

HOUSING AND SUSTAINABLE COMMUNITIES

*The Stone's Warehouse Redevelopment
Project for Southeast Raleigh*

Thomas Barrie, AIA

The School of Architecture
NC State University

with

The City of Raleigh Departments of
City Planning +
Community Development

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Housing and Sustainable Communities: The Stone's Warehouse Redevelopment Project for Southeast Raleigh

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Affordable Housing Graduate Design Studio, Fall 2008 *Left to right:* Megan Kight, John Spain, Mike Spangenberg, Karissa Pytlak, Tim Kiser, Perrin Walker, Karl Rogers, Meredith Pittman, Thomas Barrie, Katherine Ball, Siler Ransmeier, Dan Stanislaw, Matt Weiss. *Virginia Alexander.*



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Finally, thanks to *all* for our collective efforts to find answers to the housing and community-building challenges we face, and for envisioning a sustainable future for Southeast Raleigh and the Stone's Warehouse site.

Thomas Barrie
PROFESSOR OF ARCHITECTURE

Introduction

Project Description, Background, Goals and Process

Service Learning Projects and North Carolina State University



Stone's Warehouse: View from East and Davie streets.

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“The current housing crisis affecting our country has clearly shown that housing is a vital part of our economy and essential to families and communities. A strong housing sector creates jobs, spurs economic development and strengthens communities.”

—SENATOR CHRISTOPHER J. DODD¹



Stone's Warehouse site. *Google Earth* ©.

Project Description and Background

The Stone's Warehouse Redevelopment Project was a research and design project conducted at the School of Architecture at NC State University. During a semester-long advanced architectural design studio, faculty and graduate students worked closely with the City of Raleigh Community Development and City Planning Departments to develop a range of proposals for the project site. The participation of nationally recognized experts in housing broadened the scope and depth the project.

The study area is strategically located adjacent to downtown, and is distinguished by a rich history, significant anchoring institutions and a range of housing. Two city studies articulate visions for its future. *The Moore Square South Strategic Development Plan* focuses on "increased residential development and neighborhood-oriented

Olde East Raleigh Plan. *City of Raleigh Planning Department*.



Chavis Greenway at Chavis and Davie



Community Development Department Single Family Homes: Maurer Architecture.



Shaw University was the region’s first African-American University and remains an important Historically Black College and University (HBCU). Talbert O. Shaw Living Learning Center, Shaw University. *Katherine Ball.*



Single family homes. Raleigh Community Development Department with Maurer Architecture. The Community Development Department has provided a variety of attractive affordable housing options in downtown neighborhoods.

retail to strengthen the residential character of these neighborhoods and their links to the downtown commercial core.” *The Olde East Raleigh Small Area Plan* recommends mixed-use development for the Stone’s Warehouse site. The City of Raleigh’s *Request for Proposals (RFP) for the Purchase and Redevelopment of Publicly Owned Property in Downtown Raleigh, N.C., Stone’s Warehouse Site*, outlines a mixed-use development of office, retail and medium-density housing to facilitate the “revitalization and economic development in downtown Raleigh and reinvigoration of residential neighborhoods just east of the downtown...to benefit low and moderate income households.”

The Housing and Sustainable Communities Project addressed a range of issues germane to the contemporary American city, housing and sustainable urbanism. Raleigh, like many mid-sized American cities, is characterized by decentralization, sprawl, an auto-centered transportation system, inadequate public transportation, a lack of housing choices, segmentation of land use, and social, racial and economic segregation. However, it also has a viable city center and vital surrounding neighborhoods, the result, in part, to proactive planning and development strategies.

The Housing and Sustainable Communities Project had a particular focus on affordable housing prototypes, strategies and applications. It also included considerations of sustainable communities, which are defined as places that over time are ecologically responsible, economically viable and socially equitable.² According to the Smart Growth Network, designed growth engenders “better housing, transportation, economic expansion, environmental outcomes than do traditional approaches to development.”



Carlton Place: An 80-unit mixed-use, mixed-income community developed by the Community Development Department with the DHIC. View from East Street looking north.”



Historic houses contribute to the character of the neighborhood. View of single family houses on Cabarrus at East Street.



The Stone’s Warehouse Project is close to the revitalized downtown. View downtown from Davie Street at the northeast corner of the project site. Rex Senior Health Care is on the left.



The new Fayetteville Street is now a place of sidewalk cafes and downtown businesses.



Moore Square at Blount and Martin. Located just to the west of the project site, this historic square is a significant part of the history of Southeast Raleigh. Today it is a busy public space bordered by retail, restaurants, a children’s museum, two middle schools, and social service centers.



Neighborhood schools build strong communities. Moore Square Museums Magnet Middle School, view from Person and Martin Streets. *Katherine Ball.*



City Market is also historically significant to Raleigh’s African-American community. Today, places like Big Ed’s are important gathering places.



The community green space of the historic Raleigh City Cemetery is located close to the project site.

Project Goals

THE OVERALL GOALS OF THE PROJECT INCLUDED THE FOLLOWING:

- To provide **THE STUDENTS** with the enriched educational experience of a real-world project, as part of their education as future leaders in the profession.
- To provide **THE COMMUNITY** resources regarding the project's background and issues, and applicable national and international models, so its members can participate in planning its future in an informed manner.
- To provide **THE CITY OF RALEIGH** with viable development strategies for the project site in service of their redevelopment efforts in Southeast Raleigh, and a foundation for the professional design and development of the project.

Service Learning Projects and North Carolina State University

North Carolina State University is North Carolina's largest comprehensive university. Founded in 1887 as a land-grant institution under the Morrill Act of 1862, NC State has a three-part mission: instruction, research, and extension. The latter describes the unique model of land-grant universities that were founded following the Civil War. Congress deeded land to establish new universities that would not only educate students but would serve its citizenry. This unique American model has the goal of accessible education paired with an extensive outreach and service mission.

Like other land-grants, NC State began by serving the agricultural needs of the mostly agrarian state through its schools of agriculture and veterinary medicine. Today all 100 counties continue to be served through the County Extension program. As the state's demographics and industrial profile have changed, however, so have the services provided by NC State. Its broader service mission now includes economic development, re-tooling industry, technology transfer, urban affairs, community services, housing and urban design. Whereas in the past a farmer might contact a County Extension Officer to seek answers to a crop or livestock problem, now municipal and business leaders come for the expertise that only a Research I institution can provide.



Restored historic house on New Bern Avenue

The Mission Statement of the NC State's Office of Research, Extension and Economic Development includes the following:

- *bringing the intellectual resources of the university to bear on the contemporary needs of society*
- *transferring technological, managerial, and artistic innovation to enhance the economic and social systems of the state, nation and world*
- *integrating knowledge of all forms to establish an environment of co-learning between the university and community.*

Increasingly NC State is serving more and more cities, small towns and communities in areas of housing and urban design—most of which is performed in the College of Design's Office of Research, Extension and Engagement. Through a diverse group of initiatives and faculty, issues such as environmental health, universal design, landscape urbanism, community art programs and the design of home environments are addressed. Thomas Barrie's extension appointment in *Affordable Housing and Sustainable Communities* focuses on research, community-based demonstration and service-learning projects, and the development and dissemination of a knowledge base in its subject area. Its *mission* is primarily educational—to provide educational resources for government, non-profit and community leaders, students and the general public, and innovative and applicable solutions to the housing and urban challenges that North Carolina communities face. Traditional research and applied research through funded projects and service learning studios are potent means to produce substantive, applicable and measurable outcomes. The education of qualified practitioners and future leaders in the profession remains central to our mission, and therefore the integration of professional education and research is essential.

Background—Needs

The Need for Affordable Housing – National, State and City Contexts

The Case for Mixed-Income Development

The Model of Mixed-Use Development

The Significance of the Project Site including a Brief History of the Project Area (by Katherine Ball)

The Meaning of Home

“Thus far, there has been little national outcry about the fact that growing numbers of low- and middle-income families are spending half or more of their incomes on housing, and that so many children are living in unhealthy, unsafe conditions—or, worse yet, forced to make their way on the streets. The grim plight of many veterans has also failed to rally a groundswell of support to tackle these urgent issues.”

—THE STATE OF THE NATION’S HOUSING, 2008, HARVARD UNIVERSITY’S JOINT CENTER FOR HOUSING RESEARCH



Families are often forced to settle for substandard housing due to the lack of affordable options.

The Need for Affordable Housing— National, State and City Contexts

THE NATION

According to *The State of the Nation’s Housing, 2008* by Harvard University’s Joint Center for Housing Research, the recent economic downturn and mortgage crisis have further eroded the availability of stable, affordable housing. During this time there also has been a dramatic rise of mortgage foreclosures. These conditions will most likely get worse before they level off and efforts to meet the nation’s affordability challenges will remain “an uphill battle.” According to the study, even though the current housing market has seen a drop in housing prices, these have been more than offset by the rise of energy costs and mortgage interest rate re-sets. Adding to the deficit of decent and affordable units are land-use restrictions adopted by more and more communities that support higher cost homes and lower density, resulting in less units and inflated costs. The most vulnerable populations—low-wage workers, families with children and veterans—have been the most severely affected, with low-income renters comprising the largest share of households paying a high percentage of their income on housing.

Affordable housing can be described as homes for people who cannot afford market rate housing in their community. Even though it can be defined in many ways, one the most common is in terms of the percentage of income devoted to housing costs.³ The North Carolina Housing Coalition defines affordable housing as “housing for which the occupant is paying no more than 30 percent of gross income for total housing costs, including rent, mortgage payments, condominium fees, utilities, taxes, and insurance, as applicable for rental or owned housing units.” This can be deceptive, however, as housing costs and median incomes can vary dramatically from county to county and state to state. It is the relationship between Fair Market Rent (FMR) and Area Median Income (AMI) that determines the relative affordability of an area.

It is clear that across America housing needs are not being adequately met, especially in underserved communities. There is a need to identify and produce new, measurable research on the planning, design, financing and production of affordable housing. Furthermore, the most up-to-date, rigorous and compelling resources, case-studies and research need to be effectively disseminated to housing providers, advocates and educators. Nationally, nearly one in three households spend more than 30 percent of their income on housing, and more than one in eight spend upwards of 50 percent. However, these statistics understate the true magnitude of the affordability problem because they do not include the tradeoffs people make to hold down their housing costs. For example, these figures miss the one in five low-income families (one in four minority low-income families) that are forced to live in substandard housing. They also exclude the growing number of households that move to distant locations where they can afford to pay for housing, but must spend more for transportation. As a result, increasing numbers of lower-income renters are spending more than half of their incomes on housing at the sacrifice of other basic needs.

According to the Harvard study, children disproportionately suffer from the inequities of the housing market. One out of every six children live in households that pay more than one-half of their income on housing, and subsequently have less to spend on food, clothing and medical care. And yet, the amount of government assistance to those that need it the most has continued to decline. From 2001–2005 the number of households needing assistance grew 20 percent while those receiving assistance remained flat. Even though the Federal Low-income Tax-Credit Program has increased the number of affordable units, these have been significantly offset by the loss of affordable units. Subsequently the poor are competing for fewer and fewer affordable units.



Twenty percent of Raleigh families live in substandard housing.



Suburban housing, Knightdale, NC: Too often the most desirable housing choices are in suburban locations that require lengthy and expensive commutes.

As the pressures on the housing market have risen so have the rates of homelessness. Each year approximately 600,000 families, including 1.3 million children, are homeless. In fact, one-half of the nation's homeless population at any given time is families and one-third is children. Veterans also make up a significant portion of the homeless population and the largest share of the chronically homeless. It is well known that the homeless are often employed, but simply do not earn enough to be able to afford the deposit and rent for an apartment. In the words of the Harvard study, "Nowhere in America does a full-time minimum wage job cover the cost of a modest two-bedroom rental at 30 percent of income." In the least affordable areas, someone working full-time needs five times the Federal minimum wage to afford a fair-market-rate rent.⁴

THE STATE AND THE CITY

According to the 2005 Census nearly 15 percent of North Carolinians live at or below the poverty line.⁵ Beyond the bottom line of poverty rates, these figures suggest the extent to which the population is economically challenged. The National Affordable Housing Coalition tracks housing needs and cost as part of their advocacy efforts. According to their recent figures, in North Carolina over 20 percent of homeowners and 30 percent of renters pay more than 30 percent of their income on housing costs. Furthermore, 20 percent of homes statewide are classified as substandard.

Figures in Wake County and Raleigh align with the national and state situation. Even though Wake County is one of the more affluent counties in the state, its poverty rates can range as high as the state average. In the past 10 years there has been a 32 percent increase in low-income households who pay more than 30 percent of their income on housing.⁶ One-third of the population of the City of Raleigh pays more than 30 percent of their income on housing, and more than 18 percent pay more than 50 percent.⁷ The waiting list for Section 8 vouchers in Raleigh is currently 4–5 years—and the waiting list for public housing 1 year. Over the past ten years as the availability of affordable units has decreased the need for quality accessible housing has increased. On any given night there are an estimated 1,000 or more homeless in Raleigh, one third of which are families with children.⁸

The Case for Mixed-Income Housing Development

Mixed-income housing development has become a popular and, according to some, successful model for integrating affordable housing into communities. Mixed-income developments typically include a mix of affordable and market-rate rental or homeownership units. According to the Department of Housing and Urban Development (HUD), they are an antidote to the concentrations of poverty that resulted from public housing and contribute to the diversity, stability and economic viability of neighborhoods and communities. When low-income communities become more economically diverse there

is potentially an increase in neighborhood businesses and services. Schools have a lessened need to import students from more prosperous communities and therefore have a greater chance of becoming more community based. Employment opportunities may also increase, reducing the need for lengthy and expensive commutes to job centers. Offspring who achieve higher income levels no longer feel compelled to look for housing and schools elsewhere, but instead may choose to stay in their communities. Proponents cite the efficacy of a mix of housing to create viable projects—often the market-rate units are used to partially subsidize the affordable ones, and mixed-income housing is often mandated in inclusionary zoning legislation.

The HUD Hope VI program focused on the replacement of public housing, which came to concentrate low-income residents in isolated developments, with mixed-income projects. Critics of these approaches, and the HUD program in particular, have argued that ultimately it resulted in a decrease of available affordable units and minimized the community cohesion often found in older public housing projects. Any proposed mixed-income development needs to be critically assessed in the context of overall goals for affordable housing in the community, and residents need to be assured that in the long term they will not be priced out of their neighborhoods.

According to a = editorial on February 27, 2009, the Federal Stimulus Package does little to address the substantial and growing affordable housing shortfall. It calls on Congress to fund the National Housing Trust Fund, a new program envisioned as a means to encourage developers to build new affordable housing units in mixed-income developments. The more recent HUD HOME Program continues its support of mixed-income development.

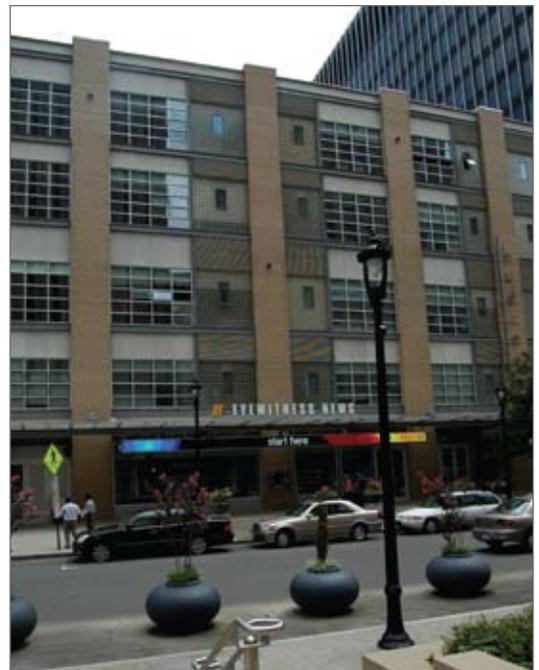
The Model of Mixed-Use Development

Traditional cities have typically comprised a mix of housing, businesses, parks, civic institutions and community services. It was the 19th century industrialized city, with its attendant public health problems, that created the need for alternatives. Beginning with the English Garden City Movement of the late 1800's, homes and housing were increasingly isolated from other functions. It wasn't until the mid-20th century that the then post-industrial city was re-assessed. Jane Jacobs in *The Death and Life of Great American Cities* argued for the return to traditional patterns and mixes of urbanism. Most recently Transit-Oriented Development (TOD) has established the means of re-building the American city around mixed-use development that is centered on public transportation.

Mixed-use housing developments utilize traditional patterns of housing built over street-level shops. Sometimes there is a diverse mix of retail, business and housing types. All recognize that vibrant



Mixed-Income Housing: Chavis Heights redevelopment. Chavis Heights is a HUD Hope VI project that replaced 296 units of public housing with 168 units of mixed-income housing.



Traditional cities have typically comprised a mix of housing, businesses, parks, civic institutions and community services. Mixed use development: The Hudson, Fayetteville Street. The blend of residential units over ground-floor commercial activities promotes density and diversity.



The Palladium, Blount Street: a café anchors the corner of this mixed-use development, encouraging a lively streetscape and integration with the neighborhood.

communities require a concentration of housing types and neighborhood businesses in close proximity to each other. Locating shopping and services within walking distance is not only convenient, walkable neighborhoods have health benefits as well. They also make good economic sense. As Peter Calthorpe, one of the formulators of Transit Oriented Development states, “Affordable housing must start with affordable neighborhoods.”⁹ When most services are located nearby there is less reliance on the private automobile and, in time, a viable pattern for public transportation. The traditional shop-house is another economically viable model, where one owner occupies both the shop and the living unit. Mixed-use neighborhoods can also be safer places. As affordable housing architect and activist Mike Pyatok argues, “Street life prompted by lively business activity supervised by people living on the floors above businesses is an important deterrent to street crime.”¹⁰ Mixed-use developments are more difficult to package and finance, but as demand grows for more diverse and vibrant neighborhoods this will change. Nationally, cities have learned that the traditional patterns of American urbanism are a good fit for the needs of the 21st Century.

The Significance of the Project Site Including a Brief History of the Project Area

BY KATHERINE BALL

The Stone’s Warehouse site is located in Southeast Raleigh at the corner of Davie and East Streets, just a few blocks from the heart of downtown. This city block, just over two acres in size, currently contains the vacant Stone’s Warehouse and the Rex Senior Health Center, as well as four single-family homes on the south part of the site. The old brick warehouse, constructed in the 1930’s, has served as a both a bus maintenance facility and a furniture repair shop. Rex Senior Health Center, which serves area residents 65 and older, is located next door in a renovated 1935 building. In addition to its commercial history, the site also was once home to the historically significant Lightner House, which stood at 419 South East Street from 1907 to 1990. Calvin Lightner, its original owner, was a builder and businessman; his family was responsible for much of the community’s vibrancy. His son Clarence, a successful businessman in his own right, also entered politics and served as mayor of Raleigh from 1973–1975.

Nearby landmarks include Moore Square, City Market, Moore Square Museums Magnet Middle School, Shaw University, Chavis Park and the Chavis Greenway. In recent years, community investment has produced a range of housing options, including both single and multi-family projects. Carlton Place, a mixed-income and mixed-use project developed by the Community Development Department and the DHIC, is directly to the west of the site. The Raleigh Housing Authority also maintains a variety of properties in the neighborhood.



Historic Hargett Street was the commercial center of Raleigh’s African-American community. *Photo Courtesy of Raleigh City Museum.*

Southeast Raleigh, a diverse area with a rich cultural history, is home to a number of historic neighborhoods. Located just east of Raleigh's rapidly developing downtown, these predominantly African-American neighborhoods flourished through the early 20th century. Drawn by institutions of higher education, cultural and economic opportunities, and thriving communities, many new residents settled in the area, fueling business investment and neighborhood development.

As early as the Reconstruction Era, the growth of Raleigh's African-American community was driven by opportunities for education and homeownership. Shaw University, founded in 1865, was the region's first African-American university and remains an important Historically Black College and University (HBCU). St. Augustine's College was founded nearby in 1867 as a normal school for teachers. The establishment of these institutions offered freedmen and their families the chance to become professionals, and enriched the community with cultural and educational opportunities.

