Connecting *Campus & Community*

Mixed-Use Development at
Nova Southeastern University

by

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A REPORT

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Connecting Campus & Community

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"You make dust or you eat dust."



Nova Digital Billboard at the corner of University Drive and SW 30th Street. Jon Champlin.

Table of Contents

1 Part One: Introduction
4 Chapter 1: Project Background and Definition
16 Chapter 2: Literature and Precedent Study Summary

27 Part Two: Design
30 Chapter 3: Design Principles
40 Chapter 4: Design Goals
44 Chapter 5: Schematic Design
56 Chapter 6: Final Design

81 Part Three: Summary
84 Chapter 7: Project Conclusions

89 Part Four: Support
92 Appendix A: Glossary of Terms
96 Appendix B: Site Inventory
114 Appendix C: Program
132 Appendix D: Precedent Studies
156 Appendix E: Design Process

List of Figures and Tables

Chapter 1: Project Background and Definition

Figures:
Figure 1.1. Regional Context. Jon Champlin. Page 6.
Figure 1.2. Local Context. Jon Champlin. Page 6.
Figure 1.3. Campus Context. Jon Champlin. Page 6.
Figure 1.4. Site Context. Jon Champlin. Page 6.
Figure 1.5. Campus Circulation. Jon Champlin. Page 11.
Figure 1.6. New Nova Dormitories. Bing Maps. Page 12.
Figure 1.7. Administrative and Classroom Buildings. Bing Maps. Page 12.
Figure 1.8. Site Analysis - Connections and Access Points. Jon Champlin. Page 13.
Figure 1.9. Site Analysis - Program Element Locations. Jon Champlin. Page 14.

Chapter 2: Literature and Precedent Study Summary

Figures:
Figure 2.1. Literature Map. Jon Champlin. Page 16.
Tables:
Table 2.1. Advantages and Disadvantages of Mixed-Use. Coupland 1997, 4. Page 22.

Chapter 5: Schematic Design

Figures:
Figure 5.1. Concept 1: Fluid Plan. Jon Champlin. Page 45.
Figure 5.2. Concept 2: Block Plan. Jon Champlin. Page 48.
Figure 5.3. Concept 3: Open Plan. Jon Champlin. Page 50.
Tables:
Table 5.1. Concept 1 Evaluation. Jon Champlin. Page 45.
Table 5.2. Concept 2 Evaluation. Jon Champlin. Page 48.
Table 5.3. Concept 3 Evaluation. Jon Champlin. Page 50.
Table 5.4. Schematic Design Evaluation Comparison. Jon Champlin. Page 53.

Chapter 6: Final Design

Figures:
Figure 6.1. Final Masterplan. Jon Champlin. Page 57.
Figure 6.2. First Floor Land Use Diagram. Jon Champlin. Page 59.
Figure 6.3. Central Plaza Perspective. Jon Champlin. Pages 61 and 62.
Figure 6.4. Figure/Ground Diagram of Campus. Jon Champlin. Page 64.
Figure 6.5. Student Activity Center. Jon Champlin. Page 65.
Figure 6.6. Pedestrian Light-Signage. Jon Champlin. Page 66.
Figure 6.7. Pedestrian Way-Finding. Jon Champlin. Page 66.
Figure 6.8. Vehicular Signage. Jon Champlin. Page 66.
Figure 6.9. Shark Drive Entry Perspective. Jon Champlin. Pages 69 and 70.
Figure 6.10. Campus Loop Drive Diagram. Jon Champlin. Page 71.
Figure 6.11. Gathering Places. Jon Champlin. Page 72.

Figure 6.12. Perspective of Street Environment. Jon Champlin. Page 73.
Figure 6.13. Movie in the Central Plaza. Jon Champlin. Page 76.
Figure 6.14. Proposed Hydrography Map. Jon Champlin. Page 77.
Figure 6.15. Existing Site Permeability. Jon Champlin. Page 78.
Figure 6.16. Proposed Site Permeability. Jon Champlin. Page 78.

Tables:

Table 6.1. Final Design Evaluation. Jon Champlin. Page 80.

Appendix B: Site Inventory

Figures:

Figure B.1. Florida Beach. www.flickr.com. Page 96.
Figure B.2. Everglades. www.flickr.com. Page 96.
Figure B.3. South Beach, Miami. www.flickr.com. Page 96.
Figure B.4. Dragon Boating. www.flickr.com. Page 96.
Figure B.5. Davie Rodeo. www.flickr.com. Page 96.
Figure B.6. Campus Circulation. Jon Champlin. Page 98.
Figure B.7. Site Circulation. Jon Champlin. Page 98.
Figure B.8. Park Proximity. Jon Champlin. Page 100.
Figure B.9. School Proximity. Jon Champlin. Page 100.
Figure B.10. Shopping Proximity. Jon Champlin. Page 100.
Figure B.11. Grocery Store Proximity. Jon Champlin. Page 100.
Figure B.12. Bird's Eye Image of Site. Bing Maps. Page 101.
Figure B.13. Main Entry from University Drive. Jon Champlin. Page 102.
Figure B.14. Street Right of Way. Jon Champlin. Page 102.
Figure B.15. Site Interior. Jon Champlin. Page 103.
Figure B.16. Street Buffer. Jon Champlin. Page 103.
Figure B.17. Sidewalk Connection. Jon Champlin. Page 104.
Figure B.18. Service. Jon Champlin. Page 104.
Figure B.19. Family Life Center. Bing Maps. Page 105.
Figure B.20. Medical Center. Bing Maps. Page 105.
Figure B.21. Dormitories. Bing Maps. Page 106.
Figure B.22. Administrative and Classroom Buildings. Bing Maps. Page 106.
Figure B.23. Administrative and Classroom Buildings. Bing Maps. Page 107.
Figure B.24. Mediterranean Style. www.tndhomes.com. Page 107.
Figure B.25. Caribbean Style. www.tndhomes.com. Page 108.
Figure B.26. Modern Style. www.tndhomes.com. Page 108.
Figure B.27. Hydrology. Jon Champlin. Page 109.
Figure B.28. Average Temperature. City-data.com. Page 110.
Figure B.29. Precipitation. City-data.com. Page 110.
Figure B.30. Average Temperature. City-data.com. Page 110.
Figure B.31. Sunshine. City-data.com. Page 110.

Appendix C: Program

Figures:

Figure C.1. Retail Entities and Building Process. De Chiara and Callender 1980, 722. Page 114.
Figure C.2. Principles of Retail Design. De Chiara and Callender 1980, 730. Page 114
Figure C.3. Typical Office Layout. De Chiara and Callender 1980, 785. Page 116.
Figure C.4. Site Element Relationships. De Chiara and Callender 1980, 72. Page 118.

Figure C.5. Residential Building Principles. De Chiara and Callender 1980, 73. Page 118.
Figure C.6. Functional Relationships. De Chiara and Callender 1980, 490. Page 119.
Figure C.7. Typical Library Layout. De Chiara and Callender 1980, 343. Page 122.
Figure C.8. Typical Hotel Room Layout. De Chiara and Callender 1980, 886. Page 124.
Figure C.9. One-Story Program on Site. Jon Champlin. Page 125.
Figure C.10. Two-Story Program on Site. Jon Champlin. Page 126.
Figure C.11. Three-Story Program on Site. Jon Champlin. Page 126.
Figure C.12. Four-Story Program on Site. Jon Champlin. Page 127.
Figure C.13. Five-Story Program on Site. Jon Champlin. Page 127.

Tables:

Table C.1. Retail Information Index. Jon Champlin, adapted from Pena 2001. Page 113.
Table C.2. Office Information Index. Jon Champlin, adapted from Pena 2001. Page 115.
Table C.3. Residential Information Index. Jon Champlin, adapted from Pena 2001. Page 117.
Table C.4. Medical Research Center Information Index. Jon Champlin, adapted from Pena 2001. Page 119.
Table C.5. Open Space Information Index. Jon Champlin, adapted from Pena 2001. Page 120.
Table C.6. Research Library and Book Store Information Index. Jon Champlin, adapted from Pena 2001. Page 121.
Table C.7. Hotel Information Index. Jon Champlin, adapted from Pena 2001. Page 123.

Appendix D: Precedent Studies

Figures:

Figure D.1. City Place Site Context. Jon Champlin. Page 132.
Figure D.2. Building Use. Jon Champlin. Page 133.
Figure D.3. Building Heights. Jon Champlin. Page 133.
Figure D.4. Vehicular Circulation. Jon Champlin. Page 134.

Figure D.5. Pedestrian Circulation. Jon Champlin. Page 134.
Figure D.6. Combined Circulation. Jon Champlin. Page 135.
Figure D.7. Central Plaza. Bohl 2002, 182. Page 135.
Figure D.8. City Place Materials. Bohl 2002, 187. Page 136.
Figure D.9. City Place Spaces. Bohl 2002, 187. Page 136.
Figure D.10. City Place Streets. Bohl 2002, 185. Page 137.
Figure D.11. Orenco Station Town Center Site Context. Jon Champlin. Page 139.
Figure D.12. Building Use. Jon Champlin. Page 140.
Figure D.13. Building Heights. Jon Champlin. Page 140.
Figure D.14. Vehicular Circulation. Jon Champlin. Page 141.
Figure D.15. Pedestrian Circulation. Jon Champlin. Page 141.
Figure D.16. Overall Circulation. Jon Champlin. Page 142.
Figure D.17. Interior Streets. Jon Champlin. Page 142.
Figure D.18. Cornell Road Frontage. Jon Champlin. Page 143.
Figure D.19. Street Corner Detail. Jon Champlin. Page 143.
Figure D.20. Building Oriented to the Street. Bohl 2002, 247. Page 144.
Figure D.21. Portland State University Site Context. Google Earth. Page 145.
Figure D.22. Urban Park Edge. Jon Champlin. Page 146.
Figure D.23. Urban Park Edge Buildings. Jon Champlin. Page 146.
Figure D.24. Circulation Systems. Jon Champlin. Page 147.
Figure D.25. Ample Sidewalks. Jon Champlin. Page 147.
Figure D.26. Raised Cat-Walks. Jon Champlin. Page 148.
Figure D.27. Diverse Buildings. Jon Champlin. Page 148.
Figure D.28. Desirable Mixed-Use. Jon Champlin. Page 149.
Figure D.29. Iconic Library. Google Earth. Page 149.
Figure D.30. Iconic Library Shape. Jon Champlin. Page150.
Figure D.31. Library View. Jon Champlin. Page150.
Figure D.32. Outdoor Spaces. Jon Champlin. Page151.
Figure D.33. Parking Garage Entry. Jon Champlin. Page 151.
Figure D.34. Parking Garage Entry. Jon Champlin. Page 152.

Appendix E: Design Process

Figures:

Figure E.1. Five-Story Program on Site. Jon Champlin. Page 154.
Figure E.2. Five-Story Program on Site. Jon Champlin. Page 155.



Interior of Nova's Campus. Jon Champlin.

Abstract

College campuses are places of education and innovation for students, faculty, and the community of which they are a part. Universities have a unique opportunity to serve as the premier catalyst for development, which gives them the power to create new communities that are more than educational facilities. Nova Southeastern University, in Davie, Florida, is one such institution.

The project site is 30 acres in the southwest corner of Nova's campus. The blighted and disconnected strip mall currently composing the site will transform into an integrated and diverse mixed-use development that acts as a thriving icon for the university and surrounding community. Program elements included in the project are a medical research center, a library/ bookstore, a hotel, retail, office, entertainment, and residential. Enhancing the social network of the university and community on one site, while creating a sense of place, is the design's priority. Making an informed connection between theory and practice in landscape architecture, planning, and design is what gives this project validity.

The design solution is a product of research, precedent studies, regional and site specific inventory and analysis, and client and personal goals. Integration between the campus and community is achieved by three design principles: 1) Place Making, 2) Connections, and 3) Community. These design principles establish and inform the social, physical, and natural systems at work in the design, as well as the user experience. A welcoming, comfortable, exciting, and iconic environment is created through the character of the place by attracting people to the site through place making. Connections are made between the site and the existing campus, the surrounding community, and the site users by physical layout and relationships. Program elements, dimensions, spatial ratios, building type, and shared amenities all exploit interaction and instill a sense of community. Each design principle is interconnected with the others, enhancing and enforcing the design as a whole.

Connecting

Campus

&

Community

Part One: Introduction



Nova Campus Entry Signage. Jon Champlin.

Chapter 1: Project Background and Definition

The "Big Picture" Issues

The "Big Picture" Issues that will be considered with this project are suburban sprawl and the disconnection that typically occurs between campuses and communities. Suburban sprawl developments are much less sustainable than urban developments. Typical subdivisions as we know them today began after World War II with the influx of soldiers returning home. Single-family housing on large lots and an automobile-dependent way of life characterize suburbs. Privacy is one of the primary reasons that people choose to live in suburbia. Walkability is not important because pedestrian accessibility or circulation is not used in this private environment. Goods and services are only readily available to suburbanites with the use of vehicles. Vehicular focused developments, non-walkable communities, and expansive development are all characteristics of a place that is not sustainable. (Van der Ryn, Calthorpe)

Another issue with suburban sprawl is that people are disconnected. Subdivisions are not set up to enhance interaction between people and their environments around them. Houses are typically not oriented to the street but are set-back a large distance to increase privacy. Sidewalks are not common shared amenities. Land uses are completely disconnected, especially single-family residential, from other land uses. Strip developments organized horizontally along six-lane roads act as the economic center of suburbs. However, the major economic center of any suburb is the urban downtown located many miles away and usually only accessible by vehicle or public transit. Suburban sprawl is so disconnected that it is usually not walkable within or between land uses. (Van der Ryn, Calthorpe)

The final "Big Picture" issue identified for this project is the disconnection between campus and community. Educational institutions are typically separate from other land uses that surround them. Businesses around campuses are supported by students, faculty, and staff that use the campus. Likewise, businesses support the institution by supplying commerce for its users. Although campuses and the communities of which they are a part have always supported each other, they have seldom ever been planned to be connected and integrated on the same site.

Site Location and Size

This project is located on the southwest corner of the campus of Nova Southeastern University, on what is currently a strip mall. Nova is located in the city of Davie, Florida. The site is 30 acres in size. Figures 1.1, 1.2, 1.3, and 1.4 illustrate the site context regionally, locally, on the campus, and site specific.

The "Big Picture" issues identified with the help of Van der Ryn and Calthorpe can be exemplified on this site. The site is currently a typical suburban strip mall that is vehicular-oriented and completely disconnected from Nova's campus.

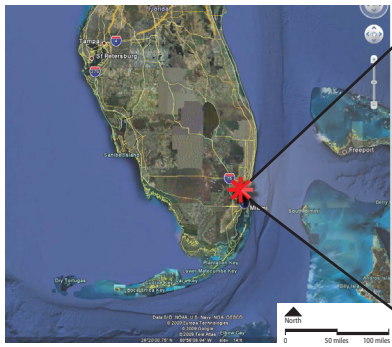


Figure 1.1. Regional Context. Jon Champlin.

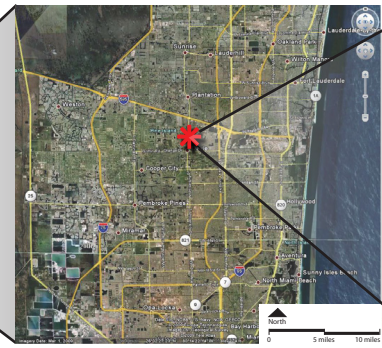


Figure 1.2. Local Context. Jon Champlin.

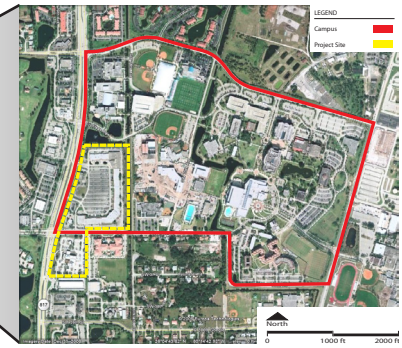


Figure 1.3. Campus Context. Jon Champlin.

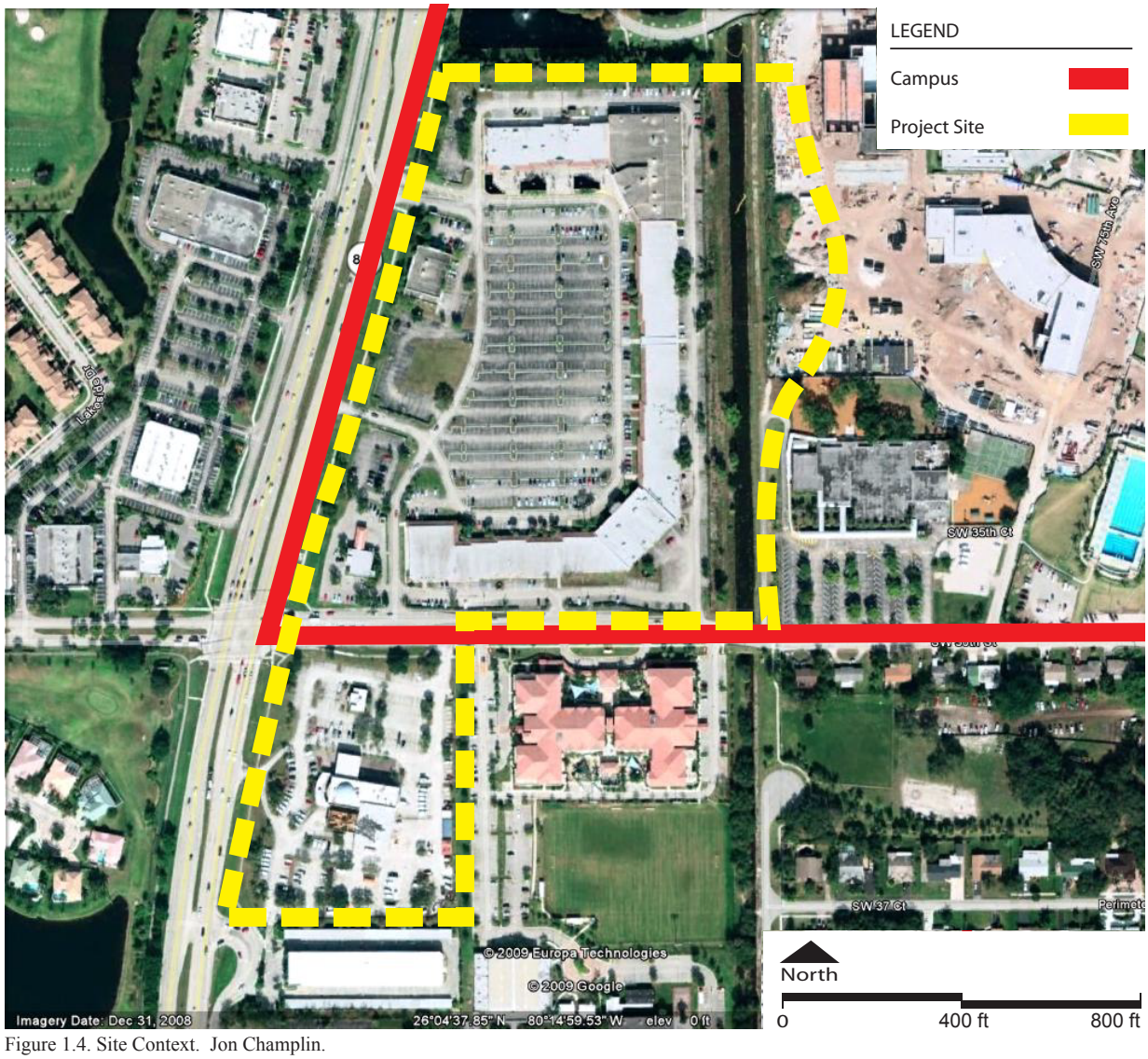


Figure 1.4. Site Context. Jon Champlin.

Dilemma

What is the smartest way for college campuses to expand in the future? What type of campus development can be respectful of the natural environment, serve the needs of the university, and ultimately become a thriving place for not only the institution but the entire surrounding community? How can this development become such a place that endures through time because people have a desire to be there?

Nova Southeastern University in Davie, Florida, has acquired a tract of land directly adjacent to the southern and western borders of the campus that is currently a strip mall. It is a typical American strip mall with one-story retail stores around the perimeter of the site and a sea of asphalt parking in the middle. Nova wishes to redevelop this land to hold a wide variety of uses that will be integrated together, to the campus, and to the community.

Thesis

The project is a mixed-use redevelopment, and is specifically focused on place making, connections, and community. "The basic meaning of place, its essence, does not therefore come from locations, nor from the trivial functions that places serve, nor from the community that occupies it, nor from superficial and mundane experiences - though these are all common and perhaps necessary aspects of places. The essence of place lies in the largely unselfconscious intentionality that defines places as profound centres of human existence," (Relph 1976, 43). Meaning that focusing the project on place making, connections, and community will establish an environment that fosters a "centre of human existence", a place where people enjoy to be, connect with, and orient themselves from. This redevelopment will be dynamic, in that it will be located on a college campus, and include other non-scholastic components such as a medical research center, housing, retail, office, and entertainment. The area will transform from a desolate, disconnected strip mall into an integral amenity and thriving icon for the university.

Project Goals

1) Generate an innovate approach to campus design by redeveloping an existing and blighted strip mall to become a thriving and active mixed-use development that is much higher density and more respectful of the natural environment.

2) Create a dynamic place that has a welcoming environment, an exciting atmosphere, and is an icon for the university and the community. Ultimately, the goal is to attract people to the site through "place making."

3) Create connections from the site to the campus and from the site to the community. Create a social network on the site by connecting people to the site and to each other through interaction.

Uniqueness of the Project

This type of project is quite unique because of its location on a college campus located in a suburban type of area. Redeveloping the site from a blighted strip mall into a mixed-use development will incorporate campus functions as well as public functions. This distinct idea of connecting campus and community on one site, both through form and function, exemplifying the principles of place making, connections, and community is rare.

Background and History of Davie, Florida

Davie, Florida, was once composed of the sawgrass and alligators of the Everglades ecoregion. When workers from the Panama Canal Zone started settling there in 1909, it became an agricultural area of South Florida, with orange groves and cattle ranches. The settlers actually named the town "Zona," which stuck until a developer named Randolph P. Davie bought 27,000 acres surrounding the site and renamed the city "Davie." In the 1930's, Davie was home to James Bright and Florida's first thoroughbred horse ranch. This horse-owning theme of the area endures to this day in Davie. Even though the city is becoming more and more developed, Davie holds true to its humble beginnings, and even incorporates a horse in the city's emblem. (Wagner, 1982)

Background and History of Nova Southeastern University

Nova Southeastern University was chartered as a graduate institution in the physical and social sciences in 1964, with the name Nova University. During later years, the school added courses in law, education, businesses, psychology, computer science, and oceanography. In 1972, education was added to the curriculum as Nova's first off-campus course. Today, field-based programs are located throughout Florida, in 23 states, and at selected international locations, giving Nova a tremendous reputation for distance-learning. (http://www.nova.edu)

Southeastern College of Osteopathic Medicine opened in 1981 as an institution that was committed to establishing a high-quality college of osteopathic medicine. Between 1987 and 1997, Southeastern added curriculum in pharmacy, optometry, allied health, medical sciences, and dental medicine, giving it the new name of Southeastern University of Health Sciences. (http://www.nova.edu)

In 1994, Nova University joined with Southeastern University of Health Sciences to form Nova Southeastern University. NSU, as it's known for short, is the nation's sixth largest, not-for-profit, private university. It boasts more than 28,000 students on a 300-acre campus. (http://www.nova.edu)

"So what exactly is NSU? We're a small, nurturing, private, undergraduate college. We're an exciting, multifaceted university. We're young and agile, fearless and forward thinking. And we're traditional. NSU doesn't fit easily within a standardized niche, because neither do you," (http://www.nova.edu).

Critical Site Conditions

Buildings are located along the perimeter of the site with impermeable surface parking composing the remainder of the site. About half of the buildings on the site are unoccupied. The borders of the site are composed of a heavy-traffic, six-lane road (University Drive) to the west, SW 36th St and a large hanger building to the south, and Nova Southeastern University to the east and north. There is a canal/drainage way that runs along the eastern edge of the site that can be enhanced to create an amenity for the project. Directly north of the site, on Nova's campus, is the School of Medical Sciences. One program element in this project is a hospital/ medical research center. The relationship/circulation between the

existing school and this new medical research center will be critical to the success of the project.

Nova Southeastern is a private university that has experienced much growth in the recent past. The current enrollment of Nova is 28,000 students. This recent growth has created a demand for more student housing and campus resources, which is the reason the university purchased this tract of land to develop. Nova's goal is to continue to develop and refine quality educational programs that prepare students for leadership positions and the emerging challenges of the 21st century. Nova's reputation was built on the strength of their graduate and professional programs (especially the medical school) as well as the quality of the graduate school facilities that rank among the finest in the country. (http://www.nova.edu)

The campus of Nova is well organized because all of the development that has been built there in the last 20 years has been planned by Edward D. Stone and Associates, a local landscape architecture firm. Infrastructure has been located to be functional and aesthetic at the same time. Nova is an attractive place to visit, with plenty of tropical vegetation, walkways, canals, and South Florida architecture. The campus certainly has an identity that must be continued in the new mixed-use development.

Site Inventory Summary

A full site inventory can be found in Appendix B on page 94. Inventory items include the categories of people, circulation, surrounding uses, existing conditions, architectural style, natural systems, and existing infrastructure. Categories that most directly effect the design of this project are circulation (especially campus circulation) and architectural style of the campus.

A campus circulation diagram can be seen in Figure 1.5 on page 11. Existing circulation influences the design of the project by documenting important streets, paths, access points, and connections that need to be made. The current site is completely disconnected from the campus and has no streets or paths to campus. Campus Loop Drive currently ends on the west end at University Drive, the major six-lane thoroughfare that composes the west boundary of campus. Motorists traveling along Campus Loop Drive to the west must exit onto and travel along the busy University Drive north to SW 30th Street or south to SW 36th Street to get back to campus. As can be seen in Figure 1.5, the interior of campus is primarily shut

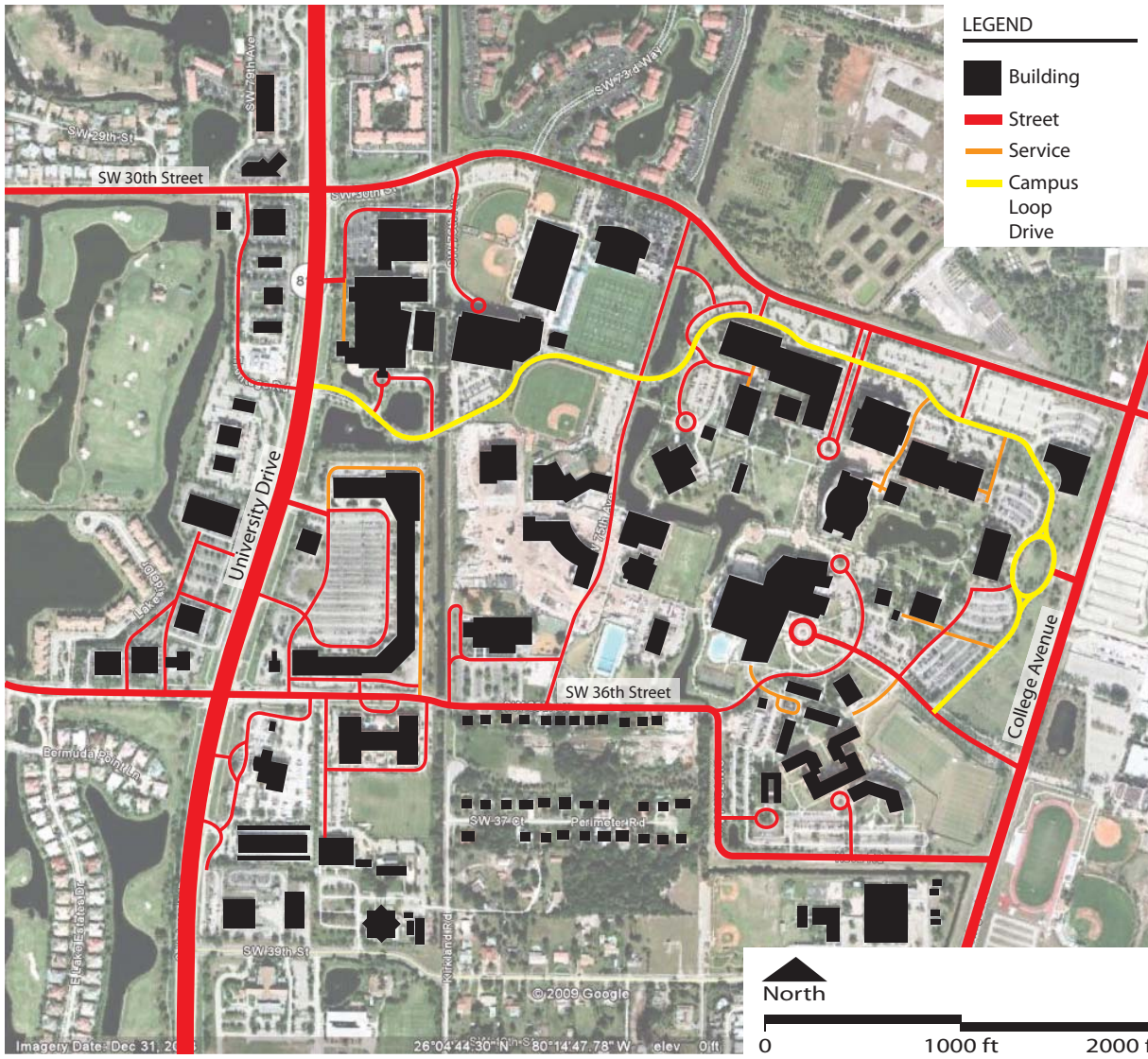


Figure 1.5. Campus Circulation. Jon Champlin.

off to vehicles and only incorporates pedestrian access. The campus also includes many turn-around drop-offs at building entries.

Campus architectural style also heavily impacts the design of this project because the design of proposed buildings must fit with the rest of the campus in terms of architectural type and massing. Figure 1.6 displays new dorms constructed on the southeast corner of campus. The building type reflects the Spanish and Mediterranean style of architecture that is prevalent in the region, but with a modern and new-age feel. Most of the buildings on Nova's campus look similar to the image in Figure 1.7. This type of architecture can be classified as a mix between classical and modern. Columns are prominent at the building entry, giving the buildings a classical feel. However, the blocky form and ample window pattern give the buildings a modern feel.

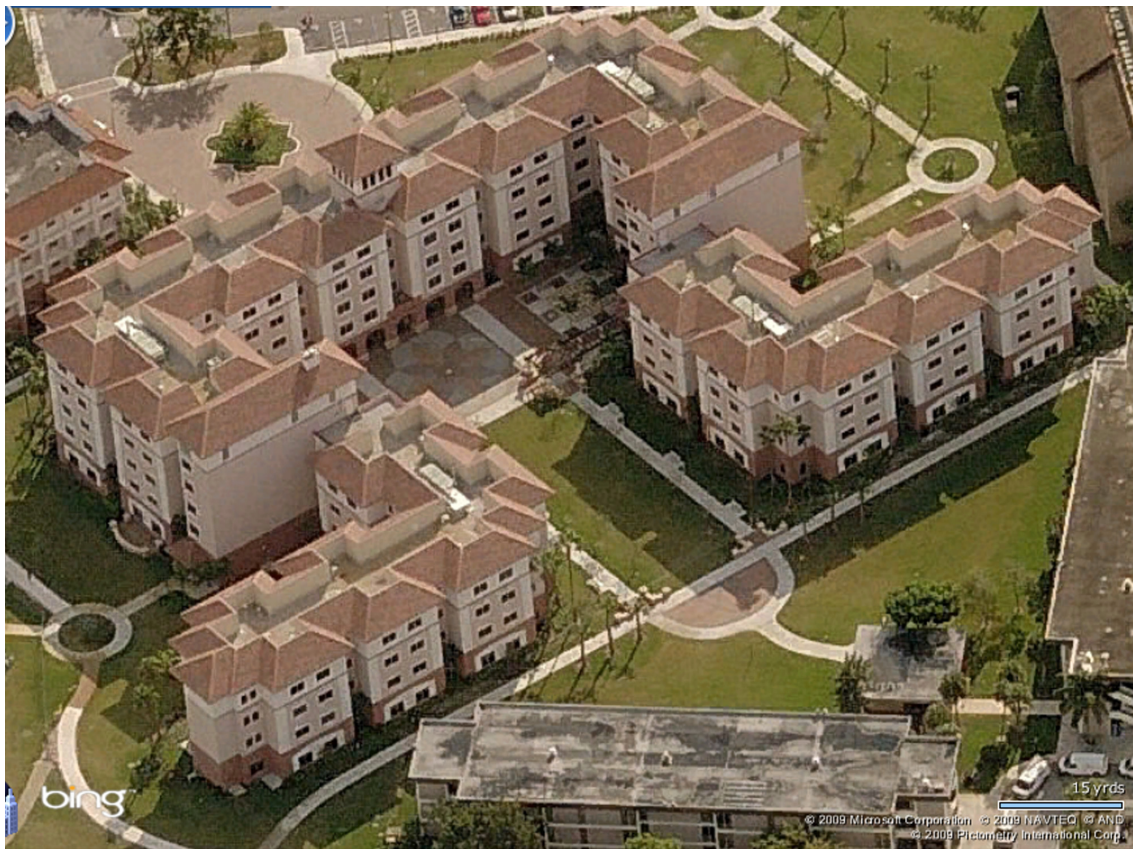


Figure 1.6. New Nova Dormitories. Bing Maps.



Figure 1.7. Administrative and Classroom Buildings. Bing Maps.

