

ACADIA PARK: DESIGN FOR A HEALTHY COMMUNITY

by

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## **Abstract**

The overall goals of this project was to enhance ecological, social and economic aspects of life in "Acadia Park", a residential neighborhood on University of British Columbia Campus.

Different alternatives were explored based on major criteria. The results were design proposals ranging from efficient development patterns, better street connectivity, community core framework, and natural drainage systems. Each of them contributes to one of the three bases of sustainability.

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I am also grateful to Patrick Condon and Freda Pagani for the insight they contributed generously and enthusiastically to this project.

I would also like to thank my family, my husband Saeed, and my sister Haleh for their love and support.

## **Thesis Introduction**

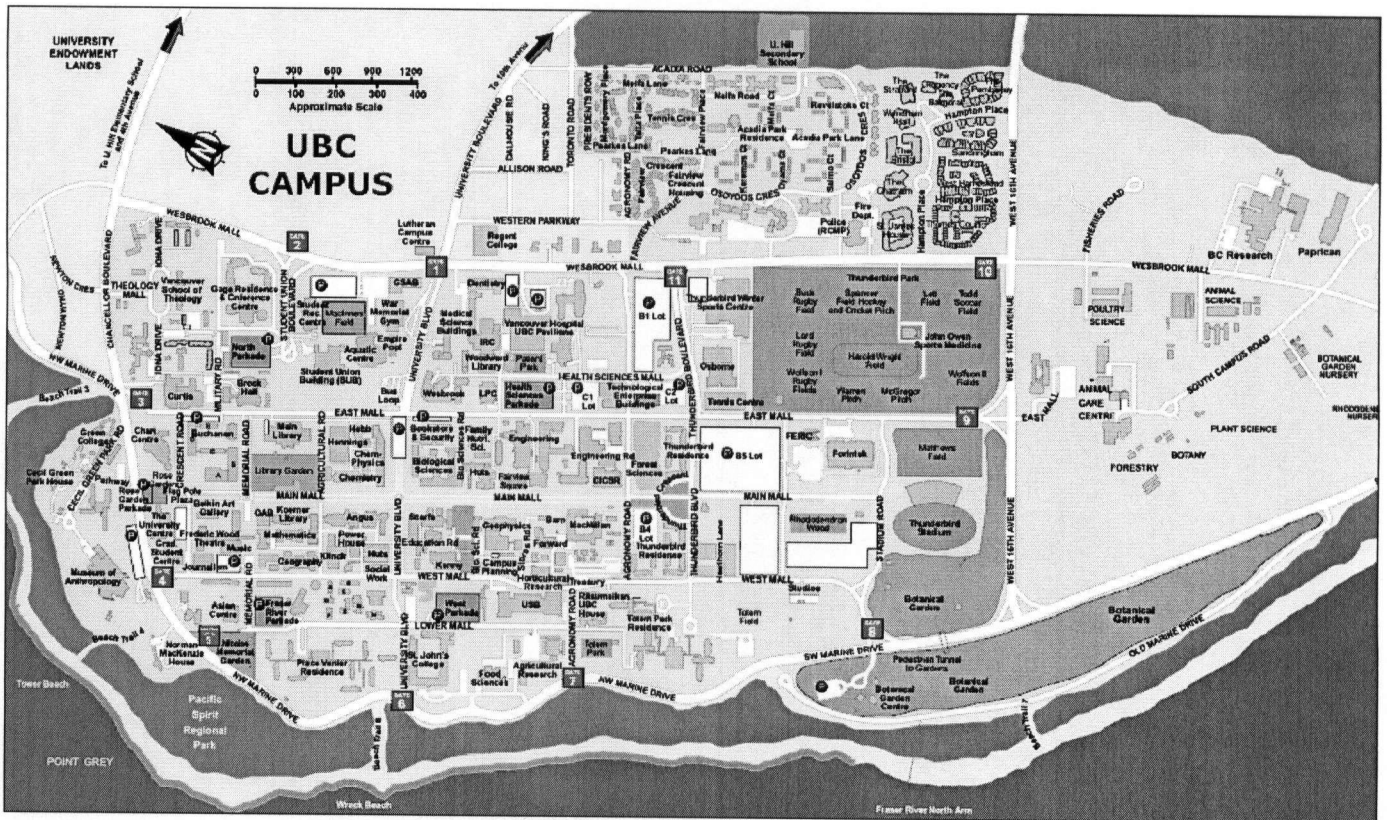
The University of British Columbia (UBC) has a long history of campus planning to support its mandate as a leading academic institution. UBC, with its diversity of academic research, residential and cultural activities, is an important local, provincial and international resource. Today, the 402 hectare campus serves 32,000 students, and houses 7300 student and 1400 permanent residents.

