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To the Graduate Council:

I am submitting herewith a thesis written by Jay Doyle Gaw entitled "An Architecture of Harmony: A Work/Live Facility in Brentwood, Tennessee." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Architecture, with a major in Architecture.

Jon P. Coddington, Major Professor

We have read this thesis and recommend its acceptance:

Thomas K. Davis, Matthias Altwicker

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Thomas K. Davis

Matthias Altwicker

Original signatures are on file in the Graduate
Admissions and Records Office.

Accepted for the Council:

Dr. Anne Mayhew

Vice Provost and Dean of Graduate Studies

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An Architecture of Harmony:
A Work/Live Facility in Brentwood, TN

A Thesis
Presented for the
Master of Architecture
Degree
The University of Tennessee, Knoxville

Jay Doyle Gaw
December 2001

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dedication

To my wife Holly and daughter Tara, I am eternally thankful for their support and understanding for the late nights and the long weekends in studio. I am also grateful for the never ending encouragement from my parents Doyle and Ranelle Gaw, my brothers Mark, Tyler, Turner and my sister Amanda and their respective families.

acknowledgements

Thanks to my classmates for their help, especially Kevin Perry, Bronte' Lake and Nathan Coyle. Finally I wish to thank my committee members Matt Altwicker, T.K. Davis and Jon Coddington. It was Jon Coddington who took a chance and helped me achieve a twenty-five year old dream.

abstract

This thesis challenges conventional suburban development as places of consumption, rather than creating an individual sense of place, thereby causing social entropy. This thesis intends introduce a sense of harmony of place through the creation of restoring diversity, pedestrian scale, public space and structure all of which are directed to create a work/live community.

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introduction

Today suburban developments are generally being developed as places of consumption, not as communities. A sense of place for the individual has given way to a sense of placelessness for the consumer, disconnecting man from his place in the world. If the community is platform on which human interactions take place, then there must be a sufficient density of people to give the area a sense of vitality.

Can a city lose its soul? The noted Sociologist E.V. Walter puts forth the concept of place, explaining that people not only can feel a place but also grasp it's meaning. Humans turn space into place. Urban architecture makes space, whereas suburban sprawl has the habit of turning architecture into isolated icons of conspicuous consumption. By itself, space is empty and cold but a place is a space that has energy and interaction, a defined location of a specific experience in time. A place anchors feeling in a space. People need places to anchor feelings that create a sense of trust that increase the predictability of other peoples actions. Urban public space should provide a sense of harmony based on the human scale. This thesis will explore

these propositions through the creation of a small town located within an existing suburban context.

Harmony is defined as a joint, proportion, a fitting or a joining. Harmony could be understood as (1.) the adaptation of the parts to each other, intended to form a connection to the whole; such an agreement between the different parts of a design or composition as to produce unity of effect; as, the harmony of the universe. The second definition can be translated as an (2.) agreement in facts, opinions, interests, etc.; peace and friendship; as, citizens live in harmony(Webster's II, 320)

Community planners have disrupted the harmony between public and private space in traditional mixed-use town centers by introducing central business districts with segregated land use. The resulting artifact is a suburban center rather than a town center composed of scattered elements with no relationship to each other or with its surrounding elements. Elements of traditional town centers , such as diversity, pedestrian scale, public space and structure have been disproportionately replaced by zoning clusters of like things

creating an auto dependent society. By introducing organizational elements of place (proximity), pathways (continuity) and domains (enclosures) this thesis reintroduces order out of scattered unrelated elements to create a sense of harmony.

Good design and defensible space will not guarantee the economic viability of a project. What good design does provide is an opportunity for the social cohesiveness to emerge through informal chance meetings of one's neighbors. By laying the framework of good design, neighborhoods can create social bonds through mutual use of shared resources, increasing the chance of its survivability.

The problem that is caused by zoning codes in suburban markets is the creation of single use zones in community planning. Planning communities for a two dimensional uses causes dependency on independent modes of transportation whereas higher density three dimensional plans increase the likelihood of pedestrian traffic and use of mass transit.

Three dimensional communities have the capacity to promote diversity of structure which broadens the ethnic, age, income and family status in a neighborhood. This thesis asserts that the greater

the diversity of the makeup of the community, the greater the economic and social stability a community has.

There is a social entropy that results from lack of harmony in a community. Participating in self government has become a lesser priority for many because many in the community have lost a sense of belonging to a local culture. Growth that is generated in a generic form that is completely unrelated to the uniqueness of the community, such as cul-de-sacs suburbs and commercial strip developments threaten to replace the placeness of a community with anonymity, thus the probability of the neighborhood decreases proportionally.

Architecture has an obligation to preserve the harmony of private life with public life. The goal of this thesis is to re-establish harmony within the town of Brentwood, Tennessee through the reintroduction of a low rise, high-density residential/work area. The desired effect is the creation of a community diversity in the population through the integration of architecture in the public realm. The high-density mixed-use area lessens the need of independent modes of travel such as automobiles in favor of

pedestrian scale transportation that range from light-rail, intra-city shuttle, bicycle and walking paths. To restore a sense of harmony, I will design a hybrid architectural structure on an infill lot in a small business area with connections to mass transit.

discussion of issues

Diversity

The distinctness of a neighborhood can be attributed to four factors, (1) geographical boundaries; (2) ethnic or cultural characteristics of the inhabitants; (3) psychological unity among people who feel that they belong together; and (4) concentrated use of an area's facilities for civic space, retail, leisure and education (Hallman, 15). The problem with the sprawl in architecture is that it does not ask the questions about income, background and goals; it just assumed an affluent clientele.

According to Jane Jacobs, there are four basic elements needed to promote diversity within a city. The first element is that a block and neighborhood must have multifunctional uses ranging from mixed residential uses, retail, office and religious. Secondly, most blocks need to be short. Neo Traditionalist doctrine states that blocks should not be any longer than 200-400 feet in its perimeter, but this also means that the architecture must be a participant in all decisions. The original fabric of ancient cities are typically the size of what we would call today an urban neighborhood, which is about a quarter mile radius. Buildings within the block need to overlap and



The city design of Savannah, Georgia was laid out on a grid pattern carefully layering and weaving together a tapestry of public and private spaces for the creation of civic space.

Source: Savannah Chamber of Commerce.

demonstrate a random pattern. One solution may be the implementation of platting on a scale that individuals can invest in the physical expression of the community as well as developers. The problem is that most U.S. land use codes tend to cluster most like things together, eliminating diversity.

The third element to promote diversity is mixing old and new physical structure as well as economic diversity in the same block. A micro-economy suggests a sense of uniqueness to the community. The more diverse the micro-economy, the greater chance of an economic viability the community has over a period of time. The flow of wealth of a community is seen in its housing market. The diversity of the housing market can create layers of economic diversity which over time can provide a stabilizing effect for the neighborhood. We need old buildings to create a sense of continuity of the neighborhood character, to express diversity and to create a unique sense of place for each person.

The last element is a sufficient density of people to give the block a sense of vitality. A good neighborhood according to James Knustler has three factors: connectivity, a recognized center and

boundaries and edges. Boulevards, streets, alleys must provide an interconnecting grid to extend to the public a sense of access and commutability. A recognized center creates a public gathering space. The boundary and edges of a community create an identity and express the need to preserve nature as a limit to the human habitat.

Pedestrian Scale

Pedestrian scale is a measure of real size, with man as the benchmark. Within the concept of pedestrian scale, there is a hierarchy. Communities can be visualized on several levels from the personal arena, the physical traits and the micro-economic scale. The physical dimensions of buildings, squares, streets and paths are all compared with the proportion of man. First there is the personal level of the neighborhood that includes informal social contacts of people and small business. According to the latest information, seventy-five percent of the business operations in the U.S. are family owned. Variables include age(s) of the family members (the most important variable), family status, socioeconomic class, race, ethnicity, social values, and life styles. Adults with children tend to

Source: Author's original photographs.



Source: Author's original photographs.



Atlanta Botanical Garden

be the most neighborhood-conscious, both in deciding whether it is a suitable neighborhood and in tying into the neighborhood networks. The proximity and reputation of the schools tend to be deciding factors. Older person become more dependent on their communities for services and social needs. Encompassing in this personal arena are the physical traits of neighborhood include housing types, building densities, physical condition, and location within the city.

The higher the socioeconomic level, the greater emphasis is placed on approving the neighborhood before purchasing a housing unit. The location of a neighborhood within a city infers a particular status. The second level is the functional level of the neighborhood, which is centered on neighborhood anchors such as religious institutions, education facilities, business and retail. Neighborhoods need to be functionally integrated to be healthy so that various parts of the neighborhood reinforce each other.

Within a half mile of the old town of Brentwood, the urban fabric has been segregated by office parks, industrial parks, shopping strip centers and one acre homesteads disconnected and

Source: Author's original photographs.



Interactive water fountain located in Coolidge Park Chattanooga, Tennessee

unrelated to each other. The lack of any significant landmark such as a city hall, open space or pedestrian traffic has relegated the status of the town of Brentwood to no more than a consumptive pit stop along a collector-feeder street system disjointed from its collective parts. See Figure 1.

Public Space

Architecture makes space; therefore it provides the catalyst for the definition of the public realm. The shaped void of the city is defined by architecture, creating a shared space in society that provides a platform for interaction and participation . Modern space today is both universal and abstract. Architecture is the encounter between public and private space. There must be hierarchy of space not only two dimensionally but the three dimensionally as well to create a sense of order and harmony of space.

Public space in a community is spatial territory close to home that includes churches, houses, businesses, open green space, sidewalks and streets. It is because of the collective shared use of these spaces that residents feel a collective responsibility to



Figure 1. Brentwood, Tennessee.

Segregated land use discourages the interaction between the public and private realm.

Source: City of Brentwood.

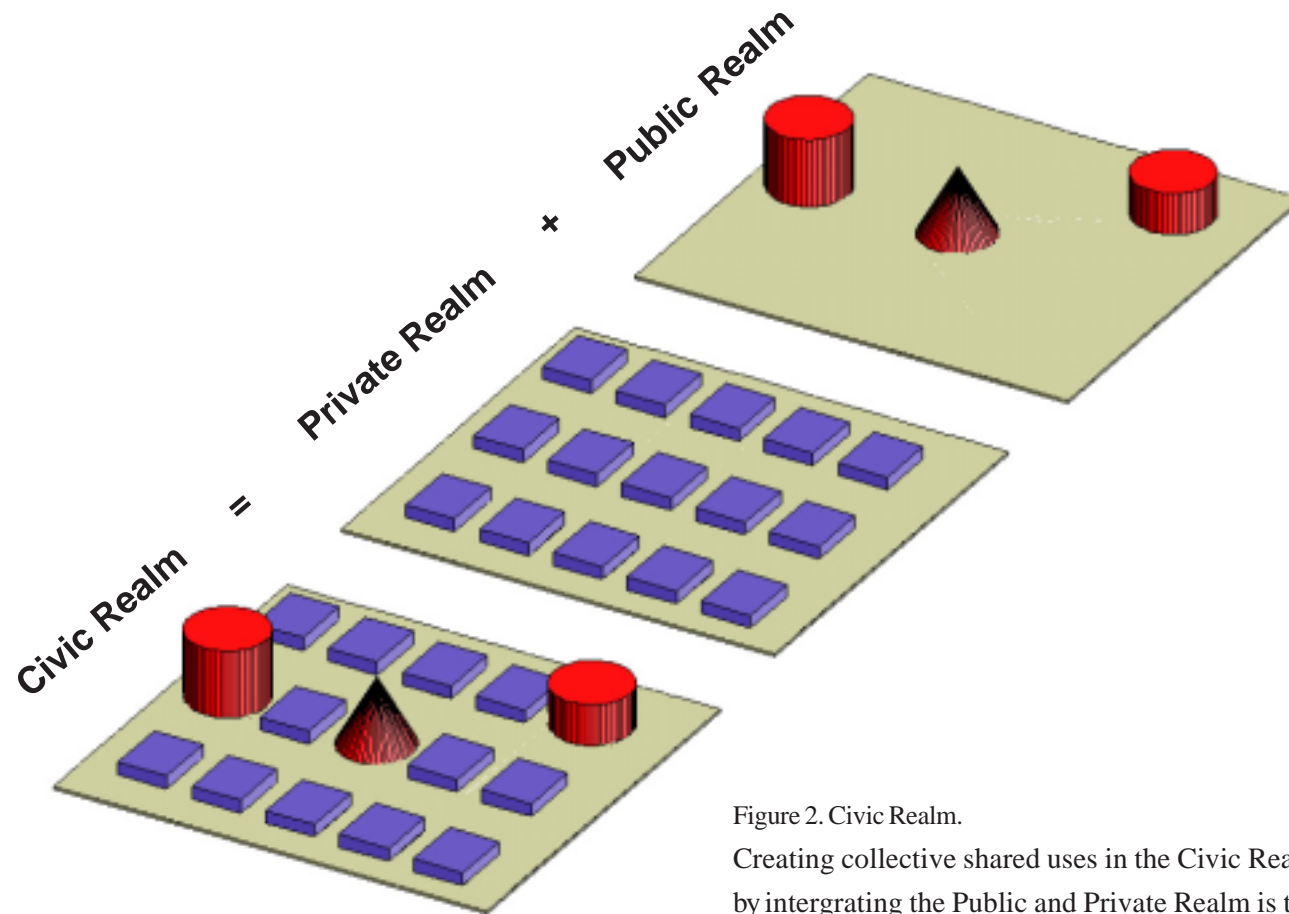


Figure 2. Civic Realm.

Creating collective shared uses in the Civic Realm by integrating the Public and Private Realm is the ideal.
Source: Author.

Public/Private Space



Charleston, South Carolina

Source: Author's original photographs.



Key West, Florida

one another to uphold community standards and the welfare of its citizens. Successful public space reflects an association of smaller patterns to larger patterns that weaves together overlapping and interlocking patterns. Interior courtyards display geometric space, which is a reflection of the whole. There is a definition of indoors and outdoors, public and private space. Courtyard doors provide access to the public space creating a gathering space. The courtyards should be open, providing egress from public to private space, looking outward, along paths to larger spaces.

Transportation grid patterns begin on the human scale and end on the regional and should suggest a sense of continuity. Alleys, sidewalks and streets connect the pedestrian to the block and neighborhoods. Transit systems formalize and order connections within the community and provide access to the region.

Structure

Architecture must preserve the balance of the private life with public life. A small town should take on the same traits of a city district, that is to say, a homogeneous character. One should be

Source: Author's original photographs.



Columbus, Indiana

able to decipher certain clues or symbols which are continuous throughout the district and discontinuous elsewhere. The incorporation of Regionalism can be used to provide a sense of continuity for a community. Examples may include spatial characteristics, such as the narrowing of streets; building types, styles or topography. It also could include things such as building features as porches. Other types of clues may include continuity of color, texture, material, floor surface, scale, facade detail, lighting, planting or silhouette. The more these characters overlap, the stronger the impression of a unified community. Physical homogeneity coincides with use and status.

Regionalism has been defined as the *genius loci*, or the spirit of the place which could be defined by these visual clues.

