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ABSTRACT

This thesis project examines the possible impact of an adaptive reuse project in Center City Holyoke. The city of Holyoke faces a number of challenges, including poverty and crime, which are particularly prevalent within the Center City neighborhood of The Flats. The number of vacant buildings, products of an abandoned industry and increasing urban sprawl, increase these challenges. The proposed program for a multi-use community-oriented complex on Water Street attempts to reengage the community with the river, and the city at large.

I began this project in the fall of 2010, through a series of research inquiries into the theoretical framework of adaptive reuse. This provides a solid grounding in methodologies of sustainability, reuse, and urban development upon which a specific case study can be built. Through examination of existing precedents and the existing context within Holyoke, these methodologies begin to reveal themselves as more or less successful.

The second stage of the project was to test the framework I had developed through my research. The Albion Mills are typical of a number of Holyoke industrial sites: large, composed of a number of different buildings, set on the water, and currently uninhabited. It presents a number of challenges, because it is currently disconnected from the rest of the city. I redesigned the complex by introducing a new pedestrian bridge over the canal, and conducting selective demolition to create an interior courtyard that ties two disparate groups of buildings into a cohesive development.

The initial motivation for this project was the idea of sustainability. This has remained an overarching theme throughout the project's development, but my understanding of its meaning has changed and matured. Sustainability requires not only better environmental practices, but also a more equitable economic and social context. To become truly sustainable requires rethinking a lot of the ways in which people live, work, and interact.

Through my proposed design transformation of the Albion complex, I am challenging the conventions of urban design. My project endeavors to reconnect the public to their city and to energize local creativity through a series of strategies involving materiality, visibility, and interconnectivity. Through formal strategies and programmatic interactions, my project attempts to create a context for rethinking currently accepted modes of living. By juxtaposing the past with the present, New Albion creates a vision for the future.

NEW ALBION

Adaptive Reuse of a Holyoke Mill

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INTRODUCTION

Within my yearlong independent research and design project, I've attempted to weave different interests together into one project. My major in Architectural Studies and my minor in Environmental Studies have both been guided by my passion for sustainable building. Through my studies in various departments, I have become engaged in urban planning as well. Additionally, I am fascinated by the history of the Pioneer Valley where I have lived for over a decade. I decided to combine these interests into a project on Adaptive Reuse, the repurposing of buildings whose original function is now defunct. My engagement in the subject was originally sparked by my summer internship working at the Nacul Center in Amherst, which is located in an old church building that the owner and lead architect Tullio Inglesse remodeled in the late 1960s.

Section One of this document deals primarily with the research aspect of my independent work. In the sciences, the two primary approaches to logical thinking are often described as inductive and deductive reasoning. When taking an inductive approach, one starts from the "bottom", and tries to understand a pattern from a group of observations, and then through those patterns hypotheses and theories emerge. In deductive thinking, one works from the "top", beginning

with theories and then moving into a narrower lens of more specific examples and observations. Both are necessary methodologies, but I have found myself to be more suited to deductive reasoning. Therefore, I have tried to organize this work as I organized my research, by moving from a broad idea to a specific example.

In chapter one, I will discuss the theories surrounding adaptive reuse and its connection to an urban context, modern sustainable design theory, and strategies for the revitalization of a challenged area. This chapter explores larger methodological approaches. This theoretical framework was a critical place in which to start my research, as it allowed me to begin to form hypotheses about ways in which adaptive reuse ideologies might be applied to my specific design project.

In chapter two, I look at two case studies from Western Massachusetts: Mass MoCA in North Adams, and Open Square in Holyoke. These projects illustrate ways of applying the theoretical framework, discussed in chapter one, to an actual project. They allowed me to explore which aspects of theory have practical applications in real projects, and more specifically in the context of New England industrial buildings. Through my examination of these two projects, I was able to begin to discern some of the important social implications of reuse projects in post-industrial cities.

In chapter three, I return to a broader theoretical perspective as I compare and contrast various urban design movements. Having decided to focus my

project on Holyoke, it was important that I look at the history of urban development beginning with the mid-1800s, the time period in which the city was founded. Many of the major movements in urban design have had an effect on the city, as has the gradual cultural move from urban to suburban in our country. The theories that I have found most informative to my approach have been those of Place Theory and New Urbanism. They have been of particular interest in their emphasis on social conceptions of the city and community building, respectively. The focus of my design has been to look at ways in which architecture can work as a catalyst within the community.

In chapter four, I again move from broader ideas to a narrower lens, looking at the history of Holyoke and the context of my design project. Due to the city's beginning as one of the country's first planned industrial areas, the mills and the industrial culture have been an enormous part of the city from the very earliest days. This historical analysis reveals information on a number of things about my site: its location within the city, the demography of its neighborhood, and its current status. Understanding the ways in which my site situates itself within its context, both on the land and within the city as a whole, has been a critical part of my design process.

Section Two focuses on my design project, taking the currently vacant Albion mills and developing a methodology and design for repurposing them. The chapters are organized in the order in which I came to the subjects in my design

work. Section Two is oriented around an explanation of my process and the design to which it led.

In chapter one, I discuss the selection of my site, the former Albion Mills on Water Street. The choice had both some significant benefits and some drawbacks. The site is somewhat isolated, but it should be accessible by residents of the Flats. Water Street is an area in desperate need of some revitalization. Many of the industrial buildings on the street appear to be in very ill repair.

In chapter two, I discuss considerations of programming, which were a primary focus early on in my process. Though programming considerations continued to guide me as I moved into architectural interventions, in the end I chose to set this approach aside to a certain extent.

In chapter three, I discuss the final design intervention that transforms the currently abandoned complex into the multi-use, community center I have chosen to call “New Albion”. This chapter discusses the various approaches I took to integrate the disparate elements of the site – two very different groups of buildings and a variety of disconnected open spaces – into a cohesive complex. My intention has been to explore aspects of design that could be used as a catalyst to facilitate community and city revitalization.

SECTION ONE

THE CONTEXT OF ADAPTIVE REUSE

ADAPTIVE REUSE THEORY

Architecture is usually designed with a specific function in mind. What happens to a building when that function is no longer required in that location? This is an architectural problem that is becoming increasingly relevant in our ever-changing society. In many cases, such buildings are destroyed or left vacant. Occasionally, buildings are preserved in their entirety as important historical landmarks. However, a third option exists in which the building is redesigned for a new, often completely different, purpose. This process is called adaptive reuse.

Adaptive reuse is often used as a way of increasing the scope of historic preservation within a city. Some historic preservationists see adaptive reuse as an insufficiently rigorous process, since it often involves significant alterations to the building. However, especially in cities with a large stock of historic buildings, finding reuse functions and ways of updating these buildings is strongly supported by those who wish to keep a sense of the area's history and distinctive architectural character alive. Adaptive reuse can create a middle ground between

preservationists and urban renewal proponents who would otherwise advocate building from scratch.

A large vocabulary has developed around the use of old buildings. Many of these terms, such as preservation, conservation, refurbishing, and remodeling have fine distinctions. The vocabulary can be grouped into four main categories: keeping, changing, destroying, and returning. Keeping a structure involves making no additional changes, and tends to spawn terms such as “conserve” and “protect”. Destroying a structure, with terms such as “raze” or “dismantle”, removes the entire structure from its site. Returning a structure indicates duplicating a building that was previously destroyed, as in the case of Mies van der Rohe’s Barcelona Pavilion, and uses terms like “reconstruct”. Changing a structure involves new work being done on an extant building. Many of the terms with the prefix of “re-“ fall into this category such as rehabilitate, or restore. Both “adapt” and “reuse” fall into this category of words that involve change, and both have fairly neutral connotations. The neutrality may be due to the many different ways adaptive reuse can manifest itself.¹

Adaptive reuse has gained increasing recognition in recent years within the growing field of sustainable design. There are many ways in which adaptive reuse functions as a more sustainable mode of development than new construction. Primarily, it allows for the introduction of new functions into a city

¹ Daniel F. MacGilvray, “Rasins versus Vintage Wine: Calvert and Galveston, Texas” in *Adaptive Reuse : Issues and Case Studies in Building Preservation* ed. Richard L. Austin, et al. (New York: Van Nostrand Reinhold, 1988), 6.

or area without removing green spaces required by construction at a new site. (While demolishing an existing building and rebuilding on the same site doesn't remove green spaces, it is still less sustainable for reasons I will discuss in the paragraphs that follow.) Making use of all the spaces available also makes the area more compact. A more compact city reduces car use and urban sprawl. This puts adaptive reuse as a tool within the framework of other theories of urban development, such as New Urbanism. Additionally, the spaces involved in adaptive reuse programs are often environmentally contaminated, and their reuse causes them to be cleaned up.

Another way in which adaptive reuse is more sustainable is its lower embodied energy requirement. The embodied energy of a building is the energy that was required to produce the construction materials, harvest and process them, transport them to the site, and put them in place. The energy required to produce the machinery and fuel necessary for this process is also part of the embodied energy. The embodied energy in single-strength glass is more than 11,000 btu per square foot, before delivery to the job site. For concrete, the embodied energy is almost 30,000 btu, for a block that measures eight inches by eight inches by sixteen inches.² Reusing an existing building with some renovations or updates requires fewer new materials than creating an entirely new structure. Therefore, reuse involves less embodied energy expenditure than new construction.

² Mike Jackson, "Embodied Energy and Historic Preservation: A Needed Reassessment" in *APT Bulletin*, Vol. 36 No. 4 (2005) 48. <http://www.jstor.org/stable/40003163>

Equally important in the sustainability of a building is energy and resource consumption during operation. This includes the energy used in lighting, heating, cooling, and other building systems. Structures built before electrical lights came into common usage are usually designed to take full advantage of day lighting through their large number of windows and minimal building depth. However, these windows can also cause difficulties in heating and cooling a building, because old windows do not insulate well. Replacing the windows is often a primary, and costly, concern when sustainably retrofitting a building.

Adaptive reuse is also a vital part of attempts to revitalize many urban areas. A patchwork of old and new buildings creates vibrancy in a city. This creates a dynamic urban aesthetic that grounds the city with a sense of its history.³ This is especially true in cities where old buildings are tied in to the history and industry of the city. Reused buildings also often create new life in established, older areas of the city that may have otherwise become run down.

The creation of a master plan is vital to the success of urban revitalization. In his essay “Raisins versus Vintage Wine”, Daniel MacGilvray uses nearby cities of Calvert and Galveston, Texas as a case study to illustrate this. Both cities were declining socially and economically. Both cities made a choice to change their historic buildings in a major way as part of a revitalization effort. Calvert went the route of “refurbishment”, which mainly involved improving the facades of the

³ John S. Garner, “Preserving the Prosaic” in *Adaptive Reuse : Issues and Case Studies in Building Preservation* ed. Richard L. Austin, et al. (New York: Van Nostrand Reinhold, 1988), 19.

historic buildings. Galveston, instead, developed a master plan for historic preservation and reuse of their historic buildings. This involved a \$200,000 revolving fund, and the help of the well-known architectural firm Venturi and Rauch to establish “very specific goals... for the Strand as a whole” as well as the involvement of the non-profit Galveston Historical Foundation.⁴ This allowed Galveston to significantly revitalize itself, while Calvert stagnated.

When creating a plan for adaptive reuse in a city, there are a number of standard basic questions.⁵ The first of these questions is which buildings should be preserved and which should not. A set of criteria should be developed for the evaluation of buildings, and the city’s short and long-term goals. One important factor in this decision that might be easily overlooked by a Planning Department or Town Council is public opinion. A building that doesn’t seem particularly functional or necessary to town development may have significant import in the eyes of the public. The water tower in Paxton, Illinois is an example of the power of public opinion in town development. Considered useless and hazardous by the city council, and slated to be demolished, the general populace considered the water tower a landmark of the town and an important piece of the community history.⁶ Factors like public opinion can be difficult to evaluate because they are

⁴ MacGilvray, “Raisins versus Vintage Wine,” 12.

⁵ MacGilvray, “Raisins versus Vintage Wine,” 11.

⁶ Garner, “Preserving the Prosaic,” 24.

not quantitative, but this does not make intangible factors any less important than the numerical ones.⁷

What should be done with the buildings that are kept? An overall philosophy for how to handle the revitalization is critical to any master plan. What are the costs and benefits of reusing these buildings? The answers to these questions may vary widely depending on the project, but they always need to be addressed in some way.

These questions were certainly in my mind as I approached my design project. It was extremely important that I felt like the project fit into the ways in which Holyoke was developing and evolving as a city. The aspect of sustainability, which has become such an important piece of the dialogue about adaptive reuse, remained crucial as well; the ways in which a building could create a dialogue about sustainability within the community became a primary focus of my investigation.

⁷ Joseph P. Luther, "Site and Situation: The Context of Adaptive Reuse," in *Adaptive Reuse : Issues and Case Studies in Building Preservation* ed. Richard L. Austin, et al. (New York: Van Nostrand Reinhold, 1988), 49.

ADAPTIVE REUSE CASE STUDIES

New England was a center of industry in the 19th century. More urbanized and with a climate less suitable for large scale farming than areas in the South, New England was also home to many rivers that provided opportunities for the water power needed to run large-scale mills. However, in the later part of the 20th century, most of this industry moved to the South or overseas, seeking cheaper production costs and less organized labor. Much of New England has been faced with the decision of what to do with its abandoned industrial buildings. Western Massachusetts alone provides several examples of industrial buildings/complexes that have been redesigned and redeveloped for new purposes.

MassMoCA

One important example of the reuse of industrial buildings on a large scale is the Massachusetts Museum of Contemporary Art (MassMoCA). Located in North Adams, Massachusetts, at the connection of the north and south branches of the Hoosic River, MassMoCA makes its home in a 27-building mill complex (Figure 1). These buildings were originally built by the Arnold Print Works

company. Starting in the 1860s, Arnold Print works quickly became successful supplying printed cloth for the Union Army during the Civil War. The company continued to expand, in North Adams and elsewhere, until 1900. By 1942, the effects of the Great Depression and low cloth prices elsewhere caused Arnold Print Works to leave North Adams.

The complex was then bought by Sprague Electric Company, which produced capacitors. The company flourished during World War II, employing large numbers of women both because of the lack of a male workforce and because of the dexterity of female hands. The company produced triggers for the atomic bomb, and later components for the Gemini moon mission. Due to changes in the electronics industry, the factory shut down in 1985.

Only a year after the Sprague shutdown, Williams College, located only 15 minutes from the Marshall Street complex in North Adams, began looking for a facility for a new type of art museum. Curators had realized that contemporary art was being produced in media and on scales that were difficult to show in a traditional museum. The Williams College group began looking for a larger factory or mill building to house their growing collection of contemporary art. They began the process of creating Mass MoCA (Figure 2).

The use of the Arnold/Sprague complex for a museum has certain benefits. The primary benefit is that only large buildings originally developed for industrial use have the scale of space needed for many pieces of contemporary art. Using a multi-building complex also allows for outdoor exhibits and exhibition spaces.

Additionally, less retrofitting is necessary for the use of the building, since not all exhibits require the precise climate control that an office or residential space would need.

