

Week of 12-5 to 12-11

- Final Program Due Thursday, December 8

Week of 12-12 to 12-18

- Begin preliminary sketching and brainstorming of ideas

Week of 12-19 to 12-25

- Work on site issues and connection issues of master plan

Week of 12-26 to 1-1

- Begin work on 3 master plan concepts for site

Week of 1-2 to 1-8

- Work on 3 master plan concepts and refine

Week of 1-9 to 1-15

- Classes begin on Tuesday, January 10
- Meet with Ganapathy to present 3 master plan concepts on Wednesday, January 11
- Choose 1 concept as a final

- Begin work on refinement of this final concept

Week of 1-16 to 1-22

- Master Plan design development and refinement

Week of 1-23 to 1-29

- Master Plan design development and refinement
- Meet with Ganapathy to discuss Master Plan and other matters on Friday, January 29

Week of 1-30 to 2-5

- Begin work on residential developments in focal area

Week of 2-6 to 2-12

- Begin work on commercial/retail developments in focal area

Week of 2-13 to 2-19

- Begin work on open space/park land development in focal area

Week of 2-20 to 2-26

- Begin work on connections and details in focal area of site

Week of 2-27 to 3-5

- Work on presentation of design

for mid-term review

- Meet with Ganapathy on Monday, February 27 to discuss what is needed for mid-term review

Week of 3-6 to 3-12

- Mid-term review presentations
- Meet with Ganapathy for review and discuss what needs to be accomplished
- Begin final design refinement

Week of 3-13 to 3-19

- Work on final design refinement

Week of 3-20 to 3-26

- Work on final design refinement

Week of 3-27 to 4-2

- Work on final design refinement
- All design work done by Friday, March 31

Week of 4-3 to 4-9

- Preliminary presentation work
- Meet with Ganapathy sometime to discuss what I want to do for presentations

Week of 4-10 to 4-16

- Final presentation work
- Thesis desk construction

- Final board planning

Week of 4-17 to 4-23

- Finish final presentation
- Finish final boards
- Print final boards
- Final preparations for thesis show
- All presentation work done by April 23

Week of 4-24 to 4-30

- Thesis projects due April 24
- Thesis show April 26 to April 28
- Begin work and preparations for oral presentation

Week of 5-1 to 5-7

- Thesis Presentations
- Work on thesis book

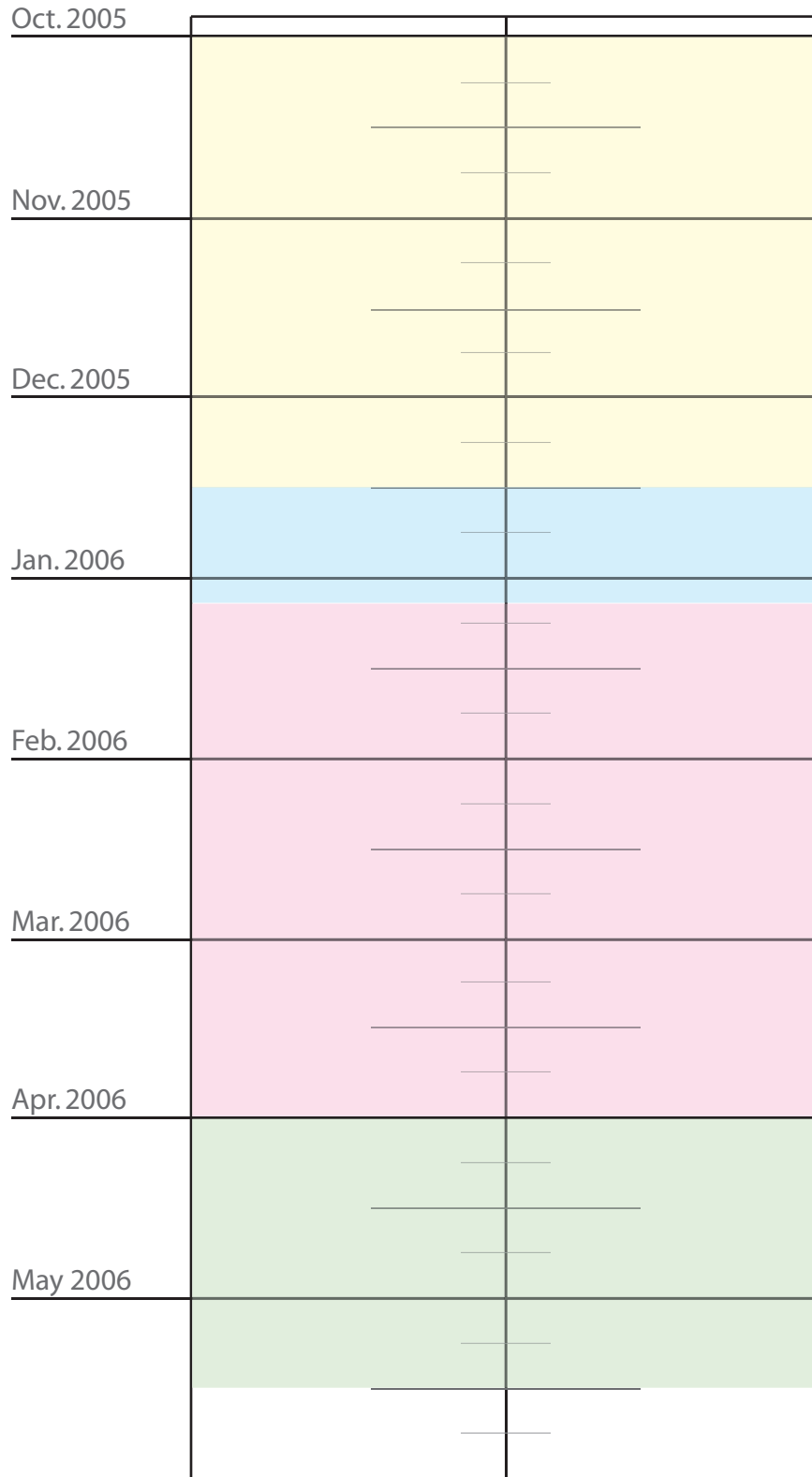
Week of 5-8 to 5-14

- Thesis books due May 11
- Commencement May 12 @ 5:00pm

*This schedule is represented graphically on the following page.

**Note that exact times and dates may change throughout the semester

Thesis Work Schedule



- Research/Analysis Work
- Preliminary Concept Design
- Design Development
- Presentation Work / Thesis Book Work

Previous Studio Experience

Semester	Studio Professor	Project
2nd Year Fall 2003	Vincen Hatlen	Form Study Project Tea ² Architectural Office
2nd Year Spring 2003	Milton Yergens	Lofty Intentions St. Mark's CCV Project
3rd Year Fall 2003	Ronald Ramsay	The Shaker Barn Remodel Pipestone National Monument
3rd Year Spring 2004	Harold Jenkinson	Bluemont Community Center The FM Animal Shelter
4th Year Fall 2004	Cindy Urness	Urban Design Study Dayton's Bluff Redevelopment
4th Year Spring 2005	Don Faulkner	San Francisco High Rise NDSU College of Art and Design
5th Year Fall 2005	Ganapathy Mahalingam	Digital Design Project



Building IN:
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Initiative
The Program

The Results from the Theoretical Premise Research: The Summary

In researching the theoretic premise, I began by drawing from 3 specific categories that I felt were closely related to my theoretical premise. These categories consisted of:

1. Philosophical concerns relating to phenomenology and ethics.
2. Social concerns relating to economic issues.
3. Architectural theory issues involving typology, post modernism, critical regionalism, civic realism, high-tech, new urbanism, and urban theory.

Philosophically, I wanted to focus on the phenomenology of meaning in spaces. Where meaning comes from, how it relates to my theoretical premise, and how it can be used to strengthen and beautify design. I will use the phenomena of meaning as my first priority in the design of my thesis project.

Next, I researched different architectural theories, styles, and ideas in order to broaden the scope of my project. My project does not necessarily follow any one type of each of these theories yet per se, however I feel once meaning is established I can further investigate all of my options in the analysis of my site and its context.

The Results from the
Theoretical Premise Research:
The Summary (cont.)

One focus I wish to deal with, however is sustainability and environmental concerns, and how they come into play in an adaptive re-use premise.

Third, I investigated the ethics of design by today's standards. Where we have been and where we are going in the future as far as proper ethics in space design. I hope to portray proper ethics in the design of my project in order to further establish the meaning I have set for the tone of the design.

Lastly, I investigated the economics of my theoretical premise. I feel this is an important priority in any project and should be included in mine. This section built on the previous research by contrasting what can be done with what should be done. I wish to portray this as well in the further development of my thesis project.

The Results from the Theoretical Premise Research: The Reports

Phenomenology and the theoretical premise:

There are a myriad of phenomena in the existing world. Theoretical phenomena, natural phenomena, and man made phenomena are a few examples. This report will examine how and what types of phenomena are associated with the theoretical premise of re-interpreting and adapting architecture into a new use.

In an urban setting, re-interpretation of an existing site involves phenomena such as people, trees, vehicles, lights, as well as intangible items such as meanings and symbols. The interpretation of these phenomena can be demonstrated in the architecture that it surrounds. Christian Norber-Shultz states in his writings, "It is one of the basic needs of humans to experience their life situations as meaningful" (Norberg-Shultz, 1984, p. 5). Meaning as a phenomenon can be a powerful tool in the realm of architecture. When I think of great cities I have visited, I think about what it means to me to have been there. I think of what that experience was like and the meaning behind it. Also, I look at the life of the city. I search for the look of the buildings, the feel of the landscape, or the thoughts that arise while within the city. These are all phenomena that give a space or spaces meaning.

What meaning does re-interpreting something for a new use bring into play? In what ways does history affect how the re-interpretation will advance? What meaning will this space have for the future? These questions should be answered, or can begin to be answered in the solution of the thesis subject at hand.

Careful judgment of meaning behind the architecture will determine how this project will develop and display its potential for growth in the real world. This meaning shall be a large part of the phenomena that make up the underpinnings of the project. Steps should be taken to ensure that the meaning behind the project will be portrayed in the project itself as well.

The Results from the Theoretical Premise Research: The Reports

Typology and the theoretical premise:

Typology is the study of theory and architectural types. It is and architecture of limits. Limits of space and time that define what the designed space should be comprised of. Douglas S Kelbaugh states in his writings (2002):

In a typological approach, design problems can present unprecedented social issues and new technical opportunities, but they also know that human nature, human needs, and the human body haven't changed; nor has climate or geography. (p. 95)

Looking at design problems of the past can be very helpful in researching and designing building, landscapes, or any type of design. Analysis of past successes and failures can set limits to a project by exhibiting what works and what does not work.

Typological research can also be helpful in the study of the theoretical premise. Re-interpreting an existing, yet decaying site can be a difficult task for any designer. Careful analysis of past work can yield positive results. Some of the issues that should be of concern are preserving history and sustainability. These as well as others are important to the design but also set limits of the design. Although, these limits that may seem to constrain the design process, they actually may strengthen the final design.

Employed correctly, typological research and design can achieve masterful spaces. The concern is about the uniqueness of the design. Typologists can get caught in a trap of designing cookie cutter buildings when they use the same formula for each building type. The type of a building should not necessarily define the look of the building, yet should play an important role in the design. Expression of a space can mirror the location, time, and construction of a certain style. It can also restore meaning to a space that once was abandoned or has become forgotten.

Herein lays the idea of displaying meaning to a space using typology. The feel of a space has meaning behind it. Using the typology can strengthen the meaning by showing how the space relates to other similar spaces without designing a carbon copy of those spaces.

The Results from the Theoretical Premise Research: The Reports

Post modernism and the theoretical premise:

In Postmodern Urbanism, Nan Ellin quotes Charles Jenks defining postmodernism as (1999): “double coding: the combination of modern techniques with something else (usually traditional building) in order for architecture to communicate with the public and a concerned minority, usually of other architects” (p. 108).

Postmodernist theory involves applying both function and meaning to a project. This theory blends well with my theoretical premise where I attempt to transform a space in integrate it into another type of space. Functionality is important in order for this space to achieve proper placement in the city as well as display its versatility within the context of its site. In that respect, meaning is also important in order to display the deep underpinnings of this project. Art and architecture can be blended to form beautiful compositions that are apparent in many examples throughout the world. Post modernism is a way of blending ideas together to form another idea, more complex, yet arguably more resourceful.

In an adaptive re-use context, postmodernism can play an important role in the way analysis and design come together. It can make a project strengthen and build meaning. It can beautify spaces within themselves. Yet on the other hand, if not handled properly, can hinder the project as well. Clearly, this theory attempts to make meaning, symbolism, and historical context an important aspect of design.

The Results from the Theoretical Premise Research: The Reports

Critical Regionalism and the theoretical premise:

In Kelbaugh's writings (2002): "Critical regionalism is a term coined by architects that means thinking regionally in ways that are both reactive and liberative" (p. 52). Architecture that focuses on the place it is in rather than the entire region can be very meaningful in explaining the place it exists in. Local architecture is unique to the place that it is in, it celebrates what the architecture means to the site and vice versa.

Critical regionalism focuses on the love of a place, celebrating it and honoring it. Also it centers on a sense of nature, history, craft, and the limits in architecture. Nature's simplistic sophistication can be inspiration for design. There are countless examples of this in the history of design. History, when studied properly, can be a tool in the study of architectural principles and theories. It can also serve as an archive for designers to go back and learn from past experiences. Critical regionalism also touches on the use and love of craft in design. Careful and precise craft must go into every design in a passionate way in order to achieve true beauty and meaning in design. Limits also create tensions in spaces, confining us in a way, yet showing us alternatives for inspired design as well.

Critical regionalism is an idea from which my theoretical premise could take off as a design idea. The idea of having a sense of place in an adaptive re-use setting provides a vehicle for deep meaning in a project. Adaptive re-use is a transformation, a way of transitioning a space into another space. In this type of premise, it is important to have a strong sense of place, nature, history, craft, and limits. Therefore, critical regionalism is an effective tool in guiding the design.

There are weaknesses in the idea of critical regionalism, however using this along with other ideas can help for a better understanding of what is being attempted. Hopefully, an attempt at establishing meaning to the spaces will begin with this idea of strengthening the senses of place in the urban setting.