Aldo Rossi found the soul of his buildings through their typology. The modern developers disregard the uniqueness of a place and its surrounding and the site conforms to the building, creating an isolated building in the landscape. When buildings have a wide range in forms, styles and detail within a community, the public space loses its definition. Landscape is also a tool by which

harmony can be achieved to unify individual buildings in close proximity. Using the landscape as the dominate element in the composition, the buildings take on minor roles as contrasting elements thereby fusing dissimilar buildings, streets and pedestrian pathways into a greater unified whole.

Textured facades create some of the strongest influences on a unified street design. The more complex the surfaces of the buildings, the greater the opportunity for light and shadow to change pedestrian perceptions of the structures through the daily and seasonal cycles of light. The street represented a cross-section of history shaped by its details and its traditions. Taken as a whole, the street is can be seen as the framework of public space. In traditional place making of *old towns*, tradition creates entrances, gates and steps almost as a natural force. Over time, the lines of buildings are softened. Buildings should be assimilated into the whole before the next can be added.

Town Center

Aldo Rossi said the city is a stage on which human events occur (Rossi, 7). Prior to WWII, the city provided networks of

individual stages in the form of neighborhoods woven together through interconnecting grids of streets. The traditional town center was defined by its diversity, pedestrian scale, public space and structure within a larger context of a city where people inhabit dwellings and interact socially. One of the foremost functions of a neighborhood is providing personal safety in public space such as sidewalks and courtyards. Local residents and business owners provide an unconscious network of voluntary social controls and standards to provide a safe atmosphere. A town center is defined as a predominately business and institutional area of the city that is (1) characterized by its own economic, cultural and social institutions (schools, churches, police and fire stations, shopping districts, community centers, and fraternal and charitable organizations); (2) typified by some tradition of identity and continuity; and (3) inhabited by people who perceive themselves to be residents of the neighborhood and participants in its common life (Hallman, 16).

In ancient Rome individual dwellings were classified into the *domus* and the *insula* type. The *insula* eventually evolved into a microcosm of the city representing the working class of the city.

Unlike the upper-class residence of the *domus*, the *insula* provided a platform for a mixed social interaction. The insula reflected the pulse of the city (Rossi, 71).

Clarence Stein's Radburn plan of 1926 was one of the earliest application of suburban housing evolved from Romantic planning ideas descended from Frederick Law Olmstead's projects including Riverside, the first Romantic suburb, parks and cemeteries. It was also one of the first to acknowledge the arrival of the auto age. Several elements have redefined the concept of neighborhoods developed in suburbs.

The curving streets with their cul-de-sacs, which Olmstead used was also designed to isolate through traffic from neighborhood access roads. For the first time, streets were used to separate, not connect. Neighborhood units were formed in megablocks with interior greenbelts to be used as common open spaces by residents. Community facilities were grouped into a park like civic center of elementary school, swimming pool and public play grounds.

In aiming to return neighborhoods and communities to pedestrian-centered environments, developers must contend with

zoning requirements created for an automobile-based society. Car-centered suburban design got a big boost from Swiss-French architect Le Corbusier, who in the 1930s envisioned the *radiant city* embracing the sun and clean surfaces, an urban environment in which sectors of life such as homes, recreation, work, transportation, were segmented into separate regions connected by elevated freeways. Some critics, view the Congress International d'Architecture Moderne and the 1933 Athens Charter, embracing Le Corbusier's vision, as nearly the opposite of the principles espoused by those who created the Congress for the New Urbanism in 1993 and set forth their own principles in a 1996 charter.

It is easy to see the influence of Le Corbusier today. Homes are clustered in suburban developments, while stores are at the other end of town in shopping malls. Parks and public recreation areas are elsewhere and centers for transportation - buses, trains, airports - are still elsewhere. And to get from one to another, of course, one drives. Recent studies have indicated that vehicle miles traveled per person is up 40 percent just in the last decade. As a result, to build a quality Neo Traditional development, you need substantial changes in zoning in the majority of the municipali-

ties around the country.

This thesis will develop a town square with the public and private realm combining to define the civic realm. The project will conform to the principles referred to today as a Traditional Neighborhood Development (TND). Civic buildings anchor and define the town center, expressing a sense of continuity and diversity. The town center will be developed to create a sense of place, which is unique for each individual. The project will encompass a variety of densities within its boundaries. The increased density of the project decrease land cost and the cost of infrastructure. The neighborhood will employ work/live conditions in addition to rental units within each building to support a wide diversity of mixed incomes which provide the foundation of the city labor force needed to support the city infrastructure. The project will incorporate a zero lot line development and common areas used for community parks/playgrounds. The streets will be defined to human scale. Sidewalks and green space will provide the community the opportunity for chance encounters as they walk the neighborhood, and reduces traffic congestion on the main arteries. The meaning of the street as the essential fabric of the public realm will be restored.

project description

Program

The project building will be comprised of three components: residential, commercial and public space. The ground level floor will consist of a diverse mixture of retail, office and public space with access to the living space on the second and third floors. The second floor will contain residential and private space. Residential spaces will reflect the needs of small family units ranging from owner units to rental units. The remaining floor will be dedicated to residential space. Each floor level will contain approximately 2,000 square feet. The residential units will range from one level lofts of 750 square feet to two level residential units of 1,500 square feet. The public space will be developed as a park setting for the city residents for use in civic festivals and daily strolls. Public space will be introduced through the addition of sidewalks with on street parking. The architecture is intended to be used as a catalyst for the revitalization of the public realm by designing pedestrian- centered communities that will lead residents to experience the everyday interactions, impromptu chats, and human contact that help forge neighborliness and civic bonds.

Building program outline**Commercial:**

| | |
|------------------------|-------------------|
| Bookstore | 4,000 S.F. |
| Coffee Shop | 2,000 S.F. |
| County Clerk- car tags | 1,000 S.F. |
| Dry Cleaners | 1,000 S.F. |
| Pharmacy | <u>2,000 S.F.</u> |

Net S.F. **10,000 S.F.**

Residential:

| | |
|--|-------------------|
| One bedroom unit (7@ 750 S.F.) | 5,250 S.F. |
| Two bedroom unit (7@ 1250 S.F.) | 8,750 S.F. |
| Two bedroom unit with office (4@ 1500 S.F.) | <u>6,000 S.F.</u> |

Net S.F. **20,000 S.F.**

Live/Work:

| | |
|-------------------------------------|-------------------|
| Architect's Office /residence | 2,500 S.F. |
| Art Gallery Office/residence | 5,000 S.F. |
| Certified Public Accountant | 5,000 S.F. |
| Interior Designer Office/ residence | 5,000 S.F. |
| Mortgage Title Office/residence | <u>2,500 S.F.</u> |

Net S.F. **20,000 S.F.**

| | |
|-------------------------------|--------------|
| Total Net S.F. | 50,000 S.F. |
| Circulation, mechanical, etc. | <u>x 20%</u> |

Gross S.F. **60,000 S.F.**

Public Space:

| | |
|-------------------|-------------|
| Park | 50,000 S.F. |
| Courtyard | 5,000 S.F. |
| On street parking | 40 spaces |



Figure 3. Regional map.
Source: Expedia map.

Project Location

The city of Brentwood is located south of Nashville in the Williamson County and north of Franklin, which is the county seat .See Figure 3. The first settlers came to the Brentwood area in the late 1700's. Much of the land was granted to Revolutionary War soldiers by the State of North Carolina.

The original site of business activity in the area was at the Frost place on Old Smyrna Road. The general store, the gristmill and the post office were located there. With the coming of the railroad and the highway, the town center shifted, developing on a linear axis, parallel to the railroad and highway. In the 1920's, many of the plantation homes were bought and restored.

Interurban transportation between Nashville and Franklin was originally furnished by a light rail system along the highway system. Buses later provided the mass transportation. Brentwood provided the workforce infrastructure for many of the homes and businesses of West Nashville and the



Figure 4. Brentwood Streetgrids.

The map demonstrates a collector-feeder street system built upon a linear highway artery typical of suburban markets. The building footprints illustrates land use segregation. Source: City of Brentwood.

city of Franklin. The completion of the construction of the Interstate in the 1960's opened the doors of development. Changes were made in residential zoning regulations to allow only one house per acre requirement minimum density for all residential development, which effectively removed all the existing small lot housing near the town center, mostly descendants of the African-American slaves that were employed locally by the horse farms and small businesses in the town center. See Figure 4.

Since 1980, Brentwood has grown from a modest community of less than 10,000 residents to an expansive city exceeding 24,000. Growth projections have the population growing to 45,000 by 2020. The city of Brentwood is located Williamson County, defined by boundaries, but not by a place. The city government office resides in a nondescript building in an office park, with a twenty- five-foot setback. Community events, such as the Fourth of July, are sponsored in the office park because the office park has plenty of parking available.

In Brentwood, commercial, institutional buildings and

Source: Author's original
photographs.



Figure 5. Site orientation.
Source: Author



Intersection of
Franklin Road
@ Old Hickory Blvd.

houses of worship are based on the scale of warehouses creating mega-structures of architecture out of sync of the fabric of the neighborhood floating in a sea of asphalt. This low density, horizontal based architecture reflects and services an automobile dependent life-style amongst the populace. See Figure 4.

Sprawl

A community can begin to lose its sense of place by its loss of public space. Cities destroyed themselves by allowing the street to become the zoning line rather than a public place of multiple activities. Suburban zoning was isolating commercial activities into shopping centers with the economic trend being

Proposed Brentwood Town Center



Figure 6 Site location.
Source: Author

toward large, standardized retail enterprises of national scale. See Figure 1. The ultimate manifestation of this trend has been the “big box” retail that is now prevalent all over the continent. With this isolation came a loss of both diversity and local flavor, with retailers offering the same products from coast to coast. The scale economies of large production have reduced the sense of a local flavor and replaced it with franchised homogeneity.

It has been observed that in lively parts of cities, small local enterprises tend to outnumber large. The reverse is true in suburbs, where stores are large but standardized in a franchised appearance and merchandise. However even in cities franchises are the trend similar to malls, thereby stripping the unique character and flavor of a city, its region, neighborhood and even streets. Today’s planning typically clusters buildings by use, creating auto dependent suburbs that favor private space over public space. Space is the medium of the urban experience, it creates the sequence between public, semi-public and private domains. The greatest problem facing US towns is the fact that were conceived in two dimension horizontal layers, usually omitting three dimen-

sional vertical layer plans which incorporate the location, size and street elevation treatments of its major architectural structures. Sprawl is creating social differentiation, a process of inclusion and exclusion into an in-group and an out-group through factors such as age, education, occupation and marital status.

The American city must evolve as the result of democratic participation rather than economic convenience. Public entities and private citizens are charged with defining the public realm, setting aside space for public and private use. The greatness of a city is reflected in its ability to translate in architectural forms and human patterns a representative cross-section of the cultural and social diversity within its domain.

In an article by *U.S. News & World Report*, it was estimated the U.S. loses 50 acres per hour to suburban development. If this pace continues, the U.S. could become a net importer of food due to lost farmland acreage. Meanwhile the federal government continues their policy of highway subsidies that encourages sprawl. The lower the density tract, the higher the government services cost. (Longman, 1998, 22.)

The Knoxville News-Sentinel, 09.10.2000, H4.



In Tennessee, the growth of registered vehicles has escalated 30% while population growth mustered only an 11% spurt from 1988 until 1997. In Nashville and its surrounding counties, vehicle miles traveled daily is approaching a figure of 31 million miles. New middle-income households in the outer rings of a suburb are costing the public at large between \$900-1,500 per household each year. Residents with similar demographics within the city limits, on the other hand, make a net contribution between \$600-800 a year. This means the difference between similar households in the suburbs as opposed to a city household cost society between \$1,500-2,300 per year. In the city, only 49% of the residents are homeowners while in the suburbs 79% of the residents own their homes. Taxes are slanted to punish the old and reward the new. Under the current system, you are rewarded from moving from the diversity of the city to the suburbs, which are income, and socially gradient (Ballard, 1999, 26). The suburbs tend to use impact fees to retard or slow down growth. Some forward thinking politicians and city planners are

raising the idea of rechanneling or at least rethinking current policies and reward those developers that pursue high density mixeduse infill projects.

In Brentwood, residential lots are now restricted to no less than one acre. This lot restriction reduces the inclusion of neighborhood amenities such as sidewalks and neighborhood parks/ playground spaces. Each landowner provides his own playground for the kids. Increased distance also increases the cost of the town infrastructure such as roads and utilities. A one-acre lot size increases the distance between residences, which reduces the opportunity for chance encounters with neighbors. A by-product of this increased distance is that every excursion from home means having to drive from the suburbs to a major artery in town to find retail, services, entertainment or religious activities. The focus of the family is now to find relationships outside the neighborhood, into exclusive groups such as country clubs, private schools and churches. Kids are raised with few chances to mix with people with different levels of economic, educational and ethnic backgrounds. The neighborhood mirror reflects a very limited and homogenous viewpoint.

precedents

Franklin, Tennessee



Figure 7 Franklin Commercial/ Residential Study.
Source: City of Franklin



Town square festival.

Franklin is the county seat of Williamson County. Franklin developed around a town square with the civic and retail defining the civic plaza. It has a variety of densities within its townscape. The town square is where you find the courthouse, the county and city government center, the police station, banking and places of worship. The square is where the 4th of July and Founder's Day is celebrated. The town center creates a sense of place, which is unique for each individual. See Figure 6.

Downtown Franklin has five residential unit densities to the acre. (Tsouderos, 34). Housing scale ranges from single-family residences, multifamily to mixed use housing above retail and office building. High-density apartments allow for "Main Street" on an affordable scale. The density increases as one moves toward the center of the town. Looking at a pre 1950 map, the city grew like a tree, in concentric rings. In the center of town was the civic space intermixed with retail. Above the shops were living areas. The next rings were mixed institutional, retail, and single family residential. In the 1930's manufacturing developed three miles from the town center, surrounded by walking



The Factory in Franklin was converted to a multi-use building featuring retail shops, office space and restaurants. Future expansion calls for living units.

horse farms. Today the manufacturing plants have been and converted into chic retail/housing office complexes that have been absorbed into the city proper. This movement of the city proper reasserts an addition to the concentric growth ring of mixed use building types as well as redefining a neighborhood. Franklin has been able to grow as an organic whole, adapting within its confines and constantly improving on the original city proper.

Source: Author's original photographs.



Figure 8 The Factory Commercial/ Residential Study. Source: Author

Mashpee, Massachusetts

Commercial/ Residential Study

Source: Author's original photographs.



Talbots



The Hoyts Cinema



Mashpee Post Office



The Clock Tower

Mashpee Commons is a traditional neighborhood develop

The development is located near the geographical center of Mashpee, Massachusetts on Cape Cod. Development for this neighborhood began in 1986 and currently has over 80 tenants including a cinema, numerous restaurants and cafes, specialty and gifts shops and personal and business services. The goals for the Commons development was less about the power of retail to attract commercial success, but the power of design to influence human behavior. New Urbanists believe designing pedestrian-centered communities will lead residents to experience the everyday interactions, impromptu chats, and human contact that help forge neighborliness and civic bonds.