University residential areas should play a critical role in heightening their residents' sense of community. They should be places that inspire and enrich the lives of those who have come to learn, work and live at the university. A well- designed residential neighborhood will be a desirable place to be. A resident should feel that they belong in the place.

This project will examine the Acadia Housing area, an existing residential site at UBC. In order to create a residential place that gives rise to an enriching community experience, it will redesign part of its external environment to enhance the economic, social and ecological aspects of this urban landscape.

## “Acadia Park” Introduction

Acadia Park is a year round student family neighborhood for families with one or more children, and for couples, and is located on the east side of UBC campus. The site is located close to the UBC shopping area and the new market-priced housing on campus. Its west boundary is adjacent to the core educational area of the UBC campus. Acadia Park with 1800 residents including students, faculty and staff is the setting for different types of housing. The buildings were built in different phases due to the history of the site, which was once a camp site.



### Figure 1 - UBC Campus

Source: <http://www.maps.ubc.ca/PROD/index.php>



## **Project Goals**

The goals of this design project include:

1. To redesign the neighborhood to enhance the ecological function of the site.
2. To redesign the structure of the neighborhood to enhance its diversity and social life.
3. To redesign the site to enhance economic viability.

## **Project Objectives**

These broad goals are supported by a number of more specific objectives. These include:

- 1.a To increase the vegetative cover on the site
- 1.b To connect habitat fragments across the site
- 1.c To increase the capacity of the site to infiltrate stormwater
- 1.d To create a new urban stream by managing stormwater run-off on the surface of the ground
- 2.a To increase opportunities for informal community interaction in public spaces
- 2.b To provide opportunities for cultural and community activities in public open spaces
- 2.c To increase the density and diversity of housing types and tenures
- 2.d To redesign selected community open spaces and facilities (play areas, community gardens, pathways, etc.)
- 3.a To reduce infrastructure and development costs by utilizing natural drainage systems
- 3.b To effectively use urban land through selective densification
- 3.c To maintain many of the existing buildings but changing the floor plans due to new road locations

## Theoretical Orientation

The theoretical orientation of this project is to make landscape-community a place to live, to enhance it visually and to enframe newest directions in the design of socially and ecologically responsible communities.

Creating a sense of place by designing the nature of landscape, as well as the nature of community as place is the ultimate direction of the design.

Since the heart of the "New Urbanism" movement is in the design of neighborhoods, to make areas more livable, more vibrant, and more people-oriented, adopting some of the principles of the "New Urbanism" will be the guiding ideal throughout the design. These principles are:

- A prominent and identifiable center for each community
- A connected street network, which disperses traffic by providing a variety of pedestrian and vehicular routes to any destination
- Parking on the street and to the side and rear of shops and workplaces
- Relatively narrow streets shaded by rows of trees
- A variety of dwelling types
- Small playgrounds near every dwelling
- Suitable environment for pedestrians and bicycles
- A well-defined outdoor room created by buildings facing towards streets
- Sites for community meetings, education, religious or cultural activities
- Proximity to shops, schools and offices

A Landscape Taxonomy based on methodical examination of several hundred colleges and university campuses in the world has been adopted. This taxonomy is useful in evaluating existing campus designs and proposing improvements (Dober, Campus design).