The Results from the Theoretical Premise Research: The Reports

Civic Realism and the theoretical premise:

Civic realism is, according to Rowe (1997), "a concept based on the belief that it is along the politico-cultural division between civil society and the state that the urban architecture of the public realm is met best" (p.34-35). This concept is apparent in place making where a connection between the public and private realms must be unified. The two realms must be interrelated and work together in order to better the community that it resides in.

This theory is important to adaptive re-use projects in that its characteristics mirror the ideas of an effective city design. It is important to mix the public and private realms, find their interrelationships, and portray how they work together effectively. The worry is the decline of social groups and social connectivity within the city. This decline can also lead to decay of our cities social infrastructure. Our interactions with others and with groups are very important to a society for growth and better communications with our citizens.

If civic realism involves interactions with citizens and their communities, should not our designs involve interactions between our designs, the users, and the community? These interactions and bring an underlying meaning that states how connected and interrelated our city has become. An effective design should incorporate how our citizens interact to the neighborhood, how the users of the design interact with the design itself, how the public and private realms interact with each other, and how all of this interacts within the context of the entire city.

Looking at the "big picture," is as important to design of our cities as is looking at the individual pieces that make up our cities. If we are to find meaning in our research, projects, and designs, we must first understand how our people, community, and spaces within our city interact with each other. Only then can we effectively design and develop a space that can benefit our city, neighborhood, and each individual that experiences the space.

The Results from the Theoretical Premise Research: The Reports

High-Tech Architecture and the theoretical premise:

High-tech architecture is a post-deconstructivist and post-modernist movement that not only symbolizes and utilizes, but also expresses modern construction techniques and materials. It is an expensive design technique, however a unique one as well because it focuses on 3 basic values.

According to Kelbaugh (2002):

First, the search for engineering refinements and ever-lighter, clearer, and more daring structure is a positive affirmation of the human spirit. Second, its more recent focus on energy efficiency and environmental concerns is a positive manifestation of sustainable order. And third, such efforts as Norman Foster's interest in "space syntax, a computerized analysis of special integration and connectivity that can predict and optimize how urban life will evolve, shows a growing commitment to community (p. 75).

High-tech architecture seems to focus more on community and urban life than previous styles do.

It pays more attention to urbanism and the city's urban fabric than previous styles of the 1980's and 1990's.

What is even more interesting about this newer style of architecture is the focus on environment, sustainability, and energy efficiency. It seems to promote all of the things that have become at the forefront of design in the past five years. Our volatile environment needs this type of design in my opinion.

Relating back to my theoretical premise, this particular style is very accurate in how adaptive re-use spaces can be utilized. How do we adapt something into a new use without harming the environment it has created in the past, and make it even more environmentally conscious as well? This question could be answered in the examination of the thesis at hand. Focusing on this style could prove to be beneficial to the city and to the environment as well.

The Results from the Theoretical Premise Research: The Reports

New Urbanism and the theoretical premise:

Planning cities has been a difficult task throughout history, yet there are many examples of wonderfully designed cities and neighborhoods throughout the world. How did these cities succeed where others have failed? What aspects of their designs made them prevail over the many failed attempts of other cities?

New urbanism looks at several characteristics in order to promote growth and prevent sprawl (Kelbaugh, 2002). A few examples include urban infill, zoning reform, design codes, design guidelines, and urban villages. New urbanism touches also on the decay of downtowns in cities today. The advent of suburbia villages, albeit designed with good intentions, is another major factor in the decline of the forgotten downtowns. New urbanism attempts to correct this problem through conscious design practices and the attempt at a change in how we live in the city.

Cities are complex entities that are made up of different neighborhoods, people, ethnicities, and cultures. The need for growth is strong for survival in any city; however the focus is on the right type of growth. Have our cities grown up the right way throughout history? Perhaps cities should be looking inward on themselves to solve their own problems. Instead of growing out, spreading the suburban sprawl even farther, should we not spread inward? Should we not focus on restructuring the fabric and strengthening the fabric of our existing environments instead of just forgetting about them and moving outward?

New urbanism touches on these principles of moving back inward to the city. The misconceptions of many aging neighborhoods lead to the decay of those areas. Making each neighborhood unique to the city can enhance the overall feel of the city. Also, this can help to strengthen our city and our neighborhoods instead of forgetting about them.

The Results from the Theoretical Premise Research: The Reports

Urban Theory and the theoretical premise:

In Banerjee and Southworth's writings (1991), they state that in the writings of Kevin Lynch, he writes:

Designers and planners should deal with the form of the entire city and region, not just the small spaces and individual structures of civic significance; that the urban landscape can and should be just as meaningful and delightful as the natural landscape and should be designed to be so; and that there should be an intimate connection between the forms of places and the values and needs of their users (p. 33).

There are many different views on urban theory. Kevin Lynch has very unique opinions and has done very insightful analysis of cities and urban forms. The urban context can have very many meanings as underpinnings that make up the fabric of the environment. In an adaptive re-use type setting, meanings are very important. They set the stage for the design, display an overall message and possibly a theme to the design, and they bring together urban forms and help explain the theory behind the design. Any project should have meaning to the designer but also the users of the spaces. They should feel like they are part of the experience of the city instead of just people that are just there to do what they need to do.

Overall, cities and urban settings need great planners and designers now more than ever. We are experiencing decay in the urban fabric of our cities that must be repaired. Whether it is by re-interpreting sites for new uses or simply by infilling decayed sites with new structures, something needs to be done to our cities in to ensure proper growth for the future. Strengthening the fabric and meaning of our cities is a major factor in future development and should not be forgotten in any design setting.

Ethics and the theoretical premise:

In the writings of Warwick Fox, he states the following (2000): "40 percent of all energy consumption, 50 percent of materials taken from nature, 50 percent of waste, and 50 percent of all CFC and HCFC use is building related" (p. 127). These are staggering statistics that bring up an important point for my theoretical premise and all of architecture today. When designing for an adaptive re-use site we must use concise ethical judgment in materials we use and types of buildings or landscapes we put on our site. We also should be concerned with the history of our site and the surrounding city as not to disrupt the intricate historical fabric that makes up the site we are adapting.

Honesty in materials is important in cases where we are trying to make one material "look" like another material. In building we should be concerned with the type of building we are choosing to represent our project and if that building best suits the neighborhood it resides in. Historically we ought to be thinking about how our site and structures interrelate to the history of the surrounding city. These are all ethical concerns that will affect the adaptation that I have decided to examine for my thesis project. Extreme care should be given to all residential, commercial, retail, and open spaces that are going to be designed on this particular site.

Another factor in ethics is the issue of sustainability. With our planets' depleting resources it is our duty as human beings to design buildings that work to help the environment instead of destroying it. If we are to succeed as a society we need to practice "green" design as much as we can. Initially, the costs of sustainability may be slightly higher than previous building practices, however in the long run sustainable buildings will ultimately pay for themselves in energy conservation.

Ethically, we are faced with many challenges in architecture today. These challenges can be overcome with thoughtful and intuitive design practices and a true passion for helping the environment. I will examine these practices throughout my research and design.

The Results from the Theoretical Premise Research: The Reports

Economics and the theoretical premise:

The economics of theoretical premise is a very important aspect in the design process. What can be built? What materials are appropriate in the budget? What current constraints must we be aware of economically in order for this design to take shape? These are all economical questions that will affect our design decisions and also affect how we establish meaning in the spaces being designed.

In Alexander Garvin's writings (2002), he discusses the six ingredients of success for an adaptive re-use, urban design project (p. 10):

1. Market
2. Location
3. Design
4. Financing
5. Entrepreneurship
6. Time

These factors should be considered and analyzed in any project being proposed. Without these ingredients, a project sets itself up for possible failure.

In the realm of adaptive re-use and re-interpretation, we use economics to examine how a project will be financed, how much we can or can't build, how budget conscious we need to be, and what types of materials we can afford in the particular area of interest. The economics of a project can also provide constraints and limits to your project, not all of which should be considered negative. Constraints can limit a design but also strengthen it as well.

Economics can provide an abundance of information about site, materials, funding, budgets, and many more issues, but can it help give meaning to a project? Yes, I feel it can, but in a different way that other issues do. How a designer reacts to the economy and economical issues can give added meaning to a project and in turn could also lead to new meanings for the project. This can strengthen any project and help to broaden the possibilities of the project as well.



Case Studies

The Tacoma Washington Redevelopment Project



Project Type:

Adaptive re-use / mixed-use urban redevelopment project

Location:

Downtown Tacoma, Washington

Size:

The site covers parts of the downtown and uptown districts in Tacoma

Distinguishing Characteristics:

The development focuses on urban infill and restoration in the downtown and uptown area. Also, the project incorporates key civic facilities in order to spur activity back into the districts.

Case Study:
The Tacoma Washington Redevelopment Project
(cont.)



Existing Program Elements:

The master plan calls for complete redevelopment of the waterfront in Tacoma, focusing on open space and civic buildings. Also, the city center is being revamped with new mixed-use buildings and residential developments. Up town Tacoma also is a part of this project focusing on smaller residential buildings, parkland, and transportation connectivity.

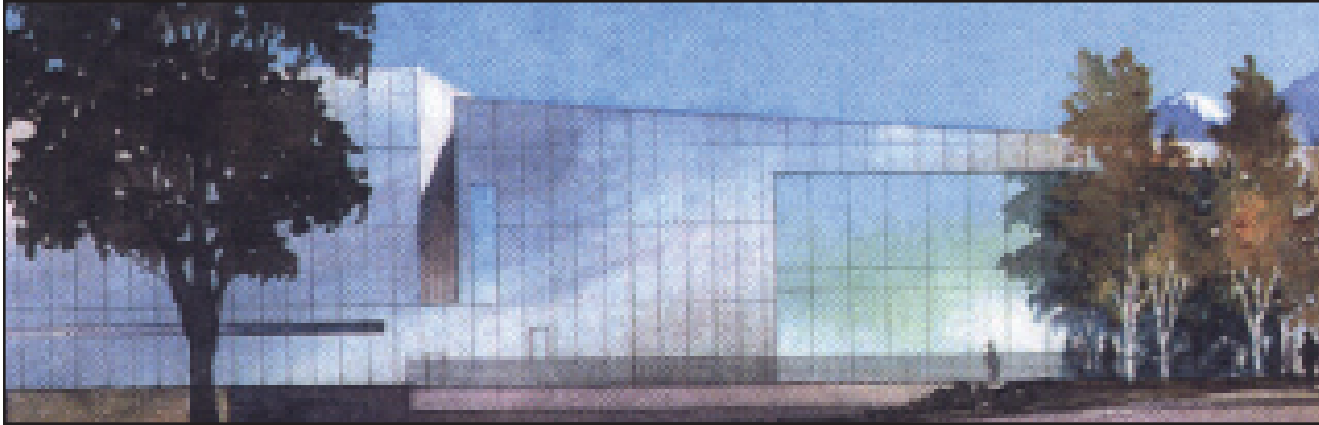
Research Findings:

The case has in common its adaptive reuse of warehouse structures and waterfront redevelopment. Also, its focus on open space seems to be a common goal amongst similar redevelopment projects.

This project is unique however, in that it attempts to use civic buildings and cultural institutions as a way of bringing people back to downtown. Culturally, this project seems to respond to people's needs in very unique and interesting ways. It works well with site features and opportunities in order to enhance the urban fabric in this type of environment. I feel conceptually the designers are trying to make



The Tacoma Washington Redevelopment Project (cont.)



Tacoma's downtown a cultural center. It is a city of only 200,000 people, yet it is competing very well with Seattle and Portland which flank Tacoma from the north and south.

Analysis:

This case study shows how bringing cultural facilities and open space can bring life back to a decaying city. It is a wonderful example of innovative and high design as a means of portraying meaning in an urban setting.

Conclusion:

This example displays how urban redevelopment affects the theoretical premise. This case study is an inspiring example of how adaptive re-use in downtown blight zones can prove very affective in the redevelopment of our cities. Connection to the theoretical premise is necessary for a project such as this to take shape. The theoretical premise is left unchanged as a result of this particular case study.



Case Study:
The Town Center of Virginia Beach, Virginia



Project Type:

Adaptive re-use / mixed-use urban redevelopment project

Location:

Downtown Virginia Beach, Virginia

Size:

Project spans over 17 city blocks

Distinguishing Characteristics:

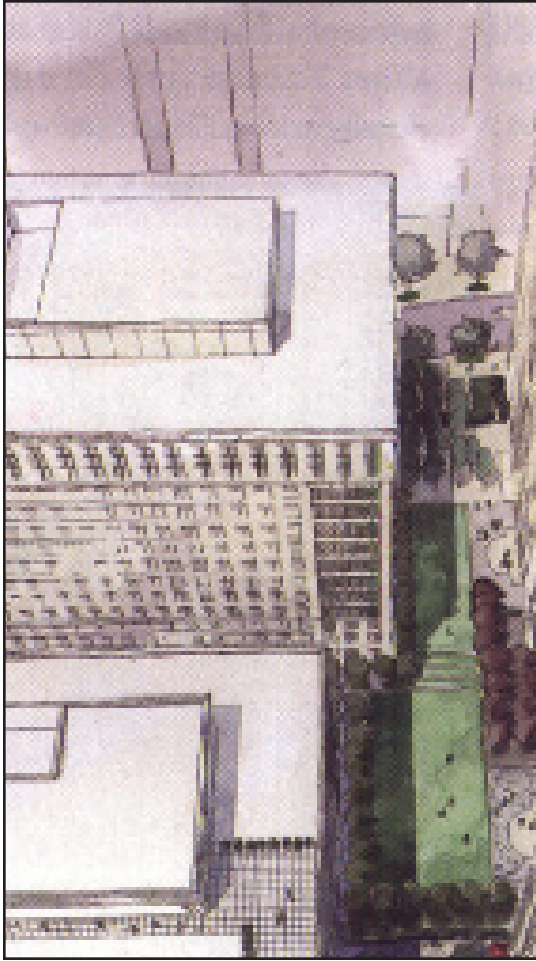
Mix of residential and commercial developments, performing arts center, and pedestrian friendly landscapes that are integrated on the exterior and within courtyards of structures.

Existing Program Elements:

Unique bars, restaurant, and cultural centers,



Case Study:
The Town Center of Virginia Beach, Virginia
(cont.)



mixed residential buildings offering high, median, and low income housing, sustainable landscapes, performing arts enter, and pedestrian friendly streetscapes.