The Commons began as a commercially successful but classically ugly series of single-story buildings creating a mega-mall structure surrounded by a wasteland of parking lot. In search of alternate models of development, the developers looked at old New England villages and went to visit the newly built Seaside in Florida, the first community to be built using New Urbanist concepts. At Seaside, the houses had inviting front porches and the

The Mashpee Commons

Source: Author's original photographs.



Work/Live Shops



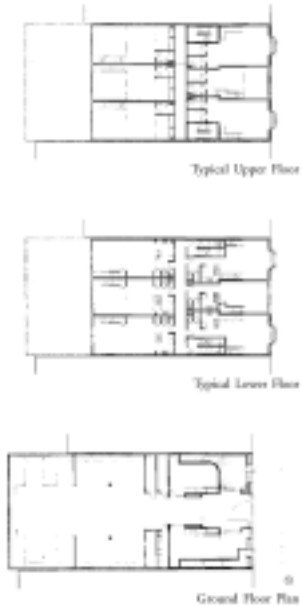
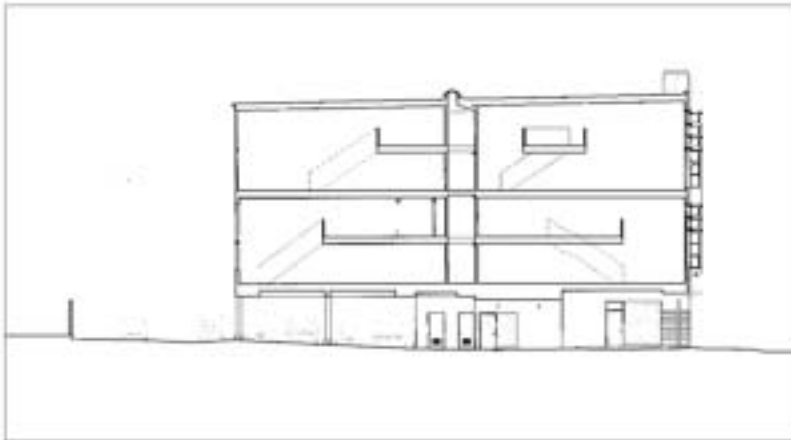
Interior Courtyards



streets intersected to promote a neighborhood feel. Seaside's designer Andres Duany of Duany Plater-Zyberk, were commissioned to draw up a plan for much of Mashpee Commons. The view from the Clock Tower in the middle of the development is a curved bank of office windows at Mashpee Commons is the center of the grid of streets. Two-story buildings line the streets, some brick, some clapboard. The tree-lined streets are just wide enough for one lane in each direction plus parking on both sides. The grid design gives drivers options, unlike the collector streets that in typical sprawl development concentrate traffic, kind of a controlled congestion. On-street parallel parking offers convenience and offers a sense of pedestrian scale. The mixed use buildings bring a diversity not seen in a mega-mall structure and bring a measure of comfort for the pedestrians who stroll along the sidewalks: a row of parked cars provide a sense of traffic calming. Residents that live above the office and retail spaces can do their daily errands on foot.

Figure 9. Mashpee Commons Commercial/ Residential Study.
Source: Mashpee Commons

San Francisco, California
Commercial/ Residential Study



This project brings 12 live/work lofts to the Mission Street Community. The five level building has six units facing the street and six face a garden space in the interior space. Ten units are duplexes. Two units have three levels, including a street level for a commercial presence on the street.

Figure 10. Mission Street Commercial/ Residential Study.
Source: Solomon Architecture and Urban Design.

Charleston, South Carolina
Commercial/ Residential Study

Source: Author's original photographs.



The social content of the buildings determined their scale and character. The fabric of buildings conform to all street and block edges and are consistent in their forms.



epilogue

The central issue in developing a work/ live facility is the pedestrian scale. Once the site was determined, the site was configured to maximize pedestrian nodes of access to the civic, green space, work, live and transportation connections. The project area was created to be accessible within a quarter mile radius, the ideal walking radius of a pedestrian oriented town center. The Town Center site was developed to provide a clearly defined center and edge with connectors to access neighboring areas. The light rail system provides the mass transit to and from the site.

Streets were devised to create patterns of connectivity. There is a hierarchy of a variety of streets based on pedestrian and vehicle loads. Parking was designed for the neighborhood, not the individual buildings. The neighborhood design should encourage parallel parking. Shared parking can reduce the need for additional off- street parking, where day/night or weekday/holiday schedules allow the use of parking spaces by more than twenty-five percent reduction of required spaces. On street parking has the added benefit of traffic calming and providing safety barriers between

moving vehicles and pedestrians. Garage parking is provided behind buildings or below ground. Building heights were proportionally related to the right-of-way widths. Shifts in scale within street sections were accomplished by the design of landscape, building edges, along with other vertical elements in the project.

Civic space was developed from the combination of public and private space. The project was divided into figural civic architecture and background architecture that becomes the architectural fabric that provides a rich tapestry for shadow and light to interact, creating an enticing environment in the public realm for the pedestrian. The built form and landscape form a mutually dependent relationship in the creation of the public realm. Landscape follies mark and terminate views. Civic architecture in the form of a Town Hall was created to provide an anchor and focus of the communities civic activities.

The social content of the buildings determined their scale and character. The fabric of buildings conform to all street and block edges and are consistent in their forms. Pedestrian scale breaks the site into the smallest viable unit. The basic unit has a

street frontage of twenty-five feet. A limit of two units provided the maximum street frontage of fifty feet. Commercial use was designed for the first floor, residential above. Future re-adaptive uses could expand commercial use to the second floor only. Commercial frontage expansion is limited to fifty feet.

The Town Hall, being a public civic building, was free from formal constraints and becomes the focus of the consecrated meaning in the community. It occupies the highest point on the site.

The greatest temptation in preparing to do this thesis is to replicate a precedent project on your site. Even worse is choosing a site because you have an emotional connection.

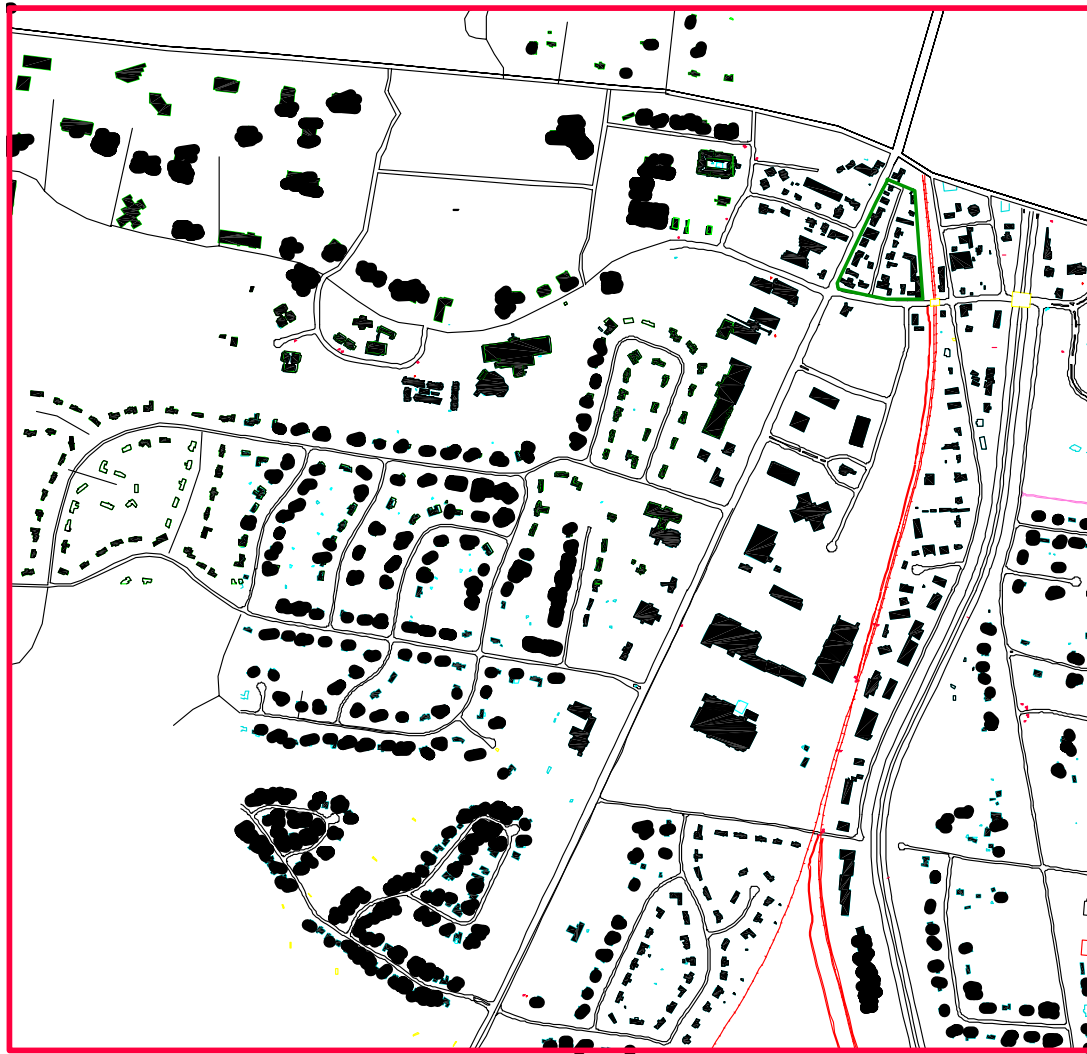
What did I learn? In developing a project, each site offers unique opportunities of discovery for architectural application. Architecture has over the centuries developed a fluid set of rules based on the concept of the pedestrian scale in the creation of the public realm. The basic building unit is a building block creating neighborhoods, districts and regions based on hierarchy connected by a hierarchy of transportation and streets. Each neighborhood is unique, and should be developed on the concept of inclusion, not

segregation by usage. Good architecture requires us to design for the neighborhood, not just the building.

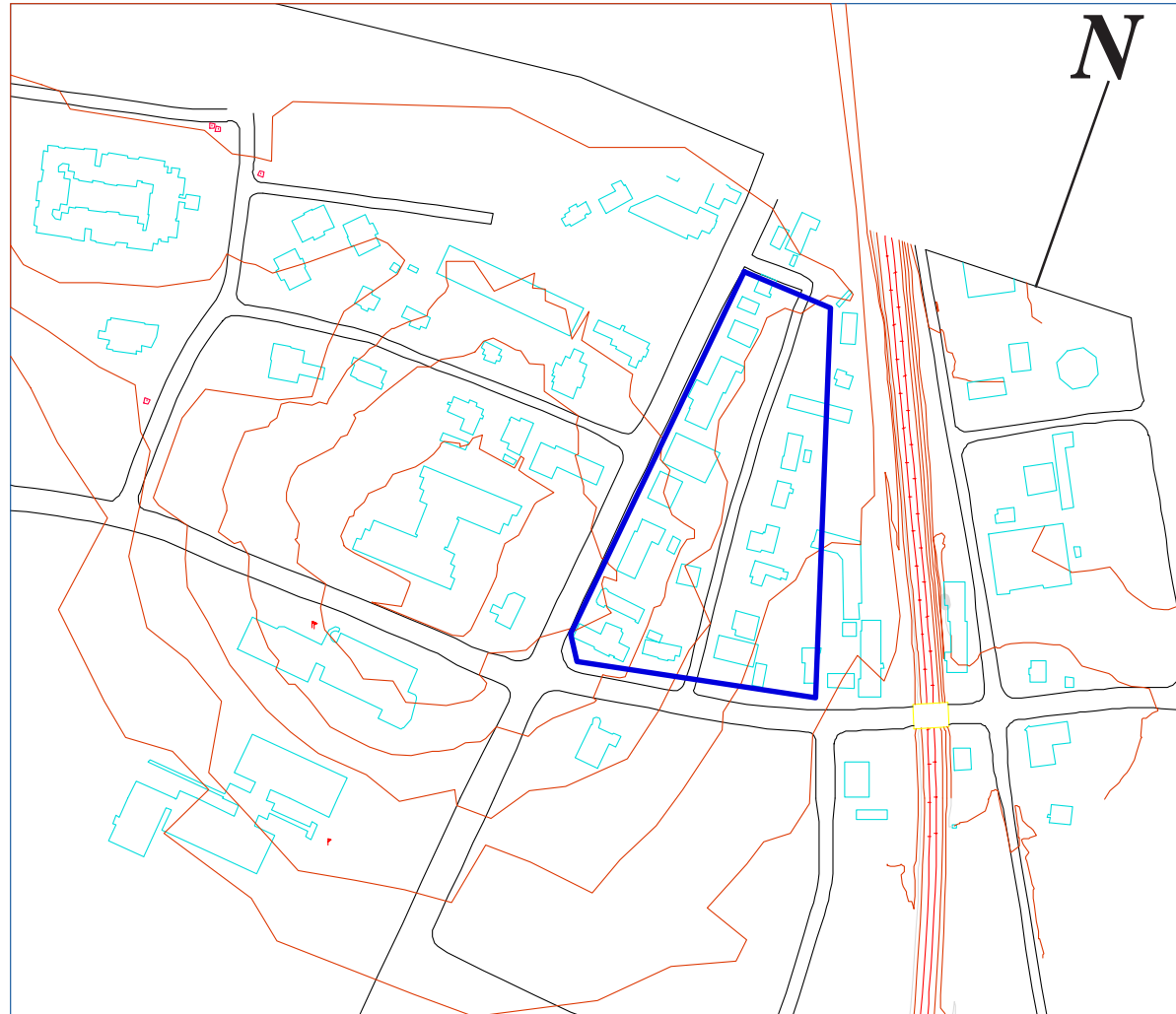
bibliography

- American Architectural Foundation, "Back From the Brink: Saving America's Cities by Design." An Accent on Architecture Television Production, 1995.
- Alexander, Christopher. *A Pattern Language*. New York: Oxford University Press, 1977.
- Ballard, Tanya N. "Recipe to Break Gridlock: Fewer Cars and More Rail." *The Tennessean*. October 3, 1999.
- Calthorpe, Peter. *The Next American Metropolis*. New York: Princeton Architectural Press, 1993.
- Dunlop, Beth. "The New Urbanist- The Second Generation." *Architectural Record*. January 1997, 132-137.
- Hallman, Howard W. *Neighborhoods: Their Place in Urban Life*. Beverly Hills: Sage Publications, 1984.
- Heimsath, Clovis. *Behavioral Architecture*. New York: McGraw-Hill, 1977.
- Jacobs, Allan B. *Great Streets*. Cambridge: MIT Press, 1995.
- Jacobs, Jane. *The Death and Life of Great American Cities*. New York: Random House, 1961.
- Katz, Peter. *The New Urbanism: Toward an Architecture of Community*. New York: McGraw-Hill, 1994.
- Kunstler, James. *Home from Nowhere*. New York: Simon & Schuster, 1998.
- Kunstler, James. *The Geography of Nowhere*. New York: Simon & Schuster, 1994.
- Longman, Phillip J. "Who Pays for Sprawl?" *U.S. News & World Report*. April 27, 1998, 22.
- Lynch, Kevin. *Site Planning* (2nd edition). Cambridge: MIT Press, 1971.
- Lynch, Kevin. *The Image of the City*. Cambridge: MIT Press, Twenty-sixth printing, 1998.
- Norberg-Schulz, Christain. *Existence, Space and Architecture*. London: Studio Vista, 1971.
- Rossi, Aldo. *The Architecture of the City*. Cambridge: MIT Press, 1984.
- Tsouderos, Trine. "Traditional Zoning Hinders Dreams of Planners." *The Tennessean*. December 7, 1999.
- Sennett, Richard. *The Fall of Public Man*. New York: Vintage: Distributed by Random House, 1990.
- Webster's II New Riverside Dictionary. Boston: Houghton Mifflin Company, 1984.
- Whyte, William. *The Social Life of Small Urban Spaces*. Washington: The Conservation Foundation, 1980.
- Urban Land Institute. *Office Growth and the Role of Public Transit*. Urban Land Inst; October 1982.