In the 1860's and 1870's the need for Reconstruction-era housing for freedmen coincided with the growth of the educational institutions and led to the subdivision of the city's former plantation land into tracts suitable for neighborhood development. A number of these available tracts were developed east of Shaw University near Person and Lenoir Streets, and around St. Augustine's College near Oakwood Avenue and State Street. Early citizen partnerships such as the Raleigh Cooperative Land and Building Association and the North Carolina Land and Development Company, were racially diverse and shared the common goals of economic prosperity and homeownership opportunities.¹¹ Among the new Southeast Raleigh neighborhood developments were East Raleigh-South Park, Fourth Ward, College Park, Idlewild, and Smoky Hollow.¹² In *Culture Town*, Raleigh historian Linda Simmons-Henry writes:

This area experienced growth directly related to the educational, governmental, and commercial environment existing in downtown Raleigh. The total area contained the affluence provided by the university and the business community... If there had been a pulse for the total black community in Raleigh at the turn of the century, it would have been found in the East Raleigh area that provided a wide sphere of influence for the progress of black citizens in Raleigh and surrounding communities.¹³

In the years before desegregation, Hargett Street was the center of cultural and professional life for Raleigh's African-American residents. In the 1910's and 1920's it was home to a thriving community of professionals and businesses, and became known as the African-American community's Main Street. It featured the Lightner Arcade (built by Calvin Lightner), a mixed-use building containing services, offices, and apartments, located on the south side of Hargett Street



The Lightner Arcade and Hotel attracted Raleigh residents and visitors alike; it was a popular stopover for travelers en route from Washington to Florida. Jazz greats Cab Calloway, Duke Ellington, and Count Basie were among its notable guests. *Photo Courtesy of Raleigh City Museum.*



The Lightner House stood on the project site at the 419 East Street from 1907 to 1990. *Photo Courtesy of Raleigh City Museum.*

between Fayetteville and South Wilmington streets. The 1921 Arcade Hotel, one of the few African-American hotels between Washington and Florida, welcomed such travelers as Cab Calloway, Duke Ellington, and Count Basie.¹⁴ Nearby landmarks included Moore Square and its culturally diverse City Market built in 1914, as well as the historic 1881 Tabernacle Baptist Church. Chavis Park, the only city park open to African Americans in the Jim Crow era, was the social hub of the community. It featured a 1937 carousel, an Olympic-sized pool, a train, and an airplane commemorating the Tuskegee Airmen. It was for many years a popular gathering place for dances, picnics, and neighborhood events.

In recent decades, the once-thriving southeast Raleigh community has endured a period of decline. Many of the area's historic homes are in need of repair. Much of the available housing is substandard or unaffordable, with no easy access to shopping and services. Neighborhood amenities such as Chavis Park have suffered from a lack of maintenance and investment, and limited economic opportunities have led to the dispersal of residents to more affluent areas. Despite its proximity, the prosperity of Raleigh's rapidly growing downtown has not reached neighborhoods such as East Raleigh and South Park. Maintaining the character of these close-knit historic neighborhoods while providing investment, preservation, and revitalization will be vital to ensuring their long-term sustainability.

“A home fulfils many needs: a place a self-expression, a vessel of memories, a refuge from the outside world, a cocoon where we can feel nurtured and let down our guard.”

—CLAIRE COOPER MARCUS

The Meaning of Home

Vitruvius wrote in the *Ten Books of Architecture* about the origins of the first “dwelling house.” In Vitruvius’ mythical account the development of the house is conflated with the establishment of language, political discourse and civilization. Home and house are not mere shelter, but both emblematic and catalytic of culture. Vitruvius, who wrote in the 1st Century BCE, recognized the primary and diverse roles of home and housing. These are fundamental lessons we would do well to incorporate as we look for ways to provide quality and sustainable housing for those who need it the most.

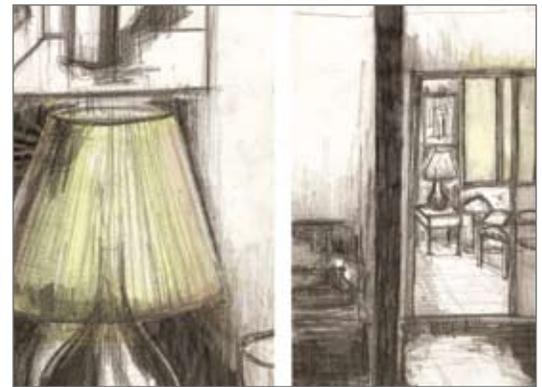


Our sense of self-definition and worth is intrinsic to our feelings about our home. Images of home: multimedia collage, *Megan Kight*.

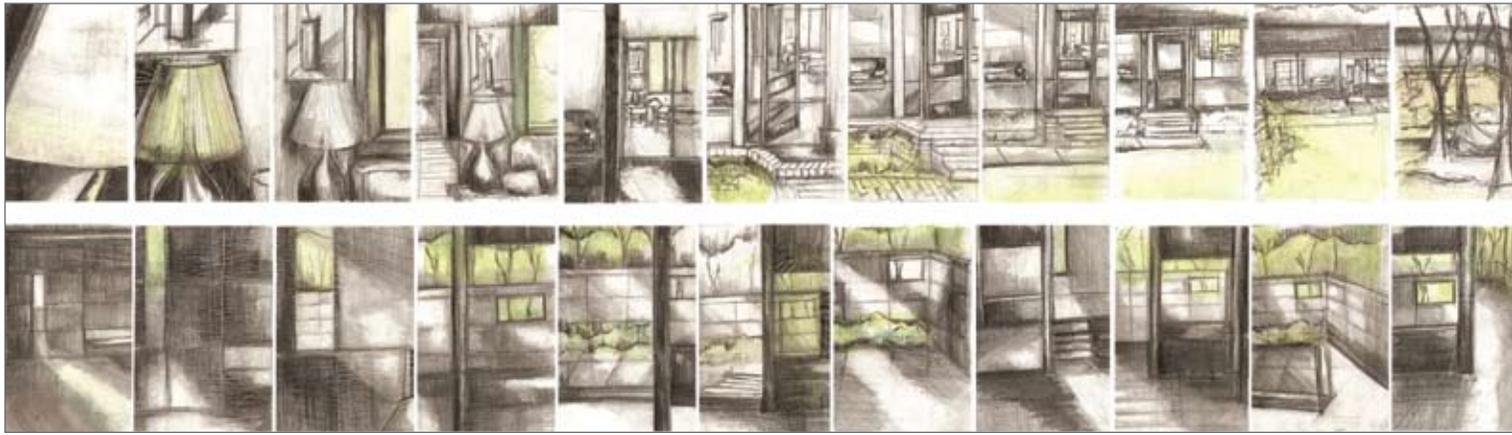
The word “home” has significant and enduring meaning for all of us and descriptions of “home” and of “coming home” have a rich literary history. The story of Homer’s *Odyssey* is constructed around Odysseus’ separation from and return to his home. He states in one passage that, “there is nothing better in this world” than a “happy, peaceful home,” and that “It discomforts (one’s) enemies, makes the hearts of their friends glad, and they themselves know more about it than anyone.”²⁰ How many of us, at different times in our lives, when we have felt buffeted by challenges or hurt by circumstances, have exclaimed, “I just want to go home!” “Home,” in Robert Frost’s poem “The Death of the Hired Hand,” is described as “the place where, when you have to go there, they have to take you in,” and where the homeless Silas goes to die.²¹

Myths and folktales from around the world share a common topic of leaving and returning home. Home is the place from which we depart and return—each day and throughout our lives. It is the center around which our lives revolve. Practically speaking it is the hub around which not only our individual and family lives are centered, but upon which society as a whole depends.

Stable, dependable homes that supply our needs and accommodate our distinct personalities are essential to our sense of well-being. According to Claire Cooper Marcus, “A home fulfils many needs: a place a self-expression, a vessel of memories, a refuge from the outside world, a cocoon where we can feel nurtured and let down our guard.”²² Our sense of self-definition and worth is intrinsic to our feelings about our home. Home shelters us, but is also a place where we communicate to ourselves and others who we are—what we believe and value. This is the difference between housing and home. The use of the former term typically reveals a generalized approach to “housing” an anonymous population. Its use of the plural tense may suggest laudable goals of achieving shelter and even homes for many,



Images of home: charcoal and pastel (detail), *Perrin Walker*.



Home shelters us, but is also a place where we communicate to ourselves and others who we are—what we believe and value. Images of home: charcoal and pastel, Perrin Walker.

but depends on minimizing the needs that each of us have for our own distinct place. “Home,” on the other hand, describes the place where we can “be at home.”

How can we provide home for many, accomplish affordability through economies of scale, without sacrificing the specific place-making intrinsic to our needs? This is an enduring question that can be addressed (and perhaps resolved) in a number of ways. First of all, we should always consider appropriate responses to local context—to the history, patterns, scales and forms of the neighborhoods in which we build. Second, we need to respond to the specific needs and wishes of those who will live there. Everyone deserves homes that, while supplying the basic needs that all can be said to share, provide generous opportunities for adaptation and personal expression. We need to be able to inhabit our habitations to feel truly at home.

However, there is also an important distinction that needs to be made regarding homes and housing. Humans, unlike most of our fellow creatures, do not build their own shelters. Typically we occupy houses and apartments that others have built and lived in. Therefore, we often do not build for the specific needs of a singular person or household, but in recognition that others will live there, sometimes for generations. We build for present needs but also for the future.

Homes, though they may predominantly serve our direct needs, also perform the role of connecting us—of building and sustaining community. Housing models that facilitate or create places for shared needs are important to consider in a culture that has become increasingly isolated. The discrete single-family house, emblematic of the so-called “American Dream,” optimizes our individual needs but minimizes our need for community and connection, which are perhaps equally important to our sense of self and well-being. Shared resources make good economic sense but also provide for these broader needs. That is why there is a renewed interest in housing that includes community spaces, such as Co-housing and Limited Equity Coops. Homes in all of their forms have traditionally articulated the form and structure of our neighborhoods. The manner in which our homes respond to sidewalks, streets, parks and other public spaces determine whether they are accepted and used, and



are perceived as welcoming or threatening. Homes may provide for the private realm but they also create the public realm. We build not only for individuals and families, but for the neighborhood and community. We not only satisfy present needs, but build for the future and for the common good.

The financing and construction of affordable housing may depend on technological means—economies of scale, materials and construction techniques—but the sustainability and livability of each home requires much more. We may recognize that without savvy financing models, competitive unit counts and compact plan types, a project will never materialize. But, if in doing so we forget the aspects of home upon which its long-term success depends, we risk sacrificing the goals that brought us to our task in the first place.

This is why design is intrinsic to all aspects of home, housing and community. While progress has been made in programming, developing, financing, managing, and producing affordable housing, too little attention has been directed at design issues. And yet, sensitive, skillful and innovative design strategies are essential to comprehensively address issues such as community acceptance, life cycle costs, sustainability, adaptability, response to context, meaning and quality of life. We need to comprehensively address the complementary aspects of affordable housing—what might be described as the conventional and the ultimate sides of homes and housing. The former is concerned with the measurable, objective aspects of housing—its socio-political, material, constructive, sustainable and financial aspects. The latter is concerned with aspects of “home,” the symbolism of place, our experience and response to the built environment, and the common ground of our shared humanity. Design is the bridge that connects and synthesizes both.

It was in this spirit that the students and I began and sustained our efforts throughout the semester. We next turn to the project process and outcomes, including research on national and international best practices in affordable housing.



Homes may provide for the private realm but they also create the public realm. We build not only for individuals and families, but for the neighborhood and the community. *Katherine Ball.*



THIS STRUCTURE HAS BEEN FOUND

UNSA

BUILDING

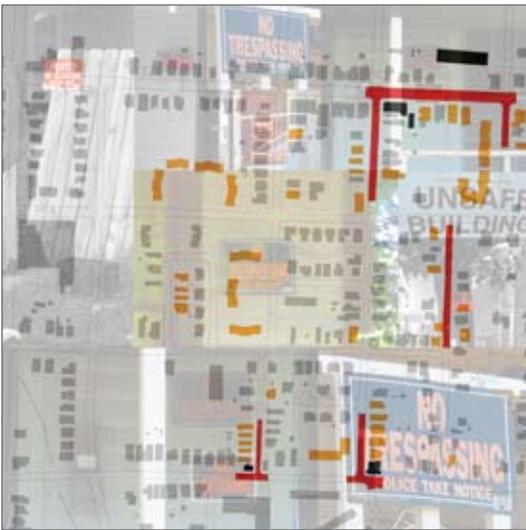
Project Process

The framing and programming of the project began with a thorough review of the City of Raleigh’s 2007 Request for Proposals (RFP) for the purchase and development of the site. The RFP called for a mixed-use, mixed-income housing development that included housing for low to moderate income families, and supported local businesses and services. It outlined two possible development scenarios, but mentioned that a full-range of proposals, within the general guidelines, were welcome.²³

The site comprises almost an entire city block bounded by E. Davie Street on the North, Chavis Way on the East, East Cabarrus Street on the South and South East Street on the West. Its approximately 2.07 acres is zoned for Neighborhood Business and R-20 Housing and is located five blocks east of the downtown, near to the Moore Square Museums Magnet Middle School, adjacent to Carlton Place (a new 80-unit mixed-income, mixed-use housing development) and next to the Chavis Way Greenway. Existing buildings include the vacant Stone’s Warehouse and associated structures, the Rex Senior Health Center and a number of single-family houses on Cabarrus Street. The city owns all of the block with the exception of three properties.

The project process included research, analysis and architectural design, as follows:

- physical surveys and analysis of the project’s urban context;
- research on local, national and international affordable housing precedents;
- consideration of contemporary sustainable urbanism theories and strategies;
- design explorations related to the meaning and significance of “home;”
- development of mixed-use and affordable housing proposals for the project site, and;
- presentations to appropriate city personnel and community leaders.



One student team noticed the preponderance of “no trespassing” signs. Neighborhood Character Analysis: No Trespassing, *Matt Weiss and Karissa Pytlak*.

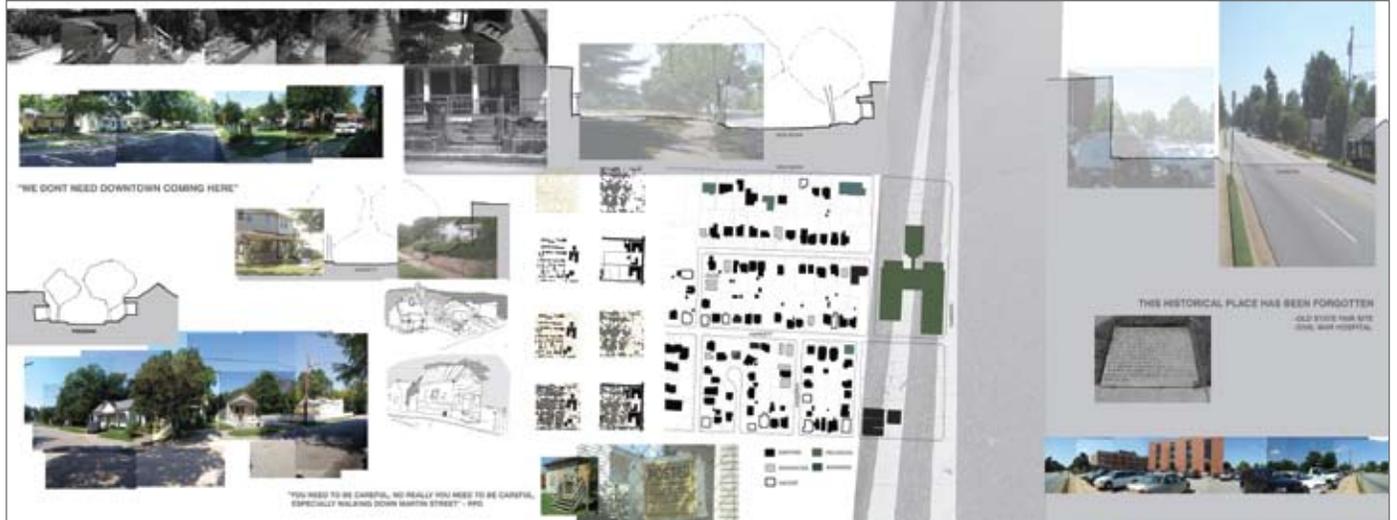
The students began with research and analysis of an area of Southeast Raleigh bounded by New Bern Avenue to the north, Tarboro Street and Rock Quarry Road to the East, Martin Luther King Jr. Boulevard to the South, and East Street to the West. Working in groups they considered the physical characteristics of what became known as the “larger site,” recording and analyzing their study areas through sketches, photography, diagrams and montages. The students focused on the organization of streets, sidewalks, homes and businesses; colors, textures and materials; used and unused spaces; views and vistas; and other characteristics that defined the study area. Additionally, the variety of building types and land-uses; streets and circulation patterns; and open and green spaces were noted, as well as areas of activity, public and private space, the scales of buildings and

streets, and places of connection and disconnection. The goal was to develop substantive understandings of the character of this unique Raleigh neighborhood. The final outcome was a composite plan and character analysis of the project area.

Concurrently, the students engaged in an exercise that recollected and visualized aspects of “home.” Each imagined a favorite place in a home where they had lived, such as the kitchen, bedroom, porch, window seat, fireplace, living room, or other private, intimate or family place. Through a series of sketches utilizing a variety of media they represented the character and experience of this place (see pg. 17). All of which served to illustrate that where we live is always “home” with its specific characteristics and often emotionally significant experiences and memories. Concurrent research on precedents of affordable and market-rate housing reinforced the relationship between housing and home (see pg. 28). The research also included tours of downtown affordable and market-rate housing, including Carlton Place.

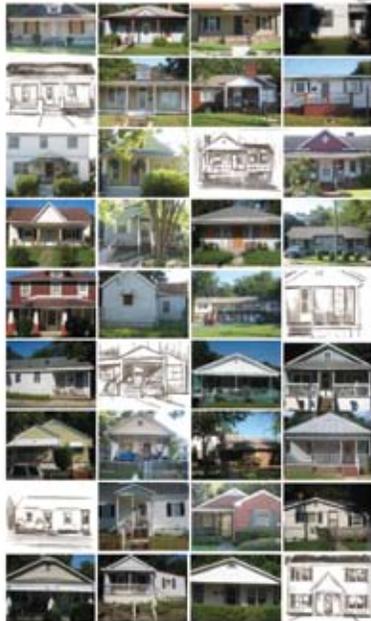


A tour of recent housing developments included Carlton Place, a mixed-income, mixed use development, DHIC with JDavis Architects.



Working in groups, the students considered the physical characteristics of what became known as the “larger site,” recording and analyzing their study areas through sketches, photography, diagrams and montages. *Neighborhood Character Analysis: Scale and Sections, Siler Ransmeier and John Spain.*

"Keep the **people** here; don't make them leave."



OWN A HOME?

WE ARE RETIRED - HOW CAN WE

"I WOULD SPEND ALL DAY ON THE PORCH IF I COULD"



The students focused on the organization of streets, sidewalks, homes and businesses; colors, textures and materials; used and unused spaces; views and vistas; and other characteristics that defined the study area. Neighborhood Character Analysis: Textures and Patterns, *Karl Rogers and Perrin Walker*.



The composite plan documented the overall character of the “larger site.”



The participation of national and local housing experts broadened the scope of the project. Midterm Review: Guest critics Dan Douglas, Michael Fifield, Russ Stephenson, and Georgia Bizios.



Design Review: Mike Spangenberg with guest critics Matt Griffith, Roberta Feldman, and Patrick Rhodes.

Throughout the semester a number of experts in affordable housing worked with the students and interacted with the community. Chris Estes, Executive Director of the North Carolina Housing Coalition conducted a seminar for the students and provided valuable resources for their research. Michael Fifield, Professor of Architecture at the University of Oregon and Roberta Feldman, Professor of Architecture and Director of the City Design Center at the University of Illinois Chicago, critiqued the students' work at critical points in the process, conducted seminars and presented public lectures at the Raleigh Urban Design Center. Professor Fifield's lecture discussed the benefits of design competitions, illustrated by the Portland Courtyard Housing Competition he chaired (see pg. 83). Roberta Feldman presented the necessity and benefits of substantial community participation in the design of housing, illustrated by the work of the City Design Center in Chicago she directs.

Public presentations and reviews of the students' research and design proposals were conducted throughout the semester. Outside experts who reviewed and critiqued the work included City Councilor Russ Stephenson, leaders from the departments of City Planning and Community Development, and local experts in affordable housing. After the end of the semester the student research and design projects were displayed at the Raleigh Urban Design Center. Professor Barrie presented the project outcomes and recommendations to the community in early February 2009.



Affordable housing expert Michael Fifield presented a public lecture at Raleigh's Urban Design Center.

Background – Solutions

*Best Practices for Mixed-use, Mixed-income Housing Development:
National and International Precedents*

“Quality design can be affordable. Affordable housing can embody quality design.”

—FROM THE DESIGN MATTERS CATALOG²⁴

The use of successful precedents helps us to understand the issues that many mixed-use, mixed-income housing developments share, and effective strategies to achieve sustainable results. The following examples, chosen from both national and international locations, provide a range of approaches to issues germane to the Stone’s Warehouse Project.

SUSTAINABILITY

ENERGY EFFICIENT WINDOWS AND MULTI-FAMILY STRUCTURES THAT MITIGATE HEAT LOSS THROUGH PARTY WALLS CONTRIBUTE TO THE ENVIRONMENTAL SUSTAINABILITY OF CITYLIFE. WHILE IT’S COURTYARD FOSTERS SOCIAL SUSTAINABILITY THROUGH COMMUNITY INTERACTION AND CONVERSATION.