The principle components in this taxonomy are:

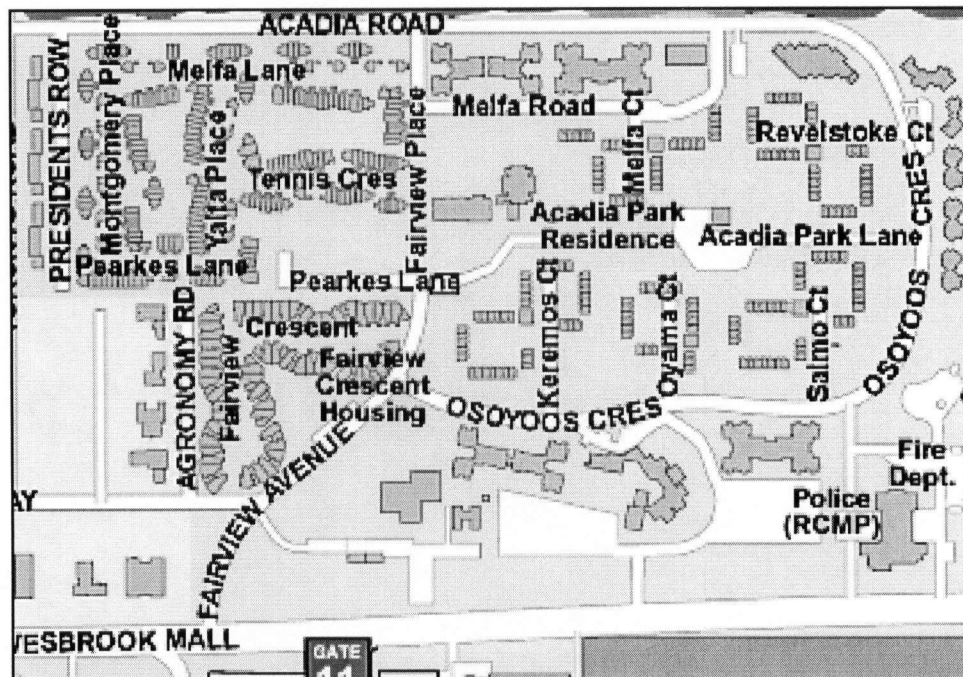
- Periphery
- Boundaries
- Gateways
- Ceremonial open spaces
- Active recreation open spaces
- Passive recreation open spaces
- Gardens and arboretums
- Building settings
- Vehicular circulation routes
- Pedestrian circulation routes
- Campus crossroads

## Project limitations

The courts are the oldest section of the site and the area containing them provides the most appropriate zone for new infill development. Its natural setting has also a potential for ecological development. Hence the focus of the project has been limited to the area including the community core, apartment buildings and court clusters.

The physical boundaries of the project are:

- Acadia Road on the East
- Osoyoos Crescent on the South
- Fairview Avenue on the North
- Wesbrook Mall on the West



**Figure 2 - Acadia Park**

Source: <http://www.maps.ubc.ca/PROD/index.php>

## Site History

The first housing on UBC campus was built by the Department of National Defense in 1941. The residential huts were called the Point Grey Relief Camp or Forestry Camp, and was used for soldiers taking special military courses.

Once World War II ended there was still a need for housing on campus, as veterans returned to classes and civilian life. In the summer of 1944 these temporary buildings were repaired and re-equipped, then sold to UBC for \$1.

Two back-to-back attached huts were renovated to form a single house for UBC president. He lived in this house from 1944-1950, and the street "President's Row" earned its name from his tenancy.

The president N.A.M. MacKenzie organized to provide housing for returning veterans interested in continuing their education. The first civilian student tenants moved onto campus in 1945. The military huts were renamed "Acadia Camp". The first students in family housing were mostly married men.

During the British Empire Games, in the summer of 1954, the huts were renamed Empire Village and used as accommodation for athletes. With the construction of new student residences, the remaining huts were adapted for other uses, such as social events, study huts, and, since 1968, for daycare centers.

In the late 1950s the university started to renovate campus housing. The houses along President's Row were built in 1959 and still stand to this day. UBC started demolishing the old army huts in 1967, with the last hut surviving until 1989.