Research Findings:

This project has the most similarity as the other projects in its focus on landscape developments and pedestrian friendly streets and parks. Uniquely, this project focuses its main feature on residential layouts in an urban setting. Its use of different styles and textures of architecture give this development a “sense of place” feeling that others do not. Economically, this is a very large undertaking for a city this size, however culturally this project offers a wonderful environment to work, play and live in.

Conceptually, this project seems to focus on the person and their experience in the city. It seems like it is an attempt at creating a new environment inside of the city for its patrons.



Case Study:
The Town Center of Virginia Beach, Virginia
(cont.)



Analysis:

This project shows how important residential developments are to any city. It is a wonderful example of incorporating urban elements in a residential setting. The focus is on people and how they move through the city, their experiences in the city, and how they define their place in the city.

Conclusion:

The theoretical premise is understood more clearly in the examination of this project. It is apparent, after studying this project that adaptive re-use projects in urban settings should incorporate residential environments that are appropriate for the site. Also, landscapes and open space are very important in the urban setting and should be included in any adaptive re-use project. The theoretical premise remains unchanged after the study of this project.

Case Study:
The Monon Right of Way project



Project Type:

Adaptive re-use of a railroad corridor

Location:

Indianapolis, Indiana

Size:

10 mile stretch of railroad corridor

Distinguishing Characteristics:

This site offers a greenway for pedestrians, cyclists, and runners that is rarely interrupted by vehicular traffic and noise from the city.

Case Study:
The Monon Right of Way project
(cont.)

Existing Program Elements:

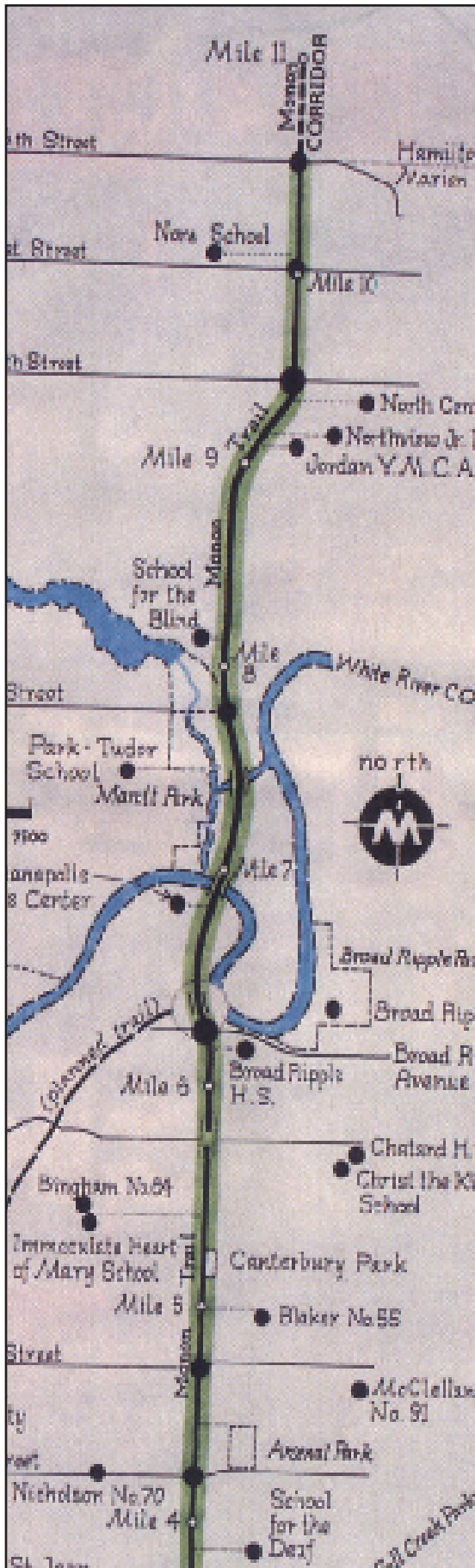
This project features a 10 mile greenway, landscape redevelopment, trail redevelopment, rail bridges retrofitted to accommodate pedestrians, trails that link this greenway to other parks and trails, and incorporation of parks and resting spots within the greenway.

Research Findings:

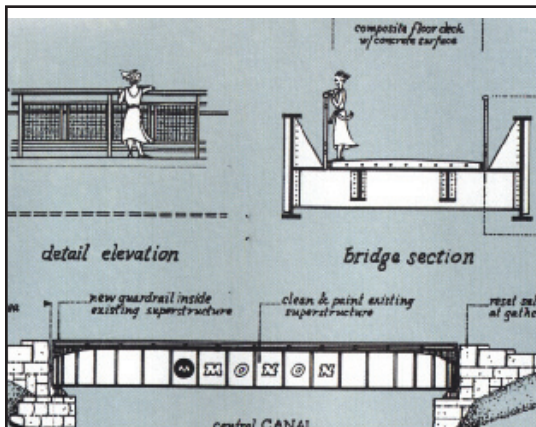
This site has its adaptive reuse commonalities based mostly on open space and landscaping redevelopment. Uniquely, this project focuses on pedestrians, and how they move throughout this development with as little vehicular interruption as possible. Environmentally, this project takes wasted land and incorporates 10 miles of green space that will ultimately help the environment in positive ways. Socially and culturally, this is a wonderful space to spend a beautiful afternoon biking, running, or walking. It sets a tone of beauty and meaning in the heart of the Indianapolis.

Analysis:

This case shows how "greening" the city can enhance the character and sense of place for that city. It also shows how important it is to put a positive use to land that would normally just go to waste as a previous industrial failure.



Case Study:
The Monon Right of Way project
(cont.)



Conclusion:

This case uses the idea of adaptive re-use and uses it in a landscape setting. It displays the importance that the theoretical premise has to our environment and our cities. The theoretical premise remains unchanged after careful examination of this case study.

Case Study: The Legacy at Museum Park Project

Project Type:

Residential urban infill

Location:

Downtown San Jose, California

Size:

117 rental units on a 3.38 acre site

Distinguishing Characteristics:

This project features urban infill focusing on density in an urban environment. It exclusively incorporates 11 structures into its site and includes a private park for residents.

Existing Program Elements:

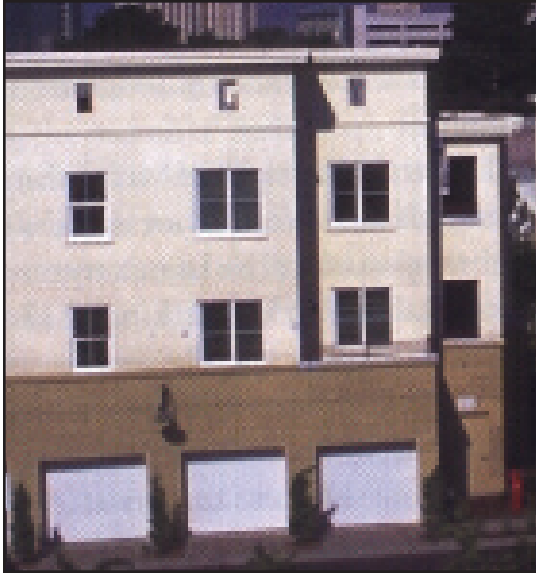
Three types of units are available in this complex: Flats, townhouses, and live/work lofts. This project also makes available plenty of parking, open space, and plantings in an attempt to beautify downtown and the property.

Research Findings:

This site has in common with other sites its focus on density and the “greening” of downtown. Uniquely, it uses many different styles of housing in a comfortable way. This infill project improves density without the clutter of cramming as much rental space as possible into the site. It also features some very interesting green space concepts that work well within the con-



Case Study: The Legacy at Museum Park Project (cont.)



text of the city.

This site responds to the environment in very positive ways with its outdoor space and solar orientation. Socially, it actively creates spaces that people can interact with their neighbors. Conceptually, this project seems to focus on density in how it uses the entire site to its advantage, but also pays close attention to orientation and how it “fits” within the city.



Analysis:

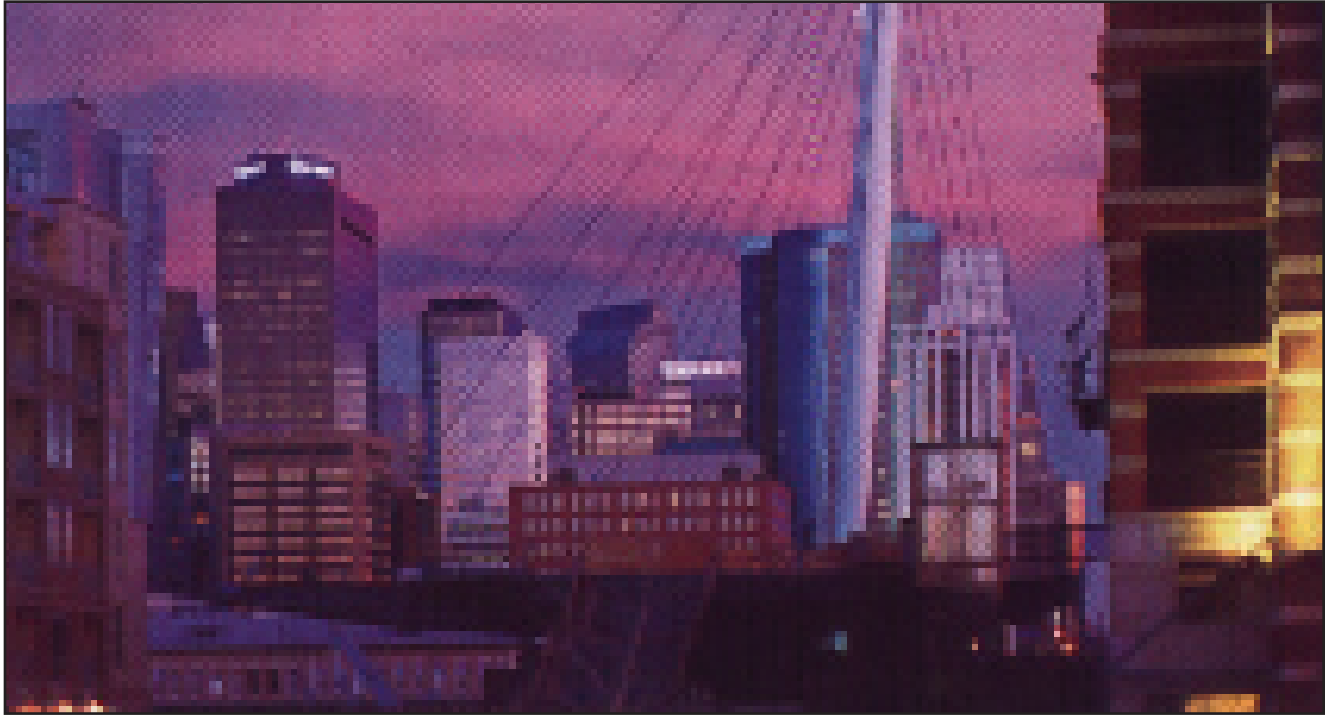
This case study shows how alternative forms of residential developments can be positive for infilling downtown sites. It also shows that sites can be dense climates without compromising beauty or the sense of place within the city.

Conclusion:

This project has an effect on the theoretical premise in that it displays the adaptive re-use of abandoned land within the city and incorporates it for residential use. It is an attempt to use adaptive re-use as a means of bringing people back to downtowns and giving them places where they can work, live, and play. The theoretical premise is left unchanged after examination of this case.



Case Study:
The Riverfront / Commons Redevelopment
Project



Project Type:

Adaptive re-use of abandoned rail yard land

Location:

Downtown Denver, Colorado

Size:

65 acres

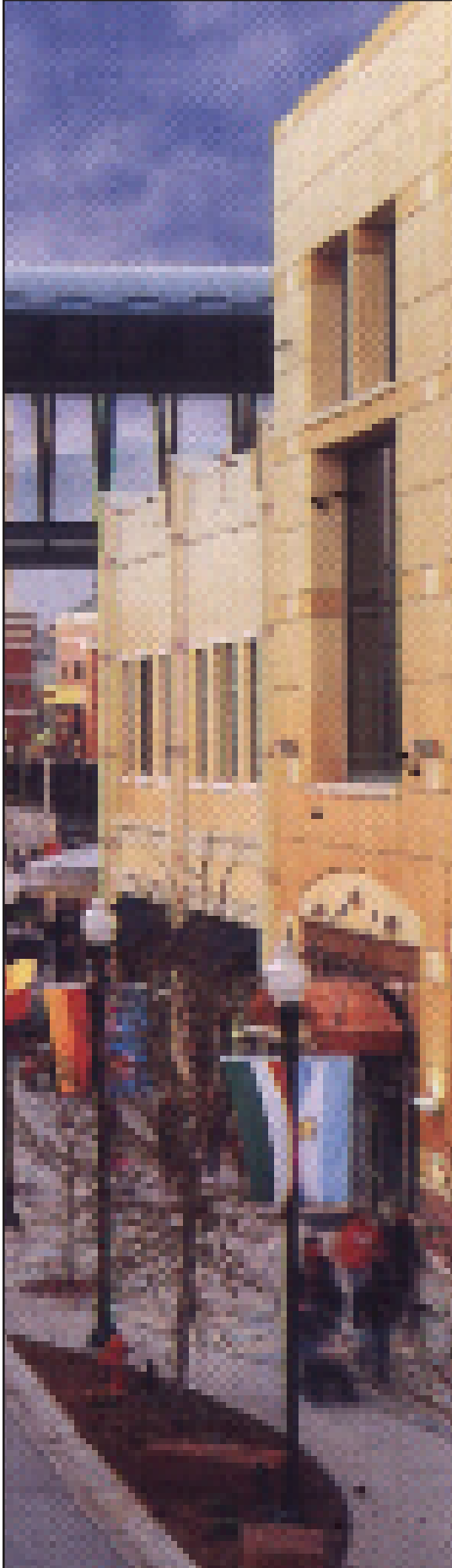
Distinguishing Characteristics:

This project focuses on many aspects of urban design including commercial, residential, retail, and institutional architecture. All of these elements are incorporated in the redevelopment of this abandoned rail yard.

Existing Program Elements:

This site features many different residential structures, commercial/retail buildings, and mixed use facilities. It also features an elaborate waterfront park

Case Study:
The Riverfront / Commons Redevelopment
Project (cont.)



system with many trails and green spaces for inhabitants.