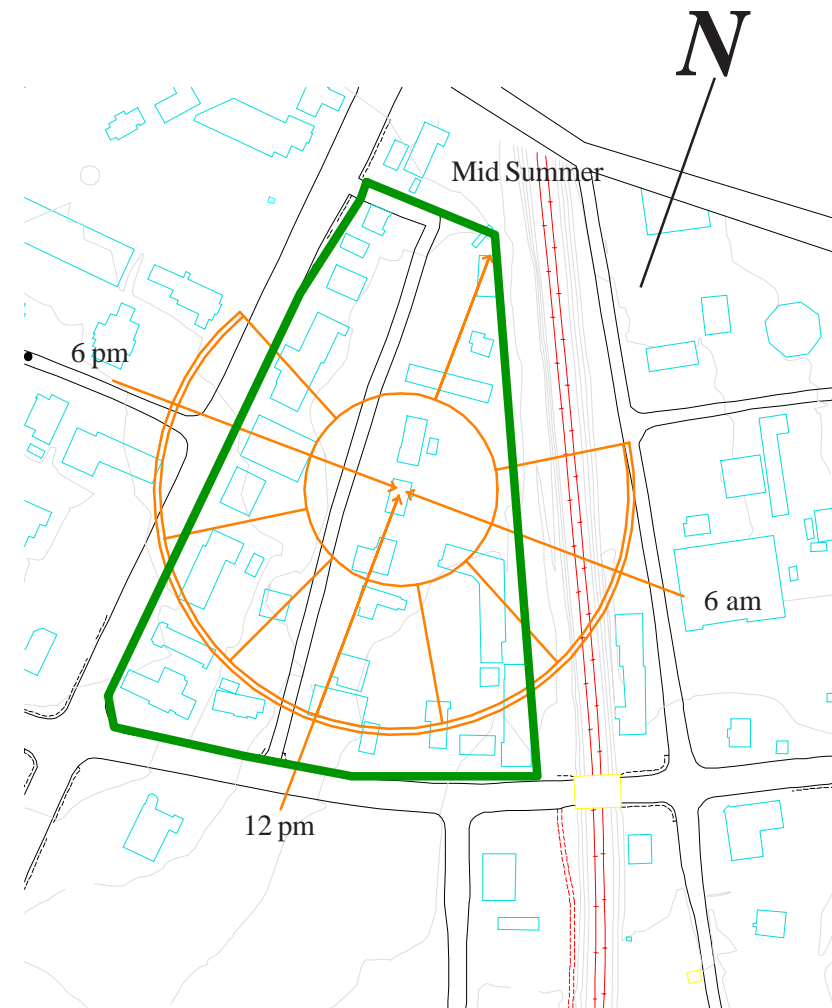
appendix



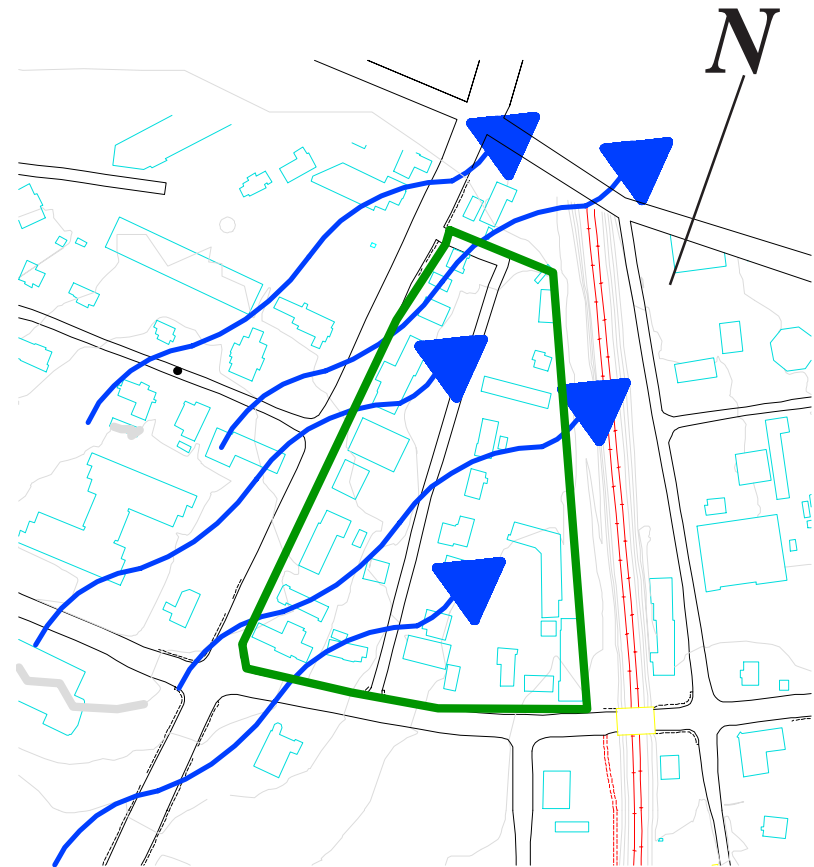
Site Analysis - Current Footprint of Brentwood



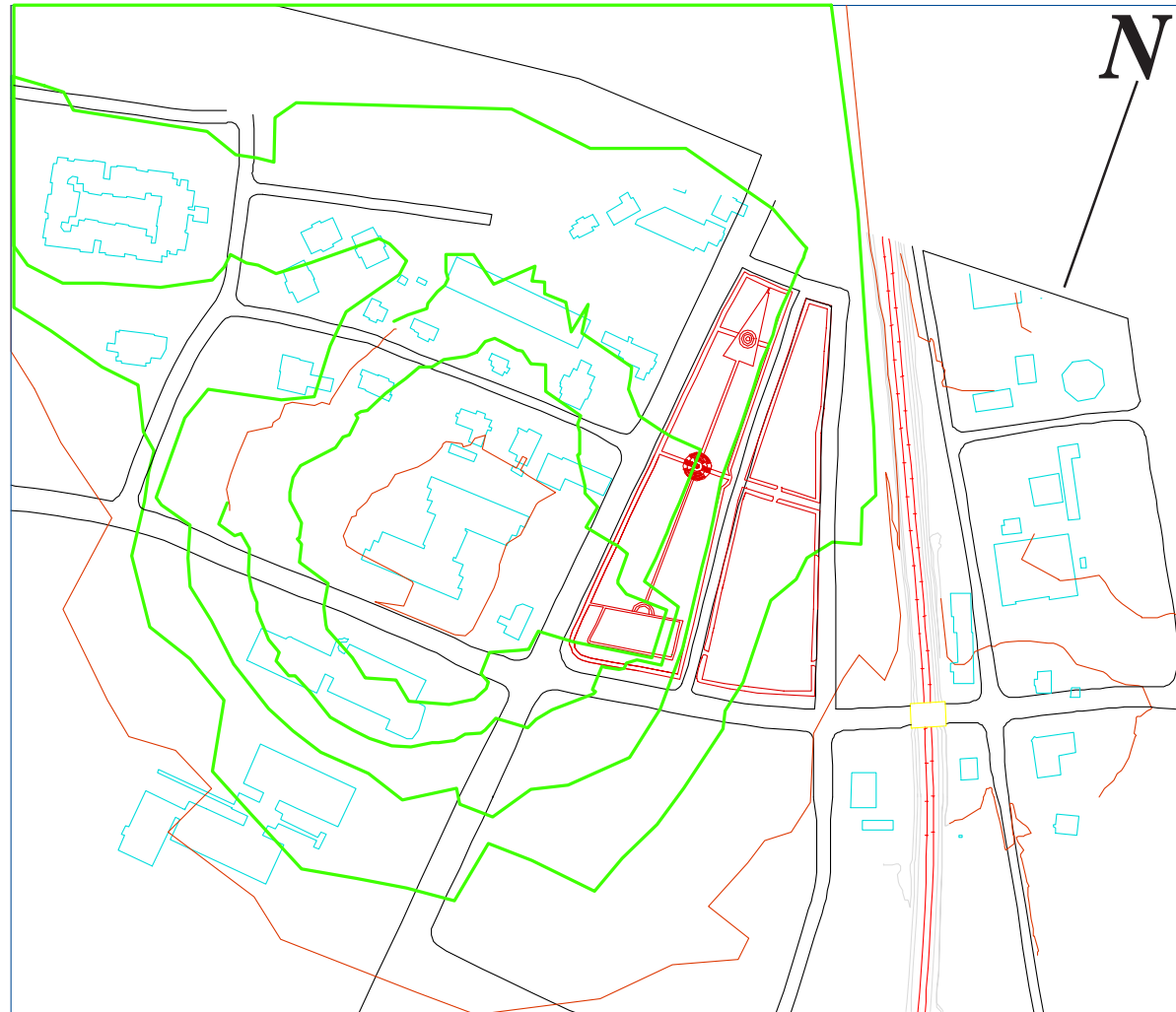
Site Analysis - Contour Chart of Original Site