Site Analysis

Site analysis is divided into two types: connections and program element locations. From the site visit and an understanding of the site inventory, it is apparent that the design needs to make four strong connections to be successful. First, the Campus Loop Drive should be connected through the site to create a complete inner-campus loop. Currently, the Campus Loop Drive empties into University Drive instead of returning back to the heart of campus. The second important connection to be made is the mid-site opportunity for the site to connect to the core of campus. This connection would increase campus circulation and permeability. Third, a connection needs to be made between the existing medical building north of the site and to the proposed medical research center on the site. This connection should be physical, visual, and through architectural style and massing. The final connection to be made is across SW 36th Street. Although this street is not heavily used, it is four lanes wide plus a turning lane at the University Drive intersection. Spanning this wide road with a strong connection will bring the site together as one whole unit. Figure 1.8 illustrates these connections.

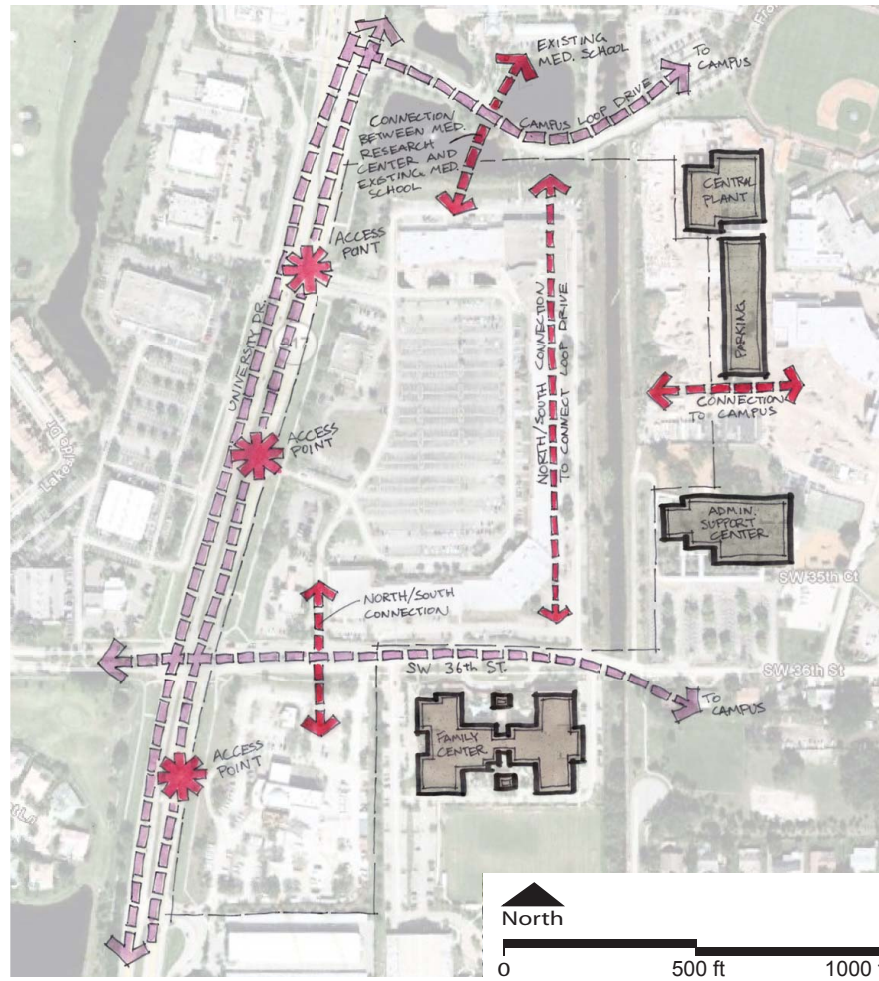


Figure 1.8. Site Analysis - Connections and Access Points. Jon Champlin.

The other type of site analysis establishes program element locations on the site because these locations will play a big role in the success of the project. Adjacencies, connections off-site, and relationships of program elements are considered. The medical research center is located on the northwest corner of the site to encourage a connection to the existing medical building on campus. The Hotel is located along the west border of the site to front onto University Drive. This allows hotel users (who are probably not familiar with the site) to have easy visibility and access to the hotel. The library is located in the northeast corner of the site so that it will be easily accessible from the rest of the campus and encourage walking. The remainder of the site is platted as mixed-use. One last site element is the canal. It is currently a straight, narrow, storm water collection ditch that is only a functional element. The canal has the opportunity to change location and shape to become an amenity for the development as well. Figure 1.9 displays where program elements should be located on the site to maximize relationships and off-site connections.

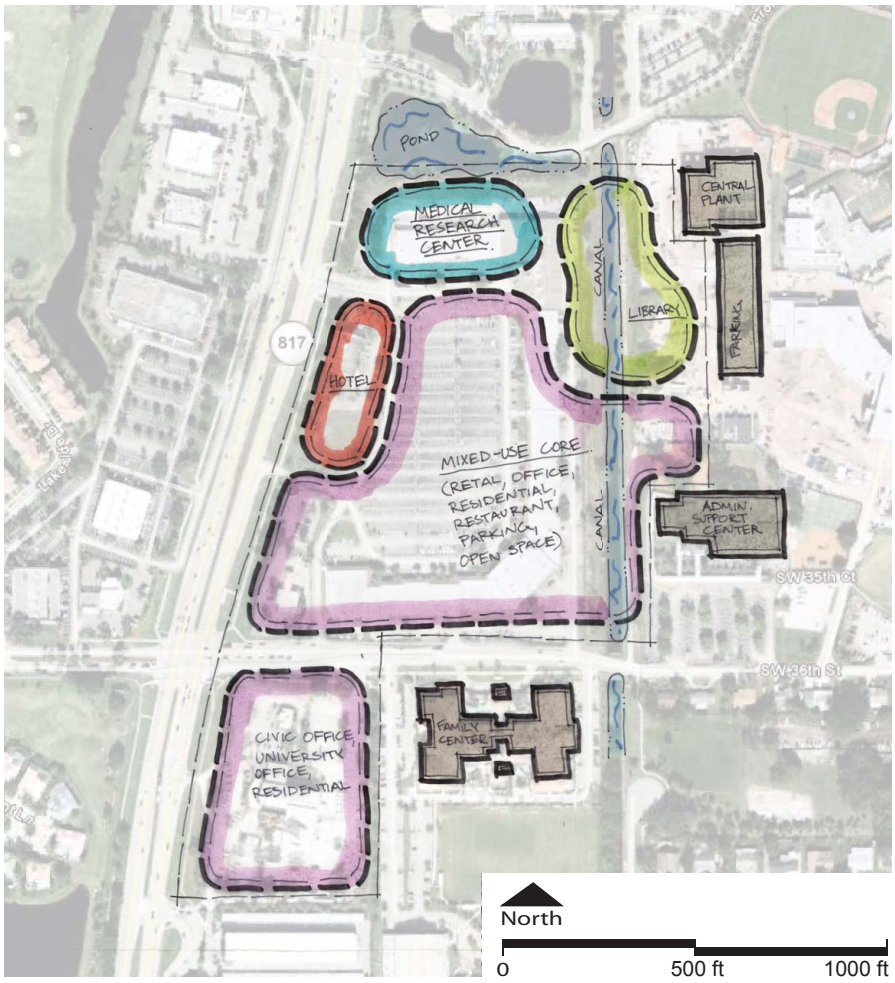


Figure 1.9. Site Analysis - Program Element Locations. Jon Champlin.



Nova Dormitory. Jon Champlin.

Chapter 2: Literature and Precedent Study Summary

Literature Map

The researched literature has been focused on three different aspects of landscape architecture and design: 1) place making, 2) mixed-use development, and 3) campus design. Figure 2.1 displays the literature map for this project. Each aspect is represented by a bubble with a shadow. Books are represented by rectangles, and the ideas or principles of each text are placed in small bubbles directly surrounding the texts. Place making is the most important factor of the research, and is placed at the top of the map for that purpose. Most of the literature is related to place making in some way, even if it is not the primary purpose of the literature. These relations, or connections, between texts are represented by straight grey lines. At the center of the map is a large box displaying site specific design. Producing a well thought out site specific design is the primary goal of the project, and is the purpose of doing all of this research. All of the literature will support the final design in some way, either directly by defining design principles or components or indirectly.

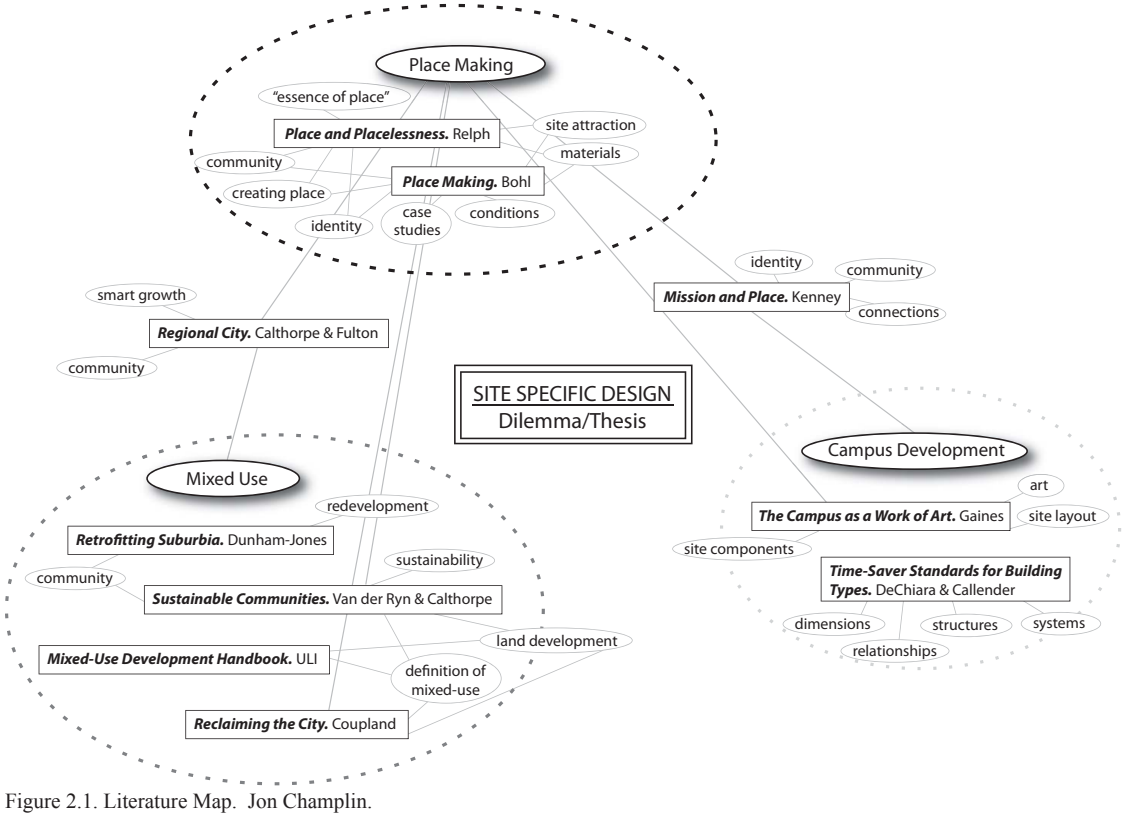


Figure 2.1. Literature Map. Jon Champlin.

Place Making Research

Place and Placelessness. by Edward Relph

This book is written as an approach to better understand the environment that people live in and interact with, and how they do so.

> "It is concerned with the 'lived-world', with the settings and situations we live in, know and experience directly in going about our day to day activities" (Preface).

Although place and sense of place are a phenomenon of society directly related to location, structure, material, function, community, and experience, place and sense of place is no, single, tangible object. It is a culmination of many objects, experiences, and senses, through time.

The chapters of the book that apply to this project and are most helpful are Chapter 3: "The essence of place" and Chapter 5: "A sense of place and authentic place-making". Relph's discussion on essence of place is summed up on page 43 when he states, "The essence of place lies in the largely unselfconscious intentionality that defines places as profound centres of human existence. This association seems to constitute a vital source of both individual and cultural identity and security, a point of departure from which we orient ourselves in the world." Basically, what he is saying is that without "place" we have no way of finding ourselves in the world. With place, we have a position to orient ourselves to our surroundings, and begin to observe what is happening elsewhere. Of strong interest to this project is what Relph states on page 34,

> "The relationship between community and place is indeed a very powerful one in which each reinforces the identity of the other, and in which the landscape is very much an expression of communally held beliefs and values and of interpersonal involvements."

Therefore, place relies heavily on the social networks and physical systems of a community.

Chapter 5 discusses making an authentic place. One of the fundamental facts about the "identity of a place" is that it must be distinguishable from others in order to have a true, authentic identity.

> "An authentic attitude to place is thus understood to be a direct and genuine experience of the entire complex of the identity of places," (pg. 64).

Place Making. by Charles Bohl

Unlike Relph, Charles Bohl focuses his writing on the tangible objects that create place, although he does briefly cover place theory. Bohl also puts an emphasis on the importance of public space, which will heavily impact the design of this project. Chapter 3: "Timeless Design Principles for Town Centers," contains three different headings: Gathering Places, Streets and Pathways, and Town Center Buildings. Each of these headings focus on how to create usable, public space that endures through time. Dimensions, ratios, activities, and orientations are a few examples of the features that Bohl analyzes in these spaces which inform how they create, or don't create, place.

The construction of appropriate building types and masses is crucial to place making, and often determines the success of the project, according to Bohl (pg. 71). Buildings are not just places for people to inhabit; they establish the design vocabulary of places and the visual rhythm of streetscapes. Supplying a harmonious building style to the development will begin to create an identity for people to relate to. However, there must be some diversity in buildings to create hierarchy, interest, and supply better way-finding.

Chapter 7: "Case Studies" is quite informative to this project, and will heavily influence the design decision making. In the case studies, Bohl covers the site background and characteristics, development, mix of uses, streets, layout, and parking, buildings, public gathering spaces, and the marketing, management, and performance. In conclusion, he includes a heading "Experience Gained". While all aspects of the case studies are informative as singular elements, the final conclusion for each project puts them all together into one final synthesis that is easy to understand.

Place Making and Campus Development Research

Mission and Place. by Kenney, Dumont, and Kenney

The concept of taking the mission of an institution, and transforming that into the actual form of the institution, is a powerful one. This book also touches on a mixture of campus use in Chapter 10, and the

benefits of mixed use. This chapter will enforce the project concept of implementing a mixed-use development on the campus of Nova Southeastern, and how it will be successful.

The most influential chapter is this book for this project is Chapter 6: "Neighborhood and Community." Simply put, this chapter supports the thesis.

> "One of the strongest demographic trends today is the growth of college towns and districts across the country. Perhaps the largest social benefit that a college or university can offer its community is its youthful energy and idealism," (pg. 68).

This quote explains one of the primary goals of the project, to offer a unique, dynamic, and iconic atmosphere to the campus and to the community.

Mission and Place, like Bohl, places extreme importance on the role of buildings in the campus framework (chapter 14). Every building on the campus contributes to the greater whole. Things to consider when thinking about campus buildings are campus identity and character, landmarks and gateways, materials and energy conservation, and the buildings' contribution to campus life.

Campus Development Research

The Campus as a Work of Art. by Thomas Gaines

> "The well-planned campus belongs among the most idyllic of man-made environments and deserves to be evaluated by the same criteria applied to these other works of art (painting, sculpture, and architecture). Yet it remains an uncelebrated art form," (Intro).

> "Indeed, the college campus has an ambience all its own. Like the historic village, the world's fair, the theme park, it is a place we want to go to, be in, identify with; there is a there there," (Intro).

This book by Thomas Gaines makes a case for enhancing the "appreciation of campus making as an artistic discipline." In order to be a true work of art, the campus should include the collaborative work of social scientists, planners, architects, landscape designers, scholars, and naturalists. All too often, however, the campus is

created by buildings that are the immediate need of the institution. These buildings are usually funded by donors who have their own aesthetic appeal, and rarely recognize the campus planning efforts as a holistic approach. If the donor has no preference, it's the school officials that make the decisions about the style of building, location, orientation, etc. School officials typically do not have training in the field of architecture, planning, or design.

Time-Saver Standards for Building Types. by Joseph De Chiara and John Hancock Callender

Information presented in this book will be influential to this project because it very simply supplies typical building types and dimensions. This area of expertise will be vital to make the design of the project realistic in terms of architectural plans. Each one of the program elements will be influenced by this information.

Place Making and Mixed-Use Research

Regional City. by Peter Calthorpe and William Fulton

This book focuses on denouncing suburban sprawl and offering innovative ways to redevelop cities to reconnect people in denser, urban areas.

> "But, as these more diverse 'communities of place' became more and more segregated by suburban zoning policies, we lost our day-to-day interaction with a wide range of people – people not encountered in our communities of interest. A landscape of isolated land uses became a landscape of isolated people," (pg. 4).

Establishing local, intimate destinations for people in a community to meet, interact, and ultimately be a part of each other's lives is an important aspect of how development should occur in the future.

> "In many cases, people select their homes or their business locations specifically for this reason – the ability to interact frequently with other people in ways they believe to be positive for their lives and their work," (pg. 37).

Mixed-Use Research

Retrofitting Suburbia. by Ellen Duham-Jones & June Williamson

This text focuses on smart growth of suburban areas. A few principles of this idea are to:

> "Reduce vehicle miles traveled, reduce land consumption, increase the feasibility and efficiency of transit, increase local interconnectivity, increase permeable surfaces and green space, increase public and civic space, increase choice in housing type and affordability, increase diversification of the tax base, and to establish an urban node within a polycentric region," (pg. 5).

> "Isolated, privately owned shopping malls and aging office parks surrounded by asphalt are being torn down and replaced with public squares and greens," (pg. vi).

Sustainable Communities. by Sim Van der Ryn and Peter Calthorpe

What would our cities and suburbs look like if we could redesign them toward sustainability? That question created the foundation for this book. Van der Ryn and Calthorpe focus their efforts on the most suitable ways to implement sustainable practices in existing and new cities, with an emphasis on the suburb.

> "There is no more important community design problem than the redesign and adaptation of the American suburb – the symbol and logos of American affluence and technology and growth in the past forty years," (pg. 34).

> "Suburbs have always been with us, but as modern idea of suburb grew out of reaction to the ugly, crowded, inhumane nineteenth-century cities and towns that quickly expanded to accommodate the dispossessed peasantry who became the industrial work force. The suburban city is a late twentieth-century version of the nineteenth-century frontier town built to exploit the bountiful resources of a then virgin continent. Modern suburbs are truly 'pioneer' urban ecologies where little time or thought has been given to the subtleties of place, shared amenities, a sense of community, permanence, long-term costs, or sustainability. The emphasis is on speed ('time is money'), short-run profits, standardized products, mobility, and mass," (pg. 36).

Mixed-Use Development Handbook. by Dean Schwanke

The most applicable things found in this text are that the ULI spells out the history, concept, and feasibility of mixed-use developments. Other useful information found is about site layout and design, internal building design, people-oriented spaces, and finally parking design. This information is significant because figuring out how to best layout the site, and then the detailed design of the site, will ultimately determine the success of the project.

> "The mingling of work and commerce with residences makes for healthy and vibrant neighborhoods. Instead of separating houses from everything else, the Council recommends efforts to create a mix of land uses in our neighborhoods and communities," (pg. 8).

Reclaiming the City: Mixed Use Development. by Andy Coupland

> "Increasingly, mixing different land uses in the same geographical area is seen as a positive contribution to planning policy. It is hoped that by increasing the mix of land uses, and especially residential uses, residents will lead more 'sustainable' lifestyles, using their cars less," (pg. 1).

Table 2.1 lists the definite and possible advantages or disadvantages that happen with a mixed-use development. Basically, it shows the impacts that mixed-used developments have.

Why Mixed Uses?	
ADVANTAGES	**DISADVANTAGES**
Definite	**Definite**
1) Attractiveness and vitality - diversity; up to 24 hour city 2) Uses unwanted or obsolete property, including listed buildings 3) Range of uses means greater likelihood of some parts letting	1) Harder to dispose of property asset quickly 2) Requires active management of property 3) Therefore harder to raise finance and may put some possible tenants off
Possible	**Possible**
1) Reduction in travel (shorter trips, more multi-function) so reduced emissions 2) Sustainability 3) Reduction in crime; more activity; greater uses; observation of street	1) Lower rents achieved 2) Problems of seperate access need for each use 3) Conflict between activities; noise, traffic, etc. (e.g. housing over wine bar)

Table 2.1. Advantages and Disadvantages of Mixed-Use. Coupland 1997, 4.

Precedent Study Summaries

Through a literature search of college campuses and mixed-use design, there are no mixed-use developments located on and operated by college campuses. For that reason, the precedent studies have been divided into two categories that will cover the intents of the project. These include:

1) mixed-use developments,

2) urban college campus

Suitable precedents for these two categories have been studied, and supplied a starting ground for inventorying, analyzing, and ultimately designing the site. The analysis of these precedents made it clear what exactly to search for and document during the inventory stage of this particular project. The methodology for analyzing that information was also apparent. Finally, these precedents helped to identify tangible elements (ie: dimensions, uses, materials, etc.) that make a mixed-use development successful. This section will offer a summary of the precedent studies. A full version of the precedent studies can be found in Appendix D on page 130.

Mixed-use

The mixed-use developments of City Place at West Palm Beach, Florida, and Orenco Station Town Center in Portland, Oregon, have been closely studied to understand building usage and square footage of that usage, building size (amount of stories), vehicular circulation, pedestrian circulation, and pedestrian spaces. Conclusions about the relationships and connections between these factors and what impacts those have on the site were then made.

Urban College Campus

Portland State University in Portland, Oregon has been studied because of its highly urban context, surrounding neighborhoods, and the form and function of the campus and primary buildings on the campus. There is documentation of what types of businesses are located within the area and how these developments or neighborhoods connect to the campus are noted. These impact the project because of the relationship of a mixed-use development to a college campus. Circulation systems are also documented. It is important to understand how vehicles and pedestrians operate efficiently (or not) on this campus.

City Place

West Palm Beach, Florida

Location: West Palm Beach, Florida, on Okeechobee Blvd. just east of I-95
Project Type: New town center for an existing city
Size: 72.9 acres
Date Designed: 1996; Date Opened: October 2000
Landscape Architects: Bradshaw Gill & Associates, Ft. Lauderdale, Fl
Client: City of West Palm Beach

Retail: 600,000 square feet
Office: 750,000 square feet
Hotel: 440 rooms
Residential:

Private townhomes:	51
Garden apartments:	33
Luxury rental apartments:	128
Mid-rise rental apartments:	264
Rental flats:	38
Live/work lofts:	56
Total:	570

Civic: Harriet Himmel Gilman Theater for Cultural and Performing Arts, a central plaza, and assorted small urban open spaces.

(Bohl 2002, 191)

Conclusions About City Place:

After studying City Place in depth, conclusions have been made about the site that will impact the design of this project directly. The locations of building uses and parking garages was key to document. Seeing, and understanding that the layout of the buildings at City Place directly affected, and continues to affect, the success of the project, is something that can be applied to the Nova project. City place has a primary civic space at the core of the project. This idea of having a primary space at the core of the site is something that can also be applied to this project.

Another noticeable factor about the design is the building heights. The tallest buildings on the site are located at the entrance, along Okeechobee Blvd. to act as a face to the development. Besides the 14-story condo building and the tall office buildings, most other buildings are between three and four stories tall. This seems to be the desired density to sustain the businesses on the site.

The last conclusion to be made about City Place is how the site incorporates an iconic building. The restoration and adaptive use of the 1920s-era Spanish Colonial Revival church has truly created an icon for the entire site, as well as established a sense of place.

Orenco Station Town Center

Portland, Oregon

Location: Hillsboro, Oregon, ten miles west of Portland
Project Type: Mixed-use Town Center in a TOD new urbanist community
Size: 7 acres (Town Center Only)
Date Designed: 1995; Date Opened: 2002
Landscape Architects: Walker Macy
Client: City of Hillsboro
Uses:

- Retail and Dining: 70,000 square feet
- Office: 31,000 square feet
- Residential:
  - Loft Residences above shops: 22
  - Live/work townhomes: 28
  - Total: 50
- Civic: Central Park located just to the north of the town center.

(Bohl 2002, 251)

Conclusions About Orenco Station Town Center:

The layout of the blocks is probably the most valuable thing to be taken from this study because building layouts, street layouts, parking layouts, and how the three relate, can be observed. The parking at Orenco is all in the interior of the block (except for on-street parallel parking), hidden from the street. This is a desirable characteristic of Orenco Station's design that can be applied to the Nova mixed-use project.

One primary feature of Orenco Station is that the tallest buildings are near the main vehicular circulation route. This is quite successful because it creates a "face" to the development, and helps to set up an identity to passers-by. This also can draw people into the site, by acting as a disclaimer that this site is a dense, thriving place.

Portland State University

Portland, Oregon

Portland State is located in the urban fabric of downtown Portland, Oregon. While it is obvious that most buildings surrounding campus where not planned according to each other, but rather as single buildings in a larger context, they for the most part have similar uses. Much of the development directly surrounding the university is student housing or offices located above retail, restaurants, or convenient stores. Building heights range from three stories to twenty-plus stories.

Conclusions About Portland State University:

The first thing to be noticed about Portland State is the activity level of the park. The park serves as the primary pedestrian circulation system, and people seem to embrace this. Although the only activity that can take place in the park is walking or sitting, the space is typically full of people because of the surrounding uses. Classrooms, offices, shops, and residential all front onto the open space, establishing the park as a high-activity zone.

Another thing to be discovered on the campus is how vehicular circulation and pedestrian circulation work together. The tightness of the streets, materials used, and uses of the surrounding buildings help to slow traffic, and announce to drivers that pedestrians have the right-of-way.

PSU's campus is also a good example of how to design vehicular circulation and parking in an urban context. Some would argue that parking garages are less desirable to look at than other buildings, and should be hidden. However, parking garages are inevitable in an urban context, and should fit into that context by incorporating a unifying architecture as surrounding buildings, being secure and safe, well lit, and user-friendly.

The last conclusion about the campus is the location of important buildings, and the use of iconic buildings. Most of the important buildings on campus (library, dining hall, etc.) are located adjacent to the park. This makes sense because the park is the primary circulation route. Also, iconic buildings give the campus a real sense of place and establish an identity.

Connecting

Campus & Community

Part Two: Design



Wayne Huizenga School of Business and Entrepreneurship. Jon Champlin.

Design Introduction

The design of this project is a direct result of research, site inventory, site analysis, precedent studies, and working through multiple design concepts. The design process includes four distinct parts: design principles, design goals, schematic design, and final design. Each part of the design process is centered around the design principles of place making, connections, and community. The design principles are used to inform, communicate, and ultimately evaluate the design of the project. The design principles are formed by a culmination of research, literature, and precedents. Design goals are also used to implement the literature as well as Nova's needs and the community's needs into the project. The schematic design phase generates three different and unique site layouts that are evaluated in terms of place making, connections, and community. The final design of the project is a product of the schematic design evaluation, design principles, and design goals.

Chapter 3: Design Principles

Each design principle is made up of several, importantly related components. From research, it is evident that these components are the ones that must be achieved when designing and planning a mixed-use project of this nature to achieve the overall design principle. The individual components of each design principles are:

Place Making:

1. Identity
2. Security
3. Location
4. Appropriate Building Type/Massing
5. Materials
6. Function
7. "Centre of Human Existence"
8. Energy and Idealism
9. Iconic Form and Function

Connections:

1. Way-finding
2. Relationships
3. Orientation

4. Landmarks
5. Gateway/Sense of Entry
6. Destinations
7. Efficient Circulation

Community:

1. Gathering Places
2. Streets and Pathways
3. Town Center Buildings
4. Dimensions
5. Ratios of Space
6. Activities/Experience
7. Interaction
8. Diversity
9. Shared Amenities

Place Making

Place making is one of the hardest principles to define because while it is made up of program elements, functional elements, amenities, natural systems, and social systems, it is not those individual objects or systems but all of them working together that create a place. Place making is the design principle that attracts people to the site and keeps people coming back after they've visited. It increases the quality of life for those who experience the place. For this project, the design principle of place making is encapsulated by nine distinct and defined components. Place making is established by identity, security, location, appropriate building type/massing, materials, function, centre of human existence, energy and idealism, and iconic form and function. These components define in detail what place making/sense of place is and what elements create it.

Identity refers to a place's quality of uniqueness to its surroundings. Having a strong identity allows a place to be well known and easily recognizable. Identity is formed from a combination of a place's components and social structure (Relph 1976, Preface). Every place has an identity, but not all identities are good. The designer's task in any project is to produce a quality identity for the project that is lasting and memorable. (Relph 1976; Kenney 2005; Bohl 2002, 12-14)

Security in terms of place refers to general safety, privacy, as well as protection from the elements. Feeling safe and secure is a primary reason for people to enjoy a place or not, and to have a

desire to return. General safety can be achieved through design by creating an environment that has a coexistence of vehicles and pedestrians, lighting, and visibility. Sufficient signage and site lines for drivers and slow traffic help to keep pedestrians safe. Privacy can be implemented in design by simply separating public from private realms. Also, supplying some intimate spaces in the public realm helps to give the general public a sense of privacy if they so choose. Protection from the climate is a key security issue in the south Florida region. The summer days can be brutal if there is no relief from the sun. Therefore, the implementation of shade structures and the limitation of heat-absorbing material such as pavement will be important in design. (Relph 1976)

Location goes hand-in-hand with place. The location of a project site is essential to its success. Proximity is an important aspect of a project's location. The program for the project can be a direct result of proximities to the site. Location also refers to the layout of buildings and other program elements on the site (where elements are located). Site layout has as much, if not more, importance as the site location in terms of the project's success. Relationships will begin to form according to how program elements are located on the site. This gives the landscape architect or site planner a unique opportunity to cultivate relationships between program elements. (Gaines 1991; Calthorpe & Fulton 2001)

Appropriate Building Type/Massing can be one of the most important components of a project's sense of place because people often associate "place" with the buildings that compose that place. The decision regarding the appropriate building type and massing can be made by looking at the project's use, history, and architectural style of the region or client. The building's use plays a huge role in deciding its massing because the floor plan or height must be sufficient to house that particular use. Site history can inform the building type or massing as well. Since the project is a university that has many other buildings, it is important to study the other building's type and massing to understand what has been successful and what has been unsuccessful. Finally, the architectural style of region can play a part in appropriate building type and massing. Depending on the project's goals, the design may call for a building type and massing that matches, is similar, or completely in contrast to that of the site or region. (Gaines 1991; Kenny 2005)

Materials play a large role in a project's sense of place. The use of quality, detailed materials will show site users that the place was made with pedestrians in mind, and at a pedestrian scale. Use of native materials will convey site and regional context. Using materials that last longer than others will also contribute to the sense of place (as well as the identity) since they will give the project permanence. (Relph 1976; Kenney 2005)

Function may be the most significant component of the sense of place principle because a site must function for it to become a place. Function refers to how the site operates on a daily basis, but also to the multiple functions working together on the site. Each program element has a specific function that will contribute to the place, and the combination of all functions is what will make up the user experience of the place. Function also covers the not-so-glamorous side of a project: service access. All buildings require services as well as produce waste. Taking care of those services and disposing of the waste is something that must be addressed for a project to function properly and efficiently. (Relph 1976)

Centre of Human Existence "The essence of place lies in the largely unselfconscious intentionality that defines places as profound centres of human existence. There is for virtually everyone a deep association with and consciousness of the places where we were born and grew up, where we live now, or where we have had particularly moving experiences. This association seems to constitute a vital source of both individual and cultural identity and security, a point of departure from which we orient ourselves in the world," (Relph 1976, 43). In short, a place can become a centre of human existence because of its importance to a particular user's experience in that place. The problem at hand is designing that place to attract people to it so that they ultimately have a deep association with and consciousness of the place.

Energy and Idealism is possibly the largest social benefit that a college or university can offer its community. The energy and idealism of the institution is established through the students and their activities on the campus. Therefore, designing for and proposing activities for the students to interact will be important to achieve this component of the Sense of Place design principle. (Kenney, Dumont, Kenney 2005, 68)

Iconic Form and Function refers to the hierarchy of buildings on a site. Whether they are administration buildings, classrooms, field houses, or student unions, there are usually one or two buildings of great importance on a college campus. These buildings are the

objects that come to mind when someone thinks of a given campus. The importance of the building may lie in the form or the function of the building, but most of the time it is due to both form and function. The establishment of an iconic form ultimately supplies a landmark in the design, something that people associate with, which helps to establish sense of place. (Relph 1976; Bohl 2002)

Connections

The design principle of connections will establish a link between site users and the site, the businesses, the campus, and the other site users. Ultimately, if achieved, this design principle will help people to feel comfortable and at home when on the site. Connections is comprised of way-finding, relationships, orientation, landmarks, gateways/sense of entry, destinations, and efficient circulation.