Research Findings:

This case study has a lot in common with other cases in its focus on “greening” the city and revitalizing its architectural character. It has a few unique characteristics of its own as well. It adaptively re-uses an abandoned rail yard instead of just a trail and uses it as development instead of just a bike or pedestrian trail. It also mixes retail, residential, and commercial structures in some very elaborate and unique ways attracting many people to this new development. This case responds well to environmental concerns by freeing up the waterfront mostly to parks and civic land. Also, culturally and socially, it brings new character to the downtown area. Conceptually, this project seems to focus on mixing dense development within the city in order to revitalize the downtown’s sense of place.

Case Study:
The Riverfront / Commons Redevelopment
Project (cont.)



Analysis:

This case shows how to use abandoned rail yard land for an adaptive re-use project. It aggressively revitalizes the downtown density and character and works well within its city's context.

Conclusion:

The understanding of adaptive re-use is further enhanced by examination of this case. It makes apparent the importance of creating a sense of place within the community for a project such as this one. This project seems to justify the use of this abandoned rail yard land for positive and culturally important development. The theoretical premise remains unchanged after re-viewing this case.

Case Study:
The Downtown Boston Redevelopment
Plan

Project Type:

Urban Design / Redevelopment / Infill develop
ment

Location:

Downtown, Boston, Massachusetts

Size:

The redevelopment sites include 7 different zones
in the downtown Boston area. The focus of this
case study however is in the Fort Point section of
the city which is a planned redevelopment of an



Case Study:
The Downtown Boston Redevelopment
Plan (cont.)

abandoned rail yard and switch station.

Distinguishing Characteristics:

With the completion of “the big dig” as it is has become known as, large areas of the downtown are being redeveloped into mixed-use and open space facilities. North Point is no exception. The land in this area used to block the city off from downtown. Now, this development has focused on reconnecting the city and re-using the land for development purposes.

Existing Program Elements:

Over 18 mixed-use developments are in the works, as well as a performing arts center, nightclub district, and many restaurants that will



Case Study: The Downtown Boston Redevelopment Plan (cont.)

someday inhabit this space.

Research Findings:

This case has a lot in common with other cases in its focus on “greening” the city the adaptive re-use of abandoned warehouse structures. Uncommon to other sites however is the use of a greenway system that will link over 14 parks to the downtown area. Environmentally, this case works with the site beautifully and takes advantage of many open space opportunities. Also, this case represents a change in the thought of urban land. It seems that they are placing more emphasis on open space in order to strengthen the urban fabric of Boston’s downtown. Conceptually, this case seems like it is an attempt at linking the community together by way of open

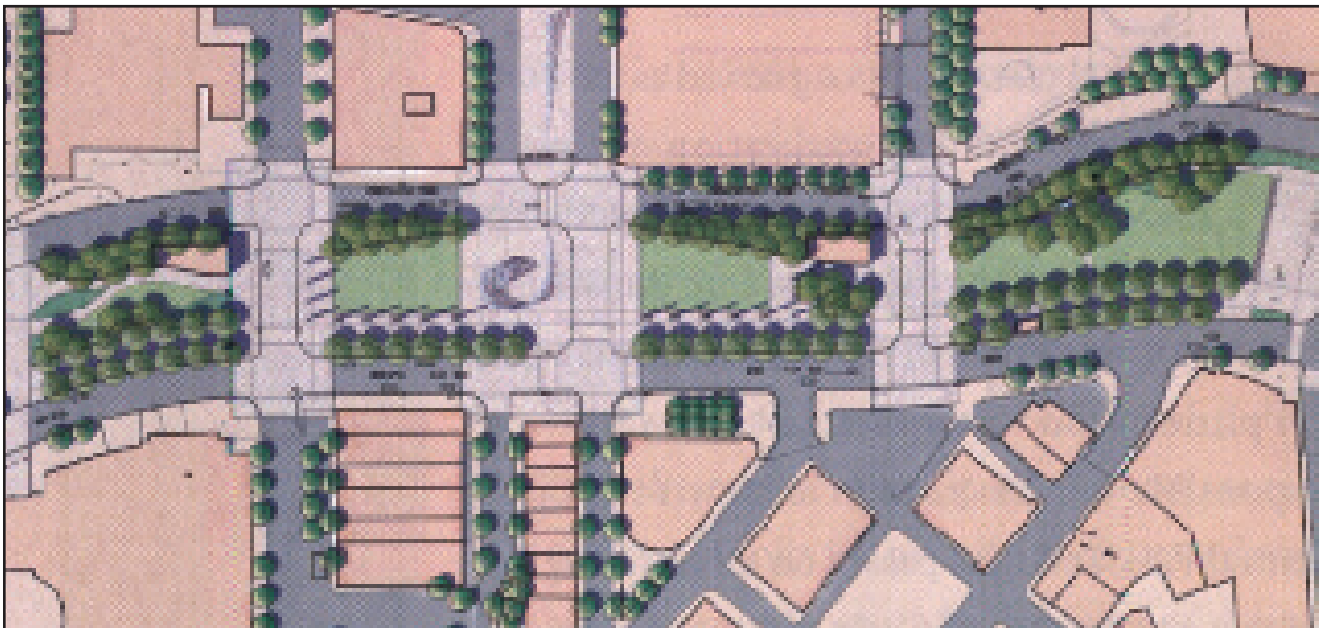
space and park land.

Analysis:

This case shows a new urbanism approach to redeveloping cities, it focuses on human scale and open space concepts that provide an excellent sense of place for the community.

Conclusion:

The theoretical premise is understood a little more clearly after examination of this particular case study. It displays how adaptive re-use can enhance a downtown area and use blighted land for positive uses. The theoretical premise is left unchanged after studying this case.





Project Type:

Adaptive re-use of an abandoned rail yard for civic and open space development

Location:

Santa Fe, New Mexico

Size:

13-acres

Distinguishing Characteristics:

Designed primarily in a sustainable framework, this project displays sustainable aspects and regionalism in its design of an aban

Case Study: The Santa Fe Railroad Competition (cont.)

doned rail yard.

Existing Program Elements:

The program consists of a large garden and apricot grove, as well as a few civic buildings and a beautiful trail system that moves throughout the site.

Research Findings:

This site has in common with others its elaborate park system and open space requirements. Uncommonly, however is the attention to sustainability in every aspect of the design. Also, this case studies efforts of regionalism in its design. Environmentally, this design works wonderfully with its site and the region in which it is designed. Culturally, it is an excellent example of culture as a backdrop for design. Conceptually, this case seems to want to blend in with its history and context as much as possible. It seems to do so beautifully while using sustainable concepts as a design requirement.

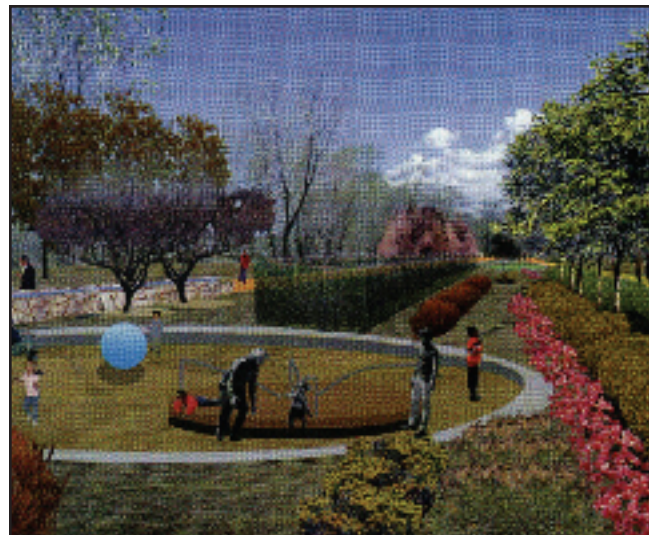
Analysis:

This case shows how sustainability in design is important in any design. It seems to convey strength in regionalism as well. This study

is a interesting example of how to incorporate all of these design principles in an effective, yet beautiful composition.

Conclusion:

This project contributes to the theoretical premise in the way it responds to the adaptive qualities of the site and the surrounding context. It exemplifies strength and stability in design and environmental practices, as well as sustainability. The theoretical premise is left unchanged after careful examination of this case study.



The case study series that was examined consisted of urban design, urban redevelopment, and adaptive re-use projects. These projects all had many things in common and many unique things about each one. The projects exemplified adaptive re-use in an urban setting and set standards of design for the theoretical premise. The theoretical premise was left unchanged after examination of all case studies.

The analysis of these studies was broken down into three categories:

1. Adaptive re-use in an urban setting
2. Sustainability and how it affected the design in each case study
3. The site program requirements and how it affected the design

These analysis techniques proved to be very effective in finding the conceptual underpinnings of each project. They made for a better understanding of each project and how they work in the built environment.

The common characteristics of each study include the following:

1. The role of open space in adaptive re-use projects
2. The concept of "greening" the city
3. The human scale of urban spaces and how important it is to each design
4. The importance of creating a "sense of place" within the community

The uncommon characteristics of each study include the following:

1. The importance of residential developments in urban redevelopment projects
2. Sustainability issues and how important they are to the design of urban spaces
3. Creating "spaces for the people" and the importance of each

Residential developments within urban designs are important to the theoretical premise because they bring people to the city in order to use the adaptive spaces that are being designed. It is also important to the theoretical premise to provide these spaces in order to promote "building in" to our cities instead of out. Sustainability issues are important to the theoretical premise because

our environment needs these changes in design now more than ever. These issues are becoming the norm in today's design society. They need to be dealt with in an ethical manner and should receive the utmost priority in design. Creating "spaces for the people" is important because there is an ever growing need to keep people within our cities. It seems to be the norm to abandon the inner city and sprawl out to the suburbs, but this can create major problems for our cities. Giving residents a reason to stay can yield positive results for the entire community.

The underlying conceptual ideas behind these projects convey a message that our cities are ever-changing, living organisms. They need to be looked after and nurtured to ensure proper growth and stability. This can be achieved through thoughtful and creative design.

The different sites for these projects brought forth issues of regionalism and new urbanism as a vehicle for design. In different regions, design varied in many different ways. Also, new urbanism seems to take effect in each one of these projects. This is also apparent in the cultural, social, political, and economic effects that the different sites had. Each site is unique in its character; however it seems that the conceptual ideas of "sense of place" and "sense of history" play a tremendous role in the design of each site. These ideas should be thought of carefully in the interpretation of the theoretical premise.

After very careful examination, the theoretical premise is left unchanged. The focus on that characteristic of architecture that allows it to take something that is already there and re-interpret it for a new use is an appropriate premise for my thesis design. This will be apparent in the research and entire design of my thesis project.

Fargo, North Dakota, a city that has been through a multitude of changes. This section of my research will consist of how Fargo became a city, how the railroads effected and helped the city of Fargo prosper, and how this project relates to other projects and social trends throughout history. I will begin with a brief history of the rail system in Fargo, primarily the downtown area of the city.

Fargo has grown amazingly throughout the years; however its growth has always had foundations in the Red River and its reliance on being a transportation hub. Whether it be transportation up and down the Red River, transportation by means of the railroad system, or transportation through Interstate travel, this city has grown to be one of the great success stories of smaller American cities.

The Red River has been a source of transportation since the mid 1800's for many types of trading and shipping. The river is the beginning of where this city became into its own, therefore it has become very important to the city as well. Fargo began as a result of the Northern Pacific railroad in 1871. This brought sweeping growth

to the city that was previously inhabited by lone settlers moving west out of Minnesota (The Corporation, 1975). Through the years, the Northern Pacific railroad grew to be one of the largest industries in the region. Dependence on the railroad was essential for the growth of the city.

The Great Northern railroad was another railroad that moved into the Fargo area in the late 1800's. In 1882, the Great Northern Bridge was completed across the Red River. This rail system moved west from Fargo, through Grand Forks, then west to Minot and into Montana. These railroads boomed as freight and passenger lines through the mid 1900's, making Fargo the hub of one of the greatest railroad crossings in the United States (FMCC 1975).

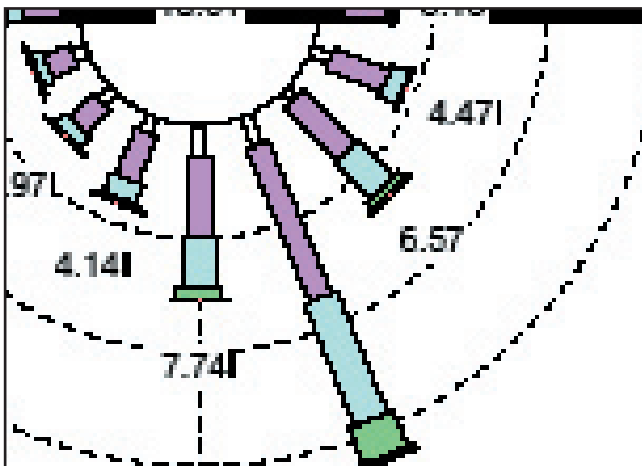
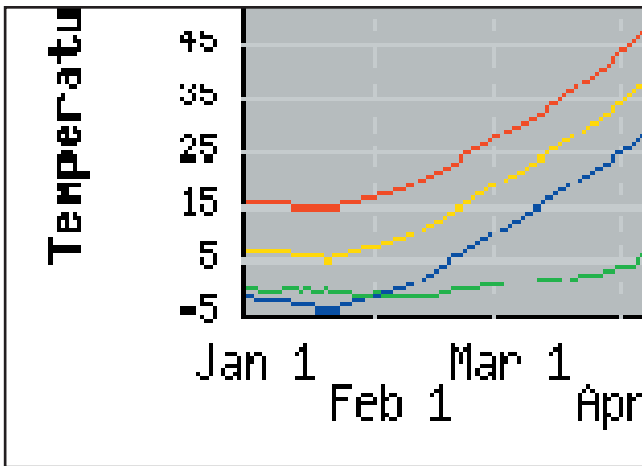
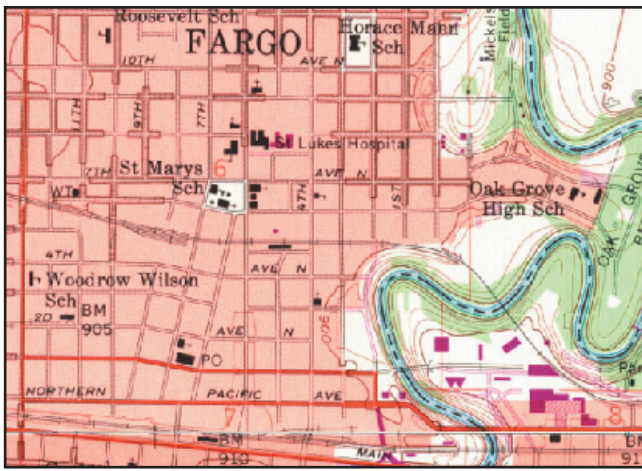
In 1970, the Great Northern and Northern Pacific Railroads merged to become The Burlington Northern Railroad. The Great Northern line on the north side was used primarily for passenger trains. As passenger use steadily declined, the Great Northern line fell deeper into despair. This, coupled with the rise of air lines and the construction of the Interstate system through Fargo, sunk the Great Northern and all of the railroads deeper into non-existence.