CONNECTIONS

CITYLIFE IS LOCATED IN A WALKABLE AREA OF PORTLAND IS A PEDESTRIAN-ORIENTED DEVELOPMENT WITH IT’S FOCUS ON THE COURTYARD. PORCHES AND PATIOS LOCATED AT THE EDGE OF THE COURTYARD PROVIDE AN EXTENSION OF THE INTERIOR (PRIVATE) SPACE OF EACH RESIDENCE AND FOSTER AN INTERACTION BETWEEN INSIDE AND OUTSIDE. ALSO, SINGLE RESIDENCES ALONG THE STREET-FACING SIDE ALLOW FOR VIEWS AND CONNECTION BETWEEN THE SIDEWALK AND STREET AND THE INTERIOR OF THE COURTYARD.

OPEN SPACES

IN ADDITION TO THE COURTYARD, CITYLIFE IS LOCATED DIRECTLY ACROSS THE STREET FROM A PORTLAND CITY PARK, ALLOWING RESIDENTS THE OPTION OF BROADER OPEN SPACE IN WHICH TO CONDUCT ACTIVITY.

RESPONSE TO CONTEXT

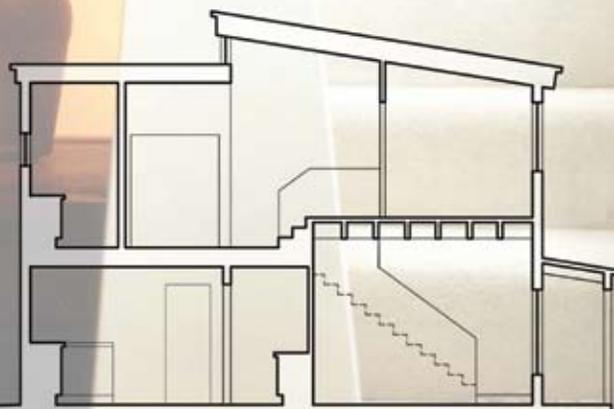
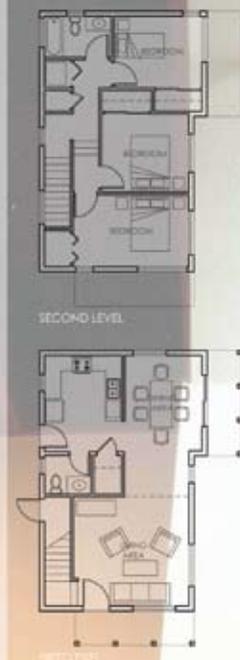
WITH INDUSTRIAL WAREHOUSE FACILITIES LOCATED BEHIND THE SITE, THE EXTERIOR CLADDING AND MASSING OF THE BUILDINGS HINTS TO THOSE INDUSTRIAL ROOTS; HOWEVER, WHILE INSPIRATION WAS DRAWN FROM THE LOCAL INDUSTRIALISM, THE WAREHOUSE WAS NOT A DESIRABLE VISUAL FOCUS. THE MULTI-FAMILY BUILDINGS ARE PLACED AT THE REAR OF THE SITE TO PROVIDE A SCREEN FROM THIS FORM THE COURTYARD AND STREETScape.

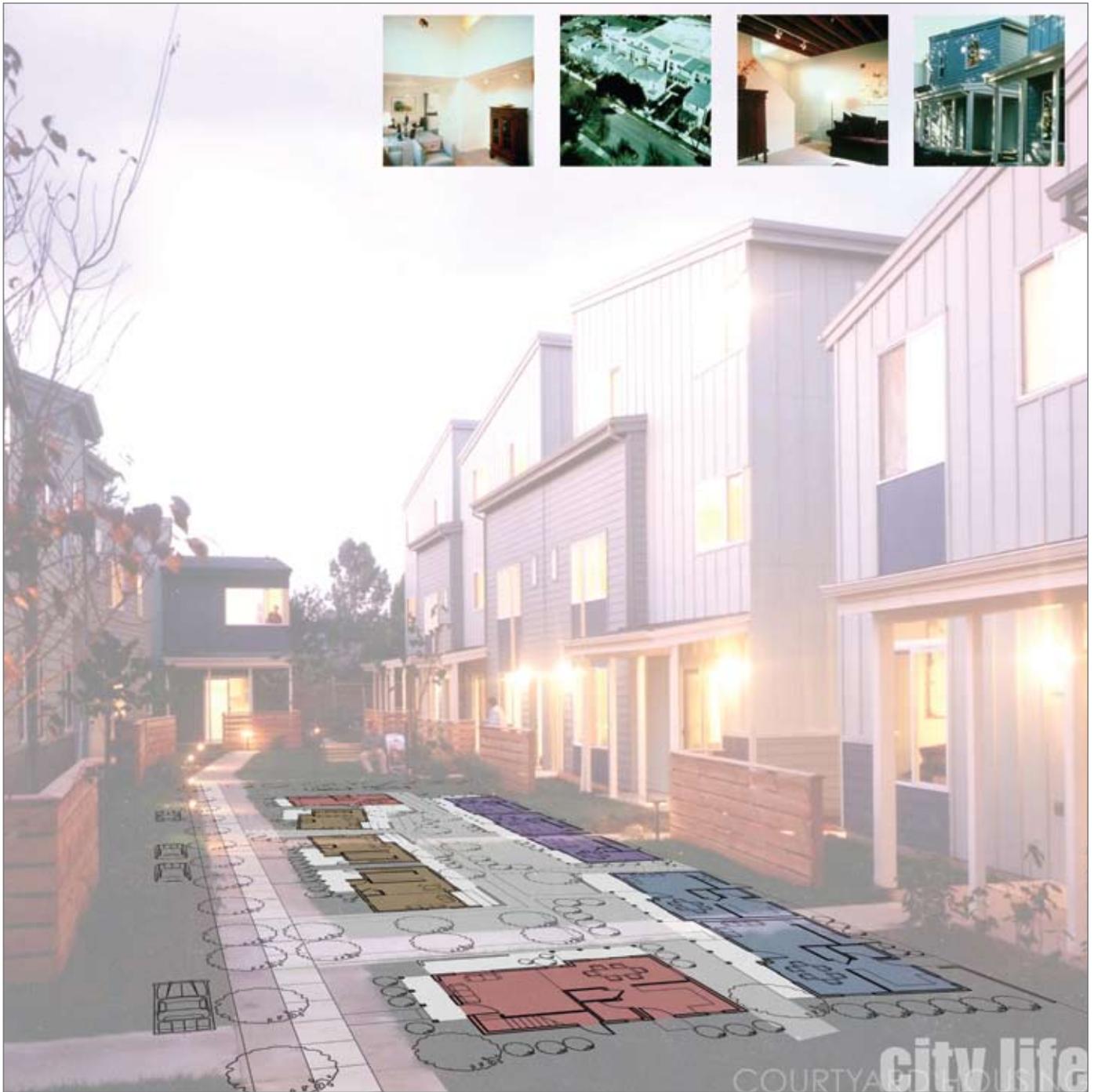
HOME QUALITY

WITHOUT SACRIFICING ON THE PHYSICAL QUALITY OF THE MATERIALS, CITY LIFE IS AN AFFORDABLE COMMUNITY. THIS MEANS THAT THE HOMES ARE SOLD TO PEOPLE WHO MAKE LESS THAN 80% OF THE AREA MEDIAN INCOME.

CITY LIFE COURTYARD HOUSING
SE 16TH STREET & CENTER STREET
PORTLAND, OREGON

ROBERTSON, MERRYMAN, BARNES ARCHITECTS INC.
AFFORDABLE HOUSING PROJECT
COMPLETED: 1995





CITY LIFE | ROBERTSON, MERRYMAN, BARNES ARCHITECTS, 1995

Student: Tim Kiser

These courtyard housing units are designed to serve those who make less than 80 percent of the area median income (AMI). Energy efficiency, pedestrian-oriented development, and carefully integrated social and private space all contribute to the project's social and environmental sustainability.

Issues Addressed

1. Sustainability:

Resident-tended vegetable gardens on the roof, good daylighting and natural ventilation via open courtyard or street-side unit exposure.

2. Connections:

High emphasis on communal space, such as roof garden, courtyard, and well placed laundry facility. Set on active urban street where mass transit routes run continuously.

3. Open Space:

Entry court flows into communal courtyard, rooftop garden terrace is accessible to all tenants. Public open space is intentionally eliminated for security concerns.

4. Response to Context:

An infill condition, the scale, color and texture of the building is sensitive to the surrounding environment, but not to the level of blending in. The building stands as a bit of an icon in the streetscape.

5. Quality Homes:

Though finishes are minimal, the spatial quality, views and access to desirable amenities are quite good. Good variety of unit sizes to fit various need types.

Building Facts

Address:
145 Taylor St.
San Francisco, CA

Density Ratio:
Project Area: 83,690 Sq Ft
Site: 0.3 Acres
Units / Acre: 223

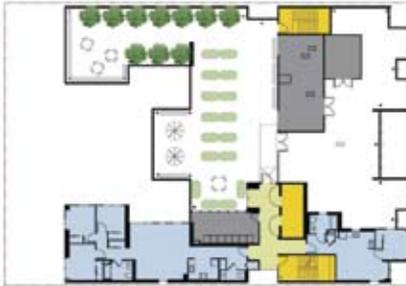
Unit Count:
Studio 14
1 Bedroom 15
2 Bedroom 14
3 Bedroom 24
Total 67

Commercial Space:
Retail: 1381 Sq. Ft.

"Curran House brings high-density affordable family housing to San Francisco's rough-and-tumble Tenderloin, and it is now home to more than 80 children. An imaginative configuration on a challenging site, this project fits 67 varied units together while maintaining tenants' sense of privacy. The building has eliminated parking, instead maximizing the space for additional units, retail and common areas, supportive services, and the non-profit developer's offices. Residents enter through a "decompression" garden that links to a landscaped courtyard in the rear. These spaces, as well as a rooftop vegetable garden, offer families an oasis from the gritty city environment below."

Curran House

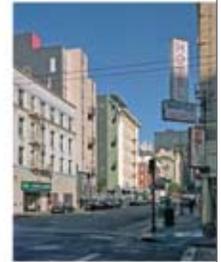
David Baker + Partners
San Francisco, CA - 2005
Affordable Housing



Roof / Terrace Plan
Scale: 1/16" = 1'-0"



Typical Upper Floor Plan
Scale: 1/16" = 1'-0"



Site / Ground Floor Plan
Scale: 1/16" = 1'-0"



CURRAN HOUSE | DAVID BAKER + PARTNERS, ARCHITECTS 2005

Student: Mike Spangenberg

Curran House makes use of protected social space through courtyards and roof gardens to promote community sustainability. Other features include daylighting, views, natural ventilation, and proximity to public transit, which eliminates the need for parking.

SUSTAINABILITY

- brownfield site
- covered bike storage
- daylighting
- use of sustainable building technologies such as high solar reflective index roof, highly insulated walls, natural ventilation, low-E glazing, stormwater management system, recycled content materials
- building footprint is reduced by tucking parking under the building units

CONNECTIONS

- located within a block of local bus lines
- 2 public trails tie directly to building circulation spines
- located within 5 blocks of community and township services

OPEN SPACES

- units are communally oriented
- circulation is provided by a series of wide second floor walkways that serve as both balcony and communal courtyard

RESPONSES TO CONTEXT

- design is sensitive to residential context and breaks scale down into five "house-scale" elements
- 3 angled slots slice through the project's site so that 9 of the 14 units have a corner location with multiple views
- the building geometry allows for natural cross ventilation
- skewed geometry responds to site bounded by streetscape and natural contours of a mountain
- located in neighborhood of various architectural style

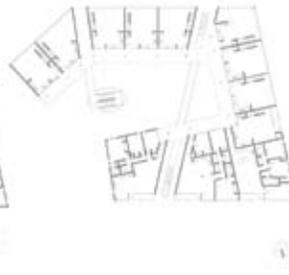
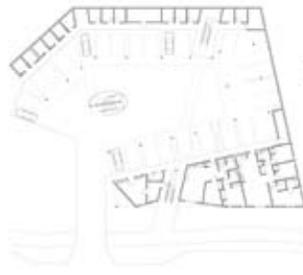
QUALITY HOMES

- project is subsidized by the city of Aspen
- designed to meet the need for affordable housing for the public employees and service worker who could otherwise not afford to live within the city of Aspen
- units are sold in city lottery system for \$190,000 and \$290,000 (market rate would have been \$1,000,000)
- open floor plan that offers natural light and breezes
- communally oriented
- design incorporates environment and existing trails

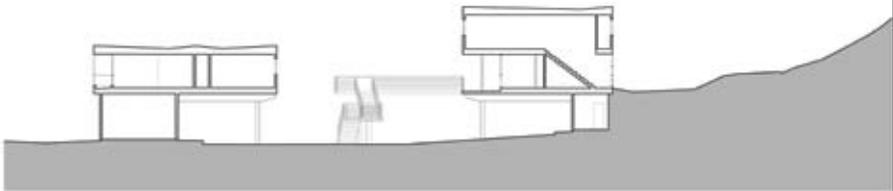
Little Ajax
 Peter L. Gluck & Partners
 Aspen, Colorado
 Affordable Housing
 October 2006



site plan



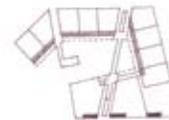
plan: ground, second, third



section



massing



shared/individual



circulation



inside/outside

LITTLE AJAX | PETER L. GLUCK & PARTNERS, 2006

Student: Megan Kight

These workforce housing units emphasize alternative transportation options. Designed in response to their environmental and neighborhood contexts, this project utilizes green building technologies.

SUSTAINABILITY

THE HOUSING COMPLEX IS LOCATED IN A COMPACT CITY CENTER WITH A HIGH SERVICE LEVEL THAT FOCUSES ON PEDESTRIAN CIRCULATION TO LIMIT THE AMOUNT OF VEHICULAR TRAFFIC. THIS COMMUNITY ALSO OFFERS 100 AFFORDABLE RENT-CONTROLLED APARTMENTS GEARED TOWARD THE BABY BOOMER GENERATION TO PROVIDE A SPACE WITHIN THE CITY CENTER THAT DOES NOT FORCE THEM TO BE DISLOCATED FROM A MAIN AXIS OF AMENITIES.

CONNECTIONS

THIS SITE IS DIRECTLY CONNECTED AT THE CITY CENTER TO THE HISTORICAL ZONE. PARKING IS PROVIDED AT A SUBTERRANEAN LEVEL WITH 670 SPACES IN A WELL-LIT, SAFE LOT. ACCESS AND MAIN CIRCULATION OF THE BUILDING IS CENTRALIZED, CREATING A COMMUNITY CENTER AND GENERAL MEETING, OR SAFE, AREA.

OPEN SPACES

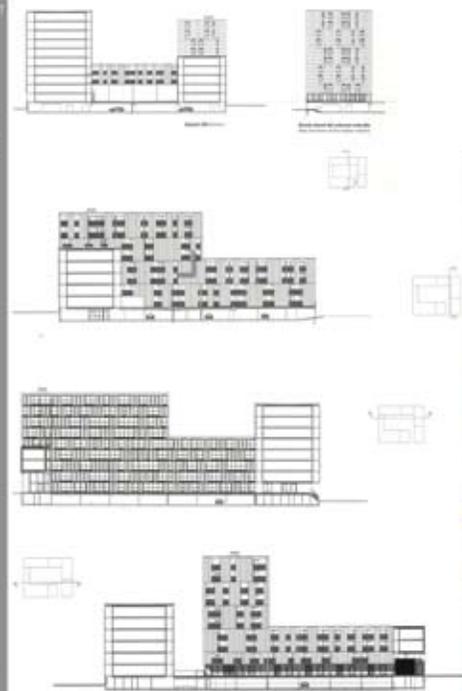
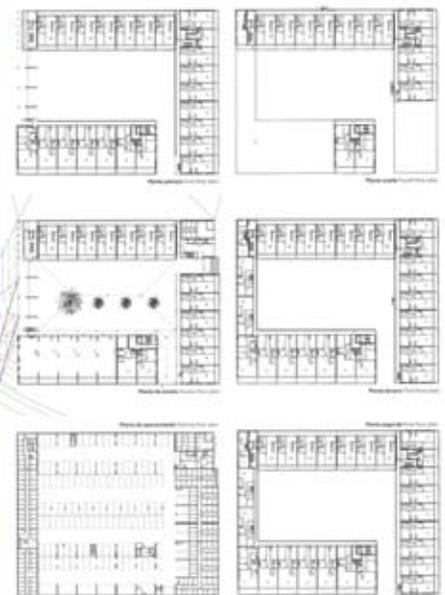
WITHIN THE HOUSING COMPLEX, THERE IS A CENTRAL OPEN SPACE WHERE THE GENERAL CIRCULATION IS LOCATED. EACH APARTMENT HAS ACCESS TO A BALCONY WHICH IS EITHER LOCATED ON THIS OPEN COURTYARD SIDE, OR ON THE EXTERIOR. THESE BALCONIES HAVE MOVEABLE GLASS BOARDS OVER THE BALCONY AREAS PROVIDING EACH APARTMENT WITH PROTECTION FROM THE ELEMENTS AND PRIVACY OF TIONS.

CONTEXT

WITHIN THIS CITY CENTER WHERE THE COMPLEX IS LOCATED ARE ADJACENT VIEWS OF THE MONUMENTAL BRYU CONVENT, BARRACKS, AND HISTORICAL PART OF THE CITY. ALONG WITH THESE HISTORICAL BUILDINGS ARE NEW CONSTRUCTION ZONES THAT ARE MIXED WITHIN AT A VARIETY OF SCALES.

HOMES

THERE ARE EIGHTEEN DIFFERENT APARTMENT STYLES AVAILABLE FOR THE INHABITANTS WITH AFFORDABLE RENT-CONTROLLED APARTMENTS AVAILABLE FOR THE BABY BOOMER GENERATION, AND LEAVING 66% AVAILABLE AT THE MARKET RATE PRICE.



BREDA CARRE

CHASSE TERRAIN, BREDA, THE NETHERLANDS
OMA
2002

BREDA CARRE | OFFICE OF METROPOLITAN ARCHITECTURE (OMA), 2002

Student: Karissa Pytlak

This pedestrian-oriented development contains a central public core of circulation. Balconies for each unit provide private space and views; a percentage of market rate housing helps to subsidize the majority of apartments, which are affordable and rent-controlled.

Daybreak Grove

Location: Escondido, CA (suburb of San Diego)
 Architect: Davids Killory
 Date: 1993
 Type: affordable multi-family (25-75% AMI)

SUSTAINABILITY: natural ventilation throughout units
 drought tolerant shade trees

CONNECTIONS: adults can supervise kids at play through kitchen windows
 cars are parked at rear of site
 tenants share responsibility for site upkeep

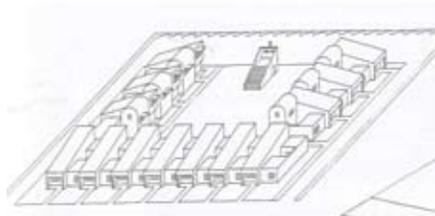
OPEN SPACES: courtyard is enveloped by residences
 sidewalk, front yard, porch are defined outdoor spaces
 laundromat
 outdoor theater
 shared planting beds

CONTEXT: fitting with residential neighborhood scale

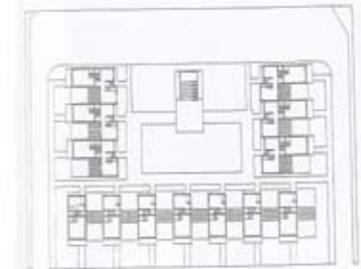
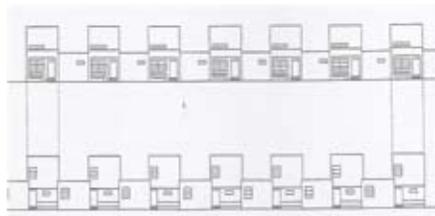
QUALITY OF HOMES: natural light in every room



site plan



ground floor plan



2nd floor plan



DAYBREAK GROVE | DAVIDS KILLORY, 1993

Student: Meredith Pittman

Designed to promote community sustainability through eyes-on-the-street views and shared social spaces, this courtyard housing development serves those earning 25–75 percent of the area median income (AMI) and features natural light, natural ventilation, and community gardens.

SUSTAINABILITY

The architects chose concrete structural frame with stuccoed brick infill to keep costs low.

Aluminum mesh frames are intended to create a vegetation canopy in the future. The light colored surface is intended to reflect light to reduce heat gain, and there are built in wind scoops for natural ventilation. Solar collectors are also used for an electrical supplement.

CONNECTIONS / OPEN SPACES

The project can be accessed from the ground level and there is parking below ground. Once inside, shaded pedestrian streets create a network of public spaces.

There is a definite internal focus to this project with the approach designed primarily for vehicles, and little attention to the street. A great emphasis was placed on shared open space within the complex.

CONTEXT

The surrounding context is primarily mid-rise block housing, and the architects chose to ignore the urban and street context due to the commuter nature of the area. The complex is internalized to create an interior pedestrian streetscape.