Simeon Bruner of Bruner/Cott in Cambridge, MA was chosen to develop the plan for the redesign of the buildings. One of the primary design choices that needs to be made in the renovation of such a complex of building concerns the question of how much the new ought to reveal itself. Significant changes needed to be made to create a design that was a functional museum space. How much should those new aspects blend with the existing building, and how much should what is new be visible to the eye? For MassMoCA, Bruner/Cott mostly chose to blend the newer aspects of the architecture as seamlessly as possible into the existing architecture. In his architect's statement Simeon Bruner said, "any obvious hand tying together the architecture would slight the years of history and the various hands that, over time, came to form the complex."⁸

One space that shows some of the tension of the old and new is the courtyard. Where a green space now lies, just within the entry, Building 3 used to stand. Only the foundation wall of Building 3 remains, delineating the "church yard" of the clock tower. This creates a reminder of the ways in which buildings within the complex developed and decayed over time.⁹ Most mill complexes

⁸ *MASS MoCA: From Mill to Museum*, edited by Jennifer Trainer. (North Adams, MA: MASS MoCA Publications, 2000), 113

⁹ *MASS MoCA From Mill to Museum*, 114

developed in that way, with buildings added at varying points in time, and with some variety in materials and styles.

There are a number of things I wanted to take away from MassMoCA as a precedent for my work. The first is their success in involving the community. Approximately 50% of MassMoCA members live in North Adams¹⁰, despite it being a blue-collar working population not usually associated with contemporary art. The second is their balance of the creation of a drastically new function with keeping the historicity of the complex alive. Many little touches help make that happen for MassMoCA, including the choice to not remove graffiti left by the Sprague and Arnold workers, such as numbers written by the phone or calculations converting minutes into tenths-of-an-hour by the punch cards.¹¹ The third is their successful development of indoor/outdoor space. MassMoCA utilizes a lot of the spaces between buildings, some of which was created by building demolition, as gathering spaces for concerts or other functions. All of these make MassMoCA an important precedent for me to consider, despite its difference in scale and overall purpose.

Open Square

¹⁰ Phoebe Crisman, “A Case for Openness: Ethical and Aesthetic Intentions in the Design of MASS MoCA,” in *The Hand and the Soul: Essays on Ethics and Aesthetics*, edited by Sanda Iliescu. (Charlottesville: University of Virginia Press, 2009), 233.

¹¹ *MASS MoCA: From Mill to Museum*, 28.

In conceiving my project, I thought it was important to look mainly at local precedents. So much of adaptive reuse is place specific; an example in Texas would be informative as an overall idea, but not particularly relevant for my own design work focused on industrial buildings in New England. In the Pioneer Valley, there are a number of examples that I could examine.

The Book Mill in Montague, MA, is a non-urban mill that has been redesigned as a bookstore, café, and restaurant (Figure 3). It has dealt with scale in an instructive way, transforming the 15-foot ceilings and cavernous rooms of a mill into an intimate shop, and is also very successful at creating a thriving community environment with programming for children and adults. The Eastworks building in Easthampton, MA is a multi-use space, which contains commerce, light industry and production, civic functions, government offices such as the RMV, as well as residential spaces (Figure 4). However, I felt that it was important that I look at a precedent in an urban context. Open Square is not only located in an urban environment, it is in Holyoke, the same location I have chosen for my design work.

Open Square is located in the heart of Center City Holyoke, in the part of the Prospect Heights/Downtown neighborhood that is located between the first and second level canals (Figure 5). The complex, a 685,000-square-foot structure made up of seven attached buildings, used to house the Lyman Mills (Figure 6). One of the earliest and largest of the city's mills, it organized in 1854, produced thousands of yards of textiles per year on more than 1,500 looms, and employed

1,200 workers.¹² In all the complex takes up 8.5 acres of prime real estate in downtown Holyoke.

Open Square is a project by developer and architect John Aubin, a local whose father, William Aubin, developed the Echo Hill neighborhood in Amherst. Aubin is developing the complex into a mixed-use community with a “creative vibe” in keeping with the Canal Walk art community. Current tenants include a restaurant, Slice California Café, a bridal shop, Pearl, and beauty shop, Selene, as well as a number of office spaces¹³. Aubin intends for upper floors to become live/work artist lofts in the future.

Open Square has been developing the office spaces “with an eye to preserving original architectural details and maximizing light and space,”¹⁴ and is using materials that match the original building materials as much as possible. The design is also trying to evoke feelings of elegance and modernism, a contrast with an historic factory. The entrance to Open Square adds a clearly modern sculptural touch: a wood and metal awning that protrudes at dramatic, asymmetrical angles over the main entrance¹⁵.

¹² Thibodeau, *Destination Holyoke*, 44.

¹³ "Determined Mill Developer Keeps Faith with Concept of Revitalized City Center in Holyoke | GazetteNET " <http://www.gazettenet.com/2010/10/18/determined-mill-developer-keeps-faith-concept-revitalized-city--0> (accessed 12/5/2010).

¹⁴ <http://www.gazettenet.com/2010/10/18/determined-mill-developer-keeps-faith-concept-revitalized-city--0>

¹⁵ "Open Square | Vision " <http://opensquare.com/vision.php> (accessed 12/5/2010).

Open Square illustrates a number of factors that are relevant to my project. It is in Holyoke, which means it actively interacts with the same demographic I am working with. The current population of Holyoke is predominately working-class Latino around the poverty line. However, while Open Square's development affects the current population – through city improvement, providing potential jobs, and potential alteration of property values, among other possible effects – it is not actually aimed at them as the clientele/community. Open Square is actively trying to bring outside life and money into Holyoke, and is therefore aimed at a higher income-class. While this is an important part of Holyoke redevelopment, which will require a significant economic resurgence to be successful, I am more interested in working with the community that is located in Holyoke already.

URBAN DEVELOPMENT THEORY

Urban development and redevelopment has been a prominent area of architectural theory since the beginning of 20th century. The problems of the 19th century industrial city involved health issues, crime, and over-crowding. A variety of responses to these problems developed over the course of the 20th century, including flight to the suburbs, the rise of Modernism, and utopian plans such as Frank Lloyd Wright's Broadacre city. In more recent decades, movements such as New Urbanism have arisen advocating a return to the mixed-use city of previous generations.

Modernism has generally advocated that cities should be torn down and rebuilt. This was due to older cities being dangerous and unhealthy, but involved an extremely limited "one size fits all" attitude to design. It was also a very car-focused approach to planning. This method of urban planning was adopted by a number of public planners in the United States after World War II, such as Robert Moses in New York City. Architect, planner, and leader of the modernist movement, Le Corbusier offers a prime example of this type of urban theory. His design of a City For Three Million involved a series of skyscrapers laid out on a rectilinear grid. The skyscrapers were located within parks, but did not really

interact with them. The roads were reserved for higher speed auto traffic, and pedestrians were to move entirely via the parks.¹⁶ The various economic classes were completely segregated from each other, with the rich in shorter buildings with more spacious apartments and the poor at the top of the high rises.

One major tenet of Modernist planning is strictly zoned, and therefore segregated, land use in cities. Originally conceived to prevent low-income housing from being located next to high-pollution industry, zoning significantly limits the pedestrian atmosphere of a city. If all of the residential areas are separate from all of the commercial areas, it becomes extremely difficult to walk to the grocery store, for example. These segregations also lead to increasing amounts of sprawl.

One of the seminal works of this transition away from Modernism was *The Death and Life of Great American Cities* by Jane Jacobs. Jacobs emphatically stated her intentions, beginning the introduction with the statement, “This book is an attack on current city planning and rebuilding.”¹⁷ Jacobs works from observation, not theory, citing examples of the failure of current urban theory in case studies such as Boston’s North End, a vibrant and successful (if lower-class) neighborhood that academics, bankers, and planners considered a hopeless slum.

¹⁶ Robert Fishman, *Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright and Le Corbusier*. (New York: Basic Books Inc, 1977), 17.

¹⁷ Jane Jacobs, *The Death and Life of Great American Cities*. (New York: Random House, 1961), 3.

Through her observations, which often involve her home city of New York but also include Boston, Detroit, and Baltimore among others, Jacobs attempts to isolate the factors necessary for a successful urban space, and the factors currently at work in urban planning that prevent them. In chapter seven she lists four “indispensable” conditions for “exuberant diversity”: a mixed use of functions that causes people to be active in the district at different times and for different purposes, short city blocks, buildings of a variety of ages, condition and economic worth, and a dense concentration of people.¹⁸

While Jacobs predated the New Urbanist movement, and was therefore not officially part of it, she was one of its primary influences. New Urbanism¹⁹ also began as a reaction to the modern architecture movement and its vision of city planning. New Urbanism advocates mixed-use development as occurred in traditional cities. Much of the theory behind the traditional methods of urban planning has been lost, and the New Urbanism movement has worked to reestablish it.²⁰

Another important aspect of urban planning is place theory. Place theory focuses on the psychological and conceptual understandings of the city within the

¹⁸ Jacobs, *The Death and Life of Great American Cities*, 151.

¹⁹ Major studies in New Urbanism include Peter Calthorpe’s *The Next American Metropolis: Ecology, Community and American Dream* and Peter Katz’s *The New Urbanism: Toward an Architecture of Community*, which includes essays by Andres Duany and Elizabeth Plater-Zyberk, among other influential thinkers in the New Urbanist Movement.

²⁰ Douglas Farr, *Sustainable Urbanism, Urban Design with Nature*. (Hoboken NJ: John Wiley & Sons, 2008), 32.

minds of its inhabitants. This also requires an historical, contextual analysis of the city and its development. Through this research, programs and forms will reveal themselves as appropriate to their location.²¹

Kevin Lynch, an American urban planner, wrote one of the most influential books in the development of place theory, *The Image of the City*. Within the book, Lynch looks at what makes a city “legible” to its dwellers, the cues people develop to remember the city and avoid becoming lost²². He found that there were five elements used to make a place memorable: paths – streets and other ways people travel, edges – the boundary conditions, districts – areas of the city determined by a characteristic or function, landmarks – buildings or other features that work as reference points, and nodes – the point of intersection between other elements.²³

Through analysis of these different elements, the ways in which spaces become memorable places can be analyzed. This method of analysis has become an integral part of many different design movements, and “place making” is considered one of the primary goals of modern urban planning. This type of analysis has also been useful to me in my design work. The goal of any successful project, I believe, is to achieve a sense of “place”, and Lynch’s work has been helpful in considering what features might help me achieve that.

²¹ Roger Trancik, *Finding Lost Space*. (Hoboken NJ: John Wiley & Sons, 1986), 112.

²² Kevin Lynch, *The Image of the City*. (Cambridge, MA: MIT Press, 1960), 3.

²³ Lynch, *The Image of the City*, 18.

Another aspect that is crucial to modern urban planning is time-space awareness. Even the most carefully researched planning cannot accurately foresee future changes in demographics and needs in a city. There are different possible responses to this, and finding the correct balance can be difficult. Too rigidly planned developments that cannot be manipulated over time by their users will fall into disuse. Alternately, allowing the market to determine the entire development of an area leads to chaotic and poorly designed urban spaces. Adaptability and flexibility of spaces are vital aspects of planning, and should be designed into a development if possible.

The consideration of compactness is vital to the development of an urban area. Overcrowding can easily become a serious problem in cities. Within the compact city it is important to have a variety of types of social and economic interactions. The considerations of income, housing tenure, demography, visitors and lifestyles all contribute to creating a social mix, whereas activity, industry at various scales and consumption contribute to an economic mix. This approach also advocates a physical land-use mix that pays attention to vertical and horizontal proportions and open spaces within its planning. The ways in which these things interact, and occasionally conflict, create a dynamic and functional urban district or city.²⁴

²⁴ Kevin Thwaites. *Urban Sustainability through Environmental Design : Approaches to Time-People-Place Responsive Urban Spaces*. (London ; New York: Routledge, 2007.), 6.

However, many urban districts are less dynamic than they used to be.

The primary agent of this change is the rise of suburban sprawl in the United States after World War II. Dolores Hayden is an architect and urban historian. She argues that a sprawl-based society, which involves developments designed for cars instead of people, is damaging to urban downtown areas. “In an economy organized around new construction and rapid obsolescence, existing places are often left to fall apart.”²⁵ Sprawl has increased throughout the United States in the last half century, until suburban places actually have overtaken urban ones in population.²⁶

Particularly in an urban context, the site of a project doesn't end at its property line. Site analysis certainly needs to be done on the property in terms of topography, utilities, and building orientation, among other factors. Also, the analysis must stretch farther than that, encompassing the surrounding buildings and urban voids that make up its surrounding view and larger district.²⁷ How a project contributes to the health and vitality of the area is a necessary consideration. It is for these reasons that place theory, which considers the emotional/social impact of urban development on the inhabitants of the area, is a critical part of any development analysis.

²⁵ Dolores Hayden, *A Field Guide to Sprawl*. (New York: W. W. Norton & Co., 2004), 8

²⁶ Hayden, *A Field Guide to Sprawl*, 8.

²⁷ Luther, “Site and Situation,” 59.

One consideration in urban design that is often overlooked is outdoor spaces, or urban voids. These spaces shape the psychological impact of a city as much, if not more, than urban built space. William H. Whyte conducted a study in New York City on how people use “small urban spaces”, specifically plazas and small parks.²⁸ From empirical data he was able to determine a number of features and ratios of space that make a small urban outdoor space popular and useful. The main factor was seating in sufficient amount and of sufficient comfort. This required that seats be proportioned to be either just deep enough for one, or deep enough for two back-to-back but not in contact. Additional amenities that improve an urban space are water features and trees to provide shade.

One space Whyte discusses is Paley Park, located in Midtown Manhattan. The park is small, and offers shade from a canopy of trees as well as additional greenery from the ivy covering the walls. The park is enclosed on three sides, making it less windy. Paley Park also has a waterfall, which provides grey noise, cooling, and visual interest. The chairs are comfortable and moveable, as are the tables. Moveability was shown to be important, because it offers choice. Many people in Whyte’s study would move a chair only a few inches before sitting down in it, showing their autonomy of movement, despite not having a functional need to change position. These are all factors Whyte found to be advantageous to

²⁸ Information in this paragraph and the next, unless otherwise cited, is taken from William H. Whyte *The Social Life of Small Urban Spaces*. VHS. (Los Angeles: Direct Cinema Limited, 1990.)

a small urban space, and Paley is often cited as one of the most successful urban parks in the world.²⁹

²⁹ Paley Park." Project for Public Spaces.
http://www.pps.org/great_public_spaces/one?public_place_id=69.

HOLYOKE

Holyoke, Massachusetts was first settled in the eighteenth century as ‘Ireland Parish’, the northern parish of the city of Springfield³⁰. It was incorporated in 1850, and become one of the first planned industrial communities in the country. Because Holyoke sits next to a waterfall on the Connecticut River, it is perfectly situated to make use of hydropower for mills (Figure 7). A series of three canals were devised to make optimum use of this waterpower, enough to provide power for over 100 nineteenth-century mills. The city was developed by a group of Boston businessmen who already had investments in Lowell and Chicopee.

Because the mills relied on the canals’ waterpower, the industrial district had to be in the part of the city encompassed by the canals and river. This was the earliest part of the city to be developed, and the real estate around the canals was reserved for industrial buildings (Figure 8). Workers’ housing was filled in around the mills, with the more affluent mill owners and managers living further away

³⁰ Major works on the history of Holyoke include Constance McLaughlin Green’s *Holyoke, Massachusetts: A Case History of the Industrial Revolution in America*, William F. Hartford’s *Working People of Holyoke: Class and Ethnicity in a Massachusetts Mill Town, 1850-1960*, and Kate Navarra Thibodeau’s *Destination: Holyoke: Immigration and Migration to Holyoke*.

from the canals, usually up Depot Hill. This area of the city became known as Center City. The four neighborhoods that comprise Center City are The Flats, South Holyoke, Churchill, and Prospect Heights/Downtown (Figure 9).