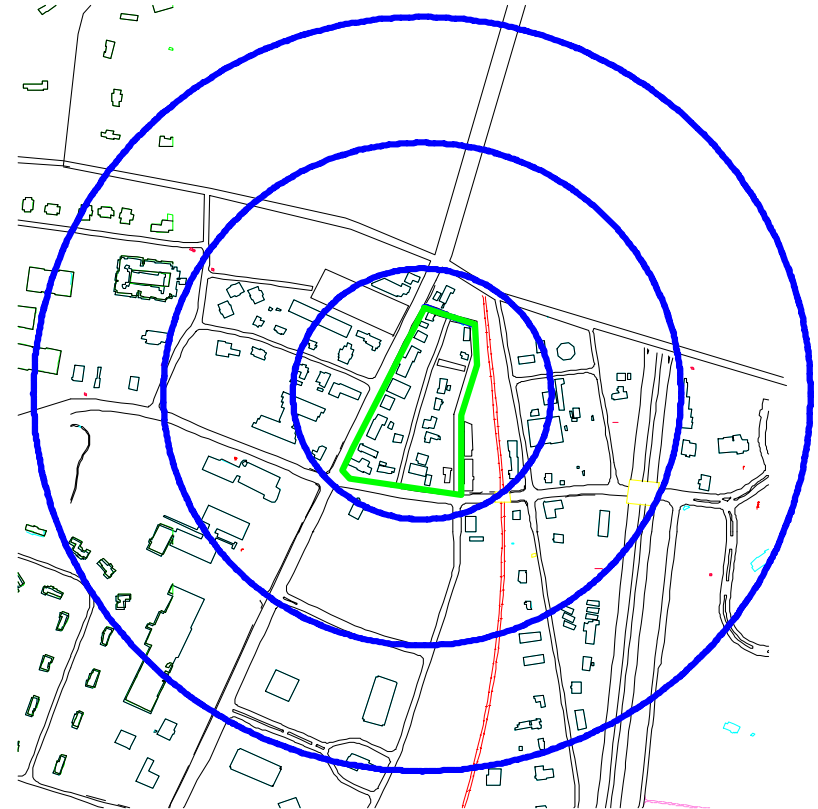
Site Analysis - Sun Chart



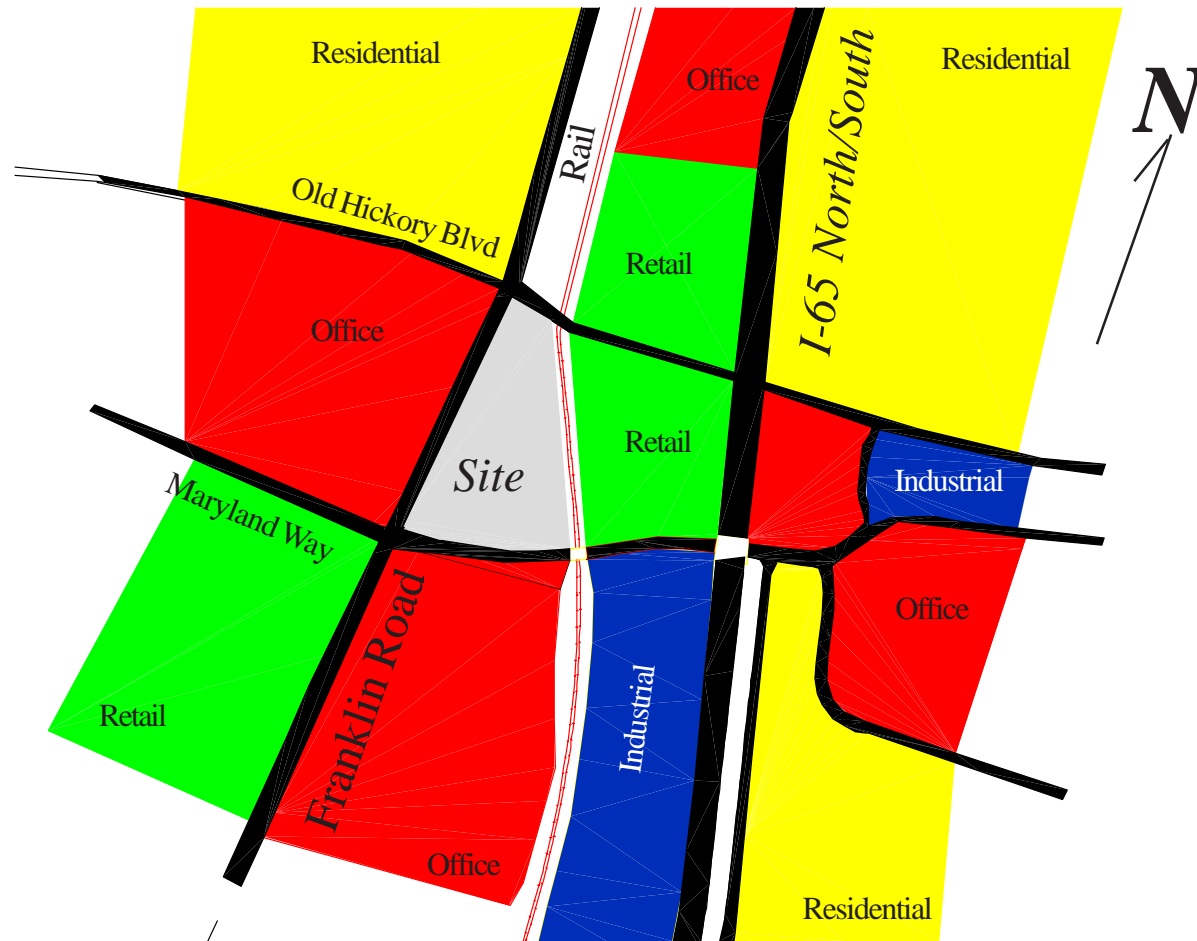
Site Analysis - Wind Chart



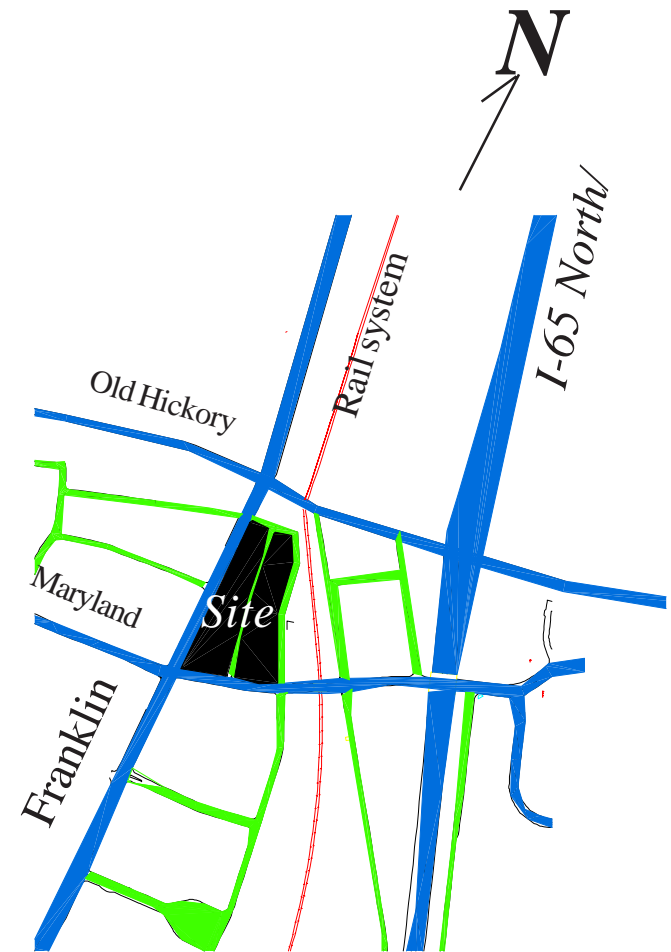
Site Analysis - Contour Chart of Proposed Site



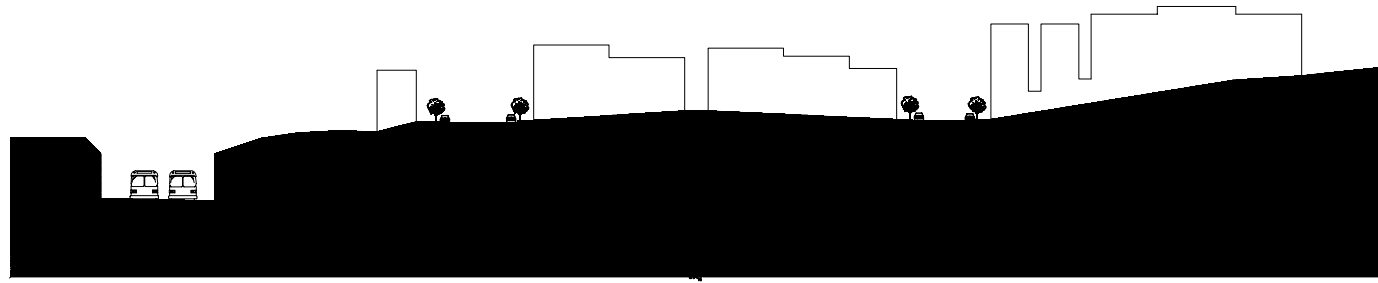
Site Analysis - Pedestrian Access from a Quarter Mile Radius Rings



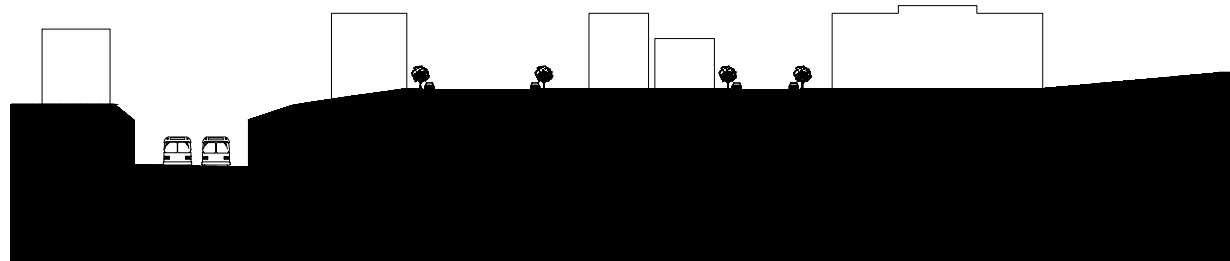
Site Analysis - Existing Land Uses



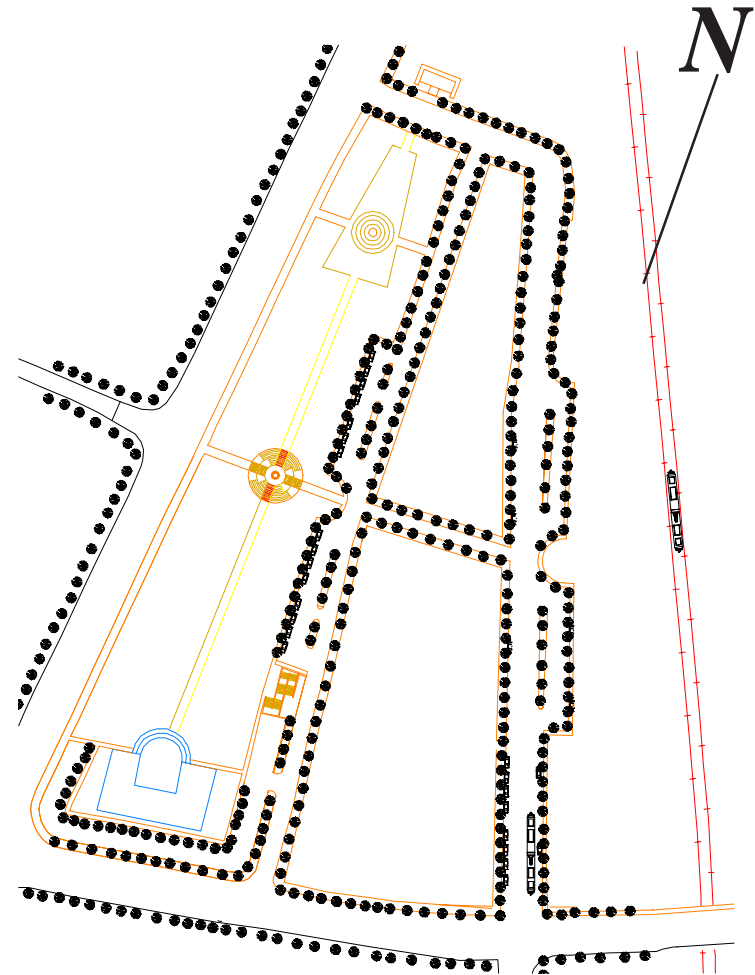
Site Analysis - Street Hierarchy



End Section - Viewing to the South

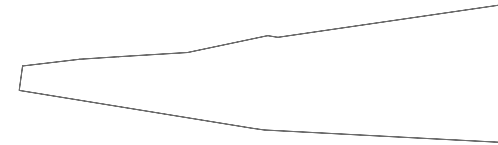


Mid Section - Viewing to the South

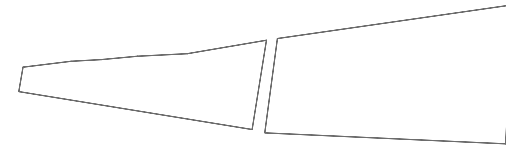


Site Analysis - Proposed Boundaries, Edges and Connectors of the Neighborhood

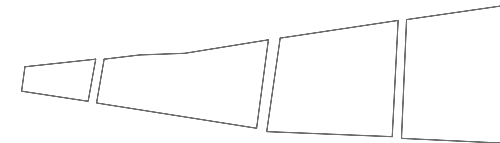
Site



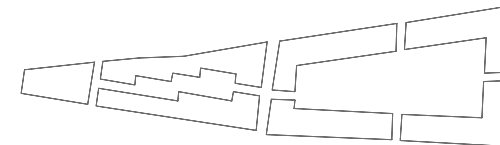
Center



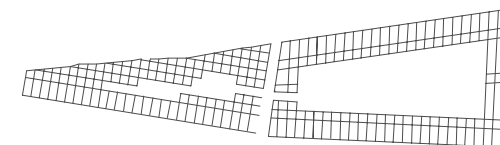
Cross Linkages



Interior Courtyards



Platting



Prototypical Response to Site Conditions - Conforming the Site to
Pedestrian Scale

