

FROM BIG BOX TO TOWN CENTER:  
How Redevelopment of the Greenwood Shopping Center  
Can Help Create a More Livable and Sustainable Town Center  
While Reinforcing the Neighborhood's Distinctive Character

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF LANDSCAPE ARCHITECTURE

in

THE FACULTY OF GRADUATE STUDIES

(Landscape Architecture Program)

We accept this thesis as conforming  
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

August 2004

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30 August 2004  
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Title of Thesis: From Big Box to Town Center: How Redevelopment  
of the Greenwood Shopping Center Can Help Create a More  
Livable and Sustainable Town Center While Reinforcing  
the Neighborhood's Distinctive Character.

Degree: Master of Landscape Architecture Year: 2004

Department of Landscape Architecture

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## **ABSTRACT**

Seattle is a city of neighborhoods. The City's long range plans call these neighborhoods 'urban villages', and lays out how they might develop over time into fuller service centers for community life. Few designated urban villages have the potential that Greenwood does. Starting with a historic main street commercial area at its core, Greenwood also has a 3 1/2 block area in the center that is ripe for redevelopment. The impetus for this thesis is the proposed expansion of a big box retail store within this 3 1/2 block area, and the community's desire to see the entire area planned comprehensively.

This project starts with the solid policy base established over ten years of study, hard work, and consensus building within the Greenwood community. It analyzes this existing policy base against three critical elements of sustainable community design: Green Infrastructure, Livability and Placemaking, and builds on this base where it doesn't fully address these elements. Measures of sustainable community design are developed for use in later assessment of the alternatives.

Through extensive inventory, analysis and research on the community, the physical and social opportunities and constraints for the project are developed. The two alternative master plans arising from this foundation provide a range of development options intended to meet the design strategy's requirements. Finally, this project presents an assessment of the two alternatives based on the measures of sustainable community design.

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## **ACKNOWLEDGEMENTS**

I am grateful for the guidance provided by my Thesis Advisors: Don Luymes and Patrick Condon from the UBC Landscape Architecture Program, and Michael Larice from the UBC Community Planning Program. Each has different areas of expertise and therefore offered very different and valuable insights. I thank Doug Paterson for his periodic casual critiques, his depth of design knowledge, and his dedication to the cause.

Numerous people in Seattle provided assistance and in return I give my gratitude. This project would not have been possible without their input and support. Thanks also to my classmates and friends both at the University of Washington and at UBC, who have been there for me throughout this odyssey.

My deepest gratitude goes to my partner, Ken Shaw, for his patience and support as I've slaved away at this degree. I appreciate it more than he could imagine.

# CHAPTER 1 INTRODUCTION

*"Without community we are all doomed to private worlds that are more selfless and loveless than they need be. As our society becomes more privatized and our culture more narcissistic, the need and appetite to be part of something bigger than our individual selves grow...."*

Douglas Kelbaugh, *Repairing the American Metropolis*, 7.

## Thesis Introduction

Where and how we live is important to us as human beings. Many people desire to live in a community where they feel comfortable and at home. They seek a human scaled, understandable place, with everything they need close-by. They seek a community with opportunities for social interaction as well as solitude. They seek welcoming places - with spaces for raising their families. They often seek a place with a center, which becomes the focus of community life. The physical form of a place is important in this equation.

One thread in urban design theory that is relevant to this project is the current interest in pursuing simplicity, of creating "more from less". The inspiration for this approach, according to Nan Ellin in *Postmodern Urbanism* is "nature, the vernacular, the mundane, the 'everyday'" (10). She further goes on to state that the place that results from this approach is "not a generic machine for living, nor an escape from the present into the past or from reality into fiction or virtual reality, nor a surrender to market forces. *Rather it is a place that sustains the environment including the people who use it*" (10). (Emphasis added)

A place that sustains the environment as well as the people who use it - that is the ultimate goal of this project.

This project borrows from many theories - including sustainability, new urbanism, smart growth, critical regionalism, and others - in addition to those described by Ellin above.

While there are many ideas on what elements constitute a good community and the town center at its core, this project focuses on three elements considered critical in developing 'a place that sustains the environment as well as the people who use it'. These three elements are: Green Infrastructure, Livability, and Placemaking. These three elements must be considered within, and tempered by, an economic and market context. A town center is a *community* place in large part because it is the *marketplace*. A successful town center plan ensures that it works for both purposes.

Within this context, this project undertakes the design of a redeveloped town center for the Greenwood neighborhood in Seattle, Washington. It is at this level that change can be made, and where broad goals and policy objectives are implemented on the ground. Having played a role in the development of the policy framework for Seattle's Comprehensive Plan, its implementation on the ground is of particular interest.

This chapter introduces the site and the project, including its goals, objectives, limitations, and the methodology used to develop the project designs. The following chapters fill in all the details. Guiding principles and a design strategy are first developed. Two different alternatives for a redeveloped Greenwood Town Center area are then presented. Through development and assessment of these two plans, the guiding principles are implemented and tested.



## Introduction to Greenwood & The Site

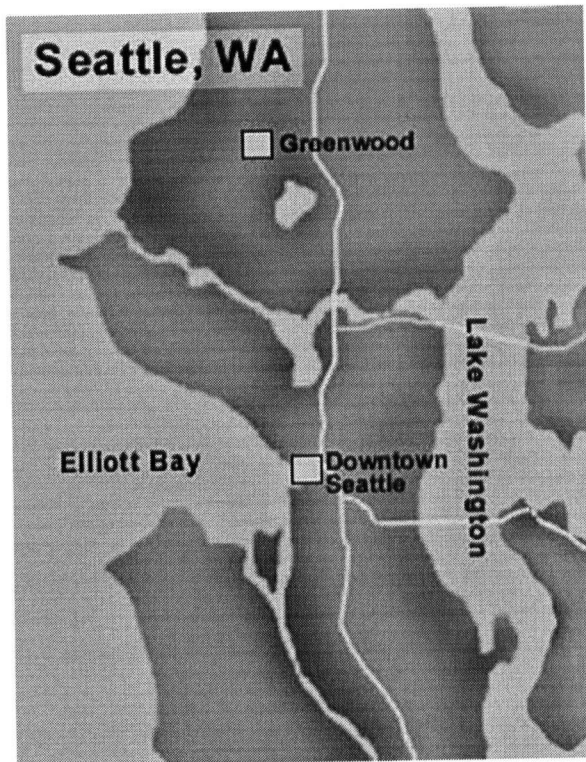


Figure 1: Greenwood is located about 5 miles north of downtown Seattle. Source: Historylink Website.



Figure 2: The heart of Greenwood is located at the intersection of 85th St. and Greenwood Ave. Source: Seattle Kroll Map

Greenwood is one of over 30 distinct neighborhoods within the city of Seattle. It is located about 5 miles north of downtown, and about a mile west of Interstate 5, just northwest of Green Lake. Like many of Seattle's neighborhoods, it has a commercial core that serves the surrounding, primarily single family residential area. The heart of Greenwood is at the intersection of 85th St. and Greenwood Ave., but the community spreads out at least 1/2 mile in each direction. Greenwood houses both community and region serving businesses.

As detailed in Chapter 4, Greenwood started as a forested and marshy area considered unfit for habitation. Over time the forested area was logged and the marsh filled in, and a bustling community developed. The community's historic commercial core, at the crossroads of 85th St and Greenwood Ave., began as the terminus for the streetcar running from downtown Seattle and a stop on the Interurban line that ran northward. This neighborhood of approximately 15,000 residents continues to grow and change, always building on its past.

Located adjacent to the commercial main street core are several large blocks that contain a 'big box' discount store (Fred Meyer) and several other large buildings housing a grocery store, drug store and other uses. The planned expansion or redevelopment of the Fred Meyer discount store, housed in a 1970's era concrete building too small for its current purposes, is the impetus for the development of a master plan for these properties to guide future development.

This 3½ city block area, located at 85th St. and 1st Ave. – one block from Greenwood's main intersection - is the subject site for this project. The aerial photograph on the next page shows the site and adjacent area.

## Introduction (Cont'd.)

The majority of the site is currently owned by a family trust, although Fred Meyer is the major tenant and is influential in development decisions. The owners, along with Fred Meyer, are currently preparing their own master plan for the entire site, though actual development will occur incrementally.

The community is very interested in how redevelopment of this site can forward their interest in developing a fuller and more cohesive town center area that fulfills more of their community needs. Seattle's *Comprehensive Plan* identifies the area as a residential urban village, the *Neighborhood Plan* identifies concepts for this town center area, and both a *Main Street Plan* and a *Town Center Plan* fur-

ther develop some of these ideas, though still at a conceptual level.

Greenwood is an ordinary neighborhood, with 'good bones' and great potential to once again become a thriving hub of activity. The neighborhood envisions itself as a community with "all the familiarity and comforts of a small town as well as the vibrancy and amenities of a diverse urban center" (Greenwood Neighborhood Plan, p.4.)

Redevelopment of this key site and the surrounding area will determine how well the neighborhood develops as a pedestrian oriented, full service, live-work-play urban village.



Figure 3: This 1999 aerial photo shows the site, highlighted in yellow, adjacent to the historic commercial core at 85th St. and Greenwood Ave. Note the differences in scale and character between the areas.  
Source: City of Seattle DPD Website, GIS Maps.

## **Project Goal**

**To demonstrate how redevelopment of the Greenwood Shopping Center can help create a more livable and sustainable town center, while reinforcing the neighborhood's distinctive character.**

## **Project Objectives**

1. Review the existing policy framework & assess how well it addresses principles of sustainable community design, with specific focus on: (1) Green Infrastructure; (2) Livability; and (3) Placemaking.
2. Consolidate the Vision/Goals, Objectives and Design Interventions from the existing policy framework, into one comprehensive design strategy matrix. Make additions to more specifically address the 3 elements of sustainable community design, where appropriate.
3. Develop measures of sustainable community design to use in assessing alternative master plans.
4. Apply the comprehensive design strategy through development of:
  - Two alternative town center designs.
  - Detailed design of the public realm (e.g., open space, plazas, public walkway, streetscapes, etc.)
5. Assess how well the two alternatives and the existing condition address the design strategy, including an analysis of how they meet the measures of sustainable community design.

## **Project Limitations**

The physical boundary of this site is limited to the Greenwood Shopping Center and immediately surrounding properties. It does not include the entire urban village, though much of the inventory and analysis, of necessity, looked at the entire area and how the site fits within it.

The redevelopment of the Greenwood Shopping Center properties is a real likelihood, therefore this project was approached as though it was a real project.

This project acknowledges and uses the variety of plans and policy documents that have already been done. It does not attempt to 'recreate the wheel', but rather to look at site development from a different angle.

Finally, this project acknowledges that there are ongoing studies on transportation, groundwater and peat issues. The designs presented here are intended to provide ideas that may need to be tested further when additional information is available. On the other hand, it is also the intent of this project to question some of the conventional thinking, therefore the reader is asked to keep an open mind.

## **Methodology**

The iterative design process followed for this project included the following elements:

**Site Selection** - this site was chosen based on a familiarity with the neighborhood, knowledge of impending redevelopment plans, and an interest in development of this town center.

## Methodology (Cont'd.)

**Map and Plan Review** - All existing plans and maps from various sources, including historic maps, were reviewed to gain an understanding of the area and the neighborhood's aspirations for it.

**Develop and Refine Design Strategy** - Research was undertaken on the various existing theories on community design and town center development to develop and refine the critical elements that would be used in this project. These were applied to the existing policy framework and resulted in a design strategy matrix for the project.

**Site Visits and Experiential Assessment** - The site and surrounding area was visited and experienced on a number of occasions, at different times of day, different days of the week, and different seasons of the year.

**Site History** - The influence of the past can be seen in present day Greenwood. Neighborhood and site history was explored to gain an understanding of how it has influenced current development and implications for this project.

**Precedent Studies** - A number of precedent studies were done on town center and mixed use projects in the Seattle area, in other cities in the US, and in Vancouver, British Columbia. These studies were undertaken to better understand the design and development of such projects as it might be applicable to this project.

**Issue Studies** - Several issue studies were undertaken on special areas of concern, including place-making, parking requirements, mixed use development, natural stormwater management and wetland design. This information was used to inform the design.

**Consultation** - Interviews and conversations were done with city staff, neighborhood representatives, property owners, and special interest groups to gain knowledge, understand limitations, and better understand the project area and people's aspirations for it.

**Site Inventory & Analysis** - A thorough inventory and analysis of all aspects of Greenwood that could impact the design of the town center was completed. This included traditional site planning and urban design analyses as well as an assessment of census data. These resulted in an assessment of opportunities and constraints for the project development.

**Develop Overall Conceptual Plan** - Based on the information gathered, an overall concept was developed for the project.

**Develop Conceptual Master Plan Designs for Town Center** - several concepts for the master plan were developed, including (1) expanding existing Fred Meyer and (2) demolition and new construction.

**Design Development** - detailed concepts/designs for portions of the public realm were articulated.

**Design Assessment** - Each of the alternatives and the existing condition was assessed based on how it met the various measures outlined in the design strategy.



## CHAPTER 2 GUIDING PRINCIPLES FOR PROJECT

This chapter sets out the principles that guided development of the design strategy and master plans. It includes a summary of the existing policy framework, a discussion of the elements of sustainable community design that are considered critical for town center development, and provides an assessment of the existing policy framework against these critical elements.

### Guiding Policy Framework

A number of plans have been developed for and by the Greenwood community that guide development of the town center area. These plans serve as the overall guiding policy framework for the designs in this thesis, and are summarized below. Specifics of the plans, including vision, objectives and design interventions are considered and summarized in Chapter 3, Design Strategy.

Goal and policy statements from each neighborhood plan are adopted into the Plan and used to determine consistency of projects with the Plan. Most statements are general and are not prescriptive/specific requirements.

#### A. Seattle Comprehensive Plan (1995)

Seattle's Comprehensive Plan was prepared by City staff and adopted by City Council in response to State Growth Management legislation. This legislation required the city to plan how it would address growth and development over a twenty year period. The Plan lays out the Citywide Vision, Goals, Objectives & Policies, including the *urban village strategy*.

The *urban village strategy* directs concentrated development into certain neighborhood centers with higher density housing, transit service, commercial goods and services, infrastructure and community amenities. The Plan identifies Greenwood/Phinney Ridge as a *Residential Urban Village*, with an emphasis on creating a mixed-use center with a focus on retail and residential uses served by transit. The addition of at least 350 new units was expected in the village over 20 years, although actual development has already exceeded these figures (as it has in most city neighborhoods.)

Land Use Figure 1

Urban Centers, Urban Villages,  
Manufacturing/Industrial Centers,  
and Neighborhood Anchors

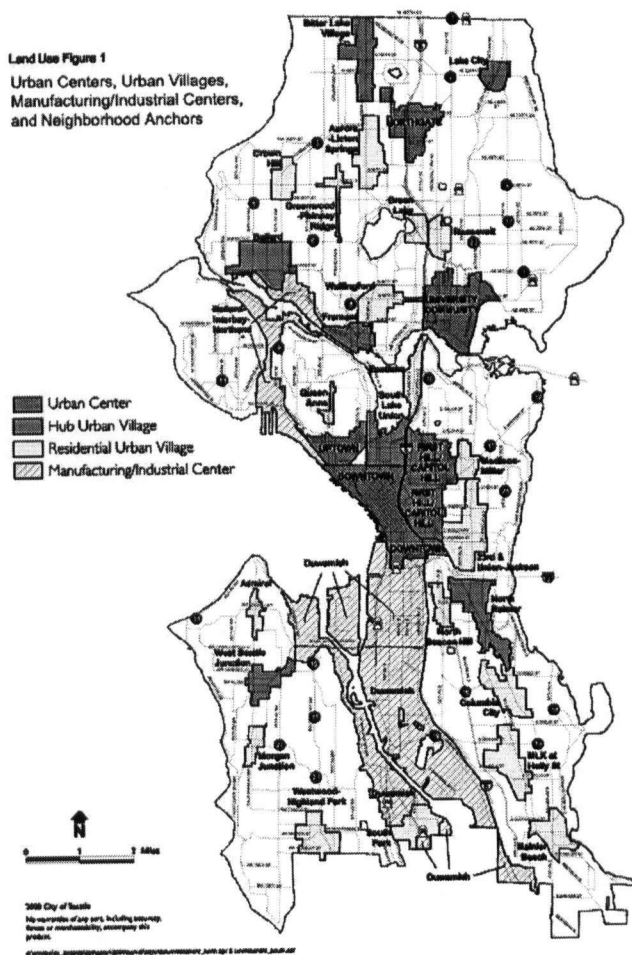


Figure 4: Seattle Comprehensive Plan map showing designated urban villages.

Source: Comprehensive Plan, p. 10-11.

## **Guiding Policy Framework (Cont'd.)**

### ***B. Greenwood-Phinney Neighborhood Plan (April 1999)***

Implementation and realization of the Comprehensive Plan started with the development of Neighborhood Plans, work on which began in 1996. Greenwood-Phinney's Plan was prepared by A Northwest Collaborative Consultants closely working with the community. While the entire Neighborhood Plan technically carries no legal weight, it is a strong indicator of the Community's desires.

The vision and concepts formed the basis for the goals and policies subsequently adopted into the Neighborhood Planning Element of the Comprehensive Plan. A number of design ideas are discussed in the neighborhood plan. Most of these are not specifically adopted, but indicate the tone and flavor of neighborhood design discussions.

The Plan identifies potential redevelopment of the Greenwood Shopping Center properties as "a great opportunity to reconceive Greenwood," and further states "this location has the potential to become a part of what unifies the community" (8). The Plan contains two conceptual plans and principles for this redevelopment. While primarily the work of the consultant and not necessarily indicative of community support (Spiegel interview), these plans include some interesting ecological principles, which are detailed in the matrix in Chapter 3.

Goals and policies adopted into the Neighborhood Planning Element of the Comprehensive Plan were broad and general, and didn't include specific reference to, or design interventions for, the Greenwood Shopping Center properties. Based on the Plan, the neighborhood identified Key Strategies for Implementation, which were adopted in a matrix. The City has committed to including some of these in the City's work plans.

### ***C. Greenwood/Phinney Main Street Design Report (March 2001)***

This report was the first step in implementing the Neighborhood Plan. It was prepared by a consultant to the community, MAKERS architecture, and paid for by City "Early Implementation" funds. It recommends and prioritizes design improvements in the existing linear business core area on Greenwood Ave. and 85<sup>th</sup> St. to facilitate neighborhood plan implementation.

The plan concept consists of a set of circulation and design projects, and a palette of urban design elements to strengthen and unify the area's visual identity. Recommendations for the Greenwood business core emphasized "pedestrian connectivity and the reconfiguration of Greenwood Ave. N. for smoother traffic transitions" (5). Specifics from the plan are included in the matrix.

### ***D. Greenwood Town Center: Concepts for Potential Redevelopment (December 2002)***

This plan was also prepared as result of Neighborhood Planning recommendations. It was prepared by consultants Heartland, GGLO Architects and Heffron, working closely with an active Citizen Advisory Committee and City staff. This town center plan was initiated by citizens to proactively guide and nurture the redevelopment potential of the town center area, particularly the Greenwood Shopping Center properties. While it was not officially adopted, it has received buy-in from the community, the property owner and Fred Meyer to a large extent. It includes both a Transportation and Market analysis. This plan has aspects of a strategic urban design plan, and gets much more specific than other Plans on the physical manifestation of the community's vision.

## Guiding Policy Framework (Cont'd.)

### Town Center Plan (Cont'd.)

Projected development scenarios were included in the plan, which identified the most likely scenario to be the addition of: 125,000-175,000 square feet of commercial and 750-1000 residential units throughout the center (see map below). The preference is for these to be in mixed use structures. The Plan proposes increases in development capacity through a contract rezone in return for constructing pedestrian related amenities.

The 142 recommendations regarding Economic Development, Urban Design, and Transportation are summarized in the matrix.

### E. Greenwood/Phinney Neighborhood Design Guidelines (June 2004 Draft)

Design guidelines grew out of the Neighborhood Planning process. The City is now finalizing the neighborhood-wide guidelines that were initially drafted by a consultant & put on hold pending completion of the Town Center Plan. The neighborhood-wide guidelines cover: Site Planning; Height, Bulk & Scale; Architectural Elements and Materials; Pedestrian Environment; and Landscaping. Town center specific guidelines are based primarily on the urban design recommendations of the Town Center Plan.

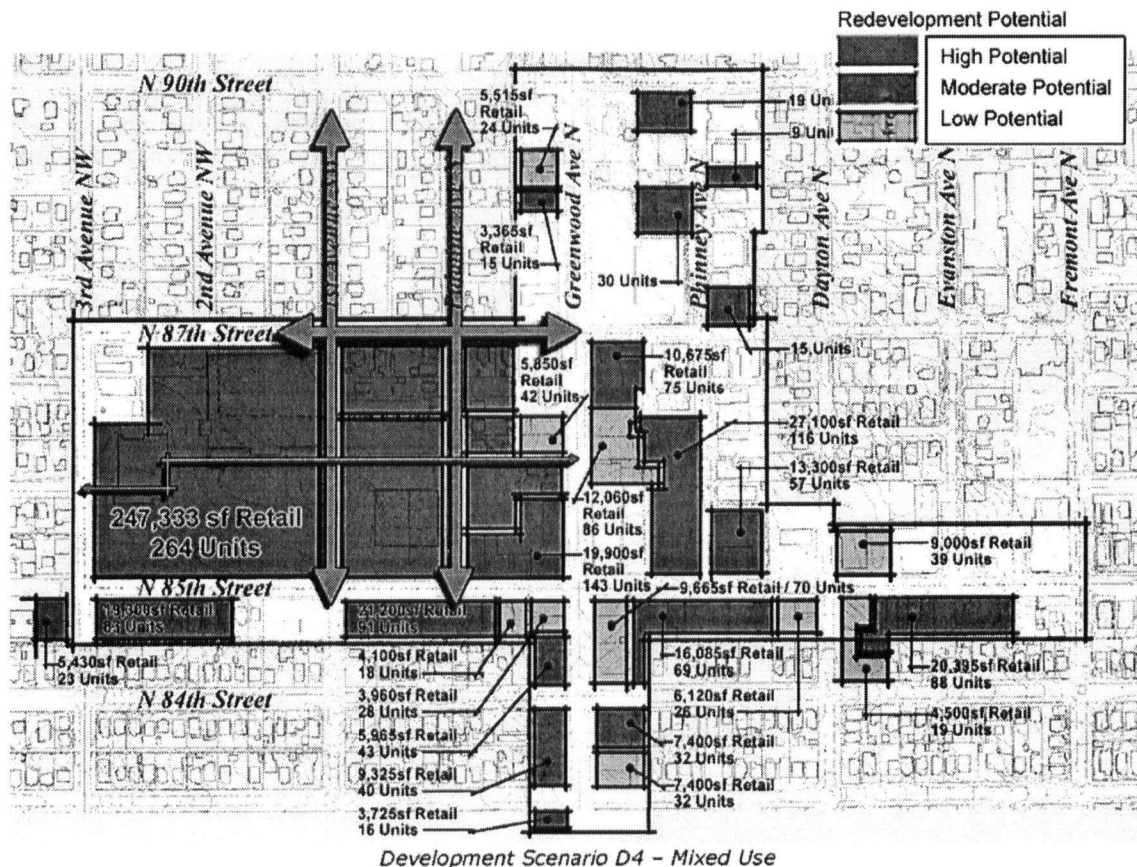


Figure 5: This figure, from the Greenwood Town Center Plan, shows the preferred development scenario. Note the report shows the Greenwood Shopping Center Properties, in blue, as having a high potential for redevelopment. Under this scenario, likely development capacity was set at about 250,000 square feet of retail space and 264 residential units. Source: Greenwood Town Center Report, p. 65.

## Elements of Sustainable Community Design

Based on a review of a number of theories and the various existing plans, three elements stand out as being critical to sustainable community development. These critical elements are: Green Infrastructure, Livability, and Placemaking. These three elements are the guiding principles for this project. This section outlines these guiding principles and concludes with an assessment of existing plans based on these elements.

### **Sustainable Community Design**

*Seattle's Comprehensive Plan: Toward A Sustainable Future* refers to sustainability as "the long-term social, economic and environmental health of our community. A sustainable culture thrives without compromising the ability of future generations to meet their needs" (Comprehensive Plan, ix). The Comprehensive Plan's *four core values* are seen as the foundation upon which to build a sustainable future. These *core values* are:

1. Protect the environment;
2. Retain a sense of community;
3. Build a strong economy; and
4. Ensure no one is left out  
(Comprehensive Plan Digest).

The *urban village strategy* is the City's means of achieving a sustainable future. This strategy includes policies that strive to develop and enhance the following qualities of urban villages:

- Diversity in age, income, culture, employment and interests;
- Vibrant, pedestrian oriented commercial areas;
- A variety of housing types;
- A strong relationship between residential and commercial areas;
- Community facilities within walking distance of the village core;
- Transit, bicycle and pedestrian facilities with connections to neighboring villages, and good circulation within the village and between the village and surrounding neighborhoods;

- Well integrated public open space; and
- A unique identity reflecting local history, natural features and culture  
(Comprehensive Plan, x).

Citywide environmental goals and policies were added well after initial plan adoption, and are not well integrated with the *urban village strategy*.

Condon has identified *Six Principles of Sustainable Communities* (Lecture Notes), most of which overlap with those identified in Seattle's plan, as follows:

1. Mix of housing types with a broad range of densities in the same area.
2. A compact walkable neighborhood where basic services such as transit and shops are within a 5-6 minute walking distance.
3. Buildings that present a friendly face to the street.
4. An interconnected street network.
5. Lighter, greener, cheaper, smarter infrastructure.
6. Natural drainage systems where surface runoff infiltrates naturally back to the stream.

From both of these sources, there seem to be two subsets within the rubric of sustainability: Green Infrastructure and Livability. These are detailed further in the next section.



## Elements of Sustainable Community Design (Cont'd.)

### **Green Infrastructure**

Green infrastructure includes the principles and strategies in the above discussion having to do with protecting and sustaining the environment. Condon states that green infrastructure refers to "...the ways in which natural systems are integrated into the structure of a community. Green infrastructure can mean using the naturally absorptive areas of the streets, forests and open areas to allow rainwater to infiltrate the ground. It can also mean integrating stream systems with large natural areas..." (Sustainable Urban Landscapes, 53)

Green infrastructure means using natural systems when possible to perform the functions that are now typically performed by human-made infrastructure. In practical terms, it typically refers to stormwater management.

### **Livability**

Livability includes the majority of principles in the lists on the previous page. A livable place is one that is capable of sustaining a good life. Many of these principles are pulled from the work of the New Urbanists, who pulled the principles from older communities that seemed to work well. These principles have been adopted by many people under many different names, but essentially include the following:

- Compact, walkable neighborhoods.
- All facilities and services within walking distance.
- Mixed uses.
- Variety of housing options.
- Connectivity of street and pedestrian system.
- A commercial core with higher density housing surrounding and mixed in with it.

### **Placemaking**

Place Theory promotes identification and reinforcement of the historic context, human needs, and essential qualities of a place in an authentic and un-sentimental way. This addresses the urban village strategy's objective of developing and enhancing "A unique identity reflecting local history, natural features and culture" (Comprehensive Plan, x).

Trancik discusses place theory as giving "...physical space additional richness by incorporating unique forms and details indigenous to its setting. This response to context often includes history and the element of time and attempts to enhance the fit between new design and existing conditions....In place theory, social and cultural values, visual perceptions of users, and an individual's control over the immediate public environment are as important as principles of lateral enclosure and linkage" (98). He further states that "The essence of place theory in spatial design lies in understanding the cultural and human characteristics of physical space" (112).

This may include symbols and fragments of the past to show continuity of time. According to Lynch, each locality should seem continuous with its recent past and its near future (116).

These three elements are described in general terms here and are operationalized in the Design Strategy Matrix in Chapter 3.

## Assessment of Existing Policy Framework

Each of the existing plans to a greater or lesser extent address the three elements of sustainable community design. Following is an assessment of how the existing plans address these elements. This assessment serves as the basis for the Design Strategy matrix presented in Chapter 3.

### ***Seattle Comprehensive Plan (1995)***

The *urban village strategy* covers Livability quite well. It also acknowledges Placemaking. While protecting the environment is a core value of the Plan, the concept of Green Infrastructure is not integrated with the *urban village strategy*. Additionally, the designation of Greenwood/Phinney as a *Residential Urban Village* doesn't recognize the dual role of the town center area as both region and local serving. The interest and desire of the community is key to ultimate development of the Greenwood town center. The Plan does include a core value to 'Build a strong economy' and includes an economic development element which provides guiding policy.

### ***Greenwood-Phinney Neighborhood Plan (April 1999)***

The Neighborhood Plan addresses all three areas: Green Infrastructure, Livability and Placemaking. Several preliminary plans for the town center are presented, and include Green Infrastructure elements. Green Infrastructure discussion and recommendations, however, were not translated into the adopted Plan and key strategies. The Plan is general and leaves much of the detailed work to further planning efforts. Additionally, the Plan doesn't fully address the dual nature of the commercial core: neighborhood and region serving.

### ***Greenwood/Phinney Main Street Design Report (March 2001)***

This plan has a narrow focus on the linear business core. It addresses community identity and Placemaking to a large extent, and addresses some aspects of Livability. It does not address Green Infrastructure, nor does it address using the unique natural setting or aspects of the area's natural history as part of Placemaking (except for views.)

### ***Greenwood Town Center: Concepts for Potential Redevelopment (December 2002)***

This report contains a set of good design recommendations. It addresses Livability elements well. Additionally, it does address the dual nature of the area as both region and local serving to some extent. However, the Plan: (1) doesn't go far enough on Green Infrastructure (there are many more ways to put the green in Greenwood!). Specifically, it doesn't address stormwater/drainage or current peat issues; and (2) doesn't adequately address how to maintain/reinforce a sense of place – particularly in relation to the natural setting, and use of this as design inspiration. This report includes a Market Analysis, which grounds it in reality, however it appears the plan is driven by market and economic 'realities' much more than by consideration of the 3 elements of sustainable community design.

### ***Greenwood/Phinney Neighborhood Design Guidelines (June 2004 Draft)***

The draft design guidelines address Livability and Placemaking well. Green Infrastructure is not addressed, in large part because these guidelines were based on the Town Center Plan.

## CHAPTER 3 DESIGN STRATEGY

This chapter outlines the design strategy used to prepare and assess the master plans as part of this project. The community's vision and objectives were culled from the various existing plans and are summarized below. These are accepted as the Vision and Objectives for the master plans and set the broader stage for design. Following from the vision and principles is a design strategy matrix that summarizes the set of design instructions used to develop the plans. Policy direction from the existing plans forms the basis for the matrix. Additions to the existing policy framework are made to more fully address all three elements of sustainable community design.

### *Vision*

**A community that has:**

- **A center with the familiarity of a small town main street and the vibrancy, convenience and amenities of a diverse urban center.**
- **Vibrant, economically vital, and pedestrian oriented commercial areas providing a variety of goods & services within walking distance.**
- **A strong and positive relationship between residential and commercial areas.**

### *Objectives/Principles*

1. Put the Green Back in Greenwood.
2. Celebrate the heart: revitalize the historic commercial crossroads at N. 85<sup>th</sup> St. and N. Greenwood Ave.
3. Improve mobility and accessibility in the neighborhood.
4. Maintain the human scale.
5. Address the infrastructure deficit north of 85<sup>th</sup> St.
6. Connect the mixed use district to reinforce the center.
7. Populate the urban core.
8. Respect the surrounding community.

### *Design Strategy Matrix*

The matrix on the next two pages more specifically fleshes out the design instructions used to develop the master plan alternatives and design details. Following is an explanation of the categories used in the matrix:

Elements of Sustainable Community Design: Green Infrastructure, Livability, and Place-making, as defined in Chapter 2 and used throughout this document.

Principles: Culled from existing plans and literature relating to the elements of sustainable community design. These are the overarching principles for development of the master plan alternatives.

Measures: Developed as indicators for how well the principles are being met. They will be more fully described and used in Chapter 7 to assess the master plan alternatives.

Program Guidelines: Design & performance targets pulled from the existing plans. This is the set of design instructions used to develop and judge the master plan alternatives.

Specific Design Interventions: A detailed list of design moves from the existing plans, with additions to address all elements of sustainable community design. These informed development of the master plan alternatives and were incorporated, as possible, in the designs.

Table 1: Design Strategy Matrix

	Principles	Measures	Program Guidelines	Specific Design Interventions <sup>1</sup>
<b>Green Infrastructure:</b>	Lighter, greener, cheaper, smarter infrastructure.  Natural drainage systems where surface runoff infiltrates naturally back to the stream.	% Effective permeable area <sup>2</sup>	Provide for 90% effective permeable area through 'green infrastructure' including open space, permeable paving, green roofs, green streets, infiltration planters, swales and stormwater wetlands.  Recharge peat/compressible soils to the extent feasible.  Connect onsite green infrastructure with adjoining offsite areas.	<ol style="list-style-type: none"><li>Design should incorporate the Northwest Environmental Ethic (not defined.)</li><li>Appropriate street trees on all streets in town center area and residential streets leading to center.</li><li>Natural drainage systems potentially both on and off-site to address quality, quantity and velocity of storm drainage from development eventually entering Piper's Creek.</li><li>Demonstration project on stormwater infiltration in peat conditions.</li><li>Green Street on 1<sup>st</sup> Ave. from N. 78<sup>th</sup> to 92<sup>nd</sup>, and east-west either on 87<sup>th</sup> or 90<sup>th</sup>, in conjunction with natural drainage systems and pedestrian connections to Piper's Creek.</li><li>A functional &amp; artistic wetland/bog that highlights &amp; interprets the historic wet-land &amp; explains linkages downstream. Link with the interpretive &amp; art elements of Piper's Creek Watershed bus shelter at corner of 85<sup>th</sup> &amp; Greenwood.</li><li>Minimize paved surfaces devoted to vehicle circulation and parking. Use permeable paving where possible.</li><li>Provide appropriate landscaping to reinforce interpretation of wetland/bog, and to address water table issues.</li><li>Propose green roofs and other technologies to reduce stormwater runoff.</li></ol>
<b>Livability:</b>	A compact walkable neighborhood where basic services such as transit, shops, community facilities and public open space are within a 5-6 minute walking distance.  Mix of housing types with a broad range of densities in the same area.  Buildings that present a friendly face to the street.  An interconnected street network, including transit, bicycle and pedestrian facilities providing good circulation within and between neighborhoods.  Vibrant, pedestrian oriented commercial areas.  A strong relationship between residential and commercial areas.	% of residents within an average 5 minute walking distance (1/4 mile) of daily destinations  Range of housing types available to residents  Housing Density  Commercial frontage on the sidewalk (front of building)  Street interconnectivity	Provide the following mix of uses on the site: <sup>3</sup> <ul style="list-style-type: none"><li>250,000 square feet of retail/ commercial/office space on the Greenwood Shopping Center properties.</li><li>At least 264 housing units on the Greenwood Shopping Center properties.</li><li>A wide range of housing types and tenures, including single family/duplex, stacked flats, townhouses and artist live/work lofts.</li><li>Retail, office and housing space in Mixed Use buildings.</li></ul> Accommodate an expanded Fred Meyer store (incl. Grocery) and replacement space for current uses on the site: drug, video, thrift, fabric and toy stores.  Accommodate smaller spaces for community serving uses such as: fruit/vegetable market, pet shop, dry cleaner, bakery, restaurants, night life, 'Third Place' places such as coffee shops or a new book store, small gym or yoga/ dance studio.  Minimize parking: Provide a max. of one parking space per residential unit, and the minimum required for commercial uses. Provide bike pkg.  Include some community use space, e.g., senior center, meeting rooms, day care.	<ol style="list-style-type: none"><li>Improve 'Main St.'</li><li>Provide a safe &amp; well-lit pedestrian network, including pedestrian crosswalks.</li><li>Provide sidewalks at least 12' wide. Buffer from street with plantings.</li><li>Connect Greenwood Ave. and Greenwood Shopping Center by pedestrian arcade/walkway at least 25' width with at least 12' walking surface, pedestrian lighting and amenities, and pedestrian oriented facades.</li><li>Provide a public urban plaza at a key connection point on the ped walkway.</li><li>Mixed use buildings with retail on the ground floor in 40-65' buildings, except for uses fronting 87<sup>th</sup> and potentially N half of Palatine and NE side of 1<sup>st</sup>.</li><li>Provide ground related residential and live/work on 87<sup>th</sup>, and maintain 40' height limit.</li><li>Locate some civic uses in the town center.</li><li>Keep/add to existing street grid in town center.</li><li>Streetscape improvements as recommended, with addition of natural drainage.</li><li>Relationship to street:<ul style="list-style-type: none"><li>Build to edge of sidewalks</li><li>Design so entries are visible from street</li><li>Create porous retail spaces</li><li>Sidewalk use by cafes and retailers</li><li>Where residential use is at street level, set back or raise entries</li><li>Buildings on corners should orient to the corner</li><li>Avoid blank walls</li></ul></li><li>Locate buildings at sidewalk edges on all streets or orient toward a plaza located adjacent to sidewalk.</li><li>Locate primary commercial &amp; public building entrances directly from sidewalk, pedestrian open space or pedestrian pathways.</li></ol>

1

These specific design interventions are taken from the Neighborhood, Town Center and Main Street Plans.

Those in *Italics* are additions made to respond to each element of sustainable community design (green infrastructure, livability, sense of place.)

2

Effective permeable area is a "measure of how much of the land is permeable to rain water or delivers rain water to another permeable area" (Teed, 5)

3

This mix of uses is taken from the preferred alternative (Development Scenario D4, p. 65) of the Town Center Plan and reproduced on p. 8 of this document.

Table 1 (Cont'd.)