Way-Finding refers to the tools used to convey location and directions to people moving around the site, which includes signs and other graphics. Effectively placing these way-finding tools will facilitate the connections design principle by connecting people from where they are to where they need to be. Also, the design of the way-finding tools must fit with the design of the site, be visible, and be legible from a variety of distances. (Bohl 2002)

Relationships consider how program uses are connected together (how they are related). Implementing important relationships between program elements or objects can range from physical connections to visible connections. Buildings on opposite sides of a street have a relationship to one another and to the street, as all three elements compose the size and shape of the streetscape. This type of relationship is a physical connection. A visible connection would include a view corridor leading to an important element, a view shed of an important area, or a focal point from many different view points. Ultimately, relationships strongly enforce the design principle of connections. (Bohl 2002; Kenney 2005)

Orientation is most specifically referring to how a site is designed, whether it is vehicle or people-oriented and how buildings are oriented toward the street or not. The experience of a site is much different on foot than it is in a vehicle. The

scale, speed, detail, visibility, and how interactive the site is are all different. For people to feel connected to a site, they need to feel that the site is people-oriented, not vehicle-oriented. Drivers or passengers of a vehicle may remember a place that they have driven by, but they do not connect with that place the same way they would have if they had interacted with it outside of the vehicle. Likewise, building orientation can offer much in terms of connecting people to a site. Are the buildings oriented to the street? Are the buildings oriented away from the street? Are buildings oriented in such a way to be easily accessible? People will not feel connected to a site if they are not connected to the buildings. The design of the site to be people-oriented and the appropriate orientation of the buildings is key to the connections design principle. (Bohl 2002; Gaines 1991)

Landmarks are prominent objects or elements that are of some importance due to their form, function, historical importance, or cultural importance. "Locations such as the end of an axis or special intersection may justify a special building, such as a library or chapel," (Kenney, Dumont, Kenny 2005, 192). They may also serve as a guide to way-finding. When designing, it will be important to locate landmarks at key locations on the site to allow them to be visible and well-recognizable. It will also be important to understand exactly what the landmark(s) will be. The landmark must be some object or element that is of importance to the project's site, history, culture, function, or form. (Lynch 1960, 48; Kenney 2005)

Gateway/Sense of Entry is not referring to an actual gateway, but to the implementation of an arrival or sense of entry. The primary goal of this component is to supply a sense of arrival to every-day site users and visitors alike. This gateway or sense of arrival can be achieved by orienting building entries toward the site access points, by creating symmetry on either side of the entryway, by the use of entry features such as signs or vegetation, and by framing the entry on either side to set up a view corridor to a major site element. Supplying a sense of entry for people when they come to the site will begin to connect them to the site as soon as they arrive, which supports the design principle of connections. (Kenney, Dumont, Kenney 2005)

Destinations are any places where people need be. Without destinations, site connectivity would not be important. Destinations beckon people from around the site, and require that there be sufficient routes to arrive at the destination. Important destinations should be located along or at the terminus of major circulation routes. (Calthorpe and Fulton 2001)

Efficient Circulation in terms of getting around a site is very important. For a site to be well connected, it must contain an efficient circulation system. The site should be open and without much limitation or distraction in terms of moving around. However, this does not mean that circulation should not be diverted around store fronts. On the contrary, circulation should be located directly adjacent to public businesses or offices, but also be efficient. (Bohl 2002)

Community

Community as a design principle is used to establish the project in its current community and to provide a sense of community through design. The design principle of community is made up of gathering places, streets and pathways, town center buildings, dimensions of space, ratios of space, activities/experience, interaction, diversity, and shared amenities.

Gathering Places are key features to the success of town centers. Supplying a variety of gathering places is important; including but not limited to public plazas, village greens, town squares, and open green space. These gathering places provide public space for social interaction to occur, which is central to the design principle of community. They also provide space for events such as markets, fairs, festivals, and coronations. Gathering places are driven by the activities that take place there, but they must be composed in such a way to fully cater to those activities in order for the places to become thriving centers of public interaction. (Bohl 2002, 59-66)

Streets and Pathways are critical to a community. They are not merely a means of moving from one point to another. Streets and pathways should be pleasant environments for both motorists and pedestrians, should connect buildings to public spaces, and should provide pedestrians with a sense of discovery as they move around the site. Not only should they connect buildings to public space, streets and pathways should be public space themselves. They should be places for people to interact with the place and with each other. (Bohl 2002, 66-70)

Town Center Buildings "Buildings not only need to effectively mix land uses and activities but must (1) define the public realm of streets and urban open space; (2) create a human-scale, immersive environment that maintains the atmosphere of a traditional town center throughout; and (3) balance the needs

of businesses and civic facilities (which require delivery areas and public access) and the needs of residents (who need privacy and quiet)" (Bohl, 71). Mixed-use or live/work buildings are the most appropriate town center buildings as they supply businesses but also residential. This dynamic creates a vibrant and diverse environment, which supports the idea of community. Buildings not only house businesses and residents, they establish the design vocabulary of communities and the rhythm of streetscapes. A common building type and massing will help to establish a given site's continuity. This building type and massing should be indicative of the area, but unique at the same time. A town center should fit into the larger context of a community, but should stand alone as its own component. (Bohl 2002, 71-78)

Dimensions of Space refers to the overall dimensions of a community (city blocks, right of ways, etc.) and the specific dimensions of program elements such as gathering places, streets and pathways, and town center buildings. Any development should fit into the "urban fabric" of the community for which it is a part. Blocks, right of ways, buildings, and open space should be of similar size and orientation as the larger community. Likewise, gathering spaces, streets and pathways, and town center buildings should be designed to be the appropriate size and dimension to cater towards the larger community. Size and dimension of space should also promote community interaction. For example, a gathering space should be the appropriate size and dimension for its defined activities to occur, however multi-versatile they may be. (Bohl 2002; Kenney 2005)

Ratios of Space in terms of design speaks to the three dimensions of space and how they relate to each other. This component is a very basic aspect of design, but can be one of the most important principles when creating an environment that is inviting to pedestrians. Streets in suburban neighborhoods are usually wide and difficult to cross, with buildings of one or two stories lining them, creating a ratio of up to 1:6 and higher. This high of a ratio does not create any sense of enclosure and is not considered walkable. A more pedestrian focused environment deals with a much tighter ratio of 1:1 or tighter. Tight ratios slow traffic which increases store-front visibility to motorists and increases a development's walkability. (Bohl 2002, 67-68)

Activities/Experience are the origin of interaction in a community. The activities and experience provided through design should be at the forefront of the design process. Any of the adjectives of a community that attract people (thriving, interactive, energetic, etc.)

are defined in the experience of the site user. Activities that are defined through design ultimately establish a user experience. It is the user experience that attracts people to the site, and eventually defines the community. (Kenney, Dumont, Kenney 2005, 47-59)

Interaction in any form is vital to the quality of life for people living in a community. "In many cases, people select their homes or their business locations specifically for this reason – the ability to interact frequently with other people in ways they believe to be positive for their lives and their work," (Calthorpe, Fulton, 2001, 37). Especially on a college campus where the expansion of information and theory is always present, interaction is extremely important. Interaction between students, faculty, the public, and a combination of any or all three will establish a unique community. (Kenney, Dumont, Kenney 2005, 105-119)

Diversity is possibly the most famous component of a community, when the discussion is based on demographics. However, diversity in the terms of design is of equal importance to the creation of a community. Offering a diverse range of program elements, gathering spaces, and activities will establish an attraction from the surrounding area. (Bohl 2002)

Shared Amenities foster community by establishing elements for all to enjoy. Shared amenities are anything that is open to the public and include public open space, fountains, trails, and even plantings. The primary purpose of shared amenities is to increase the quality of life for daily site users or site visitors. (Van der Ryn and Calthorpe 1986)



Nova Student Union Entry Drive and Fountain. Jon Champlin.

Chapter 4: Design Goals

Design goals are informed by literature, Nova's needs, and the surrounding community's needs. As a designer, it is important to set forth goals at the beginning of the design phase to have something to strive for in the design. These six design goals of place making, connections, community, campus, sustainability, and overall will create a unique project for Nova and the surrounding community if attained. Each design goal is detailed to help explain how the goal will be implemented or achieved.

Place Making

- Make the development welcoming by creating a place where people feel comfortable and want to be.

- Create an exciting environment through a unique energy and idealism.

- Create an icon by supplying a physical and social identity, by providing defined activities, and by using appropriate buildings. d. Attract people to the site through the character of the space and by supplying lively businesses, uses, and activities.

- Create a coexistence of vehicles and pedestrians.

Connections

- Connect the site to the campus both physically and socially through architectural style and shape, streets and paths, materials, activities, and uses.

- Connect the site to the community through visibility, architectural style, streets and paths, and materials.

- Connect people to the site and to each other by efficient site layout, safety, activities and uses, and relationships.

Community

- Instill a sense of community within the campus through gathering places, streets and pathways, and town center buildings. All exploit interaction.

- Use common spatial dimensions, spatial ratios, building type, and building massing to create some uniformity for the project.

- Design and implement shared amenities between the community and the university.

Campus

- Create a place that will be a catalyst for future campus development by incorporating campus and community in one location to work together.

Sustainability

- Introduce best management practices where possible to increase site permeability and improve storm water management.

- Design the site in such a way to improve site walkability to reduce vehicle dependency and CO2 emissions.

Overall

- Produce a comprehensive project that implements concepts and research through defined design principles to show a detailed and informative connection between theory and practice.



Nova Campus. Jon Champlin.

Chapter 5: Schematic Design

For the schematic design phase, three different concepts have been created. Each concept is explained and then evaluated using design principles. Evaluations are allocated for each concept according to that concepts's potential to achieve the individual design principle component if it were to be carried forward into the final design phase. Evaluations are given as a quantitative value of 1, 2, or 3 with 1 being no potential and 3 being highest potential. These quantitative values are not weighted or prioritized, but are a means for the designer to compare the concepts to each other based on individual design principles and components and to make a holistic assessment of the three schematic design concepts. Each component is interconnected to the next, and it would be difficult to say that one principle or component is more important than the next.

The concept that produces the best scores will be the concept to be carried forward into the final design. However, if the other two concepts implement effective design principles, those principles may very well be useful when designing the highest scoring concept in further detail. This allows the design process to evolve and implement the best ideas possible at the final design phase. Each concept is evaluated on the basis of how well the plan and design of the concept will be able to achieve the design principles if the concept were to be designed in greater detail. This schematic design phase is for site layout and planning purposes at a large scale while the following final design phase is to explore the design principles of the project in further detail at a small scale.

Concept 1: Fluid Plan

Concept 1 (Figure 5.1 on page 45) is referred to as the "Fluid Plan" because of the layout of the site. The circulation pattern, building footprints, and exterior spaces are laid out to mimic the fluidity of the existing Nova campus. The layout of this plan fits into the masterplan of the existing campus quite well. A primary anchor to the site is the mixed-use core with buildings surrounding a high-activity zone in the central plaza. The medical research center is located to the north of the site and has a direct connection to the existing medical building on campus north of the site. The library is located on the east side of the

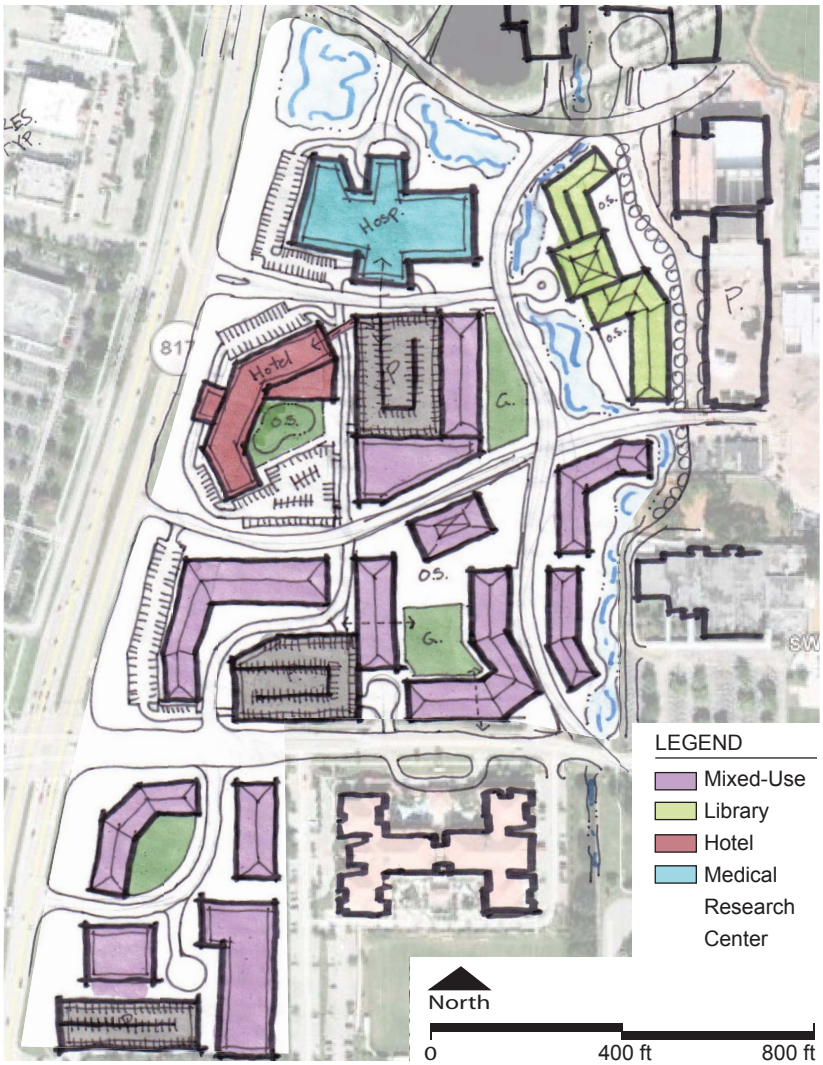


Figure 5.1. Concept 1 - Fluid Plan. Jon Champlin.

Schematic Design Evaluations	
Scoring: 3=Potential; 2=Applicable; 1=No Potential	
	Concept 1: Fluid Plan
Design Principles:	
Place Making	
Identity	2
Security	3
Location	3
Appropriate Building Type/Massing	3
Materials	Unknown
Function	3
Centre of Human Existance	Unknown
Energy and Idealism	3
Iconic Form and Function	3
Evaluation (Avg.)	**2.9**
Connections	
Way-Finding	Unknown
Relationships	2
Orientation	3
Landmarks	3
Gateways/Sense of Entry	3
Destinations	3
Efficient Circulation	3
Evaluation (Avg.)	**2.8**
Community	
Gathering Places	3
Streets and Pathways	3
Town Center Buildings	3
Dimensions of Space	2
Ratios of Space	2
Activities/Experience	3
Interaction	3
Diversity	3
Shared Amenities	3
Evaluation (Avg.)	**2.8**

Table 5.1. Concept 1 Evaluation. Jon Champlin.

design so that students and faculty from other campus buildings will have easy access to it. The hotel is located adjacent to University Drive for visibility and site entry purposes.

Concept 1 receives a score evaluation of **2.9** for the design principle of place making (Table 5.1). The site layout, elements, and opportunities for social structure of this concept work well together. However, the concept is only unique to the campus and community because of its site density, giving the concept an opportunity to create an identity but not fully establishing it. Security is achieved because of the diversity of public and private program elements and spaces and the focus of the site being on pedestrians not on vehicles. Location is accomplished by the placement of buildings on

site that correspond to each other or to other buildings off-site. The realignment and location of the canal is also desirable as it sets the canal up to be a shared amenity and linking element for the entire site. Buildings are appropriately sized for their uses and are logically located on site, with important relationships between program elements, so that the site will function well. Concept 1 instills energy and idealism because of the diversity of buildings and spaces and the different types of activities that can take place in those buildings and spaces for the students, faculty, and general public. The form and function of the student activity center is iconic, standing alone adjacent to the central plaza. This building coupled with the plaza creates a social iconic form and function while the library produces an academic form and function. Overall, Concept 1 is designed in such a way that if it were to be developed in more detail, it would supply a solid base for the design principle of place making to be reached.

The design principle of connections receives a **2.8** evaluation in Concept 1 (Table 5.1). Relationships have been touched on but not fully explored with the program elements. Physical connections of buildings-to-streets have been produced but visible connections are minimal. Orientation is successful in Concept 1 because buildings are pedestrian and street oriented and invite people to enter instead of shielding the street environment from the building interior. Landmarks are very present in Concept 1. The medical research center, library, and student activity center can all be considered landmarks because of their massing, architectural style, building footprint, and use. Concept 1 creates a sense of entry with the hotel and medical research center entries facing the primary entrance to the site and the termination of the entry view corridor at the main entrance to the library, setting up a strong gateway/sense of entry. Identified destinations are the library, medical research center, and the student activity center and central plaza. These elements are all located adjacent to and/or at the end of a primary circulation route. Concept 1 also implements a very efficient circulation system. The completion and alignment of the Campus Loop Drive is a key element of Concept 1. This concept is designed so that if it were to be developed in more detail, the design concept of connections would be highly achievable.

Finally, the design principle of community receives a score evaluation of **2.8** in Concept 1 (Table 5.1) because the components of the principle are all attainable in this plan. Gathering places are diverse, widespread, and have many different activity opportunities in this concept. Buildings line

the streets and create a defined street edge, setting up the streets as public spaces rather than simply transitional spaces. Concept 1 establishes town center buildings with similar footprints, styles, and street frontage. There is a variety of dimensions of space that keep the spatial pattern interesting. Ratios of space are high with at least a 1:1 ratio where buildings line either side of the street. The design of this concept allows for just about any outdoor activity or experience that could be found on an urban campus. Concept 1 will cultivate interaction between students, faculty, and the public by the layout of buildings and streets. Diversity of program elements, exterior spaces, and activity opportunities is another successful component that can be found in this concept. Finally, shared amenities that include the central plaza, green spaces, street fronts, and canal can be found throughout this concept.

Concept 2: Block Plan

Concept 2, shown in Figure 5.2, is known as the "Block Plan" because of the layout of the site. The size and dimension of the blocks in this plan mimic those of the surrounding community. Buildings and streets are laid out primarily in north-to-south and east-to-west directions. This plan creates a much higher density and formal order than the rest of the campus. An open space is located in the center of the mixed-use core that transcends two separate blocks. Like Concept 1, this concept locates the medical research center, library, and hotel appropriately to respond to off-site impacts.

Concept 2 receives a **2.3** score for the design principle of place making (Table 5.2) because while it has some potential, there a few components that fall short. The design of the site is unique to the Nova campus due to its orthogonal structure, but the canal seems to separate the site which deters the social structure and the identity. Security is a high point of this concept. The diversity of open space and public-vs.-private uses is quite effective. While the location of the buildings in Concept 2 creates a nice urban pattern, the connection of Campus Loop Drive is not indicative of the campus road's alignments. Likewise, the canal is located in such a way to split the site. Buildings types and massing are effective, but the building footprints of the mixed-use core do not relate or create meaningful street walls as they should. This concept creates good potential for function and how multiple program elements will function together, especially in the mixed-use core. While Concept 2 creates a diverse range of open space and building footprints, the energy and idealism of the site will suffer because of the lack of important adjacencies, relationships, and opportunity for student

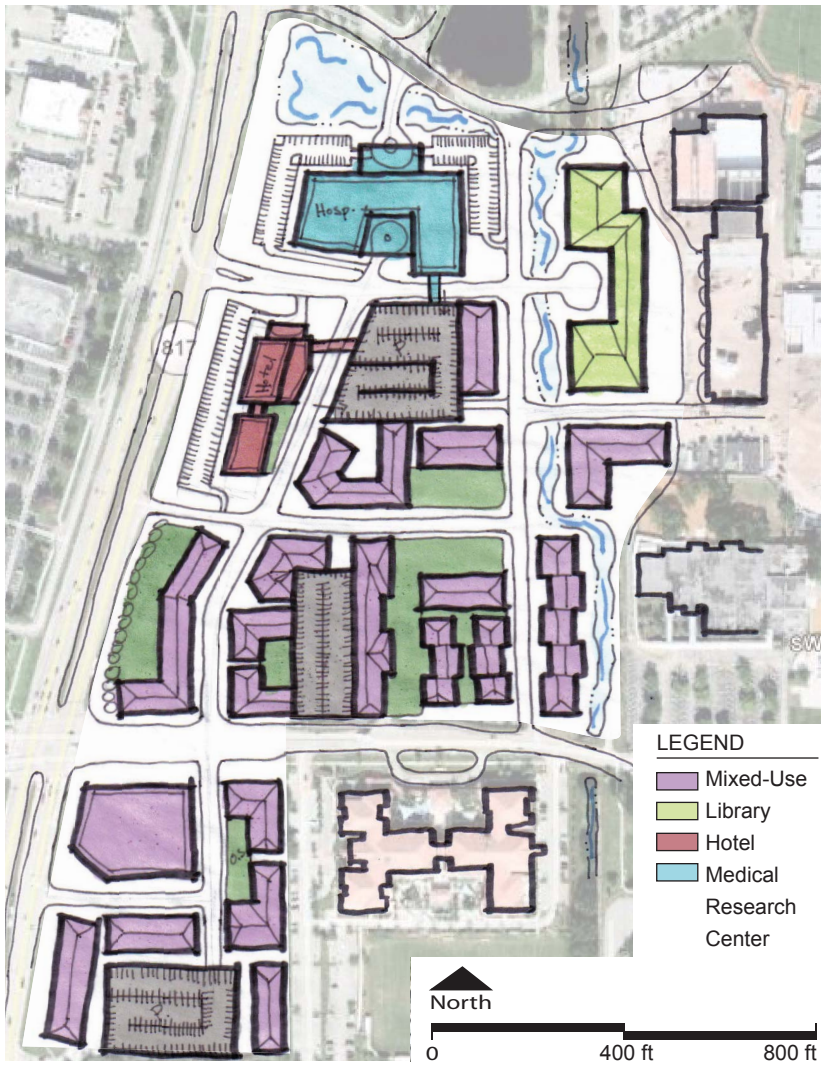


Figure 5.2. Concept 2 - Block Plan. Jon Champlin.

Schematic Design Evaluations	
Scoring: 3=Potential; 2=Applicable; 1=No Potential	
	Concept 2: Block Plan
Design Principles:	
Place Making	
Identity	2
Security	3
Location	2
Appropriate Building Type/Massing	2
Materials	Unknown
Function	3
Centre of Human Existance	Unknown
Energy and Idealism	2
Iconic Form and Function	2
Evaluation	**2.3**
Connections	
Way-Finding	Unknown
Relationships	2
Orientation	3
Landmarks	2
Gateways/Sense of Entry	2
Destinations	3
Efficient Circulation	3
Evaluation	**2.5**
Community	
Gathering Places	3
Streets and Pathways	3
Town Center Buildings	2
Dimensions of Space	3
Ratios of Space	2
Activities/Experience	3
Interaction	2
Diversity	2
Shared Amenities	2
Evaluation	**2.4**

Table 5.2. Concept 2 Evaluation. Jon Champlin..

activities. The library at the end of the main entrance to the site creates a sense of iconic form and function. However, the iconic form and function of this mixed-use project should be more centrally located and have a function that caters to students, faculty, and the public.

The design principle of connections for Concept 2 receives a **2.5** evaluation (Table 5.2). The entrances to the medical research center and to the library are excellent visible relationships, but this concept does not establish many physical relationships of a common street wall. One quality component of this concept is that the site is extremely pedestrian-oriented. The diversity of spaces, especially inner-block spaces establish this orientation. The medical research center and library are present landmarks but the site could be developed to include more prominent landmarks. An entry sequence is established by the medical

research center and hotel that help to frame the view of the library entrance. However, this sense of entry is undeveloped. Concept 2 has a layout that promotes destinations. The medical research center, library, and primary open space are all located adjacent to or at the end of a primary circulation route. The block pattern of buildings and streets establishes an exceptionally efficient circulation system.

Concept 2's design principle of community receives an evaluation of **2.4** (Table 5.2 on page 48) because there are a few components that don't have much potential in this plan. This concept is successful in implementing a diverse range and size of gathering spaces, offering spaces for multiple activities to take place. Streets and pathways are defined by a common street wall and are not only a transitional space but an interactive space. The concept also establishes a decent mix of uses and buildings but there are no buildings that stand out in the mix-use core as town center buildings. Exterior spaces, streets, and buildings have a multitude of dimensions which creates visual relief and interest. By the way buildings are laid out, they will need to be multiple stories which will create a ratio of space of at least 1:1 for lined-streets. The primary gathering space will also have a ratio of space of 1:1 or higher. Concept 2's design lends itself to a variety of activities or experiences that can take place, especially in the primary gathering space. Interaction is a strong component of the gathering spaces, but the canal separates the site somewhat, which suspends interaction. While buildings and spaces are fairly diverse, but there are no buildings or spaces that particularly stick out in this concept. Shared amenities in Concept 2 are limited to only a few outdoor spaces. The canal could be considered a shared amenity in this concept but it acts more as a functional storm water detention element than an amenity because of its layout and size.

Concept 3: Open Plan

Concept 3, illustrated in Figure 5.3 is called the "Open Plan" because of the ease and efficiency of way-finding throughout the site. There are many options for both vehicles and pedestrians to travel about the site. The site can be considered "transparent" in terms of site circulation and physical permeability. Probably the most noticeable feature of this concept is the giant open space in the middle of the site that spans two blocks and is surrounded on all sides by mixed-use buildings. This open space would generate an exciting and interactive user experience. The medical research center, library, and hotel are located in the same location as in Concept 1 and Concept 2 to relate to off-site elements.

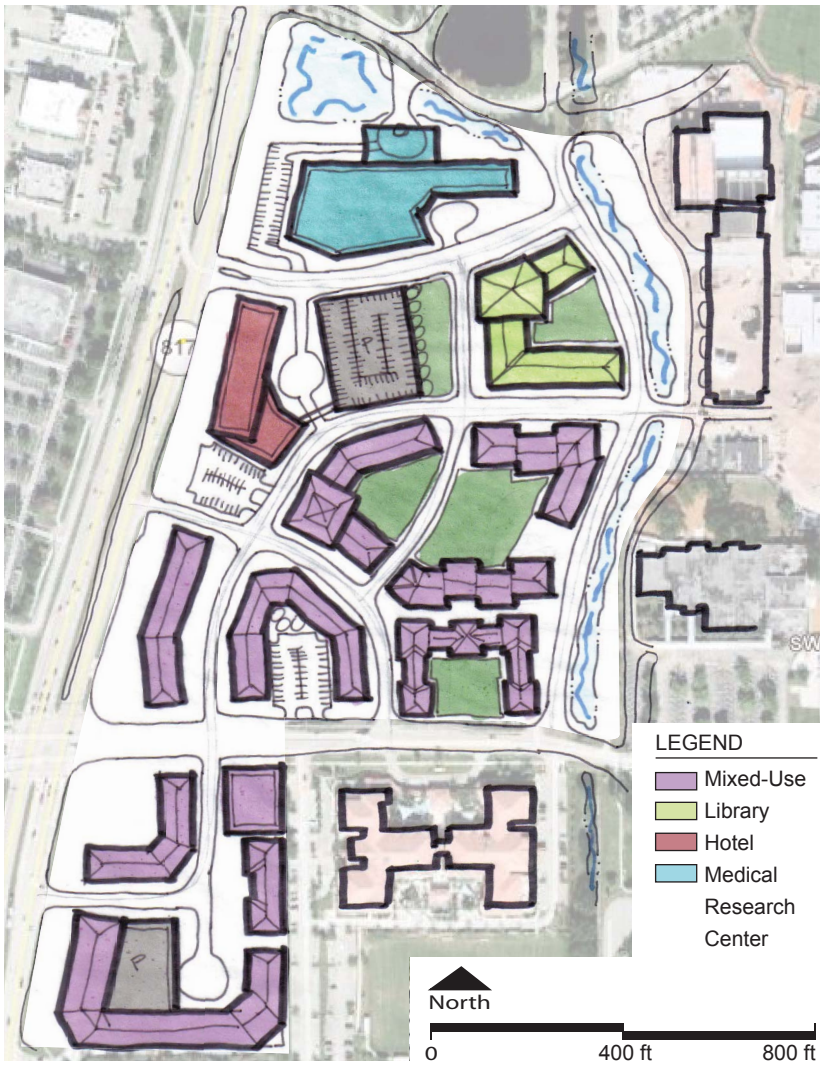


Figure 5.3. Concept 3 - Open Plan. Jon Champlin.

Schematic Design Evaluations	
Scoring: 3=Potential; 2=Applicable; 1=No Potential	
	Concept 3: Open Plan
Design Principles:	
Place Making	
Identity	2
Security	3
Location	2
Appropriate Building Type/Massing	3
Materials	Unknown
Function	1
Centre of Human Existance	Unknown
Energy and Idealism	3
Iconic Form and Function	2
Evaluation	**2.1**
Connections	
Way-Finding	Unknown
Relationships	3
Orientation	3
Landmarks	2
Gateways/Sense of Entry	1
Destinations	2
Efficient Circulation	2
Evaluation	**2.2**
Community	
Gathering Places	3
Streets and Pathways	3
Town Center Buildings	2
Dimensions of Space	2
Ratios of Space	2
Activities/Experience	3
Interaction	2
Diversity	1
Shared Amenities	2
Evaluation	**2.2**

Table 5.3. Concept 3 Evaluation. Jon Champlin.

Concept 3 receives a score of **2.1** for the place making design principle (Table 5.3) because while most of the components are present in this plan, they have not been fully utilized. The central plaza in this concept would create an interesting and energetic identity for the project. However, the rest of the site is not designed in a way to create much of a unique identity to the area. Security is a successful component for Concept 3 because of the variety of public and private buildings and spaces, and because of the number of protected open spaces. The buildings in this design are located quite well to form space and create a variety of relationships. However, there are a large number of streets which isn't desirable because streets decrease site permeability and increase heat accumulation and the canal is located in such a way that it separates the project from the rest of campus instead

of connecting to the campus. The location, type, and massing of buildings is quite successful in this concept. Building footprints and overall size are indicative of the campus and the area. The increased quantity of streets actually hurts the design in terms of function because there are minimal opportunities for buildings to have a "back" or area to locate service access. Not having enough parking will also impact this concept if it were to be designed in more detail. The central open space in Concept 3 will cultivate an interesting and dynamic student and public energy and idealism for the project because of the way the space is defined by a diverse range of building uses. Two towers are located in the design of this concept, one on the library and one in the mixed-use core, which define an iconic form. Iconic function can be seen in the central open space in the mixed-use core. However, there are not any buildings located on the site that will separate themselves as a unique and iconic form and function for the project.

The design principle of connections receives a **2.2** evaluation for Concept 3 (Table 5.3 on page 50) because most components are fulfilled but not expanded in this plan. Relationships are a strong point for this concept because of where program elements are located on the site and how they relate to each other and to off-site elements. The design is also successful in that it incorporates pedestrian-oriented spaces, streets, and buildings. Even though the design uses more than enough streets and pathways, it is pedestrian-oriented and not vehicular-oriented. Many street intersections and no long straight-aways keep traffic speeds low and pedestrian safety high. The two towers could be considered landmarks because of their verticality and location along two separate entries to the site. Concept 3 does not provide a gateway or sense of entry in any of the site access points because buildings are not oriented to the access points and there are no consistent space definitions at these points. All major program elements are located along or at the end of circulation routes, but are not set up as destinations very well because there are few view corridors that end with a destination. While there is an ample number of streets and pathways, the site does not have a very efficient circulation system. The connection of the Campus Loop Drive is not aligned very well. Streets are short and curvy which could create difficulty for someone who is not familiar with the site to find their way to where they need to be.

Finally, Concept 3 receives an evaluation of **2.2** for the design principle of community (Table 5.3 on page 50) because the design creates community but does not enhance community to its full potential through design principle components. One of the strongest aspects of this concept's design is the gathering places and their

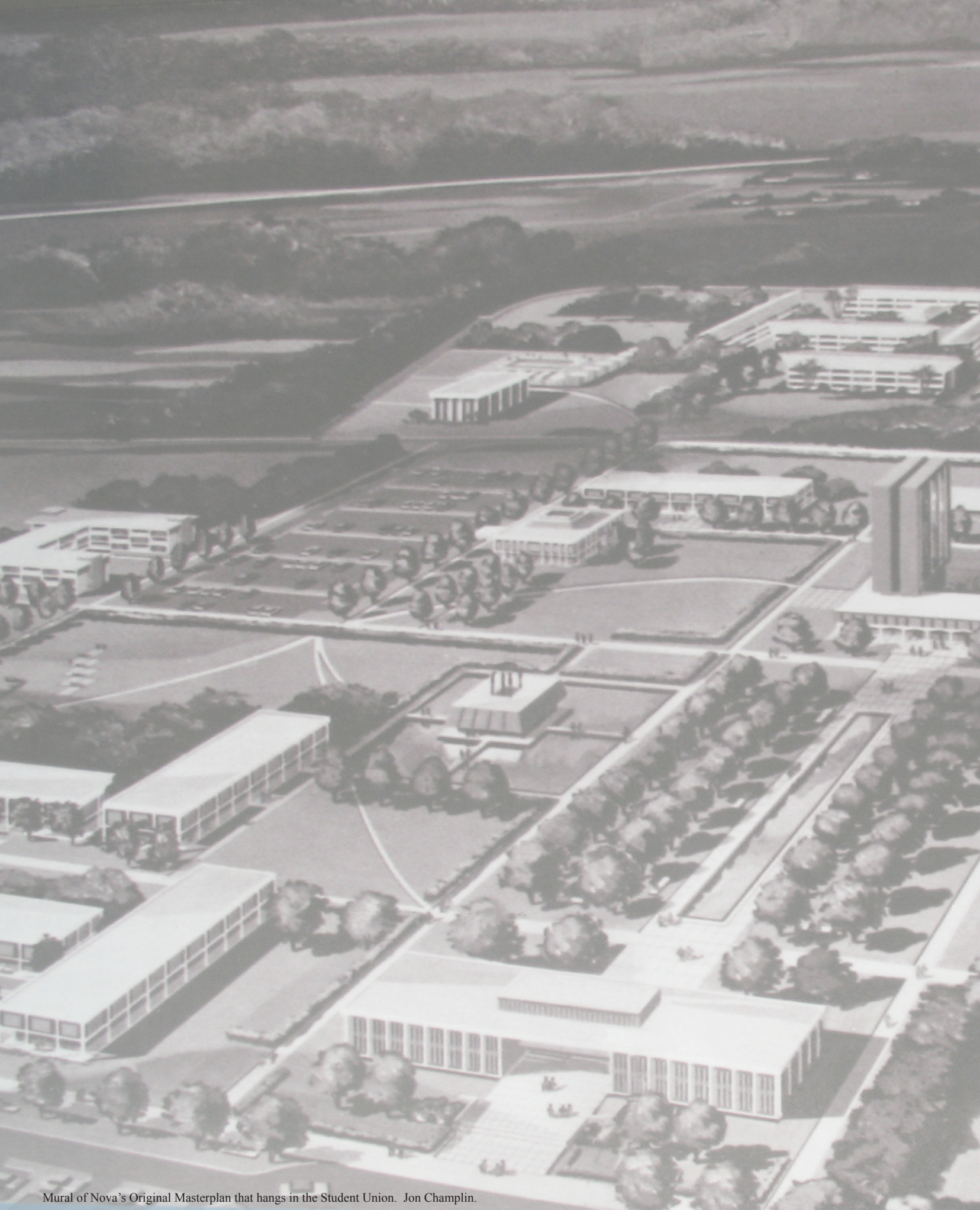
diversity of plazas and green space and how these spaces can increase interaction. Streets and pathways in this plan are also a strong aspect because buildings are oriented to the streets, defining the street and creating a civic space. Town center buildings are present in the design but are not set apart as unique or important by their form. Dimensions of space are appropriate for their program elements but this concept does not define space in the northern and southern areas of the site very well. Ratios of space are appropriate to create a pedestrian environment. The central open space in Concept 3 presents numerous opportunities for activities or user experiences including organized congregating, sitting, eating, people watching, etc. Interaction is somewhat limited in this plan because of how the central open space is shielded by the surrounding buildings and divided from the major streets. While the site offers much in terms of open space and buildings, there is a lack of diversity in Concept 3. Footprints are similar throughout the site and outdoor spaces are commonly defined throughout. The outdoor spaces are plentiful for the public to use, but that's about all that this concept offers in terms of shared amenities. The canal helps to define the site boundary but could be better incorporated as a shared amenity in the design.