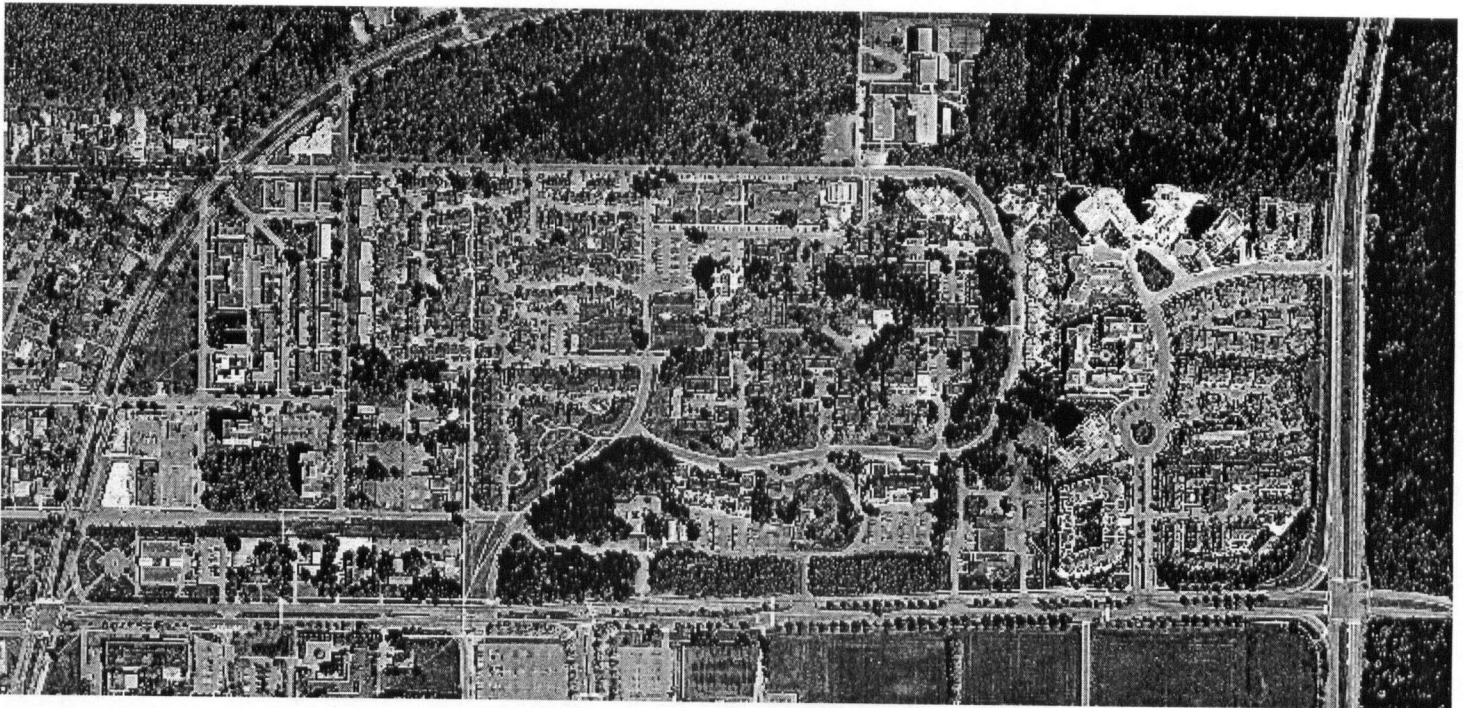
In 1967 UBC built the Acadia high-rise tower, and two years later (1969) started building 175 two- and three-bedroom town houses known as Courts. Occasionally these older buildings are called Phase I housing.

Phase II and III houses were built when UBC won a contract to provide accommodations for Vancouver's Expo '86. With the government money, UBC Housing built Fairview Crescent (currently used for single students), and plowed the resulting revenues into the surrounding townhouses on streets like Yalta, Parkes, and Melfa Lane (1988). In 1989 Phase III houses were built and this marked the end of the student housing plan in 1982 and included demolishing some old World War II army huts.

The Fairview/Acadia Commons Block was also completed in 1989, which serves as the administrative centre for the 531 families in Acadia Park (Family Housing) and the 782 single student residents of Fairview Crescent. Its well-used facilities include a large activity room, lounge space and exercise gym.