	Principles	Measures	Program Guidelines	Specific Design Interventions*
Livability (Cont'd.)			<p>Provide connections:</p> <ul style="list-style-type: none"><li>• Pedestrian connection between Greenwood Shopping Center property &amp; Greenwood Ave.</li><li>• Pedestrian connections between adjacent community facilities and the town center.</li><li>• Bus connections &amp; access to the town center.</li></ul> <p>Provide Village Open space of at least 1 acre. Space should include a public plaza that would accommodate community celebrations, performance, small to large gatherings and a farmer's market. It should also include informal play space for children.</p>	<p>14. Provide pedestrian oriented facades along public right-of-way and pedestrian walkway. Such facades should feature window areas or displays, artwork or other amenities along ground floor, and substantial weather protection.</p> <p>15. Maximize use of structured or underground parking and provide more parallel parking.</p> <p>16. Minimize impacts of driveways on pedestrians. Primary vehicle access should be from N-S side streets such as 1<sup>st</sup>, 3<sup>rd</sup> and Palatine. Vehicle access from 87<sup>th</sup> should only be for residential use.</p> <p>17. Step upper floors of buildings back to reduce bulk and increase light.</p> <p>18. Mass and scale – reduce by: modulating upper floors; varying roof forms, cornice lines, materials, colors and textures; and providing vertical articulation of facades in proportions similar to plating patterns of surrounding property.</p>
Placemaking	<p>1. Reinforces the historic context, human needs, and essential qualities of Greenwood in an authentic and un-sentimental way.</p> <p>2. Celebrates natural features and culture.</p>	<p>Subjective, based on elements of the design</p>	<p>Put the Green Back in Greenwood.</p> <p>Address local history, including natural and man-made elements.</p> <p>Use art to enhance the sense of place and the character of the Greenwood neighborhood.</p> <p>Provide places that facilitate local community expression such as informal outdoor theater and local public art.</p> <p>Provide educational elements.</p>	<p>1. Provide entry and exit gateways to the neighborhood and to special places within the neighborhood.</p> <p>2. Restore the Jeweller's Clock – possibly use the concept of the passage of time in the design – maybe as a way of connecting/transitioning old to new.</p> <p>3. Historic preservation: Conserve the ensemble of “4 corners” buildings at N. 85<sup>th</sup> and Greenwood Ave. N., recognized as the historic landmark/center of neighborhood - if not full building, then at least the facades.</p> <p>4. Respond to and reinforce existing historic street grid.</p> <p>5. Connect the neighborhood with its human and natural history through restoration of functions, use of historic materials, art &amp; educational elements.</p> <p>6. Strengthen and unify the area's visual identity in order to provide a unifying signature, mark boundaries, and create special places.</p> <p>7. Use simple and timeless elements, bold font and color palette and images that suggest solidity, permanence and family rather than elegance.</p> <p>8. Encourage diversity of architectural forms, materials and scales that respond to Greenwood's contextual character by creating visual linkages between existing and new structures (see Town Center Plan for detail.)</p> <p>9. Use human scale historic pattern of storefronts on Greenwood Ave as a guide for new structures. Respond to existing context by matching window and opening proportions, entryway patterns, scale and location of building cornices, proportion and degree of trim work and other decorative details and employ a variety of appropriate finish materials</p> <p>10. Provide façade modulation &amp; articulation for human and architectural scale.</p> <p>11. Wide sidewalks, street trees, separation from traffic flow by parking or landscaping, opportunities for public art and signage.</p> <p>12. Public Lighting, Public Art and Street Furniture.</p> <p>13. Corner lot treatment: Include corner entrances, design to emphasize entry, landscaping, kiosks, etc., that contribute to sense of community.</p> <p>14. Reinstitute community's 'Kiosk project' and bench design project.</p> <p>15. Support Arts events &amp; venues – promoting Greenwood as an area for artists.</p> <p>16. Encourage use of different designers and incremental development to introduce more variability within the guidelines.</p> <p>17. Encourage local/home grown businesses to locate in the town center.</p>

1 These specific design interventions are taken from the Neighborhood, Town Center and Main Street Plans. Those in *italics* are additions made to respond to each element of sustainable community design (green infrastructure, livability, sense of place).

## CHAPTER 4 FRAME OF REFERENCE

This chapter provides contextual information that helped guide Master Plan development. It includes Greenwood's history, information on Greenwood's population, community character, and built character, and a summary of the market analysis prepared for the Town Center Plan.

### Greenwood's History

#### Green – Natural History

*"Greenwood was once exactly that: a lush and green forest. It stretched across low rolling hills and shallow ravines with no discernable boundaries or borders....Late in the 1890's loggers came to the area and established two lumber mills...After the loggers came the farmers who cleared more land, [and] planted it in grains and fruit orchards. ..."* (SPL, 1-2)

Prior to human settlement, Greenwood was a forested, marshy swamp and peat bog, considered unsuitable for building. This landform was likely scoured by the Vashon glaciation some 10,000 years ago. This swampy bog constitutes the headwaters of Piper's Creek, once a salmon bearing creek, which empties to the Puget Sound. Figure 7 shows the evolution of Piper's Creek from the time of early settlement to today, showing how it once extended close to the project site.

There is no known Native American presence in the immediate area, although it is possible natives gathered cranberries in the bog, as they did in other bogs in the area.

Early settlers began trickling into the area in the 1870's. Construction of the Great Northern Railroad along the coast in the 1890's enabled lumbermen to penetrate the woods, and the ensuing sawmills turned Green Lake, Haller Lake and Bitter Lake into log ponds (Beurge, 27). Dirt and plank roads connecting Seattle with Edmonds to the north were built in the early 1900's.

#### Commercial Core - Transportation Based

At the beginning of the new century Greenwood began to emerge and grow as a settlement. By the early 1920's the Greenwood district had all of the retail outlets & services found in a small town of the times (SPL, 1-2).

Greenwood developed as a streetcar suburb – the streetcar ran on 85th St. and Greenwood Ave. The Interurban railway, built in 1910 to connect Seattle and Everett, also had

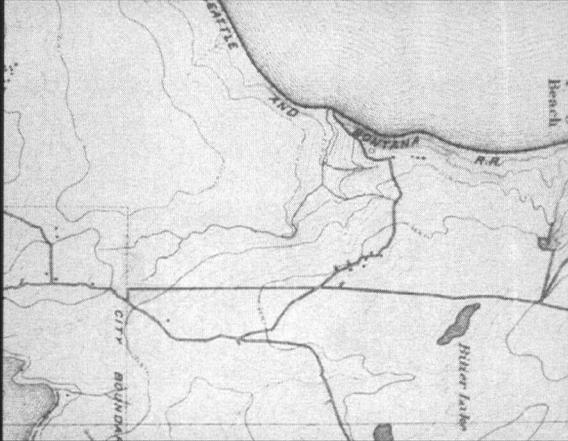


Figure 6: Top Photo: Mother and son wait for the Interurban streetcar at the corner of Greenwood and 85th, 1910. Bottom Photo: The streetcar ran on 85th St. and Greenwood Ave. Source: University of Washington Special Collections.

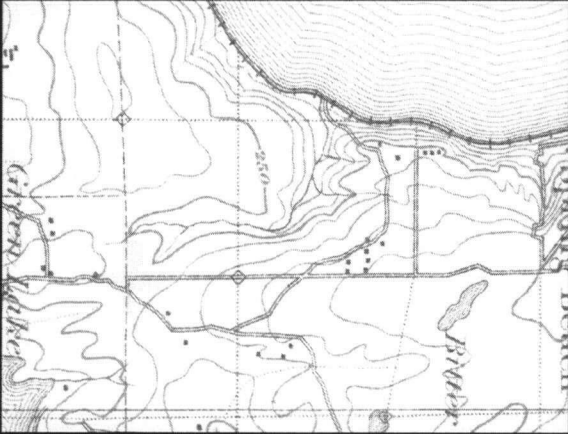


Figure 7

# Evolution of a Creek: Piper's Creek from 1893 to Present



1893



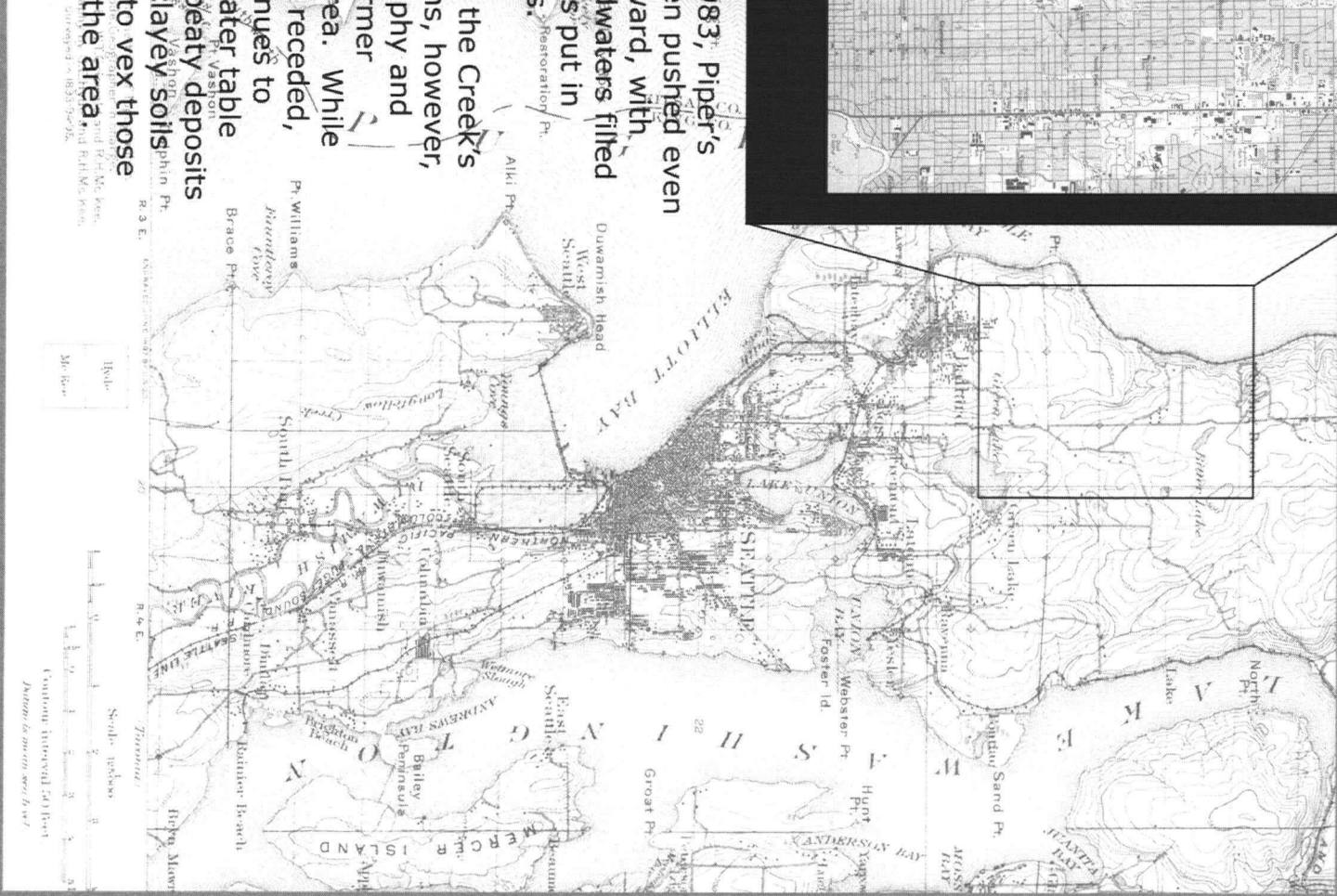
1894



1908



1983



In the late 1800's, Piper's Creek extended inland much further south than it does today. While early mapping was not as accurate as it is now, these maps appear to show the Creek at one time extended south of 85th Street, (the City boundary until the 1950's.)

By the late 1800's, the area had been logged and creeks and marshy areas were probably starting to show the effects of erosion from logged areas and filling done to prepare land for farming.

By 1908, it appears Piper's Creek was already receding and being filled in, most likely due to deforestation and the start of both farming and human settlement. The western arm is gone, and the eastern arm appears to have moved north.

Jumping to 1983, Piper's Creek has been pushed even further northward, with the early headwaters filled in and portions put in drainage pipes.

A legacy from the Creek's history remains, however, in the topography and soils of the former headwaters area. While the Creek has receded, the area continues to have a high water table and contains peaty deposits underlain by clayey soils that continue to vex those developing in the area.

This would mean the creek started flowing close to the topographic divide between the Piper's Creek and Densmore Watersheds. It would also mean that the creek started flowing close to the town center area.

## History (Cont'd)

a stop in Greenwood. The community's historic commercial core developed where the streetcar stopped, at the intersection of Greenwood Ave. and 85th St.

The majority of modest homes in the neighborhood were built between 1900 and 1940. Some of oldest homes were originally summer cottages. At the end of WWII the area grew again quickly, and about a third of the housing reflects the "hurried and bland" construction of this period. (SPL, 2)

Greenwood's hey-day as a commercial center was in the 1940's, when it boasted a variety of retail and services, grocery stores, a public library, and a department store. Most of Greenwood developed outside Seattle's borders -- until 1952 Seattle's northern bounds was 85th St. Areas N of 85th developed under King County's more relaxed standards.

Until city annexation, "Greenwood had a reputation as a somewhat naughty place, with nightclubs, taverns and a Chinese gambling den flourishing in what was unincorporated King County, right across the city line. The home of the Taproot Theater was, at one point in its history, a porno palace" (Dietrich, 22).



Figure 8: Corner of Greenwood Ave. and 85th St. in 1947. Source: U. of Washington Special Collections.

### ***City Annexation, Unfulfilled Promises***

Annexation to the city in 1952 brought the promise of paved streets and sewers. In 1971 the City installed a storm drain system in NW Greenwood to address flooding & high groundwater problems, however, almost 50 years later residents still complain of the lack of sidewalks & inadequate storm sewers. By the time the drainage improvements were beginning, "much of the neighborhood was slipping into slum." (Historylink) For a long period, area development lagged behind the rest of the city.

Greenwood's Fred Meyer discount store was built in 1971, just north of 85th St. Residential land was rezoned & street rights-of-way were vacated to make development possible.

Today's commercial core is surviving, though not as thriving and as bustling as it once was.

### ***Urban Village***

The City's Comprehensive Plan, adopted in 1995, identified the Greenwood core as an "urban village." The neighborhood subsequently prepared a neighborhood plan identifying revitalization of the commercial core as a priority, and redevelopment of the Greenwood Shopping Center properties as a prime opportunity. The community is keen on redevelopment of the shopping center properties.

### ***Nature Reasserts Herself***

Recently, the area's natural history has begun to reassert itself. The peat layer which underlies a large portion of northern Greenwood has begun to compress and sink, due presumably to dewatering occurring with new development as well as recent drought conditions. Portions of roadways and homes have been sinking, leading to resident and City concerns and various responses. This issue is addressed in the Inventory & Analysis.



## History (Cont'd)

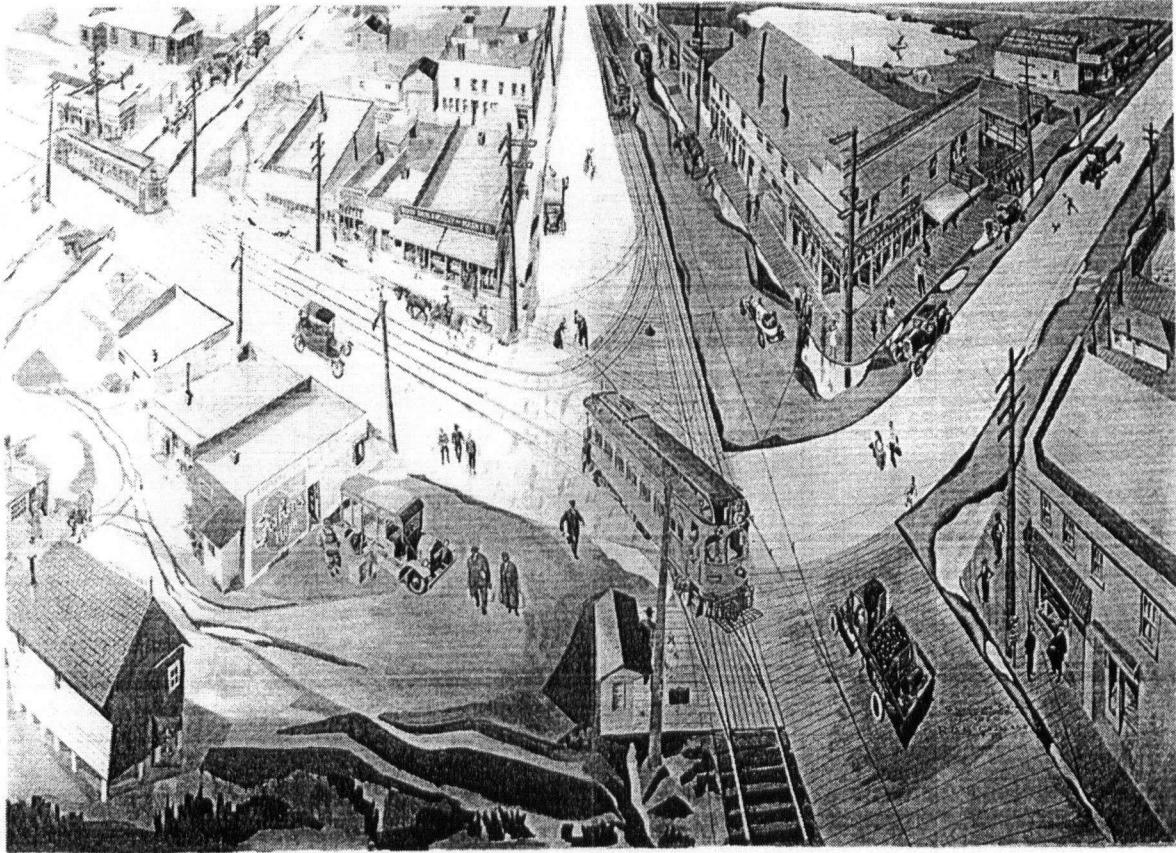


Figure 9: The Robert D. McCausland Mural, painted in the 1920's on a wall in an apartment on Greenwood Ave., shows the community as it was at the time. Note the area covered in water in the upper right hand corner, which appears to be on the current Greenwood Shopping Center properties. Also note the trolley system. Source: Greenwood Neighborhood Plan, p. 8.

## Who is Greenwood?

### ***Existing Population & Housing***

Greenwood is a fast growing, relatively racially homogeneous, and gentrifying, neighborhood. It is primarily a neighborhood of single family homes, though new multi-family development is taking place in the commercial core on both 85<sup>th</sup> St. and Greenwood Ave. A new condo building, a market rate apartment building and several high quality subsidized housing projects have been built on 85<sup>th</sup> St. just east and west of the commercial core and on Greenwood Ave. at 87th St.

Particularly in the area north of 85th St., owner occupied housing is significantly more affordable than the citywide median, although rents are about the same as citywide averages. This area has fewer amenities, and the housing stock is newer and has less character than areas to the south. As a result of these factors, younger families are moving in and renovating homes. The census shows a big decrease in the number of elderly in the area, potentially indicating the sale of family homes and downsizing – it also may indicate the lack of smaller, affordable senior housing.

In 2000, there was still a big difference between areas north and south of 85<sup>th</sup> St. in terms of incomes, housing value, and diversity. Areas north of 85th had lower incomes and housing values, greater racial diversity and higher percentages of rental properties. These differences increased between 1990 and 2000, however, their current direction is uncertain. Anecdotal evidence suggests both that the Hispanic population continues to grow, increasing the racial diversity, and that incomes and housing values are increasing as younger families (with children) start to move into the area and renovate the homes. Single family rental homes will likely be sold and renovated to owner occupancy as demand and prices increase.

### ***Potential Future***

As housing prices increase throughout the city, people look for less expensive areas. Once undesirable because they were too far away or didn't have the desired amenities, these areas are now becoming more attractive.

The upscale character of the shops further south on Greenwood Ave. is slowly moving north, though none have pushed past 85<sup>th</sup> St. With amenities moving up Greenwood Ave. and the likely Fred Meyer/Town Center redevelopment, Greenwood is becoming more desirable.

Gentrification is possible in the area, with people buying and renovating these more affordable homes. This process has likely already started. The area is becoming more affluent, pushing out the lower income residents and reducing ethnic and income diversity. The area south of 85<sup>th</sup> St. has already gentrified, and the area north of 85th St. appears to be in the process of gentrifying.

### ***Implications for development:***

With a younger and more affluent population in the area, there is an increased and changing market for goods and services. This group has more options and therefore may be more demanding – different types of goods and services may be supported than are currently available. The pressure for infrastructure improvements will increase as people invest more in their homes and have children.

Sidewalks in particular will increase in importance. With a younger and more affluent population, there may be more openness to innovative and greener solutions to infrastructure issues. As gentrification occurs, racial, income, and other types of diversity will decrease. Efforts will be needed to ensure a range of housing types and sizes, and a range of services is maintained.

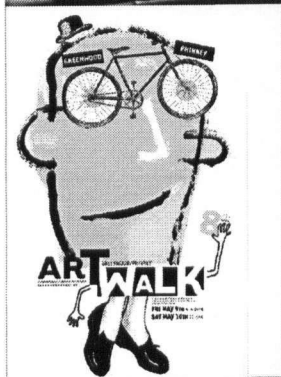


Figure10: Clockwise from top: Greenwood Classic Car & Rod Show; Seafair Parade participants - on bikes & in formation; Taproot Theater sandwich board; Pumpkin carving at Greenwood Market; and Artwalk poster. Sources: Greenwood Chamber of Commerce website, bottom photos by Author

## Community Character

*"The beauty of Greenwood is in its contrasts. It's a kind of old fangled neighborhood with a trendy edge, a place where coffee shops mix with espresso bars and where young families live among senior citizens. This is a community that comes together for block parties and tree plantings, for holiday caroling and Seafair Parades, for arts and antiques."*

Seattle Post Intelligencer Webtowns

Greenwood's history has resulted in an eclectic but strong community. The historic commercial core is the locus for a number of events, including the Classic Car and Rod Show, the summer Seafair parade and festival, pumpkin carving, Halloween Trick-or-Treating, a holiday tree lighting, and an annual ArtWalk where local businesses feature the work of local artists.

Greenwood is a modest place. "The commercial hub seems to have one foot comfortably stuck in the 1950's. The shop owners are real and unpretentious. The kids still go to the Boys & Girls Club. The Fred Meyer is as worn as a comfortable old boot" (Dietrich, 19).

Other cultural events include live performances at the Taproot Theater, ethnic restaurants and Latin markets on Greenwood Ave., a dance studio and yoga studio, and several pubs. Community character is addressed in more detail in the Inventory and Analysis.

## Built Character

Greenwood's commercial core is characterized by low-rise, historic, brick-faced storefront buildings dating from the 1920's. These house a diverse mix of merchants including antique stores and restaurants. The overall feel is historic, funky and eclectic.

The community's image of itself, as described in its Main Street Plan, is that of being a solid, and stable community, with simple vernacular architecture and mid-20th century signs (6). These are elements the community cherishes about itself, and wants to preserve.

The immediate area is also characterized by 1950's to 1970's era, concrete box structures. More recent development is much larger in scale, but is attempting to fit in through use of similar materials and detailing, primarily brick. The images on this page show the range of built character in Greenwood.

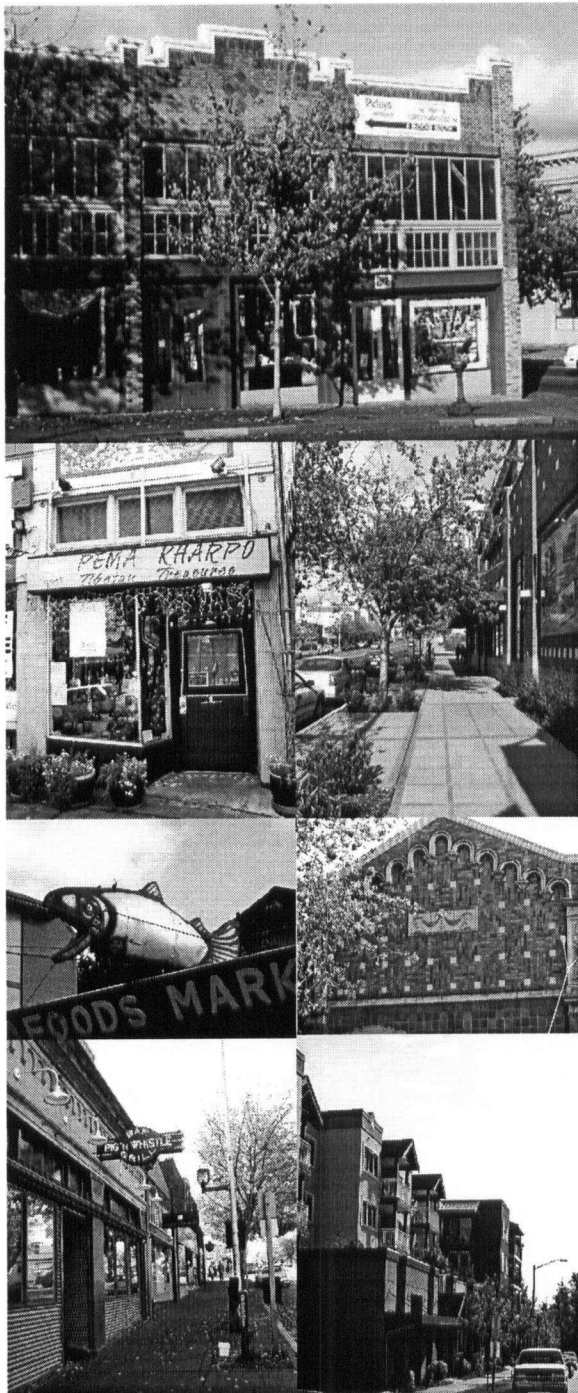


Figure 11: Images of Greenwood's built character. Clockwise from top left: Antique store on Greenwood Ave.; new Safeway streetscape; 1920's architectural detail; new mixed use on 85th; Pig & Whistle bar & grill; fish at seafood store on Greenwood; funky storefront on Greenwood.



Figure 11 (Cont'd.): Images above, clockwise from top left: Fred Meyer store; Washington Mutual Bank historic building at corner of 85th St and Greenwood Ave. (Photo: Seattle Times/Post Intelligencer); view from Safeway parking structure to residential buildings. (Photos by author except as noted)



## Commercial and Residential Market Analysis

A market analysis prepared by Heartland in April 2002 for the Town Center Plan identified market trends guiding development in Greenwood. It began with demographics which, in combination with regional competition and land availability, are the primary determinants of the size, format and composition of retail developments (Lyon, 29). The market study's demographic findings included: relatively consistent population growth since 1980 within the primary service area (one mile ring) of Fred Meyer, which is expected to continue; high average incomes, which are expected to continue to rise; and a high percentage of population between the ages of 25 and 54 yrs old – typically the age group with the largest annual increases in income & the highest annual expenditures on retail goods.

### **Commercial Market Analysis**

The report concluded that the retail market in Greenwood's core was relatively healthy and the long term outlook was good. Retail vacancies were low since rents have kept pace with other closer-in neighborhoods. The diversity of goods available and limited supply of land for the competition are significant advantages that make the neighborhood function as a strong retail center.

Redevelopment of the Greenwood Shopping Center properties is seen as a key opportunity that will have a positive substantial spillover effect on the neighborhood.

The analysis concluded that businesses targeted for the neighborhood should build on the existing customer base, and include:

- Art galleries
- Bookstores (e.g., Elliott Bay, B&N)
- Boutique clothing and jewelry
- Home Stores
- Food: sidewalk cafes, ethnic restaurants, brew pubs and restaurants
- Entertainment: art movies & live music in existing venues.

The analysis compared Greenwood to other neighborhood centers (Fremont, Ballard, Wallingford) and found that the neighborhood was positioned as a full service retail hub. The existing variety of goods and scarcity of land for new commercial centers are the most significant competitive advantages.

Specific findings were that:

- Not much retail development is likely east of Greenwood on 85<sup>th</sup> – mixed use here will likely include office uses.
- Restaurants and the Taproot Theater are some of strongest businesses in neighborhood.

Retail rents in the area in 2002 were \$16/sf per year on a net basis, and new shop space was expected to rent for \$13-17/sf. Larger spaces for anchor tenants would likely range from \$16-19/sf. Competition between current and future retailers was less likely to be an issue than rising rents because of the close proximity to the newly redeveloped center.

### **Residential Market Analysis**

The residential market was considered strong, with lower rental and sales prices than nearby neighborhoods. The analysis expected new development of townhomes, stacked flat condos and apartments. Following are data on existing residential units in the area:

- Townhomes: average size - 1,300 square feet (sf) (range 833-1500)
- Stacked flat Condominiums: average size - 823 sf (450-1532 sf)
- Stacked flat Apartments: average rent - \$807 (2002), average size – 710 sf

Single family housing prices continue to rise out of reach of many. Homeownership in Seattle is now down to 47%, compared to the national average of 66%. Given these trends, the analysis concludes that multifamily options will be an attractive alternative to single family housing.

## Retail Center Planning Considerations

*"To achieve long term sustainability, plans for rebuilding neighborhood shopping streets must...embrace solutions that are realistically market based. It is not enough to base them solely on enlightened public policy goals or the community's wish list, no matter how well intentioned." (Beyard, vi)*

Greenwood contains two very different retail areas: the Greenwood Ave. neighborhood shopping street, focused at the intersection of Greenwood Ave. and 85<sup>th</sup> St., and the broader serving community shopping center, which includes the Fred Meyer and other large format retailers. The two types of retail areas have different and sometimes conflicting design requirements that can make compatibility between the two difficult. Research indicates, however, that there may be flexibility in the requirements. The intent is to ensure compatibility between the community shopping center and neighborhood shopping streets, while ensuring the town center's economic vitality. This section summarizes literature on this issue that was used in development of the master plan alternatives.

### **Neighborhood Retail**

The Urban Land Institute (ULI), a developer based organization, recognizes the importance of neighborhood shopping streets and districts in creating more livable environments and sustainable communities – and that this can be good for business! In their report, *Ten Principles for Rebuilding Neighborhood Retail*, they discuss how neighborhood streets can compete with other shopping destinations "by providing goods and services tailored to the specific needs of each neighborhood in an environment that is convenient, service oriented, pedestrian-scaled, and connected to the urban lifestyles of the neighborhood's residents" (4). Many of the Livability factors discussed in Chapter 2 reflect the importance of both the commercial and residential components of a neighborhood, and also appear to be good for business.

Three of the ULI's ten principles are most pertinent to this project, as follows:

**Think Residential:** "Successful retail depends on successful residential neighborhoods....Where residential growth and revitalization is occurring, retail is primed to follow...." (6). Mixed use developments with

housing, retail and office uses "supports retail by creating more customers, supporting longer business hours, and bringing in rents up to 20 percent higher" (7). Office uses, professional tenants like doctors and lawyers, and educational facilities are "demand anchors" for retail while civic, cultural and entertainment anchors attract visitors (21).

**Honor the Pedestrian:** "The first goal for a neighborhood shopping street should be to satisfy the aspirations and enhance the lifestyles of a neighborhood's residents. Neighborhood retail should not be structured in a way that encourages commuters to move quickly through the neighborhood to reach other neighborhoods" (8). They also caution not to "...let traffic engineers rule the streets" (8), recognizing that accommodating traffic is only one of many goals for successful shopping streets. Both the pedestrian and automobile must be accommodated.

**Parking is Power:** "Easy accessibility, high visibility, a sense of personal security, and adequate, convenient parking are all preconditions for successful retailing, and without them retail likely will fail, regardless of the

## Retail Center Planning Considerations (Cont'd.)

sophistication of the shopping environment or the quality of the tenants" (12). Both on- and off-street options are needed, with on-street parking critical for stop and go type retailers.

They do recognize, however, that parking needs will be less because some people will walk, bike or use transit. Additionally, they admit that in dense urban locations "Innovative parking designs – such as parking behind, above or below the stores – should be considered" (13).

### **Community Shopping Center**

To successfully plan for the redevelopment of the Greenwood Town Center – including an expanded Fred Meyer and other successful retail stores - one must first understand the conventional rules of auto oriented shopping and how and when these can be modified. Retailers are inherently conservative and risk averse, and their willingness to innovate is dependent on market conditions & the retailers attitude & corporate goals (Lyons, 49-53).

Typically, these stores assume people rely exclusively on the car for shopping, and see no economic value in catering to the pedestrian. Richard Lyons, in his Master's thesis on this topic, summarizes the typical planning requirements:

- A convenient, highly visible location at or near major arterials, preferring corners at the intersection of 2 arterials.
- Signage, scale and façade orientation designed to appeal to drivers on an arterial moving at 35 mph.
- Intuitive circulation and ample parking within close proximity of front entrance.
- Dedicated service drives behind and at sides of buildings.
- A limited number of entrances with clear internal circulation and minimal external glazing - preferring one way in and out .

- A center turn lane or controlled access at the primary entrance. Primary access at mid-site (47-49).

Parking is important. Customers will usually choose stores nearest and easiest to reach from their home. Adequate, free and convenient parking in comparison to the local competition is critical. The goal is to have a vast majority of parking directly in front of the center and within 300-350 feet of the main entrance (44-47). This goal is met in the existing development.

Changes, however, are underway in the retail world. In order to remain competitive with new 'lifestyle centers', retailers are making stores more 'comfortable, intuitive and appealing' (52). Also, urban markets have different constraints and retailers are beginning to rethink their assumptions (e.g., multi-level stores, less parking).

By locating as part of a larger retail area, the store serves as a generator of retail demand and vitality, creating additional demand. If augmented with restaurants, community services and designed as a pedestrian center, they can become destinations – which may mitigate the need for massive frontal exposure (98).

Lyons' research found that flexibility in retail siting, design and operations is a function of market strength and demographics. Amenities reduce price competitiveness and sales, and retailers are generally more amenable to capital than operating cost increases. While there is little evidence that amenities increase sales, this may be changing. Finally, he concludes the retailer will risk innovation only when a location is a 'sure thing' (83-85). Information on the retail market areas is shown in the Inventory & Analysis.

## CHAPTER 5 SITE INVENTORY AND ANALYSIS

Existing Neighborhood and Town Center Plans were based on extensive inventory and analysis of area conditions, though in general these are not included in the reports. The reader, therefore, typically isn't aware of the extent of this work. For this project, a comprehensive inventory and analysis was completed of the physical and social aspects of Greenwood considered pertinent to the town center design. This information is presented on individual maps, followed by a Synthesis Map that summarizes the key opportunities and constraints.

The chapter starts with an aerial photo history of the site, followed by current site images. It concludes with the Inventory and Analysis and Synthesis Maps.

### The Site, Defined

The approximately 15.7 acre Greenwood Shopping Center (GSC) properties were the starting point for defining the site area for this project. Also included are several adjacent properties within this 3-1/2 block area that are not owned by GSC but were deemed important to include in order to comprehensively plan for the area. Finally, 100' of the single family residential area just north of 87th St. was included to provide room for transitional land uses. The project area also includes all street rights-of-way within this defined area.

The final land area for the project is, therefore, 19.7 acres. The boundaries are shown in Figure 12 below.

Many different geographies are referred to in this report. Following are definitions for these areas, which are shown on the map below:

Urban Village: that area defined by the City in its Comprehensive Plan as the hub of commercial and residential activity in Greenwood & Phinney Ridge. It includes a linear corridor down Greenwood Ave. along Phinney Ridge.

Town Center: A term coined by the Greenwood community in its Town Center Plan to describe a smaller area focused on Greenwood itself.

Commercial Core: Refers to the smaller, older main street area focused at the intersection of 85th St. and Greenwood Ave.

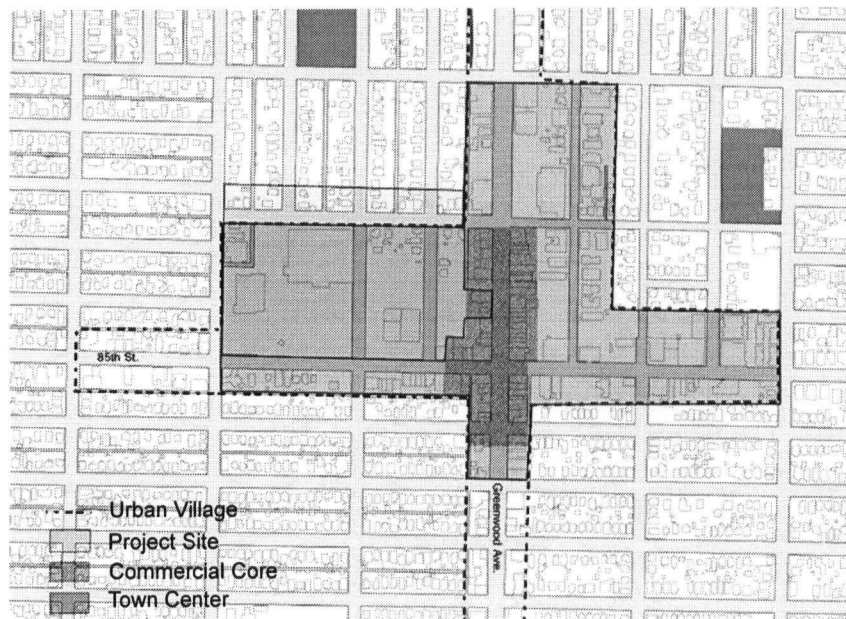


Figure 12: This map shows the site area and the boundaries of the three geographic areas referred to in this report.



## Historic Aerial Photos

In 1944, single family homes dotted the northern, lower half of the site. The southern half was unbuilt on until the late 40's, except for a corner grocery store at 3rd Ave. and 85th St.

It wasn't until 1970 that the Valu Mart store - now the Fred Meyer - was built. It appears the site was undergoing preparations for a number of years before anything was built. A rezoning was needed to allow the building to be constructed at the northern edge of the site. This area contained single family housing into the mid-1960's, when it was razed for the store.

([www.ci.seattle.wa.us/parks/history/SandelpG.pdf](http://www.ci.seattle.wa.us/parks/history/SandelpG.pdf)),



**➤**

## Site Pictures - Legend

The images on the next three pages show various aspects of the site and immediate surroundings. Each page shows images of structures and the surrounding streetscape on one of the blocks, as shown below.