Schematic Design Conclusion

The design principles and their components are used to evaluate the three different concepts. Each component is used to evaluate the concepts in terms of how much potential the concepts have to achieve the component in the final design phase. Evaluations are given as 1, 2, or 3 with 1 being no potential and 3 being highest potential. These individual component evaluations, along with the average evaluations for design principles are what allows the designer to compare the concepts in order to make a holistic evaluation of which concept is most successful. Each concept demonstrated a different way or attempt to achieve the design principles and goals for this project and each was successful in some ways and unsuccessful in others. The design of Concept 1 receives the highest evaluation for its potential to achieve each design principle and will be carried forward into the final design phase to be designed in further detail. Table 5.4 on page 53 shows the comparison across the board for the three individual concept's potential in achieving each design principle component.

Schematic Design Evaluations			
Scoring: 3=Potential; 2=Applicable; 1=No Potential			
	Concept 1: Fluid Plan	**Concept 2: Block Plan**	**Concept 3: Open Plan**
Design Principles:			
Place Making			
Identity	2	2	2
Security	3	3	3
Location	3	2	2
Appropriate Building Type/Massing	3	2	3
Materials	Unknown	Unknown	Unknown
Function	3	3	1
Centre of Human Existance	Unknown	Unknown	Unknown
Energy and Idealism	3	2	3
Iconic Form and Function	3	2	2
Evaluation (Avg.)	**2.9**	**2.3**	**2.1**
Connections			
Way-Finding	Unknown	Unknown	Unknown
Relationships	2	2	3
Orientation	3	3	3
Landmarks	3	2	2
Gateways/Sense of Entry	3	2	1
Destinations	3	3	2
Efficient Circulation	3	3	2
Evaluation (Avg.)	**2.8**	**2.5**	**2.2**
Community			
Gathering Places	3	3	3
Streets and Pathways	3	3	3
Town Center Buildings	3	2	2
Dimensions of Space	2	3	2
Ratios of Space	2	2	2
Activities/Experience	3	3	3
Interaction	3	2	2
Diversity	3	2	1
Shared Amenities	3	2	2
Evaluation (Avg.)	**2.8**	**2.4**	**2.2**
Overall Comparison	**2.8**	**2.4**	**2.2**

Table 5.4. Schematic Design Evaluation Comparison. Jon Champlin.



Mural of Nova's Original Masterplan that hangs in the Student Union. Jon Champlin.

Original Master Plan

Chapter 6: Final Design

Masterplan

The final design of this project is a result of taking the strongest aspects of Concept 2 and 3 and applying them to the general layout and design of Concept 1. The outcome is a plan which addresses place making/sense of place, connections, and community in a detailed way. Each design principle is methodically put into practice in the final design, and also used to evaluate the final design. Design principles inform and evaluate the design independently, but it is the cohesion of all design principles that makes the design.

The final design scheme focuses on place making by creating an exciting and welcoming environment with a unique energy and idealism. Pedestrian orientation in this plan is critical to establishing place. Identity, security, location, appropriate building type/massing, materials, function, centre of human existence, energy and idealism, and iconic form and function are the components of the place making design principle implemented in the design.

Connections are realized in this design through campus, community, and social connections. Way-finding, relationships, orientation, landmarks, gateways/sense of entry, destinations, and efficient circulation are components of the connections design principle incorporated in the project.

Furthermore, community is instilled in the project through the design of space and implementation of shared amenities that will enhance interaction. Uniformity in the design introduces the idea of a community. Gathering places, streets and pathways, town center buildings, dimensions of space, ratios of space, activities/ experience, interaction, diversity, and shared amenities are all components of the design principle community that are applied in a way to accomplish and enhance community.

The final masterplan is illustrated in Figure 6.1 on page 57.



Figure 6.1. Final Masterplan. Jon Champlin. Background Image - EDSA.

Masterplan Proposed

1 Medical Research Center
2 Library and Bookstore
3 Student/Public Activity Center
4 Hotel
5 Mixed-Use
6 Civic Office Space Mixed-Use
7 Central Plaza
8 Parking Garage
9 Canal

Existing Campus

A Health Professions Division Expansion
B NSU Center of Collaborative Research
C Campus Central Plant
D Administrative Support Center
F Parking Structure at University School
G Jim and Jan Moran Family Center
H Health Professions Division Complex Main Entry
I 400 Meter Track & NCAA Soccer/Football Stadium

Place Making

The site is designed in such a way to create a unique **identity**. The layout is indicative of the existing Nova campus, but the density and dynamic program elements will definitely set this project apart. Another factor that will give this design an identity is how the social structure is set up by the land uses and their adjacencies and relationships to each other (Figure 6.2). Activities that will take place on the site will also establish an identity for the project. These activities include gathering, concerts, outdoor movies, people watching, outdoor dining, and relaxation. The student activity center is another element that will establish identity because of its unique form and architectural style (Figure 6.3-A on page 61 and 62).

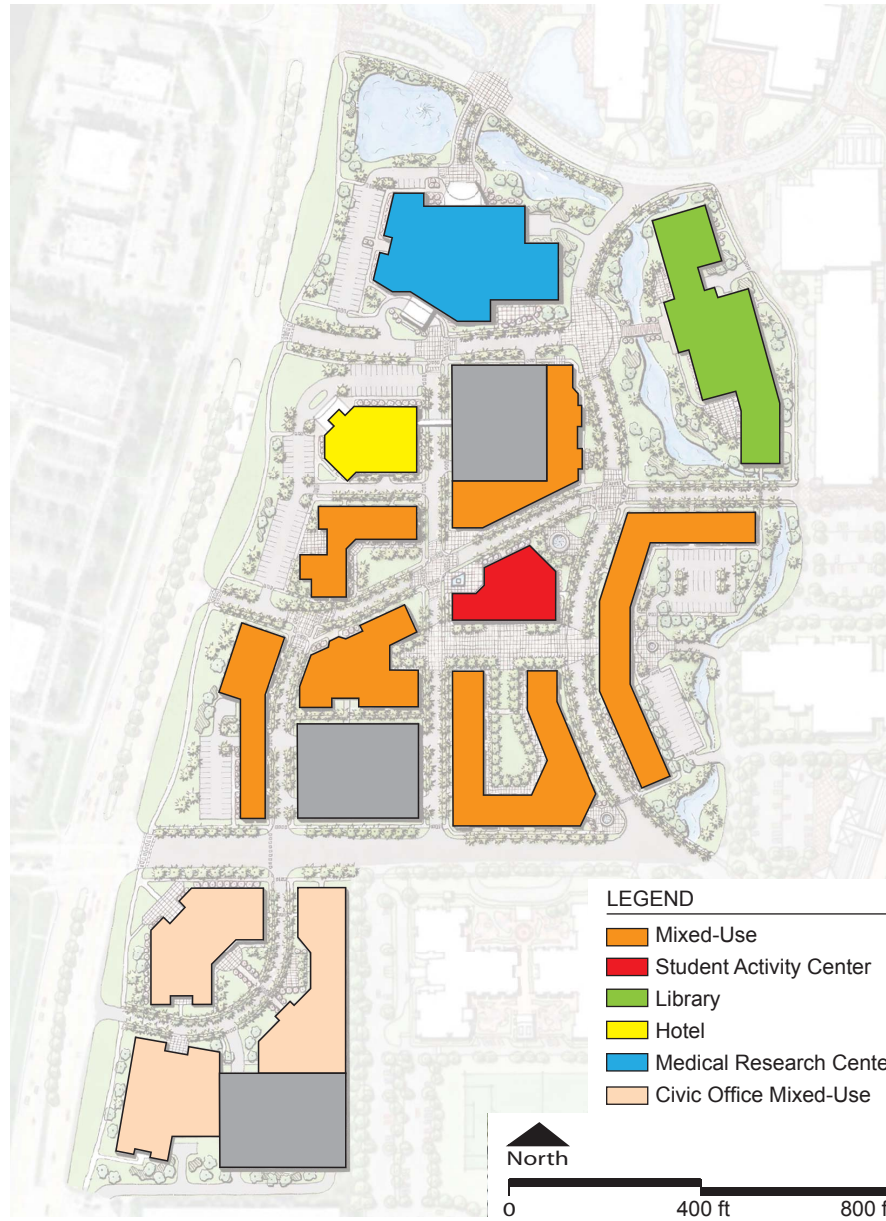


Figure 6.2. Land Use Diagram - showing adjacencies and relationships between uses. Jon Champlin. Background Image - EDSA.

The masterplan achieves a coexistence of vehicles and pedestrians in mind for **security** purposes. A place that allows people to feel safe and secure is a factor that will bring people enjoyment while on the site and will bring them back in the future. As can be seen in Figure 6.1 on page 57, all intersections in the plan have a detailed paving pattern while the streets are simply concrete to physically represent to motorists that pedestrians have the right of way on the site. Narrow streets lined with palms on either side create a close-quarters environment which slow traffic (Figure 6.1 on page 57). This leads to pedestrian security but also to store-front visibility. The slower the traffic, the more time motorists have to see businesses passing by. Lighting of streets, walkways, and buildings also gives the site more security for pedestrians to feel at ease. Another part of security is giving people the opportunity to escape from the busy public realm to a private or semi-private realm. The design of the site supplies some intimate spaces where people can escape, located throughout the site. Protection from the south Florida climate is another factor involved with security. Green space is used liberally in a highly-dense design to lessen the amount of hardscape that collects and radiates heat. Street tree canopies also provide shade on the street, sidewalks, and building fronts below which adds another layer of protection from the sun.

Site layout and **locations** of program elements has been at the forefront of the design process since the site analysis because of its importance to the social structure of the project. The locations of program elements ultimately set up where certain site users will be and how they will move about the site. The medical research center is located on the north end of the site, just south of the existing medical building on campus. An entrance on the north side of the proposed medical research center has a direct relationship to the south entrance on the existing building as the entry drives line up perpendicular off of the primary entrance to the west side of campus. The library is located on the northeastern corner of the site to allow access from the existing Campus Loop Drive to the north and the proposed mid-site campus connection to the south. Easy access to the library from the core of the campus will encourage people to walk instead of drive across campus. The hotel is located next to the main entrance to the site adjacent to University Drive making the hotel highly visible. This location caters to hotel users because most of them will not be familiar to the area and need easy access to it. Buildings located south of SW 36th Street are mixed-use with some retail, office, and government office buildings for the



Figure 6.3. Central Plaza Perspective - illustrating character of space and every-day usage. Jon Champlin.
Legend: A - Student Activity Center that establishes an identity for the project by it's form and function. B - Typical architecture for the Site which establishes a sense of unity for the project.




B

city of Davie. The student activity center, which includes student activities and entertainment, is located in the middle of the site, adjacent to Connection Avenue on the north and the central plaza to the south. The remainder of buildings on site are retail, office, restaurant, and residential mixed-use. Retail is located first and second floor only, office on any floor, and residential on upper floors. The mixed-use core located around the central plaza and formal lawn is retail and office on the first floor and office and residential above. The canal is located in such a way that it can morph by widening and narrowing to improve visual interest. Parking garages are located appropriately to supply sufficient parking for the entire site. Each program element is intentionally located to cultivate relationships and promote adjacencies. These locations can be seen in Figure 6.1 on page 57.

Architectural type and massing is an important component to this project's sense of place and identity. Architectural features and styles customarily found in this area are of a modern Spanish-Colonial style, especially in the newer buildings on the Nova campus. Colors involved in architecture include earth tones of tans, light browns, reds, and oranges. Except for the medical research center and the student activity center which are more modern, building material is primarily stucco for walls and clay tiles for roofing. Footprints and massing of buildings is actually determined more from the building usage than the architectural style. The typical architecture of the site is illustrated in Figure 6.3-B on pages 61 and 62.

Materials play a large role in place making because of how people perceive a site; they see the form but also the materials that make up that form. Pedestrians notice details such as paving type, vegetation type, and building materials. Therefore, this design utilizes quality, detailed materials that will last through time, use, and abuse from the climatic elements.

Function, or how this site will operate on a daily basis, is extremely dynamic. Form establishes function by the way program elements are designed. There is the medical research center which will require public, semi-public, and private areas in and around the structure to ensure safety and cleanliness. The west side of the building is primarily public which is fitting because that side of the building faces the extremely busy University Drive. However, the east side of the building is more private and not open to the public to allow for the research center to function to its full potential. The library cultivates a quiet and calm atmosphere for students, faculty, staff, and the general public by isolating itself with a landscape buffer

surrounding the entire structure. The student activity center is designed in a contemporary style to become an iconic form for the project. This form establishes a function of "new life", set apart from the rest of the site. Activities that will take place in the student activity center include recreation, gathering, events, meetings, etc. The student activity center is illustrated in Figure 6.5 on page 65. In these three buildings, it is apparent that form establishes function, and it's those functions operating together on a daily basis that will impact a user's experience.

This site readily becomes a "**centre of human existence**" as Relph explains. It sets up a distinctive and dynamic form, function, and density for the university and the surrounding community. This distinctive density is illustrated in Figure 6.4. Program elements such as the medical research center, library, and student activity center attract people from the institution while program elements such as retail, office, and entertainment attract people from the community. This combination of campus and community is an integrated environment that will attract

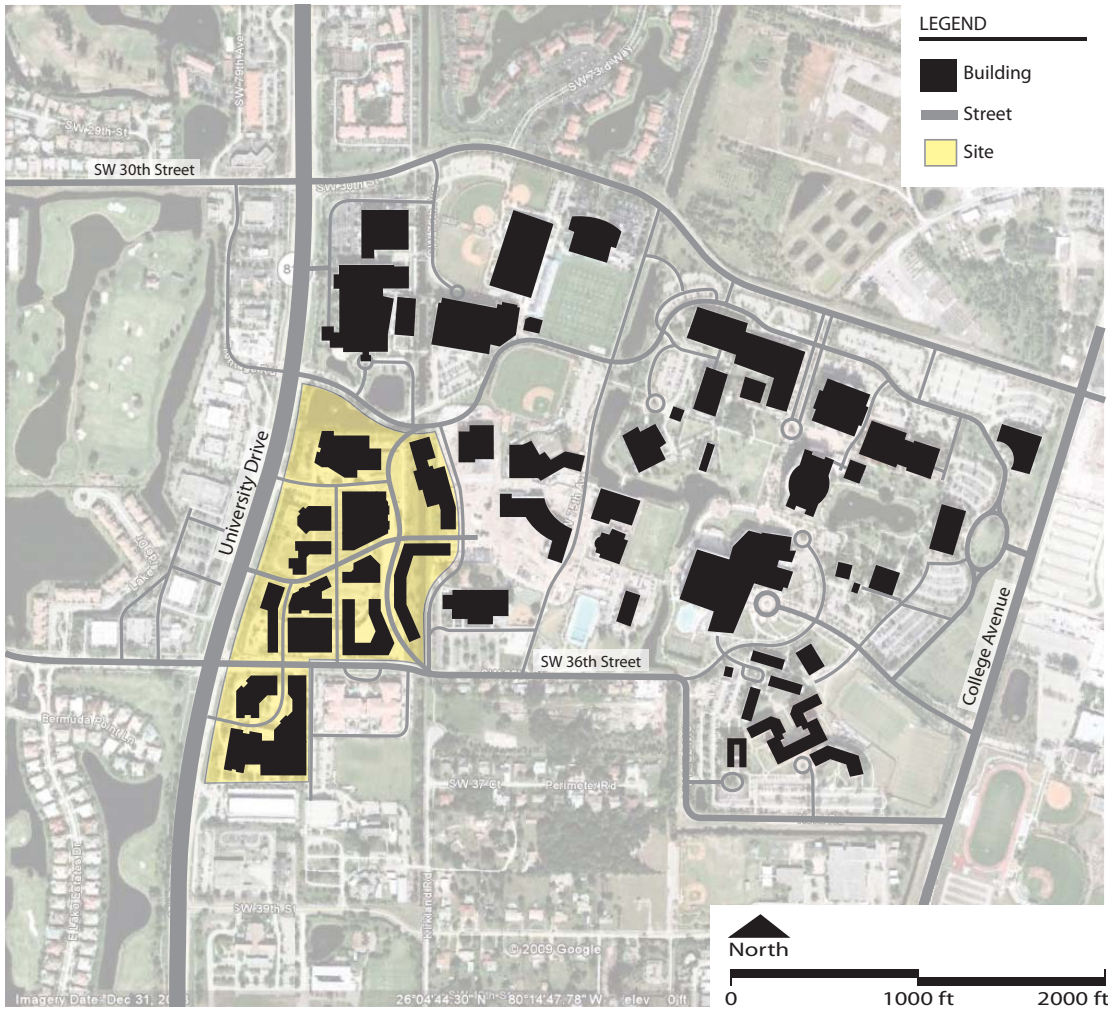


Figure 6.4. Figure/Ground Diagram - displaying the distinct density of the site and the campus. Jon Champlin.

many different types of people to one location.
The social structure set up by this combination is what establishes the project's **energy and idealism**. Activities that are not only catered to the students but to the general public are centered around the student activity center and central plaza (Figure 6.3 on pages 61 and 62). These activities include recreation, gathering, entertainment, events, and people watching.

The implementation of the student activity center as an **iconic form and function** is one component of this design that sets it apart (Figure 6.5). The building's footprint, architectural style, and structure are all unique to the site, campus, and surrounding community. The main entrance for the building is visible as people enter the site via Connection Ave from University Drive (Figure 6.5). This form, coupled with the vibrant function of the building and central plaza space are what define it as iconic. The student activity center becomes an icon, something that people associate with that helps to establish place.

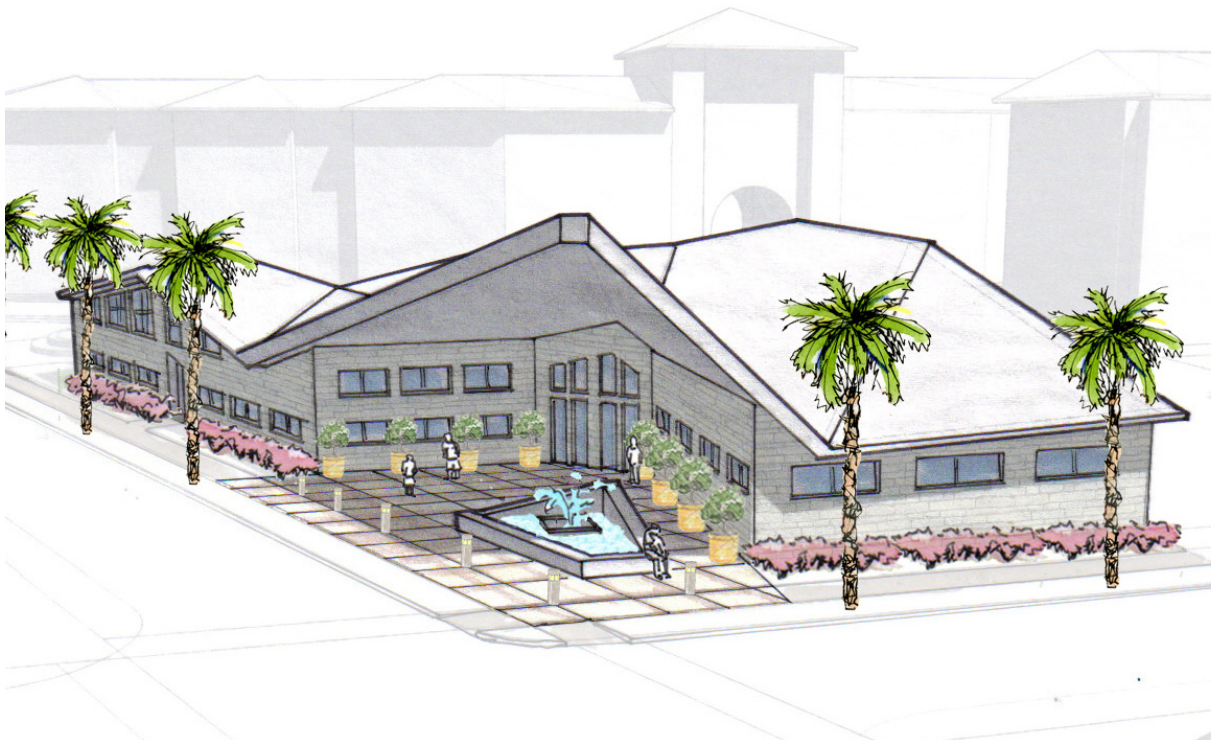


Figure 6.5. Student Activity Center - supplies an icon for the project by its form and function. Jon Champlin.



Connections

Way-finding tools in this design are not unique to the project but to the campus. Signage is designed to match that of the existing campus and university buildings. A distinctive signage vocabulary for the campus will establish coherence and compatibility for Nova's entire signage system and help to produce an identity for the campus because signage is something that attracts attention. Vehicular and pedestrian signage are the two different types of signage that are introduced in this project. Each type of signage is indicative of what can be found on the rest of the campus. Figures 6.6, 6.7, and 6.8 illustrate existing campus signage that will be used throughout the project site.



Figure 6.6. Pedestrian Light-Signage. Jon Champlin.



Figure 6.7. Pedestrian Way-Finding. Jon Champlin.



Figure 6.8. Vehicular Signage. Jon Champlin.

Relationships in this project include physical connections and visual connections. Physical connections incorporate buildings or open space that define a street spatial system and the program elements that make up those buildings or spaces. The form of the program element defines the street but the program element also defines the relationship of the building to the street and across the street. Another type of physical connection is the street system and how it ties into off-site elements. The connection of the Campus Loop Drive is quite important, as is the implementation of the mid-site connection to campus south of the proposed library. These connections enhance the relationship between the proposed site and the existing campus. Visual connections in this design include the library entrance as a focal point of the main entrance to the site off of Shark Drive (Figure 6.9-A on pages 69 and 70), as well as the student activity center entrance as a glancing visual connection from the Connection Avenue site entrance.

The design of this site is **oriented** to the pedestrian first and to the motorist second. Buildings are oriented to the street or pedestrian spaces to create an intertwined pedestrian public network. This pedestrian site orientation encourages motorists to get out of their vehicles to experience the site on foot. The site orientation actually impacts people when they are traveling in a vehicle. Narrow, short streets keep traffic slow which lets motorists see more buildings, spaces, materials, and their surroundings in general. Furthermore, buildings are oriented to the street by the use of small setbacks, large windows open to the public, and by framing the street as a public space rather than a transitional space. This creates a unique connection for site users to the site. This orientation is evident in Figure 6.12-A on pages 73 and 74.

The design incorporates two distinct **landmarks**; one being the library and the other being the student activity center. The library is a dominant figure on any campus because of its function and academic focus. Additionally, this library becomes a landmark because of its location on the site and in relationship to the main site entrance, off of Shark Drive, in particular (Figure 6.9-B on pages 69 and 70). The main library building entrance is the terminus of the primary site entrance view corridor. Structurally, the library is tallest at its entrance, which enhances the landmark quality. Although the library is a strong landmark for the site, the primary landmark for this project is the student activity center (Figure 6.5 on page 65). Its location, footprint, architectural style, and function are what establish this building as a landmark. It is located on the north side of the central plaza. This relationship creates a highly active and energetic experience. The building footprint and architectural style

are contemporary and unique to the project, the campus, and the surrounding community.

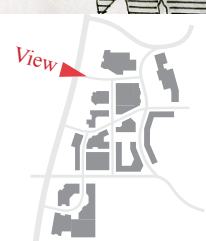
A **sense of entry** is set up at the main entrance to the site on Shark Drive by orienting the medical research center entry (Figure 6.9-C on pages 69 and 70) and hotel entry (Figure 6.9-D on pages 69 and 70) to the intersection, lining the streets with palms, and terminating the view at the entrance to the library (Figure 6.9 on pages 69 and 70). This sequence of design moves establishes the Shark Drive entrance as the primary entrance to the site from University Drive. Shark Drive was chosen as the main entrance because most site users will be accessing the site from University Drive and there is currently a break in the median of University Drive at this intersection. Other locations at Connection Avenue in the middle of the site and Civic Circle in the south part of the site establish a sense of entry by lining the streets with palms and curving the road to create a sense of adventure for motorists as they travel into the site from University Drive (Figure 6.1 on page 57). These locations that instill a sense of entry fulfill a sense of connection for site users to the site.

The design effectively implements **destinations** in appropriate locations with sufficient routes to and from those destinations. The entry to the medical research center and library are located at the terminus of internal streets. The hotel entry faces the primary site entrance. The student activity center and central plaza are easily accessible from any direction. Destinations are located throughout the site which encourages walkability, site circulation, and interaction. The location of the medical research center, library, hotel, student activity center, and central plaza are visible in the masterplan (Figure 6.1 on page 57).

Site **circulation** is a valuable asset to this design. The connection of Campus Loop Drive is aligned indicatively of existing campus roads. A diagram in Figure 6.10 on page 71 illustrates how the Campus Loop Drive is effectively aligned on the site to supply a complete and continuous loop drive around the interior of Nova's campus. The red line is the proposed connection and the orange line is the existing Campus Loop Drive system. Additionally, site access points are not changed from the existing site to reduce construction requirements, but also because they are spaced appropriately for efficient circulation. Street and walkway relationships are aligned nicely with little confusion for users. Access to parking garages is visible and easy to use.



Figure 6.9. Shark Drive Entry Perspective - illustrates the sense of entry at the main site entrance. Jon Champlin.
Legend: A - The library sets up a focal point at the end of the entry corridor. B - The library is established as a landmark by its location, form, and height. C - The medical research center entry faces the Shark Drive site entrance. D - The hotel entry faces the Shark Drive site entrance.




D
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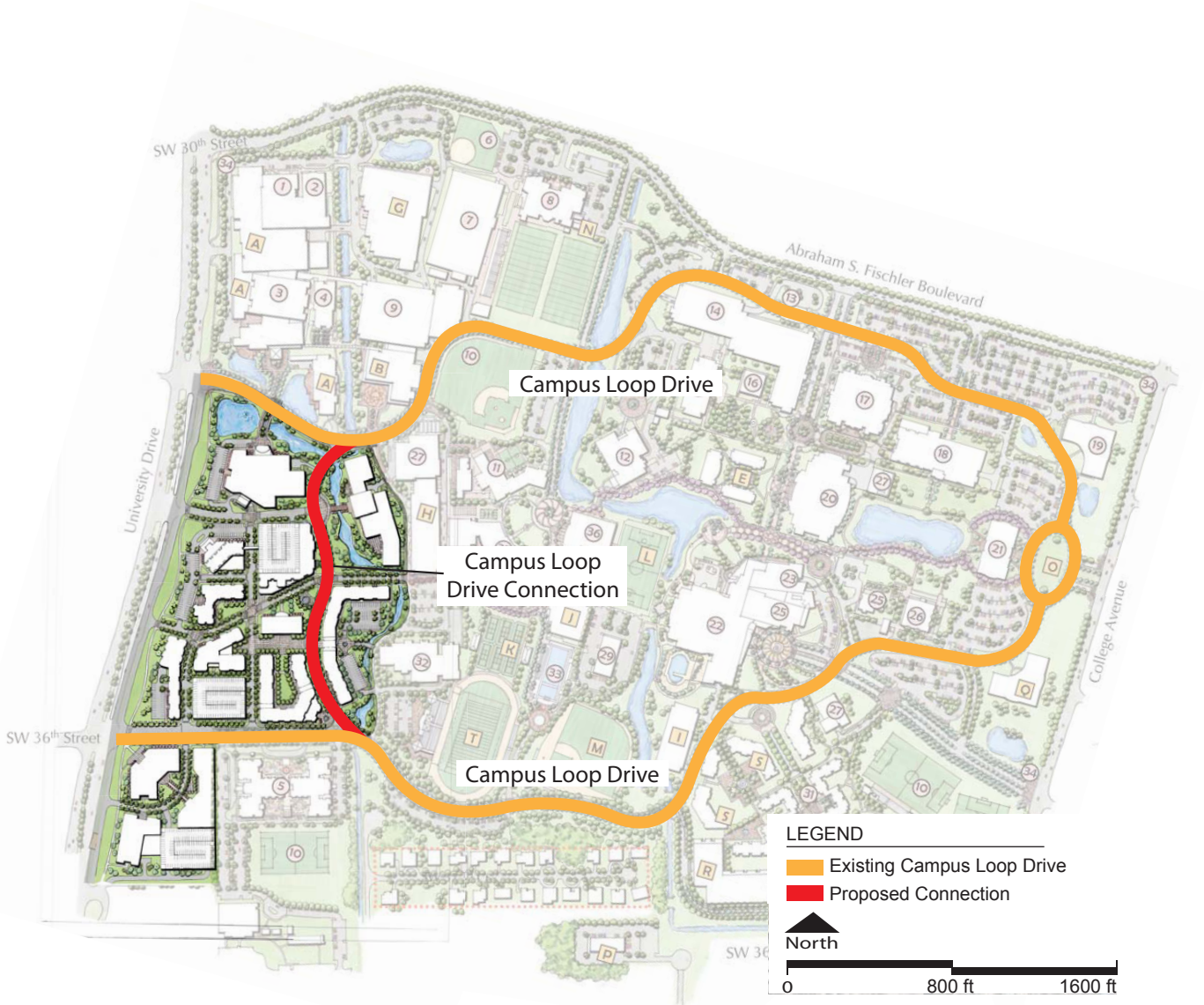


Figure 6.10. Campus Loop Drive Connection Diagram. Jon Champlin. Background Image - EDSA.

Community

The design of this project includes many types and locations of **gathering places**. The large central plaza is the primary gathering place in the site and will accommodate a variety of activities. It spans three blocks and interrelates four major buildings in the site. Smaller gathering spaces can be found next to the library, medical research center, and mixed-use buildings that act as intimate, sheltered spaces. There are also gathering spaces in highly-public places such as the fountain plaza on the corner, northeast of the student activity center or the entry plaza to the government office building facing the intersection of University Drive and SW 36th Street. The formal lawn, green space around the canal, or any other green spaces are not defined as gathering places but do function as space for people to picnic, sunbath, or recreate. The diversity of open space in this design caters to a multitude of site users. Figure 6.11 illustrates the defined gathering spaces.

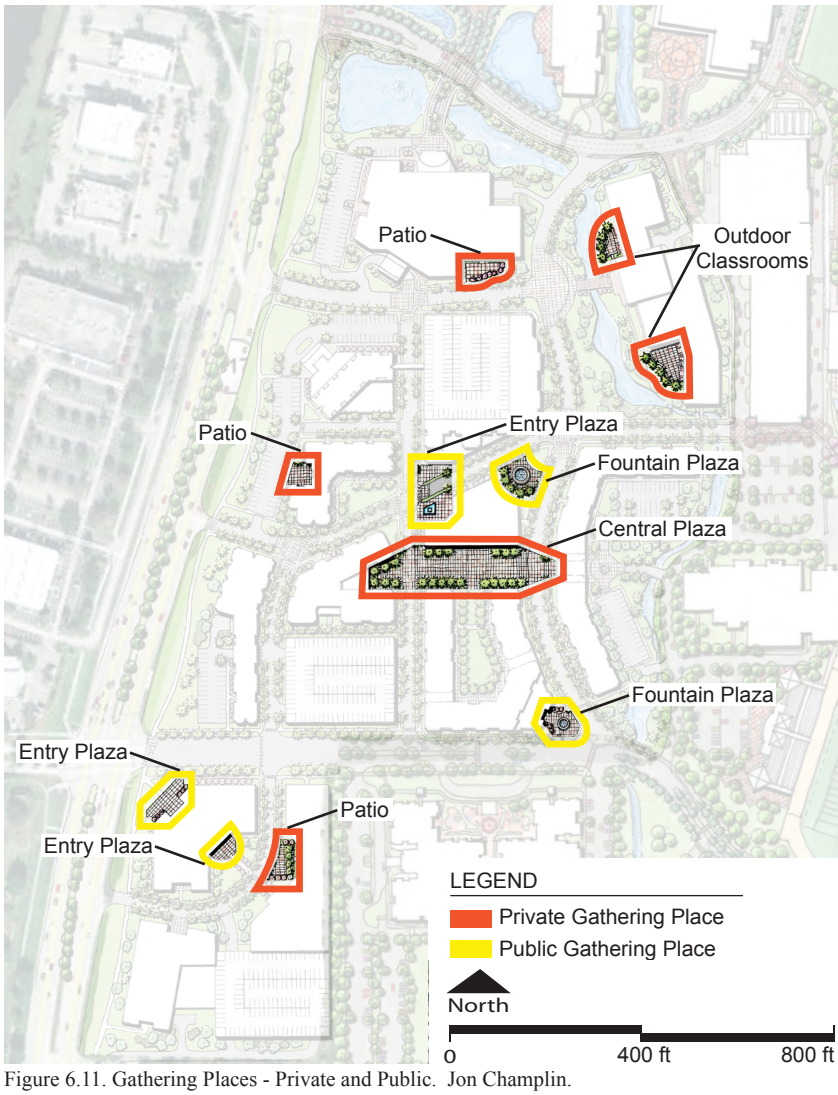


Figure 6.11. Gathering Places - Private and Public. Jon Champlin.