HOME QUALITIES

A slender seven storey building houses the 2 bedroom units along the Northern edge of the site. A smaller 4 storey building defines the Southern edge of the site. While a village two storey of 3 and 4 bedroom units make up the middle.

The units are relatively small, but there is access to a variety of outdoor space throughout the complex. The tall building that contains the 2 bedroom units even offers south facing balconies.

ECONOMIC AND SOCIAL DEVELOPMENT

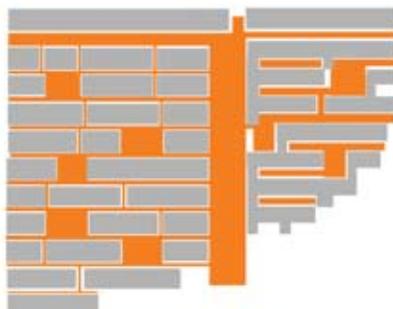
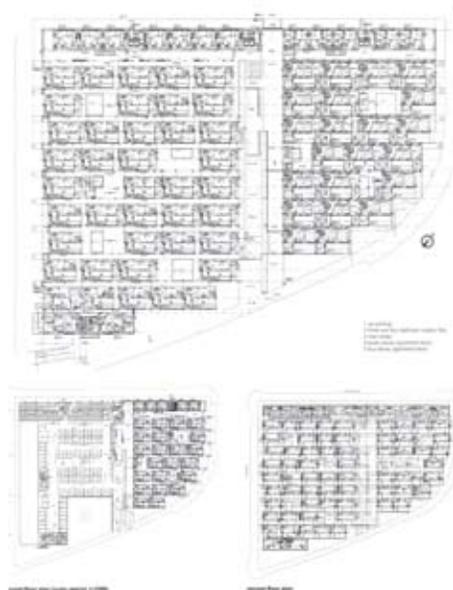
The goal of this social housing project was to create a dense low cost sustainable community on the scale of an urban village. Incorporating landscape and a variety of open spaces, the architects are attempting to shade public spaces and create a vital internal community.

MADRID PUBLIC HOUSING

CARABANCHEL, SPAIN

MORPHOSIS - Affordable

Completed December 2007



FIRST FLOOR PUBLIC AND CIRCULATION / PRIVATE



MADRID PUBLIC HOUSING | MORPHOSIS, 2007

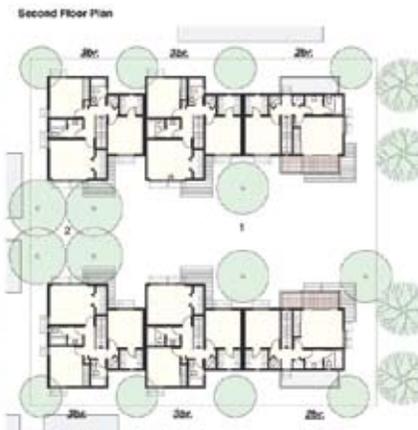
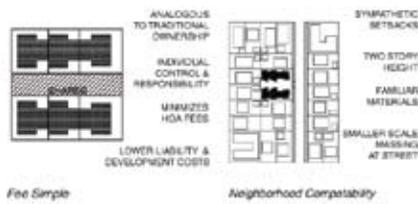
Student: Siler Ransmeier

Density, compact residential units, and shared social spaces in the form of shaded interior pedestrian streets, help to make this affordable housing development a sustainable community.

**PORTLAND
COURTYARD HOUSING: INNER PORTLAND INFILL SITE**

INDEPENDENT STRUCTURES ON FEE SIMPLE LOTS, FORM A SHARED COURT. THIS MULTI-USE SPACE, PERMEABLY PAVED, TERMINATES IN A SHADED COMMON GREEN; A VEGETATED INFILTRATION BASIN, APPROPRIATE SETBACKS & SINGLE FAMILY SCALED MASSING MERGE WITH THE NEIGHBORHOOD. FAMILIAR MATERIALS, ALBERT IN MODERN FORMS, ADD DOMESTIC SCALE. DOORWARDS DEFINE TERRITORY, SEPARATING PUBLIC FROM PRIVATE. MODESTLY SCALED & SIMPLE, THE HOMES FORM A VARIETY OF SPACES THAT FOSTER PRIVACY AND SECURITY. CHILDREN PLAY ON PRIVATE PATIOS, FRONT PORCHES, THE SHARED COURT OR COMMON GREEN, ALL WITHIN VIEW AND EARSHOT OF THE HOME. ENVIRONMENTALLY APPROPRIATE TECHNOLOGIES & MATERIALS FOSTER A SUSTAINABLE LIVING ENVIRONMENT FOR FAMILIES TO FLOURISH.

Project Data:
 (6) Homes (28 Units) - Site Coverage 4,850 sq ft (47%) - Total Area 6,800 sq ft - Ngl 22.5 ft
 (4) 3 Bedroom Homes @ 1,200 sq ft, each + (2) 2 Bedroom Homes @ 1,000 sq ft, each



Site Plans Legend

- 1 SHARED COURT - PERMEABLE PAVING
- 2 COMMONS / PLAY AREA - VEGETATED INFILTRATION BARRIER
- 3 DOOR WARD - PORCH - WITH INFILTRATION PLANTERS
- 4 CARPORT / OUTDOOR ROOM - PLAY AREA WHERE CARS ARE AWAY
- 5 PRIVATE PATIO / WARD - WITH TREES & BIO-SWALES
- 6 VEGETATED INFILTRATION BASIN
- 7 RAINWATER COLLECTION BARRELS

Floor Plans Legend

- A FRONT PORCH
- B LIVING ROOM
- C KITCHEN / DINING
- D BATH
- E UTILITY CLOSET
- F STORAGE
- G CARPORT/OUTDOOR RM
- H BEDROOM
- I LINEN
- J STACKED LAUNDRY
- K DRINK
- M MASTER
- N DEN/ALCOVE
- O DOOR WARD
- P PATIO

107624224-15

SUSTAINABILITY:
 Natural ventilation, solar panels
 Porous concrete and planted basin
 Universal design-housing for all ages
 Mixed-income strategy
 Automobile-porous concrete

CONNECTIONS:
 Universal access
 Public courtyard connects to street
 Individual housing entrances
 Circulation plan: central court

OPEN SPACES:
 Central courtyard= social interaction
 Garden has shading and seats
 Houses have individual lots

CONTEXT:
 Urban infill
 House setbacks match surroundings
 Scaled to other buildings
 Familiar materials

HOME QUALITIES:
 Individual units strongly defined
 Private and public zones
 Porches and volumes highlight individual units
 Layered connection to the street=safety
 Efficient heating and cooling

Considerations for Stone's Warehouse:
 -Urban infill, neighborhood site
 -Good example for Raleigh planners-clear guidelines and good proposal format
 -Mixed income strategy
 -Sustainable design-ventilation, solar
 -Automobile/pedestrian spaces

**Portland Courtyard Housing,
 Portland Oregon, 2007
 ACME Architecture (Keith Rivera,
 Kristin Anderson)
 Mixed-Income Housing**

PORTLAND COURTYARD HOUSING | ACME ARCHITECTURE, 2007

Student: Karl Rogers

Considerations of scale, layers of privacy, and universal accessibility inform this design. Intended for mixed-income residents on an urban infill site, this project includes sustainable features such as porous concrete, shaded community garden space, and efficient heating and cooling systems.

SUSTAINABILITY:

- Natural ventilation, overhangs for shade
- On-site management strategy
- Biofilter in courtyard
- Universal design-housing for all ages

CONNECTIONS:

- Universal access
- Holds city corner lot
- Planted terrace faces street
- Porches keep eyes on the street
- Circulation plans: protected court & walkways

OPEN SPACES:

- Central courtyard=social interaction
- Biofilter has shading and seats

CONTEXT:

- Articulated materials reflect neighborhood craft
- Urban neighborhood scale
- Response to local climate-sunlight, dry, warm

HOME QUALITIES:

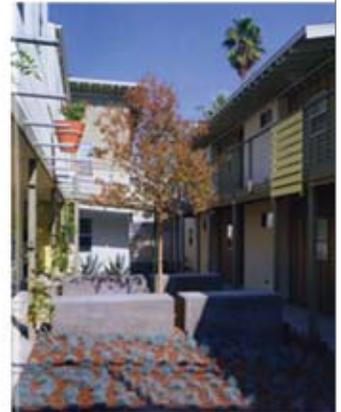
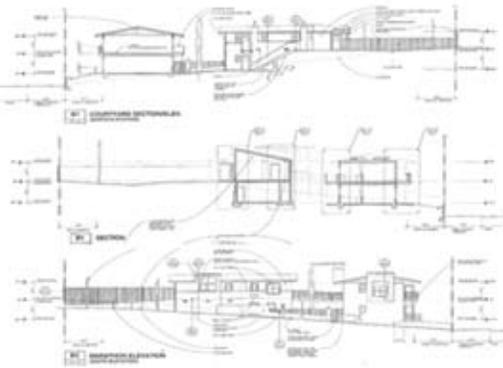
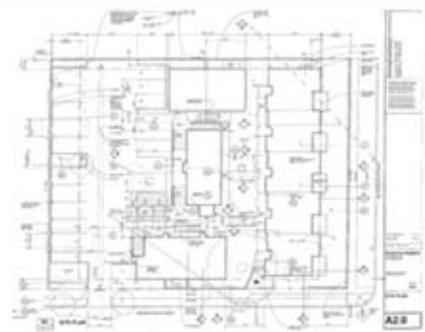
- Articulated roofing structure
- Playful use of colors and natural materials
- Porches and volumes highlight individual units
- Layered connection to the street=safety
- Kitchens overlook courtyard
- Decks and french doors

Considerations for Stone's Warehouse:

- Urban Infill, Low income housing project
- Corner lot, sloping topography
- Porch and courtyard configuration
- Disabled/universal access

**Waterloo Heights Housing
Los Angeles CA
Koning Eizenberg Architects
Affordable Housing 2002**

DEVELOPMENT COSTS		
Development Cost Information	Amount	% of Total
Site Acquisition	\$310,000	11
General Conditions	152,200	6
Demolition/Excavation	12,400	0
Construction	781,800	28
Finishes	149,600	5
Specialties, Cabinets, Equipment, Appliances	54,000	2
HVAC	53,200	2
Plumbing/Sewers	144,100	5
Fire Protection	52,700	2
Electrical	87,500	3
Elevators	44,000	2
Landscaping	59,800	2
Public Improvements	17,600	1
Total Soft Costs	832,900	30
Total	\$2,751,800	100



RESIDENTIAL UNIT INFORMATION			
Unit Type	Floor Area (Sq. Ft.)	No. Built	Rent (1st Month)
Studio	415	7	\$315
1-Bedroom	540	10	\$315
Manager's 1-Bedroom	540	1	\$331

FUNDING SOURCES		
Source	Amount	% of Total
Los Angeles Housing Department	\$400,000	14
City of Industry Funds	867,700	31
HUD	1,365,200	50
Affiliate Loan from HCHC	119,100	4
Total	\$2,752,000	100

RESIDENTS	
Area Median Income (family of 4)	\$50,300
Residents Served	100% of units serve those at 30% of AMI

LAND USE INFORMATION	
Site Area	0.43 acre
Total Dwelling Units	18
Gross Project Density	41 units per acre
Housing Type	Efficiency and 1-bedroom multifamily

WATERLOO HEIGHTS HOUSING | KONING EISENBERG ARCHITECTS, 2002

Student: Karl Rogers

The design of this affordable housing development provides eyes-on-the-street, layers of privacy, and on site management for security, while its central courtyard promotes social interaction. Sustainable features include a biofilter, natural ventilation and sunshading, universal accessibility, and the use of an urban infill site.

Affordable Housing Terms + Strategies

The production of affordable housing is an interrelated architectural, urban and economic design challenge. It includes issues of design, sustainability, social equity, planning, finance, ownership and equity options, building codes, and zoning. Design is the means by which we can most effectively identify, address and solve the challenges of housing. Enduring issues of placemaking, home and user participation, outlined in the previous section, are central to the task. Design issues also include creating compact but spatially rich units that can change over time to accommodate changing or new family make-ups. It can also comprise innovative uses of materials, cost-effective construction methods and shared or private outdoor spaces.

Even though design describes the process of synthesizing the complex issues germane to housing, we can identify specific areas of importance. Sustainability is the means to create homes that have lower construction, maintenance and energy costs. This includes using local, recycled and durable materials, and incorporating passive and active heating, cooling and water use systems. “Green lifestyles” depend on “green communities,” however, and therefore accessible and reliable public transportation and adequate density to serve it. Walkable communities are also affordable communities, and often promote local businesses and services. And we should not forget that sustainability also includes preserving and supporting a diversity of cultural histories and character, and the provision of community services.

Comprehensive, community-based planning can effectively structure and support the communities in which we live. Any comprehensive or small area plan depends on substantial and sustained community participation to be successful. Strategies such as mixed-use development and scattered-site infill housing need to make the preservation and revitalization of the neighborhoods in which they are placed a priority. A full range of home ownership and equity options should be considered when designing affordable housing for a specific place. Depending on the outcomes of community participation and project research, models such as co-housing, limited equity coops, live-work units, rent-to-own units, carriage apartments, and condominiums, and as well as single-room occupancy and other models of shared and supported housing, may be considered. We should not minimize the effect that finance and building regulations can have on the affordability of housing. Savvy city planning and community development agencies recognize the effectiveness of local and national subsidy and development support programs. They also have learned that policy, building codes and zoning ordinances can either hinder or aid in the development of affordable housing.

At the core of our efforts is the recognition that a free and open society requires fairness and accessibility when it comes to housing. We have learned that housing designed for only the poor can lead to isolated economic ghettos. Mixed-income housing development can mitigate the economic and social divisions that compromise our egalitarian culture. The provisions of a diversity of housing types as



Students Mike Spangenberg and Tim Kiser, hard at work in the studio.



Site plan sketch by Perrin Walker.

well as social and educational services can even the playing field for those who have less. In the end it makes economic sense—stable safe housing and social safety nets cost less in the long run. Fundamentally, however, it is simply the right thing to do.

The following is an outline of the various aspects of affordable housing including pertinent terms and definitions. These are elements that guided the design of the variety of options for the Stone’s Warehouse site and may serve as a guide for its future professional design and development.

Design

BEAUTY AND MEANING

- Create beautiful and generous places to live, work and play that embody the inherent human needs for beauty, meaning, safety, connection and communication.

PLACEMAKING

- Incorporate enduring concepts and practices of placemaking that respond to their cultural, historical and environmental contexts.
- Recognize and embody local history and culture.

COMPACT PLANS

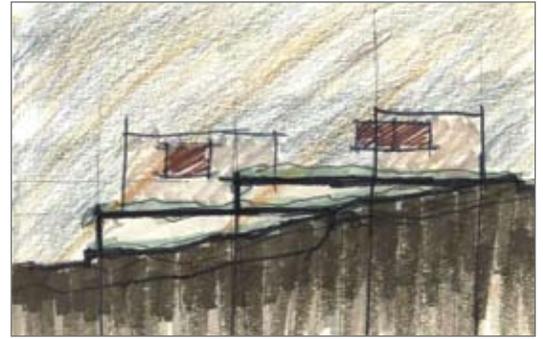
- Minimize circulation, skillfully size and proportion rooms, and utilize open plans where appropriate.

FLEXIBLE PLANS TO ACCOMMODATE CHANGING FAMILIES

- Adaptable rooms/spaces for changing needs and uses, “swing rooms” that are available to adjacent units, the ability to add rooms as a family grows, or create separate living units for related adults or renters.

EXTERIOR PRIVATE SPACES (SUCH AS PORCHES)

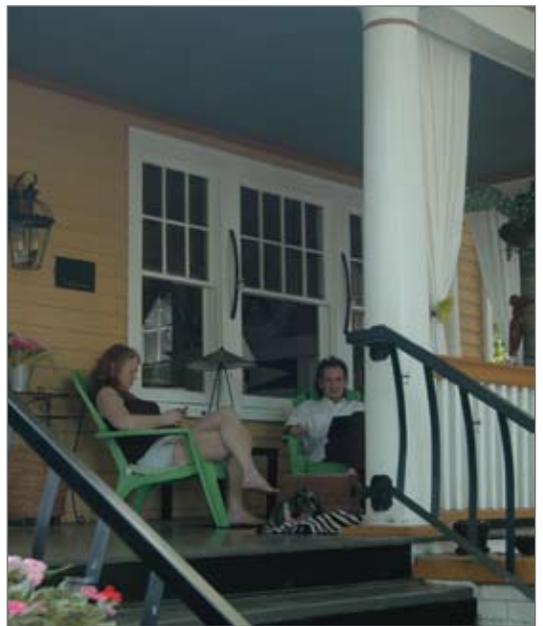
- Include interior/exterior private/public spaces and other transitions between living units and shared spaces as part of the “living spaces” of the home.



Site Strategy sketch by Dan Stanislaw.



Jackson Square, New Orleans. Effective design recognizes that beauty is a vital part of a vibrant, meaningful public realm.



Transition zones between public and private spaces allow for both neighborhood interaction and a sense of security.



Community participation at all stages of the design process is critical to success.

MODULAR, “KIT-OF-PARTS” DESIGN AND “CHUNKING” OF BUILDING COMPONENTS

- Repetitive construction components to decrease labor costs and construction waste
- Accommodate standard dimensional lumber, manufactured beams, sheathing and flooring panels, casework, doors and windows.
- Consider manufactured housing options and methods.

OFF-THE-SHELF MATERIALS

- Benefit from the cost savings of materials and building components manufactured at economies of scale.

USER PARTICIPATION

- Meaningful participation and decision-making role for actual residents (or representatives), and/or incorporation of relevant research.

Sustainability

LOW ENERGY BUILDING PERFORMANCE

- Incorporate Leadership in Energy and Environmental Design (LEED™) and Energy Star checklists, including: high R-value thermal insulation, high E windows, efficient Heating, Ventilation, and Air Conditioning (HVAC), Hot Water Heater (HWH) and equipment, passive solar and geo-thermal options.

SUSTAINABLE AND COST-EFFECTIVE MATERIALS

- Use locally manufactured materials (that do not need to be shipped more than 300 miles).
- Use recycled houses or materials.
- Use ecologically compatible materials.
- Use durable and easy/inexpensive to repair equipment, fixtures, hardware and finishes.

EMPLOY LOCAL CONTRACTORS AND CRAFTSMEN

- Reduce commuting costs and support local economies by employing local builders.

ACCESSIBILITY TO PUBLIC TRANSPORTATION

- Locate housing close to multi-modal transit options such as bus, rail, bike and pedestrian paths.



Portland, OR: Transit-oriented development promotes more affordable lifestyles through reduced dependence on automobiles.

MIXED-USE DEVELOPMENT

- Locate housing close to retail, day care, jobs and social services to minimize the need for automobiles or excessive automobile trips.

CULTURAL AND COMMUNITY SUSTAINABILITY

- Recognize, document and support local building and community traditions.
- Include historic preservation and renovation.
- Incorporate, where appropriate, job training and other local employment opportunities.



Parcel G, San Francisco: David Baker + Partners, Architects. Mixed used development including pedestrian-friendly ground floor commercial space.

Social Equity

MIXED-INCOME DEVELOPMENT

- Housing that includes a mix of low income, moderate income, and market rate units. Mixed-income housing can be an effective means to achieve economic diversity and satisfy inclusionary zoning requirements.
- Market rate housing that is either rented or sold at prices set by the prevailing market can provide additional subsidies for the low and moderate-income units.

SOCIAL SERVICES

- Provide childcare, job training and other services as part of the housing or community development.

HEALTH AND THE ENVIRONMENT

- Design communities that facilitate healthy lifestyles.

UNIVERSAL DESIGN AND SUPPORTIVE UNITS

- Housing and communities that provide for the needs of the physically and mentally impaired.



Social services integrated with the housing can support at-risk residents. Portland Oregon Mission.



Renovated houses in Historic Oakwood: this walkable and dynamic neighborhood has contributed to the revitalization of downtown Raleigh.



The public spaces of our neighborhoods can provide places of beauty and meaning intrinsic to feeling at home in our communities: Chicago.



Vineyard Crossings, American Canyon, CA: Housing planned around common courtyards can serve as a community space. *Mike Pyatok, Pyatok Architects, Inc.*

MULTI-GENERATIONAL HOUSING AND AGE-IN-PLACE UNIT DISTRIBUTION

- Provide a range of housing types that allows families and individuals to trade up without moving out, or downsize within the community as their families get smaller.

FARM WORKER HOUSING

- Housing that responds to the special needs of seasonal workers.

TRANSITIONAL HOUSING

- Housing to support individuals and families to move from homelessness to stable housing.

Planning

PRESERVE EXISTING NEIGHBORHOODS

- New and renovated housing should respect, respond to, and preserve the essential characteristics and historical context of the community.

MIXED-USE DEVELOPMENT

- Incorporating a variety of uses, such as residential, office and commercial, in the same development or small area plan.

NEW DISTRICT DEVELOPMENT

- Large-scale planning and development of identifiable districts and urban villages.