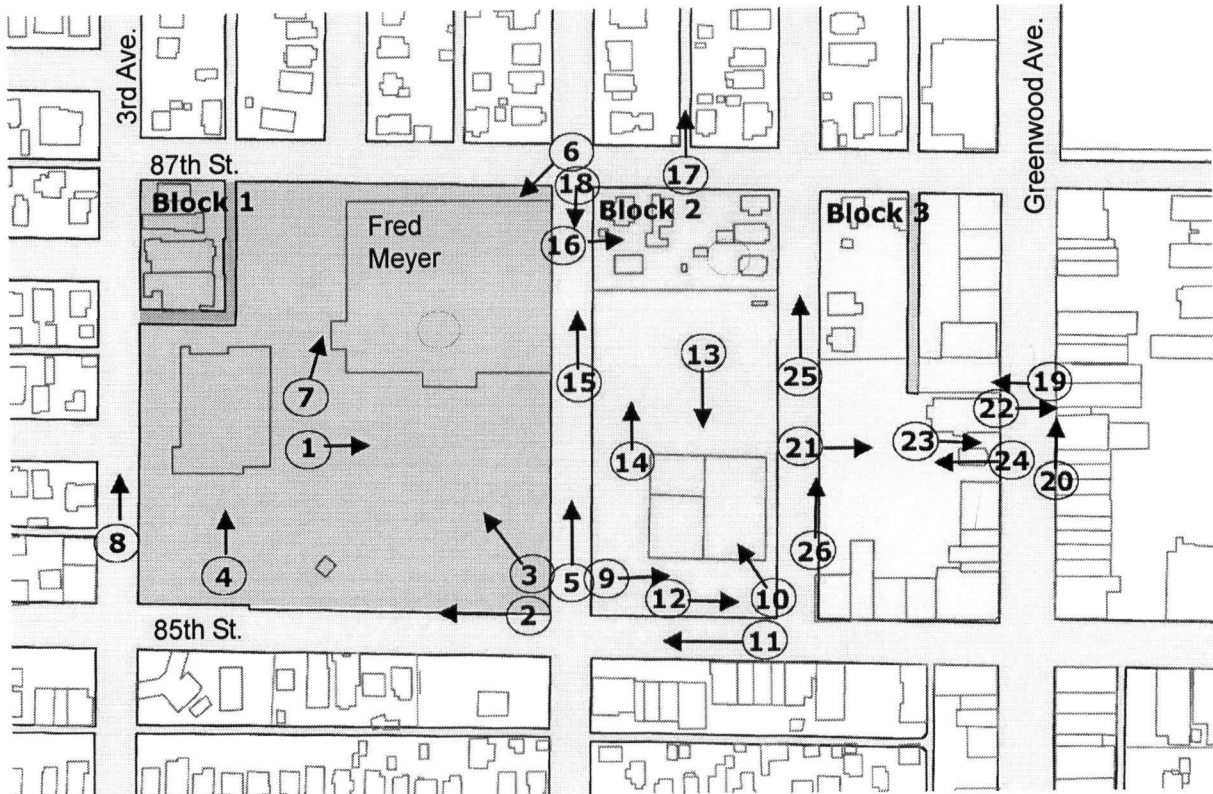
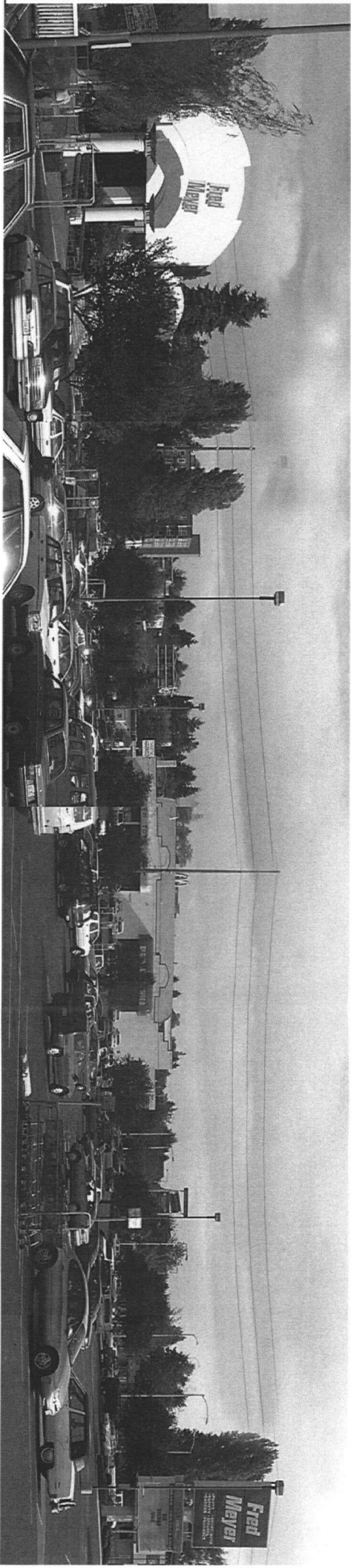


Figure 14: Site Pictures Legend

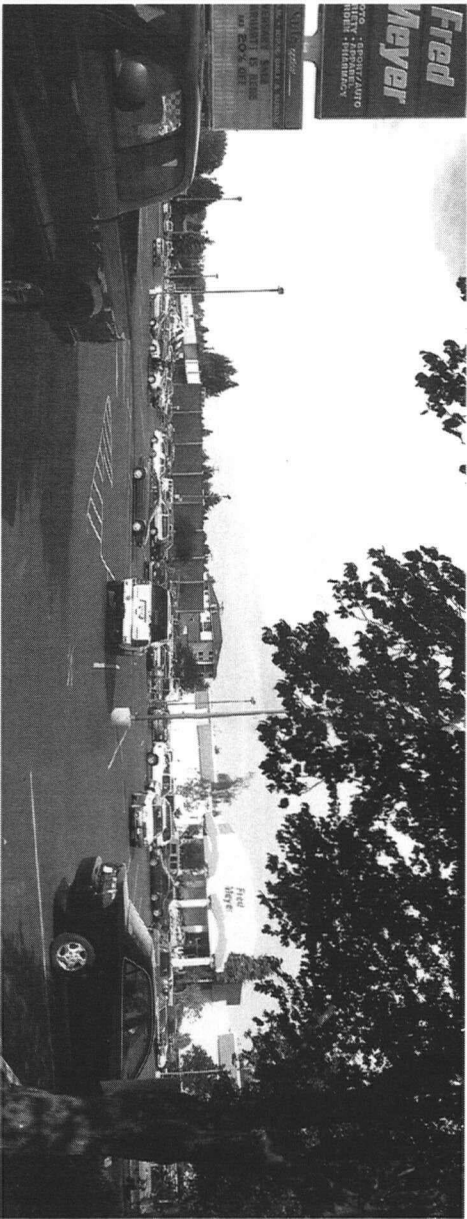


Figure 15

Site Images - Block 1



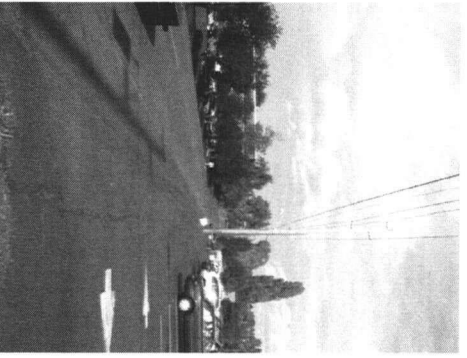
1 Fred Meyer store, view east across parking lot.



3 View west to Fred Meyer and Greenwood market from corner of 1st & 85th



4 Greenwood Market grocery store



5 Palatine Ave, view north



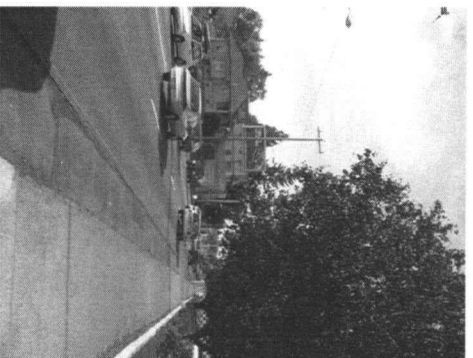
6 Side and rear of Fred Meyer from corner of 1st and 87th



7 Fred Meyer loading area, view north



8 3rd Ave., view north from 85th



2 85th St., view west

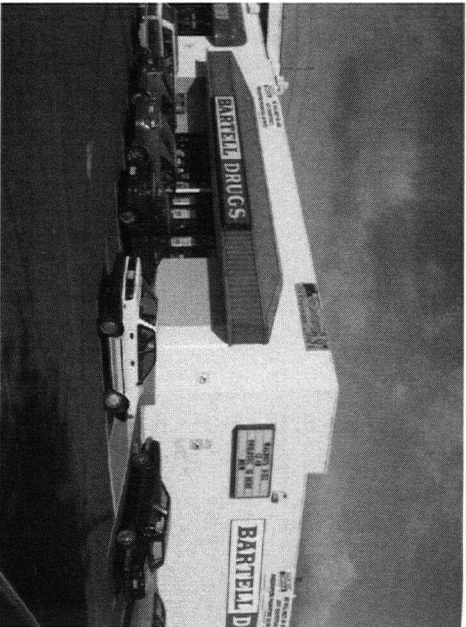


Figure 16

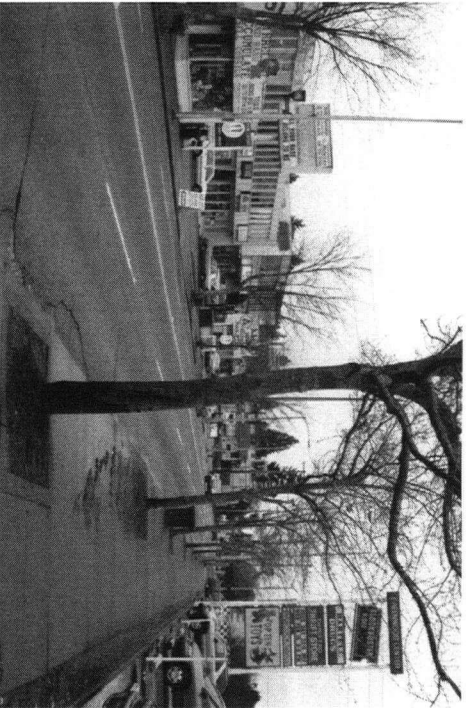
Site Images - Block 2



9 Blockbusters and Bartell's



10 Bartell's from corner 85th and Palatine



11 85th St., view to west from Palatine



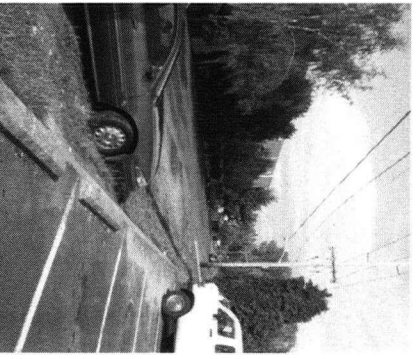
12 85th St. streetscape



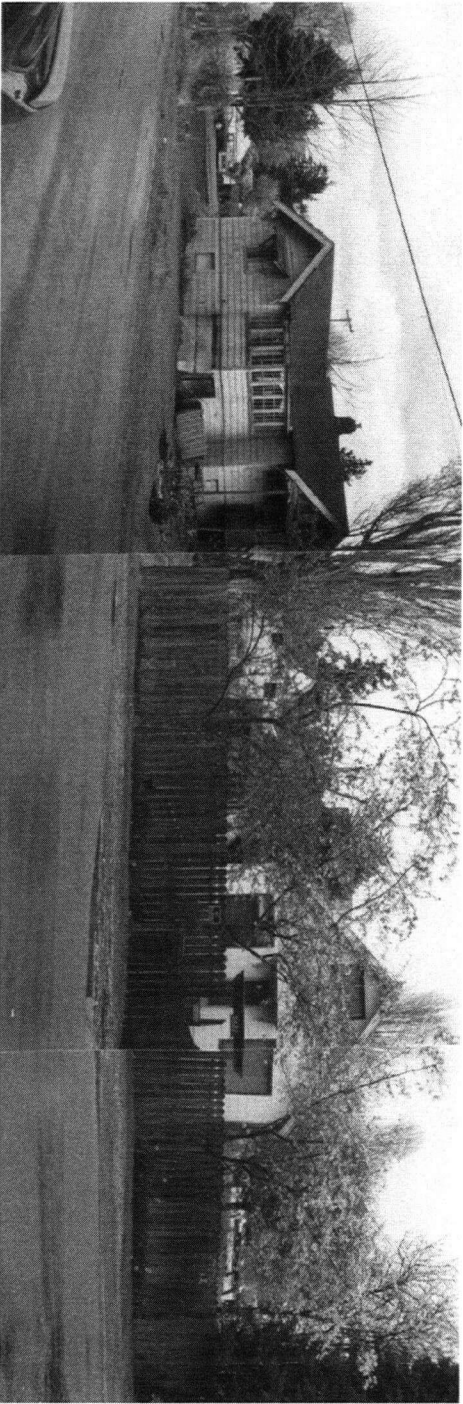
13 Rear of Bartell's building - 2 businesses on first floor, partially underground



14 View of parking lot on north por. of block



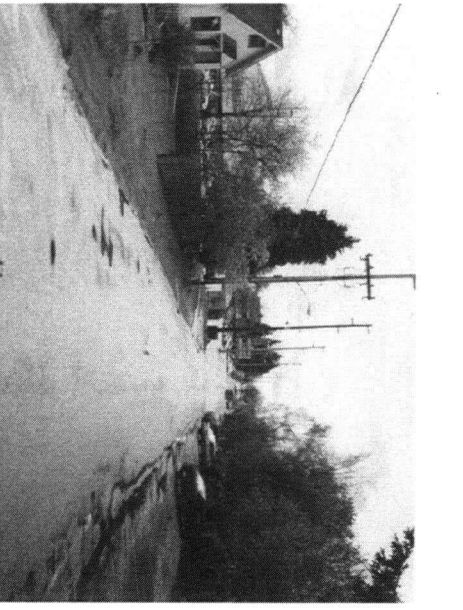
15 1st Ave., view north



16 Single family rental houses on north portion of block



17 Unpaved alleys north of 87th St.

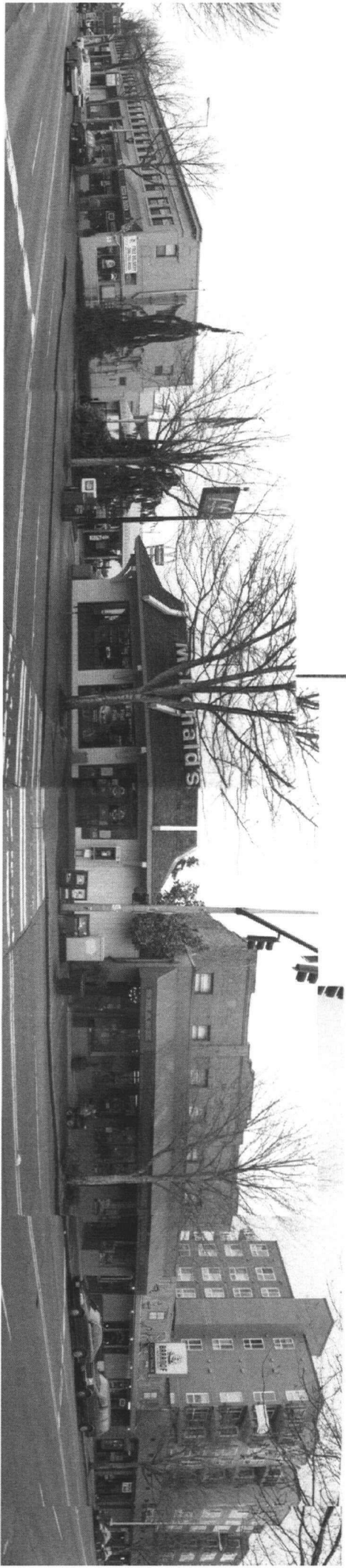


18 1st Ave., view south from 87th St.



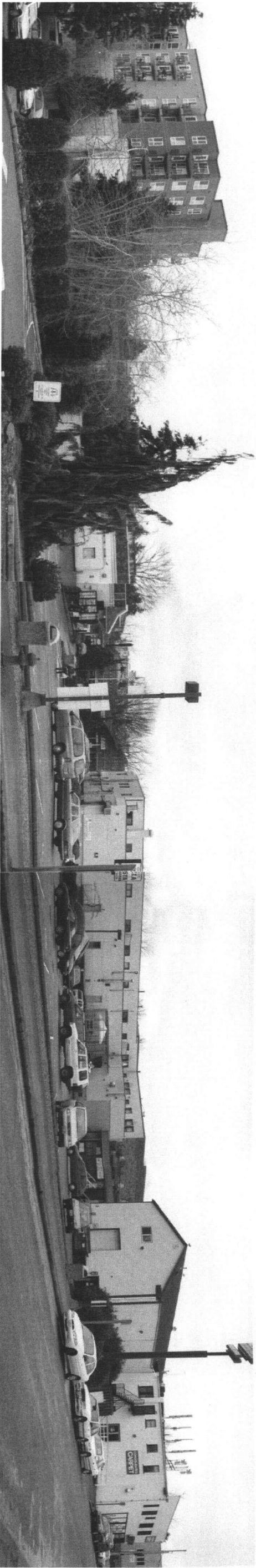
Figure 17

Site Images - Block 3



19 McDonald's is the portion of the site that fronts on Greenwood Ave.

20 Greenwood Ave. streetscape



21 Rear of McDonalds and parking lot, taken from Palatine Ave.



22 Greenwood Ave. ped crossing



23, 24 2 views of current mid-block crossing through McDonald's



25 Palatine Ave. sinking



26 Palatine Ave., view north



## **Inventory & Analysis Maps**

The Inventory and Analysis maps are grouped as they relate to the three elements of sustainable community design: Green Infrastructure, Livability, and Sense of Place. Individual Inventory and Analysis maps are presented first, followed by a Synthesis Map that identifies the top urban design issues and idea generating concepts identified through the inventory and analysis. These opportunities, constraints and design implications served as the basis for master planning and detail design work.

The following Inventory and Analysis maps are included:

### ***Green Infrastructure***

- Microclimate
- Shaded Relief Map
- Drainage System
- Topography & Soils
- Peat Thickness
- Depth to Compressible Soils
- Impervious Surfaces & Vegetation

### ***Livability***

- Existing Land Use
- Zoning
- Building Heights
- Business Type & Size
- Street Right-of-Way and Subdivision Pattern
- Transportation

### ***Sense of Place***

- Community Resources
- Figure-Ground (Positive-Negative Space)
- Imageability

### ***Retail Market Areas***

### ***Synthesis Map***



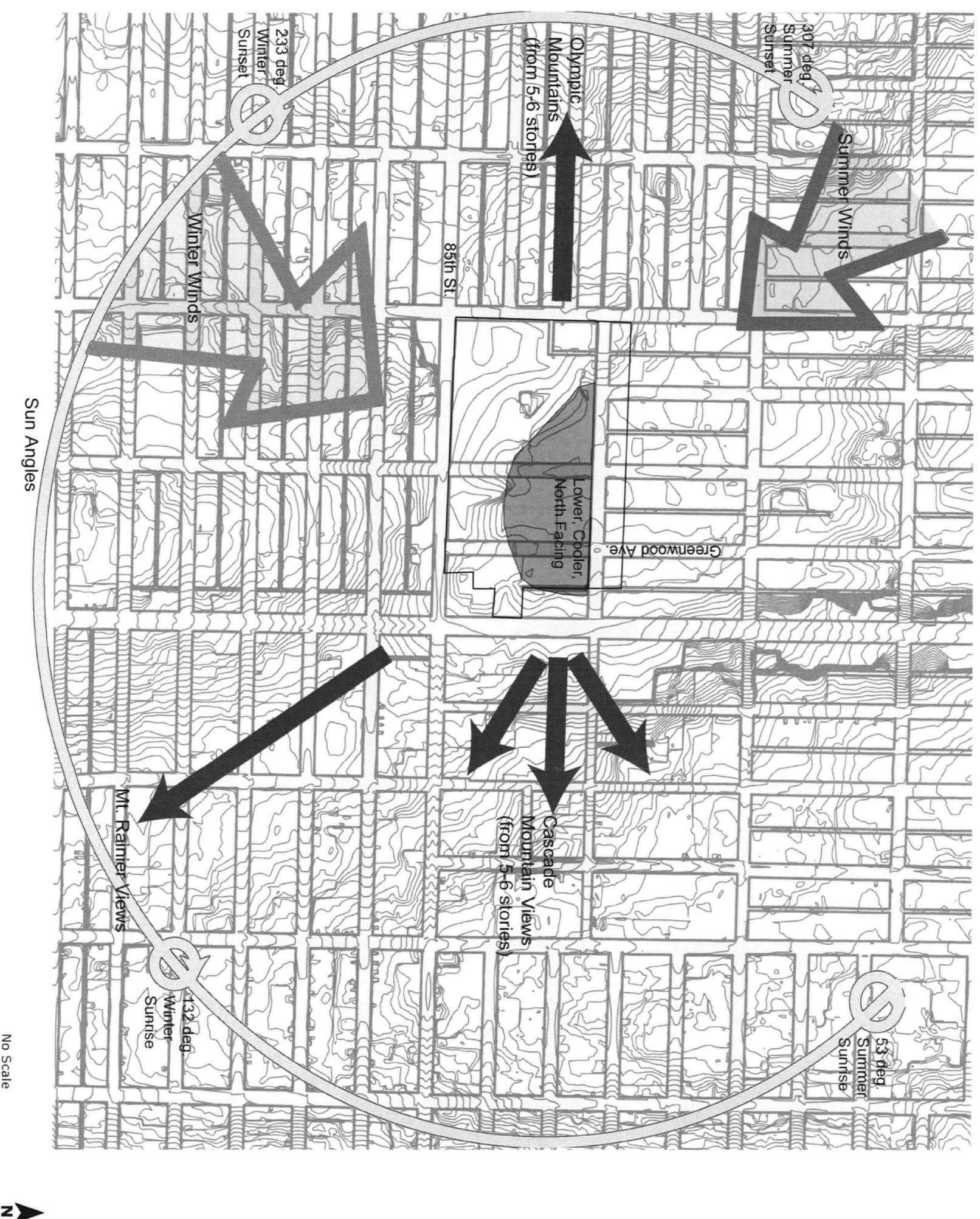


Figure 18

## Microclimate

### INVENTORY & ANALYSIS

Because of Greenwood's bowl form, the northern portion of the site dips up to 18' lower than the southern portion. This area is wetter and potentially slightly cooler because it is flat to north facing, and because of this elevation difference and higher groundwater level in the lower area.

The northern, lower portion of the site could potentially be shaded by tall buildings to the south. This should be considered in the design.

Also because the site sits in this bowl, views are minimal, except from upper floors of buildings (at least 5-6 floors.) From these upper floors, mountain views could be possible.

Warm summer winds blow from the northwest, and cool winter winds blow from the southwest.

### OPPORTUNITIES & CONSTRAINTS

- o The topographic break from higher to lower areas on-site should guide the location and type of development. Potential shade issues on the northern portion of the site should be addressed.
- o Views are not an issue except for upper stories - these should be considered in detail design.

Figure 19

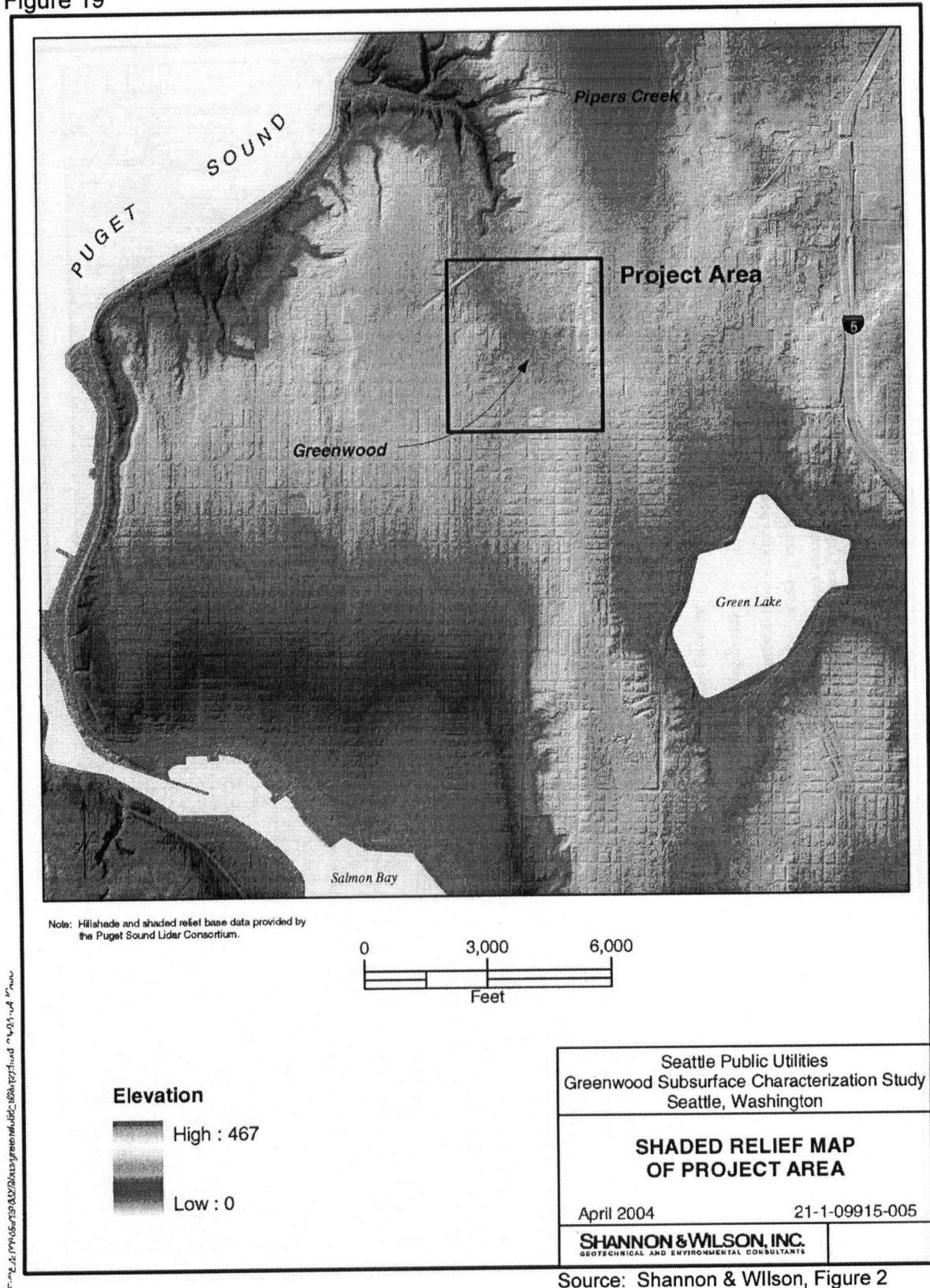






Figure 20  
**Drainage System**

#### INVENTORY & ANALYSIS

Drainage from this 1,835 acre urban watershed flows in pipes or over ground to Piper's Creek, which empties to the Puget Sound. This stormwater is not treated before entering the creek and sound. The small portion of the watershed that developed under city jurisdiction drains to the combined sewer system.

The site sits at the marshy/boggy headwaters of Piper's Creek. A layer of peat of varying depth underlies a portion of the area (see map.) The peat acts as a sponge, holding water and slowly releasing it - reducing the 'flashiness' of stormwater flows.

Because of the soil conditions, there is a high perched groundwater table over a lower, confined aquifer. Studies are currently underway to determine long term and seasonal groundwater levels.

Drainage pipes were added in 1972 in response to repeated flooding and high groundwater problems in the low-lying area, generally delineated by the area of peat soils.

Rehabilitation efforts in Piper's Creek have resulted in a return of salmon to the creek. It is one of several creeks in the City's Urban Creek Legacy program, which seeks to recognize & celebrate the role of urban creeks through restoring the creeks, improving drainage & water quality, & promoting stewardship & education.

Seattle supports natural drainage solutions. Sea-streets and other natural drainage demonstration projects are located in this watershed (see map.)

#### OPPORTUNITIES & CONSTRAINTS

- o The area's natural drainage history & location relative to Piper's Creek make it an ideal spot to implement the Urban Creeks Legacy program, with design, educational and stewardship possibilities.
- o There are opportunities to improve water quality & quantity by using natural drainage solutions, reducing stormwater volumes, and recharging the water table through infiltration, if possible.
- o High groundwater & the existence of peat & clay deposits affects the ability to construct structures below grade. The City has concerns with groundwater pumping and soil subsidence and is now requiring projects to demonstrate no net loss of groundwater prior to approvals.



Figure 20  
**Topography & Soils**

**INVENTORY & ANALYSIS**

Greenwood sits in a bowl (dark area) created by the convergence of 3 hillocks (light area). Surface runoff (and likely groundwater flows) flow off these hills and into the basin, before flowing to Piper's Creek.

The site sits at the transition from hills to bowl, with the south and west edges relatively flat and high, dropping down up to 18' from this area to the lowest point in the middle of the northern area of the site. This area is part of the headwaters of Piper's Creek. Early USGS maps indicate that Piper's Creek may once have extended to the site (see Figure 8.)

The majority of the low-lying area, including over half of the site, is overlain by peat or compressible clays. The peat layer, made of decomposed sedges, ranges up to 16.5' in the entire area, and potentially up to 8' on site. Compressible clays on site range to a depth of 38.5' on-site. See map for locations. (Source: Shannon & Wilson, Fig. 8 & 9)

The peat acts as a sponge, holding water and slowly releasing it - reducing the 'flashiness' of stormwater flows downstream in Piper's Creek. Both the peat & clay compress if dewatered. Dewatering appears to be occurring in the area, potentially by commercial & residential pumping of basements. As a result, portions of the community are sinking, including the area of deepest compressible clay on site.

**OPPORTUNITIES & CONSTRAINTS**

- o Areas with peat deposits and compressible clays are sensitive and provide important hydrological functions. To the extent possible, peat & compressible clays should be retained on site to continue their hydrological functions & development should be limited here.
- o Provide opportunities for infiltrating water back into the soil wherever possible.
- o The location of the peat and associated high groundwater affects the ability to excavate (for underground parking, basements & foundations.) Excavation should be limited in peat areas.
- o Use the natural topographical breaks and soil limitations in the design by planning more intensive development on the upper area and stepping buildings down the slope.

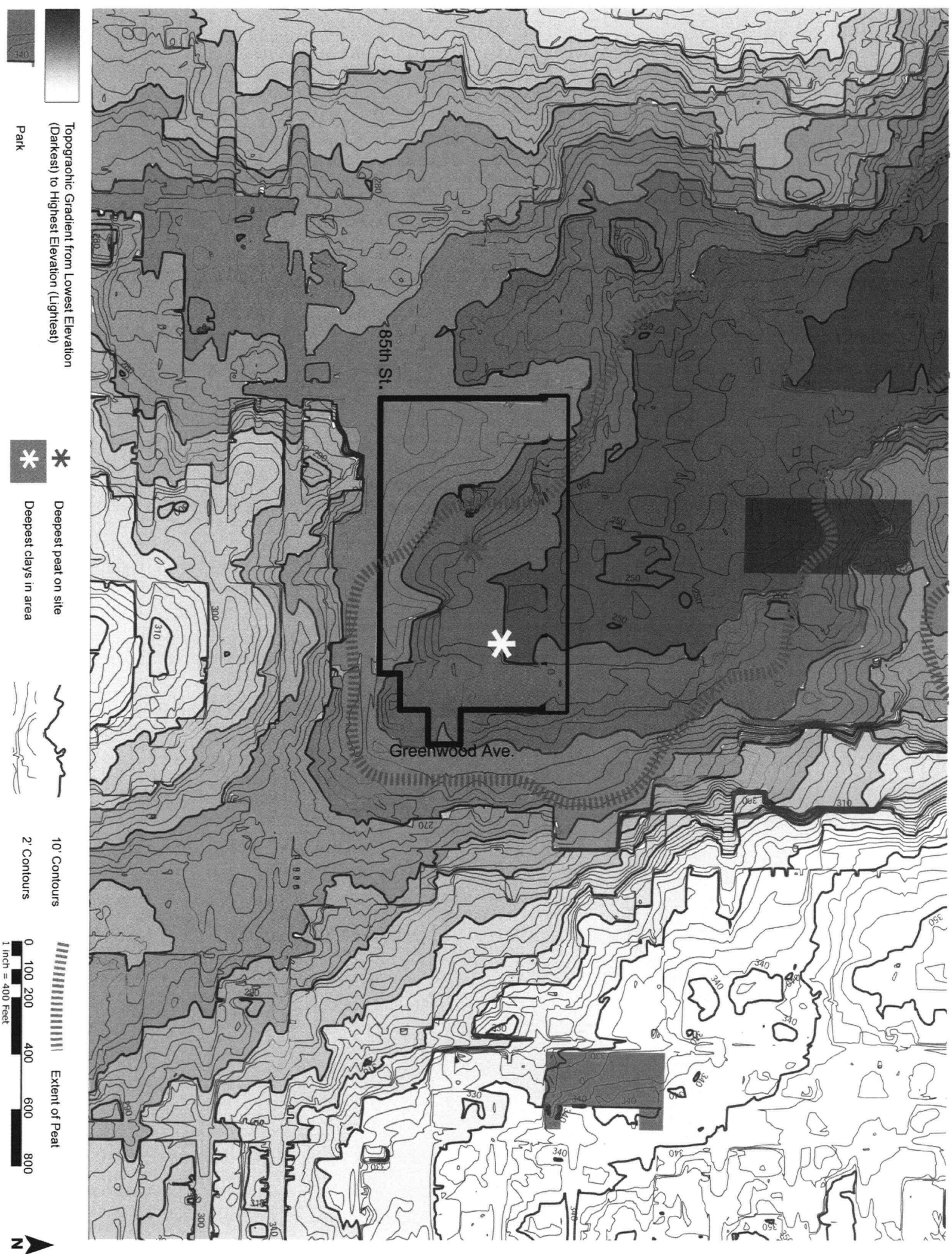
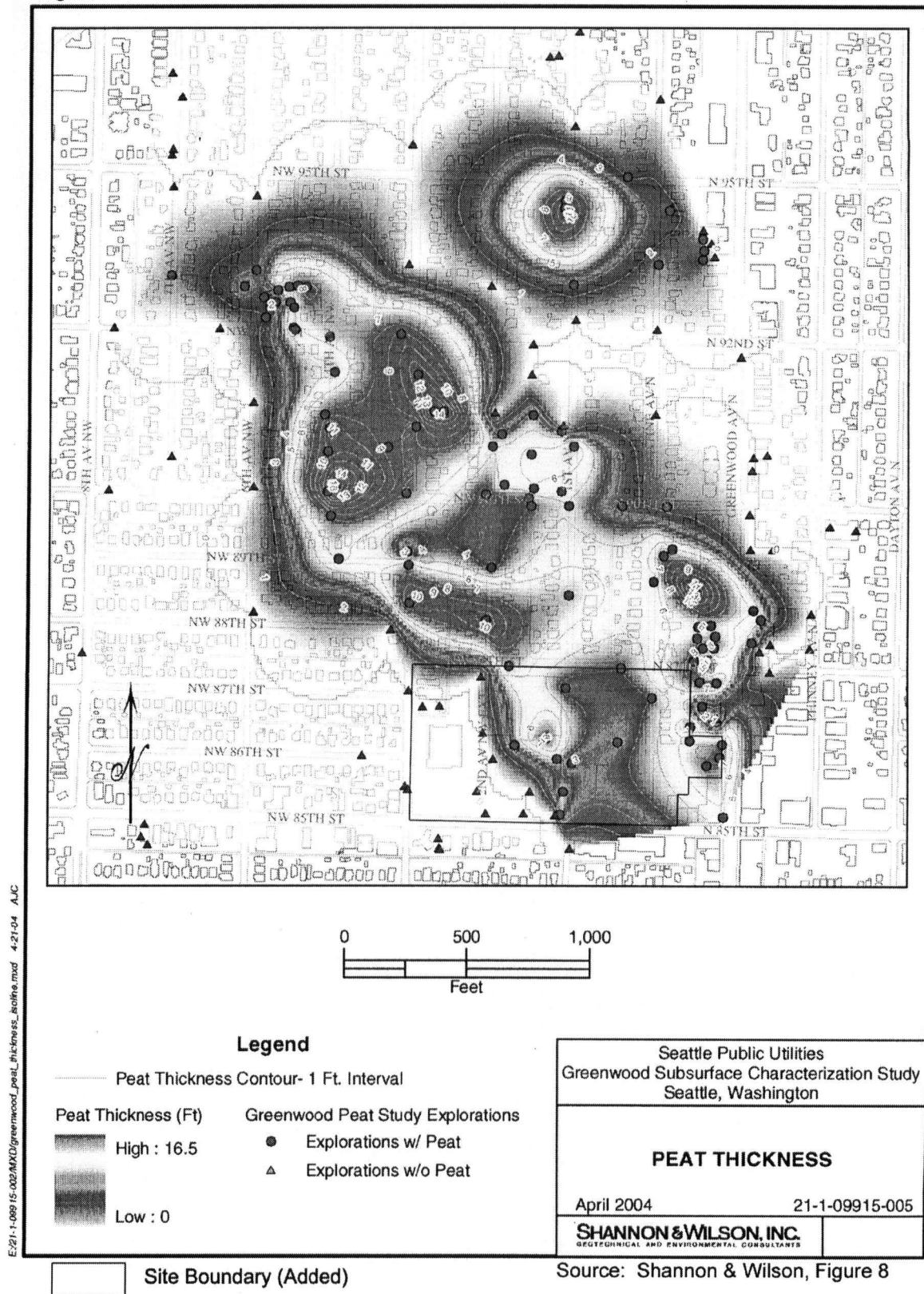


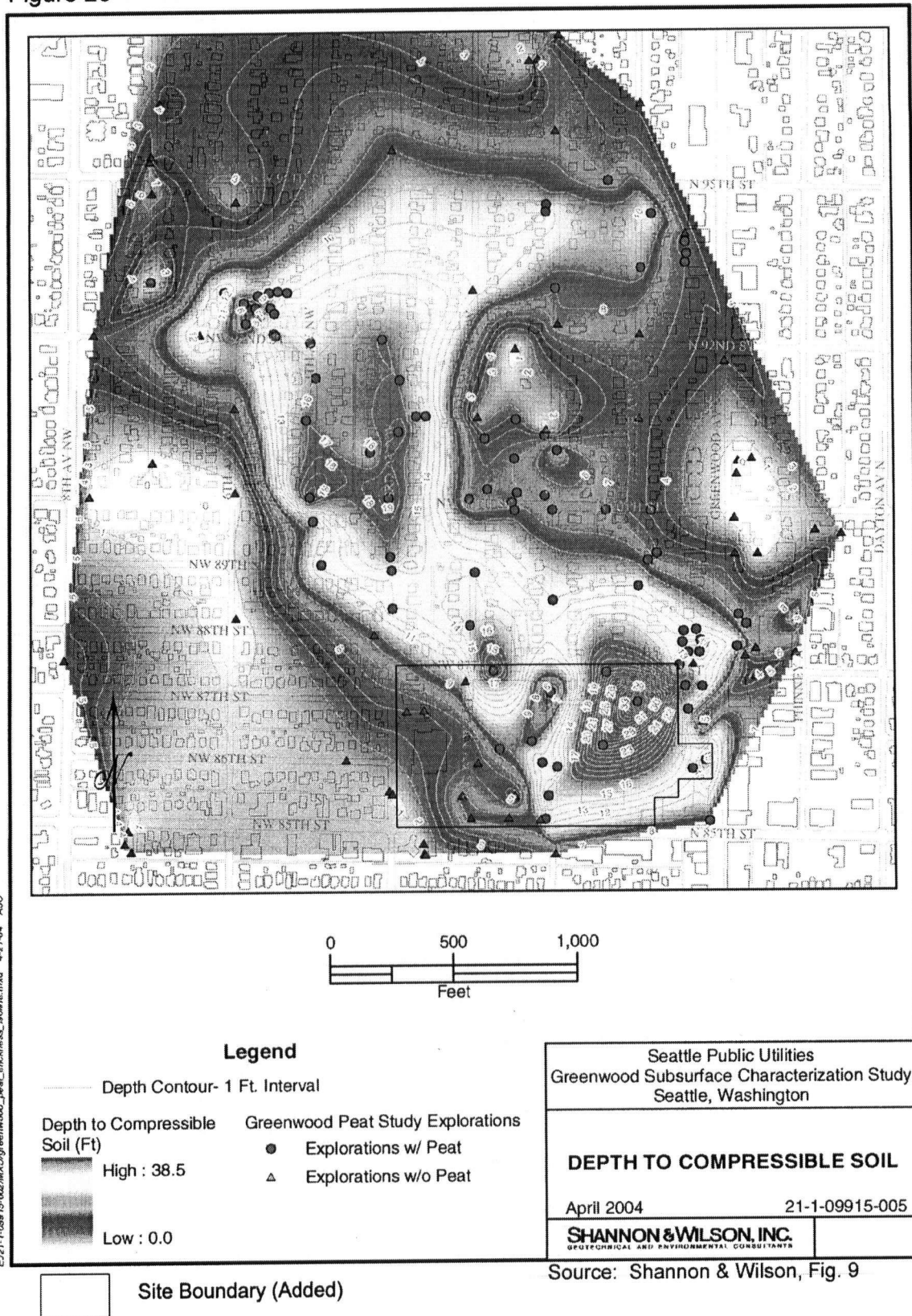
Figure 22



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Figure 23



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Figure 24  
**Impervious Surfaces & Vegetation**

**INVENTORY & ANALYSIS**

Impervious areas are those where the ground is covered and no stormwater can enter. Examples are paved roads, roofs and parking lots. Permeable areas are surfaces where water can enter the ground, such as lawns, gardens and open space. Vegetation can help temper the effects of impervious surfaces through intercepting rainwater in leaves, providing permeable areas, and absorbing it through roots.