Streets and pathways in this design are not merely a means of moving from one point to another but are public space. Buildings are oriented to the street with large windows (Figure 6.12-B on pages 73 and 74) and small setbacks (Figure 6.12-C on pages 73 and 74) which creates a space where people feel connected to the buildings even though they are outside. Palms line the streets (Figure 6.12-D on pages 73 and 74) to create a defined space and to slow traffic because of the tight spatial definition. This designed environment enhances the pedestrian experience and social interaction. Figure 6.12 on pages 73 and 74 displays this street environment of the project.

Except for the student activity center and medical research center, there is a common building type and massing throughout the site. This helps to establish community and the idea of a **town center** by the **architecture** itself. The mixed-use core



Figure 6.12. Perspective of Street Environment. Jon Champlin.
Legend: A - Buildings are oriented to the street to establish a pedestrian environment rather than a transitional space. B - Large windows increase the relationship of interior and exterior spaces. C - Small setbacks help to orient buildings to the street. D - Palms lining the street define and narrow the street space which slows traffic, establishes order, and increases pedestrian safety. E - Typical architecture gives the project unity. F - Tight street ratio establishes a pedestrian scale. G - Diverse building types adds hierarchy and increases user attraction.




D
G
F

creates a vibrant and diverse experience, supporting the idea of a community. Buildings not only house defined program elements, they help to shape the public realm, create a human-scale for the site, and balance the needs of businesses, civic facilities, and residents. The Spanish-colonial building type in this development is indicative of the South Florida region but stands alone as its own component because of how the buildings relate to each other. Figure 6.12-E on pages 73 and 74 illustrates the typical architecture of the site.

Dimension of block size, gathering places, streets and pathways, and buildings in this design fit into the larger fabric of the campus and the surrounding community. However, certain program elements are sized to cater to the defined uses that they will entertain. This concept can be seen in the different gathering spaces in the plan. The central plaza is large to accommodate large events but the two plazas in front of the library are small and cater to small study groups or class discussions (Figure 6.1 on page 57).

The design establishes a pedestrian focused environment by implementing **ratios of space** of 1:1 or tighter. Building height and dimension responds to street or space width and dimension to create a comfortable pedestrian ratio of space. These tight ratios help to slow traffic which increases pedestrian safety and site walkability, all the while increasing store-front visibility to motorists (Figure 6.12-F on pages 73 and 74).

Defined **activities** are the route of interaction in this project because they set up what people will be doing and where they will be doing it. The north part of the site caters to academia with the medical research center and the library. The south part of the site is programmed for civic or academic office buildings. The remainder of the site is designed to create a large number of activities by the simple fact that the land use is mixed. Activities in this area include shopping, entertainment, dining, recreation, and gathering. The central plaza houses activities such as movies (Figure 6.13), large gatherings, or concerts. This melting pot of activities is what creates the user experience and ultimately attracts people to the site. Figure 6.3 on pages 61 and 62 displays the core of the mixed-use: the central plaza.

Obviously, a major component of community is **interaction** as it has been involved with much of the discussion up to this point. Calthorpe and Fulton explain this importance by stating that people often choose their place of residence by that place's ability to cultivate frequent interaction with others in a positive way. That, coupled with the fact that this project is located on a college campus



Figure 6.13. Central Plaza - designed for movies to be played on the student activity center's south wall. Jon Champlin.



where interaction is critical for the transfer of information, is the purpose of the masterplan to promote daily interaction for site users. Interaction is promoted through a design solution that is pedestrian-oriented and encourages walking (Figure 6.12 on pages 73 and 74). People have no opportunity to interact if they are in vehicles, but do if they are walking. Interaction is also promoted through a vertical mix of land uses. Locating multiple types of uses and program elements in one location instills a type of social network not commonly found when land uses are divided or zoned to like uses. Ultimately, interaction inspires community by bringing people together.

A diverse range of program elements, gathering spaces, and activities has established this design as an attraction for the surrounding area. **Diversity** supplies something different for site users, or is accommodating to different types of site users. The use of a diverse palette will attract more people to the site. Diversity is illustrated in Figure 6.12-G on pages 73 and 74 by two different building types.

Shared amenities in this project include the gathering spaces, paths and walkways, benches, fountains, and aesthetics such as the canal or vegetation defined throughout the site. The

implementation of shared amenities increases the quality of life for site users and helps to develop interaction. The central plaza in Figure 6.3 on pages 61 and 62 (and it's activities) is an excellent example of a shared amenity.

Other Considerations

Aside from the three design principles in this project, other considerations relative to any site design in the profession of landscape architecture must be made. These considerations are primarily related to sustainable practices.

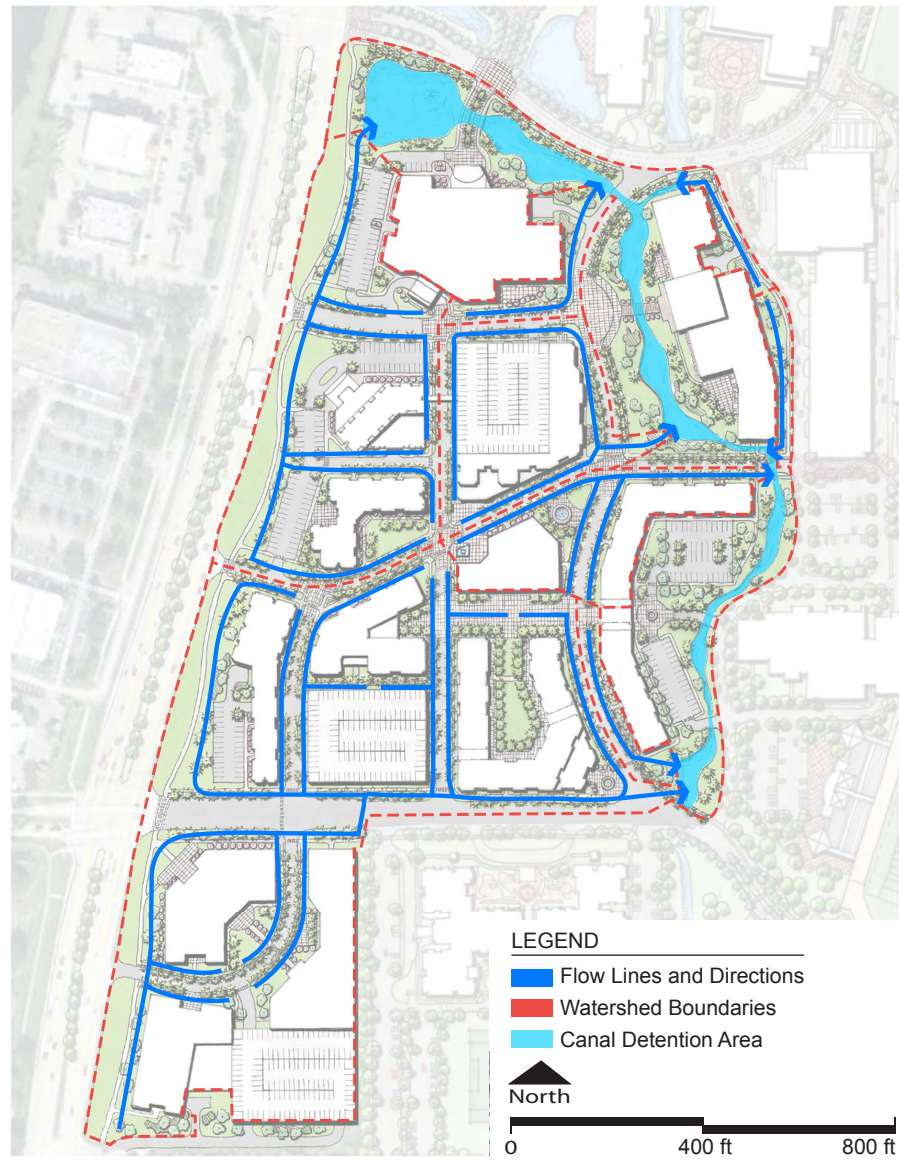


Figure 6.14. Proposed Hydrography Map - delineating watershed boundaries and direction of flow to storm water detention areas. Jon Champlin.

Especially in Florida where rain can be an every-day occurrence, storm water management is important to include in site design. Ways in which storm water is controlled in this site is by the use of permeable paving, BMP's, and detention areas. Permeable paving can be found in the primary gathering spaces (including the central plaza) and the surface parking around the site. BMP's are located along the major drainage ways for the site. All storm water runoff for the site north of SW 36th Street is diverted to the canal detention area. The canal is designed to be an aesthetic amenity but also functional for storm water. Figure 6.14 illustrates the proposed design with hydrography.

Figures 6.15 and 6.16 show the difference between existing site permeable surfaces and proposed site permeable surfaces. One simple design factor for this project was to include as much permeable surface as possible, while supplying the appropriate density desired. The increase in both surface permeability and density for the proposed design is apparent in that the existing site contains 38.0% permeable surface while the proposed site contains 54.8% permeable surface. This design consideration shows how high density can be more sustainable than strip development.

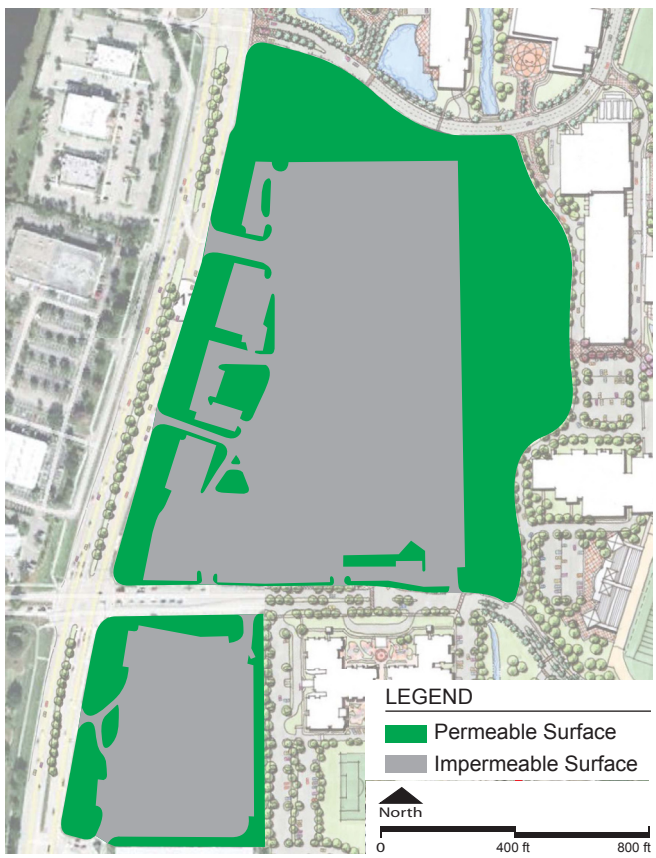


Figure 6.15. Existing Site Permeability. Jon Champlin.

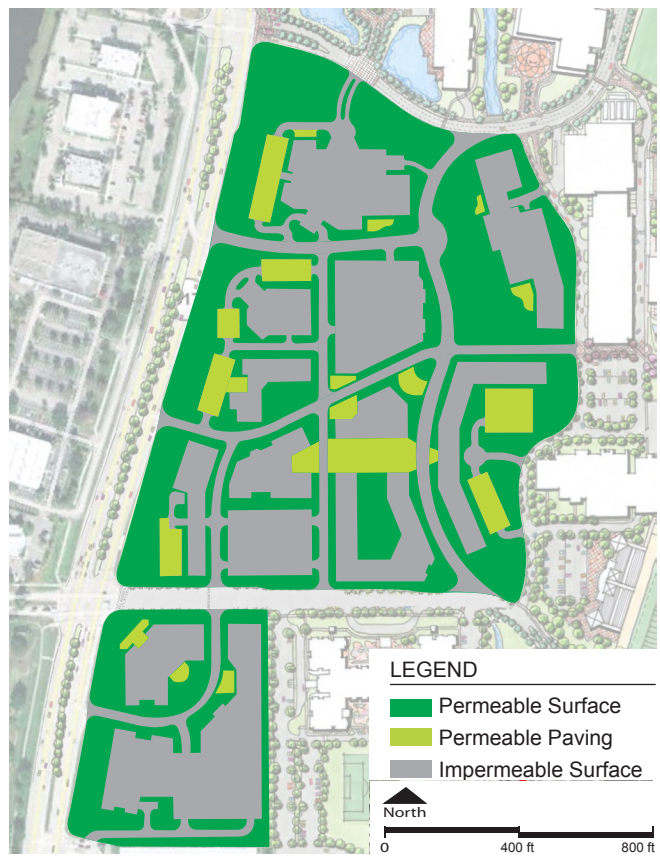


Figure 6.16. Proposed Site Permeability. Jon Champlin.

Design Conclusion

The design fulfills the three design principles of place making, connections, and community by addressing each sub-component and applying that component to this site (Table 6.1).

Place making establishes a unique identity and character to the site that will attract people from the university and surrounding community. The establishment of "place" will help to improve the quality of life for citizens, students, and faculty alike. A goal from the beginning of this project was to establish an icon through design. An icon can not be created overnight, but rather needs time to establish itself as such. Even so, the form and function of the Student Activity Center and neighboring central plaza create a high possibility for an icon.

Connections are created throughout the project by connecting people to each other and to the site. This project fosters a social interaction between people on the site through the design. Feeling connected to the site and to other site users ultimately increases a user's comfort level and desire to return to the site.

The design also establishes the project within the surrounding community, but also instills a unique sense of community. Using appropriate architecture and site layout similar to the campus and community help to establish the project. Activities defined by the land uses and density are what set this project apart from the campus and community.

Final Design Evaluation	
	Evaluation
Design Principles:	
Place Making	
Identity	✓
Security	✓
Location	✓
Appropriate Building Type/Massing	✓
Materials	✓
Function	✓
Centre of Human Existance	✓
Energy and Idealism	✓
Iconic Form and Function	✓
Connections	
Way-Finding	✓
Relationships	✓
Orientation	✓
Landmarks	✓
Gateways/Sense of Entry	✓
Destinations	✓
Efficient Circulation	✓
Community	
Gathering Places	✓
Streets and Pathways	✓
Town Center Buildings	✓
Dimensions of Space	✓
Ratios of Space	✓
Activities/Experience	✓
Interaction	✓
Diversity	✓
Shared Amenities	✓

Table 6.1. Final Design Evaluation - of the three primary design principles and their sub-components. Jon Champlin.

Connecting

Campus

&

Community

Part Three: Summary



Nova's Main Administration Building. Jon Champlin.

Chapter 7: Project Conclusions

Experience Gained

Process, process, process. The process of going about a project of this nature, scale, and scope must be decided from the beginning! If the project could be done all over again, decisions about how to evaluate the design should have been made sooner in the process instead of in the middle of the design process. Knowing how the design will be evaluated in the end will inform how the design begins and how it changes throughout the process. I believe that the application of the design principles of place making, connections, and community made the final design and general layout of the project quite successful.

However, after finishing the design there are a few items that were not explored as thoroughly as I would have liked. While most buildings incorporate service access, there are a few that don't. This lack of practicality decreases the feasibility of the project. Secondly, parallel parking could have been introduced as another factor that would slow traffic. Parallel parking along streets would also be extremely visible and easily accessible for unfamiliar site users to find a parking space. Another short-coming of the design is the lack of a plant palette. I don't believe that the scale and focus of this project require a detailed planting plan, but a comprehensive plant palette would help to establish the character of the design proposal. Finally, if I could do the project all over again, I would spend more time thinking about the implementation of sustainable practices. Sustainability is so important to the profession of landscape architecture and society now that it should be fully considered in any development. Some sustainable principles are considered in the use of permeable paving and other BMP's for stormwater management purposes. However, sustainable design considerations could have been explored in further detail.

Aside from design issues, I did also experience logistical issues along the way. Being in Kansas to complete the project prevented me from visiting the site more than once, which happened before the project ever began. Site visits would have been beneficial during all of the phases of the project, from site inventory to final design development. Therefore, it is imperative to collect as much information as possible while on the site or in direct contact with the entity supplying the project if site visits will not be available during the project's development.

Advice

Advice for anyone who might take on a project of this nature, scale, and scope is that the actual scale and scope should be defined from the start. Too much time was spent figuring out what was important to include. The design principles (or design guidelines in some instances) should be formed first; right after the research has been done. From personal experience, it is highly recommended that no design take place without design principles laid out and defined. Knowing how the design principles applied to the project ended up changing the entire organization of this book and how graphics were presented.

Another recommendation is that anyone doing a project like this in the future should absolutely understand the amount of research, graphics, written text, etc. that they will produce, especially if they are embarking on the project alone. If this project were done by an actual firm, there would be multiple design staff and a project manager overseeing all of the work. However, one person does not have the man-power, resources, or time that a team would have. Knowing what the final product of the project will be is critical because it gives the designer a goal to hit and the graces of knowing when they are done.

The final piece of advice that I can give any designer is to take many breaks to live life. Many times I found that inspiration did not come while I was sitting in studio slaving away on this project, but when I took breaks to relax, be with friends, or simply not think about anything. Taking time for myself not only supplied a source of inspiration, it refueled my determination, motivation, and energy to finish the project.

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Connecting

Campus

&

Community

Part Four: Support



Word Hierarchy Diagram. www.wordle.net.

Appendix A: Glossary of Terms

BMP (Best Management Practice) - Techniques used to control stormwater runoff, sediment control, and soil stabilization, as well as management decisions to prevent or reduce nonpoint source pollution (Stormwaterauthority.org/bmp).

Campus - The physical area of an educational institution composed of infrastructure, social systems, and natural systems that are planned to function as one entity.

Character of Space - The attributes or features of a space, including form, function, and user experience, combined to individualize and distinguish the space.

Community - An interacting population of students, faculty, staff, and the general public that are linked by location.

Connections - Contextual, physical, and social relationships or interactions between people and a place or between people and other people..

Density - The number of individuals or units per area.

Greyfield - A property that is an abandoned or struggling single-use commercial property located in an older suburban or urban setting that contains an abundance of excess parking (Bohl 2002, 113).

Hydrography - A map displaying surface water and stormwater drainage flow patterns.

Hydrology - The science of the properties, distribution, and circulation of water on a site, under the surface, and in the atmosphere.

Icon - A tangible object that is established by its form and/or function to be recognizable. An icon is a recognized place held in high esteem by the public because of its characteristics or attributes.

Mixed-Use - Developments that are characterized by: 1) three or more significant revenue-producing uses (such as retail, office, residential, hotel/motel, entertainment/cultural/recreation) that in well planned projects are mutually supporting; 2) significant physical and functional integration of project components (and thus

a relatively intensive use of land), including uninterrupted pedestrian connections; and 3) development in conformance with a coherent plan (which frequently stipulates the type of scale of uses, permitted densities, and related items) (Schwanke 1987, 3).

Perceptual Space - A space of action centered on immediate needs and practices, and as such it has a clearly developed structure (Relph 1976, 10).

Permeable Paving - Paving that allows water to infiltrate through it and into the ground, but is also functional enough to allow defined uses such as parking, walking, or load-bearing.

Place Making - The art of creating a place that responds to the area or region, attracts people, improves people's quality of life, and is held in high reputation by the public.

Sustainability - implies that the use of energy and materials in an urban area be in balance with what the region can supply continuously through natural processes such as photosynthesis, biological decomposition, and the biochemical processes that support life (Van der Ryn & Calthorpe 1986, ix).

Town Center - A public place composed of multiple activities and uses that is woven into the fabric of a larger community and sized to fully support that community (Bohl 2002, 56).

Urban Village - When high-density multifamily properties are mixed with retail and other uses, such efforts frequently yield what is characterized as an urban village (Bohl 2002, 109).

Urban Fabric - The general layout and orientation of an urban environment's blocks and parcels.

Urban Village - When high-density multifamily properties are mixed with retail and other uses, such efforts frequently yield what is characterized as an urban village (Bohl 2002, 109).

Walkability - The assessment of whether or not an environment is easily accessible, comfortable, or safe while walking. People will typically choose walking over using a motor vehicle if the conditions are right and their destination is within one quarter of a mile from their origin.



University Drive and Frontage Road Intersection. www.flickr.com.

Appendix B: Site Inventory

People

Different Users

Users of the site will be classified into four different categories for the purpose of inventory: 1) On-campus students, 2) Commuter students, 3) University affiliates, and 4) General public.

On-Campus Students:

On-campus students are students who will live in the residences of the finished project. They will actively take courses on the Nova campus, and will require to have efficient and convenient pedestrian circulation from their residence to their class rooms. On site needs of this user include convenient store, small grocery, gathering space, out-of-classroom educational space, and some sort of entertainment.

Commuting Students:

Commuting students are students who will live off-campus, and will access the university on a daily basis by a means other than walking. During a site visit in June, 2009, I was informed that only about 4,000 of Nova's 28,000 students live on-campus. I assume this to be part of the reason behind Nova's decision to develop this project in the first place, to draw more students to live on-campus. Nonetheless, this statistic demands that commuter students are accounted for during the design of the site. On-site needs of this user include day-care, efficient and convenient parking, convenient store, and possible small grocery.

University Affiliates:

This user group will include professors who will teach in the medical research center, people who will work in offices or other university-operated buildings, or school officials who will use the site. On-site needs of this user are quality facilities in which to work or educate, convenient store, possibly parking, and an efficient and convenient pedestrian connection around the site as well as between the site and the rest of the campus.

General Public:

General public in this case refers to people who have no defined connection to the university that will access the site. This user group will come to the site for a number of reasons. These reasons include shopping, dining, entertainment, to visit patients in the medical research center, to visit students, to visit university affiliates, or to stay in the hotel. The general public will be a huge draw for Nova to make the businesses in the project successful. Without this user group, the program of retail in this project will not sustain through time because students and university affiliates will not fully have the man-power to support the businesses.

Culture

In order to develop the site to its potential, the culture of the area must be considered. Since the city was not founded until the 20th century, it is a fair assessment to say that Davie is a sort of melting pot of cultures. The area has attracted all types of people from all over the world, who bring with them a variety of traditions and activities. Living near Fort Lauderdale, Florida, I was able to experience the culture of the South Florida region, and feel confident to say that a major part of the culture of the area is tourism. Beaches (Figure B.1), some of the nation's finest restaurants, the Everglades ecoregion (Figure B.2), the South Florida nightlife (Figure B.3), and many other attractions bring tourists from all corners of the globe.

Another major part of the culture is driven by active people in a tropical area. Outdoor sports are huge in Florida because people can participate in them during any month of the year. Beach volleyball, dragon boating (Figure B.4), baseball, and many other sports are popular. Davie, in particular, has a fairly large following in the sport of rodeo (Figure B.5). (Davie Town Hall)

Demographics

Detailed demographics of the area must be considered to successfully influence the design decision making during the spring semester. As stated before, the general public that will use the site is going to make or break the development in terms of successfully operating the businesses and allowing them to make a profit. Therefore, it is necessary to understand who those people are.

First, the population is broken down into population change, household size, family households, homeownership, and age to better understand the people of Davie, so that the program for the



Figure B.1. Florida Beach. www.flickr.com.



Figure B.2. Everglades. www.flickr.com.



Figure B.3. South Beach, Miami. www.flickr.com.



Figure B.4. Dragon Boating. www.flickr.com.



Figure B.5. Davie Rodeo. www.flickr.com.

site will be better informed.

- Population in July 2008:	90,238
- Population % Change from 2000 to 2008 (Increase):	19.2%
- Average household size (People):	2.6
- Percentage of family households:	68.9%
- Homeownership:	69.5%
- Persons under 5 years old:	6.3%
- Persons under 18 years old:	23.2%
- Persons 65 years old or over:	14.5%

(City-Data.com) (U.S. Census Bureau)

From the demographic data gathered, the most important things to conclude are that, even though there is a lack of developable land area, the city's population is growing quite rapidly. While the percentage of family households is high, the homeownership is extremely low, showing that Davie has a high renter's market for housing. Finally, it can be concluded that while Florida has a reputation of being a retirement state, the city of Davie does not have a high percentage of persons over the age of 65.

Circulation

Circulation is vital to document and understand because one of the primary goals of the project is to connect the site to the campus, to the community, and to connect people to the site and to each other. Figure B.6 displays the circulation systems on and adjacent to the Nova Southeastern University campus. University Drive (Highway 817) is a six-lane thoroughfare that runs adjacent to the western border of my site. Southwest 36th Street is a simple two-lane street that runs along the southern border of my site.

One important inventory item is the campus loop drive, that circles 3/4 of the campus, but does not close on itself. It empties into University Drive to the west and to the student union entry drive to the south. Completing the campus loop drive would be an asset to the university. Sadly, the site does not have any public transit routes or dropoffs in proximity to it.

Figure B.7 displays the existing circulation of the project site. It is evident that the site is totally dominated by vehicular circulation with very limited pedestrian circulation. The campus loop drive can be seen in yellow, and runs close to the northern border of the site. This is the probable location to connect the proposed vehicular circulation

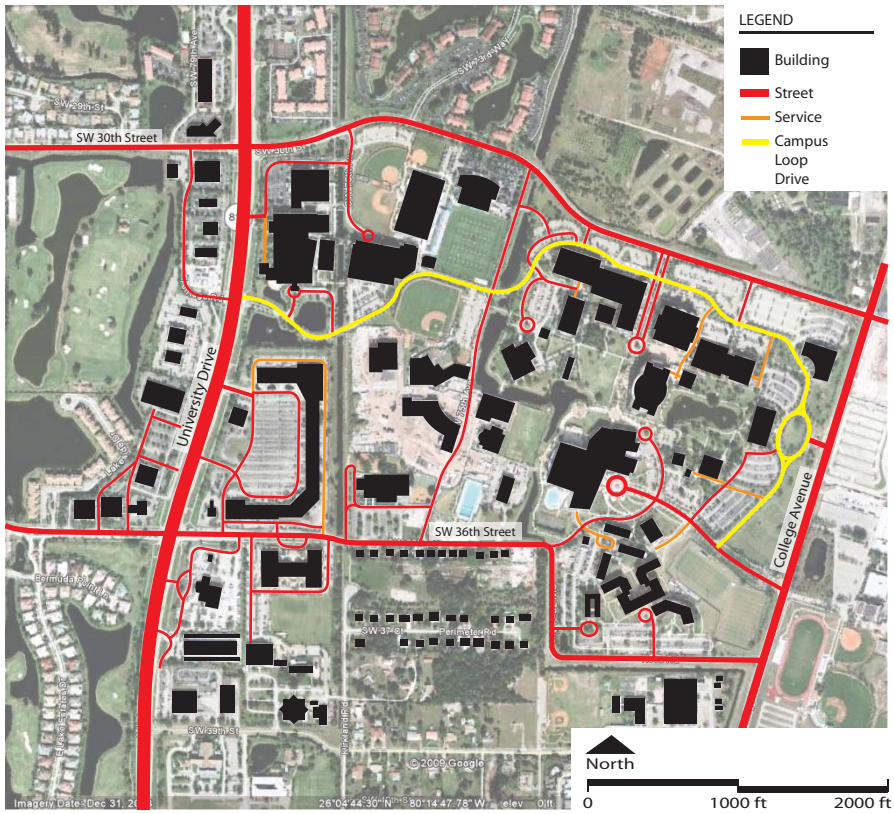


Figure B.6. Campus Circulation. Jon Champlin.

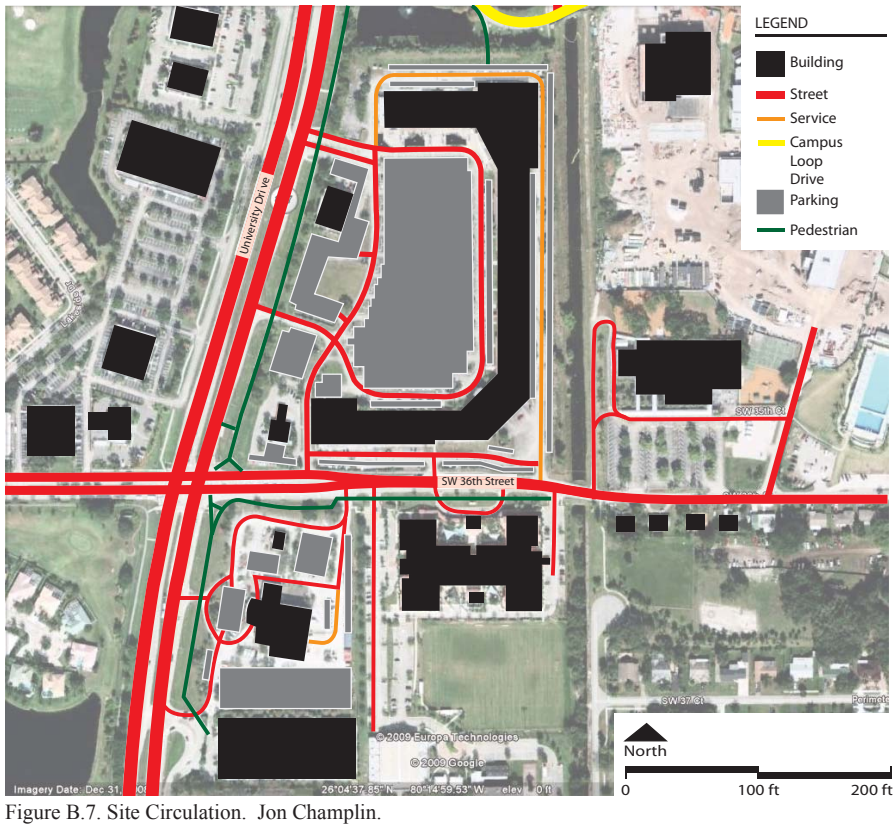


Figure B.7. Site Circulation. Jon Champlin.

of the project site to the existing campus loop drive. Another thing to note from this map is the existing access points to the site from University Drive and Southwest 36th Street. Using the existing access points in the future design will limit disturbance of the right of way, which is desirable. However, some of these access points do not relate to the access points across the streets. Tying into the opposite street access points would create a nice connection, as well as supply efficient vehicular circulation.

Surrounding Uses

Surrounding uses, and their adjacency to the project site, will heavily influence the program of the project. For example, if there is a successful grocery store right across the street, it would not be smart, or considerate to the local grocery store owner, to propose a grocery store for the project program. The idea is to supply either businesses that are not easily accessible by walking from the site or that have been blighted and could relocated to the project site. To express walkability in a graphic format, 1/4 mile and 1/2 mile radius circles are used represent a 5 minute walk and 10 minute walk, respectively, from the given land use.

The important surrounding uses to locate for this project are parks (Figure B.8), pre-collegiate institutions (Figure B.9), retail districts (Figure B.10), and grocery stores (Figure B.11). Parks are important to locate because it is important to determine whether or not to include a defined, usable open space in the project program. Schools are important to locate because it is important to determine the feasibility of families living in the project when it is built. Distance to retail districts is important to map to decipher what size of area that the retail will support. Grocery stores are important to map to understand what size of area a grocery store will support.



Figure B.8. Park Proximity.
Jon Champlin.

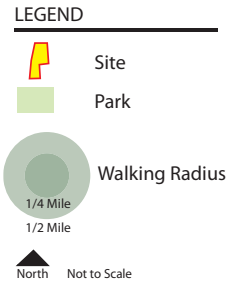




Figure B.9. School Proximity.
Jon Champlin.

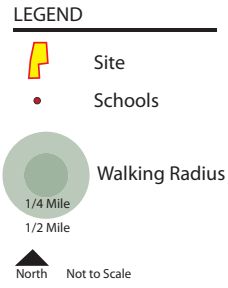




Figure B.10. Shopping Proximity.
Jon Champlin.

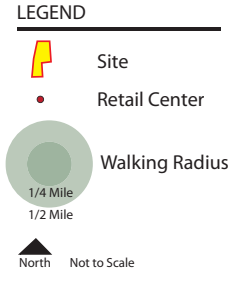
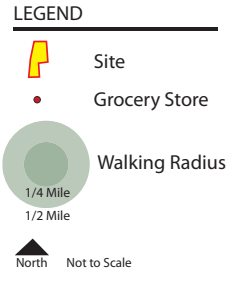




Figure B.11. Grocery Store Proximity.
Jon Champlin.



Existing Site Conditions

Bird's Eye Image of Site:

Figure B.12 displays the site as it exists today. North is to the left, University Drive runs along the western border of the site, and Southwest 36th Street runs east and west through the middle of the site. The entry to the campus loop drive can be seen at the far left of the image.



Figure B.12. Bird's Eye Image of Site.
Bing Maps.

Main Entry from University Drive:

Figure B.13 shows the main entry from University Drive. To the right is the Pier One Imports store. When I visited the site, I entered at this location. The entry is convenient when coming from the south and turning right into the development. However, it is not a convenient entry when coming from the north and having to turn across three lanes of traffic to enter the site. The environment at this intersection does not set up much of a sense of entry.



Figure B.13. Main Entry from University Drive. Jon Champlin.