The mill industries grew rapidly in Holyoke. Paper and fabric were the primary products, but there were many other types of manufacturing as well. Fabric manufacture was mostly cotton and silk. Papers were made in a variety of styles, though Holyoke was especially known for its high quality rag papers.

Because it was a city focused around industry (Figure 10), Holyoke quickly developed into a “gateway city”: a city that functions as an arrival point into the United States for immigrants from various countries. As its original name implies, Holyoke’s earliest residents were Irish. These immigrants built the dam and canals, and also served as the early workforce in the mills. The second major wave of immigrants was French Canadian, and the third was primarily German and Polish. All of these groups were drawn to Holyoke as an easy entry point into the United States, with the promise of work in the mills.

After the mid-twentieth century, Holyoke’s industry, its driving force, began to decrease. Seeking lower overhead and cheaper and non-unionized labor, much of the paper and cotton industry moved first to the southern states, and then overseas. Unemployment began to rise in Holyoke as new businesses failed to emerge at the scale of the industry that had left. Since the 1960s, the ethnic demographics of Holyoke have changed again. The city experienced another surge of immigration, this time from Puerto Rico. These new immigrants were the

only major group to arrive after the mill industry began declining, looking instead mainly for jobs on local tobacco farms. The city is now approximately 60% Latino. Within the four neighborhoods that make up Center City, that percentage increases to more than 80%.³¹

The loss of industry has led to a gradual decline of the city. Unemployment and poverty increased. With the creation of the Holyoke Mall in Ingleside, many of the small-scale commercial enterprises in the center of Holyoke failed. The high number of vacant buildings and high poverty rate combined to make many areas of Center City undesirable and increasingly unsafe. Much of the housing was designed for lower-class factory workers, but their proximity to the old factories is no longer useful, and ideas about what type of housing is desirable have changed significantly since most of the workers' row houses were built.

While some new industry has come into the city, most of the mill buildings have not been restored. A number have been victims of arson, or have become unsound due to lack of upkeep. New industry often prefers to construct a new building in green spaces, rather than take over an old building. Part of this may have to do with corporate branding in architecture. Additionally, new construction may be more immediately cost effective than rehabilitation. Often

³¹Plaisance, Mike. "Holyoke study targets tough road to urban renewal in 4 neighborhoods." *Republican* (Springfield, MA), November 10, 2010. http://www.masslive.com/news/index.ssf/2010/11/holyoke_study_targets_tough_ro.html.

older buildings require environmental clean-up and extensive retrofitting to house modern purposes. However, this practice of building new has created a lot of vacant spaces in the Center City area, which is bad for both the overall fabric of the city and for the environment, which takes the impact of the new construction.

Currently, the City of Holyoke's Planning Department is in the process of creating a new vision for the redevelopment of the city, especially the Center City area. One focus of this is on things that will keep people downtown after work. While there are still jobs in Center City, and still housing, there is very little else in the way of establishments that would create a vibrant cultural or social life. These types of establishments include restaurants, bars, and entertainment venues such as theatres and clubs.

The Holyoke mills have a number of significant architectural features. They are sturdy structures, intended to hold heavy machines and large numbers of workers, and were built to last for hundreds of years if properly maintained. The floor-to-floor height is greater in an industrial building than a commercial or residential one, which lends the interiors an attractive spaciousness.

Having been built before the advent of the electric lamp, mills have enormous windows and a shallow floor depth, so that daylight permeates the whole building. Inside, most industrial spaces had an entirely open plan that allowed people and items to move between different machines without

obstruction. This allows for significant freedom when designing a reuse for the building.

An additional feature of the mills that makes them valuable for sustainable development is that they produce energy. The canal system was designed to send water at an incline through machinery below the factory floor. The first canal sends water through a group of mills into the second canal, which sends water through another group of mills and finally back into the river. Many of the old mill buildings still contain their machinery, which has been converted for use in electricity generation. While most of this power is currently owned by the city, some developers have purchased the rights to the electricity generated by their buildings. This gives reused mill buildings the ability to rely significantly less on fossil fuel-based power and heat systems.

Most importantly, these buildings are often located on prime real estate. The city was built around them, so they are near to the center of town, and within easy walking distance of much of the extant housing (Figure 10). They needed to be on the canals for the hydropower, which means the mills have beautiful views, either of canals on either side, or of the canal and the river.

SECTION TWO

NEW ALBION

SITE SELECTION

The Center City area in Holyoke is comprised of four districts: The Flats, South Holyoke, Churchill, and Prospect Heights. The site I chose to work with is located in The Flats on Water Street (Figure 11). Water Street runs between the second canal and the Connecticut River from Bridge Street to Appleton Street, where the second canal ends. The Flats has been mostly zoned for industry and, as such, was perhaps most greatly impacted by the loss of Holyoke's industrial economy.

The two buildings that I am working with are located near the bridge (Figure 11, 12). They were formerly occupied by the Albion Paper Company. D.H. & J.C. Newton established the Albion Paper Company, and everything was "wholly a Holyoke enterprise ... being either prepared or supplied by Holyoke firms."³² The mill was first built in 1878, though additional buildings were added later (Figure 13).

³² "The Albion Paper Company" *History of the Connecticut Valley in Massachusetts*. 1879. http://www.holyokemass.com/hcv_1879/ald.html.

This location offers attractive advantages. It is currently for sale, making the redesign project feasible, at least in theory. It is important to me that I considered a site that was not currently in use or already being redeveloped. According to the advertisement I read, the property is listed as a “flex space”, but seems to be currently used for storage. Additionally, being between the canal and the river, the property has more acreage and more open space than most urban properties.³³

The location also has some disadvantages. Located in the bend of the river, it is on the edge of Center City. This still leaves it within a reasonably close proximity to much of the Downtown area in Prospect Heights, but the pedestrian or public access is not as easy as some sites might provide. Still, being in a corner allows for more development of both public and private space than a site directly Downtown might. Those boundary conditions can therefore be more fully explored.

One major challenge of working with an existing structure as a student is documentation. Most mills do not have surviving architectural plans. The property is currently owned by a limited liability corporation, and inaccessible to the public. I have done my best to document the dimensions of the buildings through Google Earth, Rhinoceros, and images that I took on site. However, the interior layout is not something I have been able to access. Therefore, I am forced to

³³ “Water Street Flex Space” LoopNet.
<http://www.loopnet.com/Listing/14139153/15-Water-Street-Holyoke-MA/>

work with the building primarily as an envelope, with only estimates of exact height and dimensions, and only conjecture as to how the interior might appear.

PROGRAM SELECTION

Defining program for such a project is a difficult endeavor. I began this project with broad, far-reaching questions: How can adaptive reuse be used to create a more sustainable urban environment? How can that also create a renewed sense of community and renewed prosperity? The questions facing the city of Holyoke are also very large questions: How can the city revitalize itself, especially in the Center City neighborhoods? How can it rebuild its economy? Can these things be done without significant gentrification?

Many projects in Holyoke are being undertaken with the interest of bringing new money and people into the city. This is an important aspect of the revitalization process, but it also raises some concerns. Economic revitalization that doesn't disadvantage the working class can be difficult to achieve. Significant improvements of a neighborhood can raise market values and therefore property taxes or rent values. If architectural and urban improvements don't go hand in hand with economic improvements, it can drive the existing community out of an area. Therefore, spaces that increase job opportunities are an important piece of programming.

One problem that often occurs in more urbanized areas is a lack of access to healthy, fresh food. Hamden County has more than 25,000 households that are

low income and lack a grocery store within a one-mile radius. The county also saw more than a 15% increase in super centers between 2007 and 2008, whereas the number of specialty stores, convenience stores, and WIC-authorized stores all decreased.³⁴ The Flats seem to have very little in the way of food available, be it a restaurant or grocery store.

Nuestras Raices, a Holyoke-based organization, has been working to increase the availability of fresh, local, Puerto-Rican food staples in Holyoke. Their mission statement describes them as “a grass-roots organization that promotes economic, human and community development in Holyoke, Massachusetts through projects relating to food, agriculture, and the environment.”³⁵ They have a number of small community gardens within Center City, and a farm in Ingleside, not too far from the Holyoke Mall. However, most of their programming takes place outdoors, and is therefore confined to a specific season. I am extremely interested in what opportunities can be developed by creating an indoor/outdoor space that could be used year-round for various food-related endeavors, including a grocery store and a farmer’s market.

Many of these programmatic absences within the Flats are made more problematic by the lack of options for public transportation. There is only one bus route that runs through the Flats, and it is a very limited route in itself. To get to most places within Holyoke without a car, a denizen of the Flats would need to

³⁴ USDA Food Environment Atlas. Accessed March 24, 2011.
<http://maps.ers.usda.gov/FoodAtlas/foodenv5.aspx>

³⁵ Nuestras Raices. “Mission Statement.” <http://www.nuestras-raices.org/>

walk a significant distance. In some cases, such as the Public Library, walking was actually faster than taking the bus, because there was no direct route. Other bus routes run along the edge of the Flats, but don't actually enter it.

The mixed-use design philosophy of older urban spaces and of the New Urbanist movement has been extremely influential in my attempts to develop a program for the Water Street site. The ability to live and work and shop all within an easily accessible pedestrian radius has the potential to significantly affect the social and behavioral patterns of many residents of the Flats. One of the difficulties of a heavily use-segregated city (in which commercial spaces are separate from residential, recreational, etc.) is that many different uses actually function together in a positive manner. Parents can relax and socialize over coffee while being able to monitor their children playing, or at least being near enough to hear if there is a problem. Or, someone coming to watch a community theatre production could learn about a job opening at the same time. The strongest influence that New Urbanism has had on my design philosophy is its emphasis on architectural design as a means of developing communities.

DESIGN INTERVENTION

In the Albion complex, there are two distinct groups of buildings. Currently, a loading dock connects them, which does not do much to make them appear as a cohesive unit. The first group of buildings is closer to Bridge Street (Figure 14). These are proto-modernist in design, featuring geometric lines, flat roofs, and almost no ornamentation. The second group of buildings, which were likely built earlier, follows a more traditional New England building style (Figure 15). The roofs are sharply pitched, the towers have dormer windows, the windows have arched tops, and there is ornamental detailing in the brickwork along the cornice line.

One of the main formal challenges posed by this site is the question of how to bring the two groups of buildings into more direct dialogue with one another. My design for New Albion uses several methods of intervention aimed at turning the complex into a cohesive unit. The design centers on the creation of an interior courtyard, and focuses on the ideas of circulation, visibility, materials, connection with the river, and exposure of underlying physical structures.

Interior Courtyard

The creation of an interior courtyard is one of the most important aspects of my design intervention. The original site plan does not offer any unification of the complex as a whole. The two sets of buildings are very disparate and disconnected. There is only a very narrow space between the two groups of buildings. Within each group there are interior open spaces, but they are small and inaccessible to each other. When taken as a group, they have the potential create a fair amount of space for circulation and outdoor interactions, which is a major step in bringing the buildings together as an integrated site.

To link these spaces in a comprehensive way required some selective demolition. In my design plan, one building from each group has been removed (Figure 16). This allows for the space between the building groups to merge with the area previously covered by the two demolished buildings and with two spaces that were formerly fully enclosed by buildings. These combined spaces create a large, open courtyard that more coherently connects the two groups of buildings with each other, and with the open area at the back of the site (Figure 17). This connectivity works towards transforming a previously semi-private industrial complex into a vibrant public space, where users can see and circulate comfortably around the entire site (Figure 18).

Circulation

The most important factor in creating cohesion between disparate buildings in a complex is the way in which people circulate between them. New Albion truly begins not on Water Street, but on the other side of the second level canal, on North Canal Street. The site of a project is never truly delimited by the property line because it is always affected by its surroundings. The complex is situated on the bend in the river and canal. Across the canal, North Canal Street also makes this bend, creating an arced corner. A playground inhabits this corner lot. Surrounding the playground are buildings containing low-income housing.

The first intervention of New Albion is the creation of a pedestrian access bridge across the canal (Figure 25). Without this access bridge, one has to walk several blocks in either direction from New Albion to be able to cross the canal into the rest of the Flats. This makes the site extremely isolated from the every day flows of life within the Flats. The new bridge connects from a more major road and an existing playground, both already a part of daily life for neighborhood residents. The bridge also creates a connection with the bus stop, which is on Lyman Street, only a block away down North Canal Street. On that side of the canal, the bridge is wide, and encompasses much of this bend in the street, drawing people towards it. The bridge then narrows as it crosses the canal, and brings people across to Water Street and into the entrance of the complex (Figure 26).

The pathways through the complex at ground level are curved (Figure 29). Throughout my time at Mount Holyoke, I have observed that people very infrequently travel in straight lines, preferring to cut corners and drift between spaces. The forms of the pathways attempt to mimic the ways in which people might naturally move throughout the complex.

Exterior circulation is not limited to the ground level. Access to different levels of the buildings is also created via a series of ramps and terraces. One ramp brings a user from the first floor to the third floor, which features a terrace over the patio, as well as three green roofs. Another gives access to the fourth floor and then to the roof of one of the four-story buildings. A third gives access to the fourth floor of another four-story building, and provides a panoramic view of Holyoke, in one direction, and the river in the other (Figure 32).

Within the buildings, the circulation is turned towards the interior (Figure 17). This places the circulation between the varying types of programming and the courtyard (Figure 19). By using circulation as a divider, the exterior walls of the mill can be opened to a much greater degree. Different types of programming might desire varying levels of separation from the complex as a whole. An office floor could be left open to the circulation, and therefore to the view of the courtyard (Figure 31), whereas a doctor's office might desire more confidentiality, and use walls to create a place that was only semi-public. Residential spaces, which are private, could be enclosed, but shared amenities of the apartments could be left more open to the light and life of the courtyard.

Visibility

This level of openness is critical in the creation of visibility throughout New Albion. The primary focus of the redesigned complex is to foster community, through new patterns of access and combinations of programming. Someone making dinner on the second floor could simultaneously watch his or her children playing in the courtyard. A group of office workers eating lunch in one of the roof gardens could watch people shopping on the ground floor or reading on the patio (Figure 33).

The level of visibility is also necessary for safety purposes. The courtyard areas involve a number of level changes, including an area that is 10 feet lower than the main path (Figure 28). This would normally be problematic. Places that are significantly different from ground level are often under utilized or attractive to crime. However, even the lowest parts of the courtyard have clear lines of sight to other inhabitable areas, maintaining a connection with the complex as a whole, and decreasing their appeal to a criminal element.

William Whyte found that the most common activity in urban plazas was people watching other people³⁶. As with Rockefeller Center, the existence of public space at different levels in New Albion has the ability to create a sort of

³⁶ Whyte, William H. *The Social Life of Small Urban Spaces*. VHS. (Los Angeles: Direct Cinema Limited, 1990.)

mezzanine effect, in which the people at the lower levels become a show for spectators at higher levels.

Materials

The materiality of the project was a very important aspect to me. There are a number of materials that were fairly integral to industrial building designs in the mid-nineteenth century, and I wanted to showcase those.

Brick is the most common element in the Albion mills. All of the exterior walls in the complex as it currently stands are constructed from brick. Brick was certainly the most common building material in industrial and commercial buildings before the advent of steel-reinforced concrete, and remained extremely popular even after it was no longer the only structural option. It is especially prevalent in cities, where wooden structures pose a fire risk. Brick buildings dominate Center City Holyoke.