With approximately 90% of the Urban Village covered by impervious surfaces, very little of the rainfall is able to re-enter the ground. Instead, it enters underground stormwater pipes that quickly carry it, without filtering or treatment, to Piper's Creek. This increased flow amount and velocity of water downstream in Piper's Creek can cause erosion and destruction of fish habitat.

Very little vegetation exists on-site or in the larger Urban Village area. Regular placement of street trees exists only on portions of Greenwood Ave and 85th St.

The only areas where water can infiltrate are the single family lots and the few large parks nearby.

**OPPORTUNITIES & CONSTRAINTS**

- o Redevelopment offers opportunities to decrease impervious surfaces & increase amount of rain-water entering the ground.
- o Redevelopment also offers opportunities to increase the amount of vegetation on-site.
- o Street trees are important and should be extended throughout the area.
- o Additional park space can increase the amount of rainwater entering the ground.





Figure 25  
Existing Land Use

INVENTORY & ANALYSIS

The Urban Village contains a mix of retail, office, food service, and other local & regional services. To the extent there is a concentration of use types, the area is characterized by Antique Shops, Hair Salons, small ethnic restaurants, and several larger discount /grocery/drug stores.

The Village contains primarily commercial or commercial/housing mixed uses. Mixed-uses are located either in older buildings in the core or in newer buildings on the periphery of the Village.

All housing in the Village is multi-family, and primarily located on the periphery of the Village. The Village is surrounded by single family neighborhoods.

There are no parks or open spaces within the Village boundaries. Several passive use parks with play equipment are located within 1-2 blocks of the Village boundaries.

A very high percentage of the Village area is either vacant lot or surface parking.

There are some civic uses in the village, but they are spread throughout the area.

OPPORTUNITIES & CONSTRAINTS

- o Some open space is needed in the Village, and there are possibilities for linking parks in the surrounding area with the Village and its open spaces.
- o Capitalize on the concentrations of uses and encourage similar or complementary uses to locate in the neighborhood.
- o Seize opportunities to increase the mix of uses.
- o Take advantage of opportunities for infill development on vacant parcels and surface parking lots.
- o Look for opportunities to concentrate civic uses in the core area.

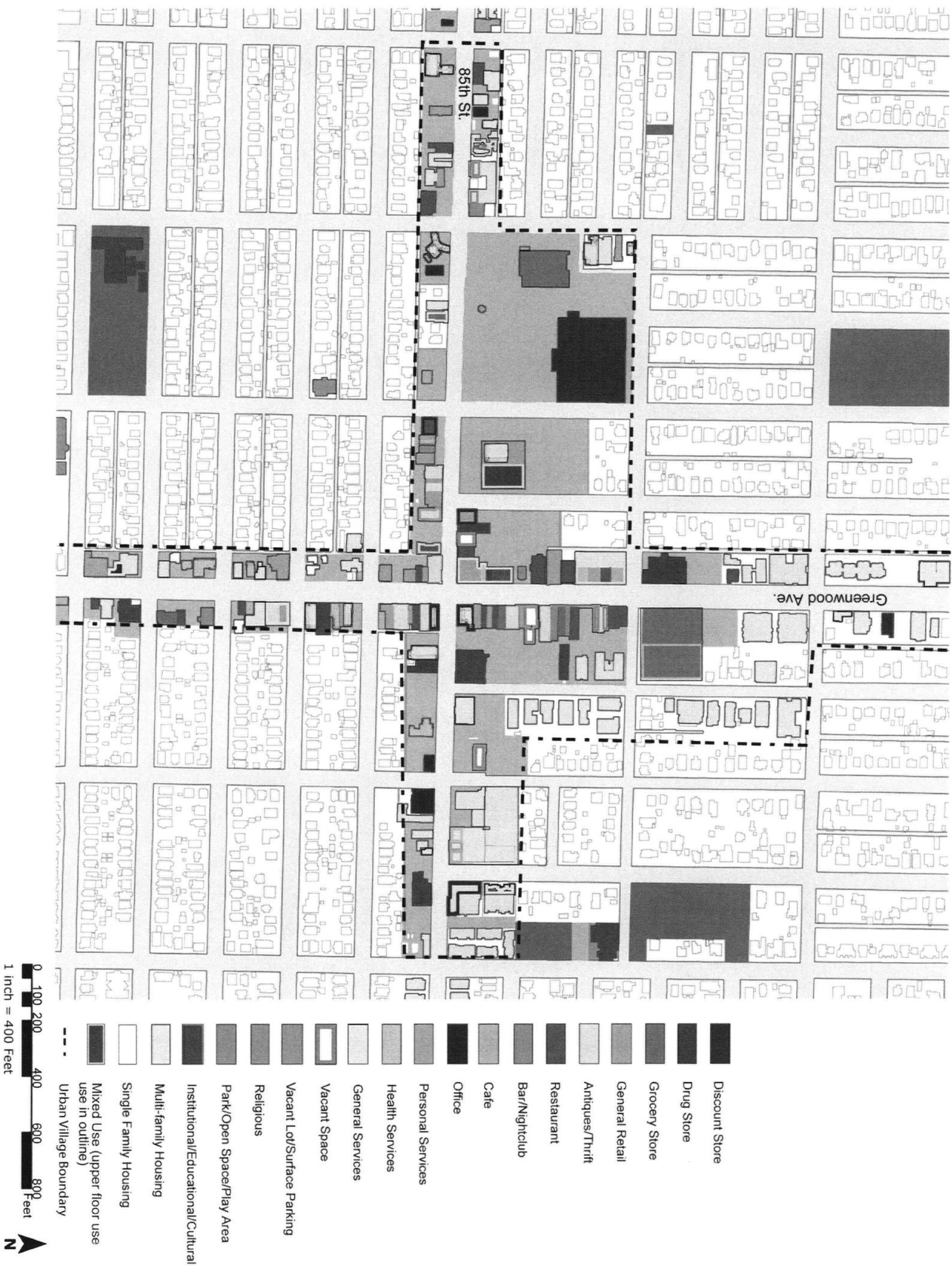


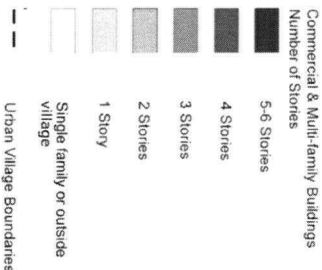
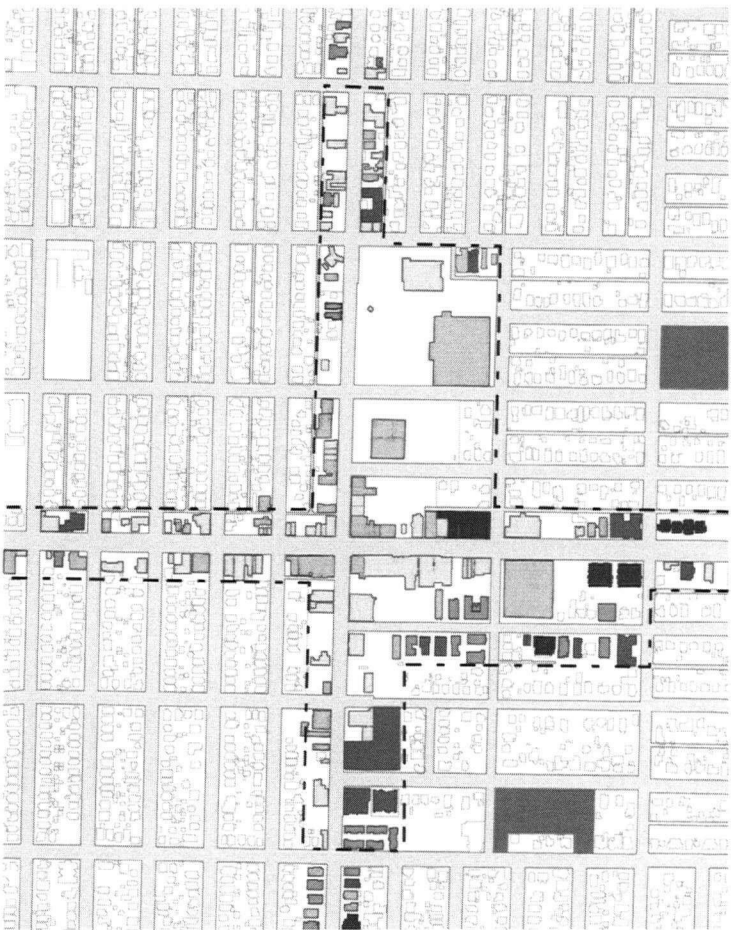


Figure 26  
Zoning





Building Heights



**BUILDING HEIGHTS - INVENTORY & ANALYSIS**  
Most of the buildings in the older core surrounding 85th & Greenwood Ave. are 1-2 story structures. 2 story structures tend to be located on the corners at this primary intersection.

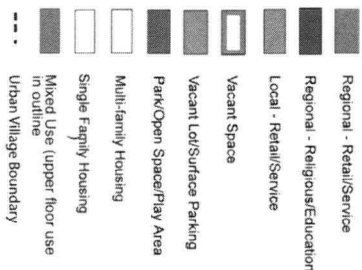
Taller structures are located on the outer edges of the village. They are either mixed use or are single purpose residential buildings, are newer, and are typically in the neighborhood commercial (NC) zones.

Age of structure is related to building height and size. The older 1-2 story buildings in the 85th & Greenwood core area are generally lower and smaller than the newer buildings.

The only building on Greenwood Ave. that is built to the 65' zoning height limit is the Tower Apartment building at 87th & Greenwood. This structure was built in 2000.

Most buildings within the Village boundaries are not built to their allowable zoning height.

Business Type & Size



**BUSINESS TYPE & SIZE - INVENTORY & ANALYSIS**

The Village contains a mix of local and region serving businesses.

Local serving businesses are smaller, finer grained, and centered in the core (Greenwood Ave.)

Most mixed use buildings contain local serving businesses and housing.

Region serving businesses are much larger and coarser grained, and are located on the periphery of the Village. These are the discount, grocery and drug stores.

The smaller region serving retail uses are primarily the antique and thrift stores, which are also centered on Greenwood Ave.

The older development is finer grained, & more human scaled. Newer buildings surrounding the core are generally larger and located away from the street.

Figure 27

**Building Height & Business Type & Size**

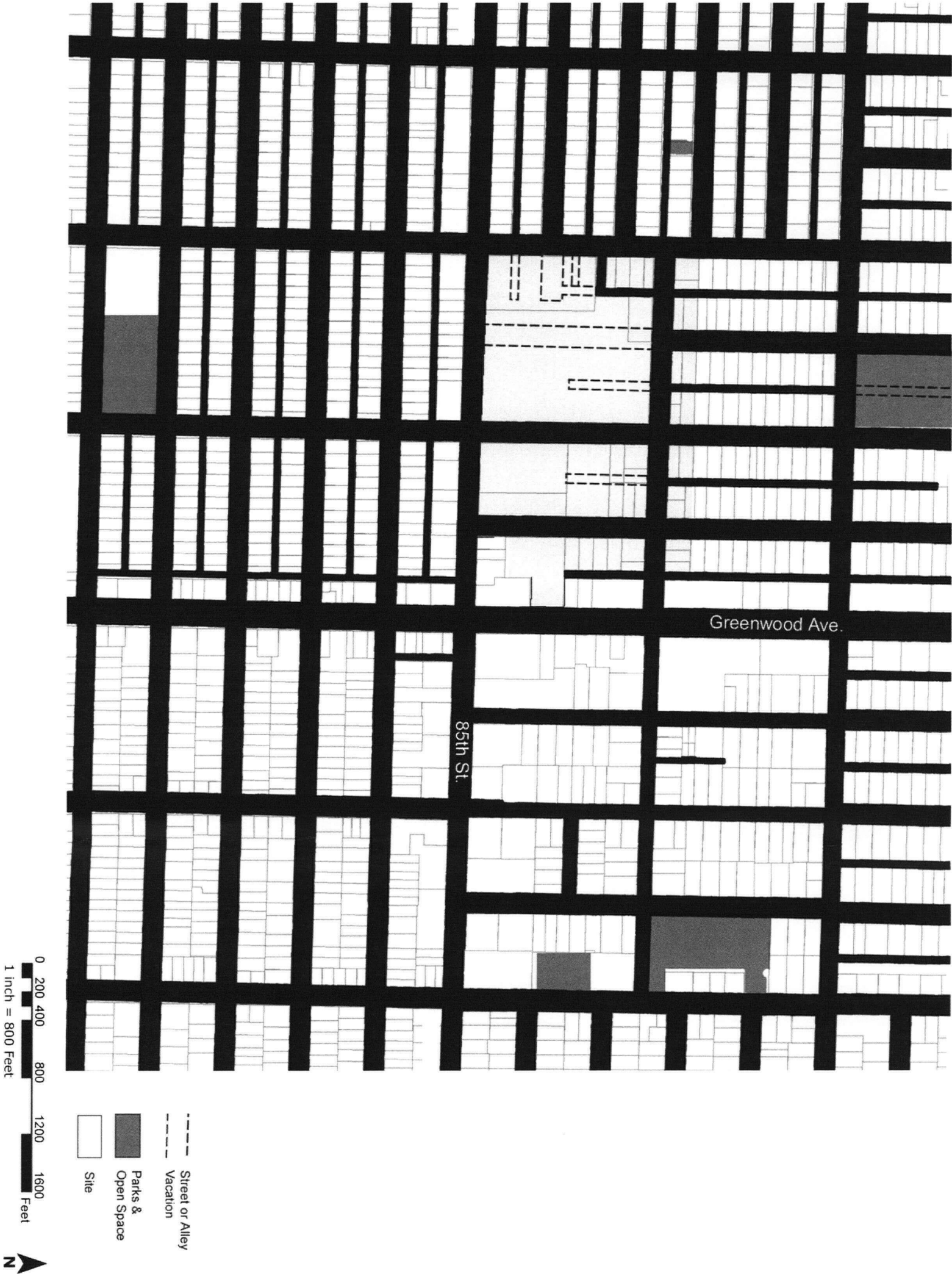
**BUILDING HEIGHTS - OPPORTUNITIES & CONSTRAINTS**

- o The historic 1-2 story buildings in the 85th & Greenwood core will increasingly be surrounded by 4-6 story buildings and incentives for preservation may be needed.
- o Newer buildings are and will be taller relative to the existing historic buildings, and are primarily located outside the 85th & Greenwood core. The transition to these taller buildings is a critical design issue.
- o The existing pattern of taller buildings at corners can be repeated in the new design.
- o Concentration of density, use and activity is often associated with height of buildings. It will be important to consider this in the design so that energy is not pulled away from this core area.

**BUSINESS TYPE & SIZE - OPPORTUNITIES & CONSTRAINTS**

- o The mix of local & region serving businesses is what the community values, however, the region serving uses don't currently mix well with the look, feel, and scale/grain of the commercial core. This should be addressed in the design.
- o In order to keep the mix and feel of the existing area, the design needs to provide both large and small spaces for commercial use.

Figure 28  
**Street Right-of-Way & Subdivision Pattern**



**INVENTORY & ANALYSIS**  
 The area street system is characterized by several regular grids coming together. One grid orients E-W, and the other orients N-S. This site lies at the seam between these two patterns.

The current subdivision pattern north of 85th St. was established under County rules in the late 1920's & early 30's. South of 85th was platted earlier and under City rules. This resulted in blocks of slightly different size, and different orientation (long side N-S vs. E-W.)

North-South oriented blocks are 250' x 600', and most residential lots are 50-54' wide by 110-120' deep. East-West oriented blocks are 200' x 580-590'. Residential lots on these blocks average 40' wide by 100' deep.

Street and Alley Vacations on the site occurred between 1950 and 1961, allowing both for larger buildings and for commercial uses to expand between 85th and 87th Sts.. The vacations modified the street grid & the interconnectivity within these blocks. This created a superblock for the Fred Meyer store & its large parking lot. Earlier platting was for residential uses on the northern half of these blocks.

Much of the area was platted with alleys that allow garage access at the rear of lots. Alleys north of 85th St. generally are unpaved.

Older commercial lots on 85th St. and Greenwood Ave. are small relative to those of the Greenwood Shopping Center.

**OPPORTUNITIES & CONSTRAINTS**

- o The location of vacated streets can be used to inform the new design on site, including potentially reconnecting the grid.
- o The site is located where N-S oriented blocks intersect with E-W oriented blocks, offering street design opportunities.
- o There is a potential for parcelization, resulting in smaller lot & building sizes, to help new fit with old (smaller scaled) buildings.



Figure 29  
**Transportation**

**INVENTORY & ANALYSIS**

Vehicular traffic congestion is experienced at all intersections on this stretch of 85th St. (LOS D and E during peak hours.) The neighborhood is concerned with this situation and a transportation study is underway. Concerns with traffic flow include congestion caused by left turns from unsignalized intersections on 85th St.

Traffic circles located on residential streets slow vehicles and discourage cut-through traffic. Their locations indicate where this has been a problem.

The neighborhood has good bus service, with 4 bus routes and a number of bus stops on both 85th and Greenwood. The number of bus stops on these blocks, however, causes auto traffic delays.

The lack of sidewalks north of 85th, except within the commercial core on Greenwood Ave., limits walking or forces people to walk in the streets. Community facilities such as parks and the Boys & Girls Club are hard to access due to this lack of sidewalks.

Pedestrian waits are long at the intersection of 85th and Greenwood due to signal phasing.

No bike routes go through the Urban Village.

There is a planned Monorail Station at 85th St. and 15th Ave., about 1 mi. west of the site. This may cause additional traffic on 85th, and/or may increase bus ridership between the station & the Village.

**OPPORTUNITIES & CONSTRAINTS**

- o 'Improvements' for auto traffic flow could affect livability of the town center. Consider ways to balance needs for pedestrian friendliness with better traffic flow.

- o Cohesive design can provide justification for the prioritization of sidewalks in Greenwood. Making connections between community facilities is additional justification.

- o Good bus service is a plus - increased density will rely on it. Design can address congestion caused by bus stops by providing bus pull-outs at key spots.

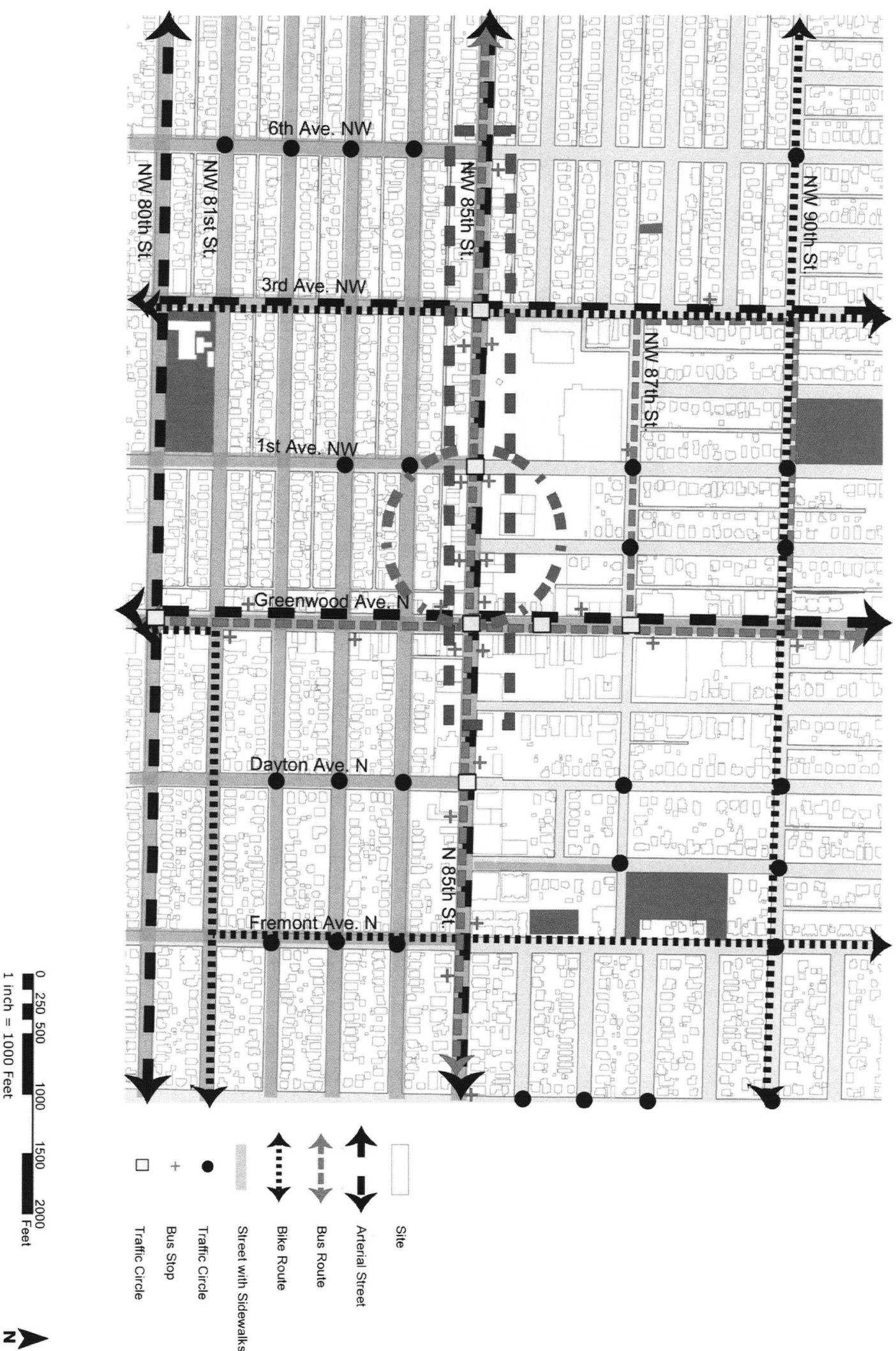


Figure 30

Community Resources

INVENTORY & ANALYSIS

There are a number of facilities that serve as resources for Greenwood, including both public and private uses that nonetheless serve civic functions.

Additionally, a number of activities and events regularly happen in Greenwood, including an annual Seafair Parade, Car Show and Art Walk. The community merchants also host Halloween & Christmas events including Pumpkin carving, trick-or-treating and a holiday tree lighting.

The historic 1920's buildings in the commercial core (shown in orange) form the heart of the neighborhood. This is also the focal point of many of the community activities.

A number of places serve as "third places" - "public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work." (Oldenburg, 16.) These are concentrated on Greenwood Ave., and few are located in other areas.

OPPORTUNITIES & CONSTRAINTS

- o The historic buildings are an important part of the community's identity. These should be preserved, and their style can be emulated.
- o Capitalize & build on the routes for parades & events. Provide spaces for these events to expand, while respecting their historic routes.
- o Provide space for additional "Third Places" in the design, particularly along 85th St.
- o A park to serve the increased population in the Village is warranted and should be part of the design.

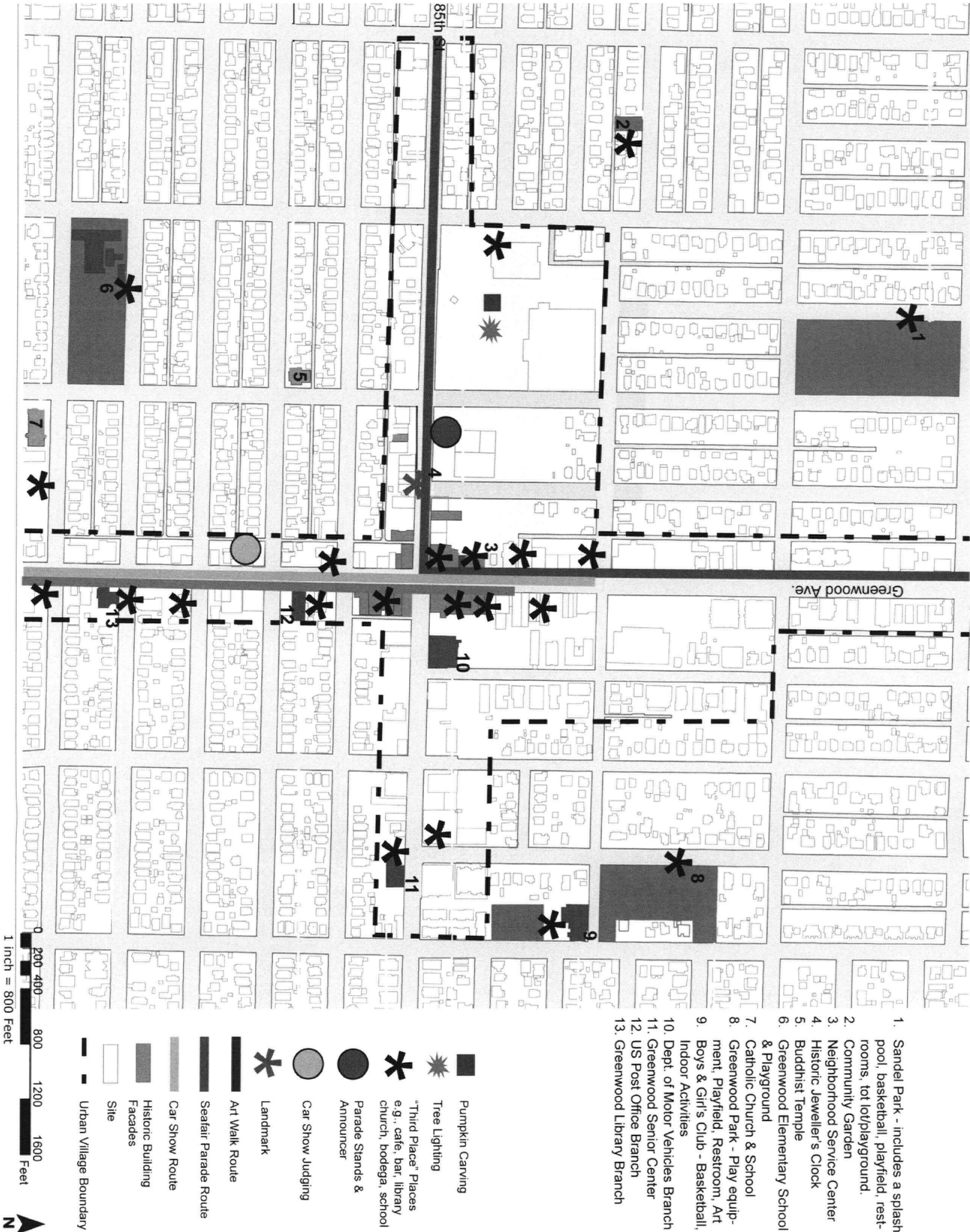






Figure-Ground

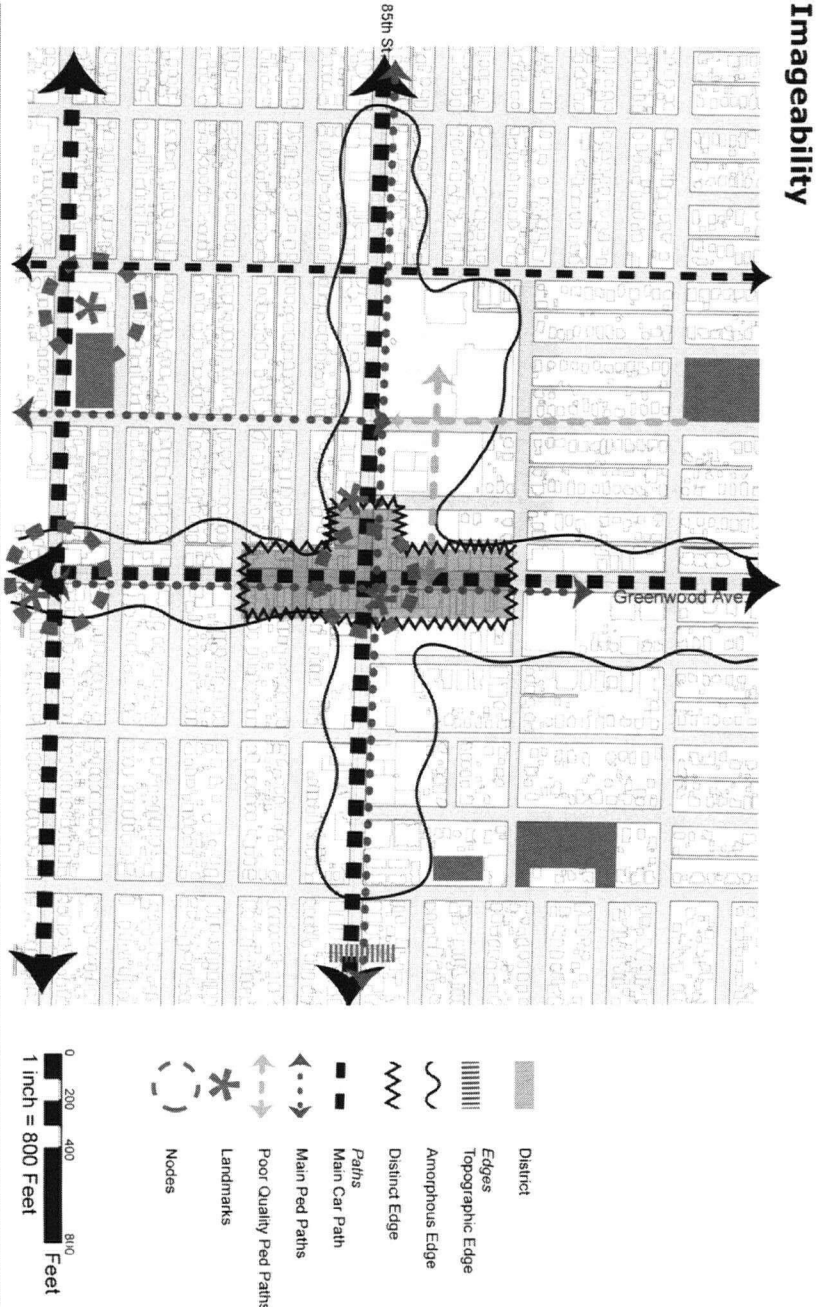
### FIGURE-GROUND - INVENTORY & ANALYSIS

There is a fine grained pattern of development throughout most of the Greenwood area, both in the commercial core and the single family area. The older commercial core at 85th & Greenwood, built in the early 20th century, consists of smaller, more 'human scaled' buildings.

Buildings on the site, and others built since the 1960's, are the larger buildings. These create a coarser grain of development in the areas surrounding the older commercial core. This coarser grain is also a result of the large parking lots in these developments, shown as large areas of white space.

Buildings along Greenwood Ave. create an effective street wall, providing enclosure and scale to this street. This, coupled with street trees, make Greenwood Ave. a pleasant and attractive street to be on.

On the other hand, the lack of a street wall on most of 85th St. creates a number of dead zones and areas that are unpleasant for pedestrians.



Imageability

### IMAGEABILITY - INVENTORY & ANALYSIS

Kevin Lynch, in "The Image of the City" defines the critical elements of what he terms "legibility" or "imageability" - the apparent clarity of the cityscape. He defines this as "the ease with which its parts can be recognized & can be organized into a coherent pattern." (2) He asserts this is critical for cities and people's comfort and enjoyment of them. The following analysis is based on Lynch's criteria for legibility.

**PATHS:** The area is dominated by car paths. Pedestrian paths generally follow the road system, except the informal pedestrian path from Greenwood Ave. to the site. Paths are limited north of 85th because of the lack of sidewalks.

**EDGES:** The commercial core area has edges defined by the historic structures, tight street wall & street tree treatment. The rest of the area is amorphous, with indistinct boundaries defined by the difference between commercial and residential buildings. Topography also forms some of the edges.

**DISTRICTS:** The only district in this area is the Greenwood commercial core, centered at 85th St. & Greenwood Ave.

**NODES:** The nodes include the historic crossroads, the Greenwood Elementary School and the Diva Coffee house. These are the centers of activity in the area.

**LANDMARKS:** Landmarks include historic buildings, an old jewellers clock, the Diva coffee shop, and Greenwood School. All of these date from the early 1920's and 1930's.

Figure 31

## Figure-Ground & Imageability

### FIGURE-GROUND -

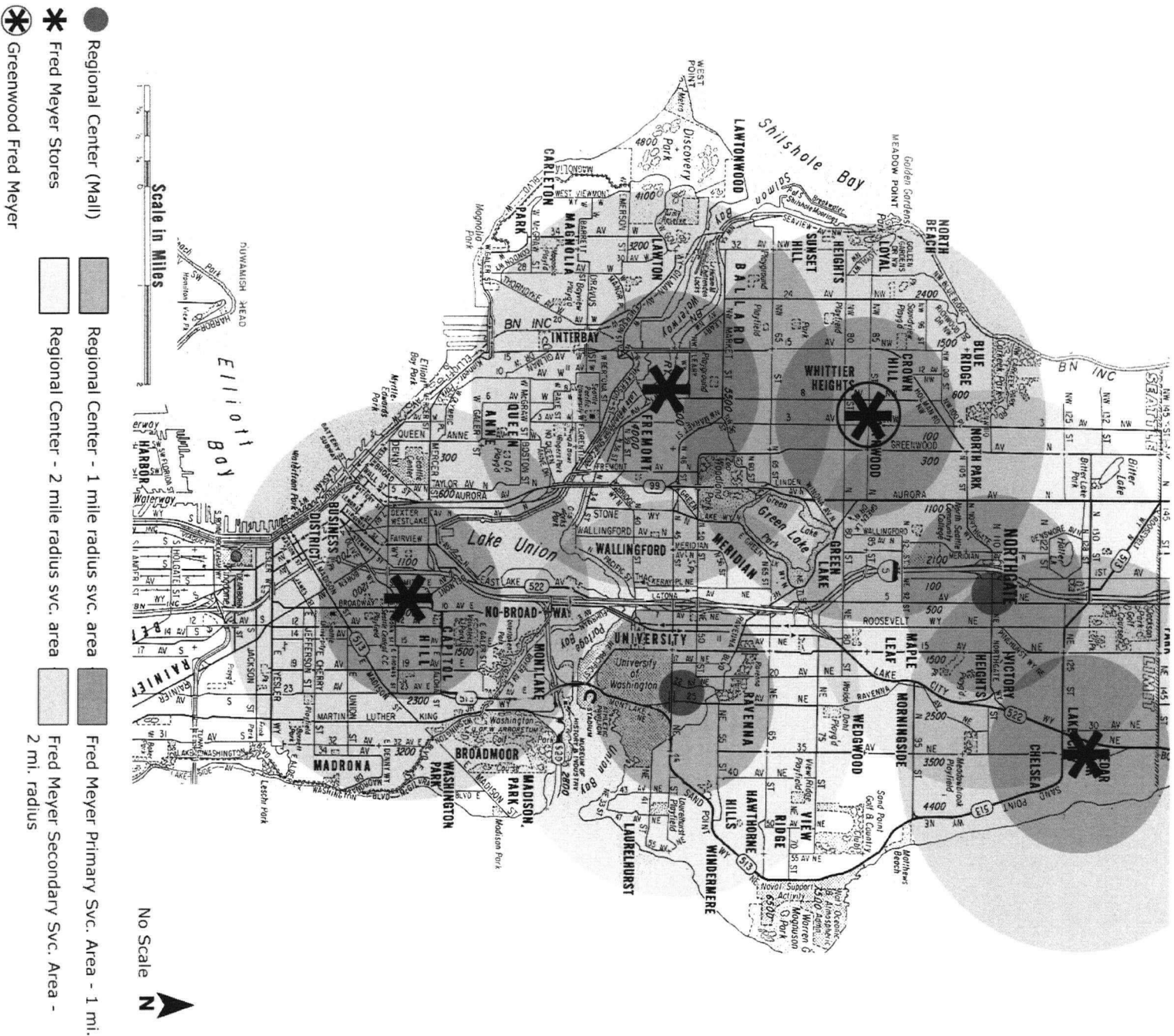
#### OPPORTUNITIES & CONSTRAINTS

- o The finer grained development & street definition through buildings that create a 'street wall' create a more human scaled and comfortable experience. This type of development should be emulated by the new town center development.
- o Redevelopment provides the opportunity to create a finer grained pattern of buildings on the site, particularly where it fronts 85th St. This could be done through parcelization, or visually through facade articulation.
- o New buildings should be built up to the sidewalk, with parking in back, above or underground, to fill in the street wall.
- o Additional infill redevelopment, expected to occur over time, should fill in the gaps along 85th St.