Street Right of Way:

Figure B.14 shows the western edge of the site. University Drive has a large right of way that contains a drainage ditch, walkway, and street lighting. During a two-hour site visit, no one was witnessed using the sidewalk. One nice feature of the right of way is that it seems to be well kept with a manicured lawn and a line of trees that acts as a buffer to between the site and the busy street.



Figure B.14. Street Right of Way. Jon Champlin.

Site Interior:

Figure B.15 shows the interior of the site, primarily composed of an asphalt parking surface. The medians of the parking bays are composed of grass turf. The parking lot contains ample lighting. Buildings are located around the exterior of the site.



Figure B.15. Site Interior. Jon Champlin.

Street Buffer:

Figure B.16 shows how the street is separated from the site by a buffer. The buffer is made of a simple turf berm and a line of trees. This simple gesture creates separation between the street right of way and the interior of the site, but does allow site lines through so that people can see into and out of the site.



Figure B.16. Street Buffer. Jon Champlin.

Sidewalk Connection:

Figure B.17 shows the single existing sidewalk connection between the NSU campus and the site. The photo is taken standing on the project site looking north toward the existing medical research school.



Figure B.17. Sidewalk Connection. Jon Champlin.

Service:

Figure B.18 displays the service on the eastern side of the existing building on site. This is not a pedestrian realm, nor does it promote walking by or being near, and is not desirable to keep. The new development should most definitely be concerned with the service aspect of a building's function, but should do a better job of hiding it or making it less accessible.



Figure B.18. Service. Jon Champlin.

Family Life Center:

Figure B.19 shows the Family Life Center that is located directly adjacent to the south and east of the project site. The Family Life Center houses all of the institute's programs and invites students, faculty members, and researchers to learn about childhood education and family support. (NSU website)

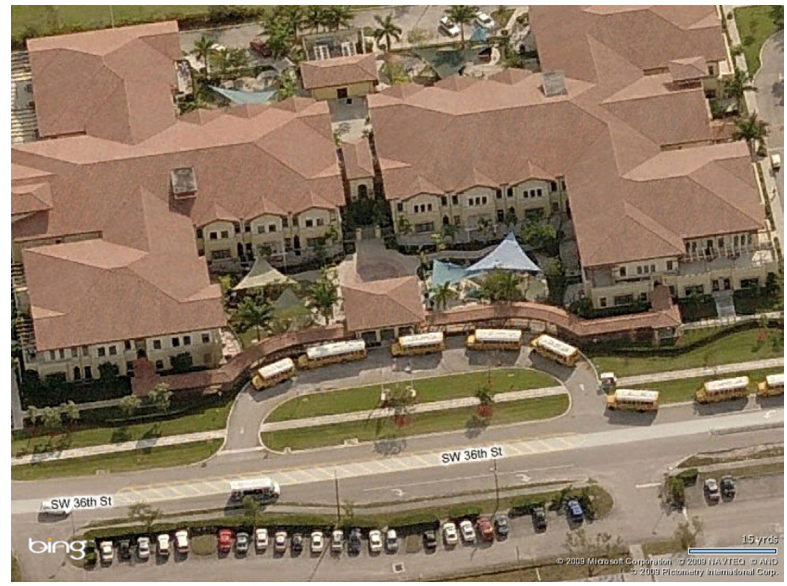


Figure B.19. Family Life Center. Bing Maps.

Medical Center:

Figure B.20 displays the existing medical center on Nova's campus, located directly north of the project site. It faces one of the primary entrances to campus from University Drive. Creating a solid connection between this existing medical center and the medical research center in the project program will be crucial to the site layout process.

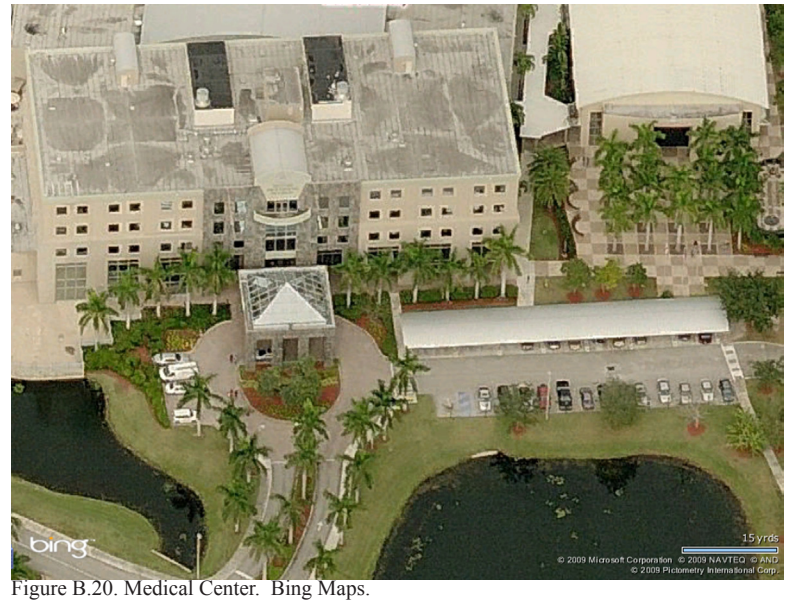


Figure B.20. Medical Center. Bing Maps.

Campus Architectural Style

Dormitories:

Figure B.21 displays new dorms constructed on the southeast corner of campus. The building type reflects the Spanish and Mediterranean style of architecture that is prevalent in the region, but with a modern and new-age feel.

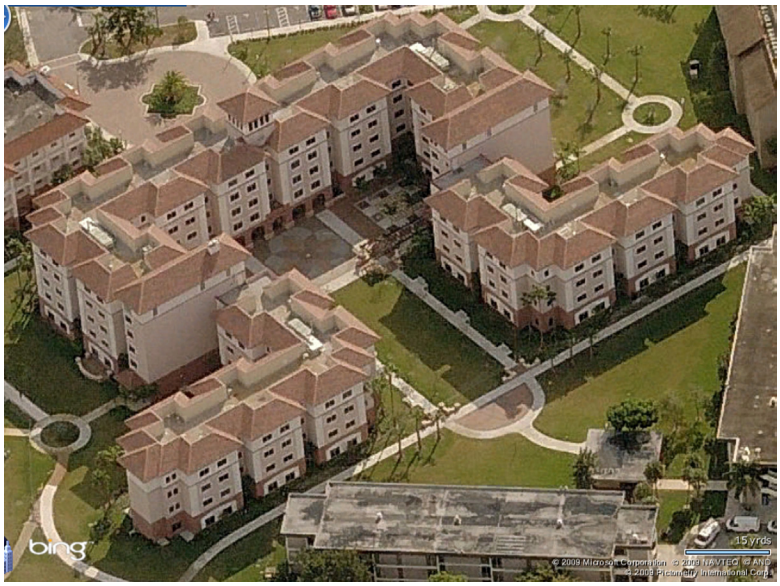


Figure B.21. Dormitories. Bing Maps.

Administrative and Classroom Buildings:

Most of the buildings on Nova Southeastern University's campus look similar to the image in Figure B.22. This type of architecture can be classified as a mix between classical and modern. The columns are prominent at the building entry, giving the buildings a classical feel. However, the blocky form and ample window pattern give the modern feel.

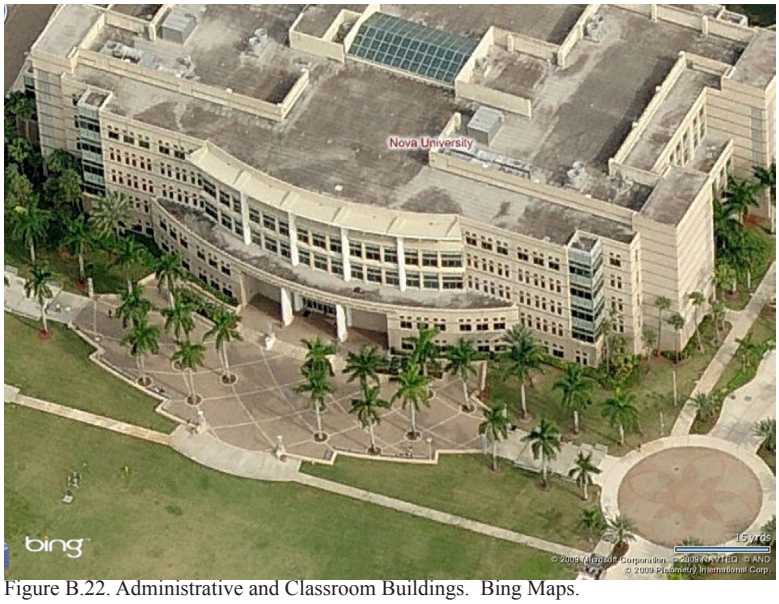


Figure B.22. Administrative and Classroom Buildings. Bing Maps.

Administrative and Classroom Buildings:

The older buildings on Nova Southeastern University's campus (ones built when the university was founded) look similar to the image in Figure B.23. This style of architecture can be characterized as contemporary. While this style of architecture defines the campus to an extent, it is obviously not as appealing as others since most of the buildings on campus

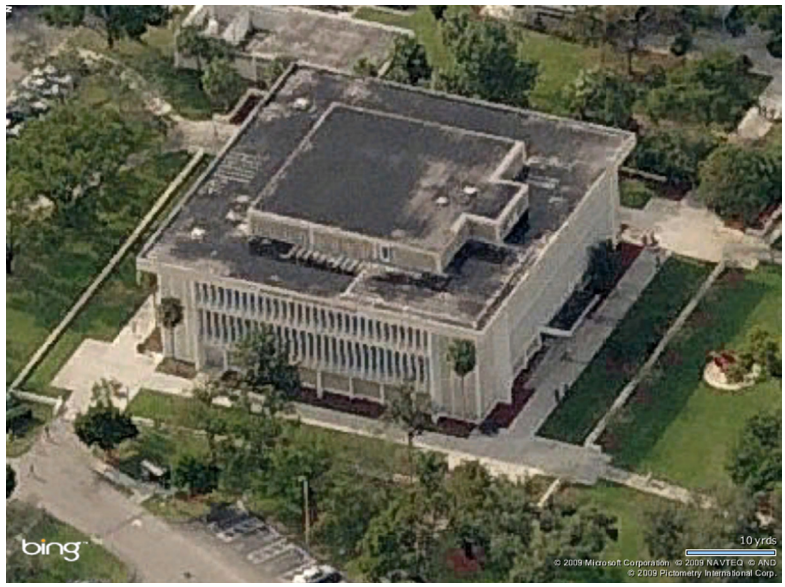


Figure B.23. Administrative and Classroom Buildings. Bing Maps.

Regional Architectural Style

Mediterranean Style:

Figure B.24 displays the Mediterranean architectural influence that can be found in many parts of Florida. This style originated from the Spanish explorers, who were some of the first to visit the region, and the Moorish population. Roofs are typically clay and exterior walls are typically light-colored. Thick, masonry or stucco walls and recessed porches and patios with arched loggias can be found throughout.


Figure B.24. Mediterranean Style. www.tndhomes.com.

Caribbean Style:

Figure B.25 displays the Caribbean style of architecture that can be found in residential buildings throughout the region and especially in south Florida. The style gains heavy influence from the Bahamas and shipping industry that settled the Florida Keys. Wood and other slender materials are used in this cottage-type residential building.



Figure B.25. Caribbean Style. www.tndhomes.com.

Modern Style:

Figure B.26 displays the Modern style of architecture that dates from the late 1920s to the 1940s. The style is heavily influenced by Art Deco architecture. This style is prevalent in the Miami and Miami Beach areas of Florida.



Figure B.26. Modern Style. www.tndhomes.com.

Natural Systems

Hydrology:

Since the site is basically flat, hydrology for the purpose of this project will be influenced solely by the adjacent water bodies. Surface water is important to document because it shows where water is being collected. Water bodies are also important to document since an enhancement of the canal on site will be in the project scope. There are no major drainage ways on the site except for the drainage ditch in University Drive right of way. Figure B.27 displays the water bodies adjacent to the site.

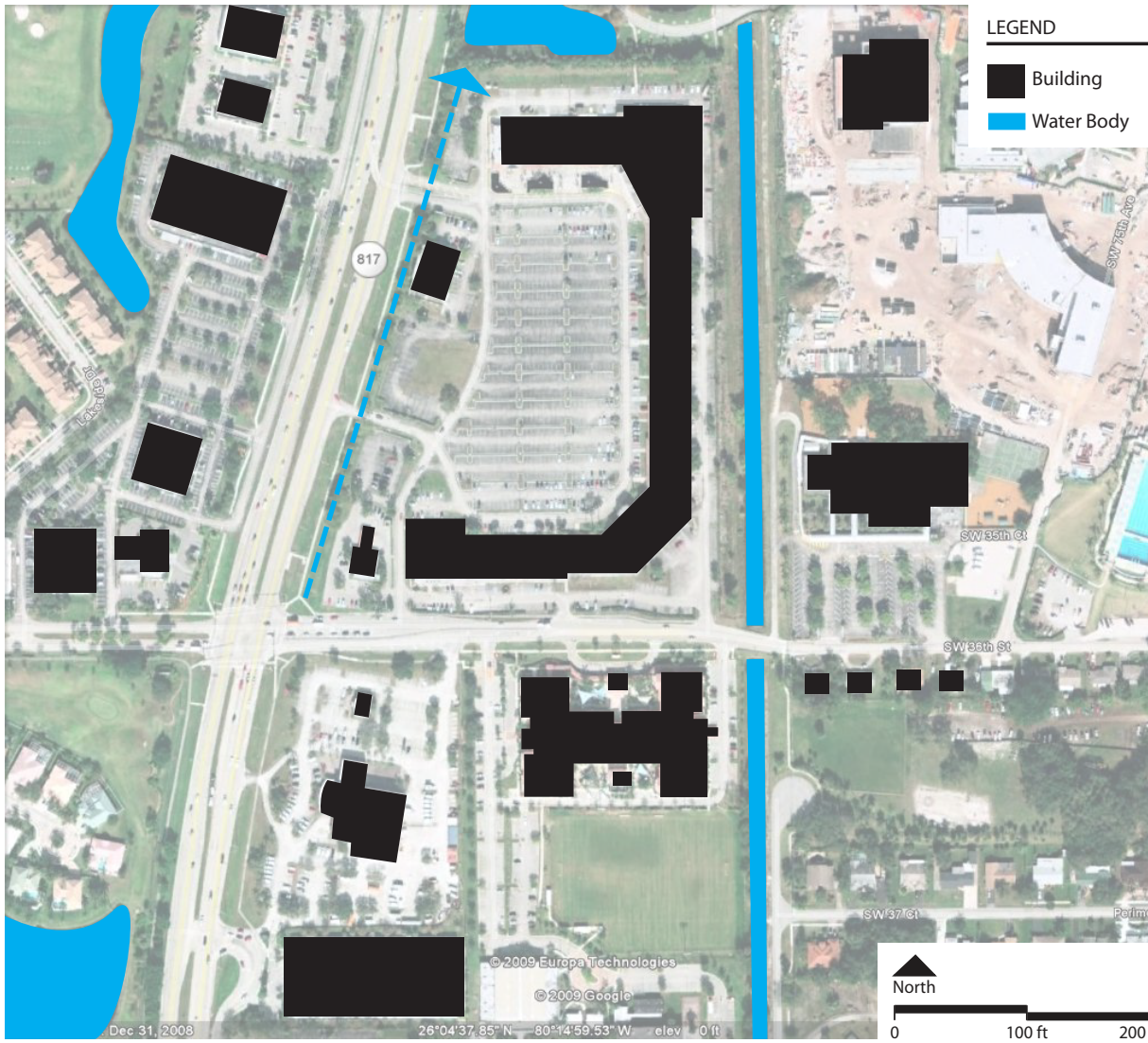


Figure B.27. Hydrology. Jon Champlin.

Climate:

Climate is an important system to inventory because it could arguably be considered the primary reason why the city of Davie has experience so much development in the last half-century. Davie has a topical climate, with an average summer temperature of 84 degrees Fahrenheit and an average winter temperature of 66 degrees Fahrenheit (Figure B.28). These temperatures allow outdoor activity year-round. One downfall of the tropical climate, in terms of outdoor activity, is the amount of precipitation (Figure B.29) that the region receives, especially in the summer months. This amount of precipitation, coupled with the high temperatures, pushes the humidity (Figure B.30) up during the summer months, creating a bit of discomfort when people are outside for an extended period of time. Alleviating this outdoor discomfort during the summer months will be a big design challenge for this project. The city has much more sunshine than average U.S. cities, except in the summer months (Figure B.31).

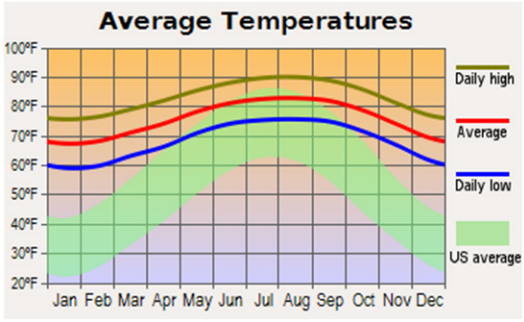


Figure B.28. Average Temperature. City-data.com.

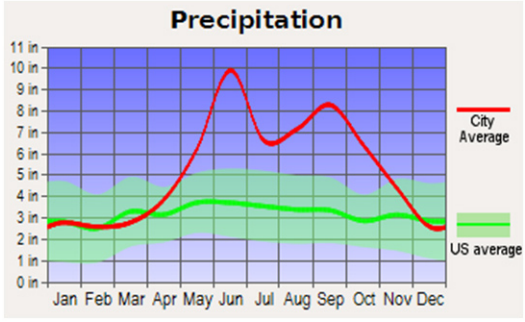


Figure B.29. Precipitation. City-data.com.

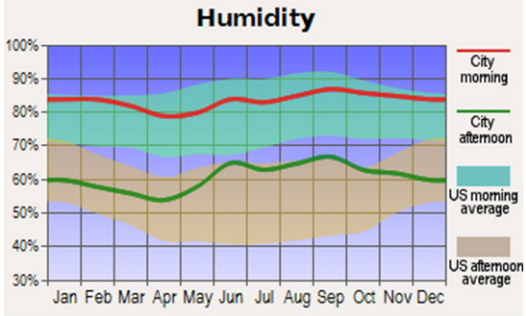


Figure B.30. Average Temperature. City-data.com.

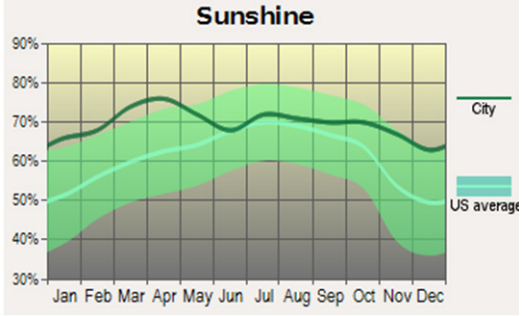


Figure B.31. Sunshine. City-data.com.



Regional Bird's Eye. www.flickr.com.

Appendix C: Program

This phase of the study develops the planning and design program for the project. The literature review, precedent studies, and inventory and analysis stage inform the program for the project. Beginning with development of project goals and objectives, the program for the project will ultimately define the form and function of individual elements in the scope of the project.

For each program element, an information index was created to show important relationships and ideas. Tables C.1, C.2, C.3, C.4, C.5, C.6, and C.7 show the different information indexes for the different program elements. Each index addresses appropriate goals, facts, concepts, needs, and problems of the program elements to be addressed relative to some of the aspects of the project such as function, format, economy, and time.

Goals and Objectives

Goal #1: Place Making

Objectives:
- Make the development a welcoming environment by creating a sense of entry and efficient and convenient site access and circulation.
- Create an exciting environment through multiple activities and sensory objects.
- Create an icon by establishing an anchor to the site, by supplying a physical and social identity, by creating a face to the development, and through defined activities.
- Attract people to the site through the character of the space and by supplying lively businesses, uses, and activities.
- Create a coexistence of vehicles and pedestrians

Goal #2: Connection

Objectives:
- Connect the site to the campus through architectural style and shape, streets and paths, materials, activities, and uses.
- Connect the site to the community through visibility, architectural style, streets and paths, and materials.
- Connect people to the site and to each other by efficient site layout, safety, activities and uses, and relationships.

Goal # 3: Sustain through Time

Objectives:
- Implement the most suitable types of sustainable practices depending on climate, land use, and density.
- Implement sustainable practices in the correct locations depending on the existing natural systems, infrastructure, and density.
- Make sustainable practices visible by creating educational opportunities and by allowing people to interact with them.

Retail

Nova requests 230,000 sq ft of retail space. This will be divided between shopping, dining, and entertainment. This retail will cater to students, faculty, employees, the medical research center, and the surrounding community. Figure C.2 displays the complexity of getting retail built. Many different entities have input on the development, and help to determine its success.

Figure C.1 displays the principles of retail design. Merchandise is located according to classifications: staple goods are unobtrusively yet accessibly placed; luxury items are spotted where the prospective customer cannot help but be attracted to them. White counter areas are allocated to services: cashier, wrapper, information, etc. (De Chiara and Callender 1980, 730). This type of information will be critical when it comes time to layout the site and locate exact businesses.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Shopping -Dining -Entertainment	-Create an interactive network -Bring people to the site -Identity	-Space adjacencies -"Type" is crucial to success	-Dynamic uses and people	-Of Nova -Of the community -Service -Parking	-Important types of retail will shape buildings and determine success of project.
FORM -1st floor + (2nd floor) buildings -Mixed with other uses	-Make retail visible to users -Convenience	-Retail shapes building footprints for most buildings on site	-Orientation -Accessibility -Convenience -Visibility -Density	-Square footage requirements -Layout of the interior space -Relationship to street	-Form consideration that shape building design Sq. Fts. Flow Visibility
ECONOMY -University owned and leased to businesses -Life cycle costs	-Create an economic driver for Nova -Locate retail to be successful and enduring	-Market analysis -Demographic that will use the reatil	-Effective ajacencies -Partnership btween Nova and businesses		-Businesses expected to flourish will shape building design across the entire site
TIME -Present -Future	-The retail will endure for many years to come -Model for other universities and developments	-Maintenance	-Adaptability -Endurance		-Implications of change and growth on long-range performance

Table C.1. Retail Information Index. Jon Champlin, adapted from Pena 2001.

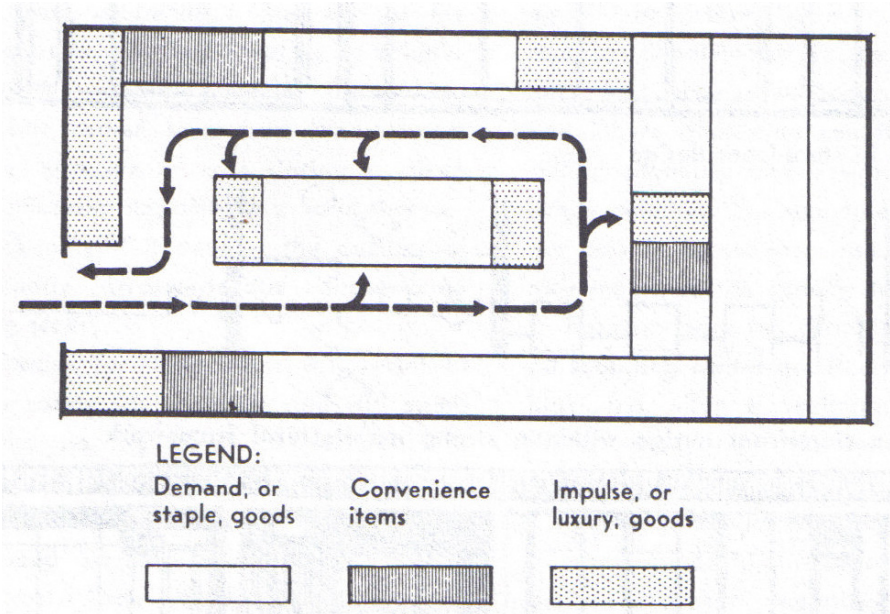


Figure C.1. Retail Entities and Building Process. De Chiara and Callender 1980, 722.

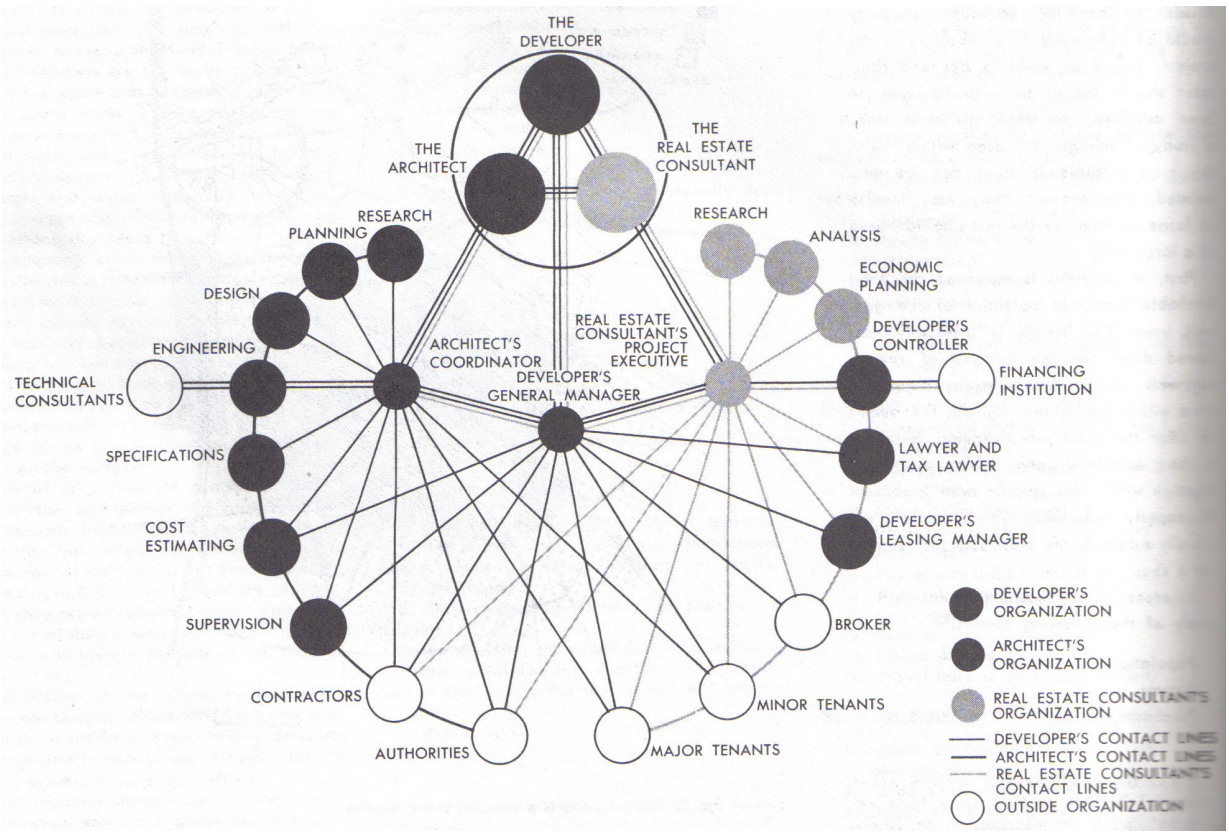


Figure C.2. Principles of Retail Design. De Chiara and Callender 1980, 730.

Office

Nova requests 1,250,00 sq ft of office space for the site. When defining building footprints based on office use, it will be critical to understand typical and efficient office layout schemes because that will be the driving force behind the form of the office buildings. Figure C.3 displays typical office layout and dimensions.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Users -Types of office	-Create an interactive network of workers with other users	-User characteristics -Organizational structure -Type	-Mixes of uses -Communications -Functional relationships	-Parking -Other activities involved in a work day	-Types of office determine their location across the site, and inform other site uses' location
FORM -Mixed with other uses	-Convenient for workers and visitors -Efficient -Workers' expectations	-Climate -Square footages	-Views of and out of -Orientation -Accessibility -Convenience	-Layout of interior space -Utilities	-Function defines form
ECONOMY -University owned offices -Leases to businesses					
TIME					

Table C.2. Office Information Index. Jon Champlin, adapted from Pena 2001.

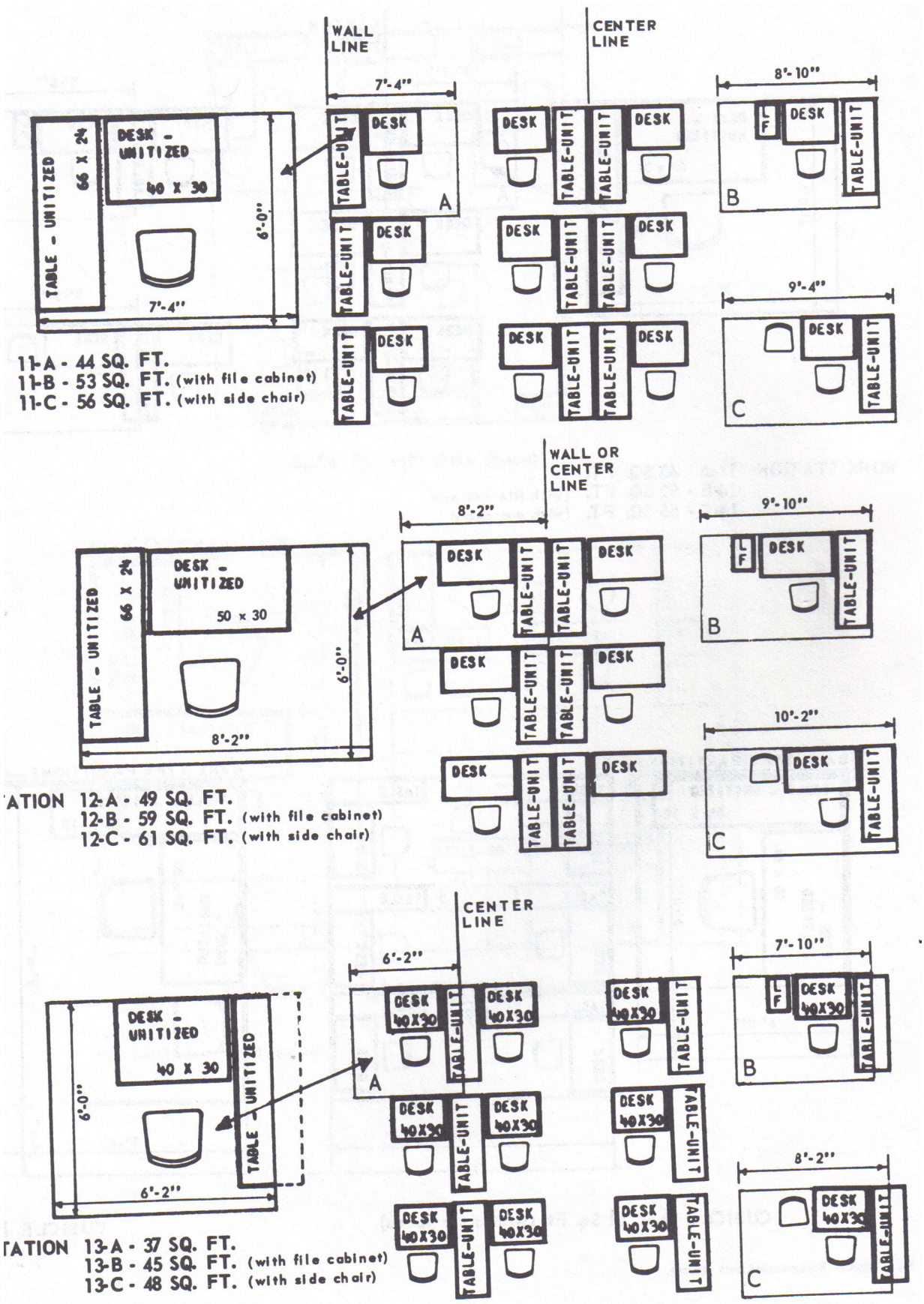


Figure C.3. Typical Office Layout. De Chiara and Callender 1980, 785.

Residential

Nova requests 650,000 sq ft of residential space. The majority of this will be used for student and faculty housing, although some will be open to the public. Figure C.4 displays important site element relationships, when residential is involved. Figure C.5 displays simple residential building principles. Building relationship, scale, dimension, and orientation will be important to understand when dealing with residential. Proportions of floor plans will also be important to understand when designing residential buildings.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Activities -People	-Create a place where people want to live	-Demographics -Organizational structure -Space adjacency	-Functional relationships -Live/work -Community involvement	-Area requirements -Parking -Service	-Unique living experience
FORM -Mixed with other uses -Multi-family	-Quality of life is high from living here -Responds to the region -Responds to the community	-Florida climate -Size of dwelling and or rooms	-Orientation -Views from dwellings -Safety -Character	-Size of dwelling -Utilities	-Function defines the form
ECONOMY -Opperating budget	-Have the units be full, year-round and limit seasonal ownership	-Rent costs	-Broad range of rent prices -Incentives	Opperating budget	-Quality of dwelling will define the building size, shape, etc.
TIME					

Table C.3. Residential Information Index. Jon Champlin, adapted from Pena 2001.