## Site Context

The Acadia Park site sits between University Boulevard on the North, 16th Ave on the South, and Wesbrook Mall on the West. These arterial roads surround the site, provide access to transit. They are also the main entrances into the site from outside University. University Village on the North (along University Boulevard) provides shops, restaurants and other commercial services to residents of the neighborhood. Other amenities include daycare centers on the South (along Osoyoos Crescent) and a secondary school on the east (along Acadia Road). Pacific Spirit Regional Park (a major forested park of 763 hectare) on the east provides a green edge and the neighborhood park, which serves communities in the whole area. Market-priced housing is next to the site (such as Hampton Place to the south) and more Market-priced housing will be developed in the future.



**Figure 3 - UBC Aerial Photo**

Source: UBC Records Management, 2003

# Site Character

## Housing

This residential area at UBC is the setting of different types of self-contained student housing for students (individuals, couples and families), faculty and staff. It consists of:

- Acadia Park High-rise (for couples) with 100 one-bedroom units
- Five court clusters of 2 and 3 bedroom units with 160 two-bedroom units and 15 three-bedroom units of two story town-houses
- Old brick row houses on President's Row
- New townhouses of 235 units of 1-2-3 and 4 bedroom units
- 4 apartments accommodating faculty and staff
- Fairview Crescent, including 186 four, five and six bedroom townhouses providing accommodation for single students (774 senior students)

## Community Services

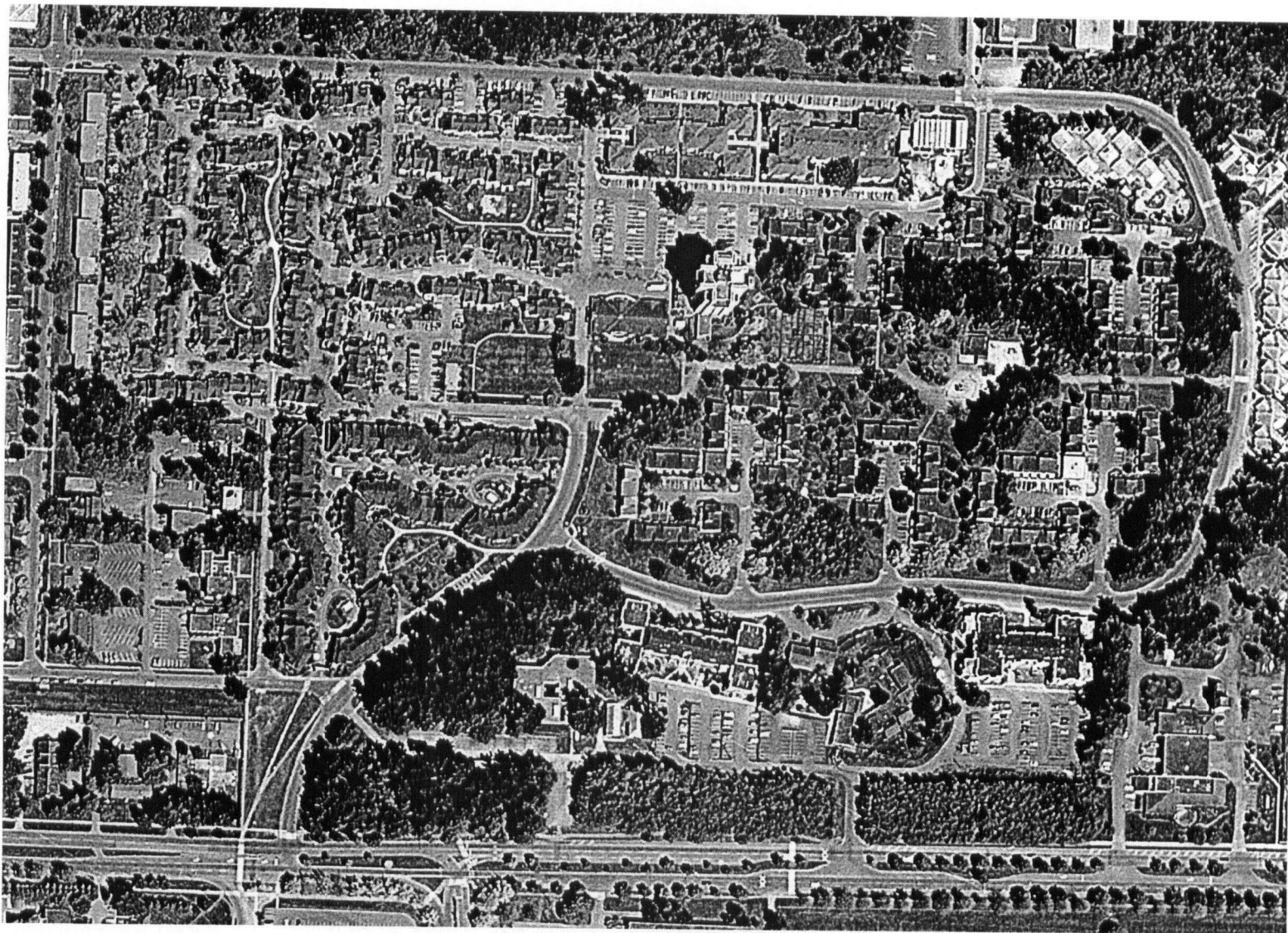
Different services provided to the community are:

- Childcare centers situated on the southern edge of the site
- Parking lots on the surface
- Community gardens close to the playing fields
- Community center (Commons Block) consisting of an information desk, a gathering place for the community and a fitness room
- Preschool located next to central playground
- Coffee shop (Beanery) hiding in the Fairview residence complex

## Open space

- Woods including mature species of conifers and deciduous trees and shrubs
- Playing fields sitting next to Commons block
- Playgrounds, consisting of one central and several scattered ones to children up to 7 years old





**Figure 4 - UBC Campus/Acadia Park**  
Source: UBC Records Management, 2003



Figure 5 - South View



Figure 6 - West View

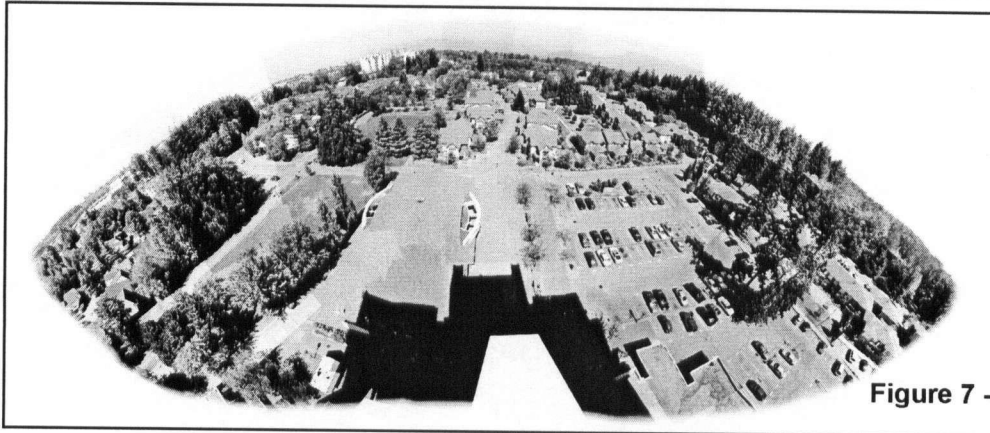


Figure 7 - North View



Figure 8 - East View



## Topography and Drainage

The topography of the site is almost flat with a slight slope from the centre towards both South and North. Slopes range from 0% to 13%.

The campus has a dedicated storm drainage system, which captures surface runoff and discharges it to the ocean through the spiral drainage tunnel located at North Campus. The south discharges to Booming Ground Creek and to the Fraser River. Since September, 2001 UBC Utilities has established an ongoing monitoring program to measure the volume and quality of stormwater runoff from every major discharge.