Brick is also a very heavy material, in more than one way. Brick walls are much thicker than those supported by steel. Brick also seems very dense and impenetrable to the viewer. One focus of my design was to create a feeling of openness and connectivity between the buildings, which was somewhat at odds with the solidity of the brick walls. Therefore, I made the decision to remove the brick walls from some interior facades. However, it was the strength and

historicity of the brick that grounded the complex within its setting, so I wanted to keep as much of it as possible.

Glass is also an integral part of industrial design. Much of Holyoke's industry was developed before the advent of electric lighting. Gas lamps would be a significant fire and health hazard in a paper or textile factory. Therefore, almost all mills from this time period relied entirely on natural light. Large windows made of several panes of glass take up much of the façade of most industrial buildings, and Albion is no exception. The expanses of glass already in place worked towards my desire to create a greater sense of openness in the complex.

Steel and concrete are also necessary components in the structure of an industrial building. Mill floors needed to hold many workers and significant amounts of large, heavy machinery. Both of these materials are often hidden away in the buildings, covered by ceilings or floors. Throughout the site I have increased the prevalence and visibility of these materials. This creates a dialogue with more modern industrial buildings, and exposes the "bones" of the currently decaying site. It also blurs the line between interior and exterior space, as the facades surrounding the courtyard become visually permeable when the brick is removed (Figure 27).

The paths at ground level are designed to be pervious concrete, which decreased some of my wariness about introducing so much ground coverage. Pervious concrete allows for the creation of clearly delineated areas without

decreasing the permeable surfaces. Additionally, vegetation has been added to three green roofs, to offset some of the vegetation removed from ground level.

Connection to the River

A major factor in my site selection was proximity to the canal and the river. However, there is a major impediment to the river present in the Albion complex. A concrete wall, which appears to be between 10 and 15 feet in height, borders the back of the site and continues along the back of Water Street properties in both directions. This wall is likely the flood-plain barrier, which would have prevented the mills from being damaged when the Connecticut River is at its highest. Unfortunately, this function remains necessary, so I could not remove the wall.

However, I had no desire for the back of New Albion to be enclosed in solid concrete, and thus remain completely disconnected from the river. Therefore, a piece of my work has been focused on considerations of the landscape. In my design, a hill wraps around the concrete wall, gently sloping upwards, so that someone standing at the top of the hill could see over the wall to the river beyond (Figure 29). This hill could also perform a variety of recreational functions: seating for a performance, sledding in the winter, picnicking in the summer. The roof gardens, newly accessible space, would also have visual access to the river.

The river is present on the site in other ways as well. One of the buildings that would be demolished is located in the sunken area of the courtyard. This is the basement level for the surrounding buildings, and just below this the water passes from the second level canal through the hydroelectric turbines, and back into the river. Once this building is removed, its footprint can be opened to the water below. At the back of the site, two additional areas have been cut in locations where the water would most likely run.

The forms of the paths through the site, and of the terrace that runs between the two groups of buildings, were also inspired by the idea of flow. People flow through space in ways that are similar to a river flowing through a landscape. By creating flowing pathways that interact with pools of water, this association may be brought to the minds of those inhabiting the space (Figure 30). The connection to the river would be re-established mentally, as well as physically. This reconnection is one of the major focuses of the intervention.

Exposure of Structures

Within New Albion, I have made many significant changes to the existing structures. Two have been demolished entirely (Figure 16). Areas that were not previously exposed to the public eye, such as the basement level of certain buildings, have been revealed (Figure 28). Entire walls of brick have been peeled away, to reveal the heart of the building inside enclosed only by glass and structural steel (Figure 27, 33).

The language of these changes is important to me. In the Mass MoCA project, an effort was made to conceal the changes made by Bruner/Cott such that they seemed to have always been a part of the complex. While I understand the logic of that intention, I have chosen to take the opposite approach.

The buildings that I have removed from the complex remain visible. The footprint of one cuts away to reveal the water beneath. The foundation wall of the other is transformed into a patio, using bricks taken from demolition. Above the patio, a steel and glass terrace stretches between buildings at the roof height of the removed building (Figure 33). The hole created in adjoining buildings by this removal is not covered up or hidden, only enclosed by glass.

The revelation of these transformations is indicative of a broader transformation. They create a visual juxtaposition and a mental engagement between old and new, 150-year-old mills and modern sustainable design. This is a visual representation of the process that Holyoke is attempting to undertake. The city is attempting to redevelop, revitalize, and reenergize itself. There is an aesthetic that can be created within that very process of change, and it is this that I have attempted to draw forth from my redevelopment of New Albion.

CONCLUSION

One of the most important aspects of my design process was analyzing the context of the city. This affected my choice of site, my initial programming ideas, and my formal strategies. As came up many times in my reading on adaptive reuse theory, the site does not end at the property line. The demographic of The Flats and of Center City Holyoke as a whole – what resources they have, what challenges they face, what they might need – was immensely influential into the choices I made for New Albion. My considerations of programming centered on this, and those considerations in turn affected my formal strategies.

An important conclusion that I have reached as a result of this year-long process is that program development and formal development are intrinsically connected. At the beginning of the semester, I was attempting to prioritize programming, and my form was generic. When I attempted to concentrate simply on form, the form did not have any dialogue with the context of the project. It was

only by moving between the two considerations that I was able to create a design that was innovative and appropriate.

Finding the correct balance between research and design has been a similar process. Though most of my research was conducted in the fall of 2010, I continued to expand this work into the winter and spring. While conducting the research, it was difficult to merely study and not begin to develop design criteria of my own. However, when I turned to my studio work, I was initially encumbered by the theoretical considerations, attempting to apply my theories to a design that had not yet developed formally. Often the theories and examples I thought would be most effective turned out to be unsuccessful in my own work.

New Urbanist theory was initially something I expected to focus and rely upon in developing my studio work. They focused on priorities similar to my own: developments that are oriented towards building community, that involve a variety of functions, and that emphasize pedestrian access. However, past the broadest goals, I found the framework and rules of New Urbanism to be restrictive and ultimately uninformative for my design work. Despite their name, most New Urbanist ideas are not really oriented to an urban setting.

Case studies proved to be an extremely useful means for envisioning what my design objectives might be. Initially I was extremely enamored of Mass MoCA, and I expected to utilize much of Simeon Bruner's ideology about adaptive reuse. In the end, I discovered that I disagreed entirely with his choice to hide the new development within the existing context. Written work can be

difficult to conceptualize and translate into a context-specific methodology.

Analyzing an existing tactic and an existing building, a concrete example, was integral in allowing me to articulate my own methodological considerations.

Adaptive reuse is about creating the new within the old, and merging them is important, but subsuming the new into the aesthetic of the old limits the possibilities developed by their interaction.

A major focus of this development was on patterns of movement and behavior. Through my research into the modern urban context, I came to the conclusion that a major part of urban decline has been due to a shift in behavioral patterns. Automobile transit is prioritized over all others, and strict geographic separation of functions leads to a world that is disconnected. It has been the overarching aim of this project to create a design that reconnects the disparate functions of living, working, and interacting socially. I posit that such a physical reconnection will lead to a more integrated and satisfying life, as well as a more environmentally and socially sustainable one.

Adaptive reuse has the potential to play a complex role in the development of communities. The built environment shapes how we understand cities, creates “place.” Place theory has been one of the most influential aspects of my research. The ways in which the population of a city inhabits that city are, to me, the greatest measure of successful or failed spaces. A space that is architecturally and technologically innovative can still fail to become a “place,” if it doesn’t speak to the needs of those for whom it was designed.

The vibrancy of a city is partially created by its complexity, the interplay between new and old, the “legibility” of different areas as distinct. I have attempted to illustrate this interplay in a single complex, through formal strategies. The combinations of old and new materials and of old and new forms within New Albion are intended to speak to the possibilities of a similar union within Holyoke. Memories of the past, understandings of the present, and visions for the future are all vital to a successful redevelopment that connects to the community and sparks the collective imagination.

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The Courtyard

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FIGURES

Figure 1



Mass MoCA, Google Earth. <http://www.maps.google.com>
(Accessed May 28, 2011).

Figure 2



Mass MoCA, North Adams, MA
Nicholas Whitman *Museum entrance, upside down trees*, 1999, color photograph.
http://nwphoto.com/nwimages/main.php?g2_itemId=1270
(accessed June 15, 2011).

Figure 3



The Book Mill, Montague, MA

Montague Book Mill, color photograph.

<http://www.montaguebookmill.com/photos/index.html>
(accessed June 15, 2011).

Figure 4



Eastworks, Easthampton, MA

Atalasoftware, *Eastworks*, color photograph. <http://adaptivereuse.info/case-studies/eastworks/> (accessed June 15, 2011).

Figure 5



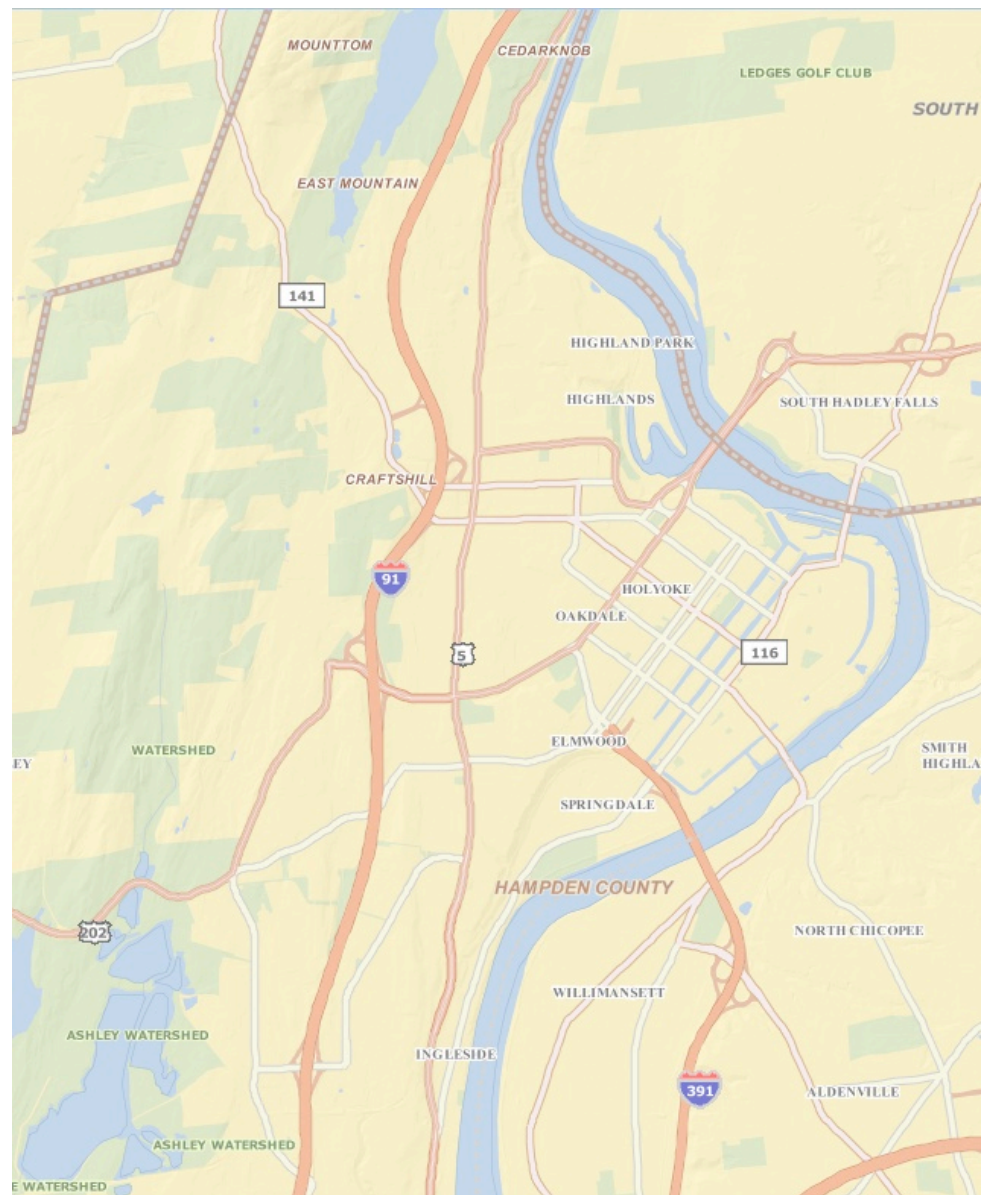
Open Square, Google Earth. <http://www.maps.google.com>
(Accessed May 28, 2011).

Figure 6



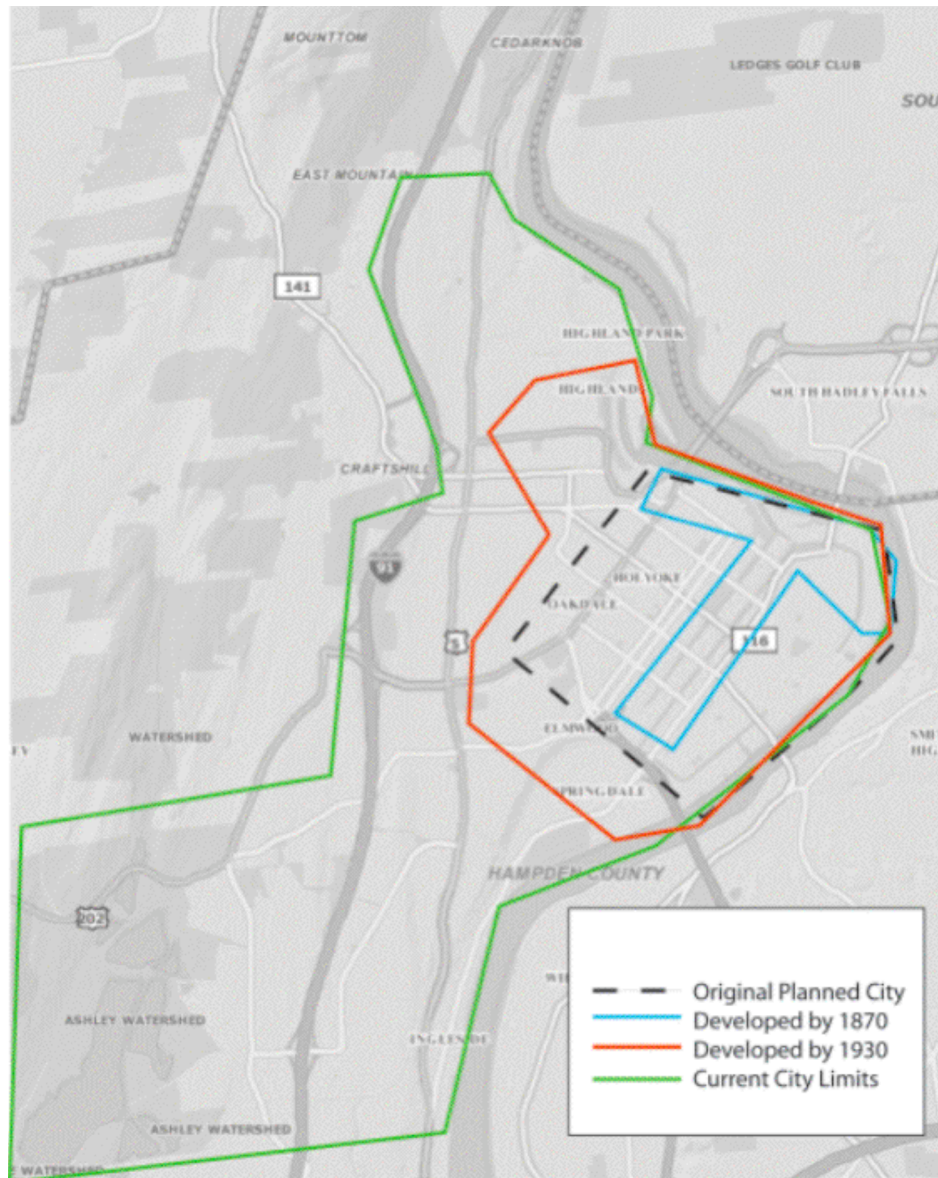
Open Square, Holyoke, MA
Dwight Street, Open Square. <http://opensquare.com/location.php>
(Accessed June 20, 2011).