The Historical Context of the Thesis Project (cont.)

This decline of use and the safety concerns of ⁶⁷ this particular rail line have sparked debates in the early 2000's about abandonment of this rail line.

This is the concern of the thesis project at hand. What should be done with this rail land? How can we adaptively re-use this land for positive results within the city of Fargo? Historically, this has become the norm in many cities throughout the United States. Use of the railroads has decreased more and more throughout the late 1900's and into the new millennium. Cities such as Boston, Minneapolis, and Chicago have all had rail line abandonment issues in the past couple of decades. This seems to be an issue that will continue into the future. Re-use of this land is important to Fargo, as it is in other cities. Historical issues also make this an interesting undertaking in how to revitalize a city based on past industrial history. How do we incorporate industrial history into new urban spaces? This is the context of my thesis project and the basis for the conceptual underpinnings of my project. This thesis will examine these questions and incorporate their history in my design.

1. To create a clear, concise, and meaningful theoretical premise that is stated in the Statement of Intent and is developed further in the Narrative. This theoretical premise provides the driving force for the research.
2. To develop a well defined typology that is supplemented by rigorous research and high-quality case studies.
3. To develop a clear and concise description of the social, political, and economic aspects of the design.
4. To develop a complete and well organized thesis program that meets all requirements, provides crisply written narratives and other texts, and incorporates professional level graphic content.
5. To offer a well thought out and professionally presented schedule.
6. To provide a well thought out means of collecting and presenting the process of design. All the while, illustrating the influence the theoretical premise had on the design.
7. To create a design that clearly lies on the portion of the quality continuum that is occupied by experimental and unbuilt work by professionals, faculty, and students.
8. To display superior graphic and model presentations.
9. To develop a serious, well thought-provoking, well organized, and professional oral presentation.
10. To develop and complete a project that will give myself a sense of personal and professional satisfaction throughout my career.



The Site Analysis

The Site Analysis: Qualitative Aspects

The process I chose for studying this site was to look at the site as a whole then break it down into its individual parts. I began by looking at the relationships this site has to the rest of the downtown area and the city of Fargo. In plan, this site has a unique character to it. It seems to have a standard grid that angles a little as you move west of Broadway Street. This site seems to have a flat land, prairie character to it that is instilled in its structures. This site is in an urban area, as a result there is not a lot of green space. The most vegetation occurs near the Red River to the east of the site. The majority of this site is occupied by loose gravel around the railroad tracks. Looking in plan also, this site seems to represent an edge of downtown. It is a transition from urban / commercial spaces to mostly residential spaces.

Looking in section, I have noticed that this site is not as flat as it seems. It is between the blocks of 4th Street and 7th Street, but seems to rise in slope slightly after that. Near the river there are a lot of topographical changes taking place. This seems to represent a change or transition in space allocation. The heights of buildings seem to rise away from the

river and then stay relatively the same through out downtown. After 7th Street, the buildings seem to stay at one or two stories for the most part, and finally give way to single family homes farther west. The lack of tall buildings around this site makes for minimal shadows, but excellent view opportunities.

Most of the buildings that surround the site are small two to three story buildings that are commercial or retail spaces with minimal residential units in each. Downtown Fargo seems to have a small town, historical feel to it, with very minimal tall buildings and not very much open space. The site is divided by a large open space that is the BNSF railway. This land is an open, dry, and cold space that has virtually no vegetation or character to it. The urban fabric in this area of downtown seems to be broken, with not much density or coordination of spaces. It seems like this is a forgotten, blighted section of downtown that needs some upkeep.

Explanations of other characteristics of this site begin with the light quality of this space. There are not many tall buildings or trees on this site so that makes for excellent light

The Site Analysis: Qualitative Aspects (cont.)

qualities. This site can currently receive the sun light very effectively throughout the year, giving this space a "wide open" feel to it. In the summer months, this makes this site a very hot space. In the winter, however this space is a very cold place, somewhere you wouldn't want to be unprotected. As far as vegetation, there is not much other than next to the Red River. Near the river, just east of the site, there are trees, grasses, and open space. This is the only area of the site with this feature which seems unfortunate, yet appropriate for the industrial use this site served in the past. The only water visible on this site is the river as well. Looking at the Red, it seems like a dirty, cold river. However, it is not uncommon to see people fishing and boating on it during the summer months. The downside of this site is the wind that it encounters. This site has little to no vegetation and not much density in its building so it gives way to the ever present wind in the Red River Valley. In the winter months especially, this can make for a very cold, dry space.

Looking at this site, it portrays human

intervention in the world. It is easy to see how the rail system cut a path through downtown, and in a way, dividing it from the rest of North Fargo. This seems to have had a negative affect on the people and buildings in this part of downtown. The businesses have left, the people have moved, the landscape torn forever. This site is in need of human intervention, but in a different way than in the past. This site longs to be cared for and revitalized as the rest of downtown has.

Sun Angles and Percentage
of Sunny Days:

The sun peaks at 54 degrees in the summer time and dips to 20 degrees in the winter at noon. This calls for interesting design strategies to deal with the ever changing temperature and sun patterns on the site (Climate Information for Fargo, 2003).

Sunny days are few and far between in this area, the following chart represents the amount of sunny days in each month (Climate Information for Fargo, 2003):

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Annual
7	6	5	6	7	6	10	10	9	9	5	6	87

The number of cloudy days per month and annually are represented in the following chart (Climate Information for Fargo, 2003):

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Annual
17	15	17	15	14	13	8	9	12	14	18	18	170

Soils:

There are three main types of soils in the entire thesis site:

1. Cashel Silty Clay: A level, deep, somewhat poorly drained soil. The surface is black, silty clay which is about 7 inches thick. Below that is silty clay, which extends for about 60 inches. Cashel soil moderately permeable and runoff is slow. Flooding is a major concern in this type of soil (U.S. Department of Agriculture, 1983).

2. Cashel Silty, Channeled: This soil type is just like Cashel Silty Clay, however the soil is fragmented by meandering channels and short, steep escarpments.

The Site Analysis: Quantitative Aspects (cont.)

This soil is also prone to flooding (U.S. Department of Agriculture, 1983).

3. Fargo Silty Clay, Smooth Surface: This soil type covers the majority of the site and most of Downtown Fargo. It is a level, poorly drained soil. The drainage pattern on this soil is well defined. This soil is also subject to flooding (U.S. Department of Agriculture, 1983).

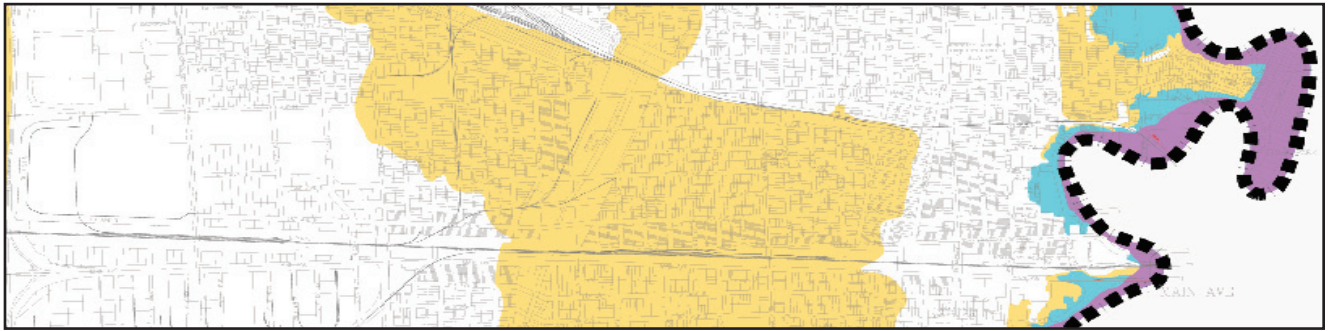
This is a map showing where the three types of soil exist on this site:



Utilities: This is an urban site, therefore all utilities and city facilities are already in place. Some work will need to be done near the former railroad tracks but mainly, this site has available to it all of the city's resources.

Water Table:

The following map shows the water table and floodplain areas throughout the site (Engineering Department, 2005):



As shown in the above map, the purple section of our site is in the floodway, which is unbuildable land set aside in case of a flood. The blue zone that is near our site is the 100 year floodplain which represents only a small portion of the site. The rest of the site is above the 500 year floodplain which means that the land is suitable for most types of buildings. In the event of a flood, this area is well protected by the multitude of dikes that surround the riverfront in downtown.

Vehicular and Pedestrian Traffic: In this urban setting, vehicular and pedestrian traffic are mixed. They must adhere and meld with each other efficiently and effectively. Broadway Street, 4th Street, and 2nd Street are a concern because of the moderate vehicular traffic on them. Pedestrian traffic is moderate on Broadway, but on other streets is light. Presently, the downtown area seems to not be very pedestrian-friendly. This is a concern that should be dealt with in the design development stage of the project.

Other forms of transportation include busses and taxis, however these forms are not very apparent in the downtown area. There is moderate bus traffic but taxis are not present as much in Fargo as other major cities. Pedestrian traffic is smaller in the winter because of the skywalk system that is in place throughout downtown. The only drawback of the system is that it seems incomplete and does not connect to the northern section of downtown where this thesis site is located.

The Site Analysis: Quantitative Aspects (cont.)

Slope Analysis:

This site is relatively flat with slopes less than 1%, except near the banks of the Red River. This means that the site does not drain very well and is subject to flooding. The downtown area has adequate storm water removal, however the dangers of flooding still need to be dealt with in any design situation.

Aerial Photographs:



The Site Analysis: Quantitative Aspects (cont.)

Site Photographs:



The Site Analysis:
Quantitative Aspects (cont.)

Site Photographs:



The Site Analysis: Quantitative Aspects (cont.)

Site Photographs:



Site Photographs:



Visual Form:

There is not much as far as terrain in this site. It is virtually flat until you reach the river. The terrain naturally follows the path of the river through downtown. The visual form of the downtown cityscape seems to be broken and unbalanced. There is no central point or hierarchy of buildings. Proper planning of spaces can help overcome these visual problems and make Fargo's downtown more recognizable in form.

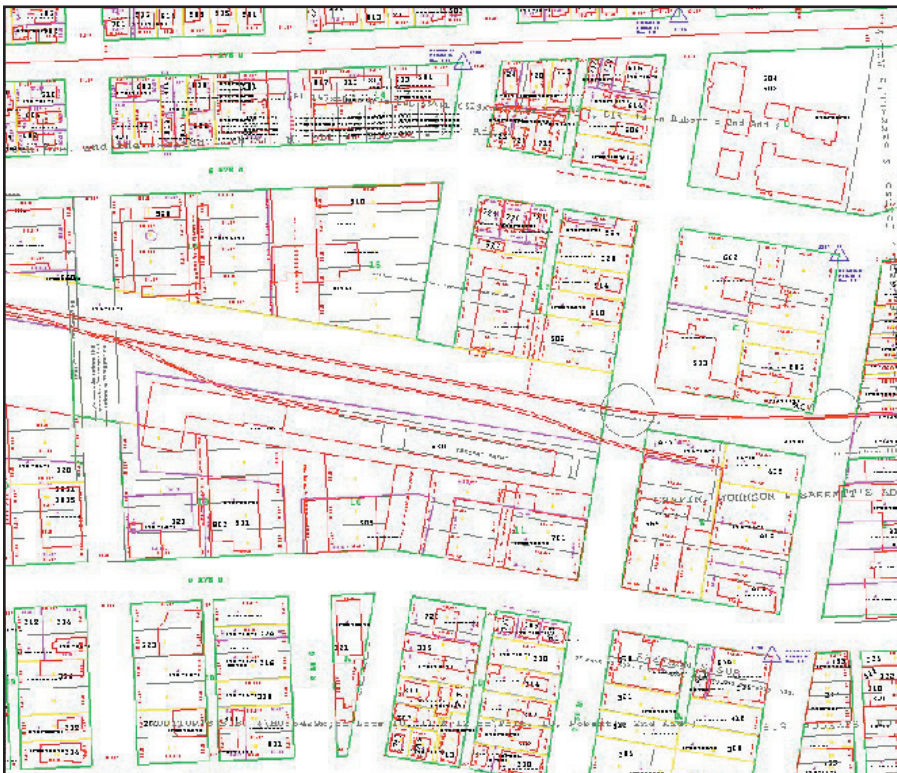
Plant Cover:

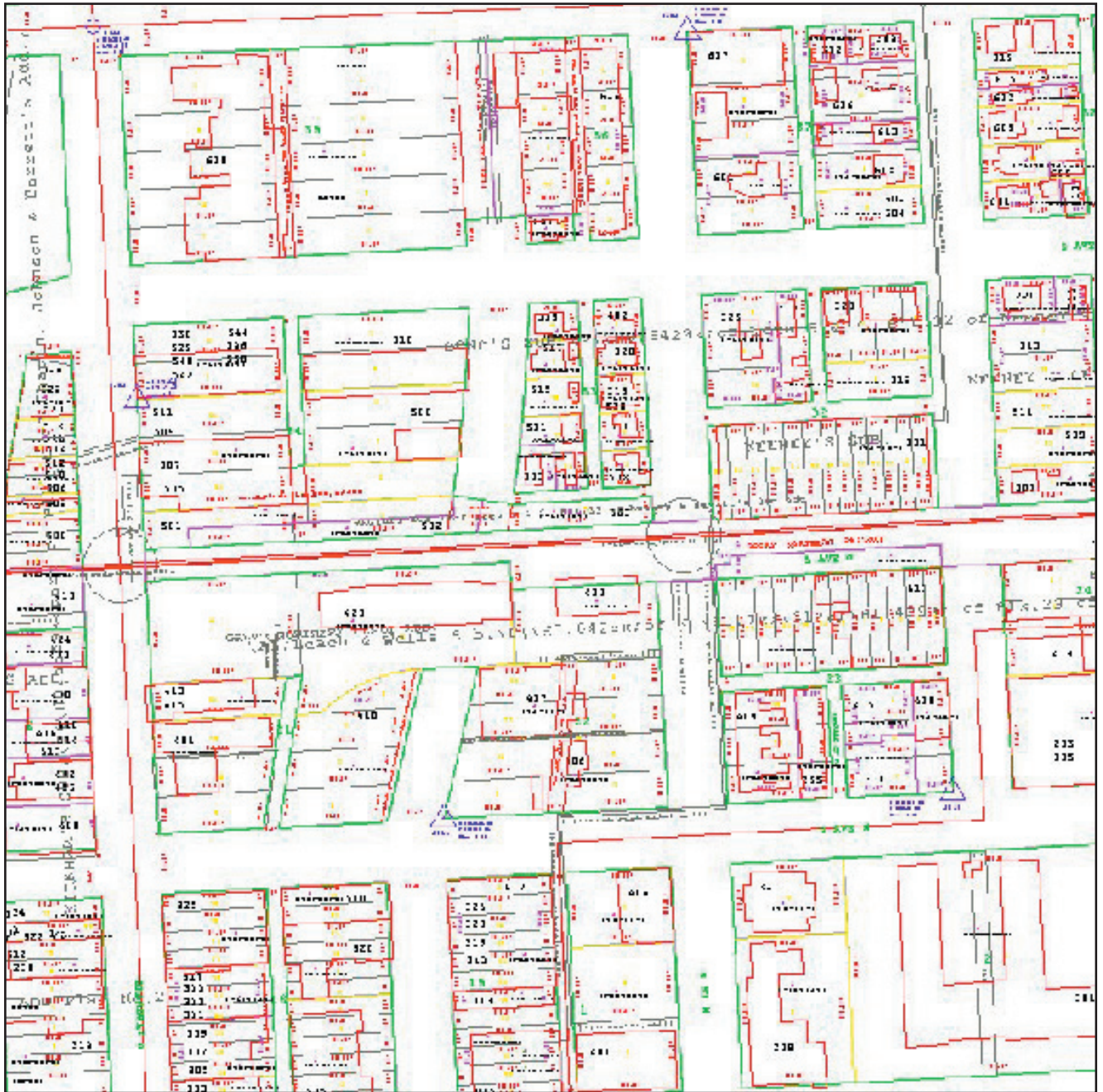
Being an abandoned railway, there is not much plant cover at all on this site. Even the plant cover near the river has been subject to flooding over many years so it seems to be in dispair. This area of the downtown desperately needs plant life to revitalize the city's "green" aspects and make it a more aesthetically and visually pleasing place to be.

The Site Analysis: Quantitative Aspects (cont.)

Site Character: This site seems to represent a gap in the downtown area of Fargo. The vibrant, urban renewal in the south side of downtown seems to abruptly end just prior to entering this site. The lack of "life" in this area seems to be a major factor in the decline of businesses and homes in this area. Near the river I noticed dying trees, eroded landscapes, and a dirty river. These as well as many other deteriorated buildings and homes are signs of forgotten opportunities for this area.

Maps:





The Site Analysis: Quantitative Aspects (cont.)



Site Reconnaissance (photogrid):

The photogrid shows photographs at the 4 cardinal directions in 4 different areas of my site.



north



east



south



west

The Site Analysis: Quantitative Aspects (cont.)

Site Reconnaissance (photogrid):



north



east



south



west

Site Reconnaissance (photogrid):



north



east



south



west

The Site Analysis: Quantitative Aspects (cont.)

Site Reconnaissance (photogrid):



north



east



south



west

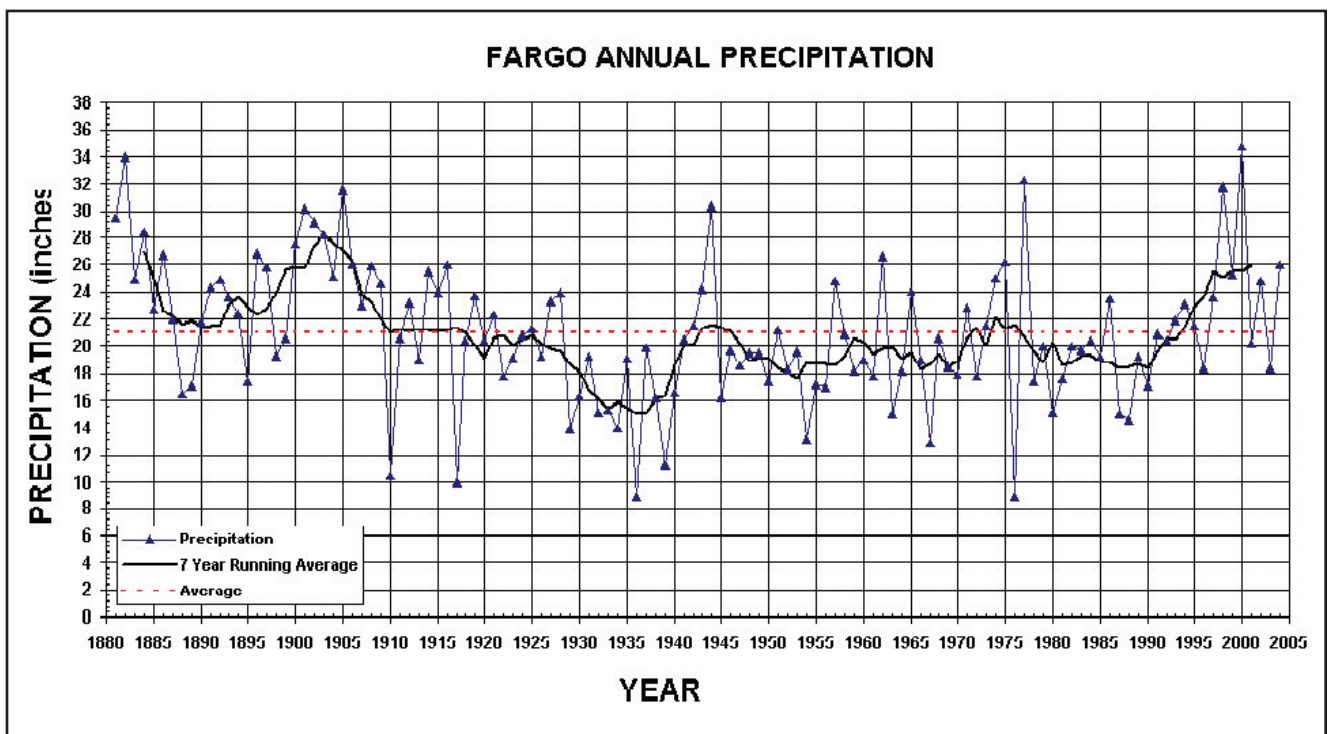
Climate Data: The following chart is the average annual temperature for Fargo. It includes the minimum, maximum, and average temperatures (Climate Information for Fargo, 2003):

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Min.	-3.6	2.7	17.3	32.1	43.8	53.6	58.8	56.4	45.9	34.6	19.4	31.1
Max.	15.4	21.1	34.6	53.8	68.5	77.4	83.4	81.3	69.4	56.7	36.8	20.3
Avg.	5.9	12.0	25.9	43.0	56.2	65.5	71.1	68.8	57.7	45.7	28.1	25.7

The following chart shows the average monthly humidity in Fargo (Climate Information for Fargo, 2003):

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
	57.0	75.0	77.5	75.0	66.5	66.0	71.0	71.0	70.0	69.5	71.0	75.5

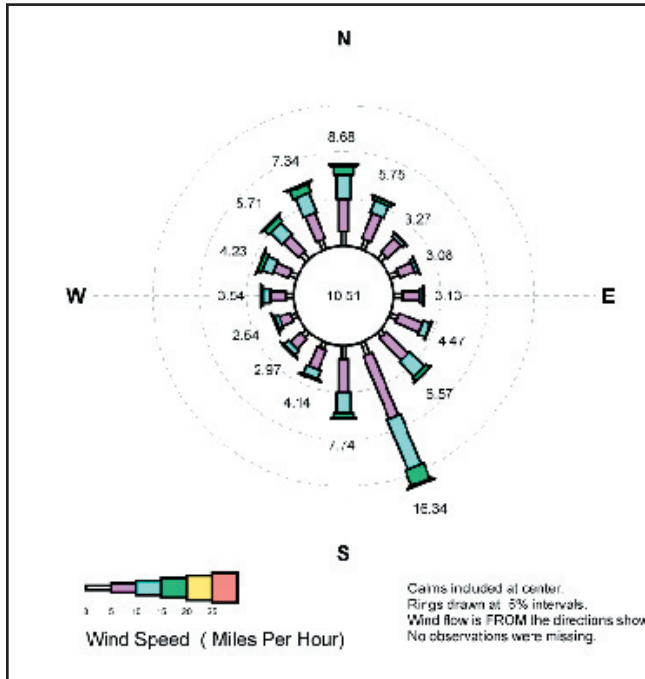
The following chart shows the annual precipitation in Fargo (Climate Information for Fargo, 2003):



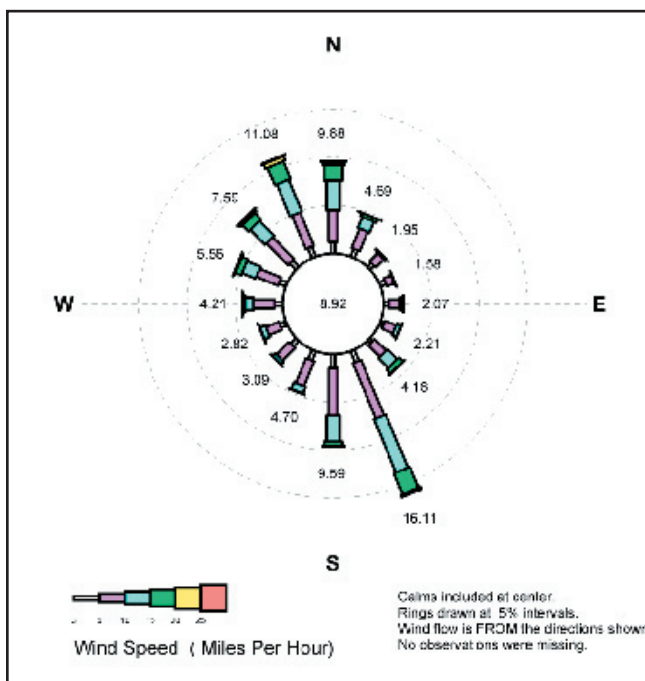
The Site Analysis: Quantitative Aspects (cont.)

Climate Data: The number of cloudy days per month and annually are represented in the following chart (Climate Information for Fargo, 2003):

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Annual
17	15	17	15	14	13	8	9	12	14	18	18	170



Fargo Wind Rose for summer months (n.d).



Fargo Wind Rose for winter months (n.d).

Other Climate Data: The sun's path in the Fargo area fluctuates greatly throughout the year. The sun peaks in the summer time at 54 degrees with a path of 137 degrees. In the winter the sun angle dips to 20 degrees with an 62 degree path (Climate Information for Fargo, 2003).

The lack of slope at this site makes it vulnerable to wind and the sun. Also, in the winter, it makes this site a very cold space. Adequate plant cover and building can help alleviate this problem.

There is not much shading at this site because of its urban setting and short buildings. The lack of tree cover makes this site vulnerable to wind and the hot summer sun.

The air movement is great because of the flatness of this site and the lack of tree cover. This site is fairly noisy because of the city traffic but mild when compared to other major city centers.

I have separated the programmatic requirements into three divisions:

1. Open space development requirements:

- Any development involving parks, courtyards, or any other landscape environment.

2. Mixed-use development requirements:

- Any development involving structures with residential, commercial, retail, or civic uses.

3. "Urban-scape" development requirements:

- Any specialties in urban design including: Sidewalk/street design, site furnishings, pedestrian and vehicular circulation patterns, overall "look" of spaces in urban settings, spatial relationships between buildings, contextual qualities of buildings and open spaces in urban environments, etc.

Open space development requirements:

1. Open spaces can include park land, vest pocket parks, courtyards, resting spots, or any other spaces incorporated in this urban environment.
2. Open space development must provide pedestrian and bike friendly trails and resting places.
3. There must be at least 10% of open

space integrated within each block of development at the ground level.

4. Mixed use buildings must include open space in their plans.

5. Parkland areas must provide connections to each other and to the surrounding city.

6. Parkland should provide excellent views of the city.

7. Open spaces should provide water features as well as sufficient grassland and trees.

8. At least 50% of the 110 acres on this site should be set aside for open space/park development.

9. Open space shall preserve the historical qualities of the site, as well as provide meaning for development in the future.

10. Open space development shall provide an aesthetically pleasing, meaningful, and inspiring place for residents and visitors to come and enjoy.

Mixed-use development requirements:

1. Mixed-use developments can include office, commercial, retail, residential, and

Programmatic Requirements: space allocation (cont.)

civic developments.

2. Commercial/Retail developments should be located on the ground level and not inhabit more than 15% of the total building square footage.

3. Commercial/Retail storefronts should be located facing any major street and be accessible from the store front.

4. Commercial/Retail facades shall integrate with the historical context of Downtown Fargo.

5. Office developments can be located on the first level or any other level of the building.

6. Office developments can inhabit the majority of the building unless there is residential incorporated within the building.

7. Office/Commercial/Retail developments shall provide access to the open space integrated within the building and the surrounding block.

8. Residential developments can inhabit any floor of the structure.

9. Residential developments can incorporate loft homes, studio, 1 bedroom, 2

Programmatic Requirements:
space allocation (cont.)

bedroom, and 3 bedroom apartments, as well as town homes and condominiums.

10. Residential developments must provide not only high to medium housing, but also low income housing as well.

11. Mixed-use developments must not exceed 70 feet in height

12. Mixed-use developments must not cast a shadow on any open space unless it is for a short period of time throughout the day (i.e. in the early morning or late evening).

13. The tallest portion of developments must be on the corners of the block if applicable.

14. All mixed-use developments must adhere to the historical qualities of Downtown Fargo.

“Urban-scape” development requirements:

1. Urban spaces must be pedestrian friendly spaces with an emphasis on human scale building.

2. Urban development must fit in the overall context of Downtown Fargo.

3. Urban design must create a “sense of

place” within the neighborhood, also giving it a unique feel for the city.