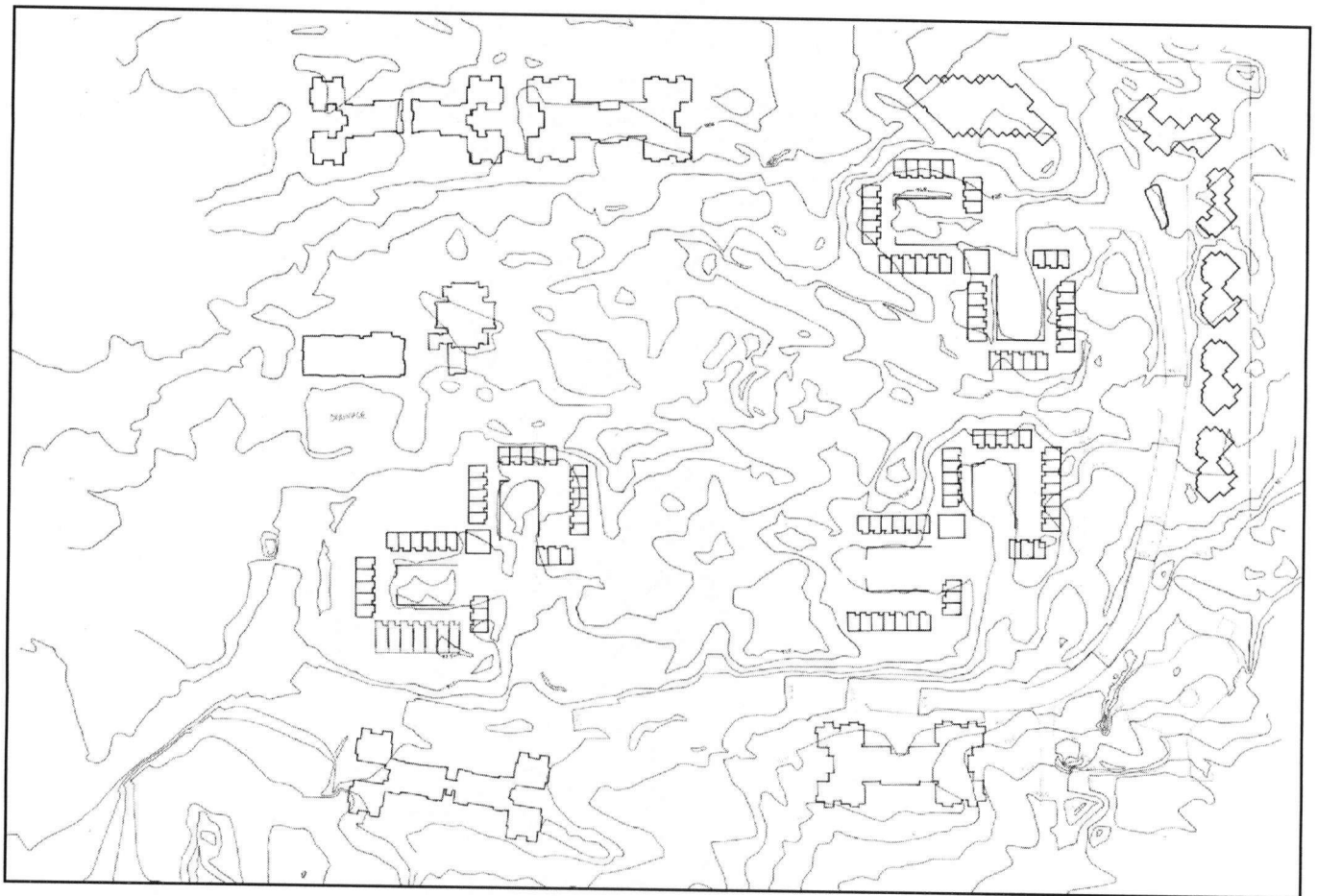


Figure 9 - Existing Topography

## UBC Official Community Plan

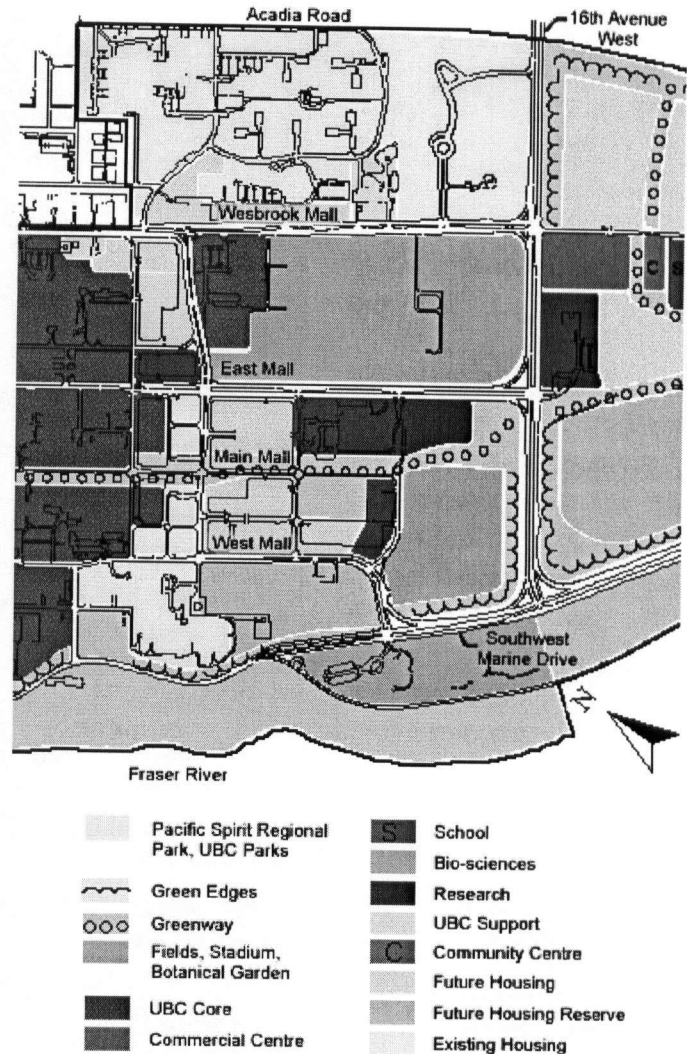
The **Official Community Plan for Part of Electoral area 'A' (OCP)** is a powerful document that guides all development, land use, and transportation activities on the UBC Campus and parts of Pacific Spirit Park until 2021 and beyond.

The changing needs of UBC have prompted the desire for municipal-style planning to recognize regional objectives, to provide a policy framework for housing and other non-institutional development, and to ensure that development is considerate of its setting and neighbors.

This OCP was prepared through a consultative process that involved the GVRD, UBC, interest groups from both on and off campus, and the general public. Adopted in 1997, the OCP today is an official legal document that will guide all future development and decision making -towards the goal of creating a unique and sustainable university community. The Official Community Plan (OCP) designates eight local areas for development, which comprise areas of significant non-institutional development along with areas of special sensitivity.

## Comprehensive Community Plan

The function of the Comprehensive Community Plan (CCP) is to fulfill, in part, the OCP requirement of local area planning. The East Campus local area (the area lying between Wesbrook Mall and the Acadia Park neighborhood) is one of the eight local areas for development.