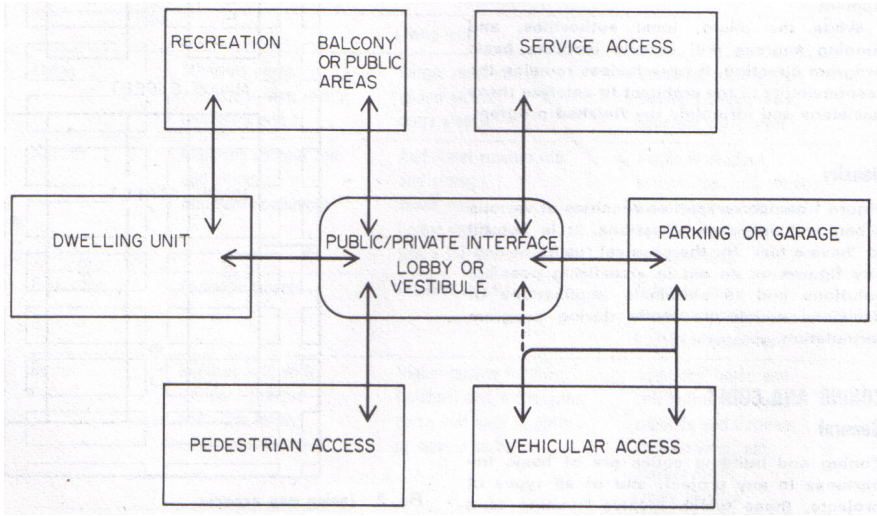


Figure C.4. Site Element Relationships. De Chiara and Callender 1980, 72.

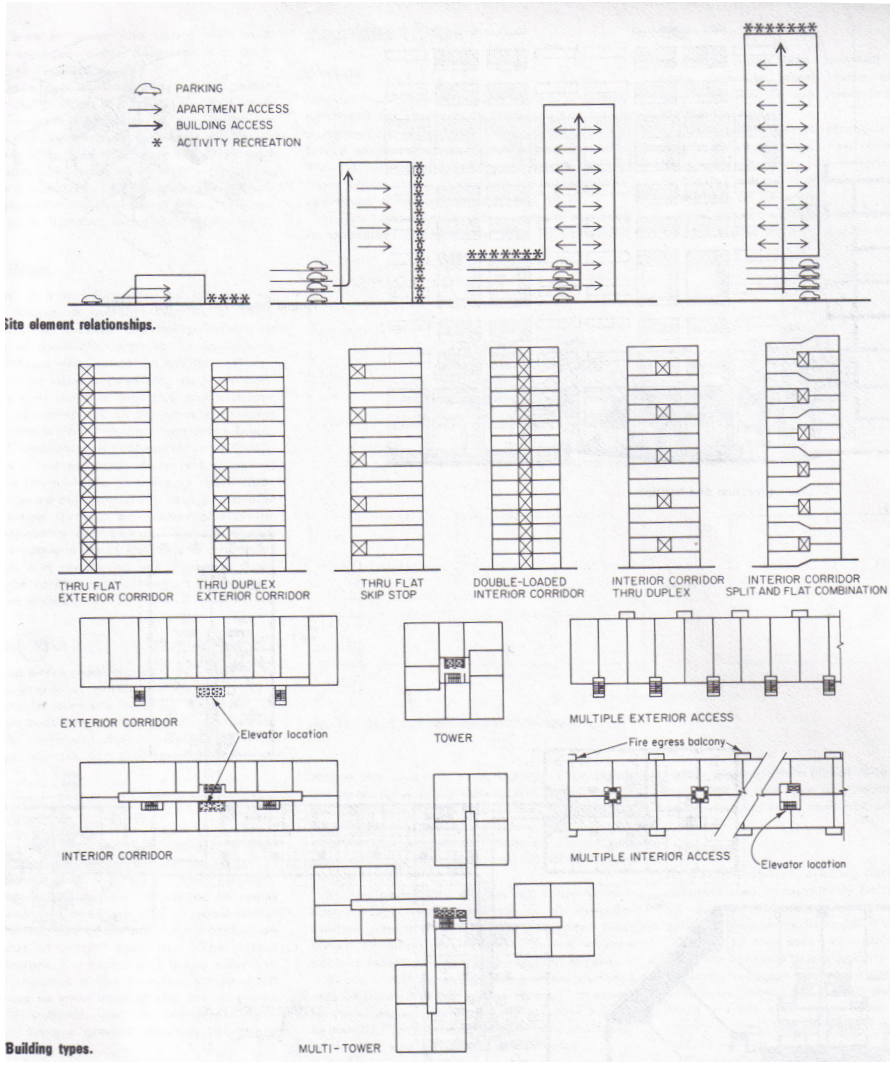


Figure C.5. Residential Building Principles. De Chiara and Callender 1980, 73.

Medical Research Center

Nova requests a medical research center to compliment their existing school of medicine (adjacent to the north end of the site). Figure C.6 displays the functional relationship of medical school elements. This type of information will be important to understand when I begin to layout the medical research center and its different uses.

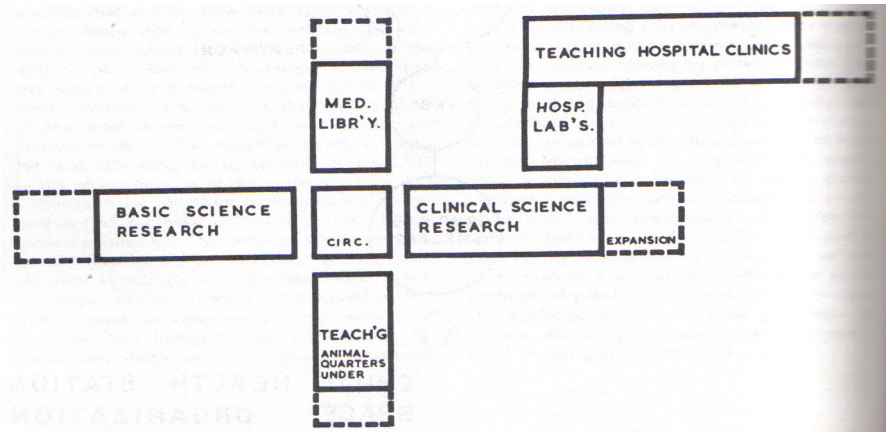


Figure C.6. Functional Relationships. De Chiara and Callender 1980, 490.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Research -Treating -Education	-Connect to the existing medical school -Comfortable experience for patients, their families, doctors, and students	-Health regulations -Located to the northern portion of the site	-Building orientation -Public vs. private realms	-Students -Professors -Patients -Visitors -Service -Parking	-Function determines the location, orientation, and shape of building
FORM -Single, multi-story building or 2 buildings with a strong connection	-Efficient -Convenient -Iconic	-Florida climate	-Respond to existing medical school -Accessibility	-Ample room for program -Utilities	-Function defines the building form
ECONOMY -Medical research is self-funding or is assumed to be paid for by the results of research	-Will be self sustaining	-Medical research will bring money to the development and the university	-Compatibility with existing medical school	Opperating costs	-Impact of economy on building design
TIME -Present -Future	-Create a dynamic medical research center that is cutting-edge: the way of the future - as a part of a mixed-use development	-Maintenance	-Expansion -Convertibility		-Implications of change and growth on long-range performance

Table C.4. Medical Research Center Information Index. Jon Champlin, adapted from Pena 2001.

Open Space

It has been decided to implement open space as a defined program element. From the literature researched thus far, and the precedent studies, it has been concluded that usable open space be included and defined to fulfill the project thesis and make this project a thriving icon for the university. Implementation of open space also allows the project goals to be achieved much easier.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Activities -Users	-Dynamic, interactive space -Priority of relationships -Interaction -Identity -Life of development	-Area size -Organizational structure -Movement patterns -Behavioral patterns	-Different activities -Melting pot -Priority -Hierarchy -Functional relationships	-Area requirements -Materials and plantings	-Space shaped by activities and surrounding businesses
FORM -Site -Environment -Space	-Environmental responses -Physical comfort -Identity, Image -Create relationships through interaction	-Climate -Site elements -Relationship to adjacent uses	-Character -Orientation -Connections	-Spatial requirements	-Form defined by function
ECONOMY					
TIME -Present -Future	-Create a space that will achieve other goals listed above through time, always responding to the needs of the site users	-Maintenance	-Adaptive -Growth -Convertibility		-Long-term performance

Table C.5. Open Space Information Index. Jon Champlin, adapted from Pena 2001.

Research Library and Book Store

Nova requests a 325,000 sq ft research library and university bookstore. Understanding how a library system is laid out, and how the different spaces relate to each other will be important to understand when designing this element. It will also be important to know the needed program for a library. Figure C.7 shows how a typical library is laid out and the different rooms typically found in a library.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Education -Research -Interaction	-Create a place where people can ultimately explore educational theories and research	-Organizational structure -Behavior patterns of users -User characteristics	-Activity adjacencies -Functional relationships	-Spatial requirements to supplements activities	-Create interactive system by function
FORM -Stand alone structure	-Icon -Symbolism of University	-University building -Defined by use	-Orientation -Hierarchy -Architecture type	-Layout of building and interior spaces	-Function defines form
ECONOMY					
TIME					

Table C.6. Research Library and Book Store Information Index. Jon Champlin, adapted from Pena 2001.

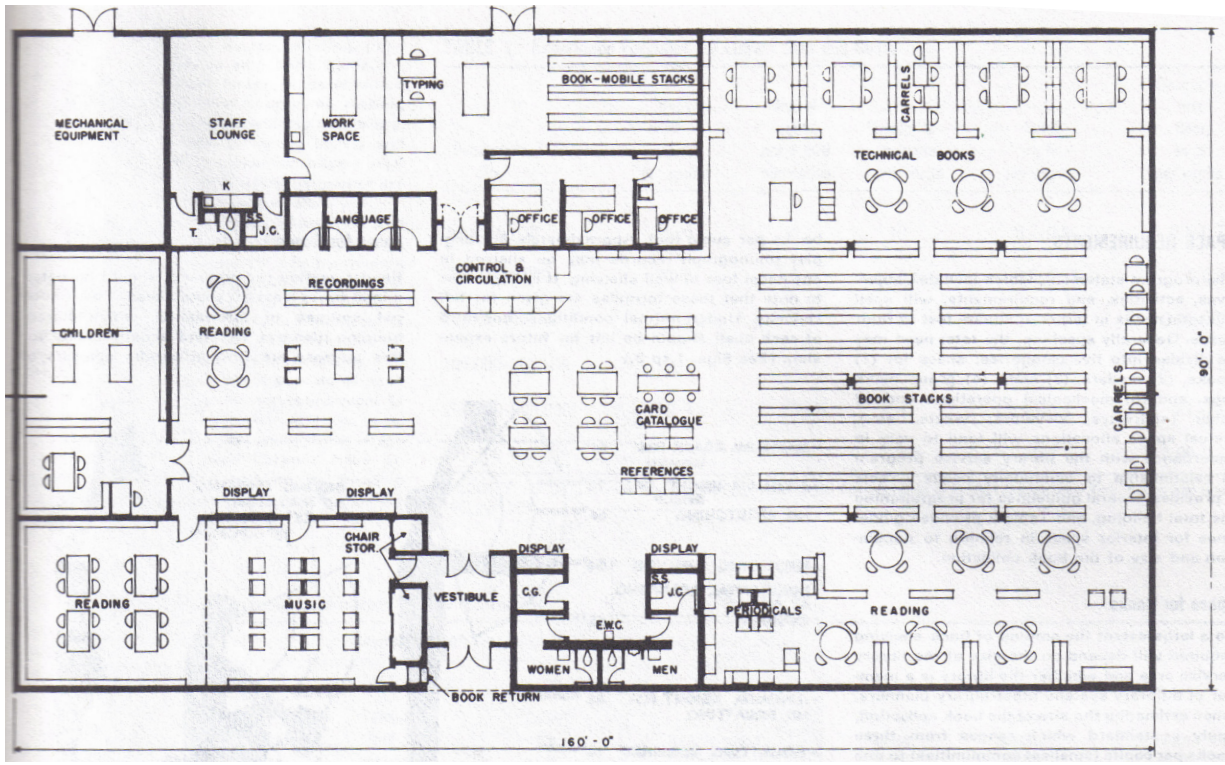


Figure C.7. Typical Library Layout. De Chiara and Callender 1980, 343.

Hotel

Nova requests a 360,000 sq ft hotel. It is assumed that this hotel will be supported by university events, families visiting the medical research center, families of students, and the general public. Figure C.8 displays typical hotel room layout and dimensions. The size and dimension of rooms will be important to understand when designing the structure of the hotel.

	GOALS	FACTS	CONCEPTS	NEEDS	PROBLEMS
FUNCTION -Limited stay -Variety of users	-Implement a sustaining hotel	-Typical amount of rooms used -Demographic	-Orientation -Activities	-Services -Users -University -Medical research center -Parking	-Quality experience created by function
FORM -Site -Quality	-Create a form that fits with the rest of the development	-Florida climate -Minimum sq. footages -Room layout -Interior vs. exterior space	-Hotel location -Convenient -Accessible -Views	-Spatial needs -Utilities	-Function and quality define the form
ECONOMY -Initial cost -Opperating cost	-Bring revenue to the development	-Initial money put into the building will determine future revenue	-Multiple users equals more revenue	-Opperating costs	
TIME -Present -Future	-Hotel will be successful for as long as the university needs it to be	-Maintenance	-Design with future use and expansion in mind		-Long term performance

Table C.7. Hotel Information Index. Jon Champlin, adapted from Pena 2001.

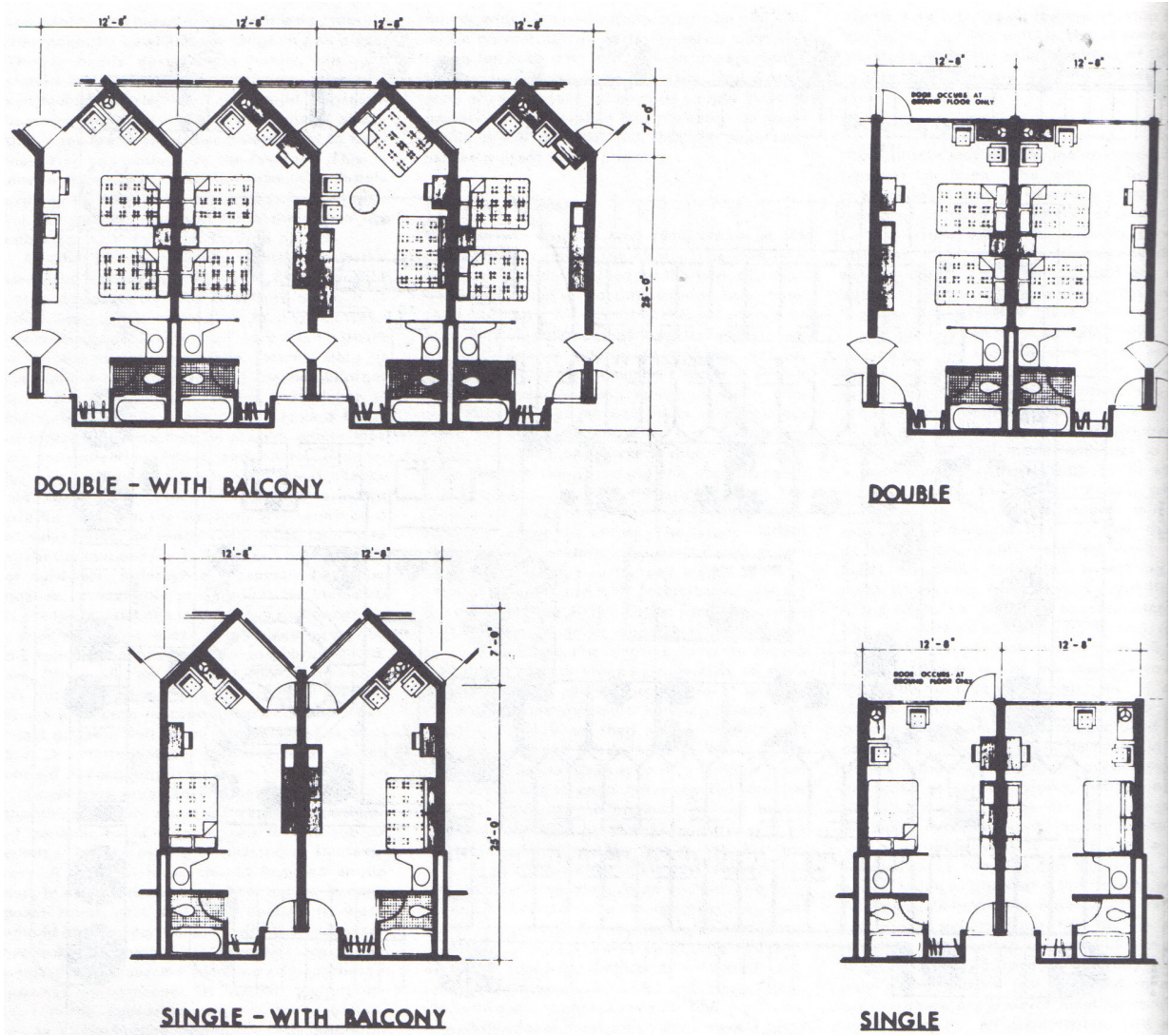


Figure C.8. Typical Hotel Room Layout. De Chiara and Callender 1980, 886.

Program Sizes on the Site

Before design of the site or any layout of structures can be done, the size and density of the program elements on the site must be documented to understand what type of space will be created, and ultimately if it will be possible to implement the given program on the site. The program elements are laid out on the site at one-story tall, then two-stories and so on, to portray how they will fit. All of the program elements fit comfortably on the site at five-stories tall. Therefore, five-stories is as dense as the study will go for the purposes of this project.

Figures C.9, C.10, C.11, C.12, and C.13 are diagrams displaying the size of program elements as they would be on the site at one-story, two-stories, three-stories, four-stories, and five-stories, respectively. The diagrams do not represent the locations of uses on the site, because it is envisioned that the uses will be mixed across the site. The diagrams simply show the size of the uses in the context of the site.

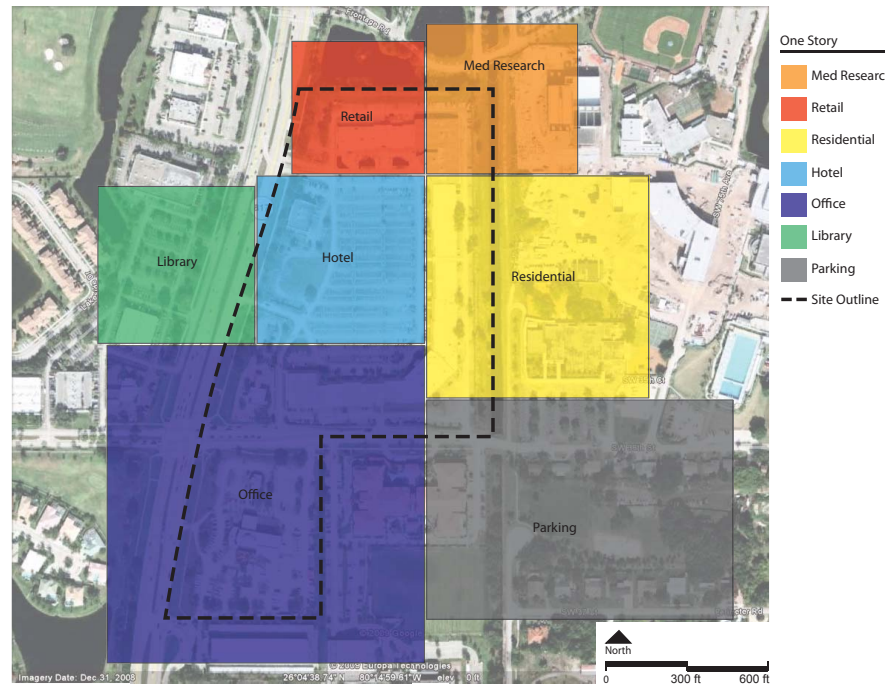


Figure C.9. One-Story Program on Site. Jon Champlin.

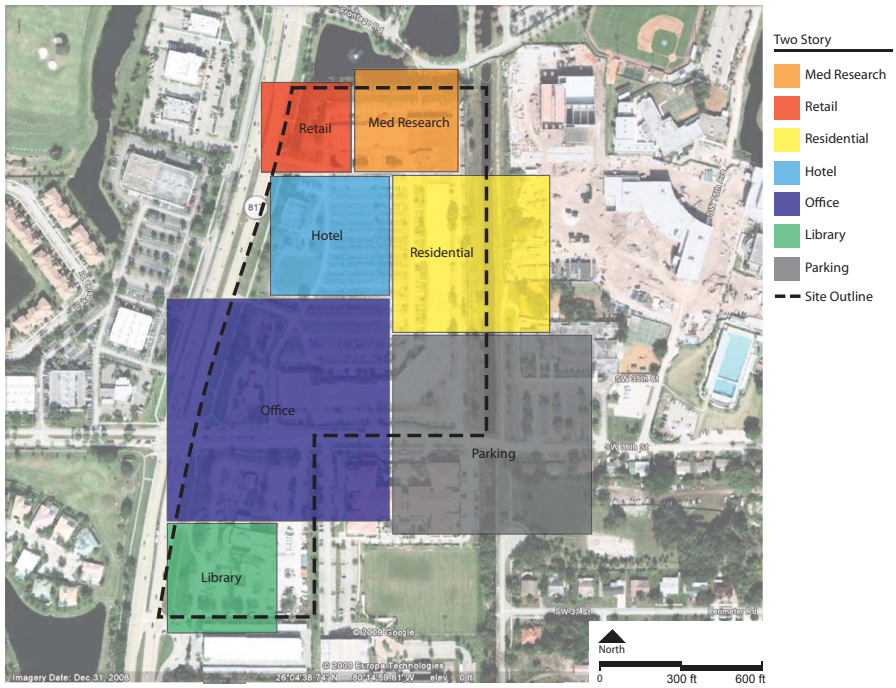


Figure C.10. Two-Story Program on Site. Jon Champlin.

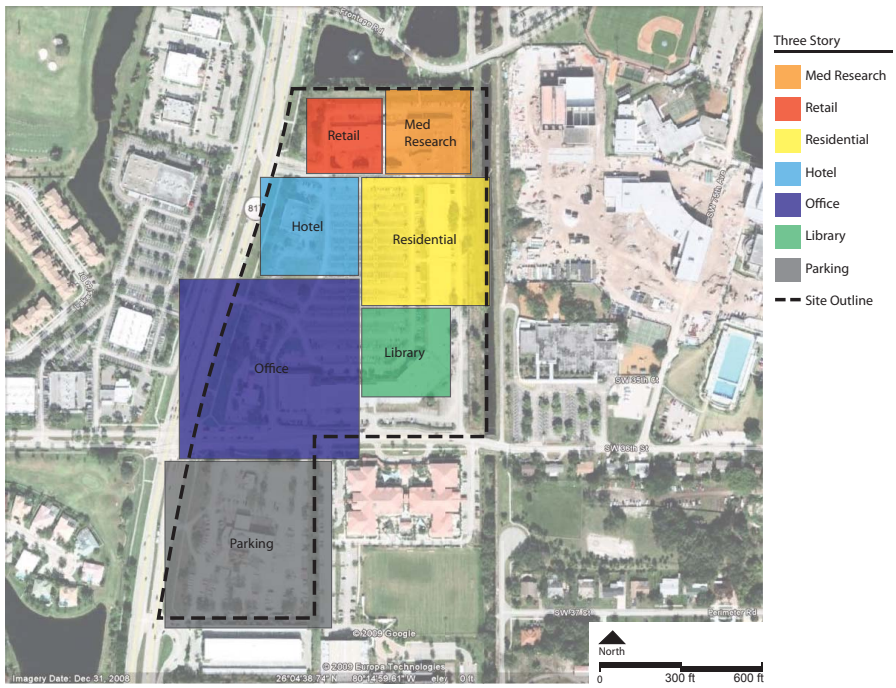


Figure C.11. Three-Story Program on Site. Jon Champlin.

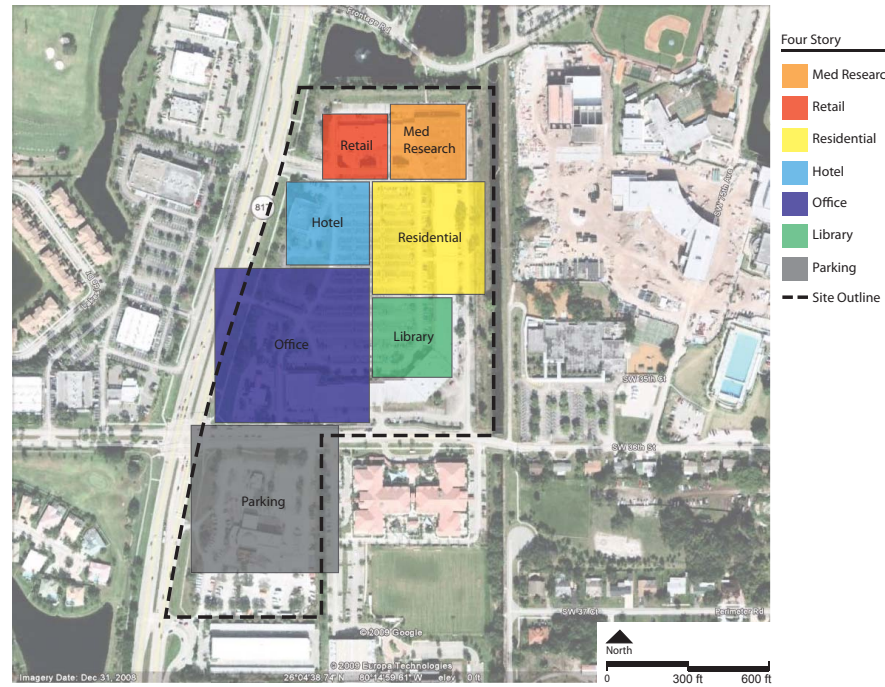


Figure C.12. Four-Story Program on Site. Jon Champlin.

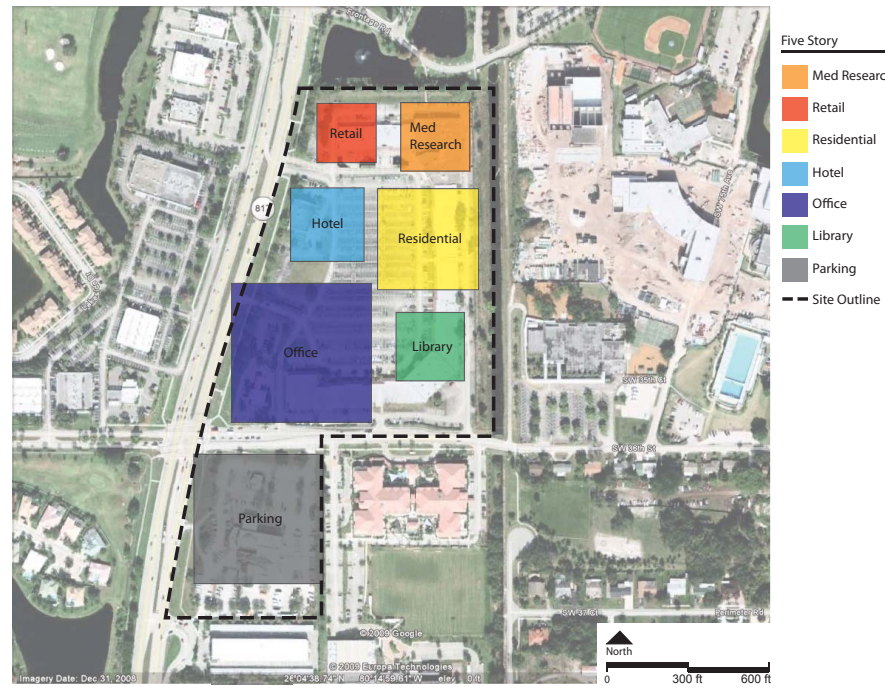


Figure C.13. Five-Story Program on Site. Jon Champlin.



Figure __. Five-Story Program on Site. Jon Champlin.

Appendix D: Precedent Studies

Categories

Through research of college campuses and mixed-use design, there are no mixed-use developments located on and operated by college campuses. For that reason, the precedent studies will be broken up into two categories that will cover the intents of the project. These include:

1) mixed-use developments,
2) mixed-use developments near college campuses

If the most suitable precedents for these two categories are fully studied, there will be a starting ground for inventorying, analyzing, and ultimately designing the site. It will be clear what exactly to search for and document during the inventory stage of this particular project. The methodology for analyzing that information will be apparent. Finally, it will be evident how different tangible elements (ie: dimensions, uses, materials, etc.) make a mixed-use development successful.

Mixed-use

Mixed-use developments will be closely studied to understand building usage and square footage of that usage, building size (amount of stories), vehicular circulation, pedestrian circulation, and pedestrian spaces. Conclusions about the relationships and connections between these factors and what impacts those have on the site will then be made.

Urban College Campus

Portland State University in Portland, Oregon will be studied because of its highly urban context, surrounding neighborhoods, and the form and function of the campus and primary buildings on the campus. There will be documentation of what types of businesses are located within the area and how these developments or neighborhoods connect to the campus. These will impact the project because of the relationship of a mixed-use development to a college campus. Circulation systems will also be documented. It will be important to understand how vehicles and pedestrians operate efficiently (or not) on this campus.

City Place

West Palm Beach, Florida

Location: West Palm Beach, Florida, on Okeechobee Blvd. just east of I-95
Project Type: New town center for an existing city
Size: 72.9 acres
Date Designed: 1996; Date Opened: October 2000
Landscape Architects: Bradshaw Gill & Associates, Ft. Lauderdale, Fl
Client: City of West Palm Beach

Retail: 600,000 square feet
Office: 750,000 square feet
Hotel: 440 rooms
Residential:

Private townhomes:	51
Garden apartments:	33
Luxury rental apartments:	128
Mid-rise rental apartments:	264
Rental flats:	38
Live/work lofts:	56
Total:	**570**

Civic: Harriet Himmel Gilman Theater for Cultural and Performing Arts, a central plaza, and assorted small urban open spaces

Site Context:

Figure D.1 on page 134 represents the site context for City Place in West Palm Beach, Florida. The red line outlines City Place mixed-use development. The site is bordered to the west by the Kravis Center, a performing arts center. Okeechobee Blvd. separates the northern portion of the site from the southern portion. Office spaces are proposed in the southeast corner of the site in the center of median, as well as to the north and south of Okeechobee Blvd. A large convention center is located in the southwest corner of the site.

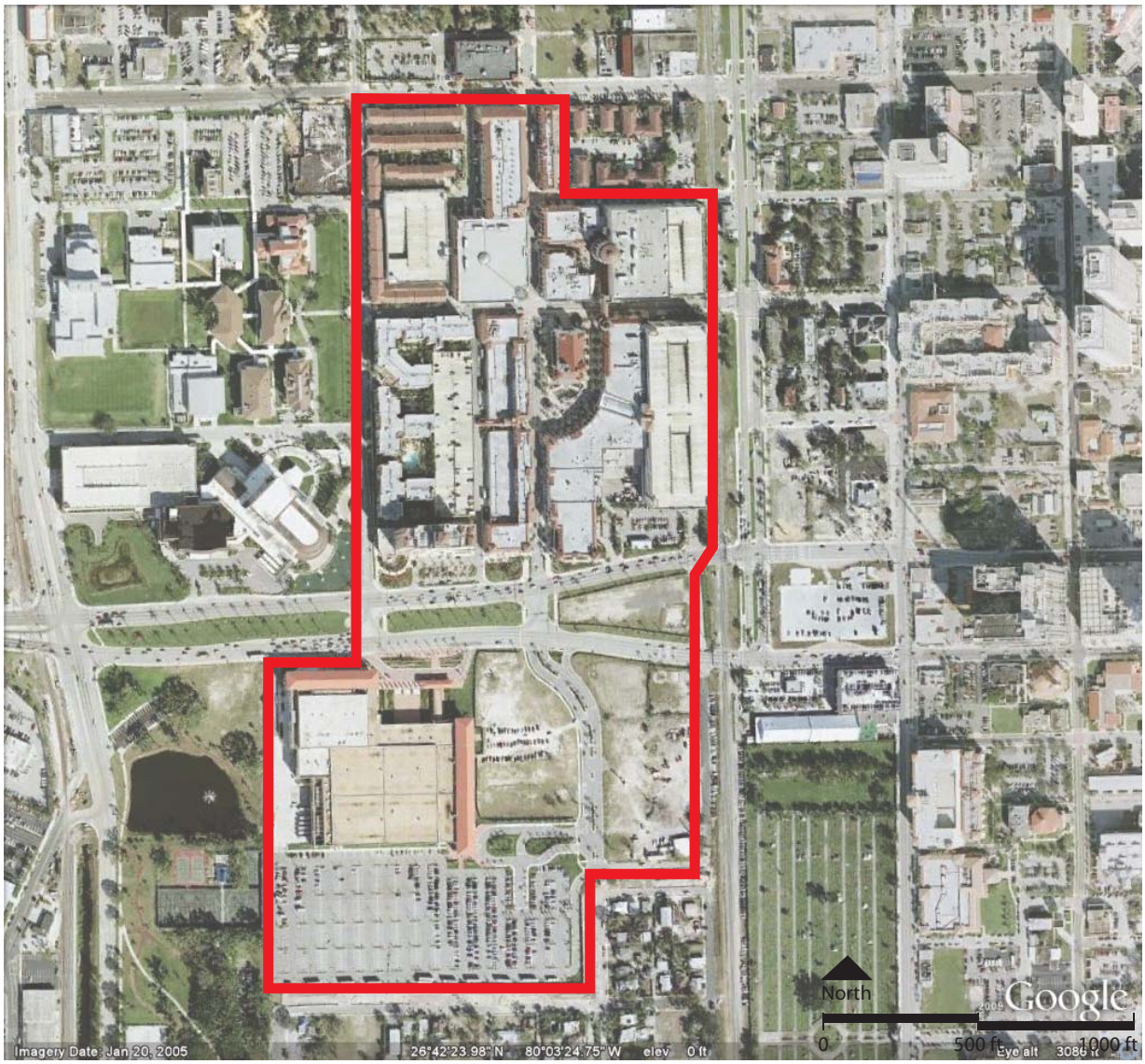


Figure D.1. City Place Site Context. Jon Champlin.