4. Urban fabric must be repaired and connected in a way that is positive for the city.

5. A clear movement pattern throughout the site must be reinforced.

6. Site furnishings and utilities must be designed in a manner that compliments the design of the surrounding site context.

96 Programmatic Requirements: preliminary budget

This urban design project has a unique preliminary budget. Because of the uniqueness of this type of project I used Mean's Cost Estimating averages in order to find a "middle of the road" budget for this project. Not all aspects of the design can be incorporated at this time, thus this document is just an average, estimated budget.

Factors that can change this budget include, but are not limited to:

1. What developments will actually occupy this site.
2. The economy of Fargo when this project will be constructed.
3. The development bidding contracts.
4. Phases the project will be constructed.
5. Materials available at the time of construction.

I have divided the cost data into six categories which include:

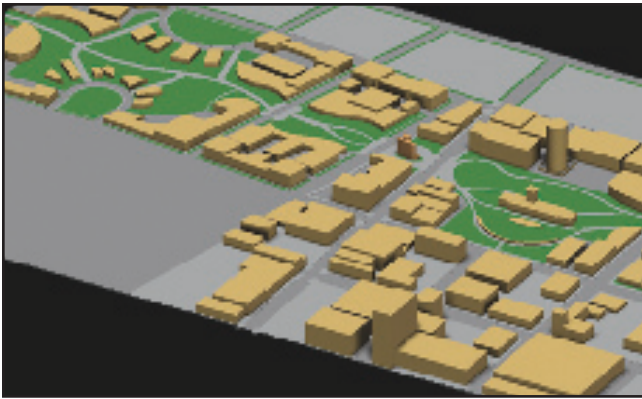
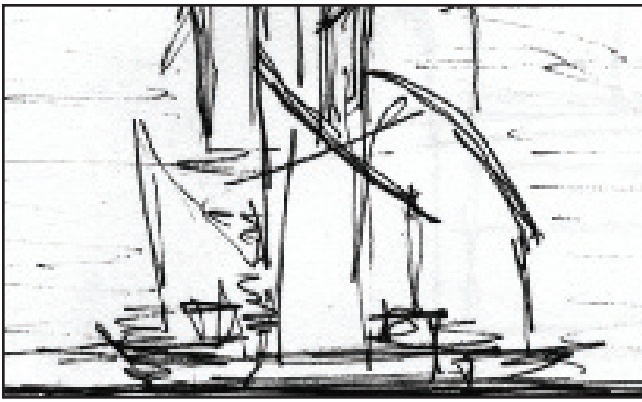
1. Site Demolition - I determined this will be about 50% of the site because not all portions of the site need to be demolished.
2. Open Space Development - This portion of the site represents the 50% area of the site that will be set aside for parkland and open space.
3. Residential Development - This will account for about 15% of the total development in this site.
4. Office Development - This will account for about 6% of the total development in this site.
5. Retail Development - This will account for about 3.3% of the total development in this site.
6. Other Development - This includes circulation, parking lots and garages, and any other amenities that will be included in this site.

Programmatic Requirements:
preliminary budget (cont.)

The Budget:			
<u>Catagory</u>	<u>Size</u>	<u>*Cost per unit</u>	<u>Total Cost</u>
Site Demolition	(55 acres) 2,395,800 sq. ft.	\$.25 per cu. ft.	\$598,000.00
Open Space Development	(55 acres) 2,395,800 sq. ft.	\$15.51 per sq. yd.	\$12,386,286.00
Residential Development	(16.5 acres) 718,740 sq. ft.	\$82.00 per sq. ft.	\$58,936,680.00
Office Development	(6.6 acres) 287,496 sq. ft.	\$80.00 per sq. ft.	\$22,999,680.00
Retail Development	(3.3 acres) 143,748 sq. ft.	\$60.00 per sq. ft.	\$8,624,880.00
<u>Other Development</u>			
Parking Garages	200 spaces	\$13,200 per space	\$2,640,000.00
Other Amenities, such as site furnishings, traffic signals, sidewalks, etc. (averages of all)	(5.5 acres) 239,580 sq. ft.	\$52.00 per sq. ft.	\$12,458,160.00
<u>Total Estimated Building Costs</u>			<u>\$118,643,686.00</u>
<u>Other Fees</u>			
Labor Fees	10% of total building costs		\$11,864,368.60
Consulting Fees	10% of total building costs		\$11,864,368.60
**Total Estimated Project Costs:			<u>\$142,372,423.20</u>

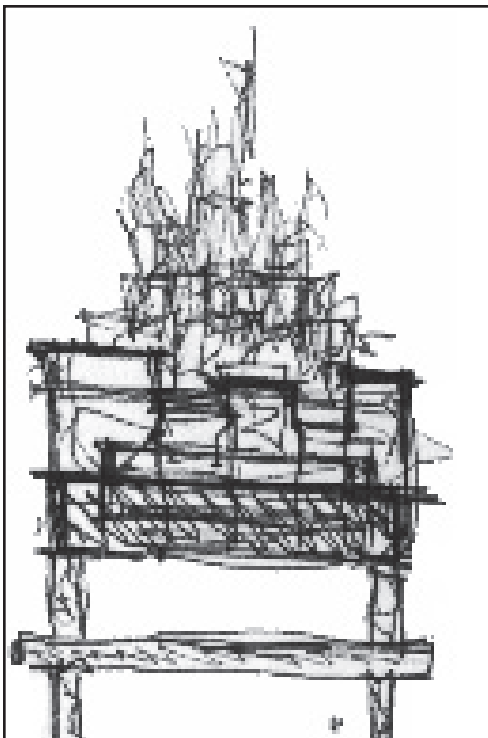
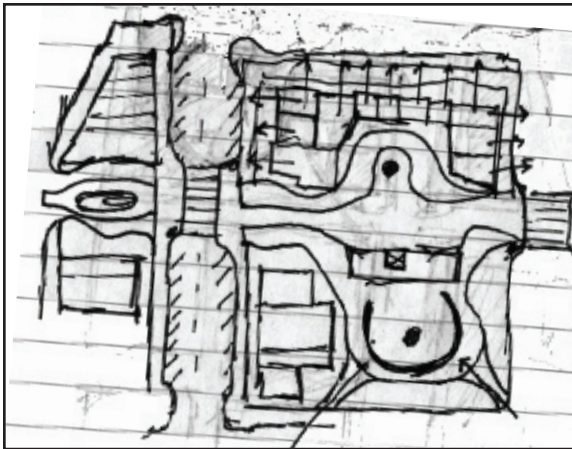
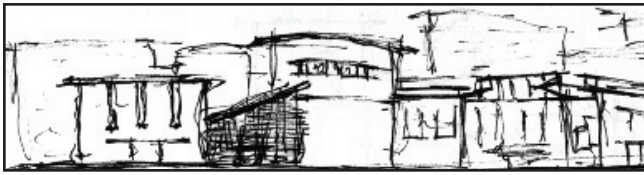
*All costs are cited from the RS Means Building Construction Cost Data, 62nd edition (Walter, et al, 2004).

**Note that this estimate is a mean average and more than likely will rise as a result of further design development and research.



Process Documentation

Process Documentation Preliminary Sketching: Phase One



The first sketch to the left was made during one of my many site visits in January. I was trying to sketch what I felt would "fit" into the cityscape of downtown. I decided to break up the monotony of the current skyline with a sculptural monument that to me represents where the city is going in the future. A break in ideas and a movement toward more artistic beauty is what I have strived for in this design and what I feel should be strived for in future designs for downtown Fargo.

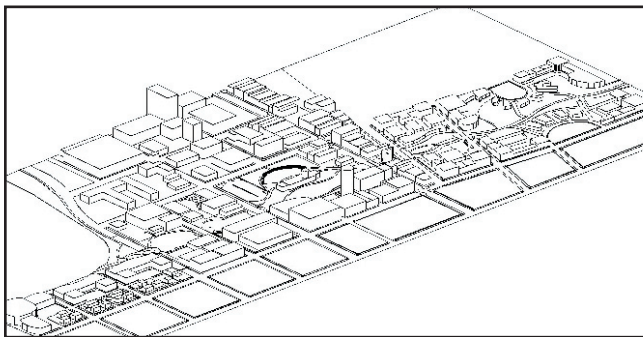
The second sketch was done in the early stage of my facade studies. I wanted to create facades that "fit" in the context of downtown but also showed the future of the city as well.

The third sketch was done during the design of individual phases of the project. You can see how I began to detail individual stages of the design and incorporated them into the landscape.

The fourth sketch to the left represents my vision for the final presentation. I wanted to reflect the urban design aspect in the presentation itself and reveal the conceptual underpinnings of the project in the presentation.

Process Documentation

Property Line and Density Study: Phase Two

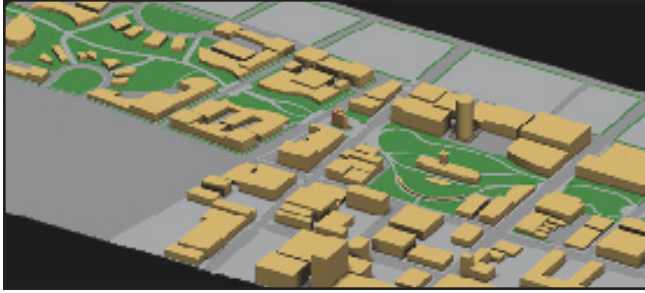


After my research and idea gathering phase of my thesis, I began working on design concepts for the master plan. This involved looking at how each type of zone worked within the city, and how they could be manipulated to achieve a design that worked.

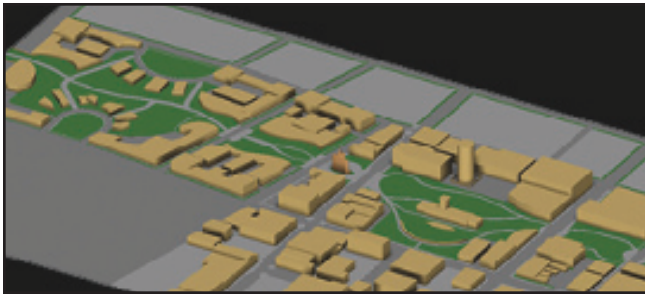
The main concept I came up with involved using the former rail land as an edge to the downtown district. Flanking that edge with residential development to the north, and to the south, mainly using commercial and retail

development. This plan changed somewhat once I looked at existing structures in the area. I decided that the West part of the site, which is phase three, be used as primarily residential land since most of the land in the area is in a mixed residential zone.

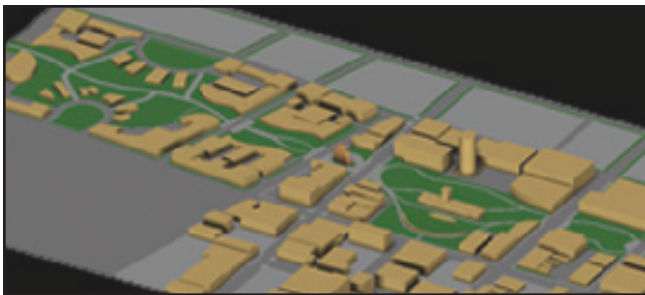
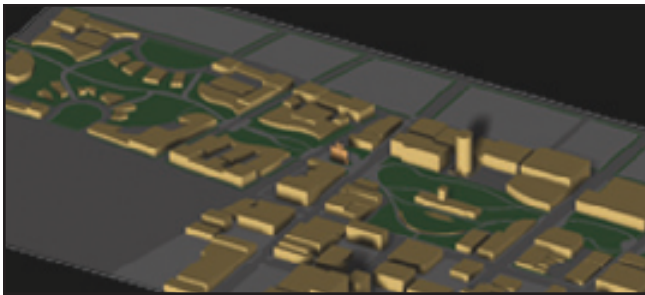
Phase one would be in the center of the site and act as the "centerpiece" of the project. This area will become a mixed-use land development with retail surrounding Broadway Street and prime residential development on the upper floor of each building that overlooked the green space in-between. The reasons I chose this was to compliment the resurgence of people wanting to live downtown, thus molding our downtown into what it is capable of being. The Eastern section of the site would be reserved for medium office and commercial space in order to attract businesses and spur the commercial growth of the downtown area. The overall goal of this project is, as the title states, to "Build in" the city, instead of giving in to the urban sprawl epidemic.



In the process of design for this master plan, I used a 3D model sun animation technique in order to find the shadows cast on my infill buildings and on nearby structures throughout the site. Shown above are slides taken throughout the year in order to show how this sun animation helped shape the design of this project.



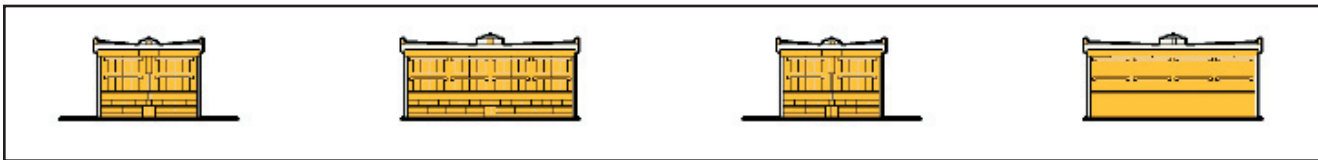
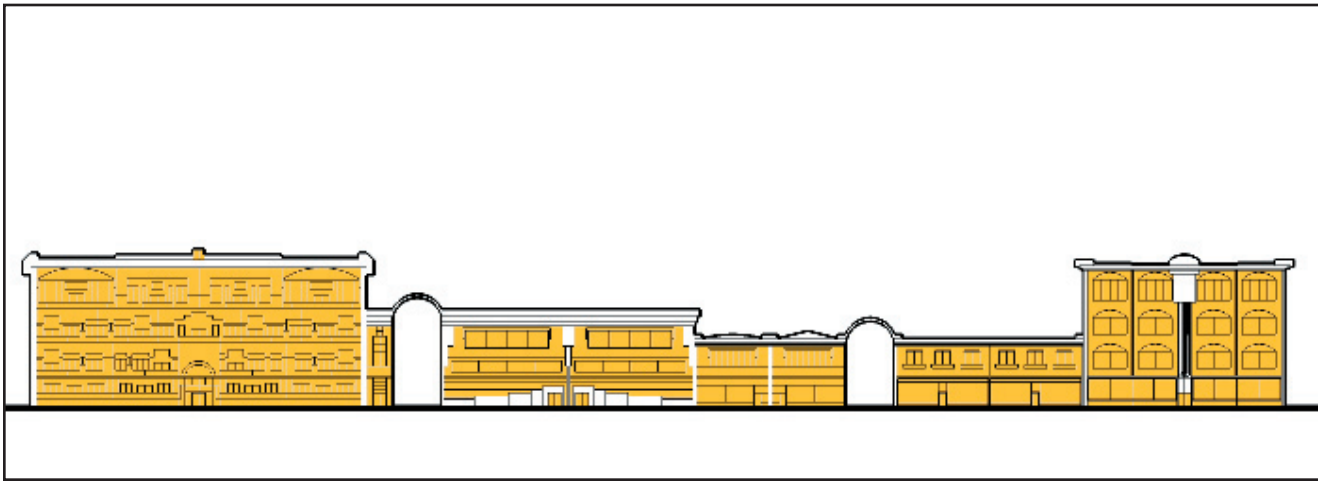
Using this process was a determining factor in shaping the overall character of the site. This analysis helped with everything from building heights to material choices in my design.