### IMAGEABILITY - OPPORTUNITIES & CONSTRAINTS

- o The Site is located such that it can become part of the existing district with the proper treatment.
- o Few landmarks exist to mark the area and help people recognize Greenwood. More landmarks are needed and can be incorporated in the new development.
- o Pedestrian paths can and should be better defined, including walkways and sidewalks.
- o Edges can be better defined through redevelopment.
- o A new node will be created through redevelopment of the Greenwood Shopping Center.

Figure 32  
Retail Market Areas



### INVENTORY & ANALYSIS

Based on information provided by Fred Meyer, the primary market area for their stores is the area within a 1 mile radius of the store. The secondary market area, expected to pull fewer customers, is the area within a 2 mile radius of the store.

Fred Meyer is the only discount store chain serving northern Seattle, with the exception of a two story Target store located at Northgate.

The primary competition for Fred Meyer's store on 85th St. in Greenwood is from their new superstore in Fremont.

The Northgate Mall and the University Village center are fuller service regional centers, and as such pull from a wider area, though they serve a different market niche than the Fred Meyer stores.

Census data reviewed for the market analysis prepared for the Town Center plan show the area has a strong retail market, and demographics are expected to continue to change in ways that will increase the buying power of the area residents.

Fred Meyer's desire to expand its store, and to provide groceries as part of its mix, is an indicator of the strength of the market in the area.

### OPPORTUNITIES & CONSTRAINTS

- o Because of the strong market and lack of competition from other discount stores, the Fred Meyer and other Town center retail may be more willing and better able to modify their standard design requirements, such as parking locations, parking ratios, facade design and construction materials.



Figure 33

## SYNTHESIS MAP

### Primary Opportunities & Constraints

Uncover, restore, and celebrate the area's natural history as a marsh and headwaters of Piper's Creek. Provide educational components in the design.

Capitalize on the wide rights-of-way, location of community facilities, the possibility of connecting the town center with Piper's Creek, and the need to address drainage issues by providing an interconnected system of "Green Streets".

View the location of peat and compressible soils as both an opportunity and constraint. Leave the low area in open space and use it as the site for storm-water retention, peat recharge, and groundwater recharge. Connect this area with "Green Streets", & use the headwaters/beginnings concept in the design.

Use the topographic break from higher to lower areas on the site to guide the location and type of development. More intensive development should occur on the upper (southern) area.

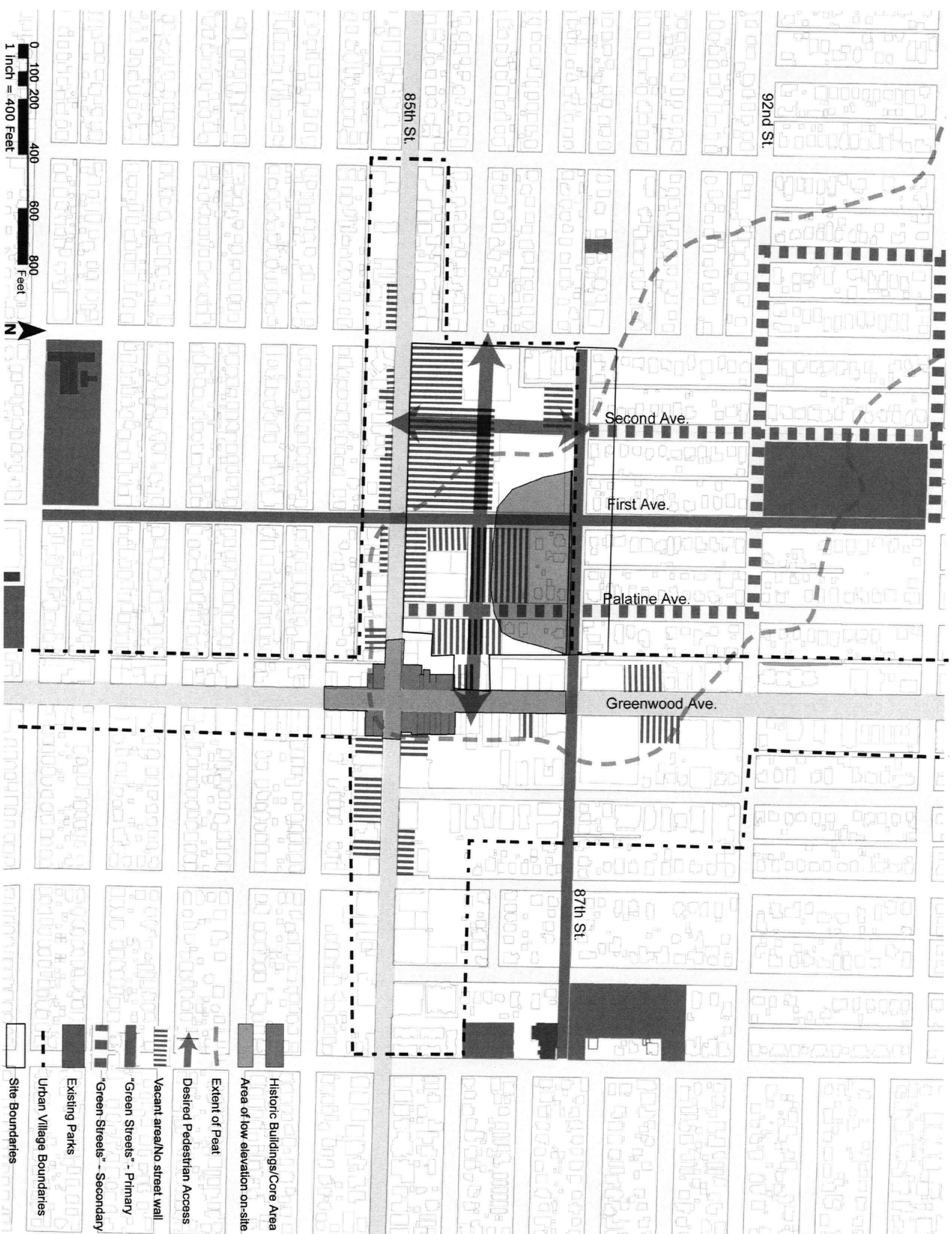
Heed the natural limitations of the site, while allowing for economic use (e.g., transfer development capacity from marsh area to remainder of the site.)

Develop a pedestrian connection from Greenwood Ave. through the site to connect the existing core with the new development. Such a connection could reinforce the existing street grid.

Construct new buildings to the sidewalk to provide a more enclosed street wall. Large parking lots on 85th, 3rd, 1st and Palatine Avenues currently disrupt the street wall.

Provide a consolidated transit stop/plaza on 85th St. to assist with traffic delays and give more presence to transit, potentially increasing ridership.

Preserve and enhance the historic buildings at the main intersection at 85th St. and Greenwood Ave. These are the heart and soul of the community. Some of their characteristics should be emulated in new development (e.g., street wall, parcelization, materials, design elements), as detailed in the City's design guidelines.



## CHAPTER 5 SITE DESIGN

Based on the design strategy and the knowledge gained through information gathered and analyzed in the previous chapters, an overall concept plan and two alternative master plans were developed. This chapter starts with the overall concept plan, which served as the basis for more detailed design. Two alternative master plans are presented, along with sections and axonometrics to further explain the plans. Design details and a closer look at the street types in the project give a fuller understanding of the two alternatives.

### Overall Concept Plan

The overall concept plan is based on opportunities presented by the natural history of the area, its location relative to Piper's Creek, expected redevelopment of GSC properties, the location of community facilities, and the drainage needs of the community. The overall concept is one of "Connections, with a Green Heart", and is described in detail on the next page.

### Master Plans

Two alternative master plans were developed to provide a range of options. These are presented in plan, section, and axonometric. The primary variables are the location and size of the Fred Meyer store, since this is the driver for the redevelopment, and the location and size of a proposed storm-/groundwater recharge and recreation wetland. Other variables include the location and mix of building and use types, the location and types of public spaces, and the street layout.

Alternative One keeps the existing Fred Meyer and expands it southward to link the store with 85<sup>th</sup> St. It includes a 2 acre wetland and increased stormwater infiltration. Most buildings other than the Fred Meyer are mixed use.

Alternative Two includes a new 2 story Fred Meyer store, with housing above, located on 85<sup>th</sup> St. It includes a 3+ acre wetland and removal of the portion of Palatine that is currently sinking, to be replaced with a pedestrian boardwalk connection. The master plans, sections and other drawings flesh out the details of these two alternatives.

### Design Details

One sheet is presented for each sustainable community design element, detailing one aspect of the alternative plans related to that element, along with precedent photos. The aspects detailed are:

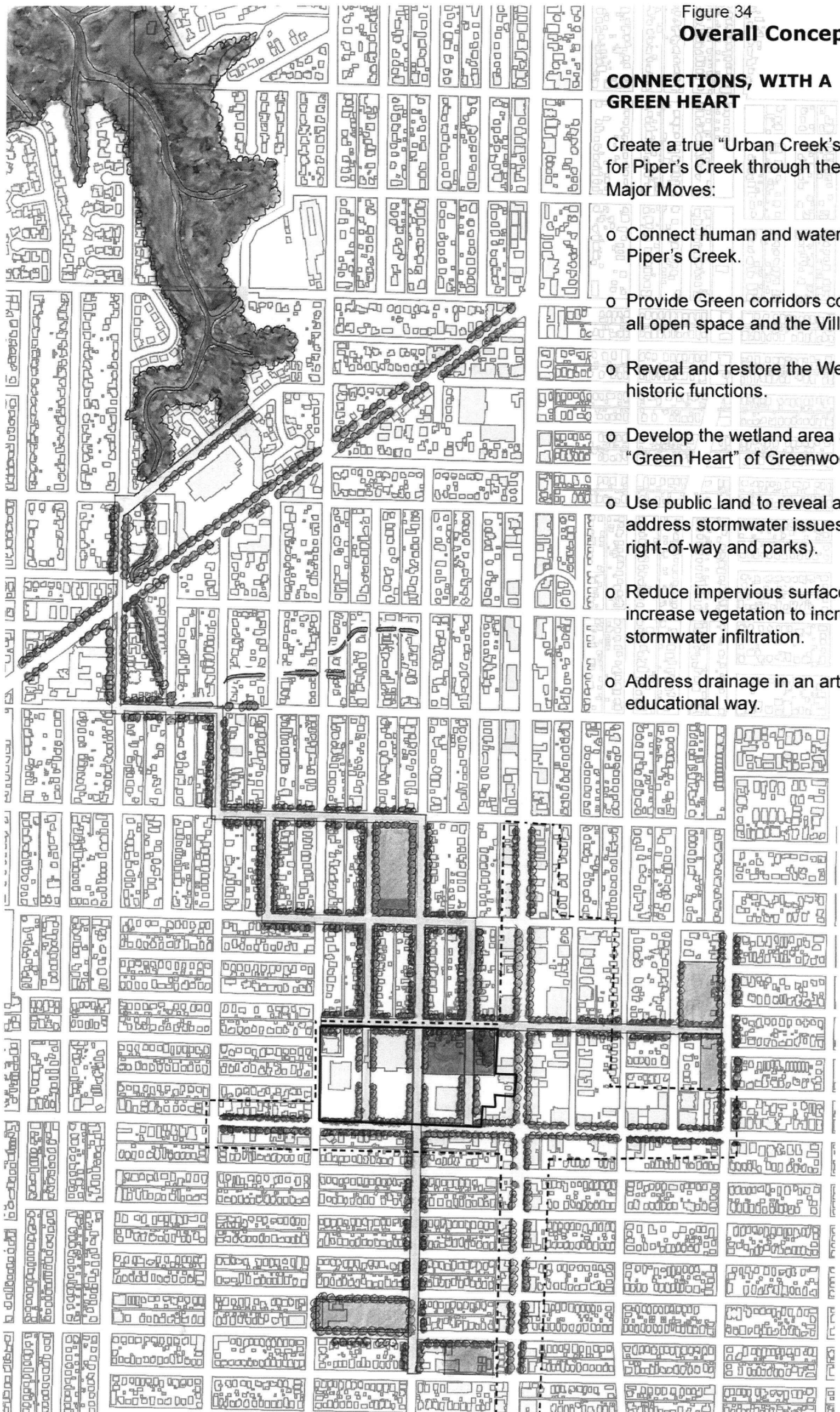
- Green Infrastructure - Wetland Design
- Livability - Pedestrian Walkway Design
- Placemaking - Materials

### Street Typology

The proposed street system is an important aspect of the proposed designs. They are a large part of the implementation of the Green Infrastructure principles, as well as having important implications for Livability and Placemaking. This section shows the existing and alternative street typologies, followed by sections and descriptions of the streets.



Figure 34  
Overall Concept Plan



**CONNECTIONS, WITH A GREEN HEART**

Create a true "Urban Creek's Legacy" for Piper's Creek through these Major Moves:

- o Connect human and water flows to Piper's Creek.
- o Provide Green corridors connecting all open space and the Village.
- o Reveal and restore the Wetland's historic functions.
- o Develop the wetland area as the "Green Heart" of Greenwood.
- o Use public land to reveal and address stormwater issues (street right-of-way and parks).
- o Reduce impervious surfaces and increase vegetation to increase stormwater infiltration.
- o Address drainage in an artistic & educational way.

<b>Existing Elements</b>		<b>Proposed Elements</b>	
	Parks and Playfields		Proposed Marsh Areas
	Piper's Creek		Green Streets, incl. streets with natural drainage
	Urban Village Boundaries		Proposed Street Trees in Priority Area
	Site		
	Street Trees in Priority Area		

N  
No Scale



Figure 35  
**Master Plan**  
**ALTERNATIVE 1**

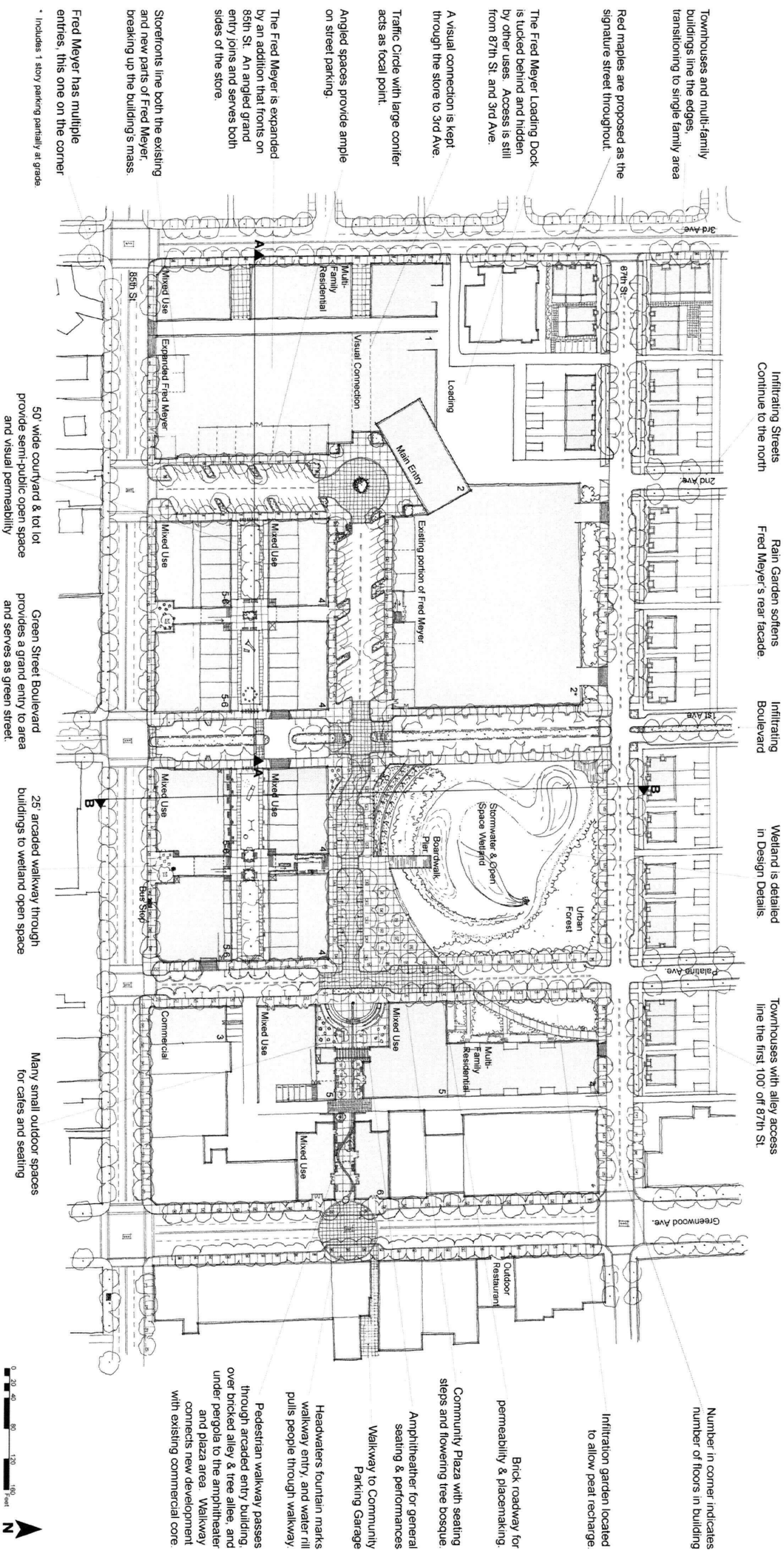
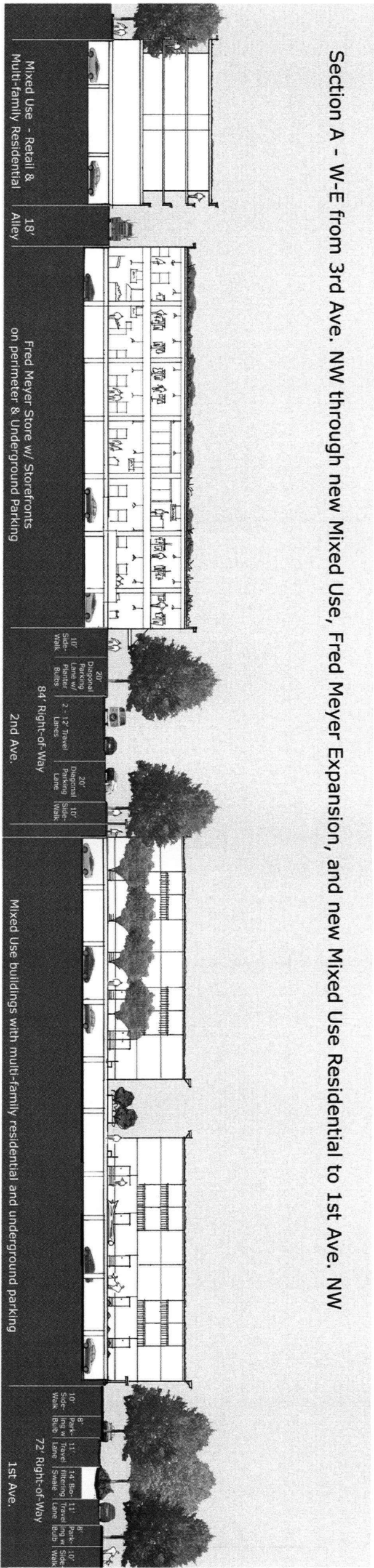


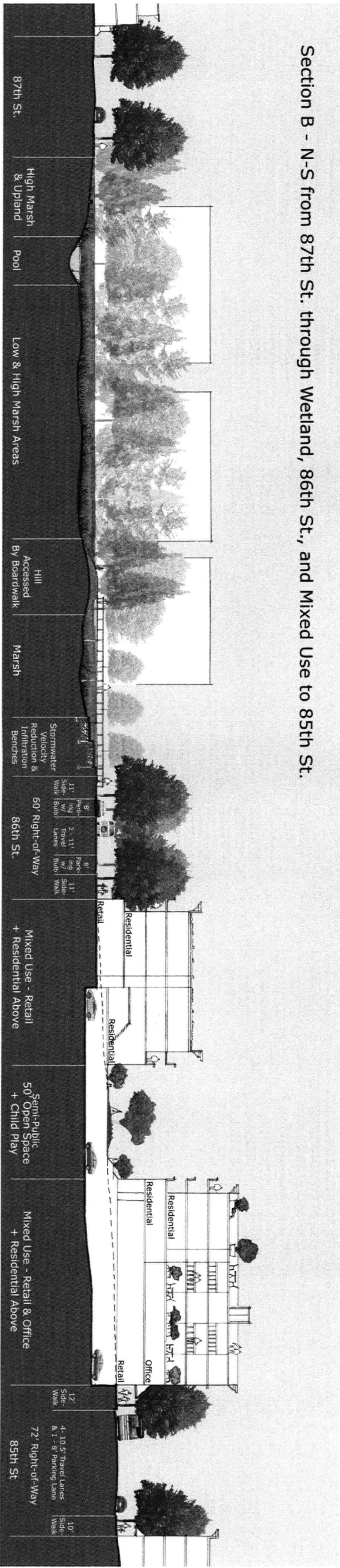


Figure 36  
Sections  
ALTERNATIVE ONE

Section A - W-E from 3rd Ave. NW through new Mixed Use, Fred Meyer Expansion, and new Mixed Use Residential to 1st Ave. NW



Section B - N-S from 87th St. through Wetland, 86th St., and Mixed Use to 85th St.



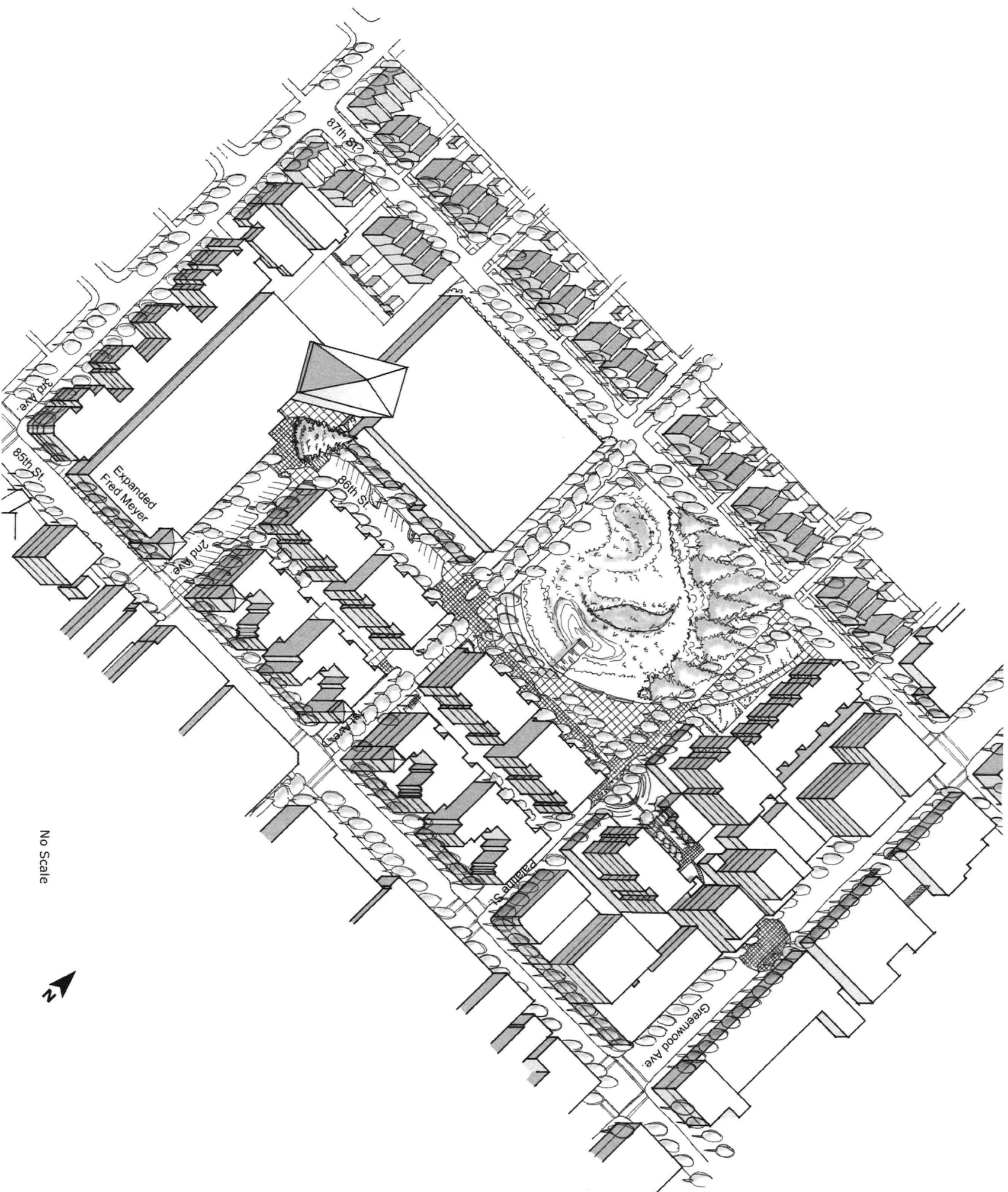


Figure 37  
**Axonometric**  
**ALTERNATIVE 1**

This axonometric drawing shows the proposed master plan in three dimensions. The Axon does not show the topography of the site, however. The area with the marsh is up to 18' lower than the area fronting on 85th St.

The expanded Fred Meyer now fronts on 85th St. It's bulk and scale is broken down by storefronts that line the building. Mixed use buildings throughout the town center have residential uses on the upper stories. The bulk and scale of these buildings is broken down by setbacks and balconies.

Gateways to the town center are marked with corner towers on the buildings.

The scale of the townhouses lining 87th St. provide the transition to single family homes to the north.

Red maples, the proposed street trees, soften the built feeling of the area, and provide a signature look for the town center.

The wetland forms the "green heart" of the town center, located on the E-W pedestrian walkway and the "Green Street" boulevard, which connects Greenwood Elementary with the center's open space, Sandel Park, and eventually Piper's Creek.

Except for on-street parking, almost all of the parking is either underground or in structures.





Figure 39  
Sections

ALTERNATIVE TWO

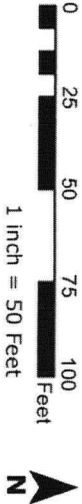
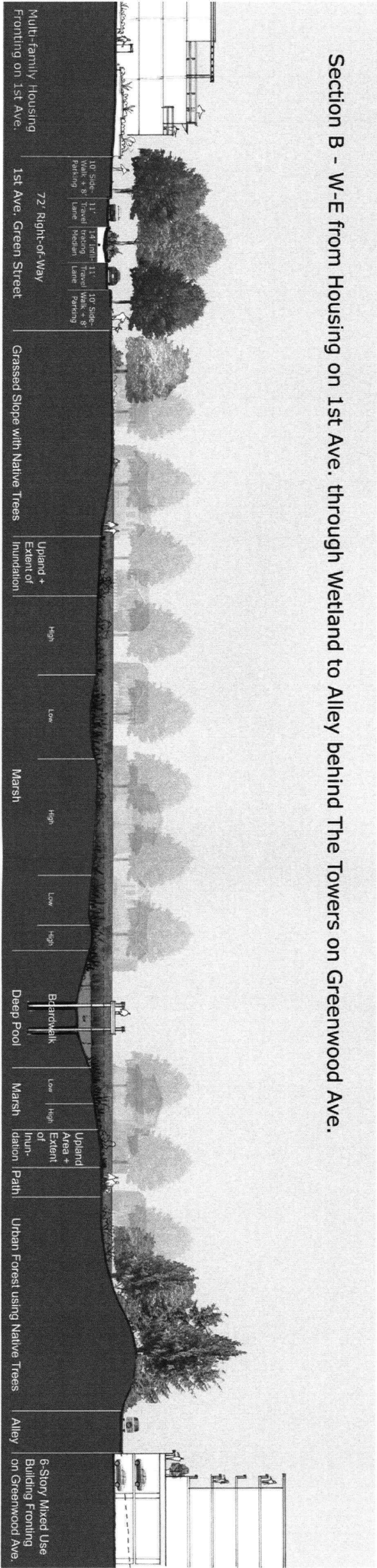
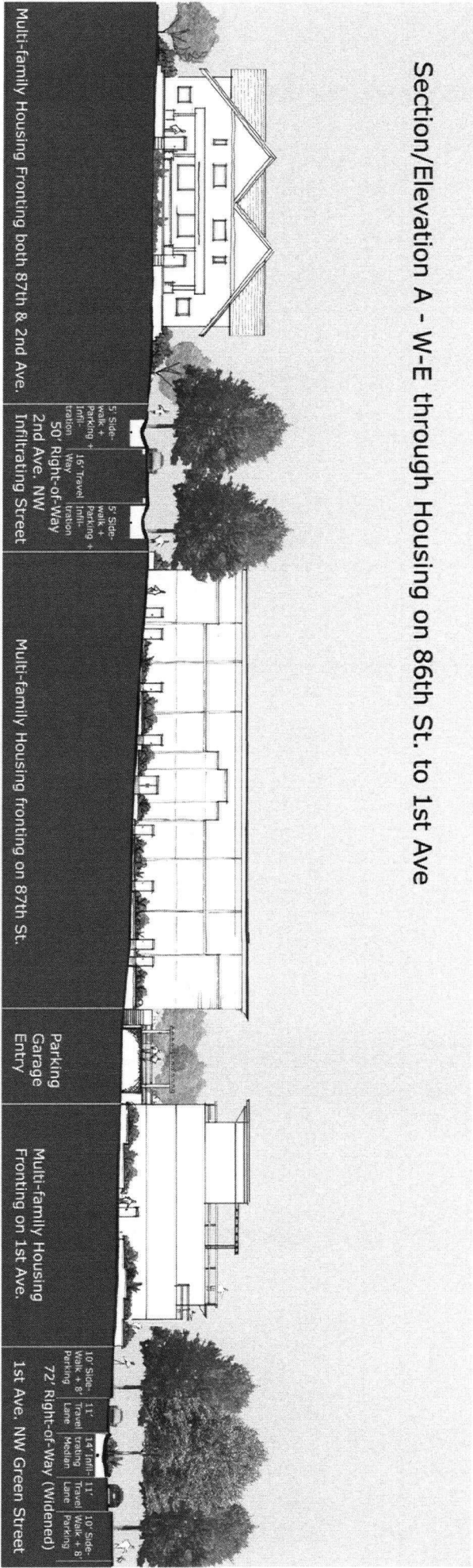
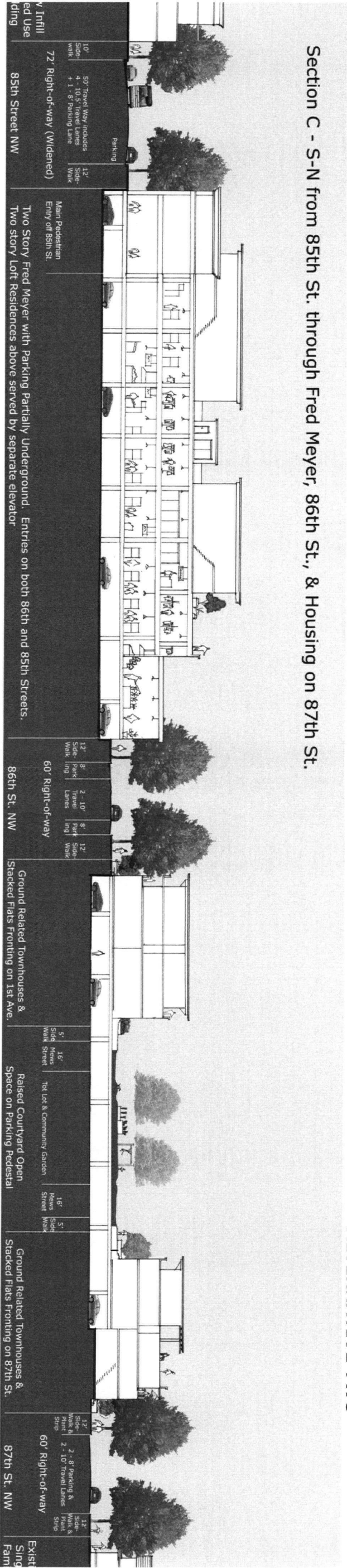




Figure 40  
Sections  
ALTERNATIVE TWO

Section C - S-N from 85th St. through Fred Meyer, 86th St., & Housing on 87th St.



Section D - N-S from 87th St. through Wetland, 86th St., Housing to 85th St.

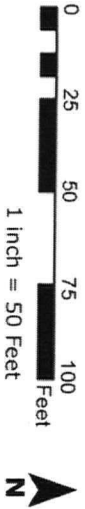
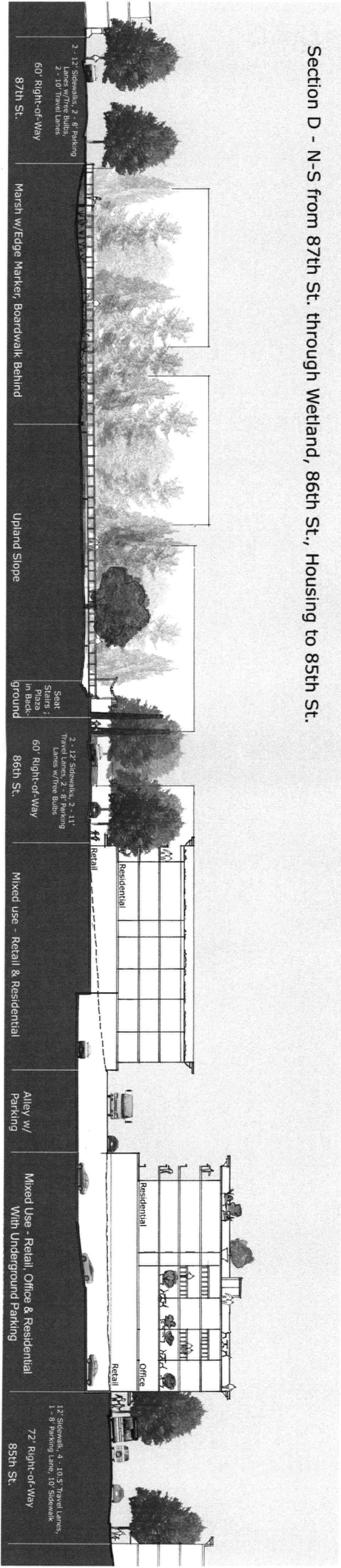


Figure 41

## Axonometric

### ALTERNATIVE 2

This axonometric drawing shows the proposed master plan in three dimensions. The axon does not show the topography of the site, however. The area with the marsh is up to 18' lower than the area fronting on 85th St.

The new two story Fred Meyer now fronts on 85th St. Its footprint is smaller than that in Alternative One, though it is bulkier. The bulk and scale is broken down with storefronts lining the frontage on 85th, and by entrances and windows on the other sides. Loft residential units are located atop the store and accessed through a separate entry on the west side.

Mixed use buildings throughout the town center have residential uses on the upper stories. The bulk and scale of these buildings is broken down by setbacks and balconies.

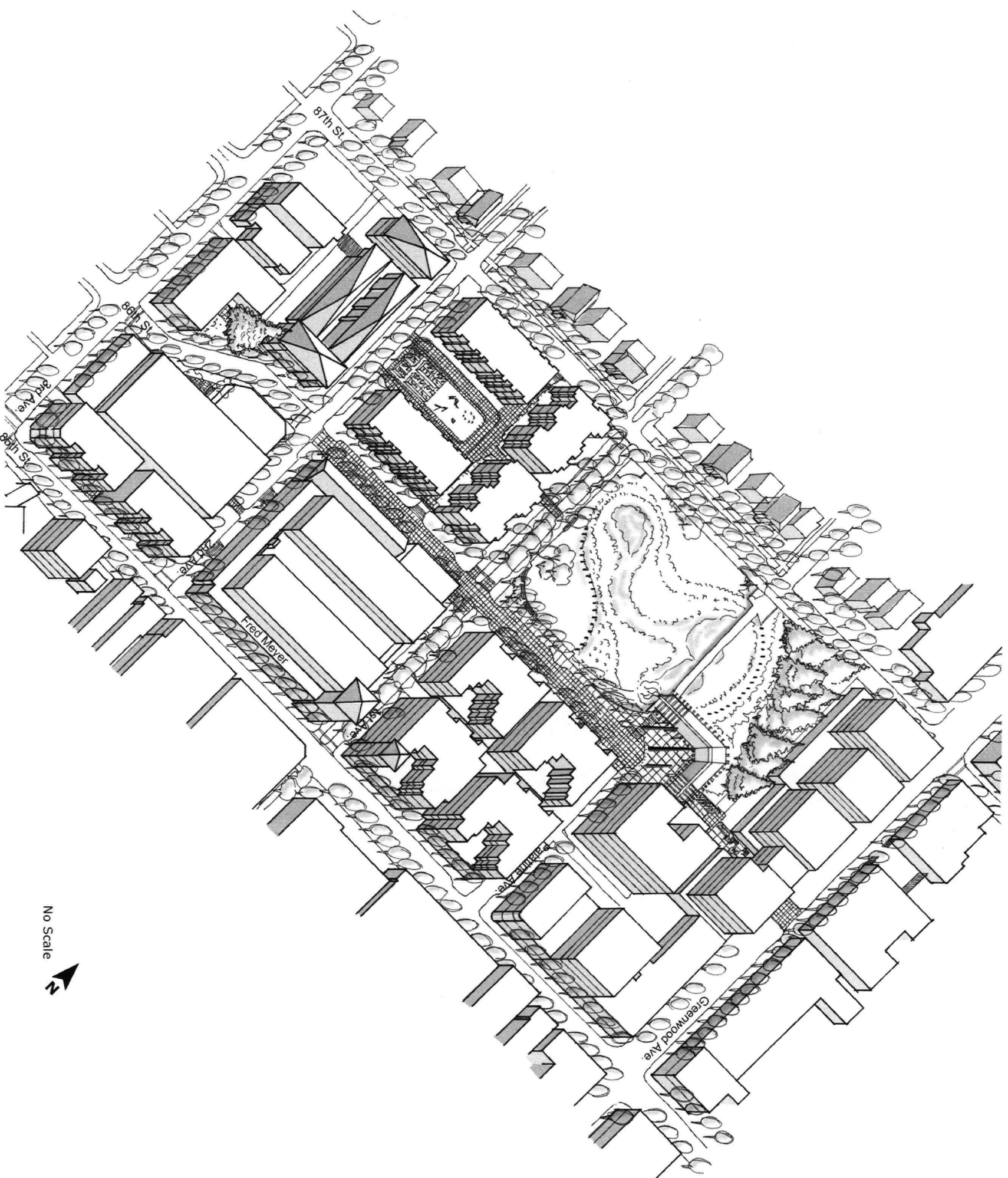
The main gateway to the town center area is marked with towers on the corners of the Fred Meyer and adjacent mixed use building and a grand boulevard.