PLANNED UNIT DEVELOPMENT

- A development that provides flexibility in lot sizes, densities, street layout and other elements, and may include mixed-uses.

COURTYARD HOUSING

- Housing planned around common courtyards that serve as a community space, secure children's play area and/or common entrance to the housing units.

INFILL HOUSING

- Housing that appropriates vacant lots.

SCATTERED-SITE DEVELOPMENT

- A development strategy that includes a number of discontinuous lots in the same geographic area.

COMMUNITY-BASED PLANNING AND ADVOCACY

- Incorporating substantial and sustained community participation.

COMPREHENSIVE PLANS

- Large-scale urban development plans that include affordable housing

TRANSPORTATION

- Walkable communities, Transit Oriented Development and Urban Villages



Tassafaronga, Oakland, CA: Infill housing which utilizes vacant urban lots increases density, which can support community services, businesses, and public transportation. *David Baker + Partners, Architects.*

Home Ownership and Equity Options

CO-HOUSING

- Modestly sized, attached or detached residences that are grouped around commonly held communal spaces and buildings. Typically co-housing is organized so that residents share maintenance duties and common activities, and enjoy the advantages of a private home with the benefits of shared resources.

RENTAL, ACCESSORY UNITS AND CARRIAGE APARTMENTS

- A separate living unit, as part of a duplex or located above a garage or a detached building, that can be used as a rental apartment, accommodation for a family member, or home office. Can be an effective means to generate income to offset mortgage costs.

CONDOMINIUM

- A home ownership model where the living units are privately owned and the building's envelope and grounds commonly held.



Separate living units such as carriage apartments can be an effective means to generate income to offset mortgage costs.



Work spaces included in the living units accommodate a variety of lifestyles and reduce the need for expensive commutes. The Palladium, Raleigh, *JDavis Architects*.



{IMAGE: DAVID BAKER + PARTNERS, ARCHITECTS}
Pensione K, Sacramento, CA: Single Room Occupancy units provide a supportive environment and access to social services for individuals in transition.

MUTUAL HOUSING ASSOCIATION OR COOPERATIVE HOUSING

- An ownership arrangement where residents own a limited equity share in a corporation that owns the multifamily building(s) and grounds. It is an effective way for families and individuals with limited incomes and/or savings to become homeowners. Ownership models of this type can make home equity more accessible, capture subsidies unavailable to homeowners, create community participation, and overcome resistance to rental housing.

LIVE-WORK UNITS

- Work spaces included in the housing units that can accommodate “cottage industries.”

RENTAL AND RENT-TO-OWN UNITS

- Affordable rental units are an essential component of any housing strategy.
- Rent-to-own programs allow families and individuals who can not meet the requirements for a mortgage to be able to convert their lease to a purchase agreement in the future.

SWEAT EQUITY

- Homeowners reduce the purchase price by participating in the construction of their home.

SINGLE ROOM OCCUPANCY UNITS AND OTHER MODELS OF SHARED HOUSING

- Housing with minimal dwelling units (typically a bedroom, bath and kitchenette) and generous common spaces.
- Often serves as transitional housing and typically includes social services and job training.

PUBLIC HOUSING

- Housing that is owned by the Federal Government and administered by local municipalities where rent is typically established as a percentage of family income.

TEMPORARY HOUSING STRUCTURES

- Manufactured homes or other structures, utilized as temporary accessory living units for family members

Finance

HISTORIC STRUCTURE REHABILITATION

- Housing that renovates existing buildings that are on the Federal Historic Register and thus are able to apply for Federal Tax Credits and benefit from the more flexible historic building codes.

SUBSIDIZED RENTAL UNITS AND HOUSING VOUCHERS

- Rental assistance through programs such as the Federal Section 8 Housing Voucher program.

LAND CONSOLIDATION AND BANKING

- Land consolidation and banking can aid in achieving the economies of scale often required for affordable housing development.

DEVELOPMENT SUBSIDIES

- The HUD Community Development Block Grant (CDBG) program is an example of a federal program that can be used for land acquisition and other subsidies for the development of affordable housing.



Boston, MA: Historic renovations contribute to neighborhood revitalization and preservation.

Policy, Building Codes and Zoning

INCLUSIONARY ZONING

- Require a percentage of affordable housing units in all new development projects through mandatory or incentive-driven (density bonuses, zoning variances, etc) means.

DENSITY

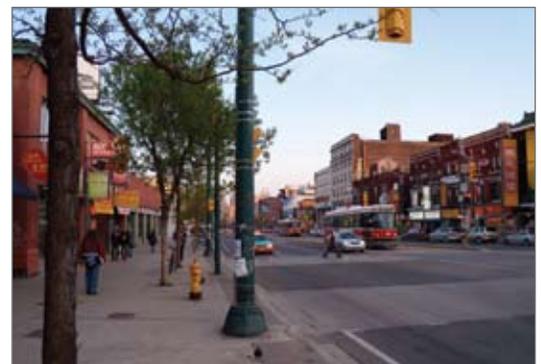
- Allow for greater density to support shared services, community-based businesses and employment, and public transportation.

MIXED-USE

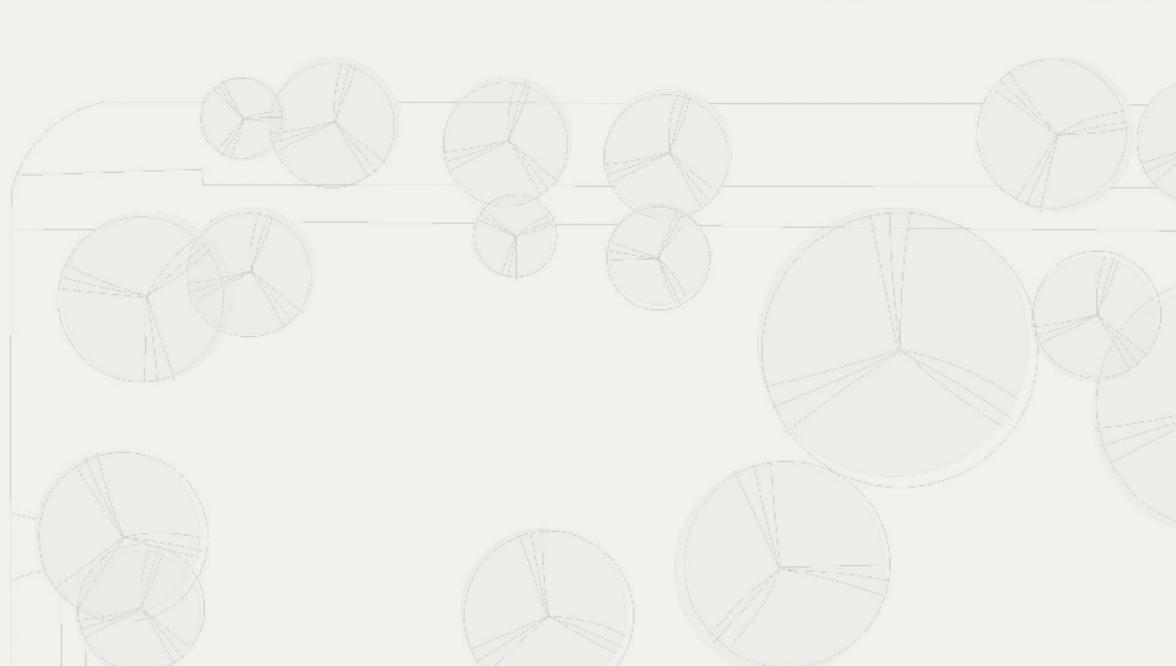
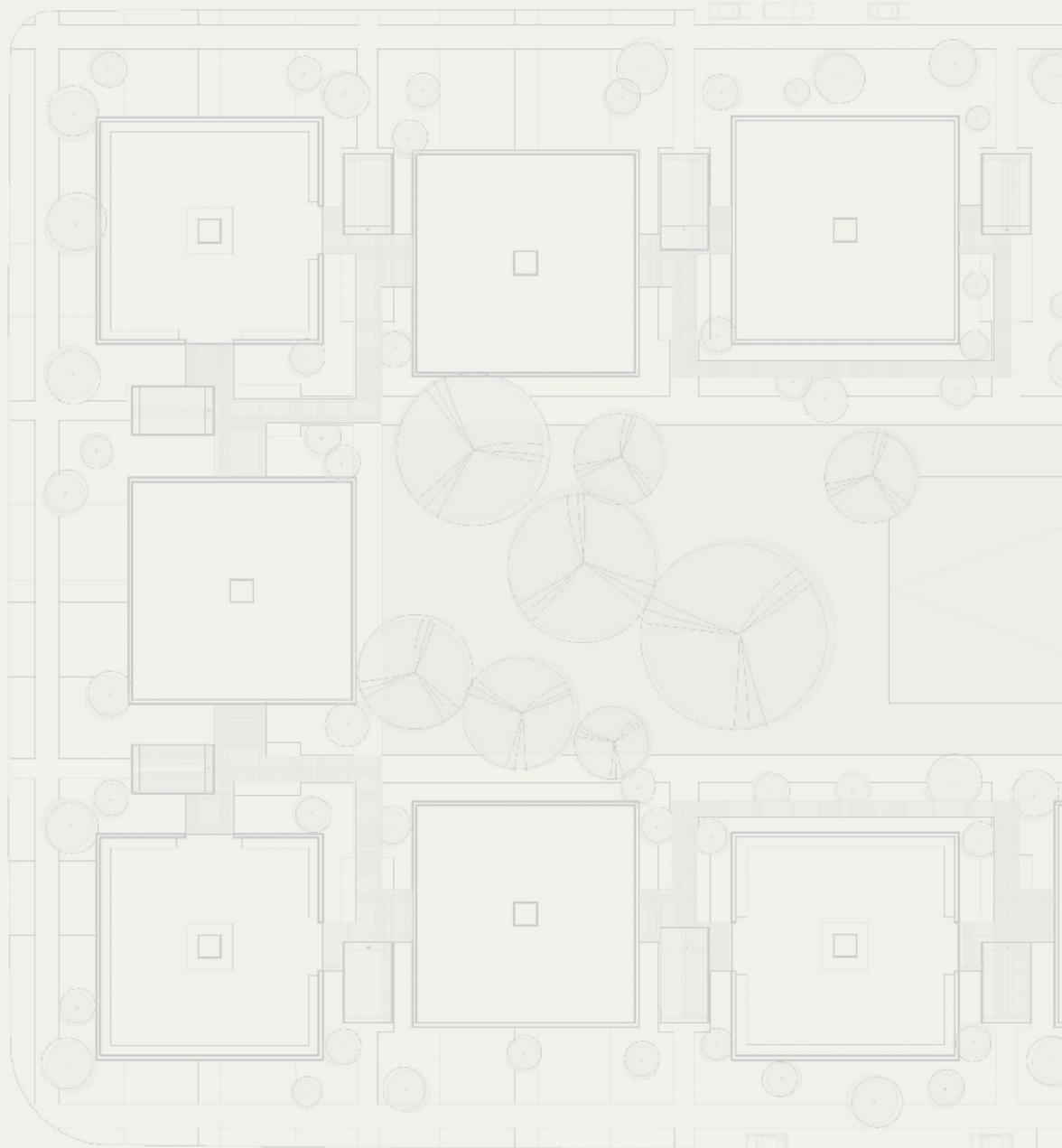
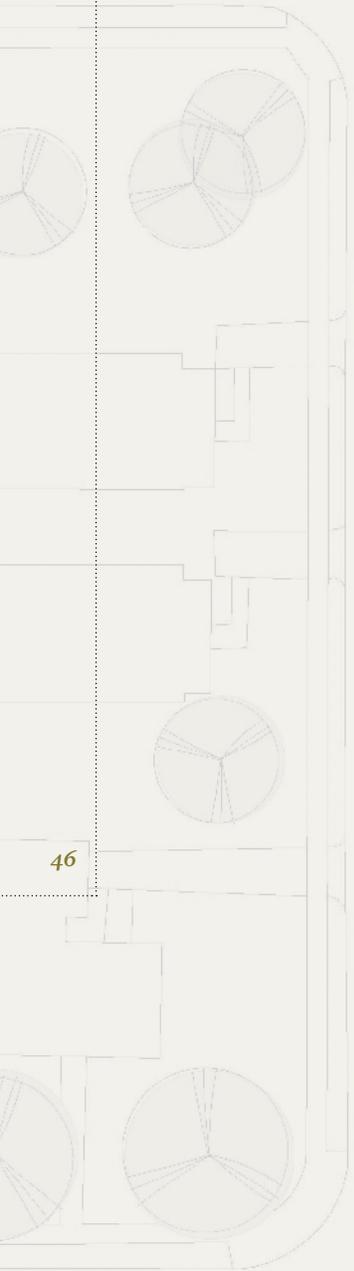
- Allow for mixed-use development to facilitate community-based businesses, employment, and transportation options

HOUSING POLICY

- Allow for live-work, co-housing, multi-family units, manufactured housing and other housing alternatives.



Density allows for a greater variety of services and amenities in a neighborhood, and encourages walkability and public transportation options: Toronto, Canada.



Design Guidelines

“Every increment of construction must be made in such a way as to heal the city.”

—CHRISTOPHER ALEXANDER²⁵

Each student was encouraged to develop unique project proposals, which aligned with their research and design interests, and their understanding of the project background and site. However, as the students engaged in site analysis and began to develop preliminary strategies and schemes for the project, a number of shared design guidelines emerged. These were further identified and developed through in-studio, group design workshops. The resulting project **Design Guidelines** came to guide the project development throughout the semester, and are as follows:

Sustainability

TECHNOLOGICAL, CULTURAL, URBAN, ENVIRONMENTAL,
ECONOMIC + SOCIAL

To create a sustainable future it is clear that our buildings need to optimize their energy efficiency. New construction that incorporates **low energy building performance** and uses **sustainable materials** is central. However, **mixed-use development** can create environmentally sustainable communities that provide **accessibility to public transportation** and are less reliant on automobiles. Even **employing local contractors and craftsmen** can reduce transportation energy costs, while supporting local economies. Renovation and historic preservation also serve to create **cultural and community sustainability** (see pg. 50).

Connections

URBAN, STREET, HOUSE, TRANSPORTATION + EYES-ON-THE-STREET

It is through the recognition that each separate development contributes to the whole of **new district development** that we are able to create more cohesive, connected communities. New buildings and homes can serve to **preserve existing neighborhoods** while supporting **transportation** connections to adjacent and other areas of the city. Buildings that create articulate street edges contribute to coherent streetscapes and promote the “eyes-on-the-street” essential to safe communities (see pg. 56).

Open Spaces

DEFINED PUBLIC AND PRIVATE SPACES, STREETSCAPES, PARKS + SOCIAL SPACES

The public spaces of our neighborhoods can provide places of *beauty and meaning* intrinsic to feeling at home in our communities. Streetscapes and parks are often social spaces where impromptu meetings as well as community events take place. *Exterior private spaces*, such as courtyards and porches, expand household living space while simultaneously providing an “in-between” space that mediates between private and public realms (see pg. 58).

Responses to Context

CHARACTER, SCALE, TYPES, HISTORY, IDENTITY, TOPOGRAPHY + CITY STUDIES AND PLANS

Skillful and sensitive *placemaking* responds to the multiple contexts that comprise any major new development. These contexts include a community’s distinct cultural histories and environmental settings, as well as its character, scale, identity and building types. City studies and plans, as records of professional expertise and community input, are also important contexts to incorporate (see pg. 62).

Home Qualities

AFFORDABLE, ADAPTABLE, ACCESSIBLE, COMPACT, COMFORTABLE, DIVERSE, FUNCTIONAL, EFFICIENT + BEAUTIFUL

Homes that are economically accessible to the community are achieved through a range of strategies. Using *modular, “kit of parts” design and “chunking” of building components*, along with incorporating *off-the-shelf materials*, can reduce construction costs. *Compact plans* as well as *flexible plans to accommodate changing families* are also effective affordability strategies. Skillful design not only achieves affordability, however, but creates a diversity of homes that are comfortable, functional, efficient and beautiful. They are places that not only provide for our needs but lift our spirits (see pg. 64).

Each project emphasized various aspects of the above criteria and incorporated particular elements of the strategies for affordable housing outlined earlier. Each provides specific and often complementary approaches to the project.

Sustainability

TECHNOLOGICAL, CULTURAL, URBAN, ENVIRONMENTAL,
ECONOMIC + SOCIAL



50

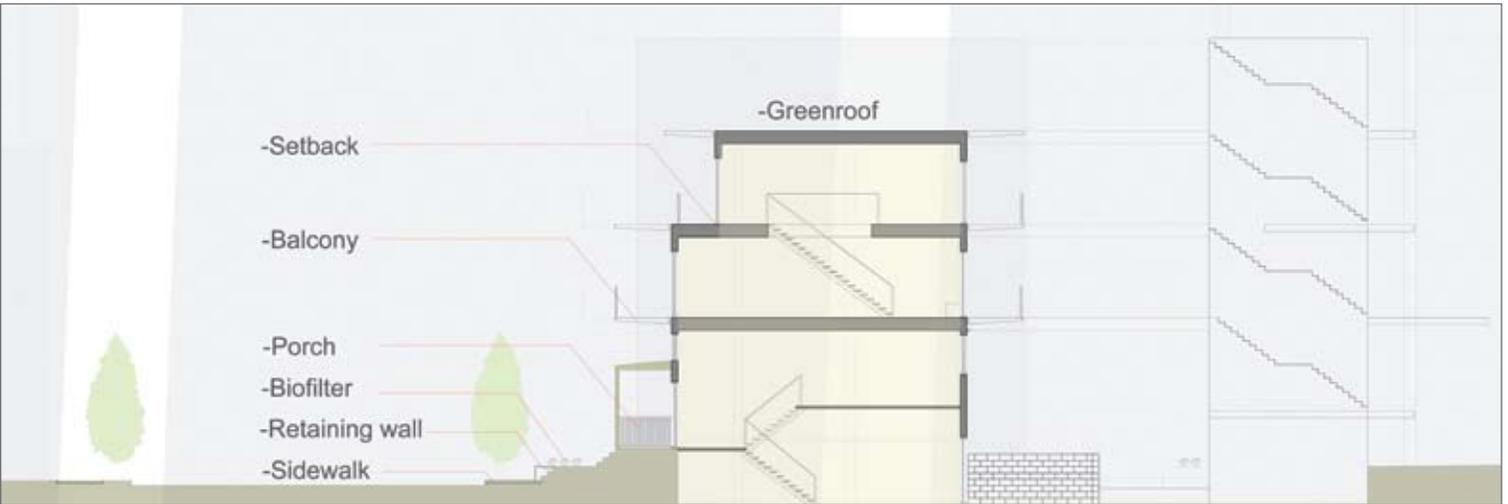
Green architecture requires careful consideration of site, water usage, energy efficiency, air quality and materials selection. *Katherine Ball*

This development promotes social sustainability through layers of public and private space, opportunities for interaction, and a layout which encourages ‘eyes-on-the-street.’ *Karl Rogers*



Green roofs reduce the urban heat island effect, and biofilters collect and filter stormwater runoff onsite.