Building Use:

The core of the development is mixed-use, with retail on the first floor and office and/or residential above. Residential uses and parking garages are primarily located on the exterior of the site, to support the mixed-use core. Figure D.2 displays the different building uses and their locations on the site.

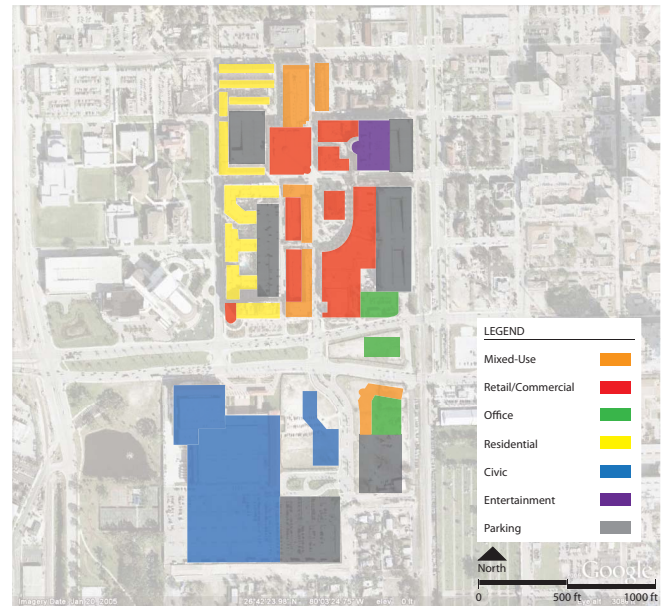


Figure D.2. Building Use. Jon Champlin.

Building Heights:

Building heights vary from one story to 14 stories, but most buildings are in the three to four story range. The tallest buildings are located along the primary entrance/front door to the site, Okeechobee Blvd. Figure D.3 displays the building heights and their locations in City Place.



Figure D.3. Building Heights. Jon Champlin.

Vehicular Circulation:

Okeechobee Blvd. works as one of the primary entrances to downtown West Palm Beach. Therefore, it also acts as the primary entrance to City Place. The site is laid out along a grid pattern, with vehicular circulation moving throughout. Figure D.4 displays City Place's vehicular circulation, parking garage locations and entries, and the railroad line that runs along the eastern border of the site.

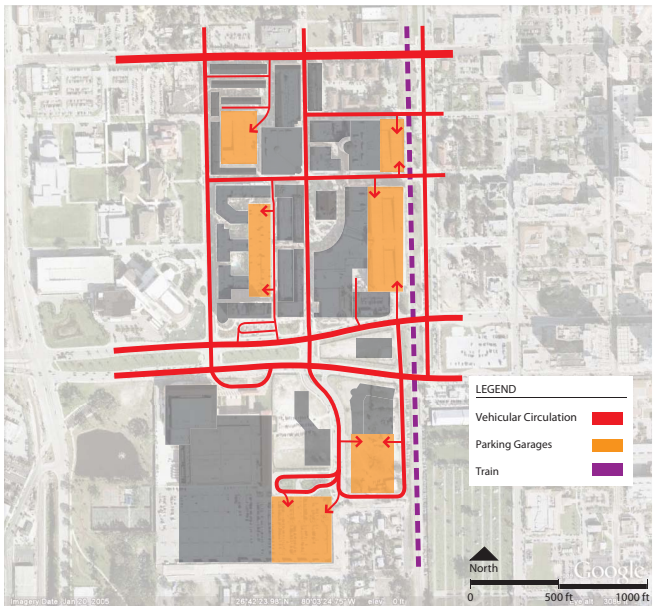


Figure D.4. Vehicular Circulation. Jon Champlin.

Pedestrian Circulation:

Sidewalks border both sides of every street in City Place, with plenty of space for multiple pedestrians to walk comfortably. Pedestrian spaces can be found throughout the site. The central plaza, surrounding the Harriet Himmel Gilman Theater, acts as the anchor to the entire site. Figure D.5 displays the pedestrian circulation and usable open spaces within City Place.

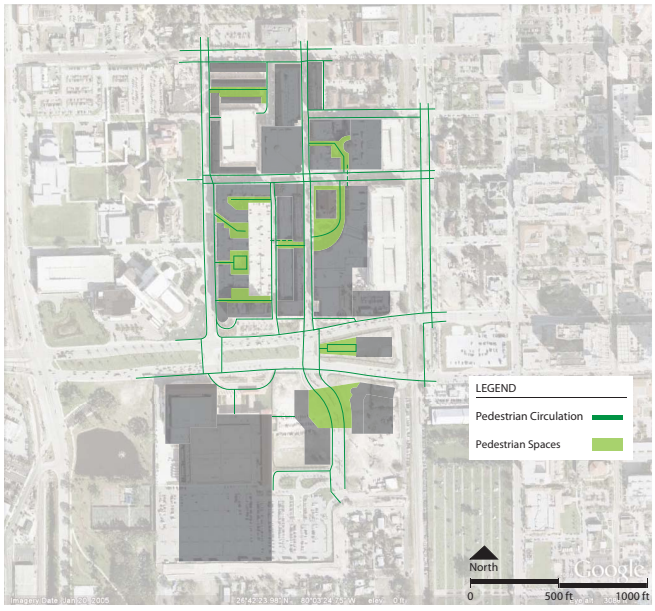


Figure D.5. Pedestrian Circulation. Jon Champlin.

Combined Circulation:

Figure D.6 displays the combination of City Place's vehicular circulation and pedestrian circulation. An overlay of the vehicular circulation and pedestrian circulation is represented because this aspect of City Place's design is crucial to its success. Streets at City Place have ample sidewalk space, appropriate street trees, and buildings are oriented toward the sidewalk, forming a consistent street wall and civic space. Vehicles and pedestrians coexist peacefully, not as two separate entities.

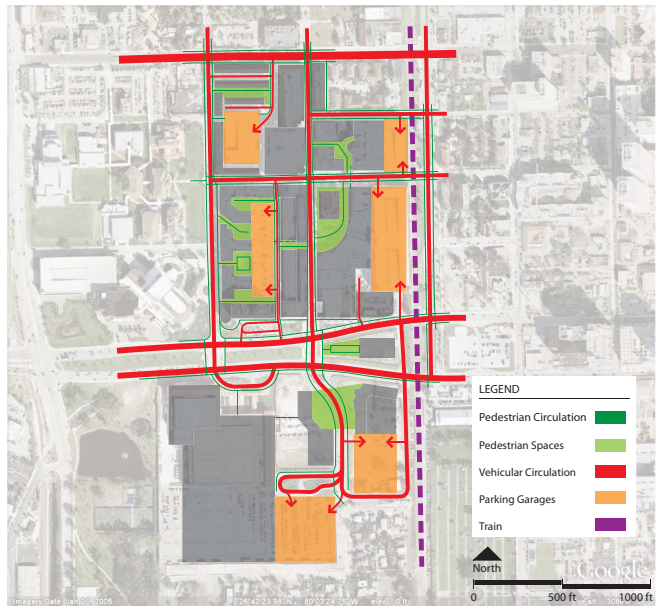


Figure D.6. Combined Circulation. Jon Champlin.

Central Plaza:

Figure D.7 displays how the central plaza acts as an anchor to the site. Beside the fact that it is in the center of the site, in the middle of all of the other uses, it is the primary outdoor gathering space. Mixed use buildings with retail on the first floor and residential and/or office above overlook the central plaza. This space gives the site its primary source of identity.



Figure D.7. Central Plaza. Bohl 2002, 182.

City Place Materials:

Figure D.8 displays some of the high quality materials used at City Place. Date palms, potted plants, brick paving, outdoor furniture, and pedestrian-scale lighting can be found throughout the project.



Figure D.8. City Place Materials. Bohl 2002, 187.

City Place Spaces:

Plazas, courtyards, grand staircases, fountains, balconies, and arcaded walkways for cafes and restaurants are all provided in the City Place development. Cars and pedestrians coexist here due to the street design and on-street parking. Figure D.9 displays one of the pedestrian spaces in City Place.



Figure D.9. City Place Spaces. Bohl 2002, 187.

City Place Streets:

Cars, buses, bicycles, trolleys, and pedestrians all share the streets at City Place. Streets are lined with parallel parking spaces and street trees. Sidewalks range from six to ten feet and are even wider at key intersections, where they are protected from traffic by bollards and lampposts. Figure D.10 displays the street life, dimensions, and materials of City Place streets.



Figure D.10. City Place Streets. Bohl 2002, 185.

Conclusions About City Place:

After studying City Place in depth, conclusions have been made about the site that will impact the design of this project directly. The locations of building uses and parking garages was key to document. Seeing, and understanding that the layout of the buildings at City Place directly affected, and continues to affect, the success of the project, is something that can be applied to the Nova project. City place has a primary civic space at the core of the project. This idea of having a primary space at the core of the site is something that can also be applied to this project.

Another noticeable factor about the design is the building heights. The tallest buildings on the site are located at the entrance, along Okeechobee Blvd. to act as a face to the development. Besides the 14-story condo building and the tall office buildings, most other buildings are between three and four stories tall. This seems to be the desired density to sustain the businesses on the site.

The last conclusion to be made about City Place is how the site incorporates an iconic building. The restoration and adaptive use of the 1920s-era Spanish Colonial Revival church has truly created an icon for the entire site, as well as established a sense of place.

Orenco Station Town Center

Portland, Oregon

Location: Hillsboro, Oregon, ten miles west of Portland
Project Type: Mixed-use Town Center in a TOD new urbanist community
Size: 7 acres (Town Center Only)
Date Designed: 1995; Date Opened: 2002
Landscape Architects: Walker Macy
Client: City of Hillsboro
Uses:

- Retail and Dining: 70,000 square feet
- Office: 31,000 square feet
- Residential:
  - Loft Residences above shops: 22
  - Live/work townhomes: 28
  - **Total:** **50**
- Civic: Central Park located just to the north of the town center

Site Context:

Figure D.11 on page 141 displays the site context for Orenco Station Town Center. The red line outlines Orenco Station Town Center. Cornell Road is a major traffic way that runs along the site's southern border. The town center is located about three blocks from Portland's Westside light-rail line station, making it accessible to all of downtown Portland without the use of a vehicle.



Figure D.11. Orenco Station Town Center Site Context. Jon Champlin.

Building Use:

The only building uses on the site are mixed-use and residential. The mixed-use consists of retail and dining on the first floor with office or residential above. The two northern mixed-use buildings are actually live/work townhomes. The remaining residential is townhomes. Figure D.12 displays the building uses and their locations for the Orenco Station Town Center.



Figure D.12. Building Use. Jon Champlin.

Building Heights:

All of the mixed-use buildings are three stories. The townhomes are two stories. There are also garages that are one and one-half stories tall. The garages contain lifts in them that allow owners to store a car or other objects on top of the space while keeping another car on the bottom. The tallest buildings are located along Cornell Road, supplying a face to the town center as a source of site identity. Figure D.13 displays the site's buildings' locations and heights.



Figure D.13. Building Heights. Jon Champlin.

Vehicular Circulation:

Figure D.14 displays the vehicular traffic, parking lots, and parking garages on the site. The main vehicular circulation route is the southern border of the town center (Cornell Road). Local-traffic roads surround the remainder of the site. Parking lot access occurs mid-block from the east and the west of both lots. The garages for the townhomes are accessed via the parking lots. Figure D.14 begins to show the block structure of the town center, with the buildings around the perimeter of the site.

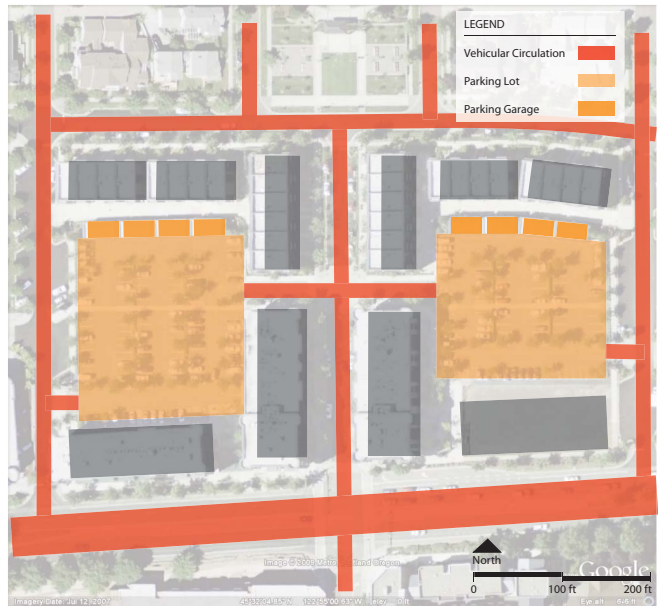


Figure D.14. Vehicular Circulation. Jon Champlin.

Pedestrian Circulation:

Sidewalks are very present in this town center, bordering both sides of all streets, and completely surrounding the mixed-use buildings. The primary pedestrian space is not located on the site, but just to the north in Central Park. Smaller pedestrian spaces can be found adjacent to the mixed-use buildings, on either side of the site. Figure D.15 illustrates the pedestrian circulation on the site.

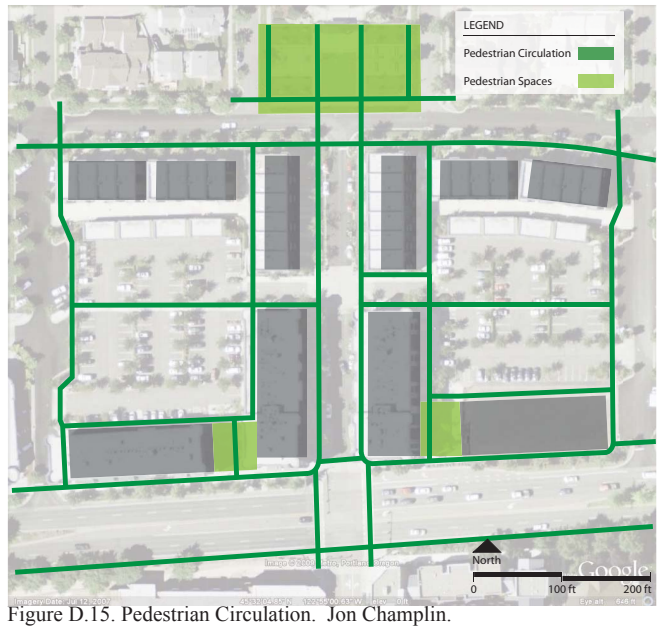


Figure D.15. Pedestrian Circulation. Jon Champlin.

Overall Circulation:

Figure D.16 displays how the vehicular circulation and pedestrian circulation interact and coexist. Other than to cross Cornell Road, the pedestrian experience on the street is very pleasant due to the defined street wall and the orientation of the buildings being toward the street.

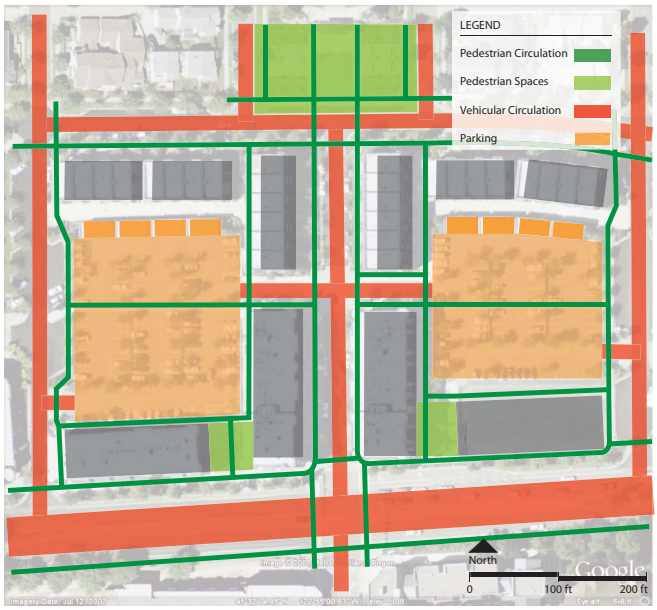


Figure D.16. Overall Circulation. Jon Champlin.

Interior Streets:

Figure D.17 shows the interior street space on the site as well as the mixed-use buildings that form the space. Parallel parking lines both sides. Street trees and lighting add to the pedestrian scale. Sidewalks widen at the intersections to lessen the amount of street that pedestrians must cross..


Figure D.17. Interior Streets. Jon Champlin.

Cornell Road Frontage:

Figure D.18 displays the relationship of Cornell Road to the buildings that face it. First floor retail and dining are most definitely oriented towards the sidewalk and street, making the street feel more like a civic space instead of a vehicle-dominated space. The only downfall is the width of Cornell Road, being five total lanes of traffic for pedestrians to cross. The width of Cornell Road is undoubtedly needed for traffic counts, but the pedestrian crossing experience needs improvement.



Figure D.18. Cornell Road Frontage. Jon Champlin.

Street Corner Detail:

Figure D.19 displays the street corner detail of the town center. Bollards and a change in paving detail from concrete to brick help to establish a pedestrian scale and improve the quality of the cross walk experience for the pedestrian by lessening the distance to cross.



Figure D.19. Street Corner Detail. Jon Champlin.

Building Orientation:

Buildings at Orenco are oriented towards the street, giving the street energy. The views from the buildings towards the streets is a much wanted commodity for residence as well as those working in the offices. Figure D.20 gives an example of a view overlooking the main intersection on the site.



Figure D.20. Building Oriented to the Street. Bohl 2002, 247.

Conclusions About Orenco Station Town Center:

The layout of the blocks is probably the most valuable thing to be taken from this study because building layouts, street layouts, parking layouts, and how the three relate, can be observed. The parking at Orenco is all in the interior of the block (except for on-street parallel parking), hidden from the street. This is a desirable characteristic of Orenco Station's design that can be applied to the Nova mixed-use project.

One primary feature of Orenco Station is that the tallest buildings are near the main vehicular circulation route. This is quite successful because it creates a "face" to the development, and helps to set up an identity to passers-by. This also can draw people into the site, by acting as a disclaimer that this site is a dense, thriving place.

Portland State University

Portland, Oregon

Portland State is located in the urban fabric of downtown Portland, Oregon. While it is obvious that most buildings surrounding campus where not planned according to each other, but rather as a single building in a larger context, they for the most part have similar uses. Much of the development directly surrounding the university is student housing or offices located above retail, restaurants, or convenient stores. Building heights range from three stories to twenty-plus story buildings.

Site Context:

This aerial image in Figure D.21 displays the urban fabric that Portland State is a part of. One aspect of this image that sticks out is the green band that runs the length of the of urban campus. This band is a simple, formal park system called the Park Blocks. It is composed of sidewalks, green lawn, and large, mature trees. Streets run parallel to the outside of the park, separating it from the buildings on either side.



Figure D.21. Portland State University Site Context. Google Earth.

Urban Park Edge:

Figure D.22 illustrates how the edges of the park system are defined by the one lane street with parallel parking on either side, a 10-to-12 foot wide sidewalk, and the building facade. This consistency gives the park a sense of place and a strong identity.



Figure D.22. Urban Park Edge. Jon Champlin.

Urban Park Edge Buildings:

Figure D.23 shows the typical building use surrounding the park. This corner apartment building is five stories tall, with a small restaurant and convenient store on the first floor, offices on the second and third floor, and multifamily residence on the fourth and fifth floors. The building is oriented toward the street edge, supplying a connection between the building and the exterior street space.



Figure D.23. Urban Park Edge Buildings. Jon Champlin.

Circulation Systems:

Figure D.24 displays the relationship between vehicular and pedestrian circulation around the park. While vehicles might seem like the predominant mode of transportation by looking at this picture, there is a much different feeling for a pedestrian walking around the site. Pedestrians are the kings of this space because of the simple magnitude of students walking. Vehicles yield at street corners to pedestrians.



Figure D.24. Circulation Systems. Jon Champlin.

Ample Sidewalks:

Some of the streets on campus, especially near the park, have been closed off to through traffic and are limited to pedestrian, bikes, and emergency access use. Figure D.25 displays one example of this condition adjacent to the Park Blocks.



Figure D.25. Ample Sidewalks. Jon Champlin.

Raised Cat-Walks:

PSU's campus incorporates a few raised cat-walks (seen in Figure D.26) that allow pedestrians to get from one building to another without going down to the street level. However, from my observation, these were not used hardly at all. Routes, services, and interactions are limited on these cat-walks. Unless it is a heavily traveled route between buildings, cat-walks should not be used in the design.



Figure D.26. Raised Cat-Walks. Jon Champlin.

Diverse Buildings:

The urban context of PSU turns into a hodgepodge of building types on the southern part of the campus. While the establishment in Figure D.27 could be considered "mixed-use", it does not fit into the larger context of the campus because it is a single family residence that has been converted into a work/live establishment.



Figure D.27. Diverse Buildings. Jon Champlin.

Desirable Mixed-Use:

Figure D.28 displays the modern style of architecture that newer buildings on PSU's campus are composed of. This building incorporates restaurants, small boutiques, and small retail stores on the first floor. Office space can be found on the second floor. The third through tenth floors are either office or residential. It is assumed that they are to be residential due to the size and locations of the windows.



Figure D.28. Desirable Mixed-Use. Jon Champlin.

Iconic Library:

Figure D.29 displays the Branford Price Millar Library at Portland State. This building is located next to the park, facing the park, and by it's shape and use, acts as an iconic building for the university.

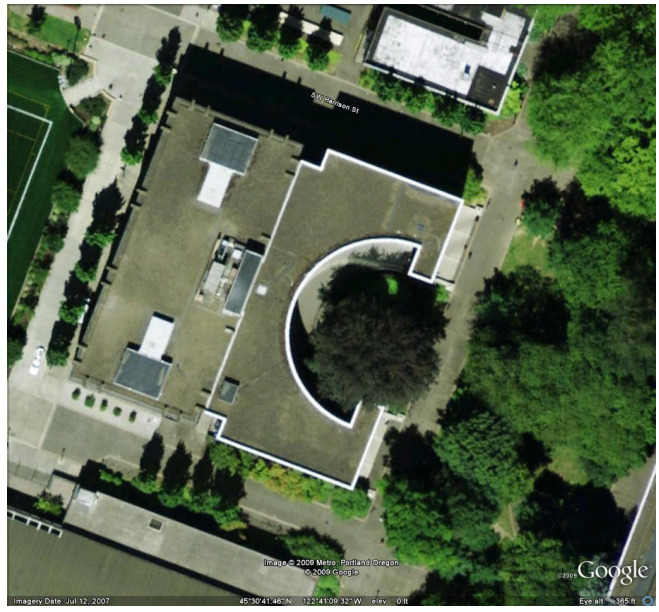


Figure D.29. Iconic Library. Google Earth.

Iconic Library Shape:

The bowl-shape of the front facade of the building gives it a distinct identity on the campus since no other buildings have that shape. The library certainly has a sense of hierarchy over other buildings on campus because of its shape and location. Figure D.30 displays the iconic shape of the library.



Figure D.30. Iconic Library Shape. Jon Champlin.

Library View:

Figure D.31 displays the view from the entrance to the library that spills out into the Park Blocks and pedestrian system of the campus. The library entrance is raised up, giving it dominance over the pedestrian realm below.



Figure D.31. Library View. Jon Champlin.

Outdoor Spaces:

Figure D.32 shows an example of how buildings connect to the street space, by supplying outdoor gathering spaces. These spaces don't have to be large or have any uses other than seating. The path-to-space relationship is crucial in these spaces. As you can see, a small, raised planter separates the seating area from the busy street. While people can still connect visually, the planter provides a sense of protection.



Figure D.32. Outdoor Spaces. Jon Champlin.

Parking Garage Entry:

The parking garage entry for the building in Figure D.33 is located directly next to the main entry of the building. This type of entry system is not desirable because the parking garage entry over-powers the main entry to the building, and takes away from the building's curb appeal.



Figure D.33. Parking Garage Entry. Jon Champlin.

Parking Garage Entry:

The parking garage entry for the building in Figure D. 34 is located mid-block. It is tucked into the building so that you don't notice it as much as the one on in Figure D.33 on page 153. This entry system is more desirable because while parking should be visible and efficient, it should not be the primary focus of the building. A difference in pavement material between the entry drive and sidewalk would increase pedestrian safety in this situation.



Figure D.34. Parking Garage Entry. Jon Champlin.

Conclusions About Portland State University:

The first thing to be noticed about Portland State is the activity level of the park. The park serves as the primary pedestrian circulation system, and people seem to embrace this. Although the only activity that can take place in the park is walking or sitting, the space is typically full of people because of the surrounding uses. Classrooms, offices, shops, and residential all front onto the open space, establishing the park as a high-activity zone.

Another thing to be discovered is how vehicular circulation and pedestrian circulation work together. The tightness of the streets, materials used, and uses of the surrounding buildings help to slow traffic, and announce to drivers that pedestrians have the right-of-way.

PSU's campus is also a good example of how to design vehicular circulation and parking in an urban context. Some would argue that parking garages are less desirable to look at than other buildings, and should be hidden. However, parking garages are inevitable in an urban context, and should fit into that context by incorporating a unifying architecture as surrounding buildings, being secure and safe, well lit, and user-friendly.

The last conclusion about the campus is the location of important buildings, and the use of iconic buildings. Most of the important buildings on campus (library, dining hall, etc.) are located adjacent to the park. This makes sense because the park is the primary circulation route. Also, iconic buildings give the campus a real sense of place and establish an identity.



North Entry of Medical School. Jon Champlin.

Appendix E: Design Process

Personal Design Process

My personal design process is displayed in Figure E.1. I categorize myself as a "linear thinker," meaning that I typically move from one step to the next, completing the task at hand before moving on to the next step in the process. My process is composed of three different phases. The first phase is the site selection and definition. At the beginning of the project, the project (or site) is undefined and unresolved in terms of design, which is why it is represented by a jagged black line with no fill color because it has no definition or body. The dilemma is established by the client or derived from the initial, undefined site with the help of the client's input. Client goals and personal design principles are weighed against the stated dilemma to form the project thesis.

When the thesis has been stated, the project will pass through a filter to get to phase two. The filter in my case is research and site analysis. This filter helps to better define the project, scope, and outcome. During phase two, multiple concepts are formed for the project. These concepts are represented by different colored objects that are starting to become defined.

When the concepts have been formed, the project is ready to pass through another filter to reach the last phase in the process. This filter is client(s) input and design review(s). This filter chooses a project path and concept and helps to form the final design. The final design is a thought-out, solid piece of work, and is represented as such.

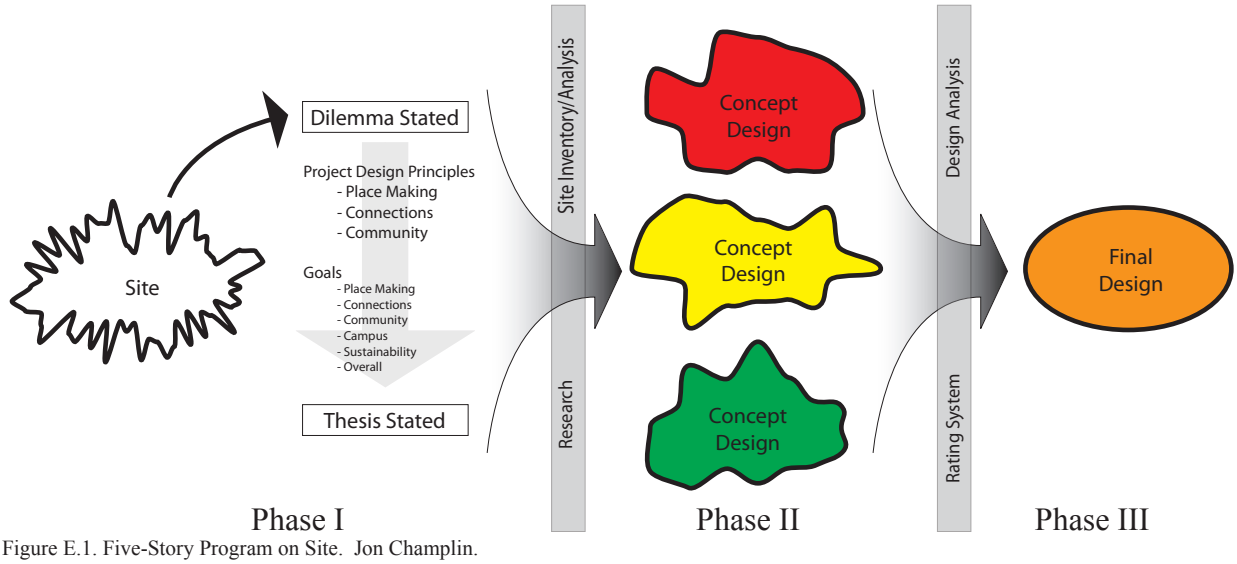


Figure E.1. Five-Story Program on Site. Jon Champlin.

As stated before, I am a very linear thinker in terms of design and process. That linear thinking came to the fore-front when I explored multiple options for representing a process diagram. This diagram (displayed in Figure E.2) is quite simple in that my separate tasks are laid out in different blocks across a calendar of the school year. The blocks are organized so that they come in chronological order, but also have overlap between each other. Arrows represent strong relationships between tasks. For example, my research this semester will have a direct relationship to the design development next semester. A list of these tasks is laid out below:

1) Project Definition
    - Site location and size
    - Dilemma and thesis determined
    - Personal goals on the project
    - Project goals
    - Critical site conditions
    - Base information gathered
2) Research
    - Mixed use
    - Place making
    - College campus mixed use
    - Site design
    - Land development
    - Ecological factors

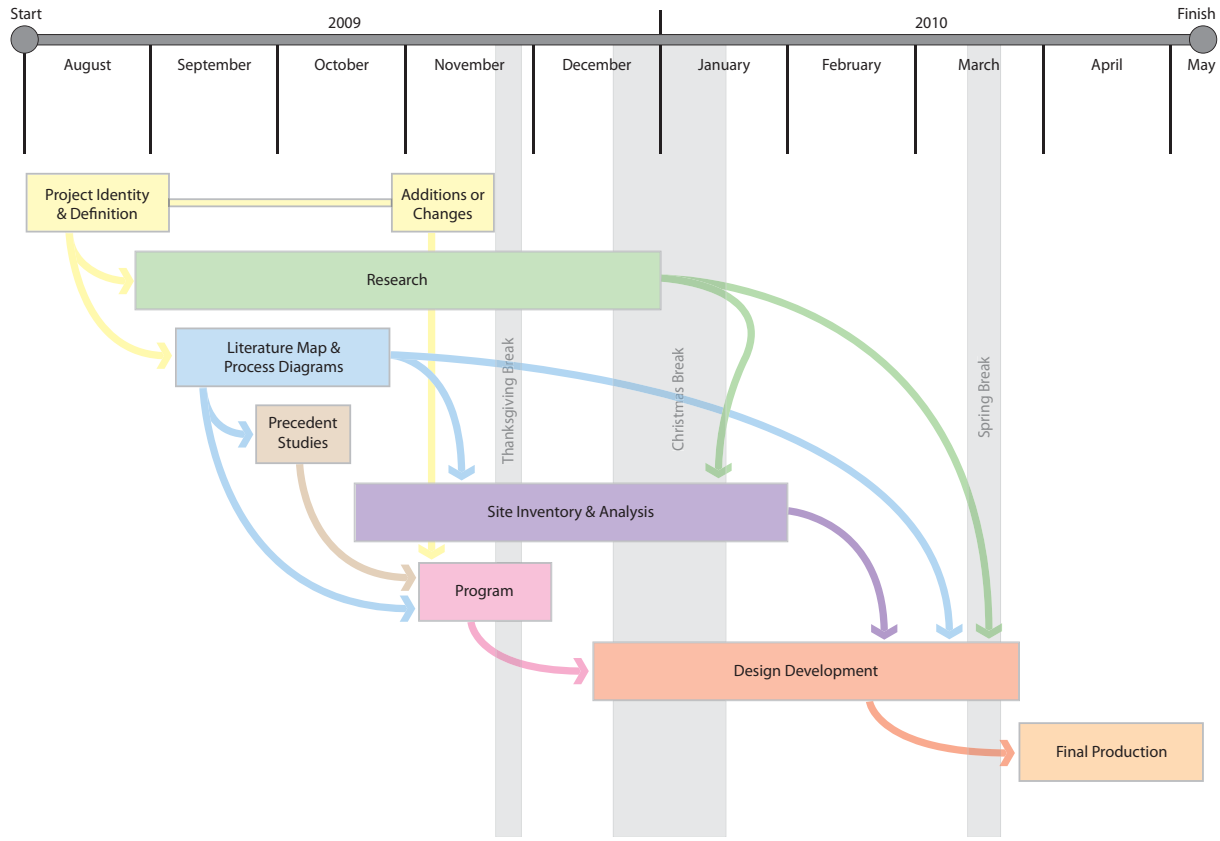


Figure E.2. Five-Story Program on Site. Jon Champlin.

3) Literature Map/Process Diagrams
    - Literature and thoughts mapped and evaluated
    - Preliminary process for the school year determined
4) Precedent Studies
    - Mixed use projects – what makes them successful?
    - Mixed use on or near a college campus
5) Site Inventory and Analysis
    - People
        - Different users
        - Culture
        - Demographics
    - Circulation
        - Streets
        - Pedestrians
        - Service
        - Site access points
        - Connections
        - Campus loop drive
    - Surrounding uses
    - Views
        - Into the site
        - Out of the site
        - From the heart of campus to the site
    - Architectural style
        - Nova
        - Adjacent neighborhoods
        - Region
    - Natural systems
        - Hydrology
        - Climate
        - Plant life
        - Soils
    - Existing Infrastructure
        - Sewer
        - Electric
        - Water
        - Buildings
6) Program
    - Hospital Research Center
    - Retail
    - Residential
    - Hotel
    - Office
    - Research Library
    - Open Space
7) Design
    - Goals
    - Place Making
    - Connections
    - Community
    - Campus
    - Environment
8) Production
    - Document
    - Presentation