Multi-family residential buildings and infill on existing single family lots provides the transition to the single family area to the north.

Red maples, the proposed street trees, soften the built feeling of the area, and provide a signature look for the town center.

As in Alternative One, the wetland forms the "green heart" of the town center. Because of its larger size, it is closer to the existing commercial core on Greenwood Ave., and is connected to it via the pedestrian walkway. It also connects via the "Green Street" boulevard to Greenwood Elementary, Sandel Park and eventually Piper's Creek.

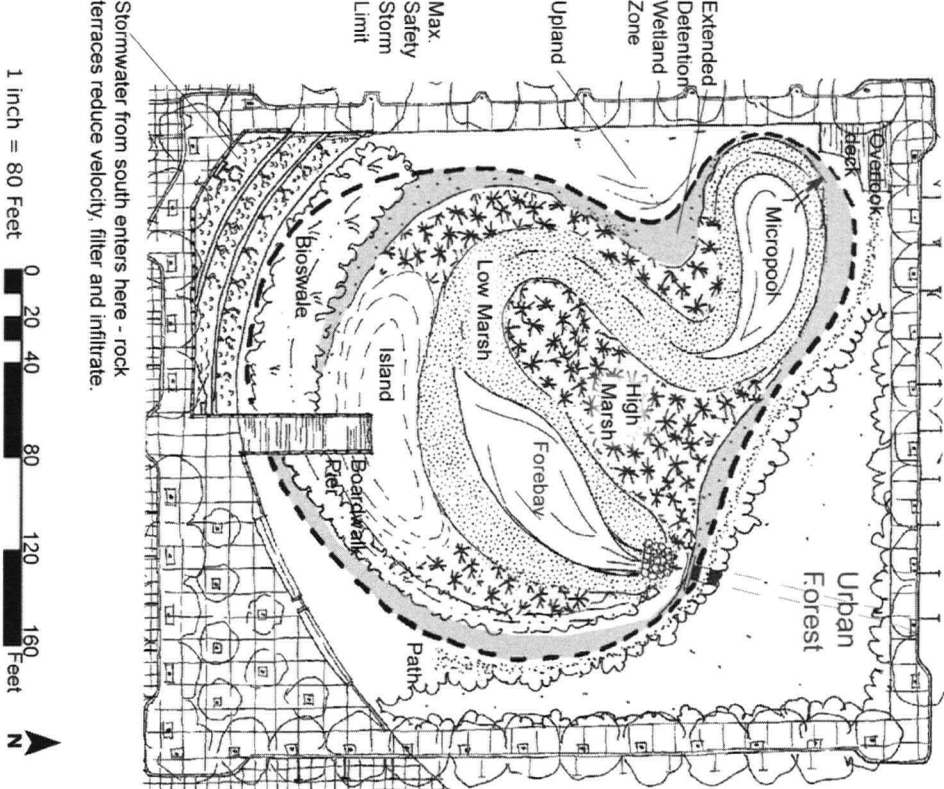
While the portion of Palatine St. that is sinking due to dewatering is removed, a visual and pedestrian connection is maintained via a boardwalk over the marsh.



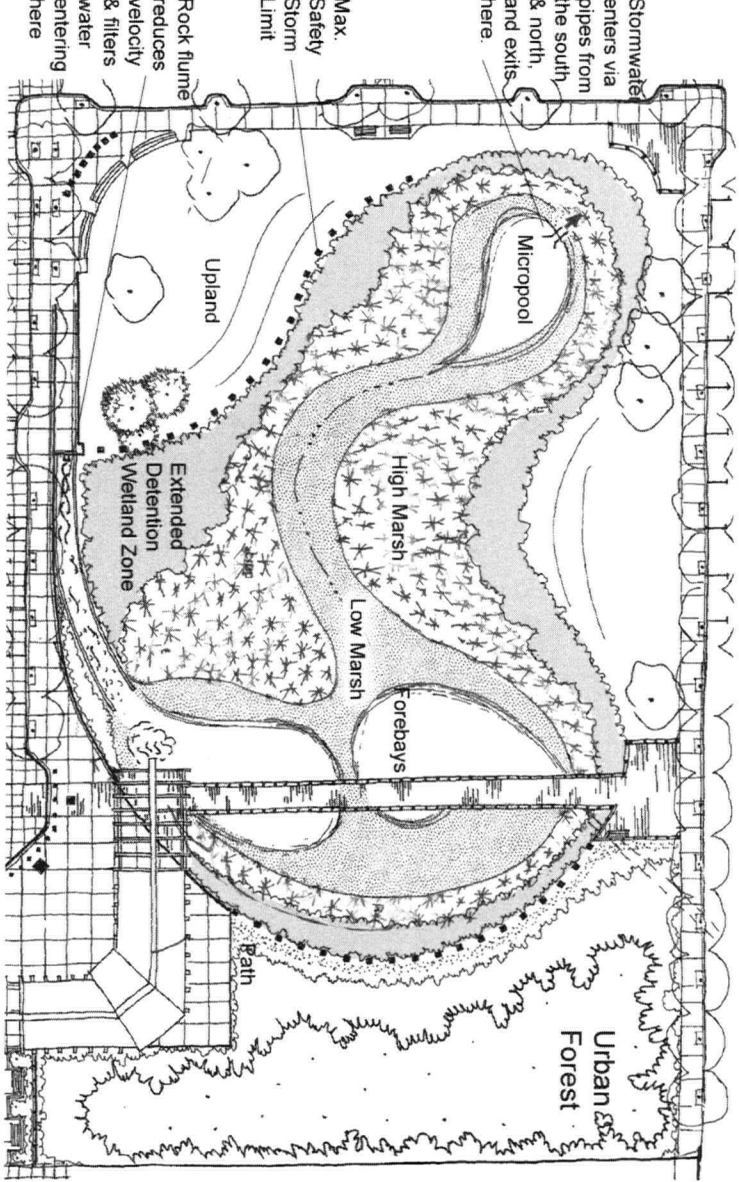
No Scale



Alternative 1



Alternative 2



Typical Extended Detention Wetland Section (Source: Schueler, p 12)

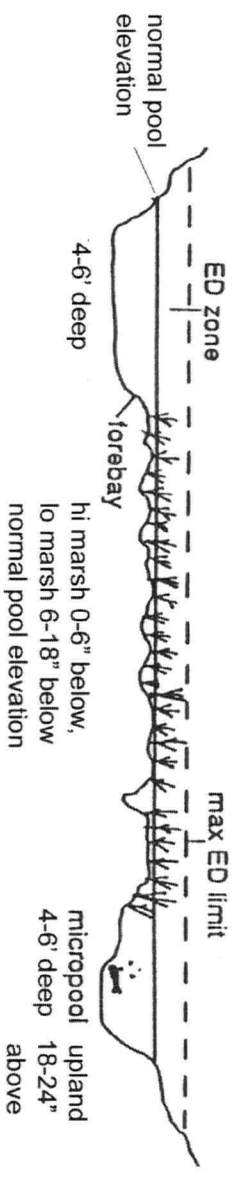


Figure 42  
Green Infrastructure Details

**WETLANDS**

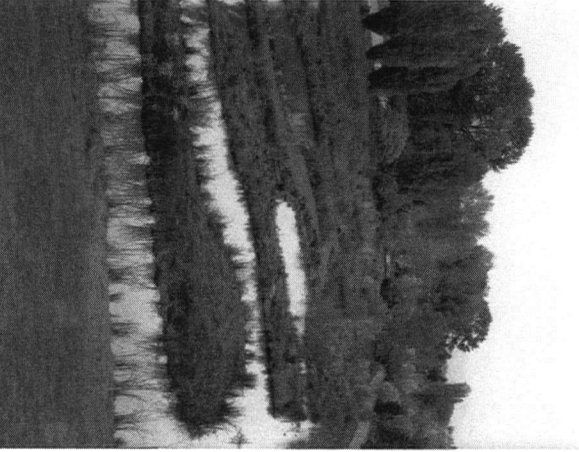
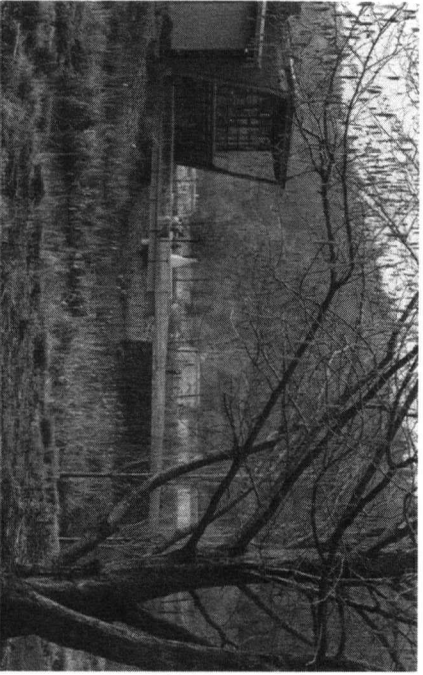
Both alternatives include a wetland, though they vary in size. Alternative 1 contains a total wetland/open space area of 2 acres, and Alternative 2 contains 3+ acres. The wetland is located in the low-lying portion of the site, where peat and compressible clay soils occur. The deepest clay deposits are in this area. These are ideal wetland conditions - again indicating the likelihood this area was once a boggy marsh.

- The purposes of this wetland are:
- o Recharge peat/compressible soil (as possible)
  - o Stormwater attenuation
    - Improve Quality
    - Decrease Quantity downstream
    - Reduce Velocity of flows
  - o Recreation and community amenity
  - o Wildlife habitat value

Little actual data are available and additional study of the area's soil and groundwater conditions, the condition of pipes, and the effects of dewatering is underway. Technical sizing of these wetlands, therefore, has not been done. The concept, however, is to retain, infiltrate and/or clean all stormwater generated by the project, as well as that contained in the stormwater pipe in 87th St., which would be partially siphoned off to the wetland to help recharge the compressible soils and maintain water in the wetland year-round. The infiltration capacity of the soil & the efficacy of recharging peat are not yet known, therefore these designs should be considered conceptual.

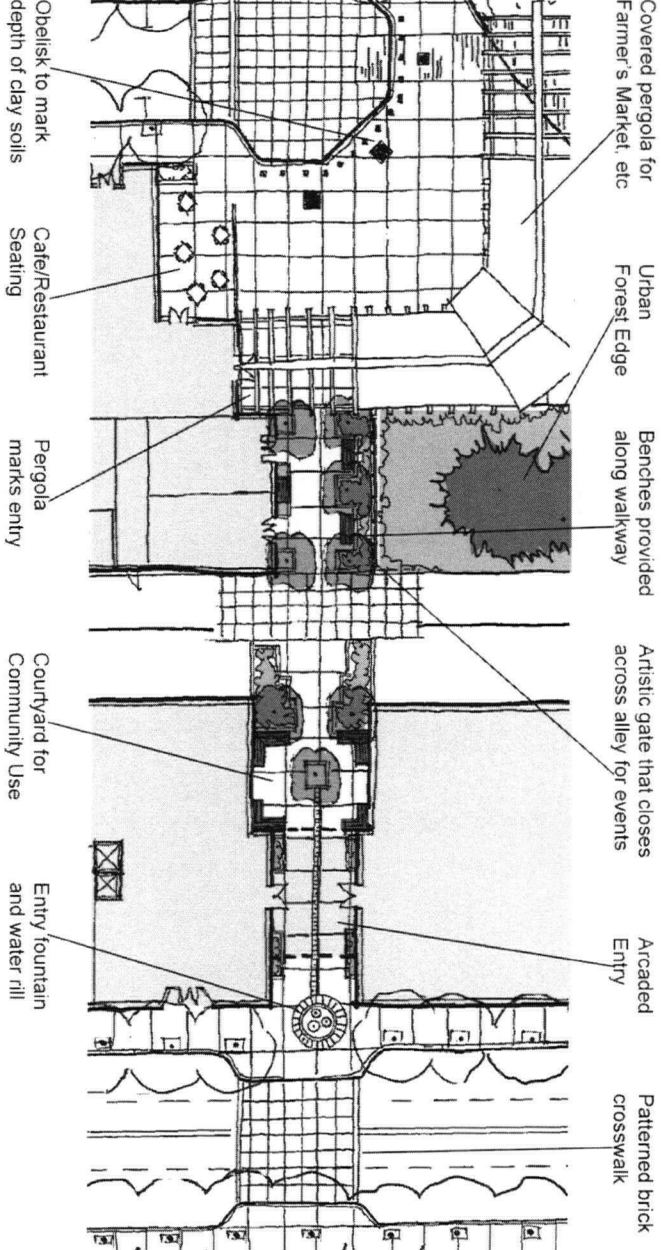
**Precedents**

Photos 1, 2 - Portland Water Pollution Control Board Wetland, Portland, Oregon  
Photo 3 - Waterworks Garden, Renton, Washington (Source: Lecesse, 74)

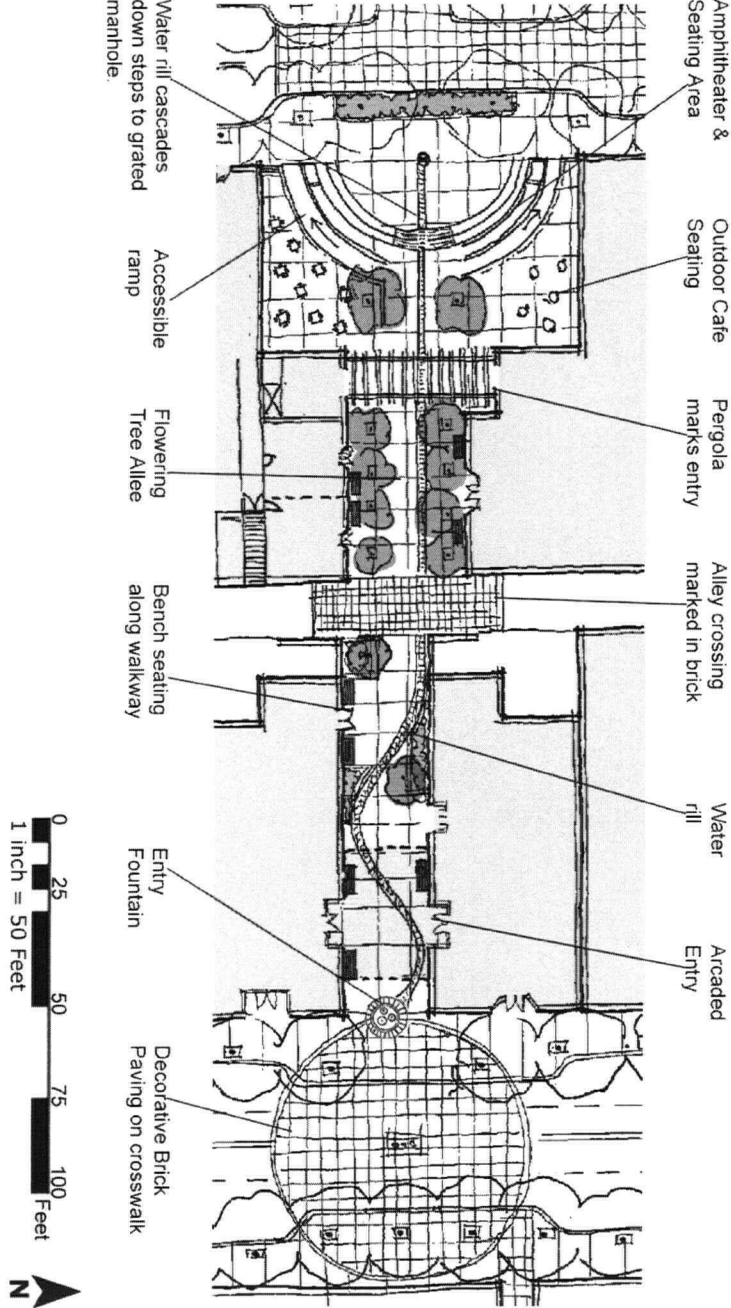




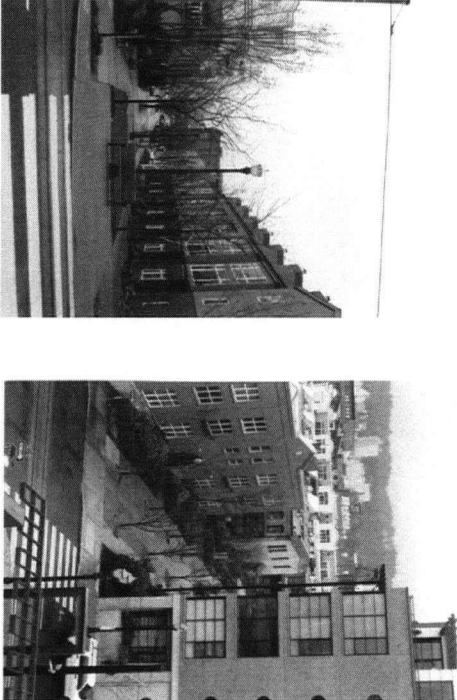
Alternative 1



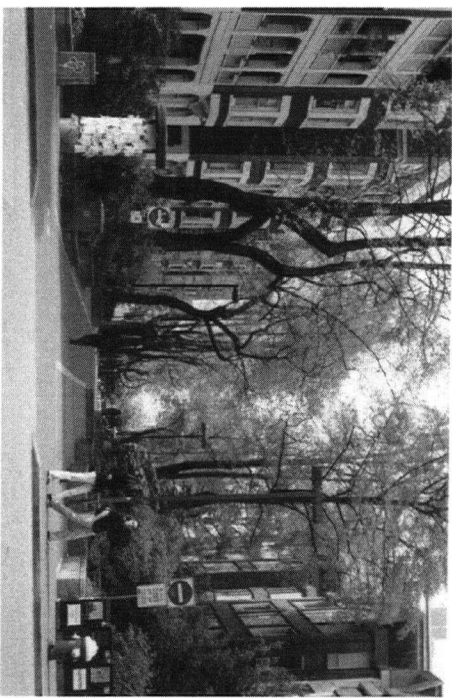
Alternative 2



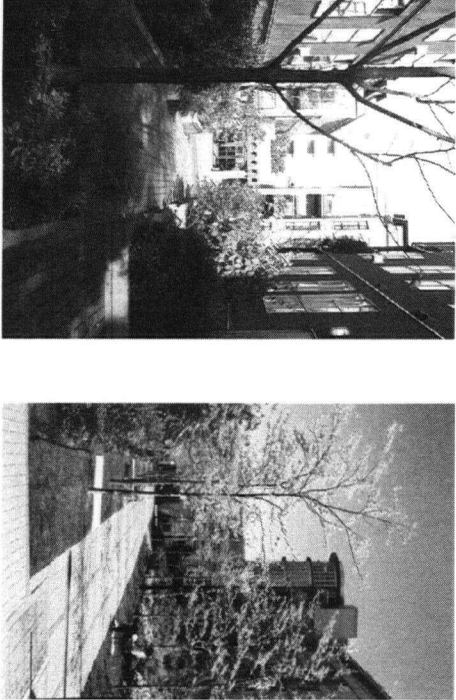
Precedents



Portland's Rose District



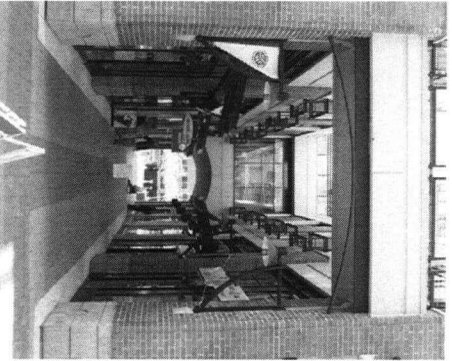
Bute St. off Robson, Vancouver, BC



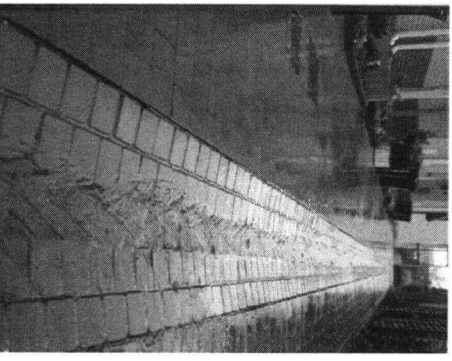
Vancouver, BC, Arbutus Lands Development

Figure 4.3  
Livability Details  
PEDESTRIAN WALKWAYS

A pedestrian walkway linking the old commercial core with the new area. Both designs include a walkway, generally 25' in width. Each walkway begins at Greenwood Ave. marked by a fountain symbolic of the headwaters and artesian springs in the area. Each design includes an arcaded portion of the walkway - a getaway through the new building fronting Greenwood Ave. A water rill in each design draws people through the walkway to the public plaza area. The walkway is intended to be pleasant and inviting so people will use it, thereby truly connecting the two areas.



UBC - University Village



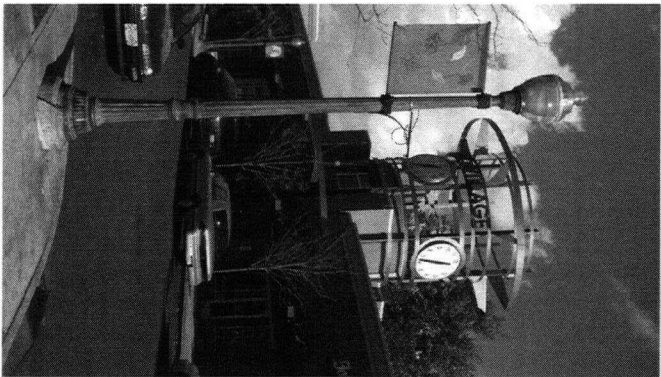
Brick Water Rill



Figure 44

**Placemaking Details**

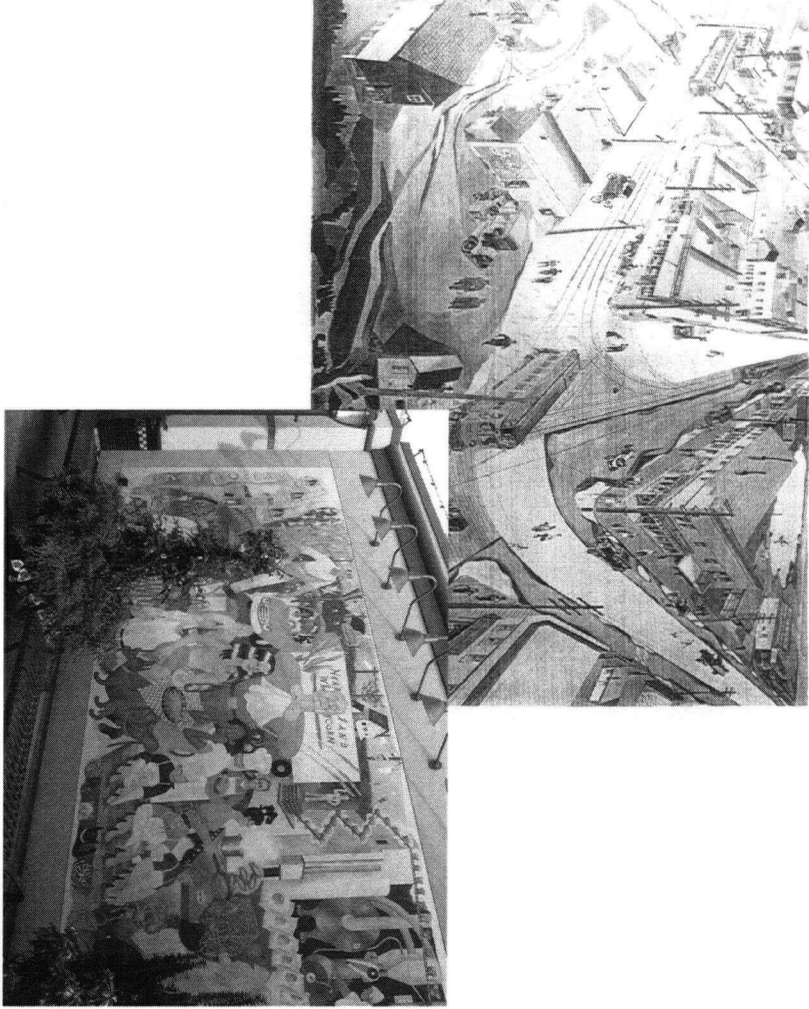
**Activities & Details**



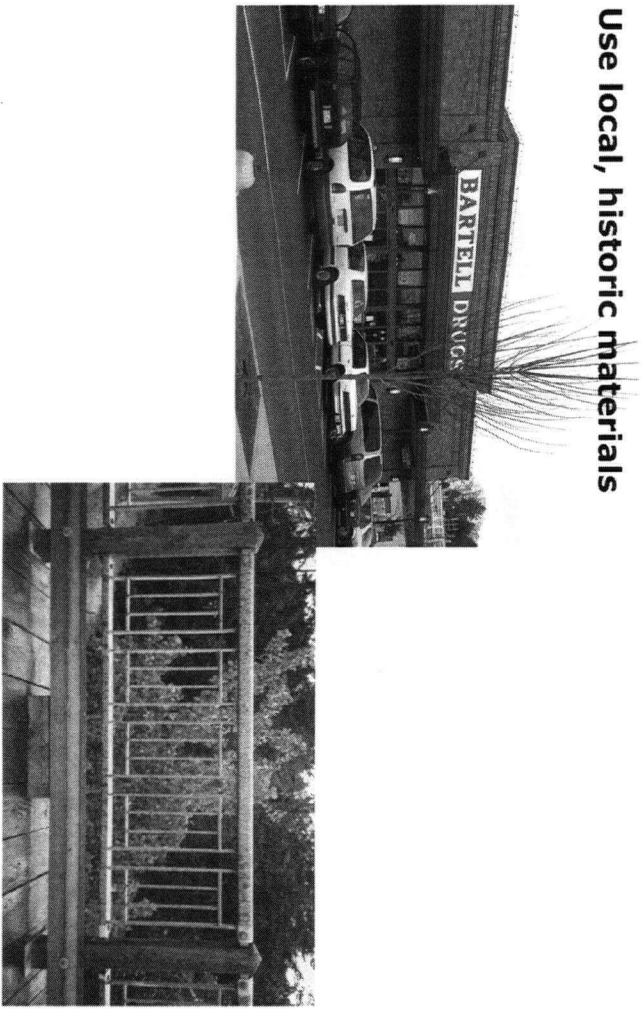
**Use Established Elements**



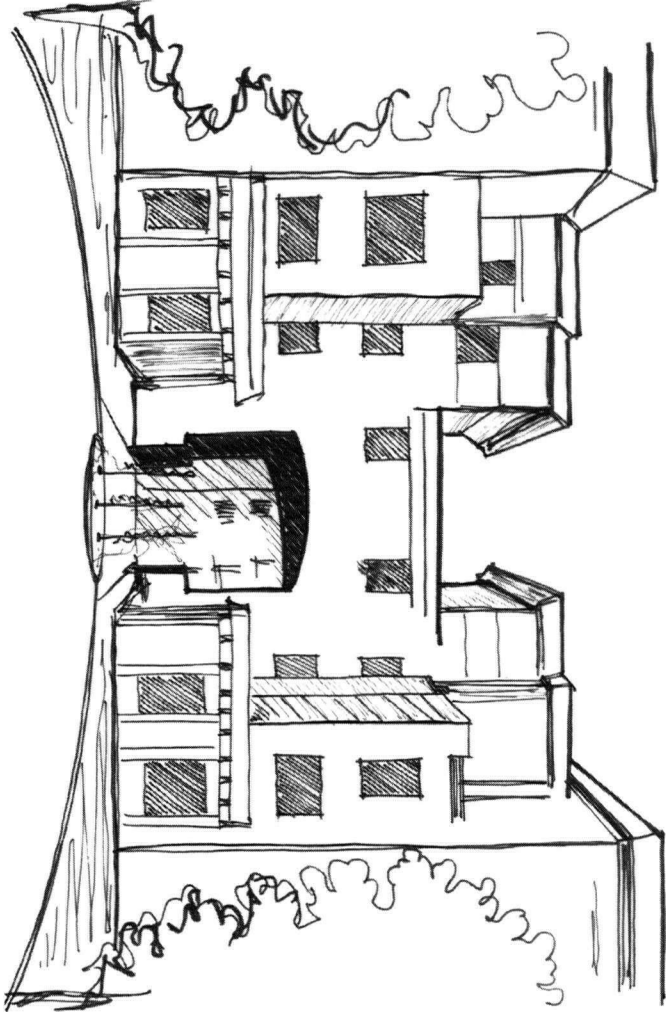
**Re-create the Mural**



**Use local, historic materials**



**Gateway Buildings**

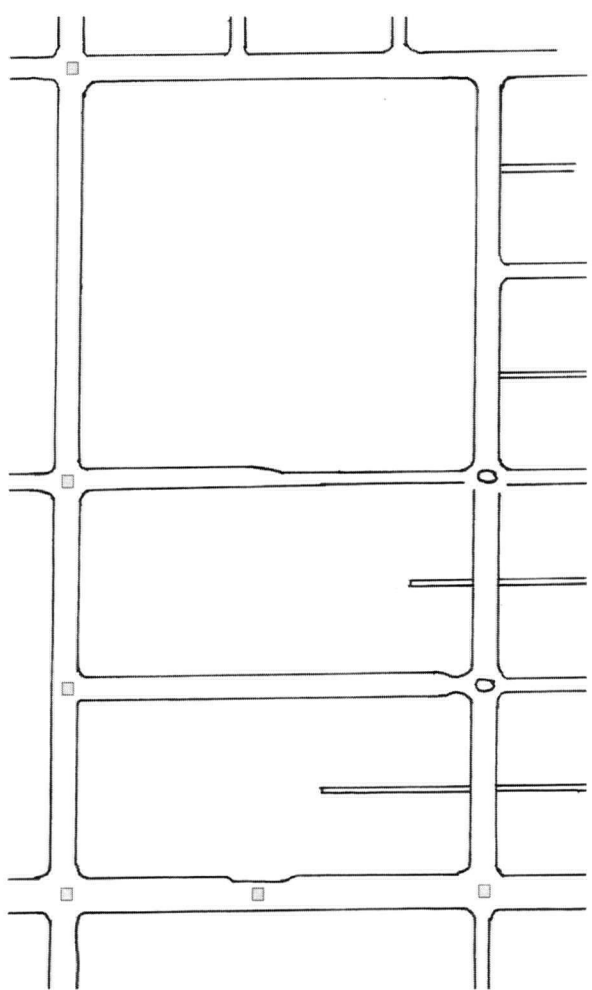


**Use Artistic Water Related Elements**





Existing



Alternative 1

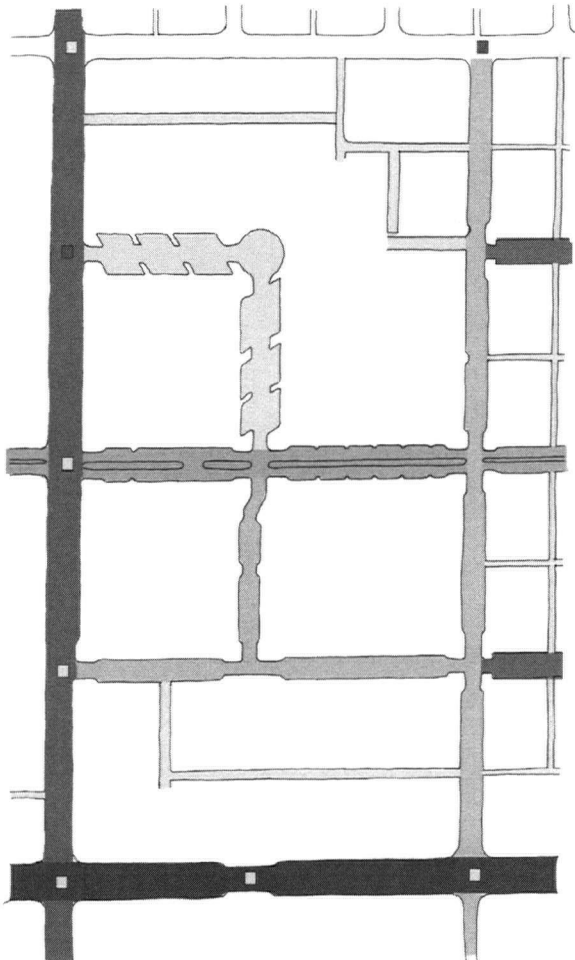
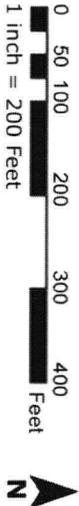


Figure 45  
**Street Layout & Type**  
**COMPARISON**

This image show the existing street layout and the layouts of the two alternative plans. A number of different street types are proposed. Each type is shown in detail on the following pages.

**Proposed Street Types**

- Infiltrating Boulevard
- Infiltrating Street
- Main Street
- Arterial/Shopping
- Community Street
- Angled Parking Street
- Woonerf or Mews
- Alley
- Existing Traffic Light
- Proposed Traffic Light



**Alternative 2**

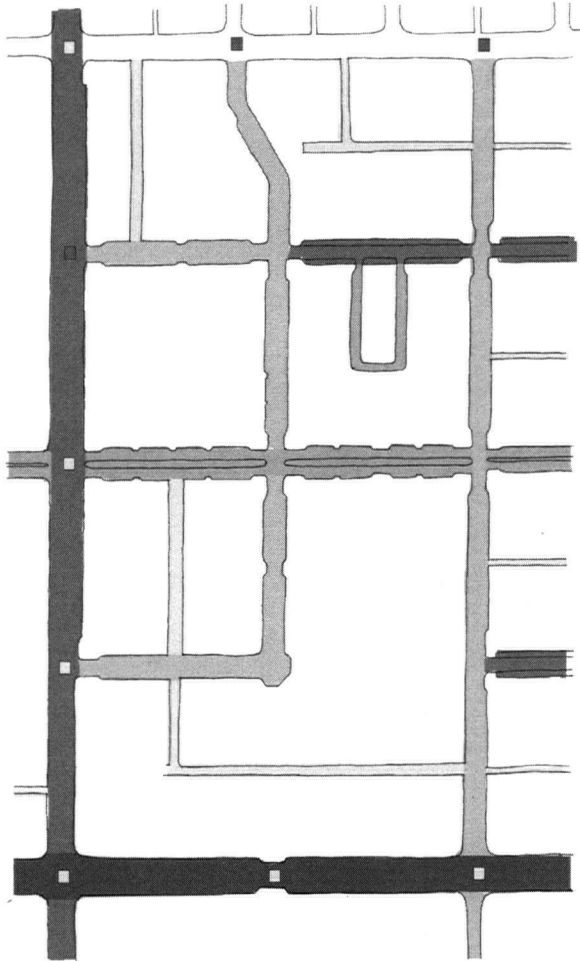
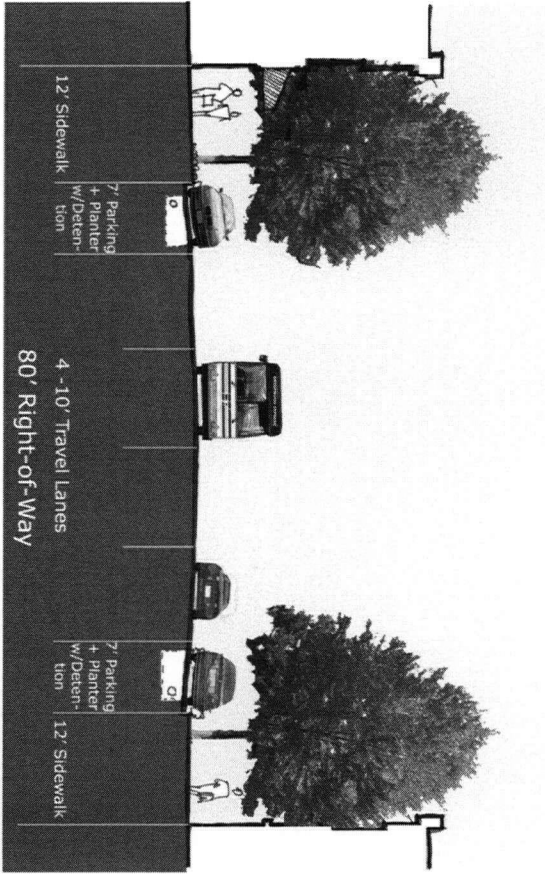


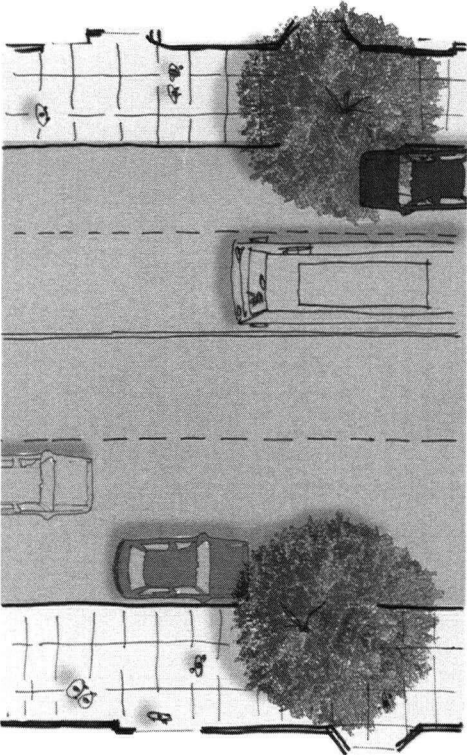
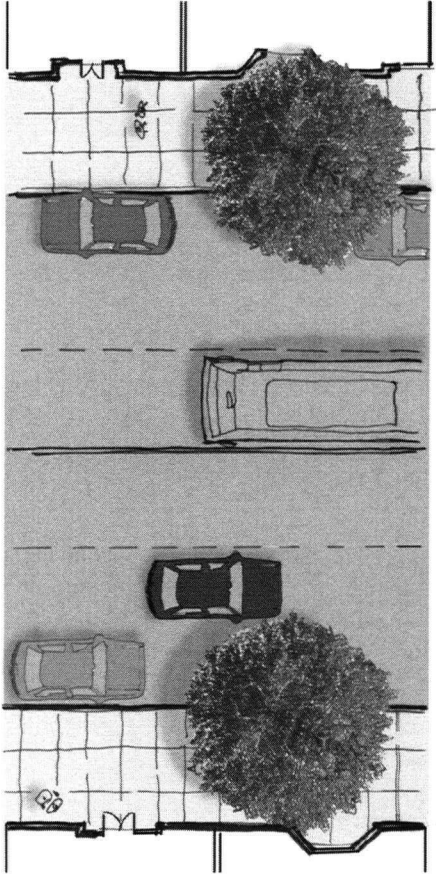
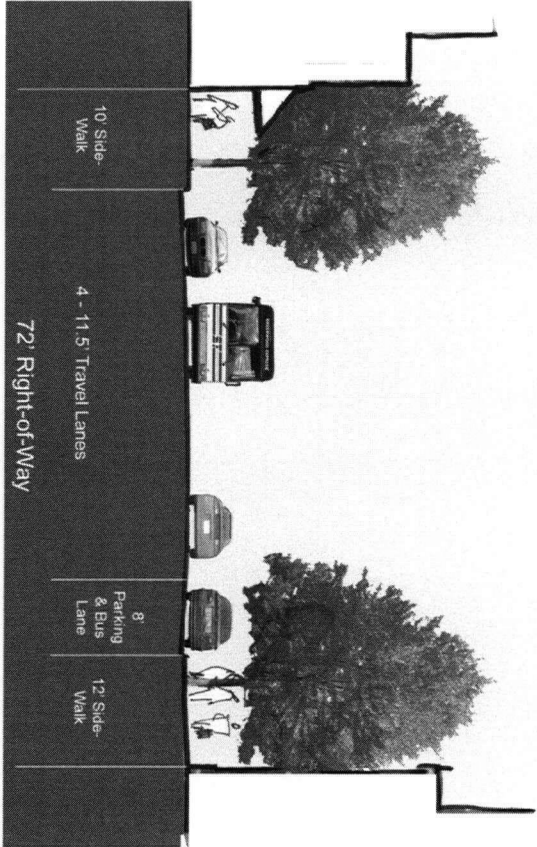
Figure 46  
**Street Type Sections & Plans**

The following pages show in section and plan views each of the proposed street types. The location of each type of street as used in the plan alternatives is shown in Figure 45. Each street type is described below the plan views.