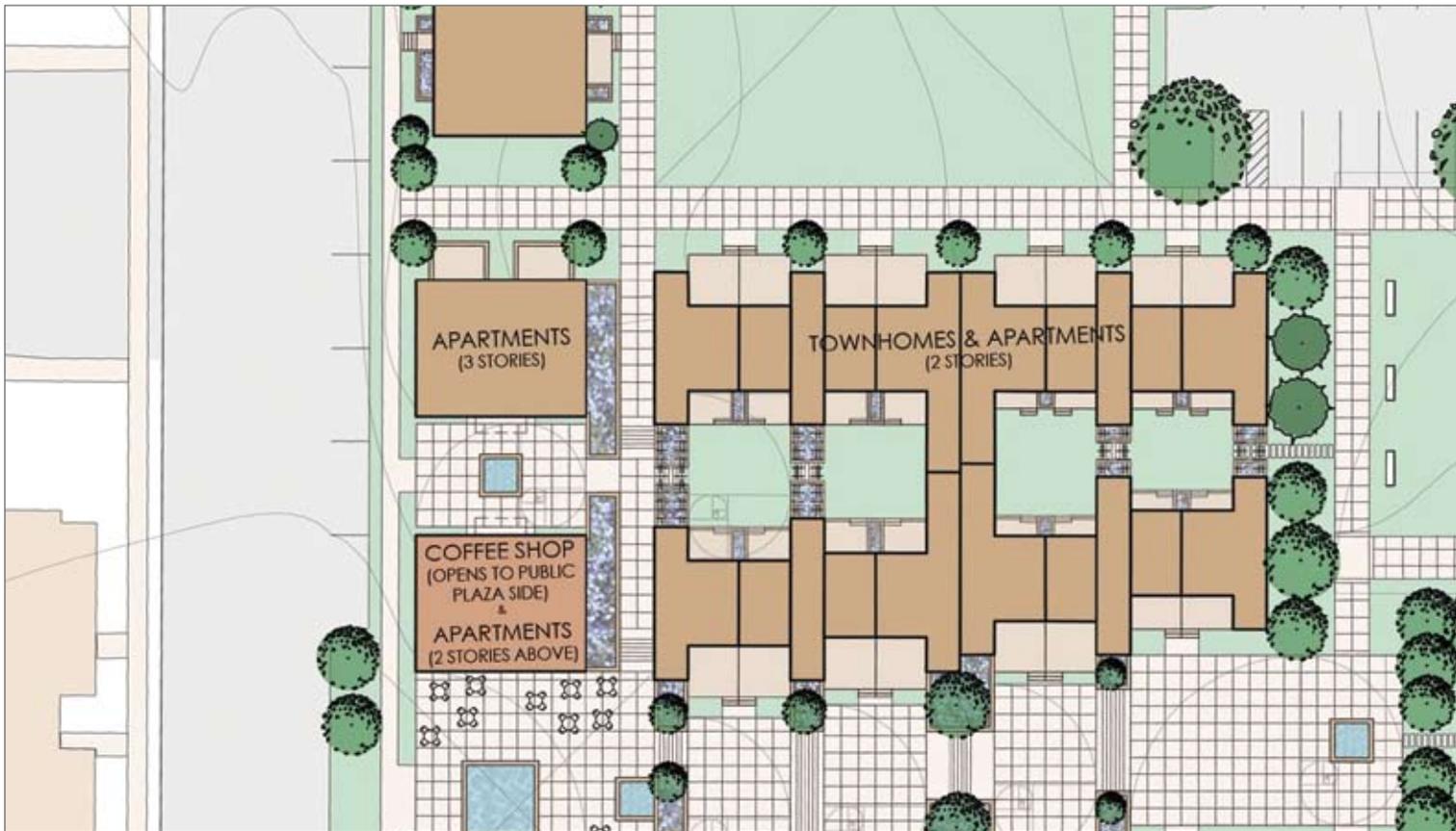
Karl Rogers



51



Passive solar design is an effective low-tech means of reducing building energy use through careful orientation of units. Overhangs and sunshades block intense sunlight during the summer, but allow winter sun to provide heat and light to homes. *Siler Ransmeier*

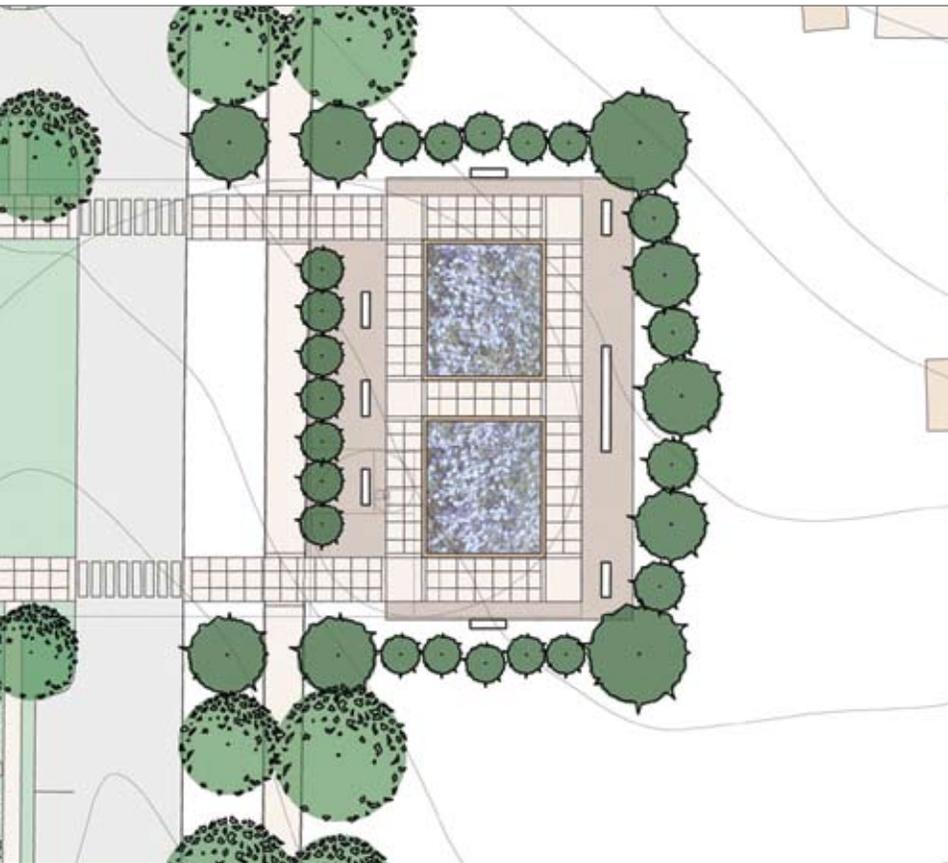


52

Responding to historical context maintains neighborhood identity. This project incorporates a memory garden that celebrates the history of the community.

Tim Kiser

Co-housing is a home-ownership model that pairs modestly sized units with generous community spaces. *Perrin Walker*



COHOUSING DESIGN PRINCIPLES

- Participatory process
- Neighborhood design
- Private homes supplemented by common facilities
- Non-hierarchical structure and decision making

COMMON GOALS

- Reclaim a sense of community
- Stewardship of the land
- Offer privacy and community
independence, safety, mutual concern, responsibility

URBAN MODEL OF COHOUSING

- Brooklyn cohousing project

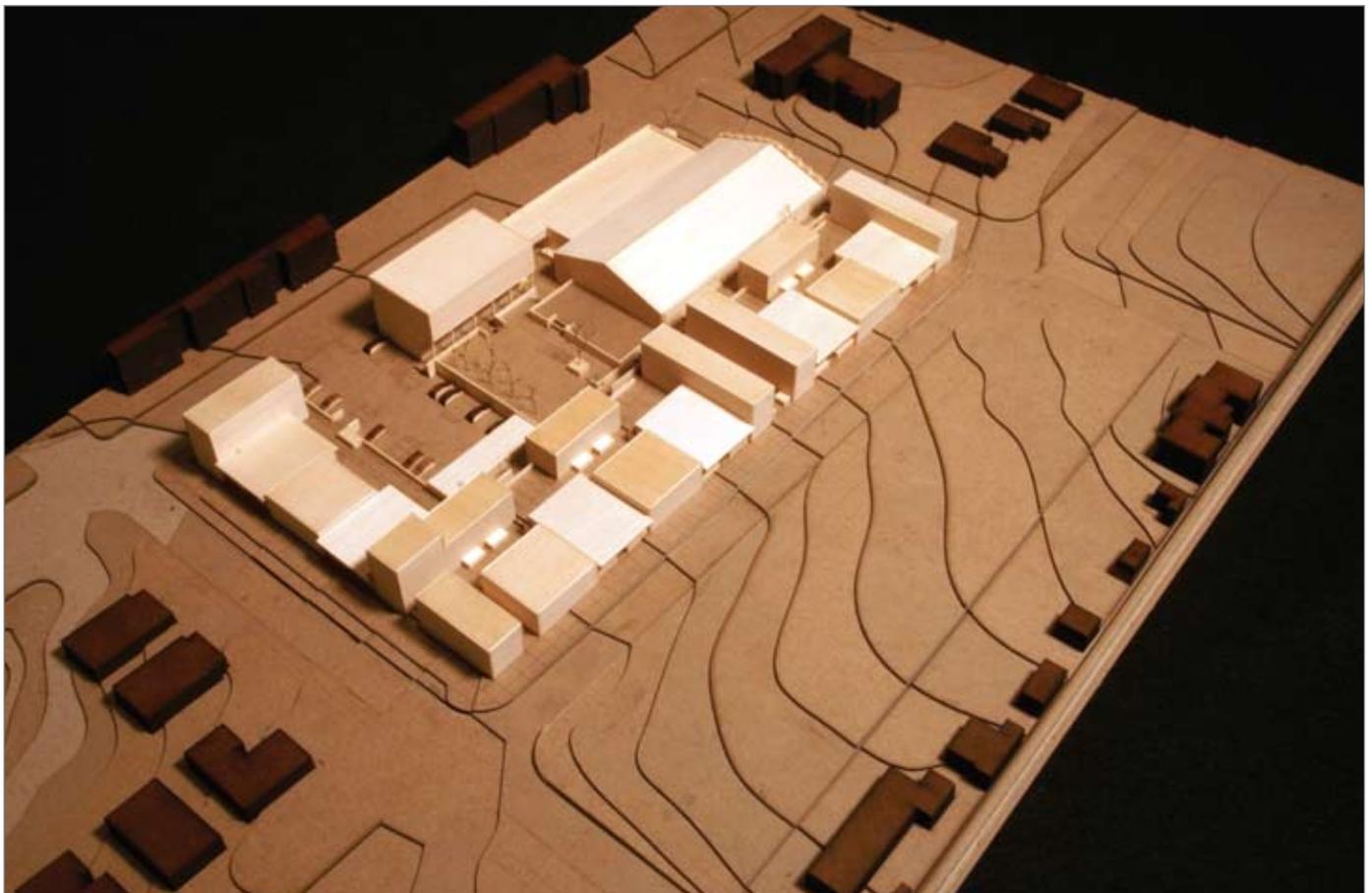


Repurposing the original warehouse structure allows for an innovative design, while reducing construction costs and landfill waste. *Dan Stanislaw*



Mixed-use developments can create environmentally sustainable communities that support public transportation. *Megan Kight*

Renovation of the existing Stone's Warehouse provides new use for a historically significant building. *Mike Spangenberg*



Connections

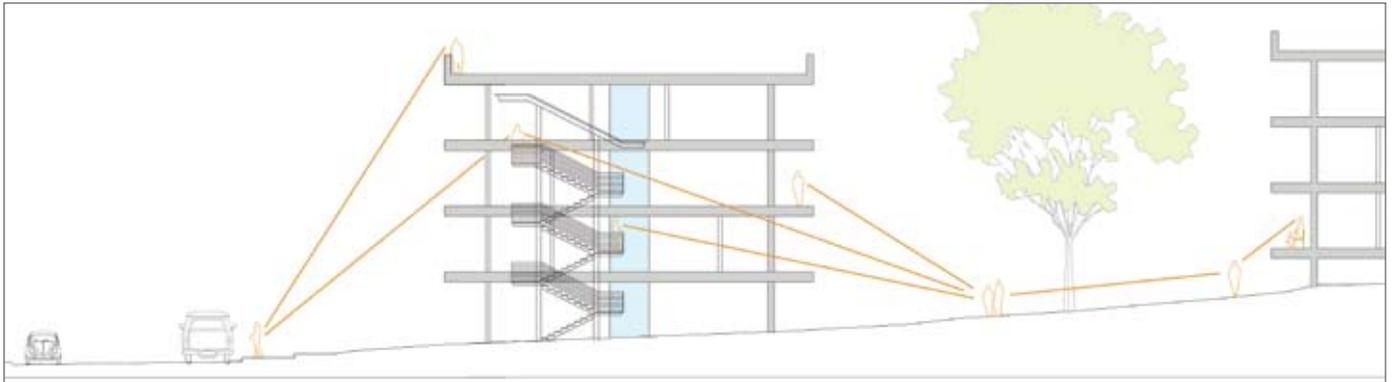
URBAN, STREET, HOUSE, TRANSPORTATION + EYES-ON-THE-STREET

56



A pedestrian court connects the site with residences to the west and public spaces to the east, while facilitating social connections within the development. *Tim Kiser*

This design promotes 'eyes-on-the-street' security while encouraging public interaction in shared outdoor spaces. *Meredith Pittman*



Connections between units encourage social interaction, while connections with the existing neighborhood integrates the development with its context. *Meredith Pittman*

Creating links between Carlton Place, the Stone's Warehouse redevelopment, and Chavis Greenway was a key element of this design. *Siler Ransmeier*

Open Spaces

DEFINED PUBLIC AND PRIVATE SPACES, STREETSCAPES, PARKS +
SOCIAL SPACES



58

In this design, the variety of open spaces ranging from public to private provide a range of social places. *Tim Kiser*



Public spaces provide places of beauty and meaning intrinsic to feeling at home in our communities. *Tim Kiser*



Open Spaces, continued

Layers of public and private space.
Dan Stanislaw

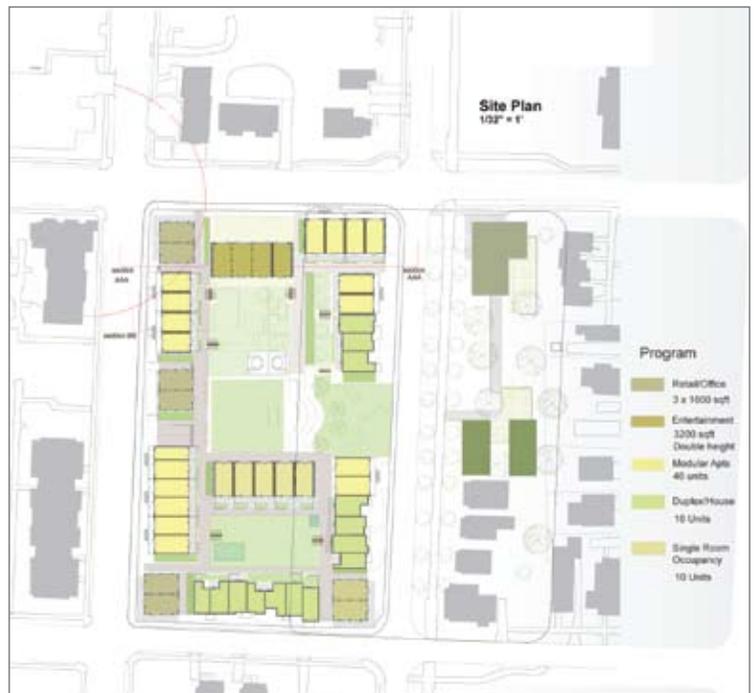


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Courtyards serve as community space, children's play area, and common entrance to housing units.

Katherine Ball

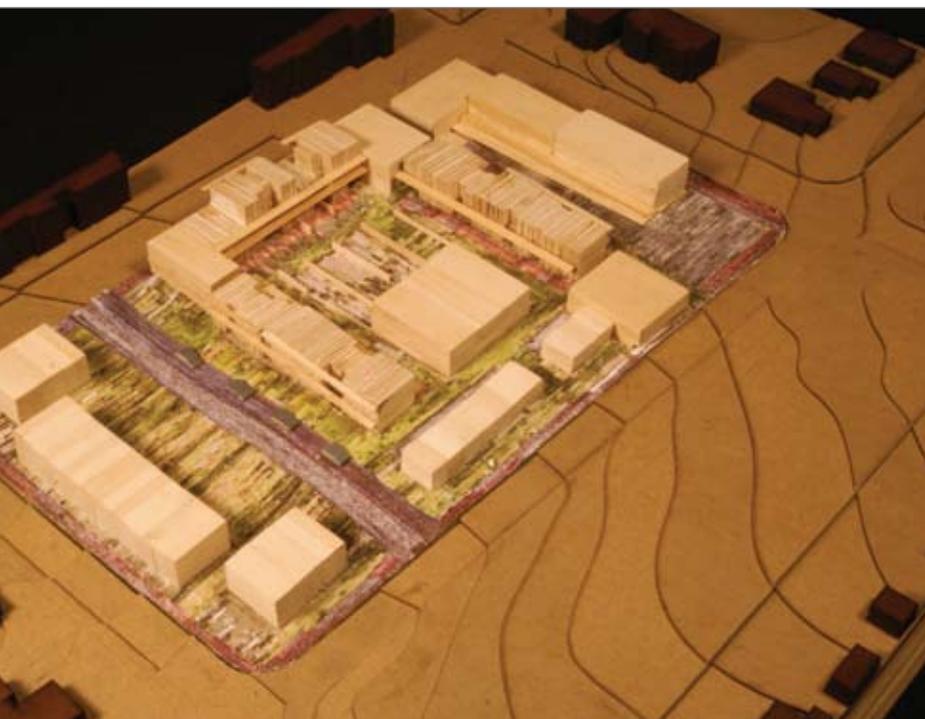
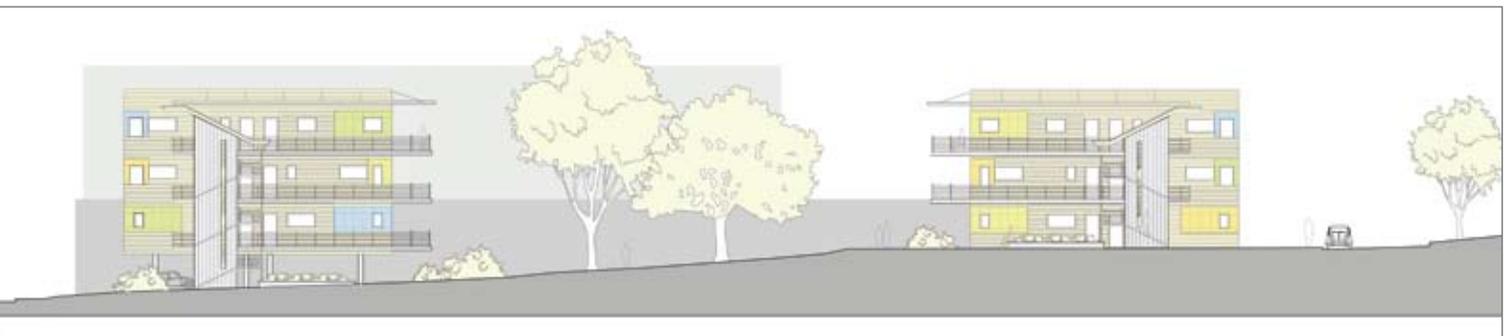


Central open spaces encourage a variety of uses: athletics, children's play areas, and both formal and informal gathering spaces. Karl Rogers



Public spaces can provide places for impromptu meetings. *Siler Ransmeier*

Porches and overhangs blend exterior private spaces with shared public spaces, creating layers of privacy. *Meredith Pittman*



Open space in a co-housing community is an extension of private space, with amenities shared among residents. *Perrin Walker*

Responses to Context

CHARACTER, SCALE, TYPES, HISTORY, IDENTITY, TOPOGRAPHY, +
CITY STUDIES AND PLANS

The neighborhood's rich history and cultural context inspired the memory garden to the east of the site. *Tim Kiser*



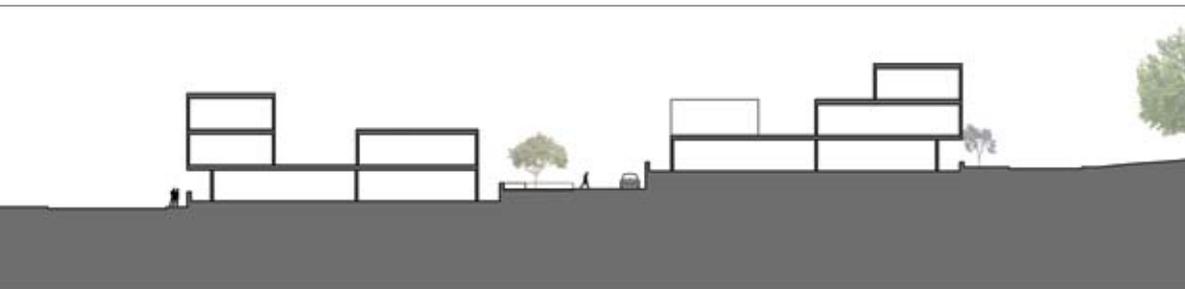
Incorporating work spaces in a residential development creates opportunities for generating income and supporting local economies. *Perrin Walker*



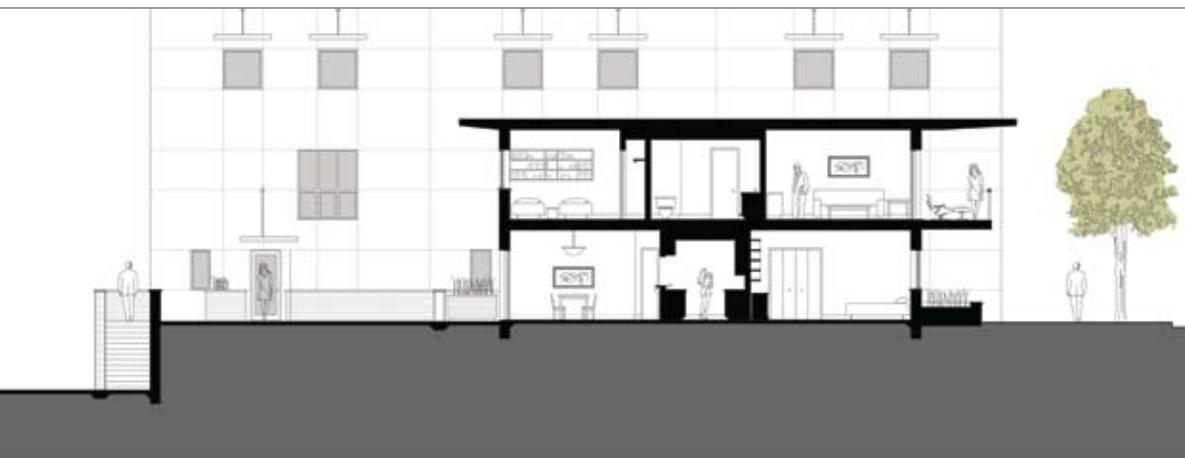
The community's cultural history and environmental setting are integrated in this project.
Tim Kiser