Figure 7



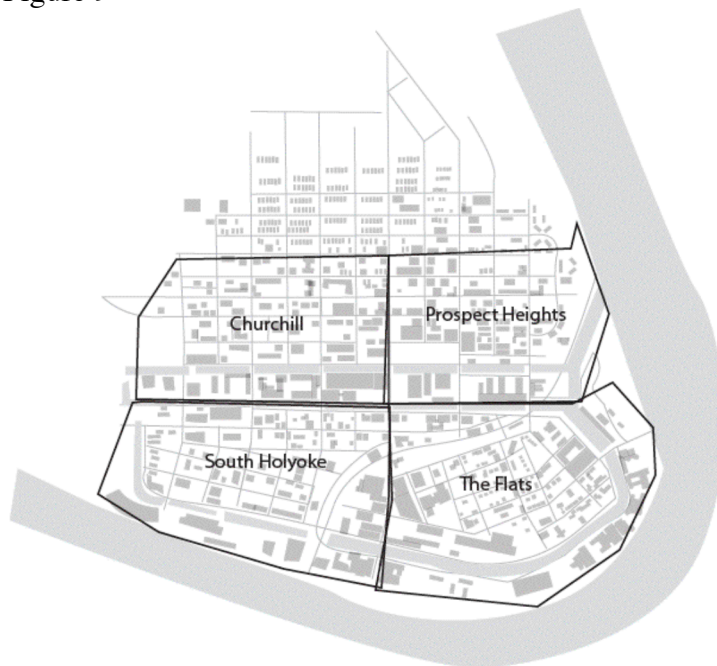
Holyoke, MA OLIVER – The MassGIS Online Database Viewer.
http://www.maps.massgis.state.ma.us/map_ol/oliver.php (Accessed March 22, 2011)

Figure 8



Growth Map of Holyoke

Figure 9



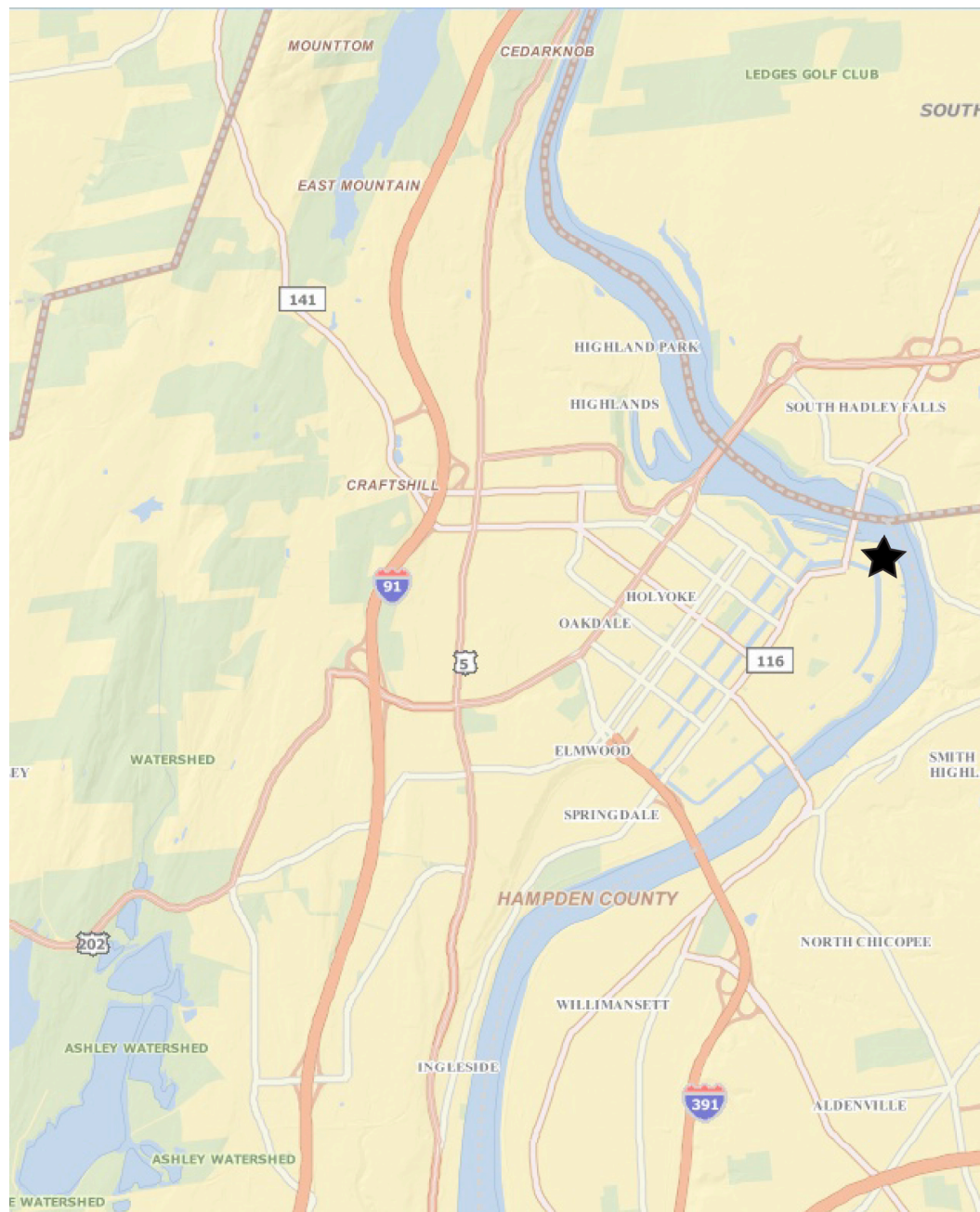
Neighborhood Map of Center City Holyoke

Figure 10



Zoning Map of Center City Holyoke

Figure 11



Map indicating the location of the Albion Mills in Holyoke

Figure 12



*15 Water St, Holyoke, Google Earth. <http://www.maps.google.com>
(Access may 28, 2011).*

Figure 13



Albion Mills

Figure 14



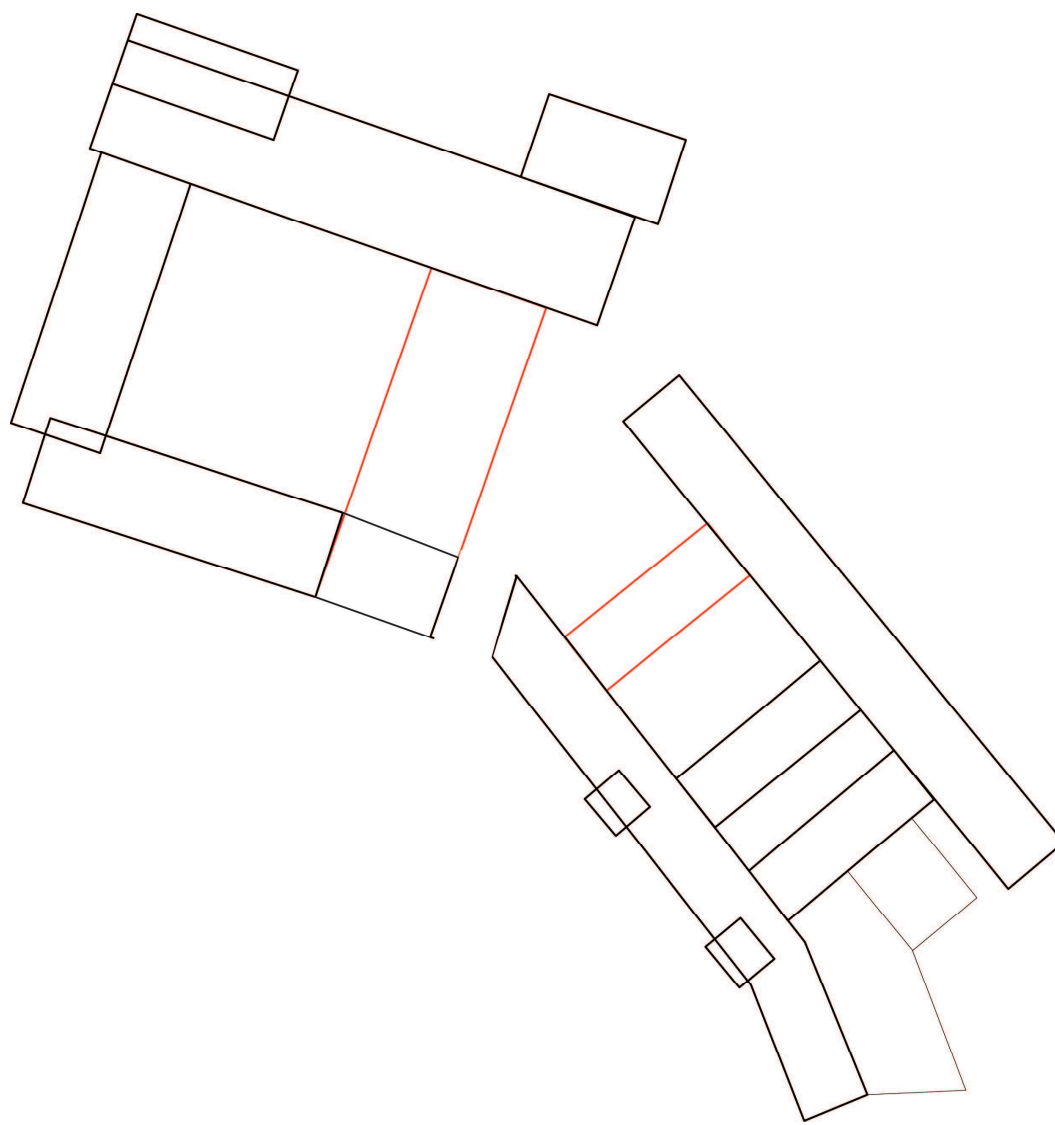
First group of buildings, more modern in style

Figure 15



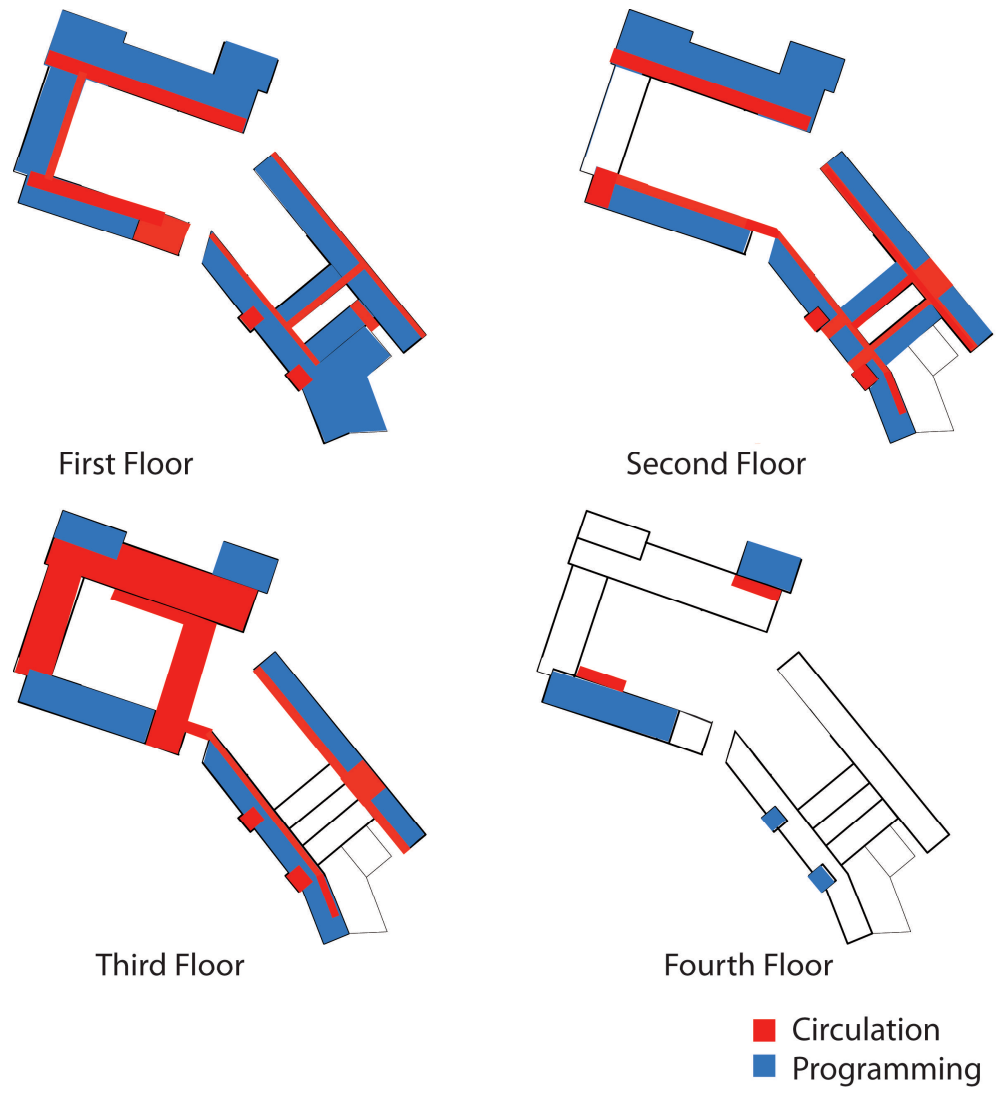
Second group of buildings, more vernacular in style