**A. Main Street (Greenwood Ave.)**



**B. Arterial/Shopping Street (85th St.)**



This alternative street type is the same as existing, with the addition of tree planter stormwater detention, which can be retrofitted. The existing street tree is the Red Maple, which is proposed as the signature street tree for the project area.

This alternative street type would require an increase of 12' over the existing 60' right-of-way, which could be accommodated within the project area. This increased r-o-w would allow for a parking lane and bus pull-out area.



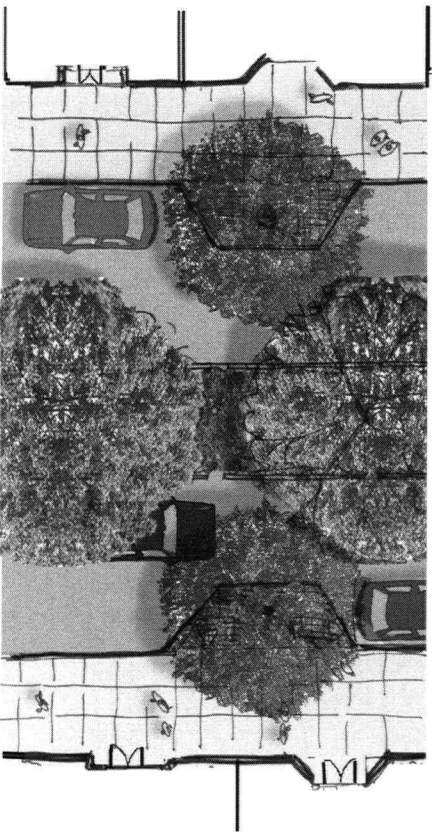
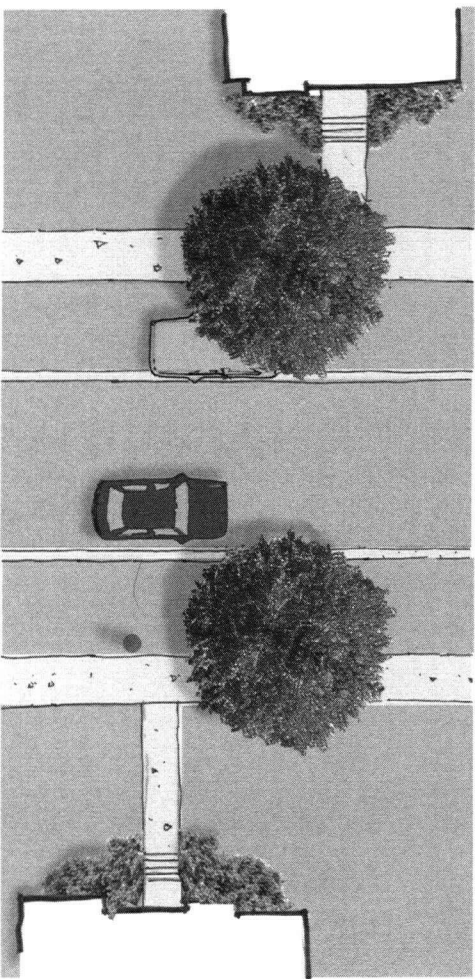
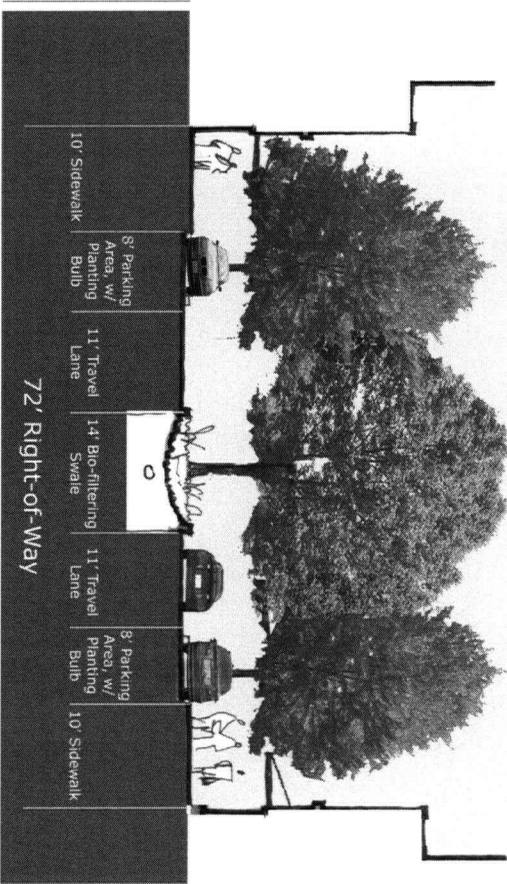
Figure 47  
**Street Type Sections & Plans**

The two streets on this sheet - the Infiltrating Street and Infiltrating Boulevard - provide an ideal opportunity for stormwater infiltration or detention. In these two proposed street types, space is provided under the street for infiltration and detention of stormwater. The existing soil conditions on site may limit the usefulness of these street types, though this must be examined further. Special engineering will be needed to ensure these designs wouldn't drain the groundwater table.

C. Infiltrating Street



D. Infiltrating Boulevard



Infiltrating streets in the residential areas allow parking over 'Grasspave' surfaces. A narrower right-of-way of 50', rather than the standard 60', is proposed to encourage slower traffic movement and decrease impervious surfaces.

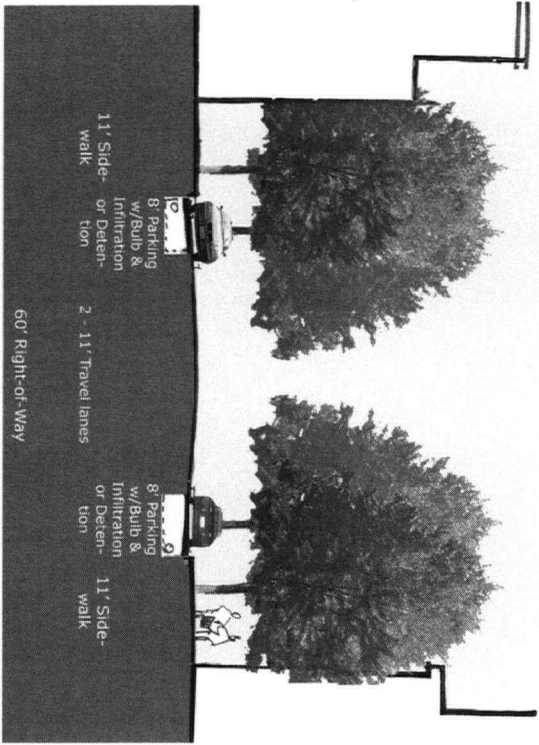
This Green Street boulevard is used on 1st Ave. for both storm-water attenuation and to provide a grand entry and signature to the area. Stormwater that lands on the street is directed to the center median, where it infiltrates the soil or is stored and slowly released.



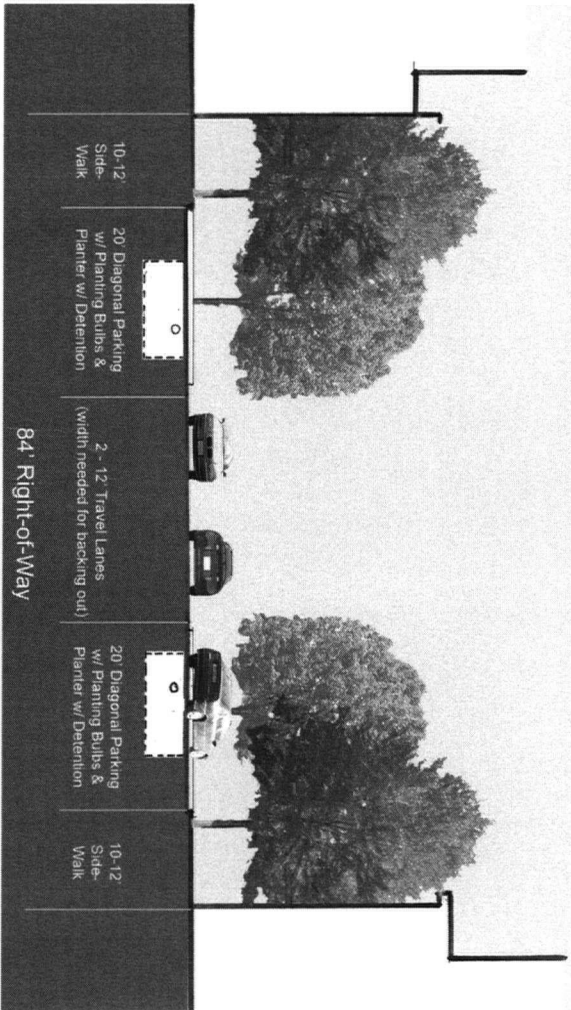


Figure 48  
Street Type Sections & Plans

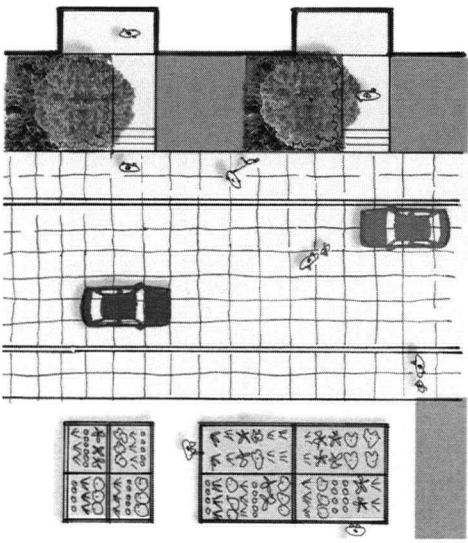
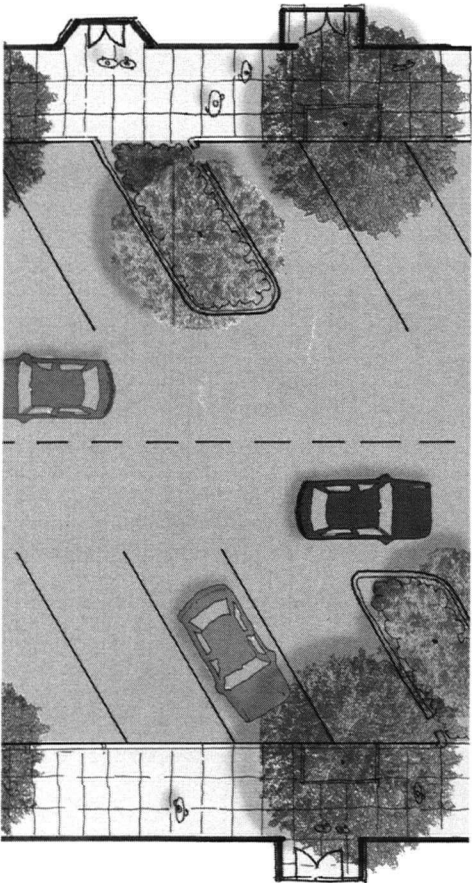
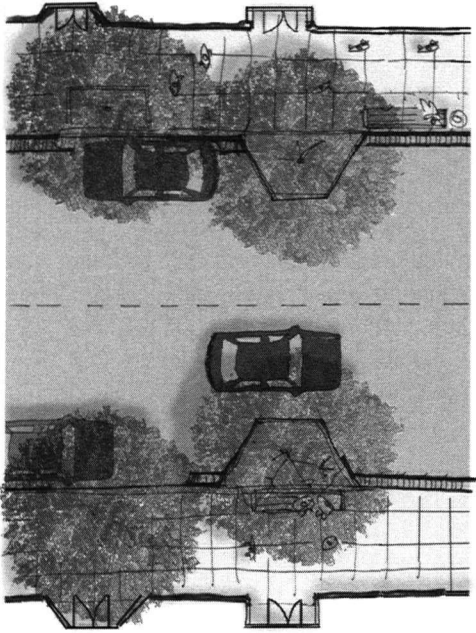
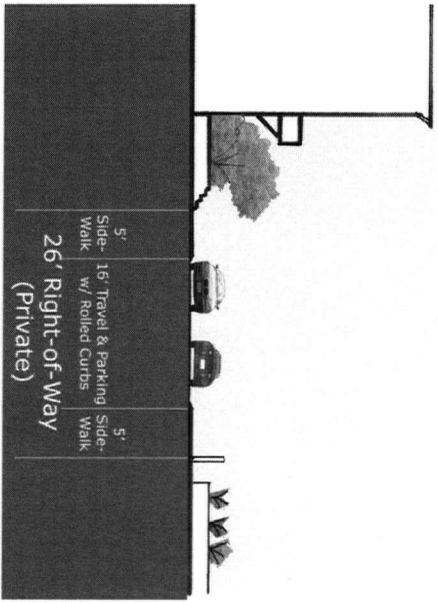
E. Community Street



F. Angle Parking Street



G. Woonerf/Mews



This is the primary street type in both alternatives. It uses a standard 60' right-of-way, but is made friendlier through the use of planter bulbs, street trees and wide sidewalks. The planter bulbs are also used for stormwater infiltration or detention.

This street type is used only in Alternative 1 in front of the Fred Meyer in order to provide additional on-street parking in close proximity to the store. The width of the street is partially mitigated by planter bulbs with trees. Stormwater runoff is directed to these bulbs for infiltration or detention.

Used in Alternative two only, this woonerf/mews street would likely be a private street. It is narrow, brick paved, and allows parking, in order to slow traffic and allow free pedestrian movement in the residential area.



## CHAPTER 7 DESIGN ASSESSMENT

Two alternative master plans were prepared, based on the guiding principles set out in the Design Strategy Matrix in Chapter 3. The purpose of this Chapter is to assess the two alternative plans, as well as the existing conditions, against the measures included in the matrix. It begins with maps that provide detailed information on commercial and residential development and parking. These are followed by maps showing the design moves from each alternative that address the three elements of sustainable community design. Finally, a numerical assessment of the alternatives is presented, based on the measures listed in the Design Strategy matrix.

### Development Details Maps

To perform an assessment of the existing conditions and alternative plans, many details about the plans were needed. The uses and layout of each building were therefore designed at a basic level, including residential unit layout, circulation, parking layout, and size of commercial storefronts, in order to understand and assess the proposals. These details are presented in the three figures on the following pages.

### Assessment Maps

The major design moves from each alternative master plan that are intended to address each of the three elements of sustainable community design are then presented. These are shown in several figures and compared against each other.

### Alternatives Comparison

The graphic assessments are followed by several tables that numerically compare the two alternatives and the existing conditions based on the measures listed in the design strategy matrix. As a recap, the measures were:

% Effective Permeable Surfaces

% of Residents within a 5 minute walking distance (1/4 mile) of daily destinations

Range of Housing Types Provided

Housing Density

Commercial Frontage on the Sidewalk

Street Interconnectivity

Placemaking Elements

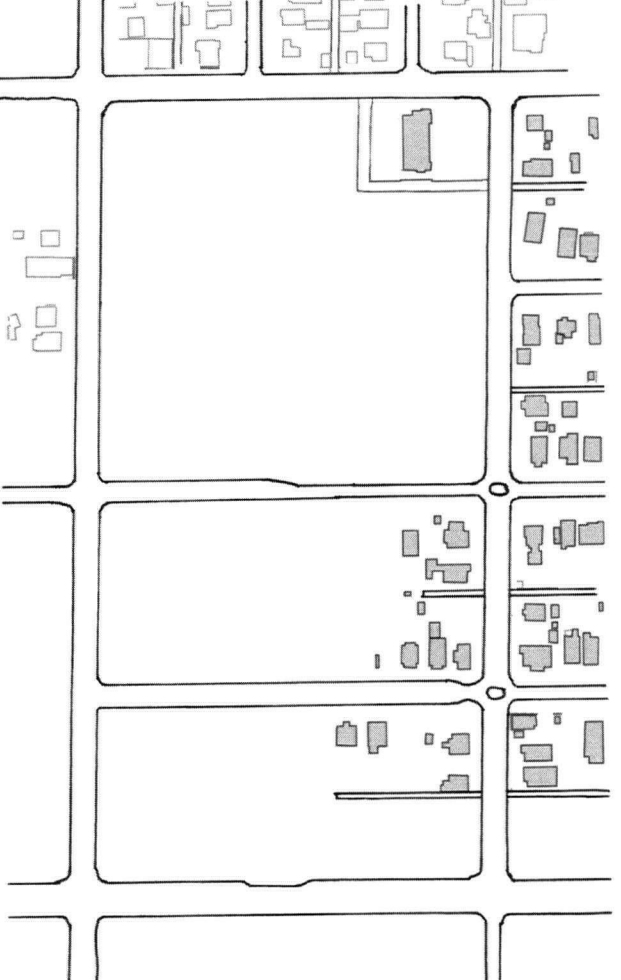
These measures help assess how well each design meets the elements of sustainable community design.

The intent was not to judge which alternative was better or to make a recommendation - each alternative is an attempt to fulfill the design strategy as laid out. They are both presented as different options to show that a more sustainable development could occur even if the Fred Meyer remains in its current location.

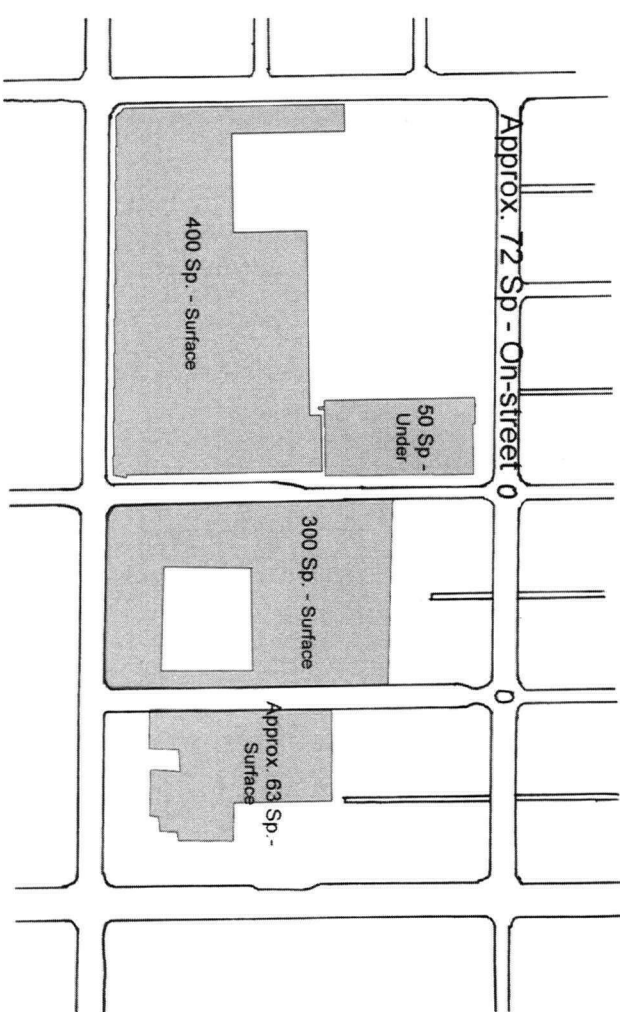
Commercial



Residential



Parking



No Scale

Figure 49

Development Details  
EXISTING CONDITIONS

Commercial

- o Commercial uses are located in several large buildings, set back substantially from the roads and surrounded by surface parking.
- o Uses include a 1 story Fred Meyer store, a grocery store, Drug, Video, Thrift, Toy and Fabric Stores, a carpet store, and a McDonald's with a drive-thru.
- o Commercial Square Footage:  
Fred Meyer 106,345  
Other Retail 81,800  
Office 0  
**TOTAL 188,145**
- o Fred Meyer constitutes 57% of the total Commercial square footage.
- o 0% of the commercial square footage is in mixed use buildings.

Residential

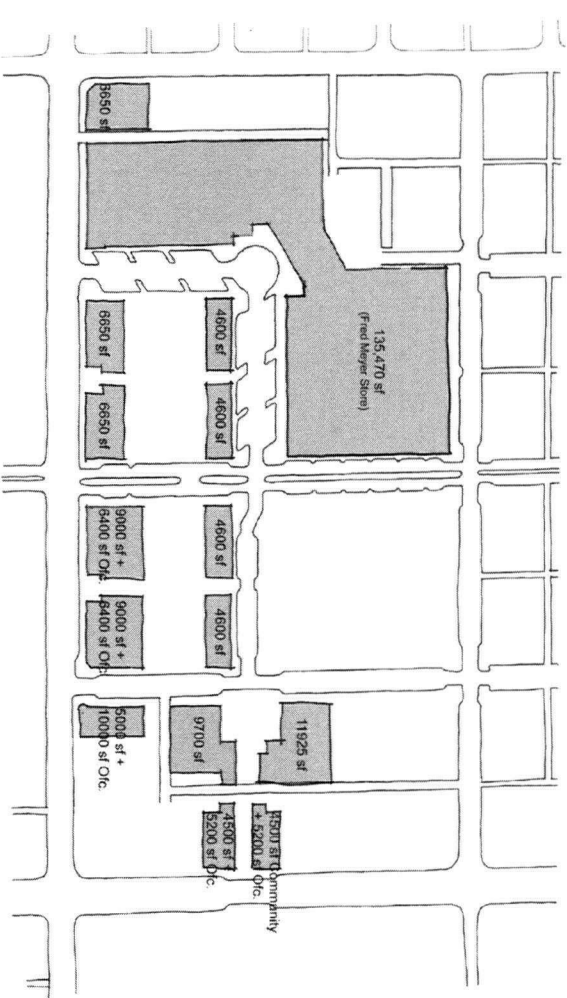
- o Existing housing is all single family, except for one 4 story apartment building in the NE corner, which is not owned by Greenwood Shopping Center.  
Single Family 27  
Stacked Flat (Apt.) unknown  
**Total 27+**
- o Residential Density for the site is 1.4 units/acre, (27 units/19.7 acres) which is not sufficient to support transit and other urban uses.
- o Housing is located primarily in the northern portion of the site, adjacent to surrounding single family.

Parking

- o Surface parking is the predominant existing land use on this site. Almost all of the parking is provided in surface lots.
- o Following is the Parking Breakdown:  
Surface Lot 763  
Underground 50  
Structured 0  
Street 72  
**Total 885**
- o Commercial: 1 sp/213 sf or 4.7 sp/1000 sf on-site  
Does not include single family parking



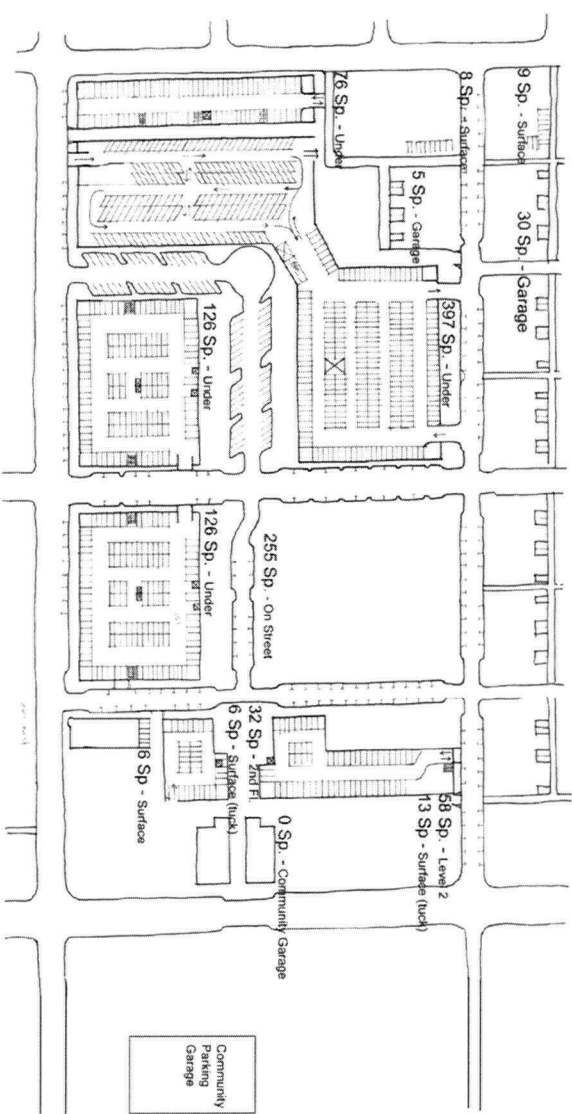
Commercial



Residential



Parking



No Scale

- Residential Details**
- A 47 Townhouse Units  
1600 sf avg./unit
  - B 76 Units total in 3 Attached bldgs.  
All Stacked Flats  
600-1050 sf/unit
  - C 96 units total in 2 bldgs.  
24 Townhouse  
72 Stacked Flats  
650-900 sf/unit
  - D 104 units total in 2 bldgs.  
All Stacked Flats  
650-900 sf/unit
  - E 46 units total in 2 bldgs.  
All Stacked Flats  
765-1350 sf/unit
  - F 36 stacked flat units  
650-875 sf/unit
  - G 32 stacked flat units  
750-900 sf/unit

Figure 50  
Development Details  
ALTERNATIVE ONE

- Commercial**
- Commercial uses are located throughout the site.
  - Uses include a 1 story Fred Meyer store, ground floor retail in most buildings, and upper floor office use in some buildings close to the commercial core.
- Commercial Square Footage:**
- |              |                |
|--------------|----------------|
| Fred Meyer   | 135,470        |
| Other Retail | 87,865         |
| Office       | 33,200         |
| <b>TOTAL</b> | <b>256,345</b> |
- Fred Meyer constitutes 53% of the total Commercial square footage.
  - 45% of the commercial square footage is in mixed use buildings.
- Residential**
- Alternative 1 provides some housing options, though most units are stacked flats, as follows:
- |                              |            |
|------------------------------|------------|
| Townhouse                    | 71         |
| Stacked Flat (Apt. or Condo) | 366        |
| <b>Total</b>                 | <b>437</b> |
- Residential Density for the site is 22.4 units/gross acre (437 u/19.7 acres), which is higher than Alt. 2, and sufficient to support transit & other urban uses.
  - Housing is located throughout the site in mixed use and single purpose buildings. Single family along 87th has been replaced by Townhouses to provide a transition to the single family area.
- Parking**
- Alternative 1 provides a range of parking options, with the vast majority provided in underground garages or on-street.
  - A community parking structure, to be located in the block E. of Greenwood Ave., provides more spaces.
  - Following is the Parking Breakdown:
- |              |             |
|--------------|-------------|
| Surface Lot  | 36          |
| Underground  | 715         |
| Structured   | 125         |
| Street       | 255         |
| <b>Total</b> | <b>1131</b> |
- Commercial: 1 sp/382 sf or 2.6 sp/1000 sf on-site (Community Garage increases this to 1/350 sf)
  - Residential: Typ. 1 space/unit (Reduced standard based on expected higher transit use & walkability.)

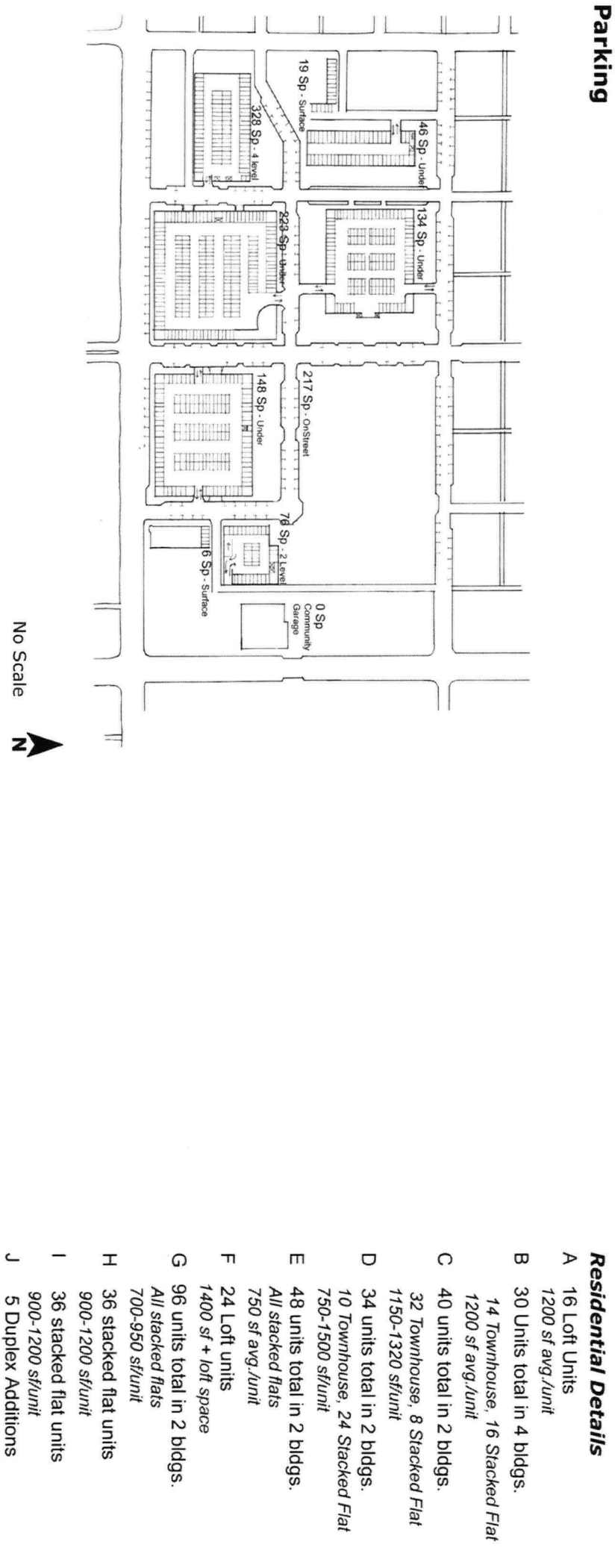
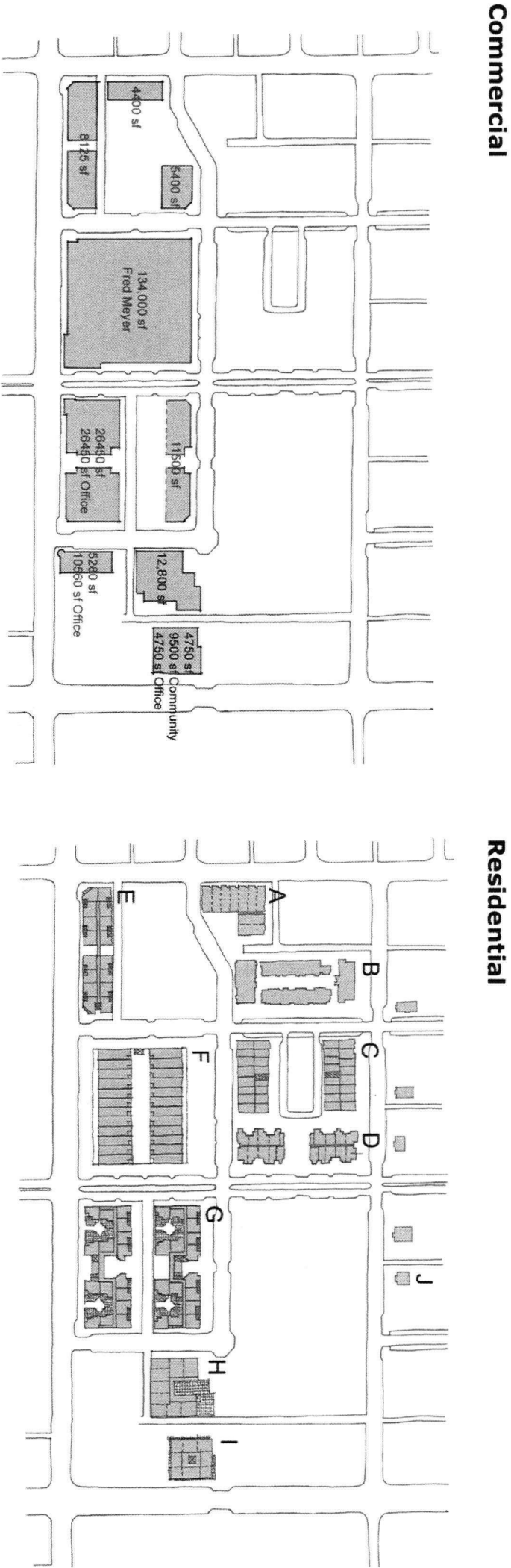


Figure 51

Development Details

ALTERNATIVE TWO

Commercial

Commercial uses are focused on or within a block of 85th St.

Uses include a 2 story Fred Meyer store, ground floor retail in most buildings, & upper floor office use in several buildings close to the commercial core.

Commercial Square Footage:

Fred Meyer

134,000

Other Retail

78,755

Office

41,760

TOTAL

254,515

Fred Meyer constitutes 53% of the total Commercial square footage.

90% of the commercial square footage is in mixed use buildings (including Fred Meyer.)

Residential

Alternative 2 provides the widest range of housing options, as follows:

Single Family/Duplex

5

Townhouse

56

Stacked Flat (Apt. or Condo)

264

Loft (Live/Work)

40

Total

365

Overall Residential Density is 18.7 units/gross acre (385 u/19.7 acres) -- high enough to support transit & other urban uses.

Housing is located throughout the site in mixed use and single purpose buildings. Medium density housing is located in the northern area, providing a smooth transition to the single family area.

Parking

Alternative 2 provides a range of parking options, with the vast majority provided in underground garages or parking structures.

A community parking structure to be located in the block E. of Greenwood Ave., provides more spaces.

Following is the Parking Breakdown:

Surface Lot

33

Underground

551

Structured

396

Street

217

Total

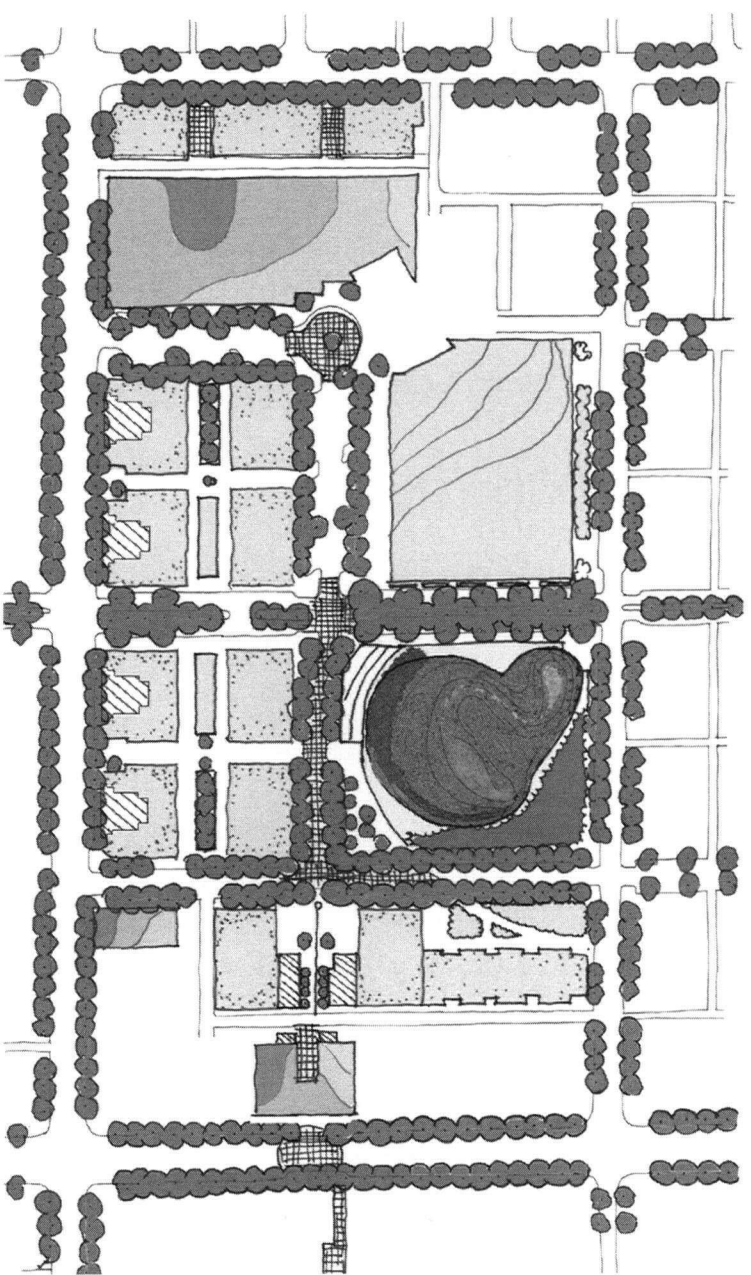
1197

Commercial: 1 sp./306 sf or 3.25 sp./1000 sf

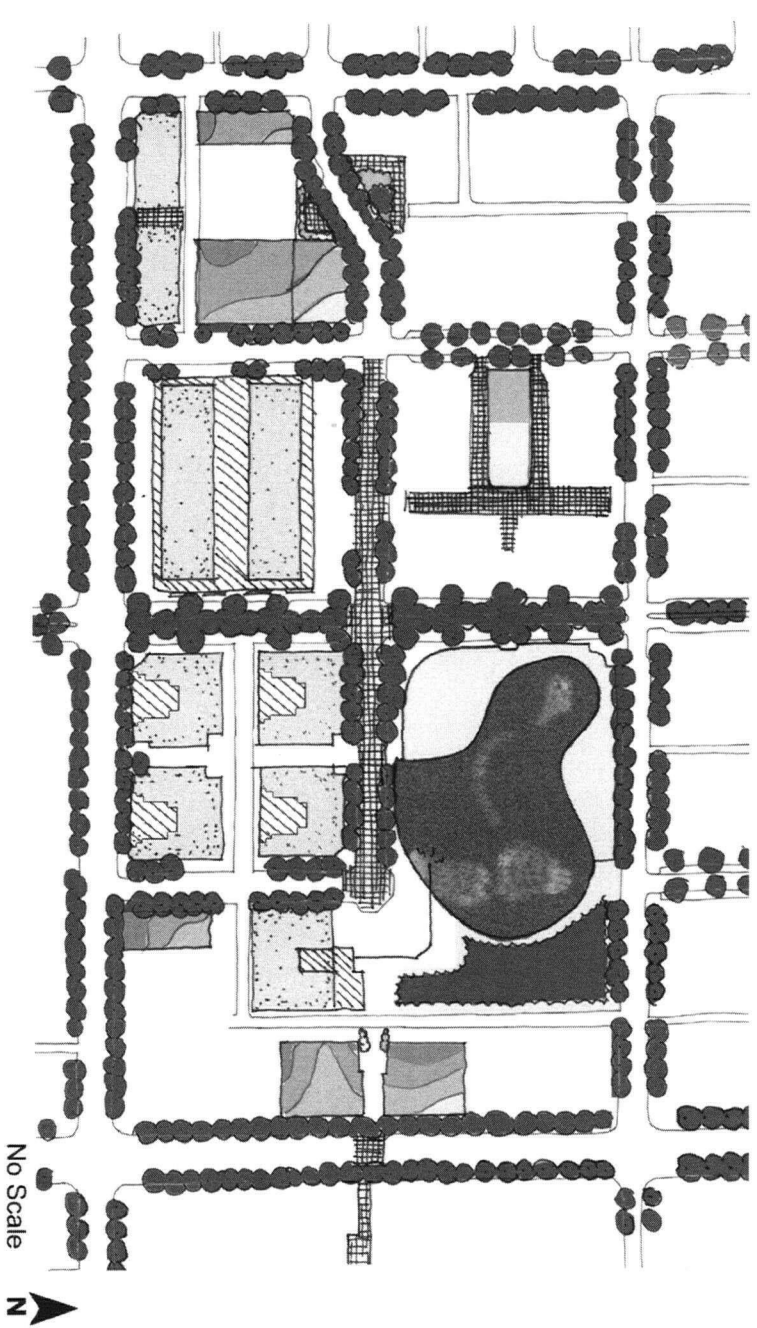
Residential: Typ. 1 space/unit (Reduced standard based on expected higher transit use & walkability.)