This scheme celebrates the materials, structure and original function of the Stone's Warehouse. *Dan Stanislaw*



This design takes advantage of the site's topography to create dynamic community spaces.
Siler Ransmeier

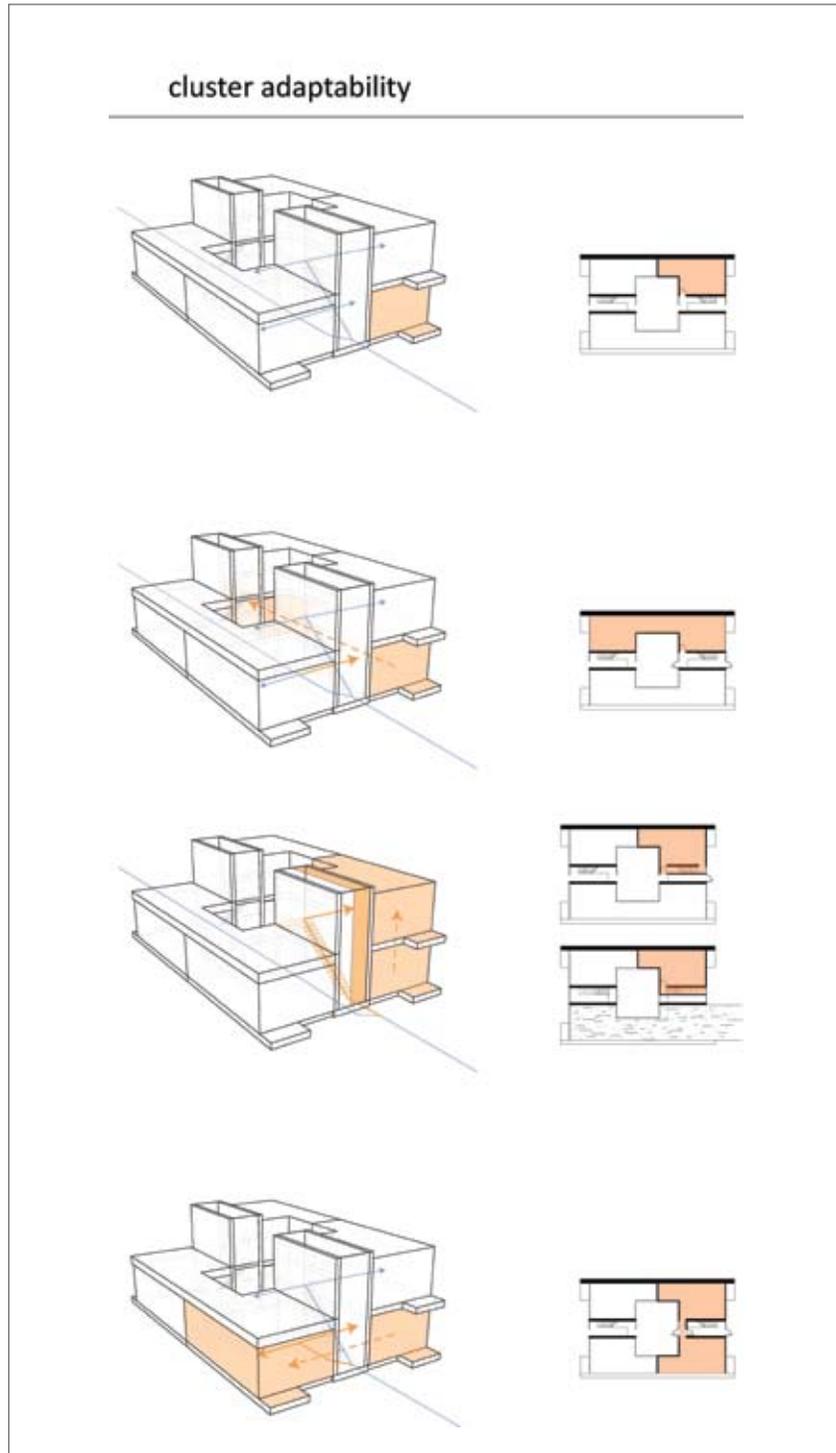


The pedestrian scale of this development responds to the context of the neighborhood. *Mike Spangenberg*

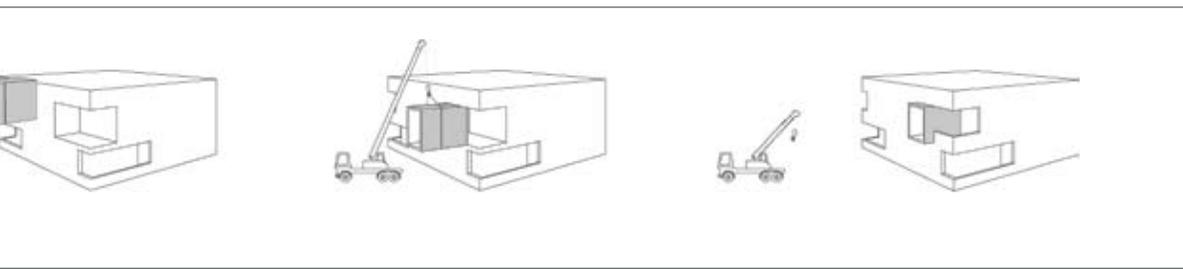
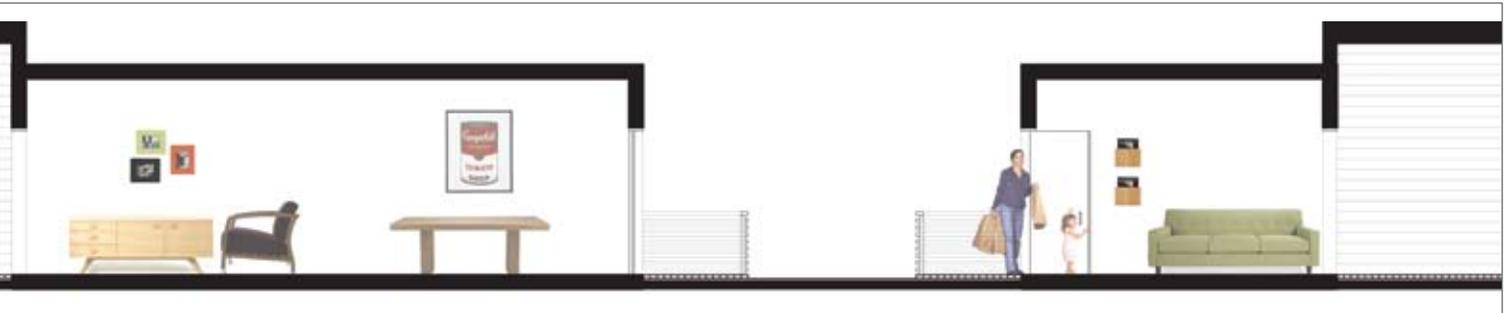
Home Qualities

AFFORDABLE, ADAPTABLE, ACCESSIBLE, COMPACT, COMFORTABLE, DIVERSE, FUNCTIONAL + EFFICIENT

Adaptable units accommodate a variety of family sizes and lifestyles. *Dan Stanislaw*



Customizable spaces allow residents to create a sense of home and identity. *Megan Kight*



Customizable balconies allow residents to personalize their space. *Meredith Pittman*



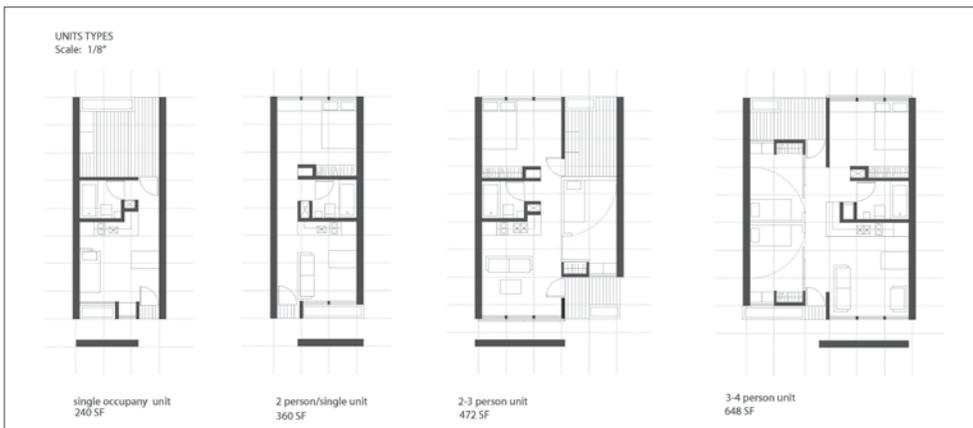
Swing spaces in this design adapt to changing families, which makes it possible to add space, downsize, or age-in-place without necessitating relocation. *Meredith Pittman*



Compact and efficient unit plans in a variety of sizes and layouts serve the needs of diverse lifestyles and age groups. *Mike Spangenberg*



These compact, comfortable, and efficient plans maximize space while promoting density and neighborhood vitality. *Siler Ransmeier*



Providing a variety of unit sizes and types encourages neighborhood diversity. *Perrin Walker*

Home Qualities, continued

These compact units minimize circulation, and skillfully size and proportion rooms. *Tim Kiser*

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Home Qualities, continued



Sustainable community design balances the needs of the individual, the neighborhood, and the city in creating safe and affordable places to live. *Tim Kiser*



Internal courtyards allow layers of privacy and attractive spaces for individual and communal use.

Tim Kiser



MENT UNITS
(STORIES)

72

0 SF
E SHOP
(PUBLIC PLAZA SIDE)
&
MENT UNITS
(STORIES ABOVE)



Conclusions + Recommendations

Public Participation

Provide substantive and sustained community participation for the re-development of the Stone’s Warehouse site.

According to Roberta Feldman, the often opaque process of finance, programming and design in re-development projects should be transparent, and all major stakeholders and “powerbrokers” need to be in the room, from project start to post-occupancy assessment. It is essential that architects and other design professionals align their methods with community participation. Relevant information should be provided in an accessible manner to all who have an interest in the outcomes of a community-based project.

William Morrish outlines 6 steps for communities who want to participate in planning their future. These include: **Organizing**—working together for a common purpose; **Gathering**—assessing the present conditions; **Ordering**—considering the future of the community; **Making**—exploring the means to create this future; **Taking Action**—deciding ways to implement the plans; and **Sustaining**—determining ways to create a sustainable future.²⁴

Design Competition

Consider conducting a design competition for the Stone’s Warehouse site, or include the project as part of a comprehensive affordable housing competition.

According to the Portland Courtyard Housing Competition, “Design Competitions have multiple intentions—they allow for the examination in a creative way, of solutions to a pending problem or issue; they seek specific solutions that can be replicated or built; and they identify a variety of the best ideas that, ideally, can be translated to numerous projects in the future.” It goes on to insist that, in addition to viable strategies and designs, design competitions should also result in specific design goals and principles.

Hire Professionals

From the earliest phases of the project—feasibility, competition planning, design goals and principles—to the design and construction of the final project—hire professionals who have the specific expertise and passion for the project.

Only professionals have the education, training, resources and ethical standards required for community-based housing projects. Student projects, community participation, and design competitions broaden and deepen the project’s context and contribute to its long-term success, but do not replace professional services.

Build for the Future

Remember the past and understand the present, but build for the future.

Often our memories of the past are partial and affect our ability to see the present dispassionately. Social and political histories, especially ones that redress past omissions, inaccuracies or polemics, are an essential means to remember our shared histories and contextualize the physical, social and economic conditions of the present. However, we need to visualize a future that not only responds to immediate needs and local contexts, but also utilizes national models, captures emerging resources and anticipates new directions.

Incorporate Existing Resources or Commission New Research

Any successful re-development project is the product of substantial research and documentation of its immediate, local and national contexts.

Existing studies and plans, as records of community input and professional recommendations, should be included in any community development and housing project. Local, national and international best practices can provide approaches appropriate to the project and dependable measures of success. Governmental, educational, research and advocacy organizations can provide demographic, economic and other information that can inform the planning and programming of the project. If there is missing information consider commissioning research that will fill in the gaps.

Connect Neighborhoods

Any re-development project should do its part to strengthen pedestrian, vehicular, natural and visual connections.

New buildings and exterior spaces can create positive street spaces and allow for a diversity of circulation options. The planning, programming and design of mixed-use developments can create safe, cohesive, convenient and convivial streets and public spaces. We need to resist limited ideas regarding housing conventions and safety needs that too-often produce insolated, introverted places—and incorporate the larger contexts that more completely define a project.

Build Sustainability

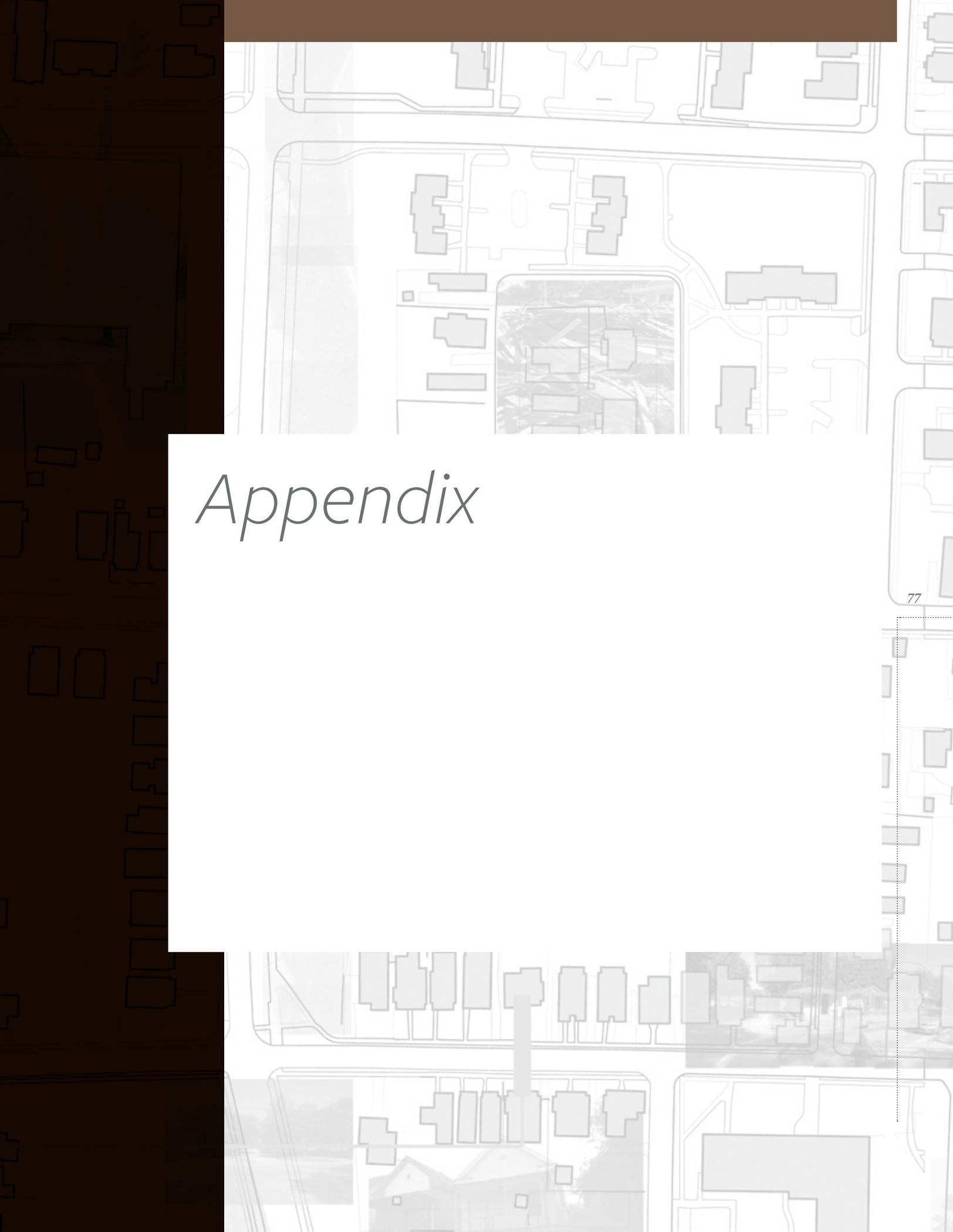
Each project needs to do its part to create a sustainable future.

Recent research has established that buildings are responsible for almost half of US energy use and emissions that cause global warming. The Architecture 2030 Challenge states that all new buildings should “meet a fossil fuel, Greenhouse gas (GHG)-emitting, energy consumption performance standard of 50 percent of the regional (or country) average for that building type,” and that by 2030 all should be carbon neutral. It goes on to say that “these targets may be accomplished by implementing innovative sustainable design strategies, generating on-site renewable power and/or purchasing (20 percent maximum) renewable energy and/or certified renewable energy credits.”²⁷ We need to recognize that with each project we are building the future for our children.

Make it Beautiful

Remember that communities that serve our needs should also enrich our spirits.

Everyone deserves well-designed housing and communities, and places that nourish our souls. Good design is intrinsic to this fundamental goal.

The background of the page is a detailed architectural site plan. It features various building footprints, parking lots, and site boundaries. A central rectangular area of the plan is highlighted with a semi-transparent photograph of a modern building with a glass facade. The overall color palette is muted, consisting of greys, browns, and off-whites. A dark brown vertical bar is present on the left side of the page.

Appendix

Project Team

PROJECT DIRECTOR

Thomas Barrie, AIA, Professor School of Architecture

FUNDING AGENCY

City of Raleigh Department of City Planning

Mitchell Silver, AICP, Planning Director

Dan Douglas, Division Manager, Urban Design Center and Communications Group

Alysia Bailey-Taylor, Planner II

Trisha Hasch, Planner II

PROJECT PARTNER

City of Raleigh Community Development Department

Michele Grant, Director

Doug Bethune, Community Development Program Coordinator

Shawn McNamara, Community Development Program Manager

ASSOCIATED ORGANIZATIONS

City of Raleigh City Council

Thomas Crowder, Council Member, District D

Russ Stephenson, Council Member, At-Large

City of Raleigh Central Community Advisory Committee

Lonnette Williams, Chair

North Carolina Housing Coalition

Chris Estes, Executive Director

Downtown Housing Improvement Corporation

Greg Warren, President and Executive Director

Sally Haile, Community Services Coordinator

VISITING CRITICS

Roberta Feldman, Professor and Director, The City Design Center, University of Illinois Chicago

Michael Fifield, Professor of Architecture, University of Oregon

STUDENTS

Katherine Ball

Megan Kight

Tim Kiser

Meredith Pittman

Karissa Pytlak

Siler Ransmeier

Karl Rogers

John Spain

Michael Spangenberg

Dan Stanislaw

Perrin Walker

Matthew Weiss

Schedule and Critical Dates

- 8.25 Chris Estes, Director, North Carolina Housing Coalition
Affordable Housing Seminar
- 9.29 Field Trip, Downtown Affordable and Market-Rate Housing,
Carlton Place, The Palladium, The Hudson
- 10.6 Central CAC Project Introduction 7.00 pm
- 10.15 Michael Fifield, Professor of Architecture, University of Oregon
Special Presentation: “*Creating Sustainable Communities: The Portland Courtyard Housing Design Competition*” Raleigh Urban Design Center, 12.00 pm
- 10.15** **MID-TERM REVIEW** with Michael Fifield (and others), 2 – 6 pm
College of Design, NC State University
- 11.3 Interim Review with Roberta Feldman (and others), 1.30 – 5.30 pm
College of Design, NC State University
- 11.5 Roberta Feldman, Professor and Director, The City Design Center, University of Illinois Chicago
Special Presentation: “*Serve, Challenge and Change: Models of Community-Based Design*”
Raleigh Urban Design Center, 6.00 pm
- 12.15** **FINAL REVIEW**, 9.00 – 5.30 pm
College of Design, NC State University

Affordable Housing Advocates + Providers

BUILDERS OF HOPE

Builders of Hope relocates and renovates donated houses slated for demolition to create affordable communities. Homes are upfitted with green energy systems for sustainability and economy.

<http://buildersofhopeusa.org/>

CASA: COMMUNITY ALTERNATIVES FOR SUPPORTIVE ABODES

CASA is a private nonprofit organization that builds and manages high quality affordable housing in Wake, Orange, and Durham Counties. CASA specializes in providing housing for the disabled.

<http://www.casanc.org>

CITY OF RALEIGH

Through the Community Development Department, the City of Raleigh works to provide high-quality affordable housing throughout the city. The CDD partners with numerous community agencies to fund programs for special populations housing, neighborhood revitalization projects, low and moderate-income, first-time home buyers, very low income renters, and other housing needs.