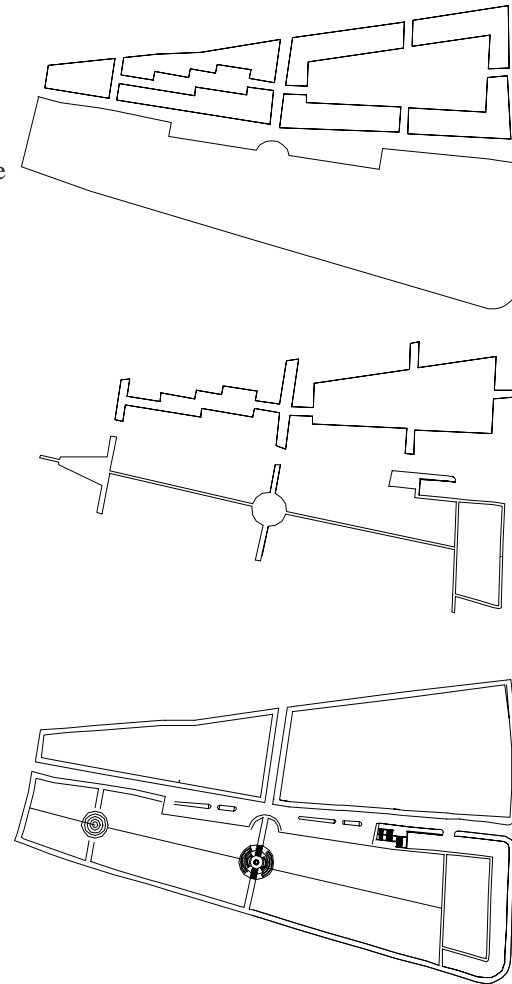
Interior Courtyards

Proposed Civic Space

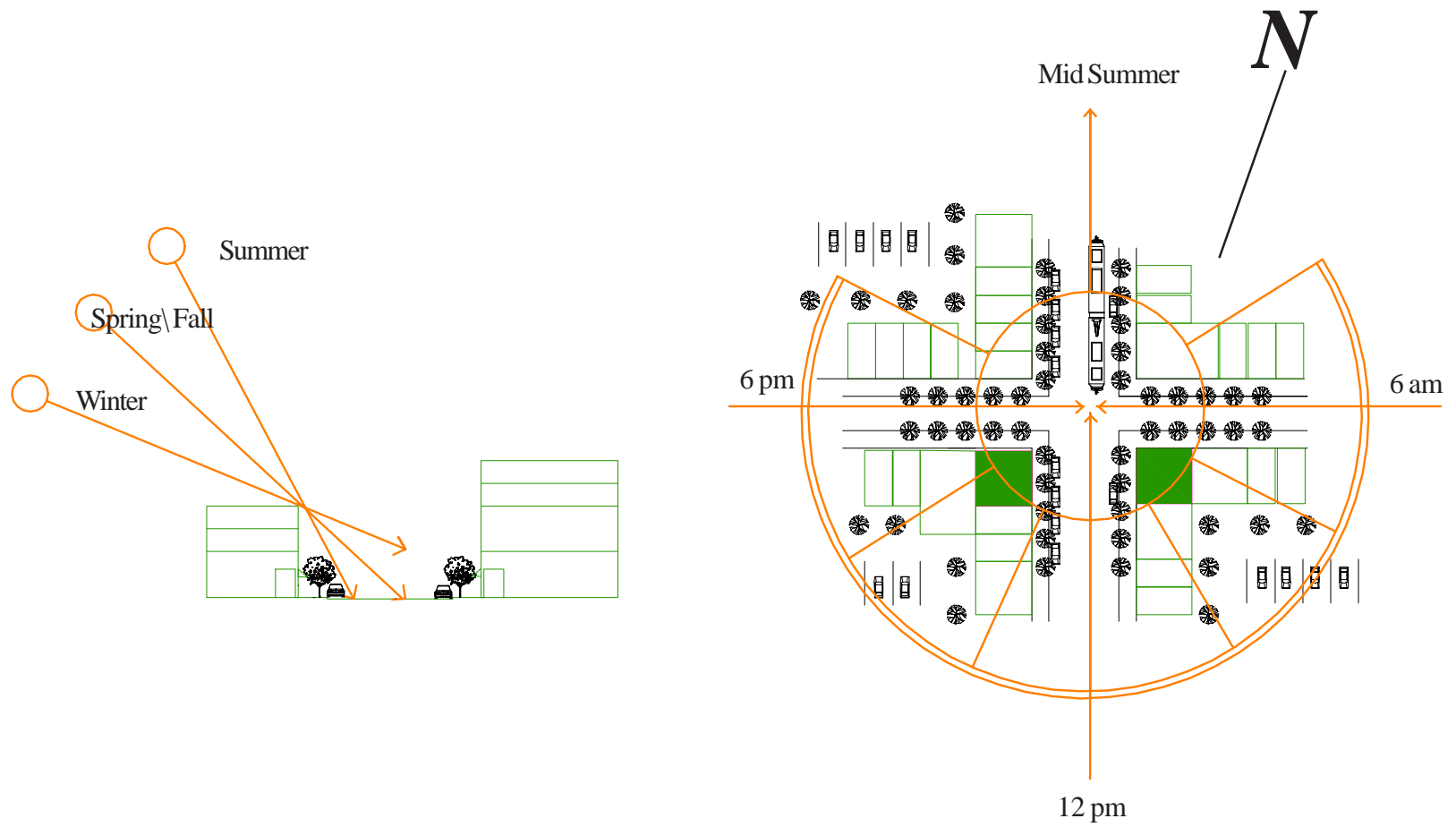
Pedestrian Nodes

Private Space

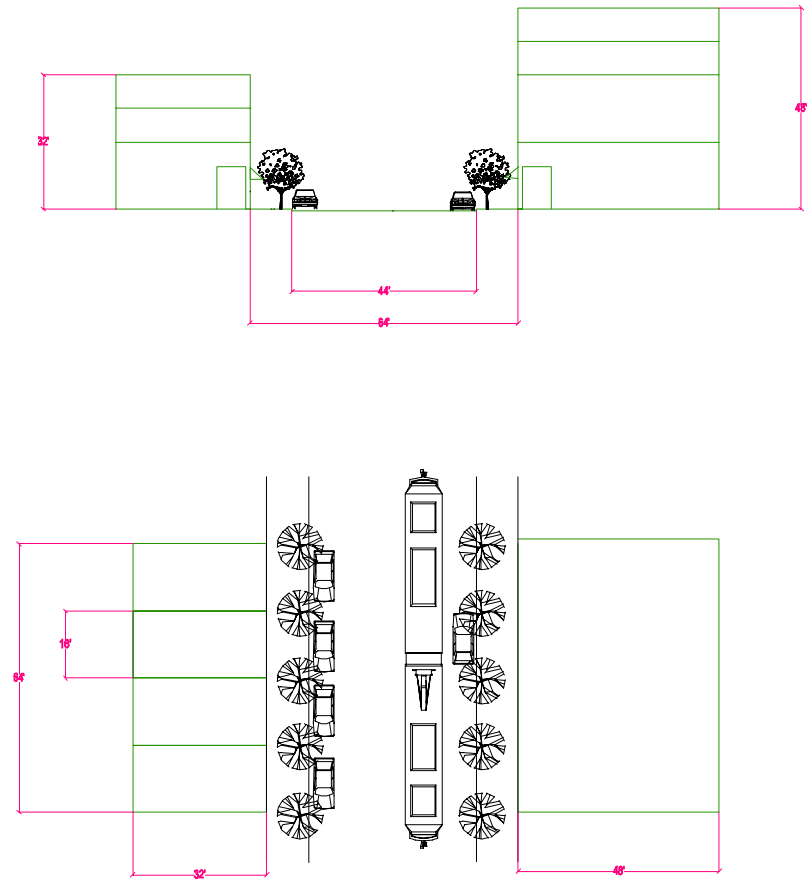
Public Space



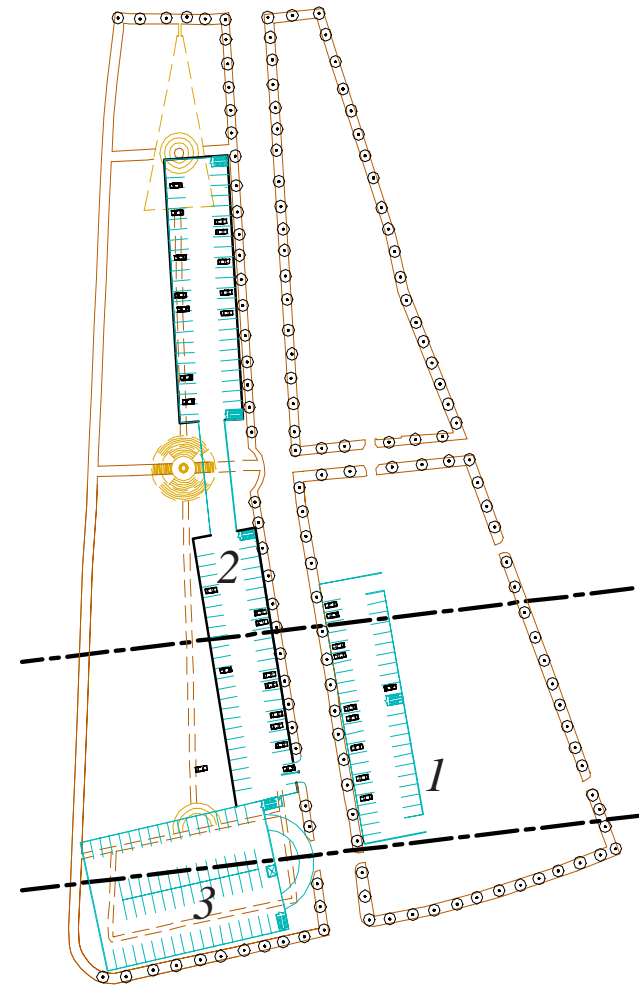
Prototypical Response to Site Conditions - Conforming the Site for
Nodes of Pedestrian Activity



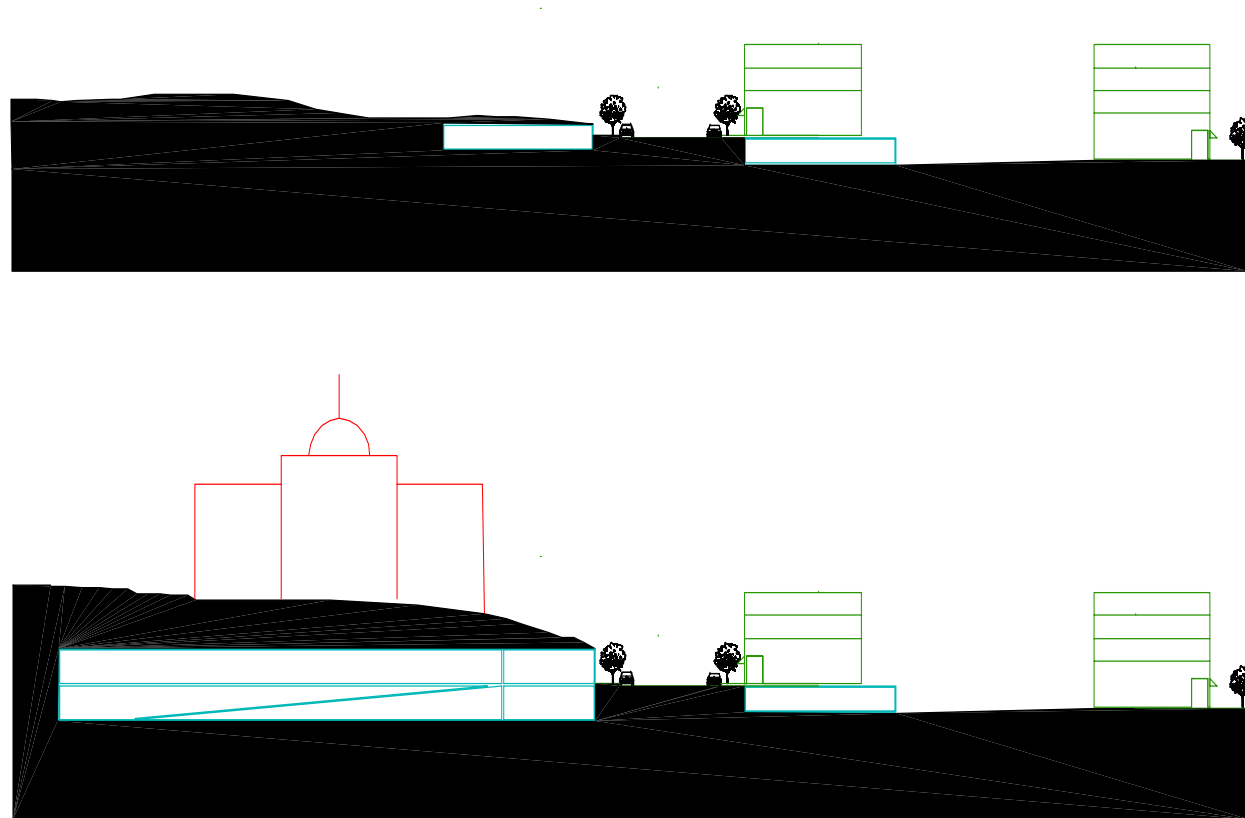
Prototypical Response to Site Conditions - Sun Chart for the Neighborhood



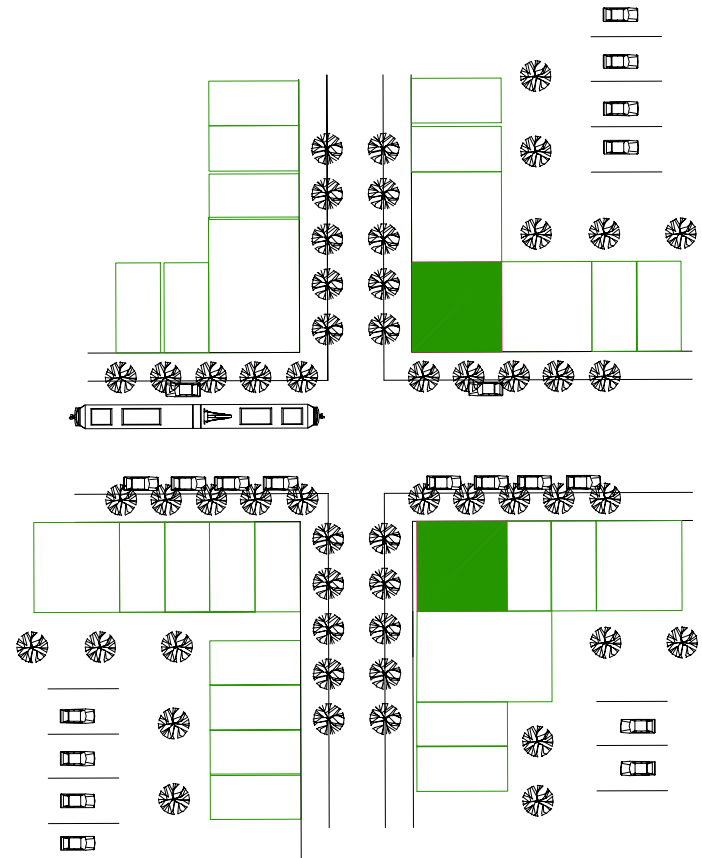
Prototypical Response to Site Conditions - Conforming the Building to Pedestrian Scale



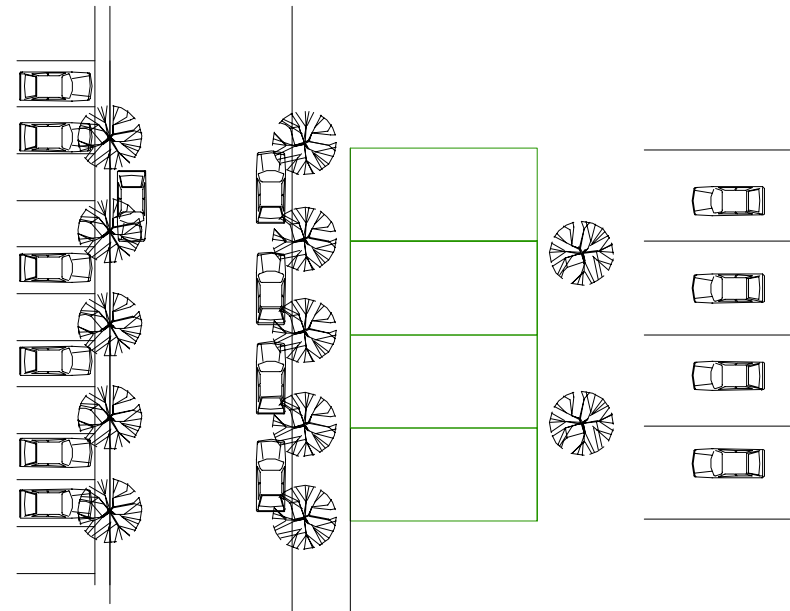
Prototypical Response to Site Conditions - Conforming Parking to the Neighborhood



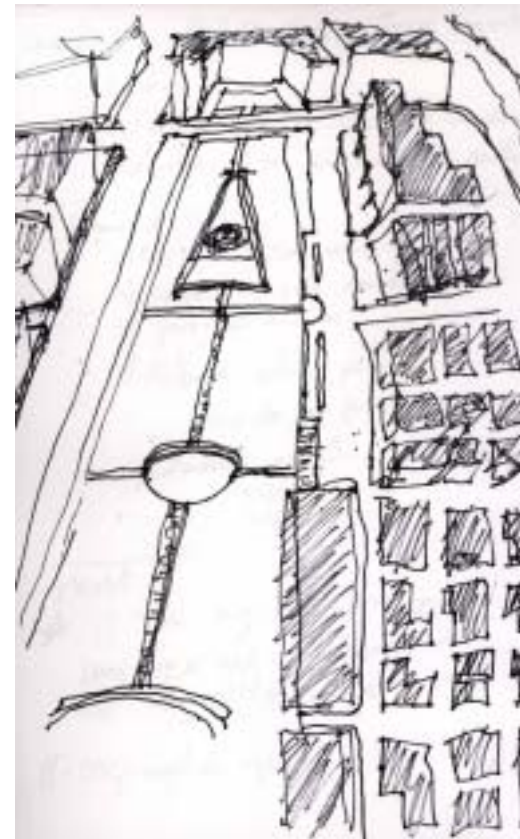
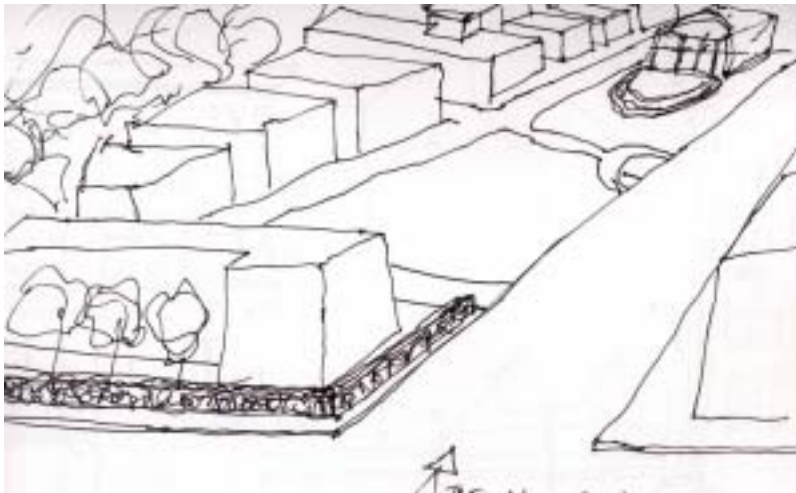
Prototypical Response to Site Conditions - Conforming Parking to the Neighborhood



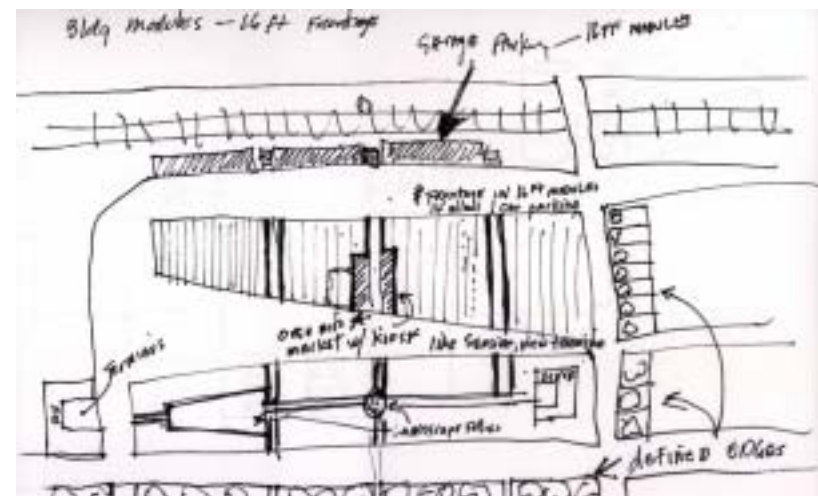
Prototypical Response to Site Conditions - Conforming Parking to the Neighborhood