Alternative 1



Alternative 2



**COMMON ELEMENTS**

The following elements are used in both alternatives to increase the effective permeability of the site. The maps on the left show where each is used in the two alternative plans.

**Permeable Surfaces**

- Permeable Park Space
- Urban Forest (incl. Street trees)
- Infiltration Gardens
- Community Gardens
- Stormwater Wetland  
(all water directed here)

**Streets & Pavement**

- Permeable Paving
- Unpaved Alleys
- Infiltrating Streets
- Infiltrating & Storage Boulevards

**Building Elements**

- Water Retaining Roofs
- Rooftop Gardens
- Eco-Roof/Green Roof
- Living Wall
- Rain Barrels (on all residential)

Figure 52  
**Green Infrastructure Assessment**

Both Alternatives include significant measures that are intended to aid in improving the quality, decreasing the quantity, and reducing the velocity of stormwater leaving the site. Ideally, all stormwater is infiltrated back into the ground.

"Permeable area is a measure of how much of the land is capable of infiltrating water, in situ. Impervious area is a measure of how much of the land is covered by impervious surfaces that cannot be infiltrated by water, in situ. When most of the rainwater from an impervious surface can be directed to and infiltrated by another permeable surface, it is considered to be effectively permeable." (Teed, 6)

Detailed information on the various green infrastructure methods can be found in the Portland Stormwater Manual.

The idea, then, is to increase the effective permeability of the site through various measures, many of which have been incorporated into each master plan alternative, as shown to the left.

**Major Moves**

**Put the Green Back in Greenwood**

This would include the provision of additional park land associated with the wetland, the wetland itself, street trees, infiltrating streets and boulevard, rooftop gardens and eco-roofs, living walls and community gardens. All of these measures collectively would increase the green in the area tremendously.

**Effective Permeable Surfaces**

Through these various measures, the vast majority of stormwater is either absorbed in place or directed to another permeable surface - including the wetland. Infiltration rates are not known at this time, therefore specific calculations cannot be made. However, it is estimated that 90% of the rainwater is directed to (and potentially infiltrated by) these other surfaces.

**Connect Green Infrastructure**

Each alternative proposes connecting green streets off-site, to carry on the benefits.



Figure 53  
**Livability Assessment**  
**ALTERNATIVE ONE**

**Major Moves**

A large number of elements in this design address the goal of livability. The major moves are:

**Connections**

- o Green Street connections, connecting schools & parks with the urban village and Piper's Creek.
- o More complete street grid reconnects portions of the existing grid. Where cars aren't allowed, pedestrian walkways complete the grid. A visual connection is provided through the Fred Meyer at the west end of 86th St. so that visually the street connects through to 3rd Ave.
- o Pedestrian Walkways connect Greenwood Ave. and the site. Walkways through other building groupings allow better pedestrian connections to open space/public areas.
- o Vehicular traffic is calmed, but allowed.

**Open Space - More Green in Greenwood**

- o Open space for active & passive uses, including:
  - A large plaza with trees for community gathering & celebrations, farmer's markets, etc. Street can be closed off and used for events.
  - Open play/sitting areas
  - Wetland, including pier & deck for viewing.
  - Small amphitheater for performances & sitting.
- o Also includes smaller open spaces associated with the mixed use housing.

**Transitions**

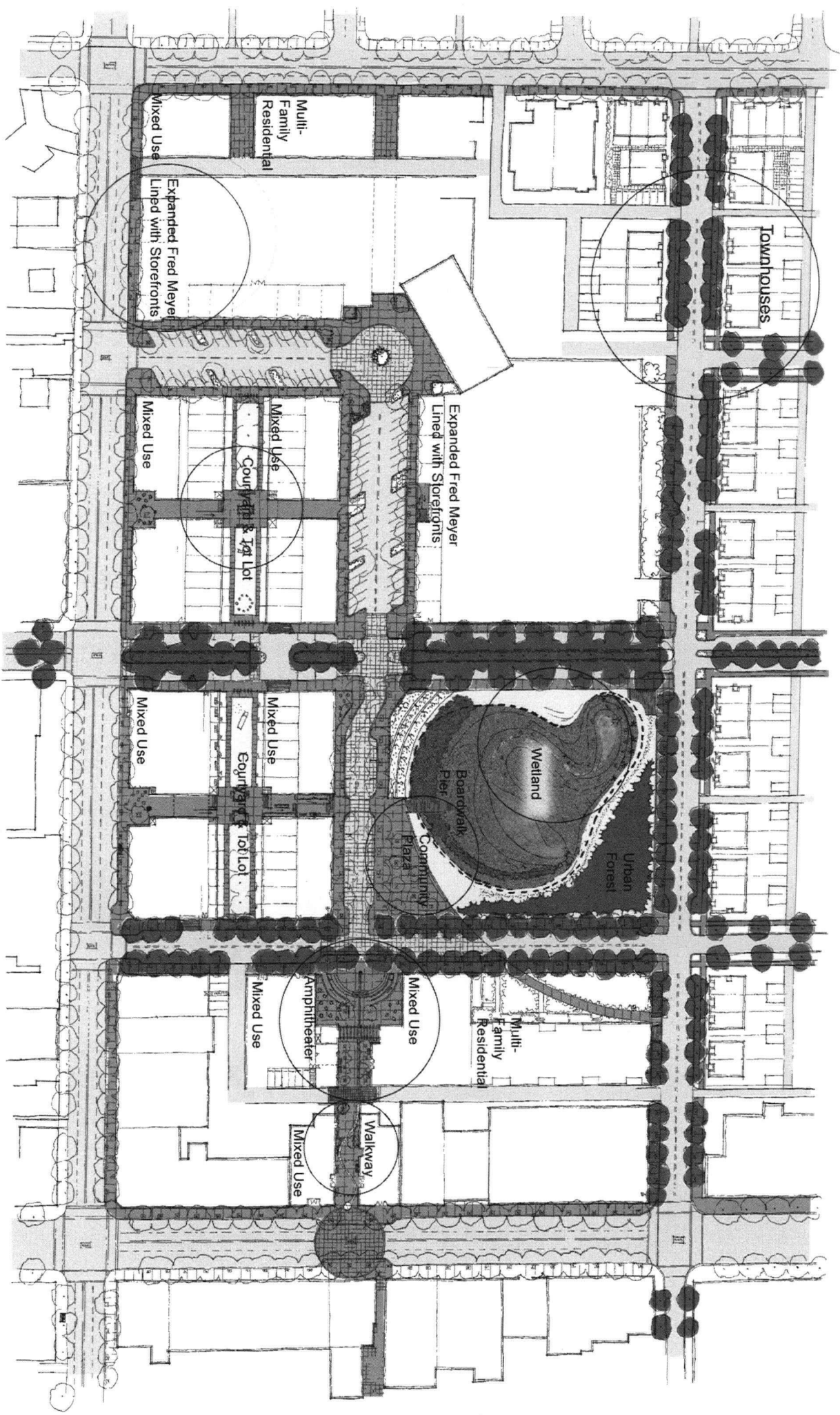
- o Townhouses proposed for 87th St., and multi-family buildings along 3rd Ave., provide a transition to single family areas.
- o The facade of the Fred Meyer is softened at the rear by a rain garden, and the side facing the wetland park by a living and art wall.

**Strong Street Wall**

- o The Fred Meyer expansion brings the store up to 85th St., making it more visible & creating a strong street wall. Size is broken up by storefronts.
- o Retail storefronts in mixed use buildings front on the sidewalk, creating an inviting street presence.

**Compact & Walkable**

- o 47% of the commercial square footage is in buildings that also contain housing.



No Scale  
N

Figure 54  
**Livability Assessment**  
**ALTERNATIVE TWO**

**Major Moves**

A large number of elements in this design address the goal of livability. The major moves are:

**Connections**

- o Green Street connections, connecting schools and parks with the town center and Piper's Creek. Green Streets/vegetation are more continuous in Alternative Two than in Alternative One.
- o Completed street grid connects to the existing grid. Where cars aren't allowed, pedestrian walkways complete the grid.
- o Pedestrian Walkway connects Greenwood Ave. and the site.
- o Pedestrian walkways through other building groupings allow better pedestrian connections to open space/public areas.
- o Vehicular traffic calmed, but allowed.

**Open Space - More Green in Greenwood**

- o Open space for active & passive uses, including:
  - A large plaza with covered pergola for community gathering & celebrations, farmer's markets, etc.
  - Open play/sitting areas
  - Wetland, including boardwalk & deck for viewing.
- o Also includes smaller open spaces, such as a tot lot, community gardens, and pocket parks.

**Strong Street Wall**

- o 2 story Fred Meyer is brought up to 85th St., making it more visible, more urban, and creating a strong street wall. Size is broken up by store-fronts.

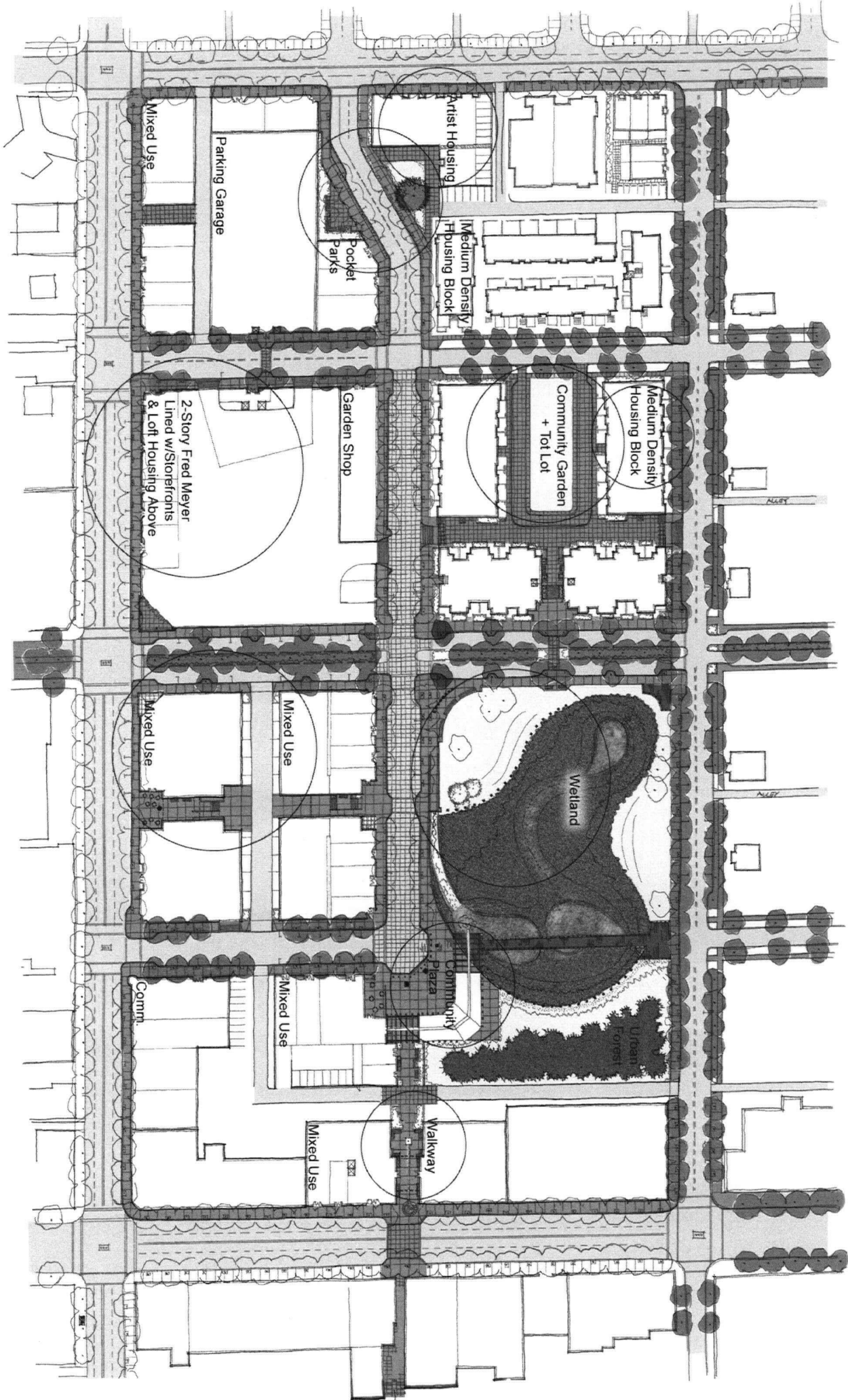
- o Storefronts are brought up to the sidewalk, creating a more inviting street presence.

**Compact & Walkable**

- o 90% of the commercial square footage is in buildings that also contain housing.

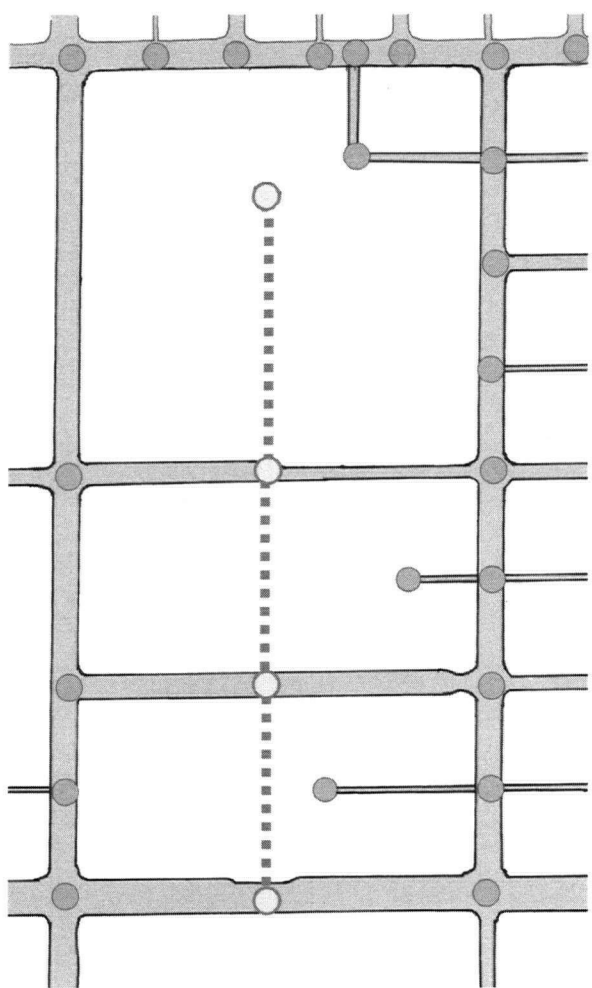
**Transitions**

- o Fred Meyer Garden shop and Artist Live/Work provide transitions between commercial and residential area.
- o Multi-family residential provides transition to single family area.

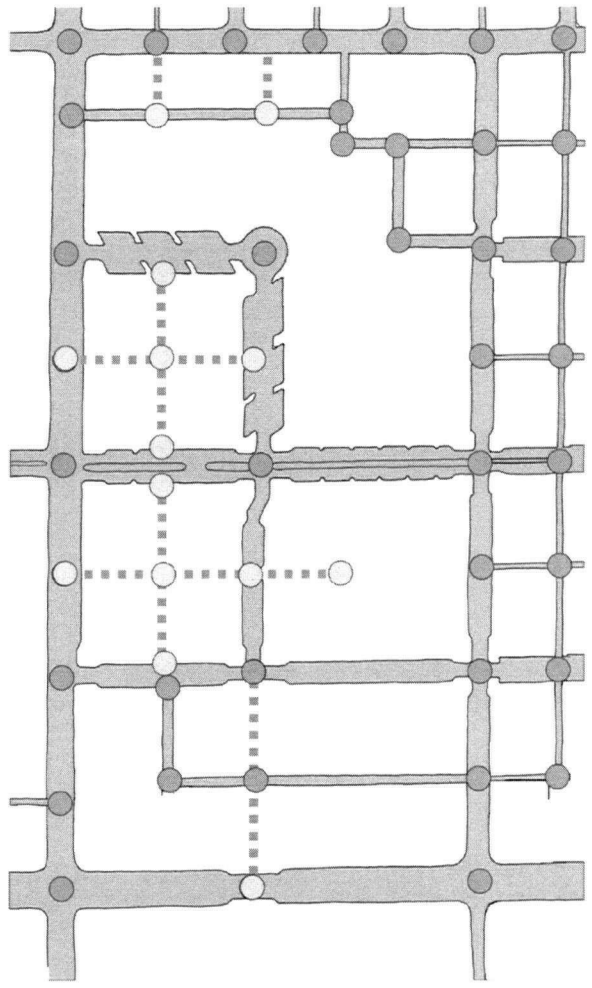




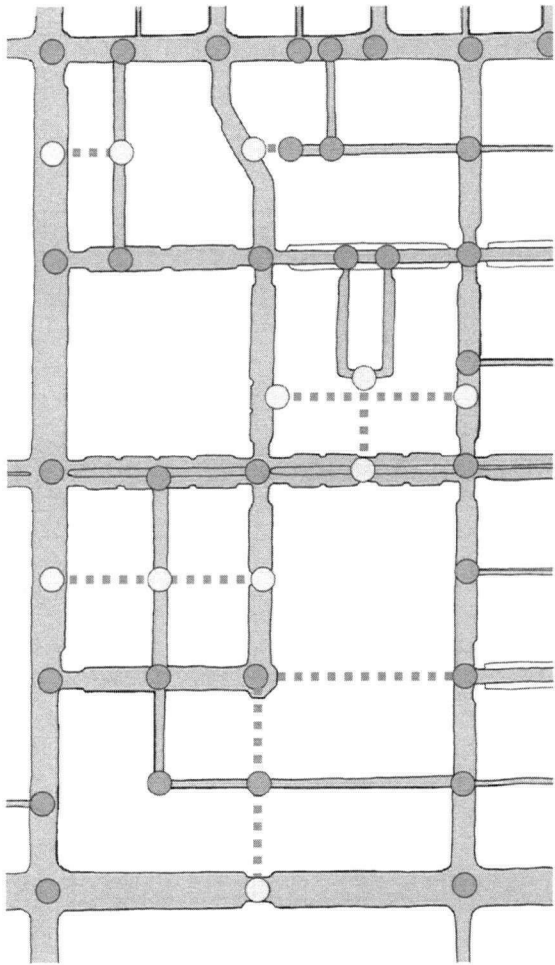
Existing Street Pattern  
Broken Network



Alternative 1  
Mostly Interconnected Network



Alternative 2  
Interconnected Network



- Vehicular & Pedestrian Node
- Pedestrian Only Node (Formal)
- Pedestrian Only Node (Informal)
- Vehicular & Redestrian Linkages
- Pedestrian Only Linkages (Formal)
- Pedestrian Only Linkages (Informal)

No Scale  
N

Figure 55  
Livability Assessment

**CONNECTIVITY**

"Networks are composed of nodes and linkages (corridors)...Nodes are located at the intersection of linkages..." (Forman, 257) In general, the more nodes and linkages, the better.

Network connectivity is the degree to which all nodes are connected. The formula for Forman's connectivity index divides the actual number of linkages by the maximum possible number of linkages in a network. The result is a number between 0 and 1, with 1 being perfectly connected. (Forman, 261)

An interconnected network provides more travel route options, provides shorter and more direct routes, can lessen traffic stress on main arterials, and can reduce reliance on cars and increase walkability.

**Existing - Broken Network**

- 23 Vehicular and pedestrian nodes
- 4 Pedestrian nodes (informal, through parking lots)
- 32 Vehicular and Pedestrian Linkages
- Network Connectivity Index 0.43

No connection through Fred Meyer superblock.  
Pedestrian connections made through parking lot.

**Alternative One - Mostly Interconnected Network**

- 38 Vehicular & Pedestrian Nodes
- 14 Pedestrian Only Nodes
- 75 Vehicular & Pedestrian Linkages
- Network Connectivity Index 0.50

High number of linkages - fine grain of network in areas with alleys and pedestrian pathways which serves pedestrians well.

Street network is missing several critical linkages.

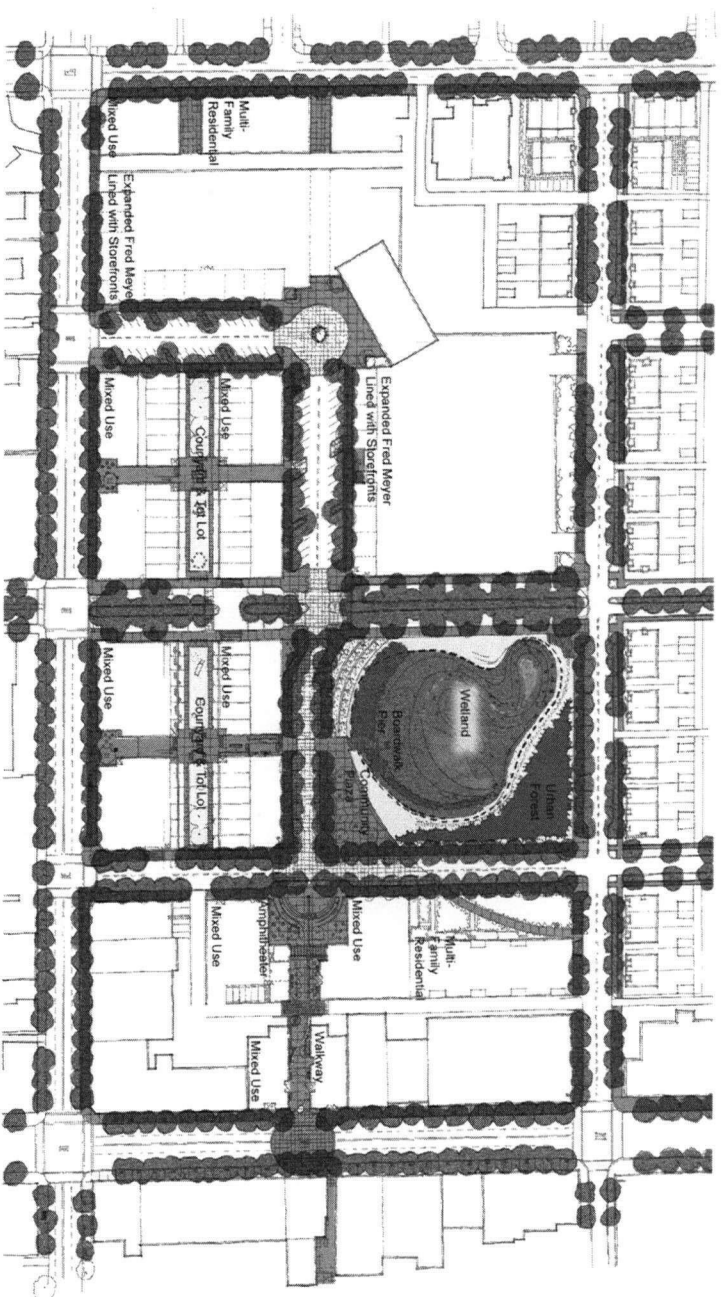
**Alternative Two - Interconnected Network**

- 33 Vehicular & Pedestrian Nodes
- 11 Pedestrian Only Nodes
- 62 Vehicular & Pedestrian Linkages
- Network Connectivity Index: 0.49

Street grid is more connected than Existing and Alt. 1, however the pedestrian network isn't as fine grained.  
Better pedestrian only system of nodes & linkages.



## Alternative 1



## Alternative 2

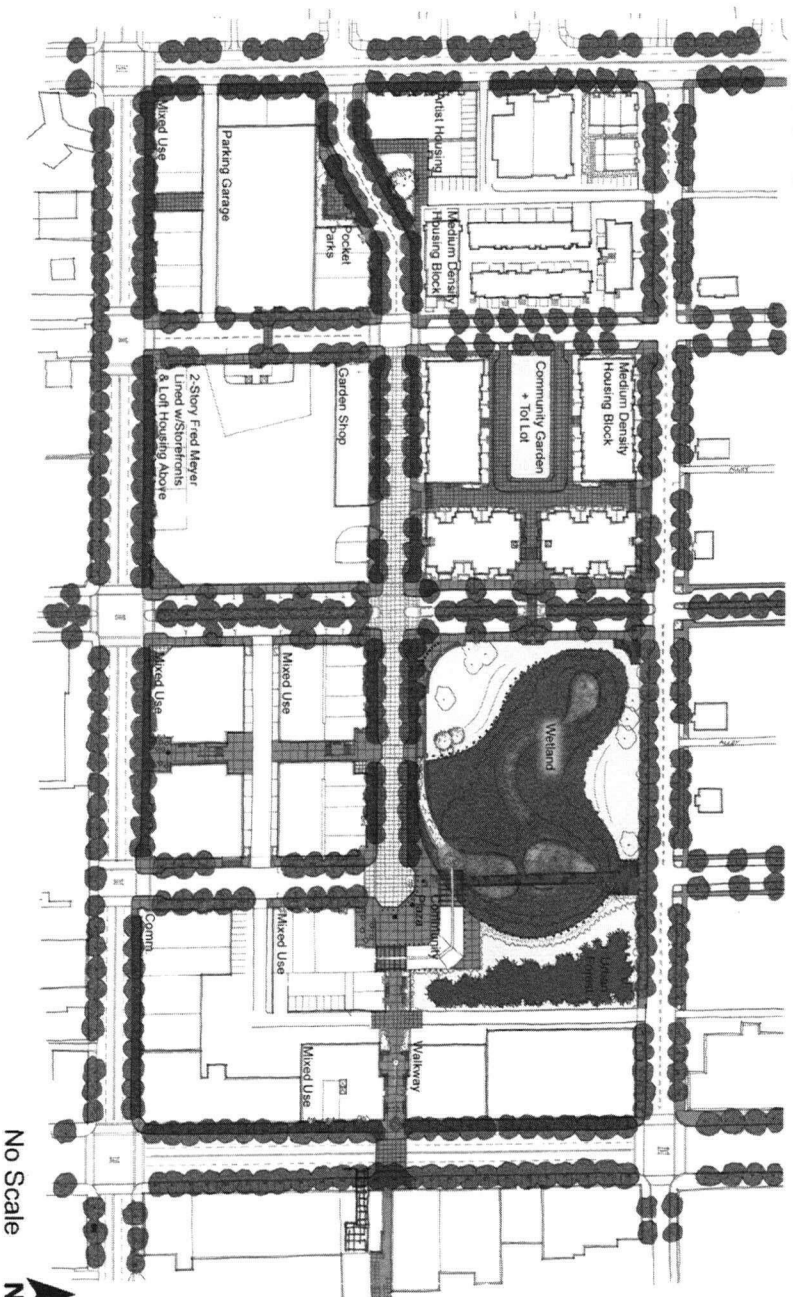


Figure 56

## Placemaking Assessment

## Major Moves

Both alternatives contain a number of design moves that address placemaking. The major moves are:

## Reconnect with Greenwood's History

- (re)creation of the wetland in historic location
- successional urban forest
- use of boardwalk - historic material
- green street connections to Piper's Creek
- recreation of McCausland Mural

- o Educational elements about the wetland, its functions, and the area's natural and human history. This includes art elements e.g., fountain as symbolic headwaters, connecting with existing Piper's Creek Bus shelter through art elements e.g., - fish on buildings, obelisks indicating the height of the clay deposits in the wetland, signage, etc.
- Develop Greenwood's Built Character**
- o The Red Maple is used as a signature tree throughout the development.

- o A large plaza is provided in each alternative as a place for community events, farmer's markets, festivals, and hanging around. Connecting this area by a walkway to the commercial core brings old and new together and enlivens both.
- o Bulk of buildings broken down by storefronts. The intent is to use local and historic materials and respond to the historic scale & built form.

## Help Develop Community

- o Cafe's and restaurants with outdoor sidewalk seating encourage people to linger.
- o Community garden, tot lot, and the plaza/open space area provide other places for people to meet.
- o Green street connections between schools and parks promote use and involvement by children.
- o Kiosks and benches as part of community program encourage local participation.

## Put the Green Back in Greenwood

- o Open space for active & passive uses, including the plaza, wetland, tot lots, community gardens, help reestablish the "green heart" of Greenwood - helping forge this as part of Greenwood's identity.
- o Building with the natural limitations, primarily topography, soils and drainage, help to establish the area's identity.

**Table 2**  
**ALTERNATIVES COMPARISONS**

**LAND AREA (in Acres)**

	Existing	Alternative 1	Alternative 2
<b>Site</b>			
Greenwood Shopping Center (GSC)*	15.7 ac		
87th St. & 87th St. Housing	4 ac		
<b>Total Site</b>	<b>19.7 ac</b>	<b>19.7 ac</b>	<b>19.7 ac</b>
<b>Single Purpose Residential</b>			
Residential (GSC)	1.6	1.2	2.3
Residential on 87th	2	2	2
<b>Total Residential Acreage</b>	<b>3.6 ac</b>	<b>3.2 ac</b>	<b>4.3 ac</b>
<b>Single Purpose Commercial</b>			
Buildings (footprint)	3.5	3.25	0.4
Parking/Loading	8.6	0.4	0.6
<b>Total Commercial Sites</b>	<b>12.1 ac</b>	<b>3.7 ac</b>	<b>1 ac</b>
<b>Mixed Use (Building Footprint)</b>	<b>0 ac</b>	<b>2.9 ac</b>	<b>4.1 ac</b>
<b>Transportation</b>			
<b>Total Road &amp; Alley Right-of-Way</b> (1st, Palatine, 87th, Alley & Sidewalks)	<b>3.8 ac</b>	<b>6.5 ac</b>	<b>6.2 ac</b>
(Alternatives include new roads)			
<b>Open Space</b>			
<b>Total Public and Semi-public Space (including walkways)</b>	<b>0</b>	<b>3.4 ac</b>	<b>4 ac</b>

**Note:**

\* Includes several lots not owned by GSC, and Palatine and 1st Streets on-site. See Figure 12 on p. 24 for map of the site area.

**Table 3**  
**ALTERNATIVES COMPARISON**

**DEVELOPMENT DETAILS**

	Existing	Alternative 1	Alternative 2
<b><i>Residential Units</i></b>			
Single Family/Duplex	27	0	5
Townhouse	0	71	56
Stacked Flat (Apartment or Condo)	0	366	240
Loft	0	0	40
<b>Total</b>	<b>27</b>	<b>437</b>	<b>341</b>
<b><i>Commercial Square Footage</i></b>			
Fred Meyer only	106,345	135,470	134,000
Other retail	81,800	87,675	78,755
Office	0	33,200	41,760
<b>Total</b>	<b>188,145</b>	<b>256,345</b>	<b>254,515</b>
% Commercial sf in Fred Meyer	57%	53%	53%
<b><i>Community/Public Space</i></b>			
Community Buildings	0	4,700 sf	9,500 sf
Plaza/Wetland/Parks	0	78,000 sf	132,250 sf
Pedestrian Walkways (E-W & N-S)	0	34,500 sf	34,750 sf
Semi-public (e.g., infiltration gardens, green space, rain garden)	0	35,000 sf	5,250 sf
<b>Total</b>	<b>0</b>	<b>152,200 sf</b>	<b>181,570</b>
<b><i>Parking Spaces</i></b>			
Surface Lot	763	36	33
Underground	50	715	551
Structured	0	125	396
Street	72	255	217
<b>Total (not incl. single family)</b>	<b>885</b>	<b>1131</b>	<b>1197</b>
		plus 62 spaces (at least) in proposed community parking structure	plus proposed community parking structure
<b><i>Parking Details</i></b>			
Commercial Spaces	885	671	832
Commercial Parking Ratio	1 space/213 sf, 4.7 sp/1000 sf	1 sp/392 sf on-site, 2.62 sp/1000 sf (or 1/350 sf including off-site spaces)	1 sp/306 sf, or 3.25 sp/1000 sf
Residential Parking Spaces (not including single family)	x	460	347
Residential Parking Ratio	x	Typ. 1 sp/u	Typ. 1 sp/u



**Table 4**  
**ASSESSMENT OF ALTERNATIVES**

	Existing	Alternative 1	Alternative 2
<b>Green Infrastructure</b>			
Pervious Surfaces	approx 3ac*	3.4 ac	4.5 ac
% Pervious	approx 15%	17%	23%
Effective Permeable Area**	approx 15%	approx. 90%	approx. 90%
<b>Livability</b>			
% of residents w/i 5 minute walk of services	100%	100%	100%
Residential Density (gross acreage)	1.4 du/ac	22.6 du/ac	17.5 du/ac
Range of Housing Options	None. Single family only.	Limited variety of hsg. types	Most Variety of hsg. types
% Comm sf in Mixed Use bldg.	0	47%	90%
Commercial Street Frontage - linear ft.	1,500'	4,000'	3,540'
Commercial Use Frontage on Street	200'	2,655'	2,675'
Commercial Use Frontage as % of Street Frontage	13%	66%	76%
Street Interconnectivity & Walkability	Broken Network. No connection through superblock. Pedestrian connections made through parking lots.	Mostly Interconnected Network. Several critical linkages missing. Alleys in N. area provide connectivity for single family area.	Interconnected Network. More complete grid - more overall connectivity through site & between site & neighborhood.
Node Numbers: (A) Vehicular & Pedestrian, (b) Pedestrian Only	(A) 23, (B) 4 (Informal)	(A) 37, (B) 9	(A) 33, (B) 10
Linkage Numbers : Total Vehicular & Pedestrian	32 Total	64 Total	62 Total
Network Connectivity Index	0.43	0.48	0.50
<b>Placemaking</b>			
Subjective based on included Elements	Few elements. Start of street furniture & street trees; Piper's Creek Bus Stop; Jeweller's Clock; Historic Buildings.	Connection to creek; Green Streets; Re-create McCausland Mural; Gateways; Preserve Historic Bldgs.; markers & education elements; reconnection to natural history through wetland, urban forest; historic building materials (board walk, brick); preserve small storefront feel; reestablish the grid.	

Notes:

\* All impervious surfaces are on single family lots

\*\* Effective Permeable Area is "a measure of how much of the land is permeable to rainwater or delivers rainwater to another permeable area" (Teed, 5).

## 7 CONCLUSIONS

This project started with the solid policy base established over ten years of study, hard work, and consensus building within the community. It analyzed the existing policy base against three critical elements of sustainable community design: Green Infrastructure, Livability and Placemaking, and built on this base where it didn't fully address these elements. Through extensive inventory, analysis and research on the community, the physical and social opportunities and constraints for the project were developed. The two alternative master plans arising from this foundation provide a range of development options intended to meet the design strategy's requirements.

Both alternatives contain a larger Fred Meyer store, though in different configurations. While both alternatives propose large wetland/open space areas, they still accommodate the amount of development projected by the community in its Town Center Plan. This development would require transferring development capacity from one area to another within the project site. In response to current peat/ground subsidence concerns, the city has indicated its willingness to modify some of its requirements.

Alternative 2, with a rebuilt 2-story Fred Meyer in a new location on 85th St., comes out ahead on most of the measures of sustainable community design. This alternative, however, would require tearing down the old Fred Meyer and building new, which would be an expensive undertaking. Alternative 1 is still a good option, particularly considering the economics of teardown and building new. The intent, however, was not to judge which alternative was better or to recommend one over the other. Each alternative is an attempt to fulfill the design strategy as laid out. Both are presented to show that a more sustainable development could occur even if the Fred Meyer remains in its current location.

This project's intent is to offer alternative town center plans that are more livable, sustainable and distinctive than many current proposals. Both plans would result in 'a place that sustains the environment and the people who use it'. Both would connect with the existing core in a way that would enhance both, and make the area feel like a cohesive town center. And, it is hoped, both would help the community realize its visions.

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