Figure 16



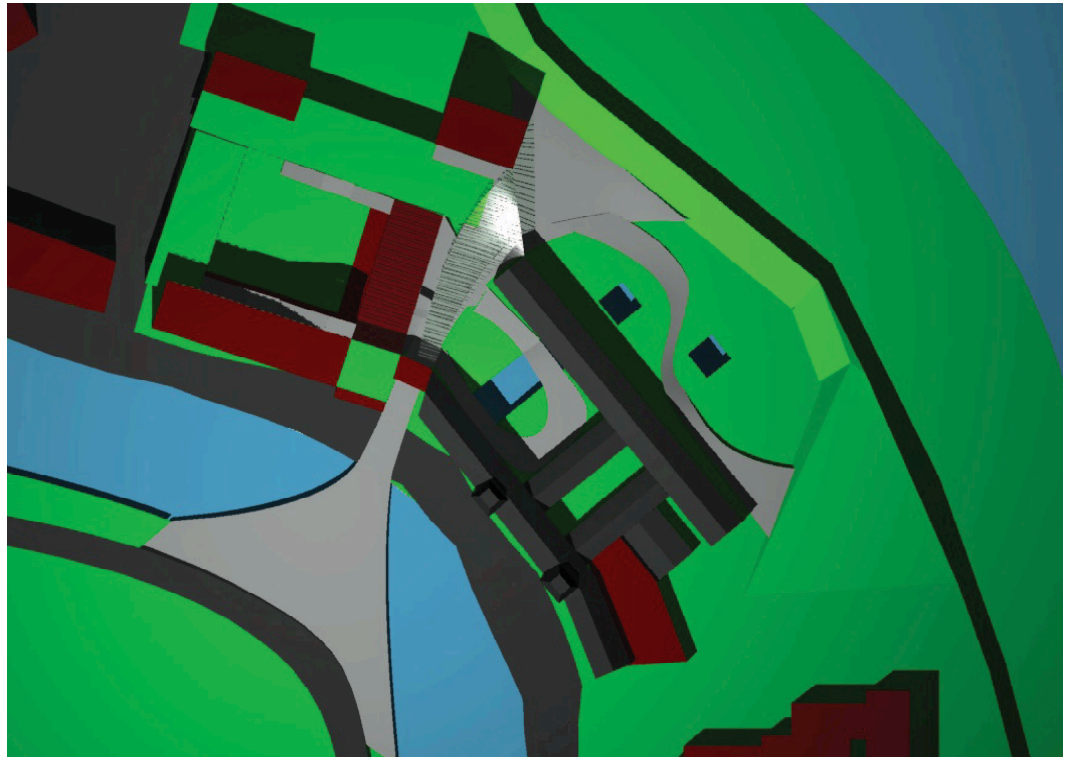
Buildings Removed in New Albion Scheme

Figure 17



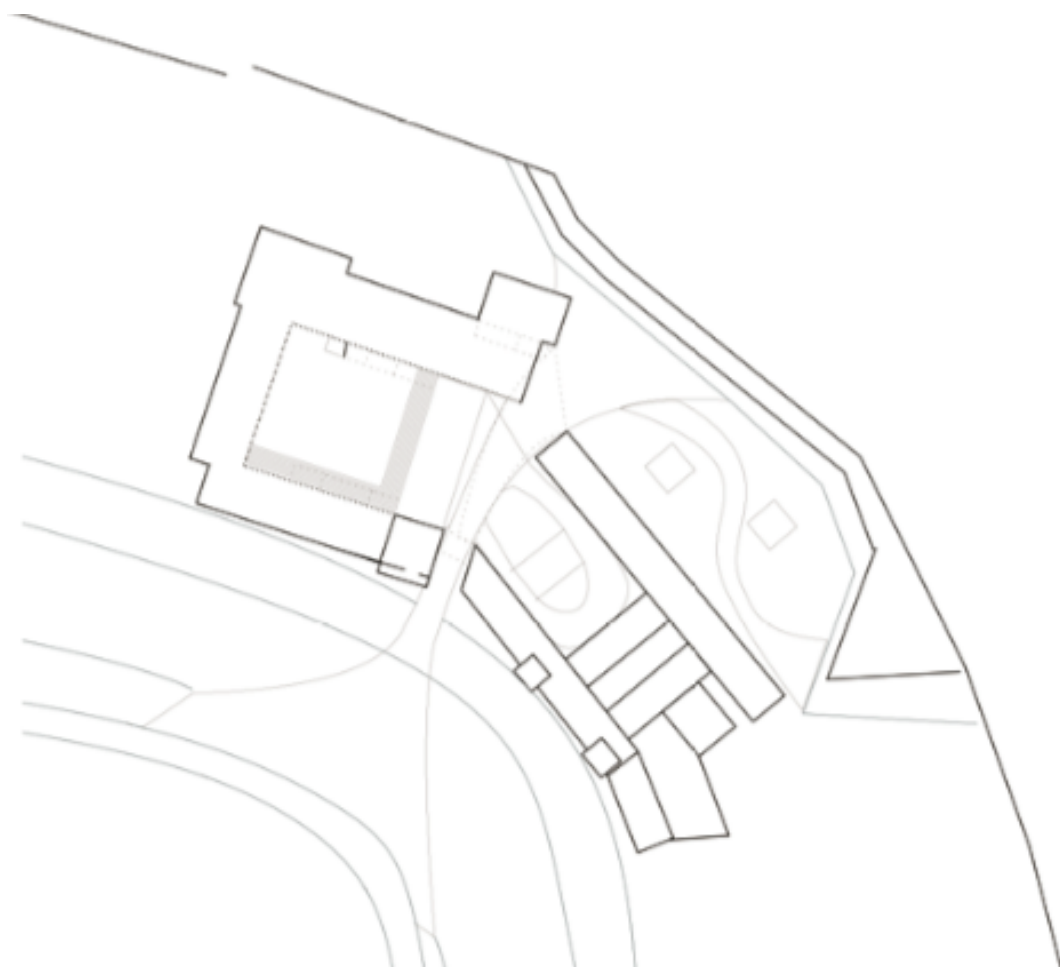
Circulation Diagram of Built Space in New Albion

Figure 18



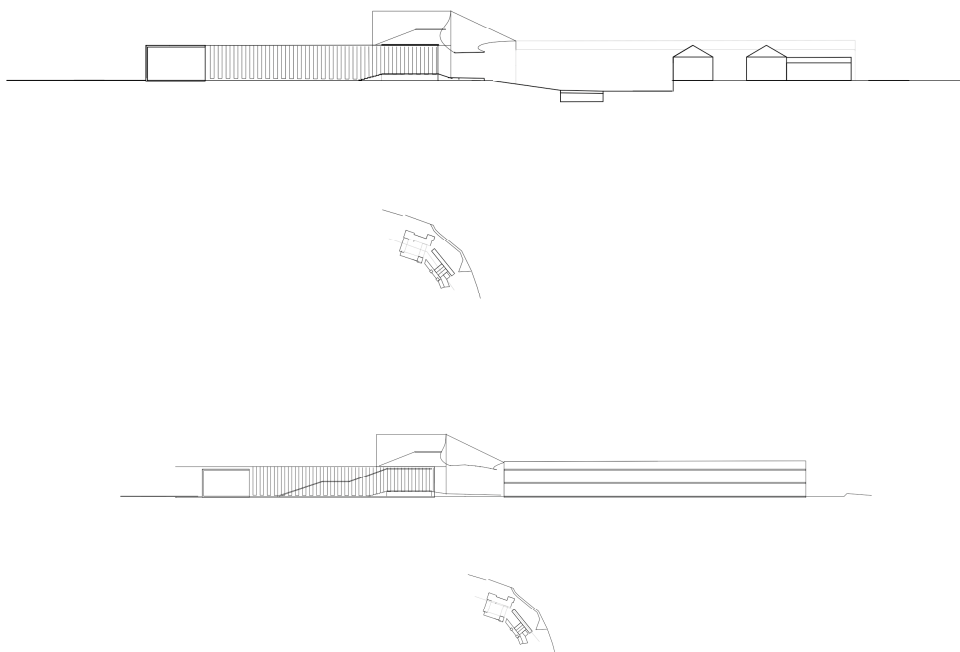
Site Plan of New Albion

Figure 19



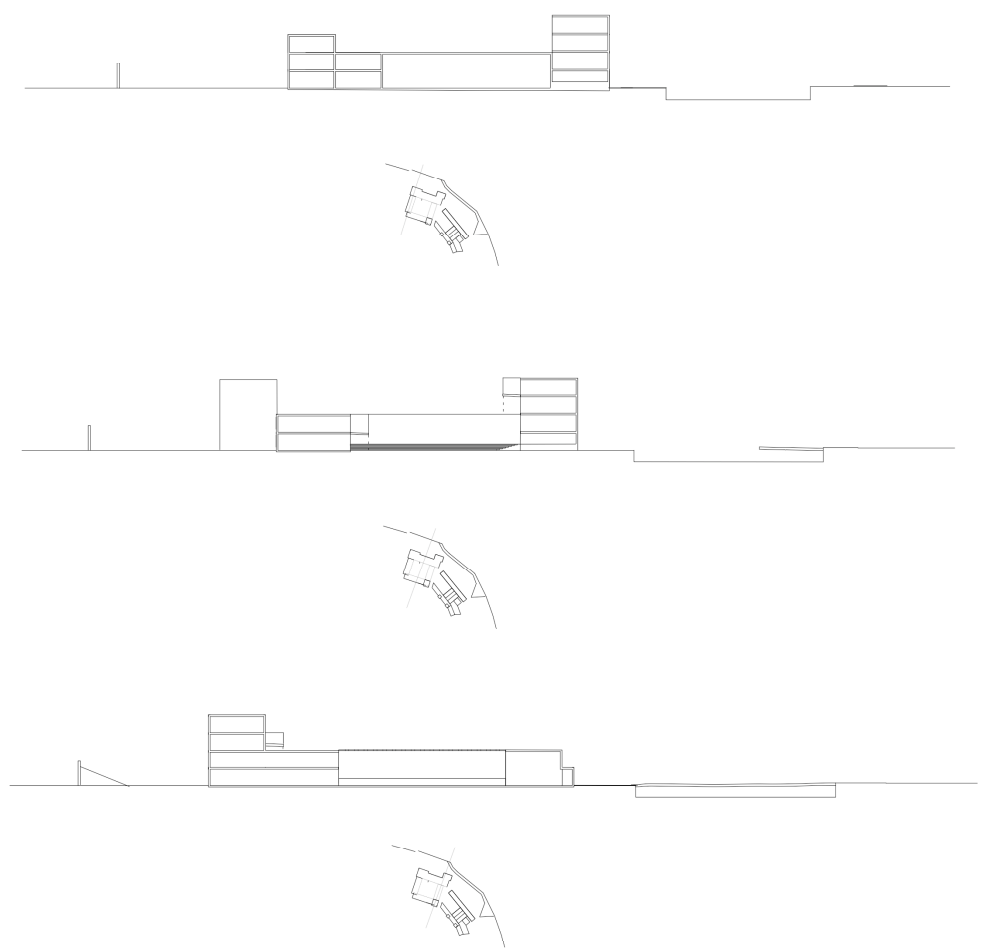
Plan at 6'