Prototypical Response to Site Conditions - Conforming Off- Street
Parking to the Neighborhood



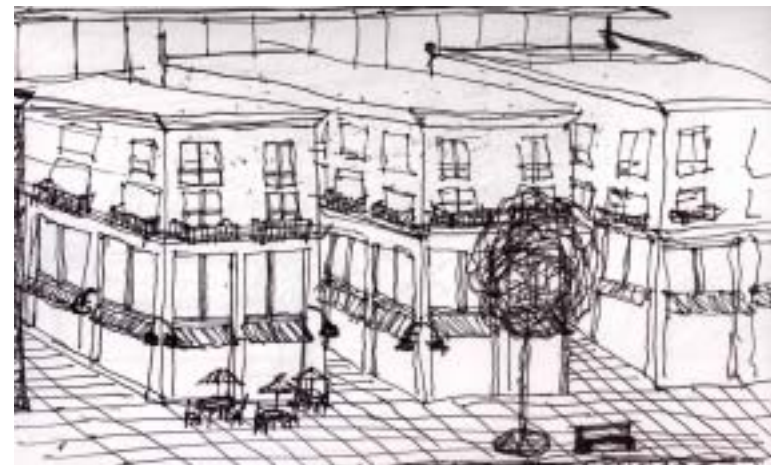
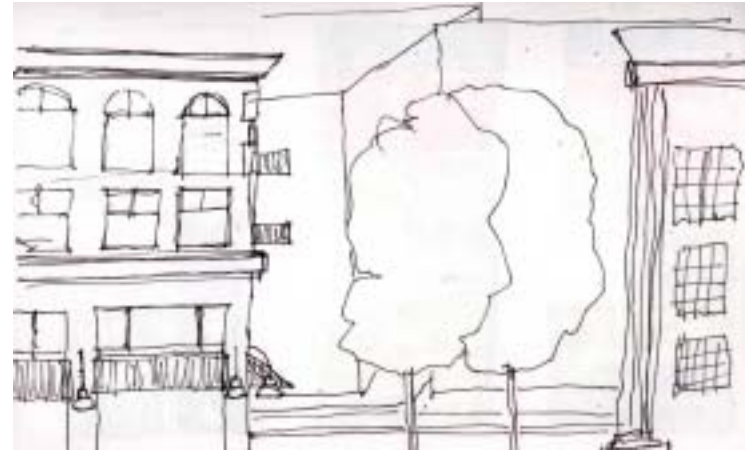
Specific Response to Site Conditions - Design Process



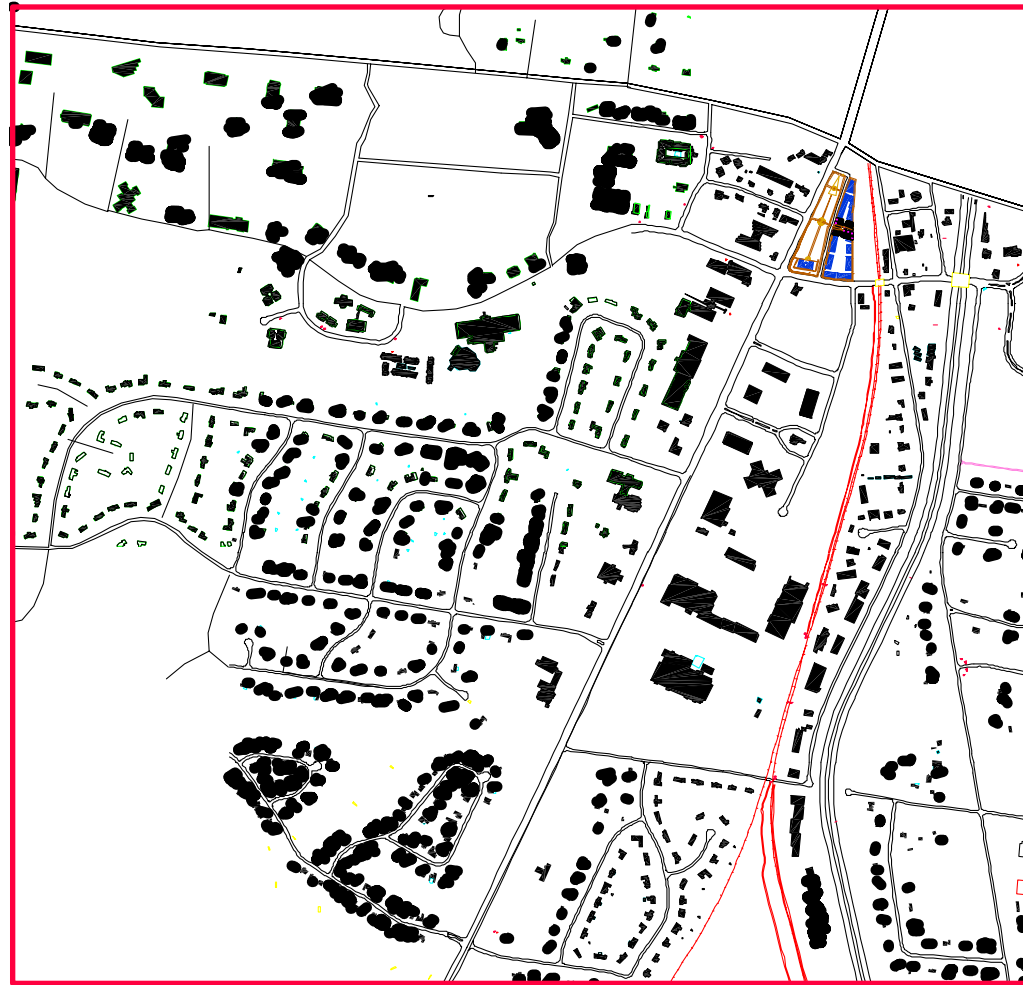
Specific Response to Site Conditions - Design Process



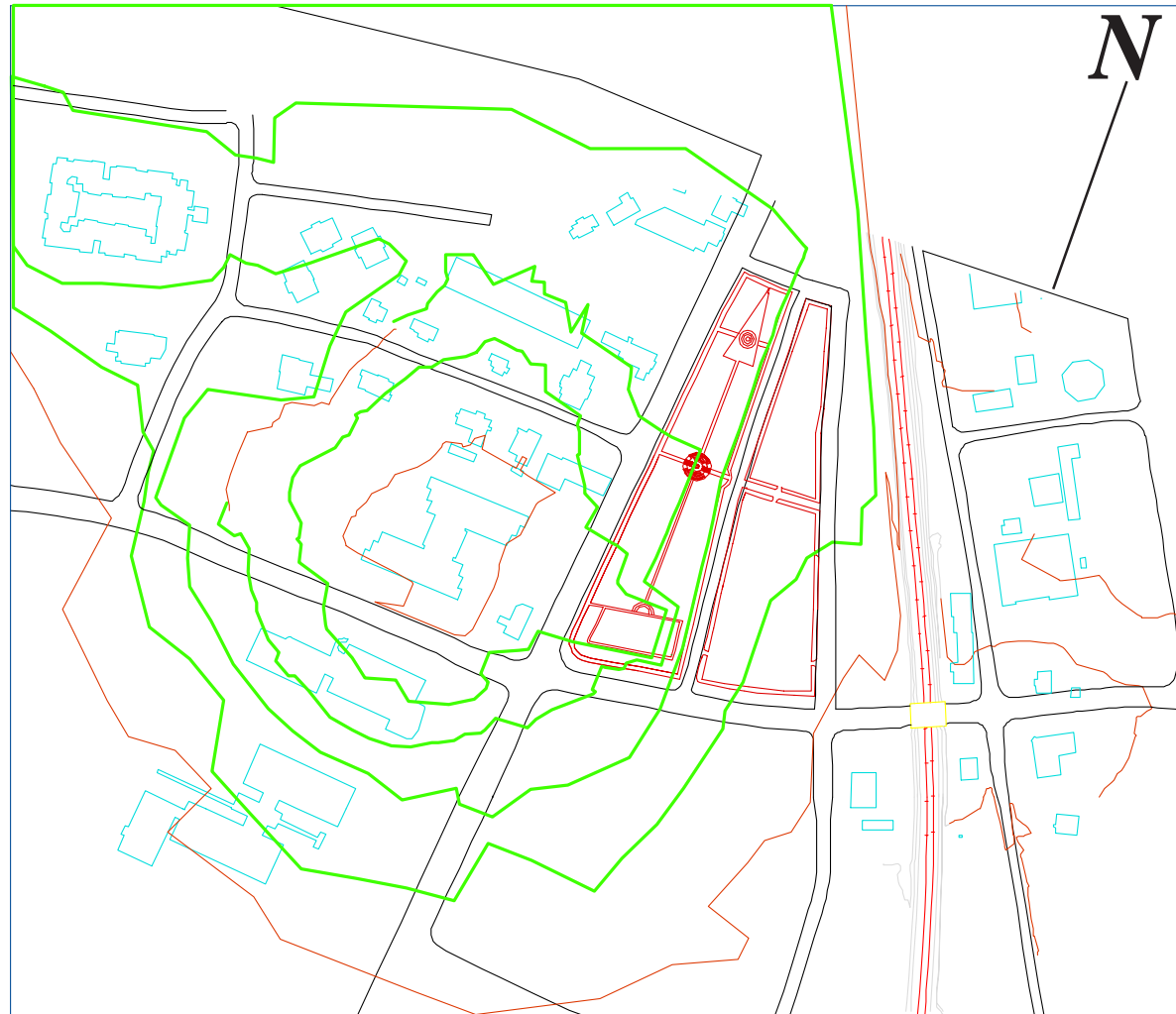
Specific Response to Site Conditions - Design Process



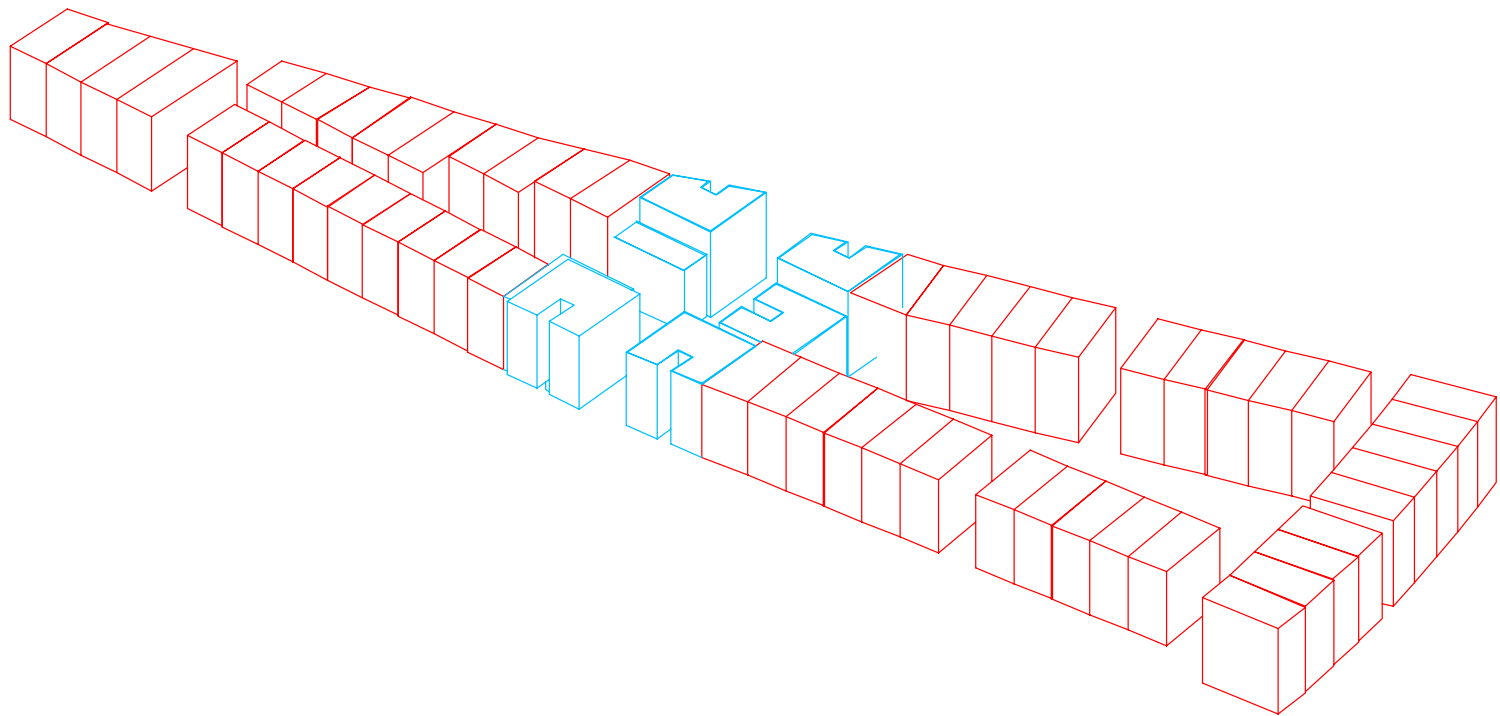
Specific Response to Site Conditions - Design Process