<http://www.raleigh-nc.org>

DOWNTOWN HOUSING IMPROVEMENT CORPORATION (DHIC)

DHIC is a private, nonprofit housing development company that provides high quality affordable housing and related services to Triangle residents.

<http://www.dhic.org>

FIRM FOUNDATIONS COMMUNITY SERVICES

Firm Foundations is a nonprofit organization that rehabilitates existing homes in Raleigh and Wake County in order to provide affordable housing.

<http://firmfoundationsinfo.org/index.php>

HABITAT FOR HUMANITY OF WAKE COUNTY

Habitat for Humanity of Wake County, an affiliate of Habitat for Humanity International, provides opportunities for homeownership for those between 25% and 60% of area median income (AMI). Partnerships with corporations, a large volunteer labor force, and participation of homeowners in the construction process help keep construction costs low.

<http://www.habitatwake.org>

NC COMMUNITY DEVELOPMENT INITIATIVE

The NC Community Development Initiative is a public/private partnership that provides funding to successful community development corporations to support housing initiatives in low-resource communities.

<http://www.ncinitiative.org/home.cfm>

NC HOUSING COALITION

The NC Housing Coalition is a private, non-profit membership organization that advocates for quality housing for low to moderate-income residents, persons with disabilities, people in crisis, and fixed-income seniors. The NC Housing coalition also seeks to educate and involve the public in housing advocacy issues.

<http://www.nchousing.org>

NC HOUSING FINANCE AGENCY

The NC Housing Finance Agency provides financial support for North Carolina residents whose needs are not met by the market. The NCHFA offers low-cost mortgages for first-time home buyers, finances the development of affordable special needs housing, finances rehabilitation of substandard homes, and administers HUD rent assistance contracts statewide.

<http://www.nchfa.com/>

RALEIGH HOUSING AUTHORITY

The RHA provides quality affordable housing for Raleigh residents; it currently owns and manages over 2000 units of housing.

<http://rhaonline.com/>

SELF- HELP

Self-Help is a community development lender and real estate developer offering loans to underserved communities and individuals for the promotion of homeownership and small business opportunities. Self-Help also revitalizes properties to promote neighborhood growth, and offers socially responsible investment opportunities in communities throughout North Carolina.

<http://self-help.org/>

Related Housing Advocates

THE ARC OF NORTH CAROLINA: HOUSING RESOURCE DEPARTMENT

Provides fair housing advocacy and support for individuals with developmental disabilities.

<http://72.167.22.100/>

CONGREGATIONS FOR SOCIAL JUSTICE

Congregations for Social Justice is an advocacy group which supports affordable housing initiatives and other social justice issues for low-wealth communities.

IDA AND ASSET-BUILDING COLLABORATIVE OF NC

NC Individual Development Accounts (IDA) is a private nonprofit that provides support for programs that allow low-wealth communities to enter the financial mainstream.

<http://www.ncidacollaborative.org/>

NC ASSOCIATION OF COMMUNITY DEVELOPMENT CORPORATIONS

NCACDC is a non-profit organization that coordinates and supports a network of community development corporations in NC. CDC's work to eliminate poverty by supporting the economic self-reliance of communities and individuals.

<http://www.ncacdc.org/>

WAKE COUNTY HOUSING AND COMMUNITY REVITALIZATION

The Housing and Community Revitalization (HCR) Division provides affordable housing opportunities in Wake County through housing rehabilitation in existing neighborhoods, property acquisition for development, rental housing development, and community revitalization initiatives.

<http://www.wakegov.com/humanservices/housing/affordablehousing/default.htm>

NC COALITION TO END HOMELESSNESS

The NC Coalition to End Homelessness is a statewide nonprofit organization advocating for resources and policy changes necessary to eliminate the root causes of homelessness.

<http://www.ncceh.org/>

NC DIVISION OF AGING AND ADULT SERVICES (DAAS)

DAAS provides resources for seniors, including housing, and helps communities plan and prepare for the unique needs of aging populations.

<http://www.ncdhhs.gov/aging/>

NORTH CAROLINA DIVISION OF COMMUNITY ASSISTANCE

NC Division of Community Assistance provides economic and planning support for community improvement initiatives, including housing programs.

PASSAGE HOME

Passage Home is a faith-based, nonprofit community development corporation advocating for intervention in key areas, including housing, in economically challenged neighborhoods.

<http://www.passagehome.org/home.aspx>

Publications

- Davis, Sam. *The Architecture of Affordable Housing*. Berkeley: University of California Press, 1995.
- Davis, Sam. *Designing for the Homeless: Architecture that Works*. Berkeley: University of California Press, 2004.
- Franck, Karen A. and Ahrentzen, Sherrie B., (eds.) *New Households and New Housing*. New York: Van Nostren Reinhold, 1989.
- Hayden, Delores. *Re-designing the American Dream: The Future of Housing, Work and Family Life*. New York: W.W. Norton, 1984.
- Jones, Tom, Pettus, William and Pyatok, Michael. *Good Neighbors: Affordable Family Housing*. New York: McGraw Hill, 1997.
- Meck, Stuart, Retzlaff, Rebecca, and Schwab, James. *Regional Approaches to Affordable Housing*. Chicago: American Planning Association, 2003.
- Schmitz, Adrienne, et al. *Affordable Housing: Designing an American Asset*. Washington, DC: Urban Land Institute, 2005.
- Stegman, Michael A. *State and Local Affordable Housing Programs: A Rich Tapestry*. Washington, DC: Urban Land Institute, 1999.

Web Resources

- *Affordable Housing Design Advisor*. U.S. Department of Housing and Urban Development. <<http://designadvisor.org/>>.
- City of Raleigh Community Development Department. “City of Raleigh Affordable Housing Task Force Report.” *Raleigh, NC*. City of Raleigh. <<http://www.raleighnc.gov/>>.
- *Design Matters: Best Practices in Affordable Housing*. Roberta Feldman. City Design Center. University of Illinois at Chicago. <<http://wall.aa.uic.edu:62730/ahc.catalog/home.html>>.
- Joint Center for Housing Studies of Harvard University. “The State of the Nation’s Housing 2008.” *Joint Center for Housing Studies*. Harvard University. <<http://jchs.harvard.edu/>>.
- *National Low Income Housing Coalition*. <<http://www.nlihc.org/template/index.cfm>>.
- North Carolina Housing Coalition. “Affordable Housing Primer.” *North Carolina Housing Coalition*. <<http://www.nchousing.org/>>
- U.S. Department of Housing and Urban Development (HUD.) <<http://www.hud.gov/>>.

SCHOOL OF ARCHITECTURE COLLEGE OF DESIGN NC STATE UNIVERSITY

Creating Sustainable Communities

The Portland Courtyard Housing Design Competition

Michael Fifield, Professor of Architecture, University of Oregon

12.00, Wednesday, October 15

Raleigh Urban Design Center

133 Fayetteville Street

Free and open to the public

Professor Fifield will present models of sustainable development and affordable housing in Portland Oregon including the recent Portland Courtyard Housing Competition, which he co-chaired.

Michael E. Fifield, AIA, AICP, is recognized nationally for his work in housing and neighborhood development. He is the recipient of numerous awards including a *Progressive Architecture* research award citation, an Honorable Mention in the New American House competition, as well as a State APA award for “Best Project” in Arizona. He is a Professor in the Department of Architecture at the University of Oregon where he served as Head of the Department from 1998-2003. Prior to coming to Oregon, Professor Fifield was Director of the Joint Urban Design program at Arizona State University and Head of the Department of Architecture at Penn State University. Professor Fifield has taught architectural and urban design studios, and courses in housing, site analysis, and design intentions. His research, creative activity and professional work have focused on housing, community design and urban design, with significant funded work in applied community planning and urban design projects, and emphasizes smart growth and compact design as the primary means to address sustainability issues. Professor Fifield holds a B.A. in Architecture from UC Berkeley (1973) and a M.Arch. from UCLA (1980).

This special presentation is part of the Stone’s Warehouse Redevelopment Project, a research and design project funded by the City of Raleigh Planning Department and conducted by graduate students from the School of Architecture at NC State University During fall semester 2008 students and faculty will work closely with the City of Raleigh Community Development and Planning Departments to develop a range of proposals for the Stone’s Warehouse block. Nationally recognized experts in housing will participate in the project and the results will be documented and provided to the city to assist their revitalization efforts in Southeast Raleigh.



Serve, Challenge and Change

Models of Community-Based Design

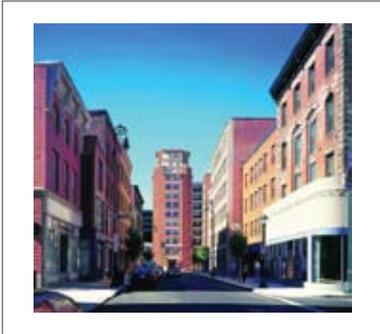
Roberta Feldman, Professor of Architecture,
University of Illinois Chicago

6.00 pm, Wednesday, November 5

Raleigh Urban Design Center

133 Fayetteville Street

Free and open to the public



Professor Feldman will discuss the ways that the design of our built environment is inherently inseparable from the structure of our society. Examples from the community-based work of the City Design Center will illustrate equitable design practices that are focused on affordable housing.

Roberta M. Feldman, M. Arch, Ph.D. is an architectural activist, researcher and educator committed to democratic design. Her work is grounded in the conviction that high quality design is a meaningful and necessary component of an equitable and sustainable society. She is a professor of architecture and co-founder and director of the City Design Center in the UIC College of Architecture and the Arts. Professor Feldman's current research and practice focuses on affordable and public housing design. She is the author, with Susan Stall, of *The Dignity of Resistance: Women Residents Activism in Chicago Public Housing*, (Cambridge University Press, 2004) and editor of the pioneering Internet catalog, *Design Matters: Best Practices in Affordable Housing*. She curated "Out of the Box: Design Innovations in Affordable Housing" which was on display at the Field Museum, Chicago from 2005 through 2008. Dr. Feldman received her Ph.D. in Psychology (Environmental Psychology Program) in 1986 from the City University of New York, and her M. Arch. in 1976 from the University of Pennsylvania.

This special presentation is part of the Stone's Warehouse Redevelopment Project, a research and design project funded by the City of Raleigh Department of City Planning and conducted by graduate students from the School of Architecture at NC State University. During fall semester 2008 students and faculty will work closely with the City of Raleigh Community Development and City Planning Departments to develop a range of proposals for the Stone's Warehouse block. Nationally recognized experts in housing will participate in the project and the results will be documented and provided to the city to assist their revitalization efforts in Southeast Raleigh.

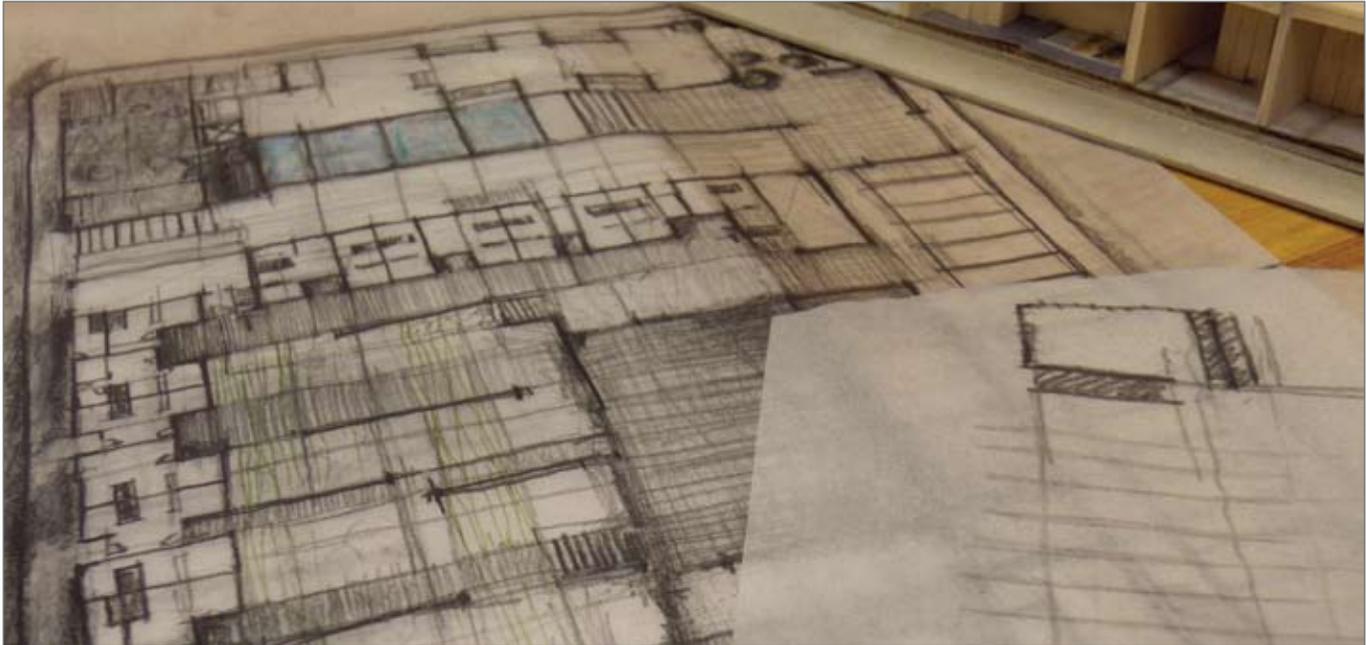


SCHOOL OF ARCHITECTURE, COLLEGE OF DESIGN, NC STATE UNIVERSITY

Housing and Sustainable Communities

The Stone's Warehouse Redevelopment Project for Southeast Raleigh

Exhibition + Presentation to the Community



The Stone's Warehouse Redevelopment Project is a research and design project conducted by graduate students from the School of Architecture at NC State University, as part of a Fall Semester 2008 advanced architectural design studio. During the semester students and faculty worked closely with the City of Raleigh Community Development and Planning Departments and developed a range of proposals for the project site. Nationally recognized experts in housing participated in the project and the results will be documented and provided to the city to assist their revitalization efforts in Southeast Raleigh.

An exhibition and presentation of the outcomes of the studio will be mounted in the Raleigh Urban Design Center, (133 Fayetteville Street, Raleigh, NC) from February 5 – 27. Concurrent to the exhibition the College of Design at NC State will host a symposium on affordable housing at the Marriott Downtown. For information go to <http://ncsudesign.org/content/>

Schedule of Events

February 5, 5.30 pm	Presentation to the community by Thomas Barrie, AIA,
February 6, 6.00 pm	Exhibition Opening (as part of First Friday)
February 20, 1.00 – 7.00	The Value of Design in Affordable Housing Symposium
February 27	Exhibition closes

Faculty: Thomas Barrie AIA, Professor School of Architecture

Funding Agency: City of Raleigh Department of City Planning

About NC State, The College of Design and The School of Architecture

NC State University is a member institution of the sixteen-campus University of North Carolina system and has a long and distinguished history. When it opened in 1889 as the North Carolina College of Agriculture and Mechanic Arts it offered courses in agriculture, horticulture, pure and agricultural chemistry, english, bookkeeping, history, mathematics, physics, practical mechanics, and military science. During the ensuing 120 years, its leadership has established new programs and expanded the breadth and scope of the institution, and in 1917 the institution's name was changed to North Carolina State College of Agriculture and Engineering. The faculty and student population more than doubled during the post-World War II period, and in 1965 the name of the institution was changed a final time to North Carolina State University, signifying its new role as a comprehensive university.

Since its founding, NC State has been a nationally recognized leader in science and technology with historic strengths in agriculture and engineering. But NC State has evolved into a comprehensive community of scholars that also has outstanding degree programs in design, the humanities and social sciences, education, life sciences, management, natural resources, physical and mathematical sciences, textiles and veterinary medicine. NC State serves all North Carolina communities through statewide research, extension and engagement activities.

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The School of Design was established in 1948 with two original academic components: the Department of Architecture and the Department of Landscape Architecture. In its early years the School of Design experienced a remarkable period of creative and intellectual development. Designers and theorists such as Buckminster Fuller, Matthew Nowicki, Lewis Mumford, and Eduardo Catalano joined the faculty and helped build a reputation for innovation and experimentation. Frank Lloyd Wright, Mies van der Rohe, Walter Gropius, Louis I. Kahn, Pier Luigi Nervi, Charles Eames, Marcel Breuer, and numerous other internationally prominent figures came to lecture, to conduct design experiments, and to inspire a new generation of designers. The legacy of imagination, diversity, and excellence set by this first generation has continued throughout the school's history.

Endnotes

- 1 National Affordable Housing Coalition, “Out of Reach.”
- 2 According to the Brundtland Report, UN Commission on the Environment and Development (1987), sustainable development “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Proponents of Urban Ecology insist that the city has the highest potential to create a sustainable future.
- 3 Often described as where not more than **30 percent** of gross income is spent for total housing costs, including rent or mortgage payments, condominium fees, utilities, taxes, and insurance.
- 4 Most of the statistics in this section are from the State of the Nation’s Housing, 2008 by Harvard University’s Joint Center for Housing Research.
- 5 The eastern part of the state has the greatest concentrations of poverty with rates in some counties over 30 percent.
- 6 Raleigh Community Inventory Report, Section 5.2
- 7 City of Raleigh, North Carolina, Housing Market Analysis and Housing Needs Assessment, 2005
- 8 Community Inventory Report
- 9 Calthorpe, Peter. *The Next American Metropolis: Ecology, Community and the American Dream*. (Princeton: Princeton Architectural Press, 1993) p. 29
- 10 Jones, Tom, Pettus, William and Pyatok, Michael. *Good Neighbors: Affordable Family Housing*. (New York: McGraw Hill, 1997) p. 58
- 11 Simmons-Henry, Linda, and Edmisten, Linda Harris. *Culture Town: Life in Raleigh’s African American Communities*. (Raleigh: North Carolina: Raleigh Historic Districts Commission, 1993) p.59
- 12 Simmons-Henry. p. x
- 13 Simmons-Henry. p. 52
- 14 Simmons-Henry. p. 61
- 20 Loomis, Louise Ropes, Ed. *The Odyssey of Homer*. (Roslyn, NY: Walter J. Black, Inc., 1944) p. 74
- 21 Lathem, Edward Connery, Ed. *The Poetry of Robert Frost*. (New York: Holt, Rinehart and Winston, 1969) p. 38
- 22 Marcus, Claire Cooper. *The House as Symbol of Self: Exploring the Deeper Meaning of Home*. (Berkeley, CA: Conari Press, 1995) p. 4

Endnotes, continued

23 As described in the RFP for the “Purchase and Development of Publicly Owned Property in Downtown Raleigh, NC ‘Stone’s Warehouse’ Site,” “the revitalization of the neighborhoods just east of downtown is an important goal of the City. This land sale is part of the City’s continuing efforts to improve the Downtown and its surrounding neighborhoods and to implement the recently approved plans “Moore Square South Development Strategy” and the “Olde East Raleigh Small Area Plan” which specifically focus on the continued revitalization and economic development in downtown Raleigh and the reinvigoration of residential neighborhoods just east of downtown.”

The RFP outlined goals of achieving economic diversity and supporting local businesses and services. Accordingly the plan called for a mixed-income, mixed-use development to

“benefit low and moderate income households which HUD defines as those households making less than 80% of the Area Median Income (AMI). The affordability target for the residential portion of the project should be at least 70% of units reserved for low and moderate income households and no more than 30% of units reserved for those with incomes above the low and moderate income limits. The commercial portion of the development should be designed to create or retain permanent jobs, at least 51% of which will be made available to or held by low and moderate income persons. Preference will be given to redevelopment projects which create employment opportunities to those low/moderate residents of the City’s surrounding redevelopment areas.”

Furthermore the City RFP outlined two development options while leaving open the possibility for other development scenarios.

1. “Moore Square South Development Strategic Plan” Scenario: This site should be developed into a mix of residential units, a new medical health facility, and a senior housing facility in a phased manner to allow continued operation of the existing Rex Senior Health Care Center. This scenario would yield approximately 4 townhouses, 20 residential flats, 38 senior residential flats, a 14,000 square foot health facility, and 68 surface parking spaces.
2. “Olde East Raleigh Small Area Plan” Scenario: This site should be developed into a mixed-use development with commercial (small scale office, retail) on the first floor and residential (medium density) on the upper floors. It should be 2 to 3 stories.

24 Design Matters: Best Practices in Affordable Housing, City Design Center, UIC,
<http://wall.aa.uic.edu:62730/ahc/catalog/home.html>

25 Alexander, Christopher, Neis, Hajo, Anninou, Artemis and King, Ingrid. *A New Theory of Urban Design*.
(New York: Oxford University Press, 1987) p.22

26 Feldman, Roberta. Stone’s Warehouse Re-development Project community presentation, “Models of Community-based Design,” and Morrish, William, *Planning to Stay: Learning to See the Physical Features of your Neighborhood*.
(Milkweed Press, 1994)

27 See Architecture 2030 at <http://www.architecture2030.org/>