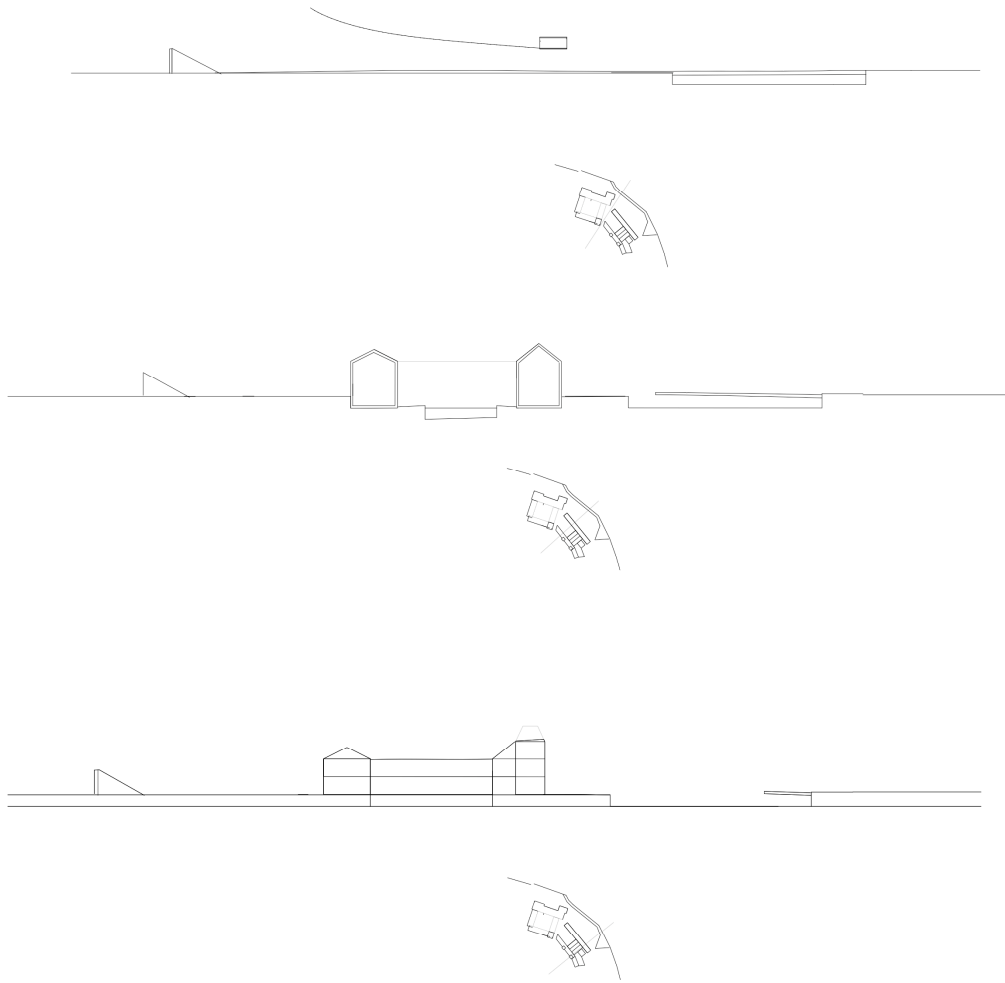
Figure 20



Bent Sections

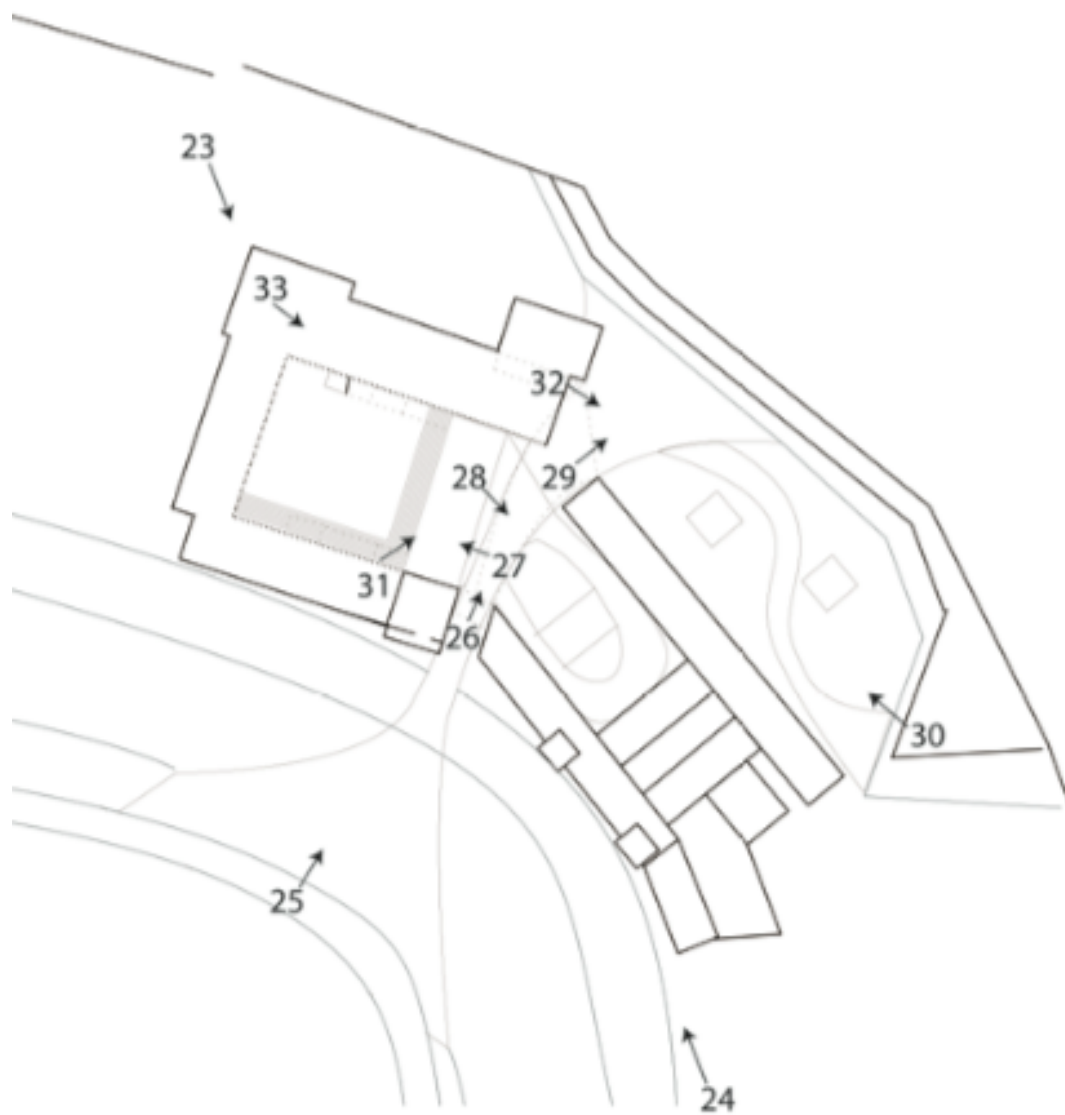
Figure 21





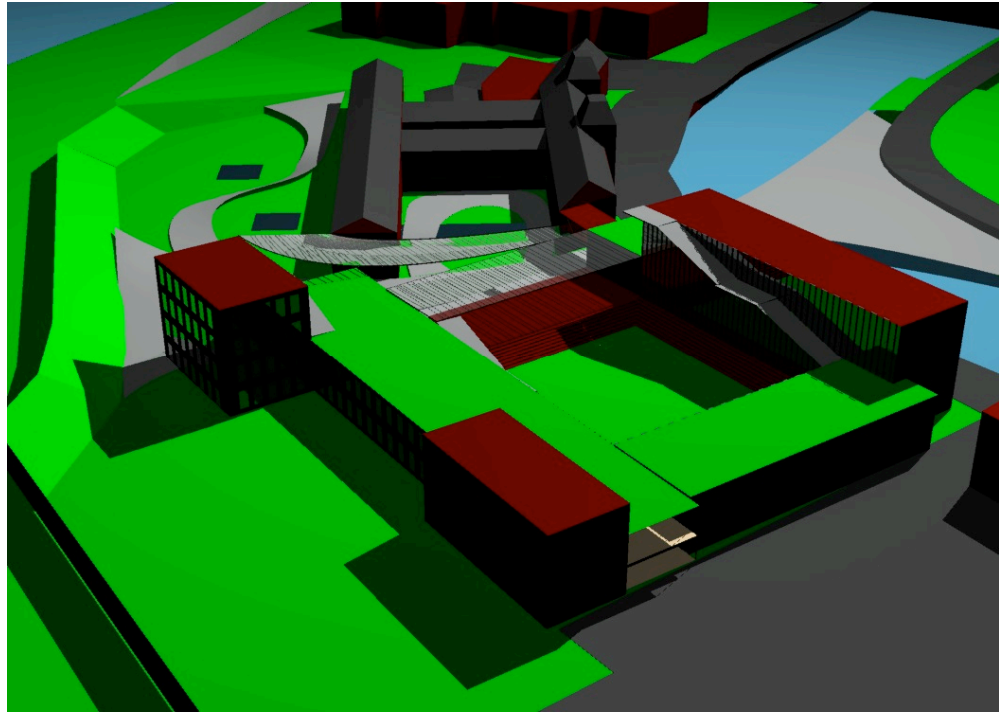
Cross Sections

Figure 22



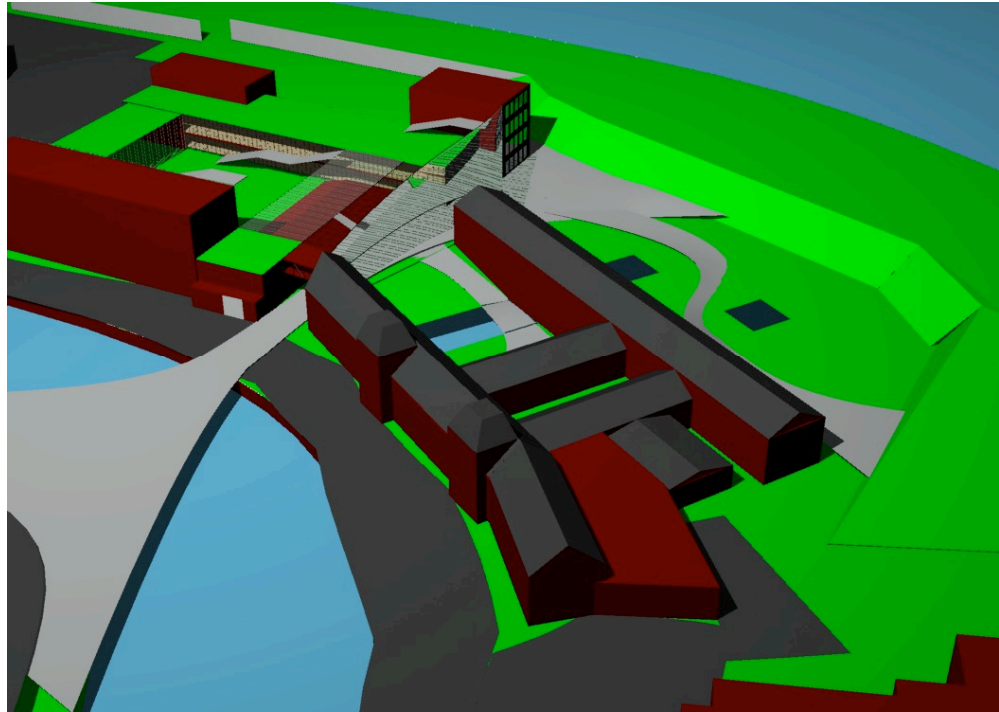
Plan with Rendering Locations Indicated by Figure Number

Figure 23



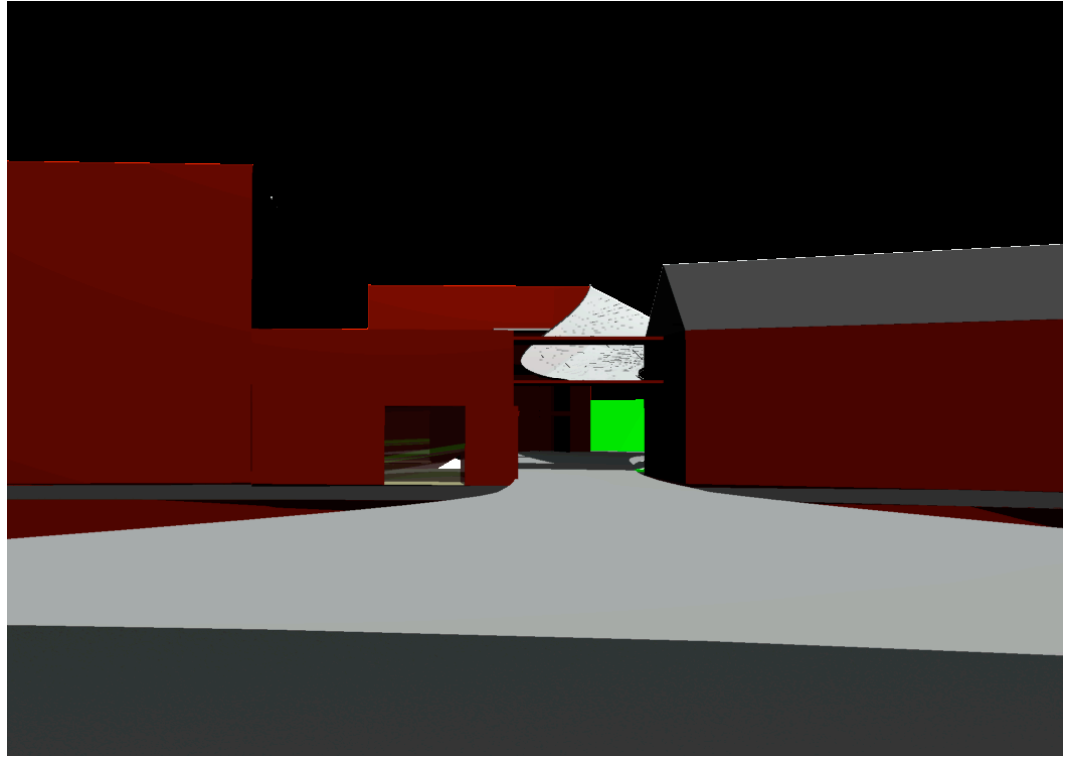
Axonometric View of New Albion from the North

Figure 24



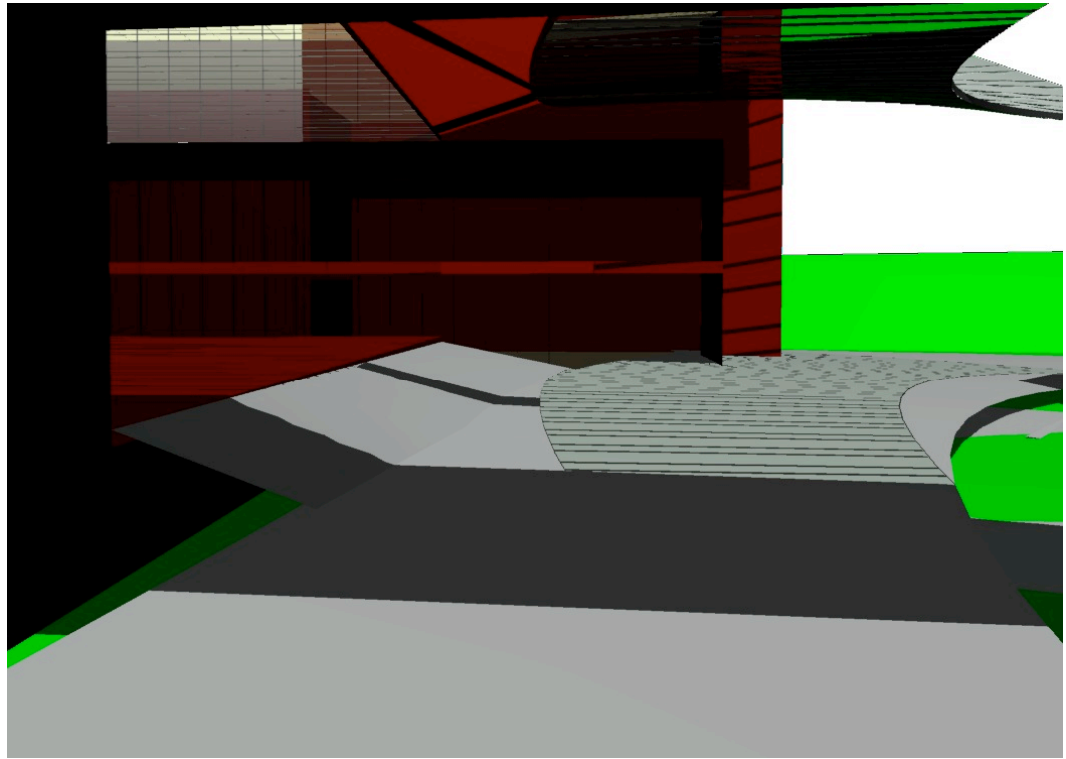
Axonometric View of New Albion from the South

Figure 25



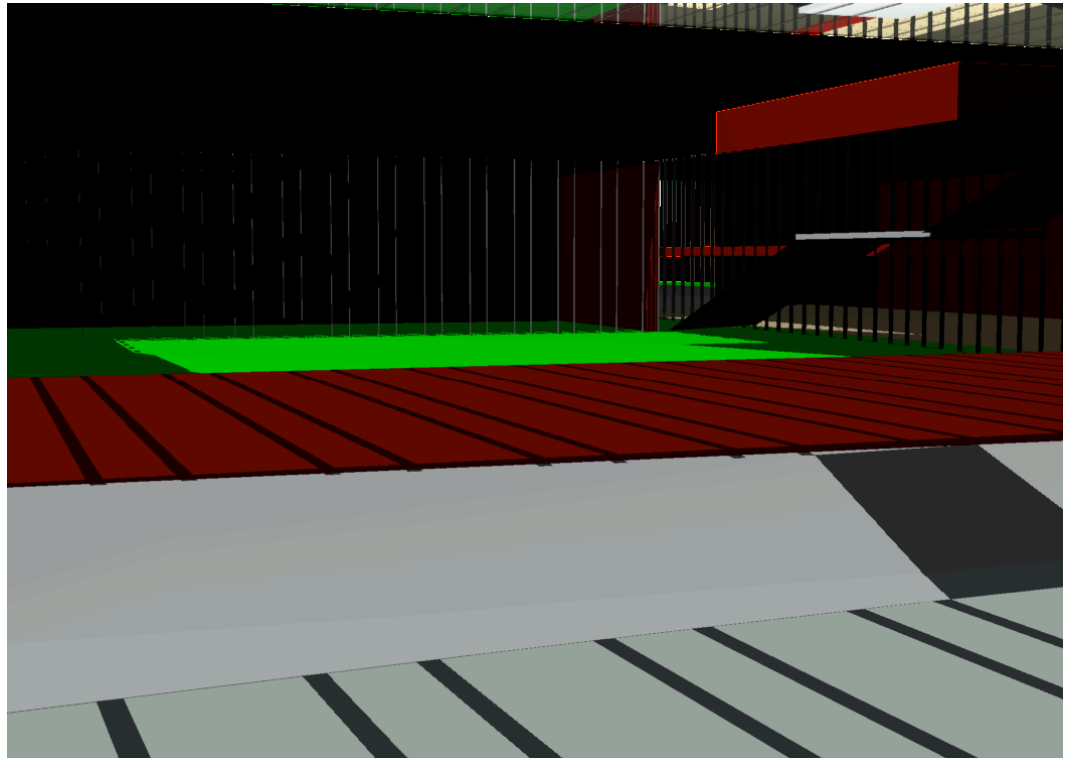
The view of New Albion from North Canal Street, at the beginning of the foot bridge.