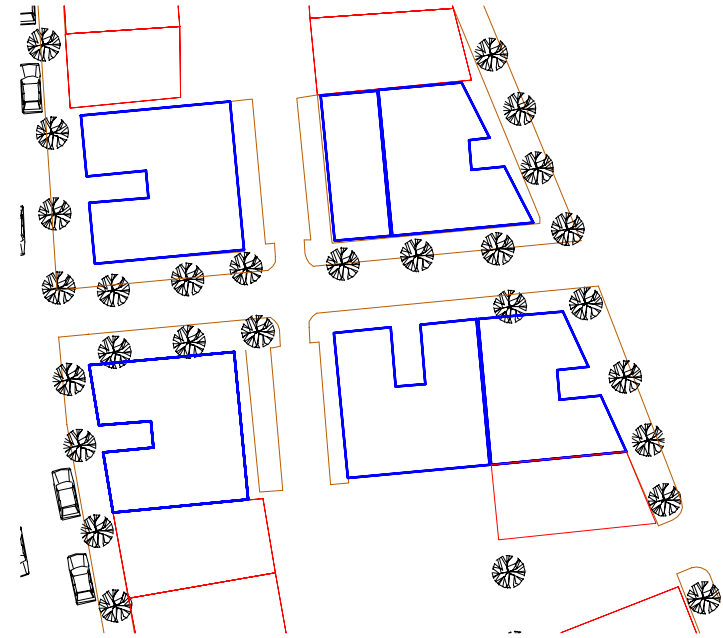
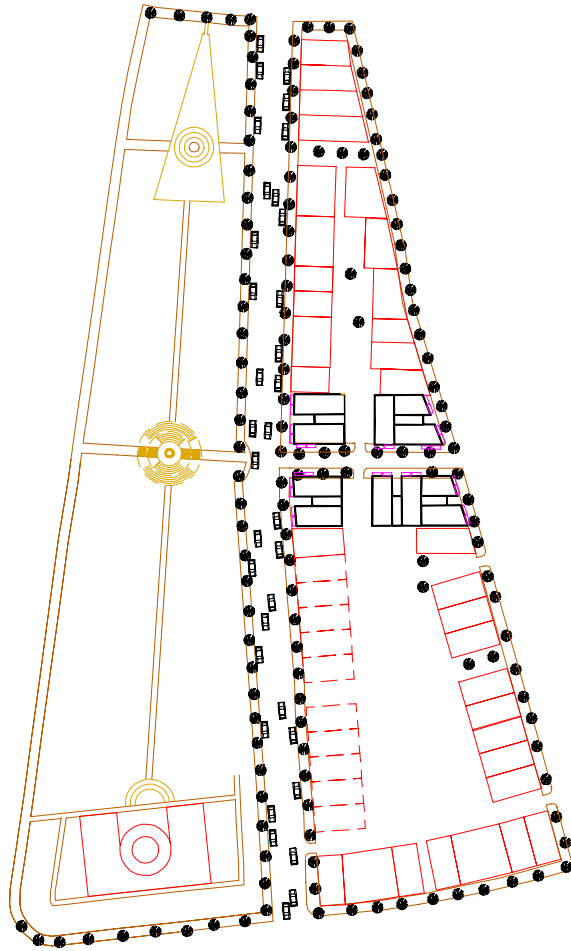
Specific Response to Site Conditions - New Footprint for Brentwood



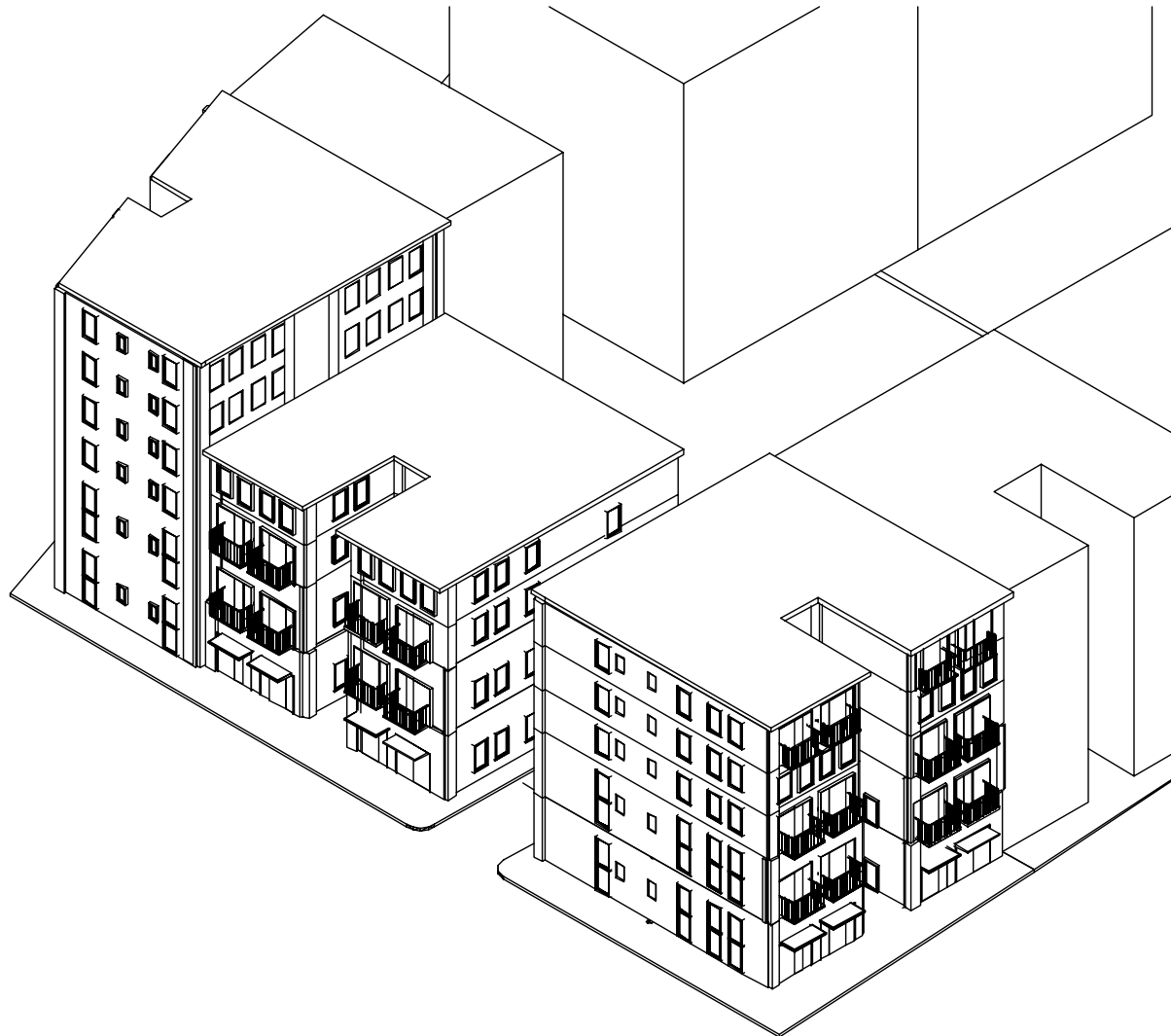
Specific Response to Site Conditions - Contour Chart of Original Site



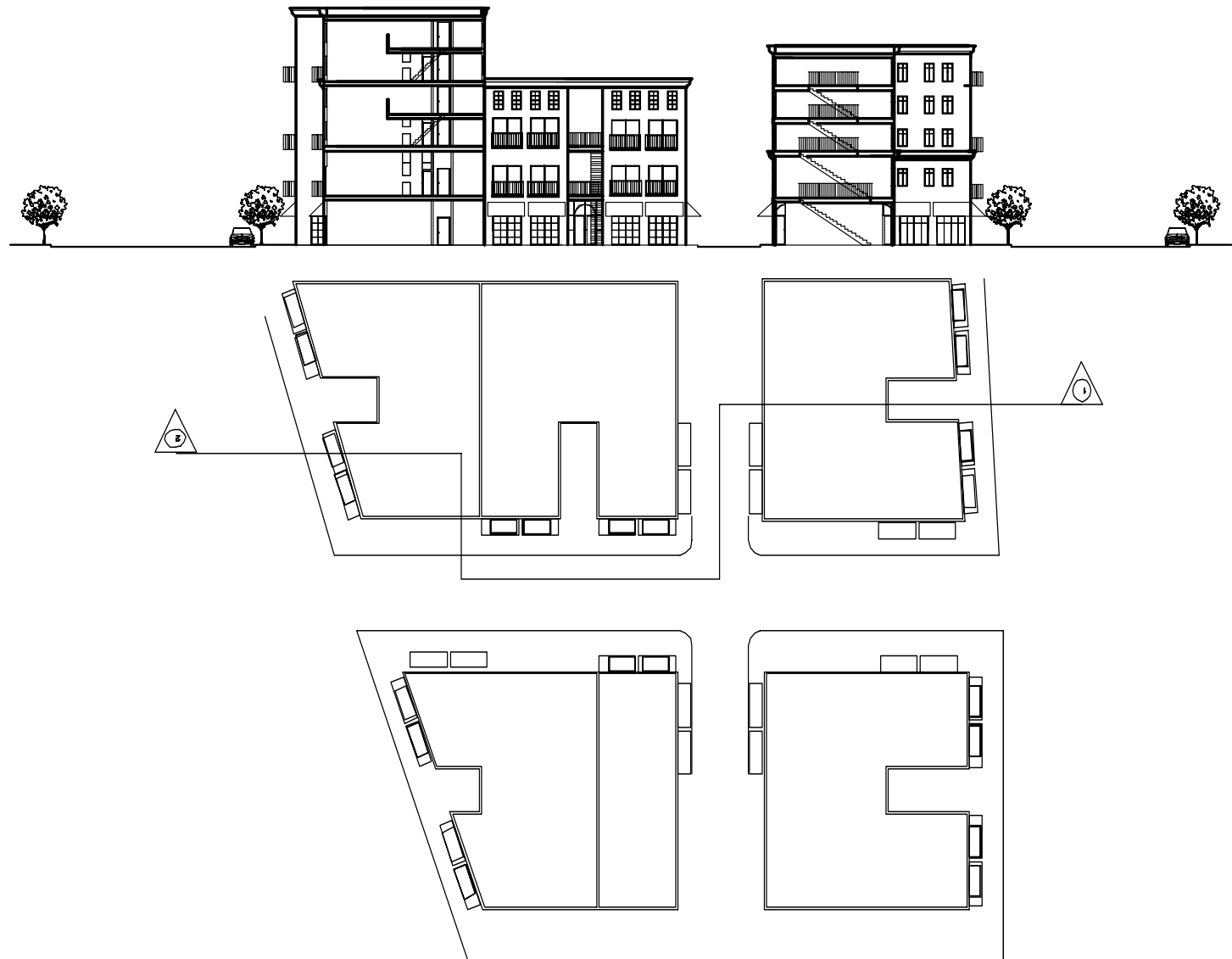
Specific Response to Site Conditions - Site Massing Plan



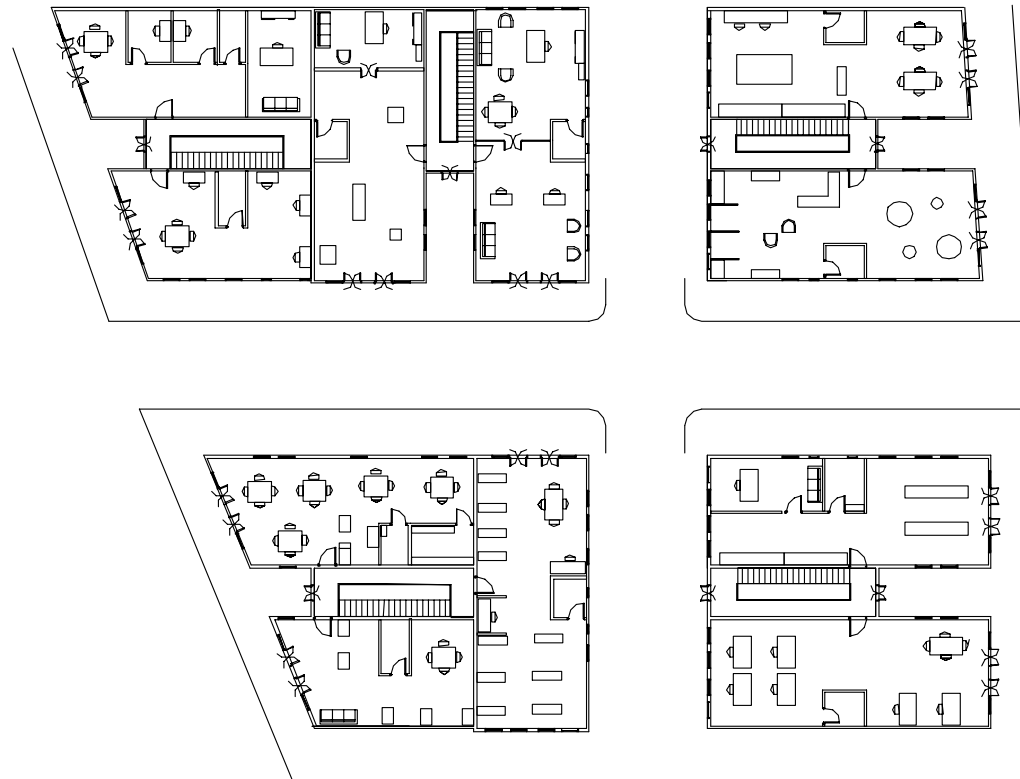
Specific Response to Site Conditions - Proposed Building
Modules Inserted into the Neighborhood Condition



Specific Response to Site Conditions - Axon View



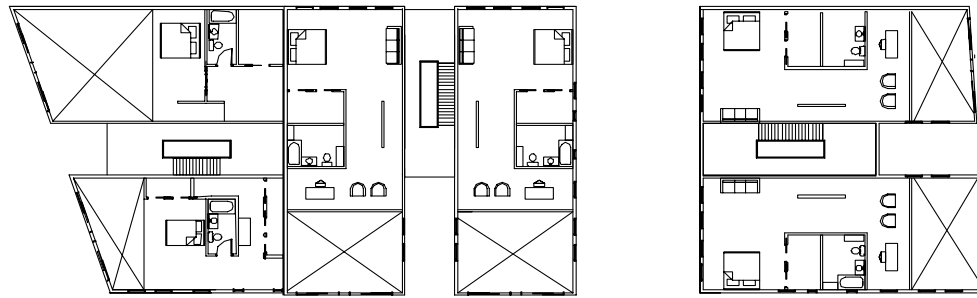
Specific Response to Site Conditions - Elevation, Roof and Section Plan



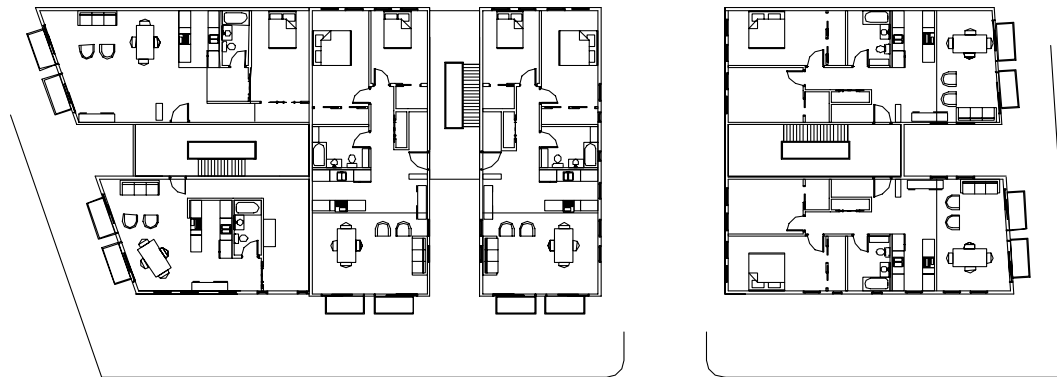
Specific Response to Site Conditions - Ground Floor Plan



Specific Response to Site Conditions - Second Floor Plan



Upper Loft Floor Plans



Lower Loft Floor Plans

Specific Response to Site Conditions - Loft Floor Plans

vita

Jay Doyle Gaw was born in Battle Creek, Michigan on March 19, 1954. He attended the schools of the Nashville Public School System of which he graduated from Hillsboro High School in May, 1972. He entered the University of Tennessee to study History. He graduated with the Bachelor of Arts in December of 1996. After graduation he was accepted into the Master's program in Architecture at the University of Tennessee in June, 1997. From this program he received the Master of Architecture degree in December, 2001.