Another part of my design phase was to do a facade study for each of the phases in my project. I began by looking at how the existing buildings worked together in the downtown area. I looked at spatial relationships, building heights, and materials in order to find how the urbanscape was formed. After doing this, I began using those spatial relationships to form the facades of the buildings in each phase of my project.

Phase one is more of an urban center section of the neighborhood, thus, I used taller building heights and similar materials to what can be found historically downtown. Phase two is similar, however I used a stepped building height hierarchy in order to achieve maximum sunlight exposure to the interior open space and the offices within the buildings. Phase three consists of smaller building heights because of the zone type in this part of the neighborhood. This residential section of the city focuses on open space that is mixed together with the built structures. The facades are reminiscent of traditional row house buildings with their own unique style of design. The parts of the build

ings that view the greenway are opened up in order to take advantage of the views. The south facades are manipulated in ways that take advantage of the sunlight. This study ultimately defined how I would design this project and was a productive tool in shaping my entire project from the site plan to the presentation.



Phase one of this project involves building up the broken down fabric of the north central downtown area of Fargo. Some of the features include added residential and retail space, added park space in the interior of the block, creating a new landmark for downtown and adding a destination spot for people to come and enjoy all that downtown has to offer. The historic Great Northern Depot building acts as the centerpiece for this site.



Project Solution The Plans (cont.)

Phase two has essentially two sections to it, the north section and the south section. On the north side, the building and office spaces are broken up by lot and property lines. In plan, they seem like two very large buildings, however if you look very closely they actually can be broken up into 8 different properties. If a larger company wanted to, it could purchase the entire office park. Or else, many smaller companies could purchase sections of the park. This idea is a revamp of the strip mall concept in that it forces the storefronts to the exterior of the prop

erty lines, moves employee and some customer parking to the interior of the blocks, and also creates shared open space for all the businesses and customers to enjoy.

The south side of the blocks focus on larger companies and provide larger property space for expansion. This section works with a few of the existing buildings on the site in ways that do not interrupt what those buildings require to exist.



Phase three is entirely made up of residential development. Located between 10th Street North and Roberts Street, this development features primarily low to medium density housing. Single-family homes, townhomes, condominiums, and smaller apartment buildings can all be found on this phase of the project.

The reasoning behind developing this land in this way was to create a more dense residential fabric for the downtown area. Giving these lots ample open space was very important in the design as well. As seen in the image above, the greenway opens up to reveal a very

large park space in between blocks. This pulls the properties outward to the exterior of the property lines and creates a "city-within-a-city" feel to the neighborhood. A great sense of privacy is the main goal in creating these spaces. Even though the properties are very dense, they have their own personality, character, and privacy making this a great place to live.



Project Solution The Perspectives: Phase One



On Broadway Street is where most of the retail shops will open. Because of the high day time traffic, these shops will have peak customer base during the day time hours. The restaurants, bars, and clubs will keep downtown alive throughout the night.



On the south and west sides of the Phase one site, lots are predominately made up of medium to high residential lofts and apartments. All of the buildings in Phase one are designed to be mixed-use sites for many types of development.



Phase one features a unique sculptural landmark fountain that signifies a new rebirth for the north downtown district. A break from the barrier set by the former railway that once existed.

The image shown on the bottom of this page is an idea of what the office space in Phase Two could look like. A pedestrian-friendly, positive office environment is the goal in the design of this office space.

The north side of this development will consist of smaller offices and give off a small town, residential vibe as a way of mixing with the residential zone that it is facing.



Project Solution

The Perspectives: Phase Three



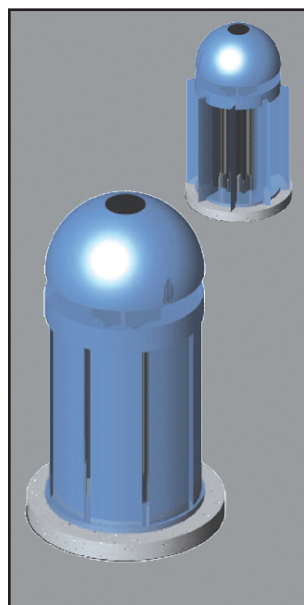
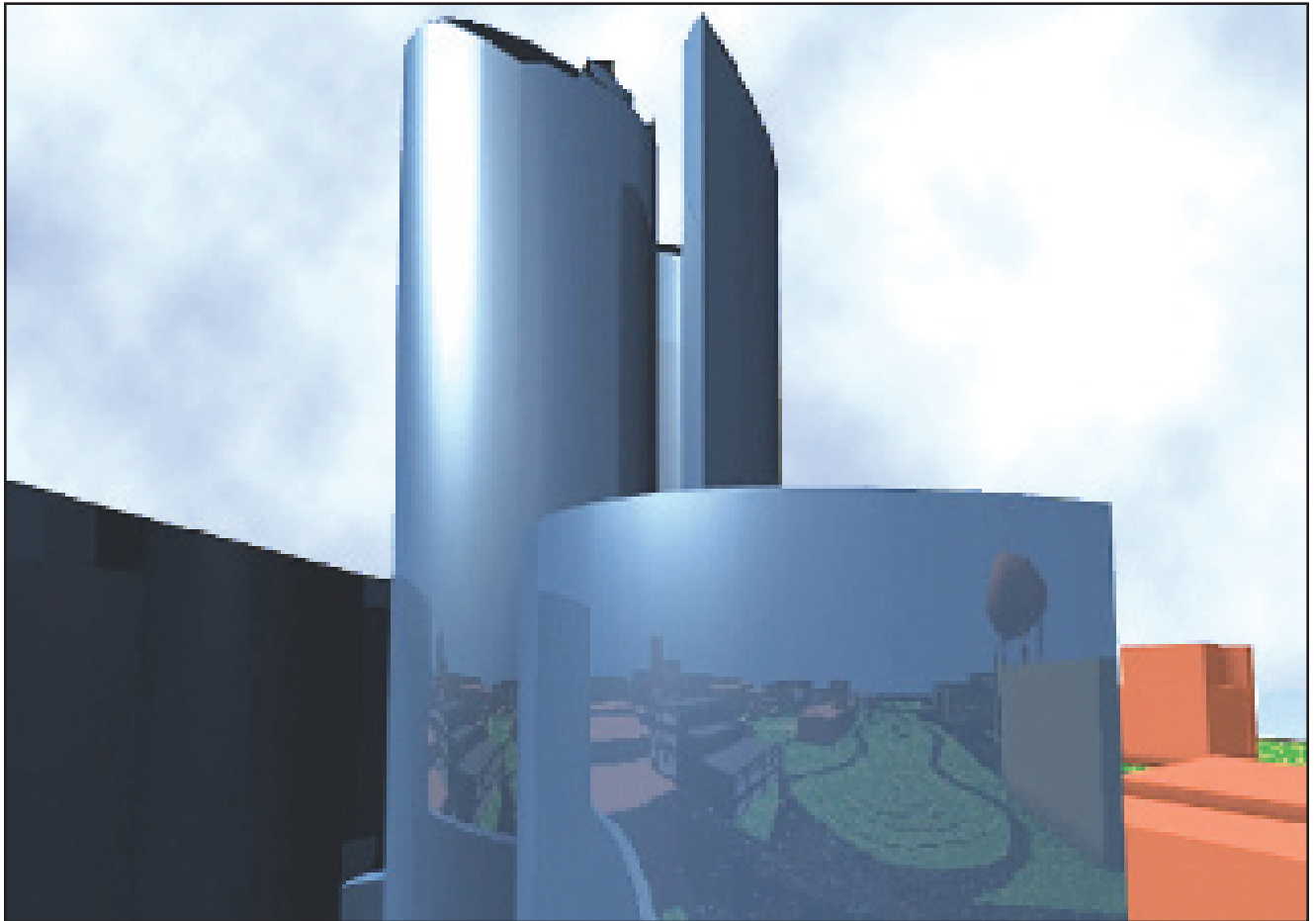
The perspective to the left is the corner of 10th Street and 4th Avenue North. Once, a run down, unfriendly place to be. After this development takes place, this area of downtown will transform into a vibrant, beautiful place to visit and live.



The perspective to the left displays the townhomes that are designed as "rowhouses" that make up a majority of the development in this phase. These homes are designed to offer privacy as well as a safe place to live in the city.

At night, this landmark is stunning to experience with seven high voltage lights that beam into the nights sky and surround this area. These lights can be seen for miles as a way of

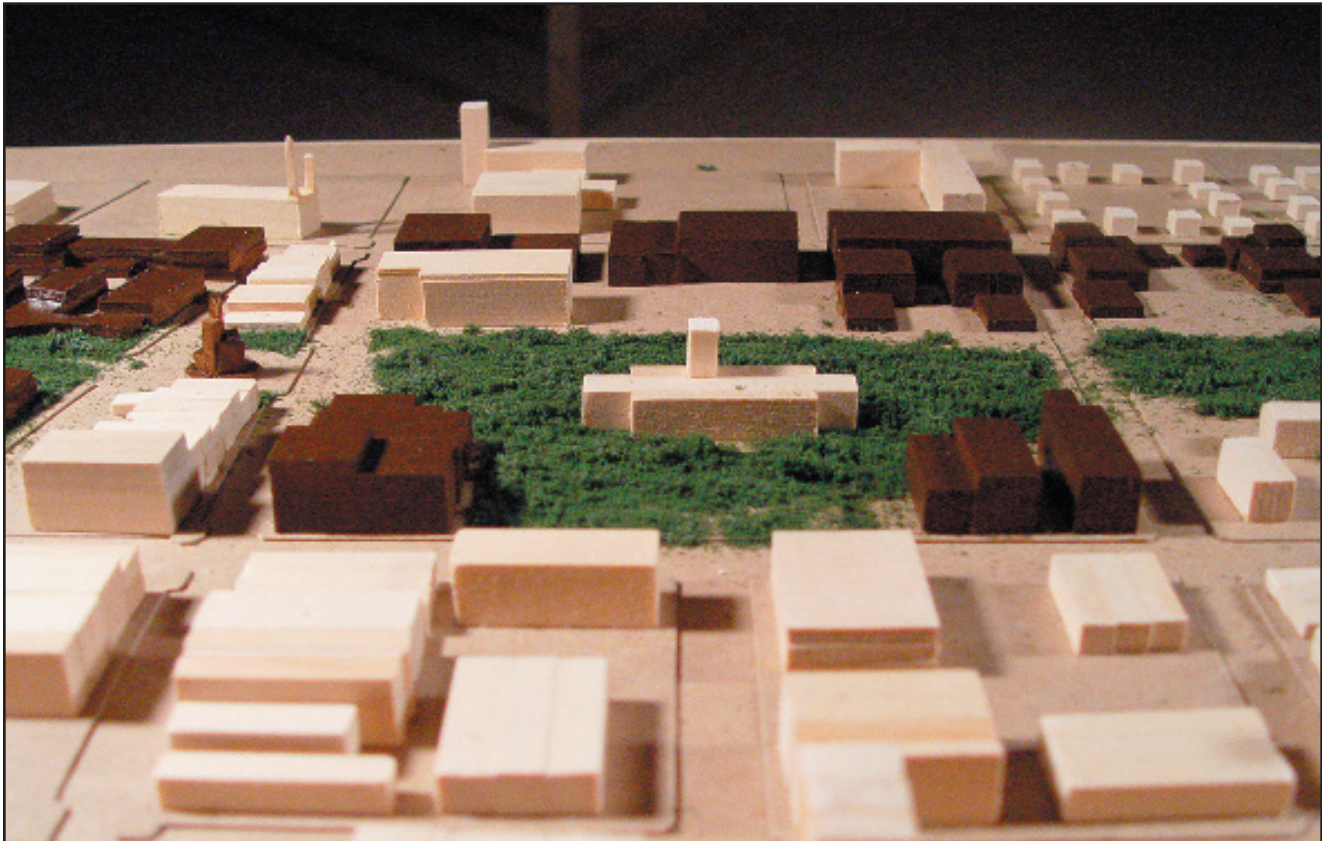
marking the downtown district in Fargo. These lights, coupled with the trail lights of the green way make for a "stellar-like" sight from far above the city.



Lighting is an important part of every design. The path lights I have designed open up at night to reveal a spectacular display of lights that create a pattern in the night sky visible from far above the city.



The greenway looking west



Phase one from above



The greenway looking west



Phase three from above





To whom it may concern,

So, here I am at the end of my 5 years at NDSU. I have to say that it has been a great experience for me. I have had many good and bad times, just like everyone else. But not only have I learned a lot about myself, but I have learned a lot about my classmates and professors. I just want to thank everyone whom I have met and collaborated with throughout the past 5 years. In some way, shape or form you have all inspired me to succeed in everything I have done.

I want to dedicate this thesis project to my parents. Without them I would be nothing. Their guidance, thoughtfulness and constant belief in me gave me the strength to be where I am at today.

I also would like to take this opportunity to address future architecture students. All I can say to you is never give up and never let anyone tell you that you can't make it. No matter what any student, professor, or critic says, as long as your design comes from the heart and you believe in what you do, you will succeed in this world. With perseverance, determination, and positivity, you will make it, just do not ever give up.

Sincerely,

Jason Perius
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Class of 2006



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