Figure 26



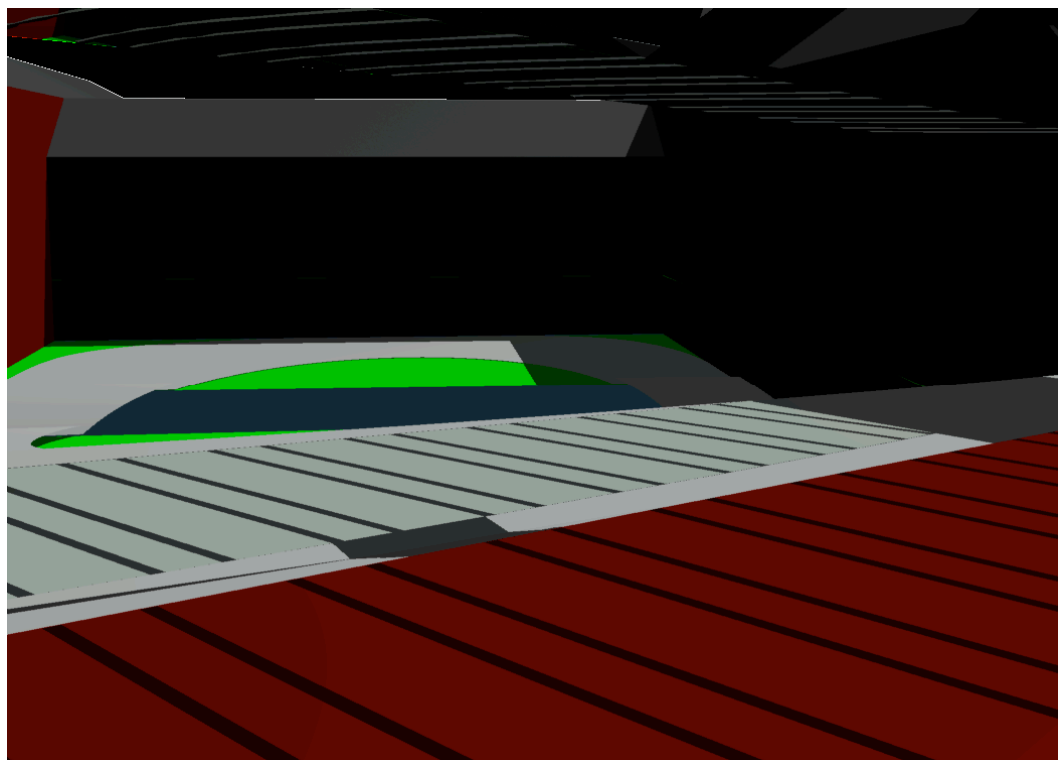
Standing underneath the second story bridge/overpass, between the two groups of buildings.

Figure 27



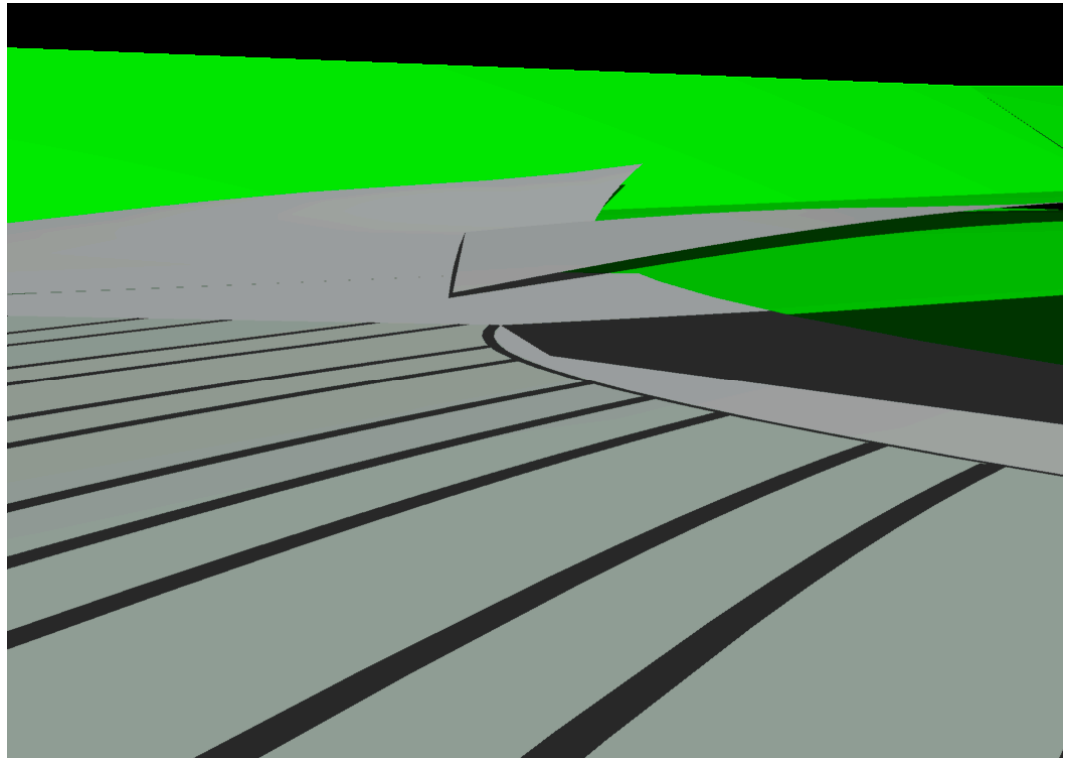
On the main path, facing the patio.

Figure 28



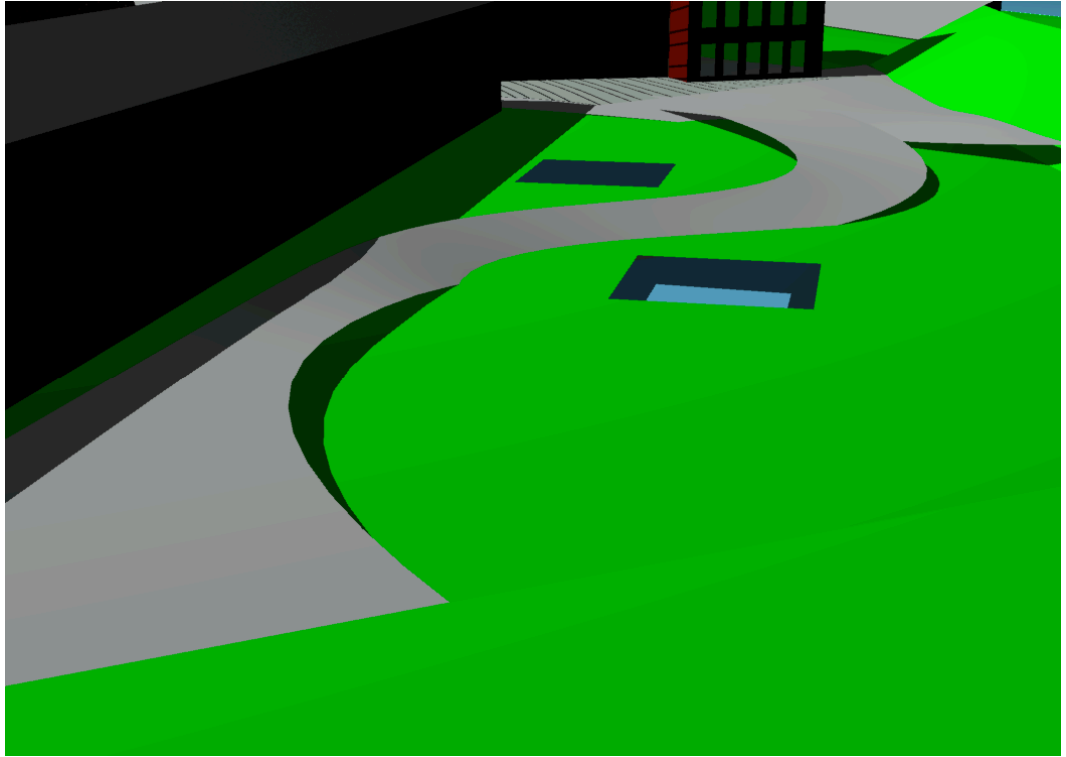
On the patio, facing the second path and the lower part of the courtyard.

Figure 29



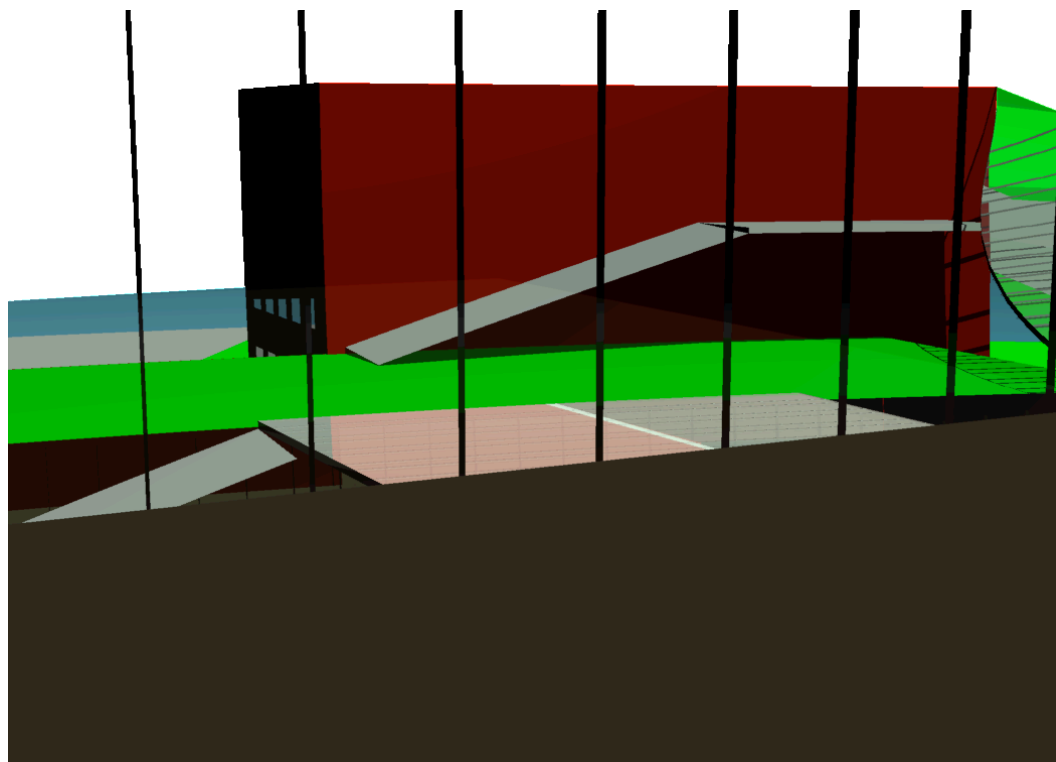
On the main path, looking at the hill and the third path.

Figure 30



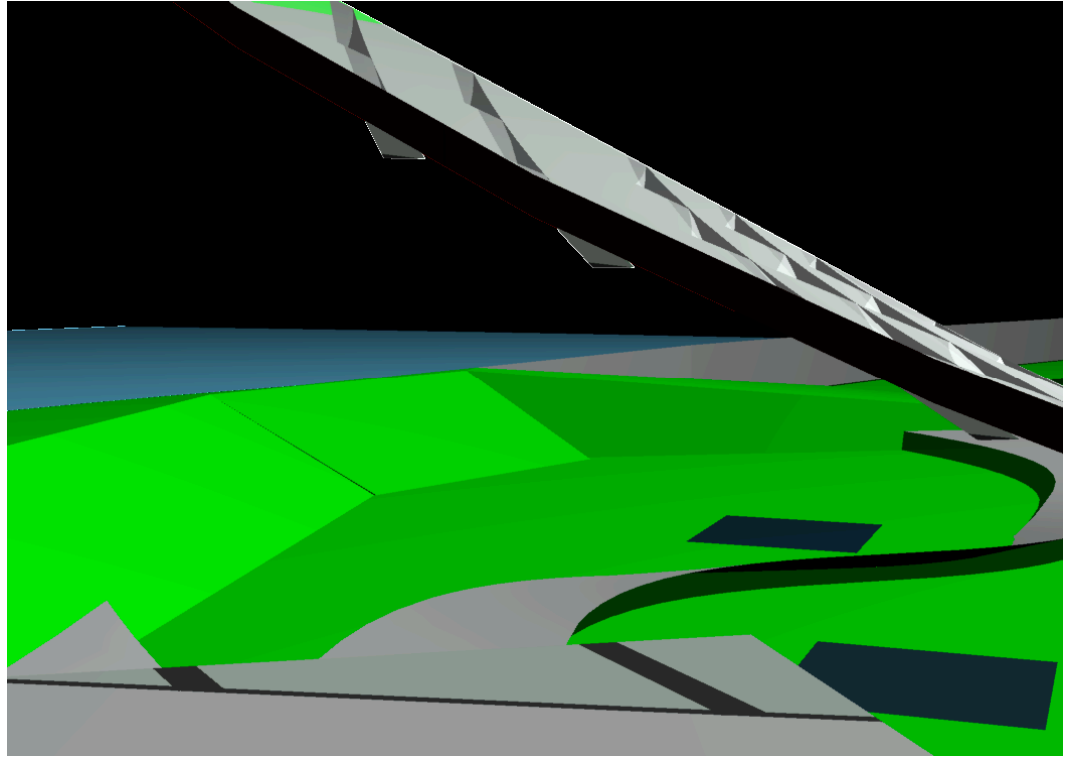
On the hill, looking at the third path and the water features.

Figure 31



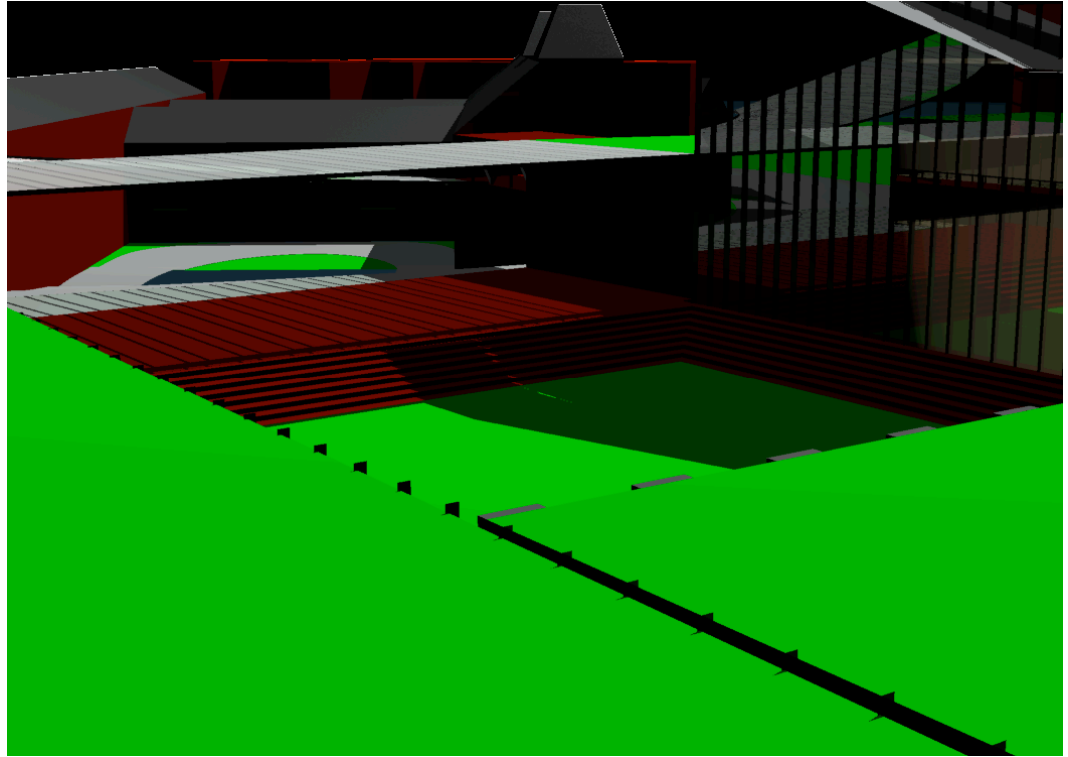
On the fourth floor, looking across the terrace to the green roof, ramp, building, and the river beyond.

Figure 32



On the concrete balcony, looking past the curved terrace to the hill and the river beyond.

Figure 33



On the green roof in the northwest corner, looking over the complex.