### Land use

The Acadia Park residence is not directly mentioned in OCP or CCP but can be considered under the title of **Existing Housing Areas**. This designation is for the continued use of existing housing areas. This includes the existing staff and student housing in such areas as Acadia, Totem, Vanier, and Thunderbird and the market housing area of Hampton Place. Redevelopment and infill will be permitted in these areas at a floor space ratio of 1.0 net area unless otherwise defined through the area planning process.

## Framework

People studying for a period of time make the transient layers of the community, while people working there who might experience it for a longer time, make the permanent layers. These two layers are the main residents of Acadia park.

Major part of the research for this project has been focused on people's ideas, needs and concerns. Main ideas have been explored through interviews and friendly talks.

A documentary film has been developed based on interviews with residents, Acadia Park Life Manager, Director of Housing and Conferences, and Campus Architect and Landscape Architect.

Along with the above study, personal observation, which is my own experience as a student living in the same area, was the main conductive components for the design.

Through some literature review and site analysis, specific opportunities and constraints were assessed. The results of this assessment provided the framework in which the final design would take place.

The following principles provide the basis for the whole redesigning:

1. Connecting the habitat fragments
2. Creating a strong core (a heart) for the neighborhood
3. Designing green and linked streets
4. Increasing density by infill development
5. Reducing surface runoff

## Design Options (Concept Plans)

Based on the defined framework, different conceptual alternatives were developed. Each of these utilizes one or more principles as a base for the plan.

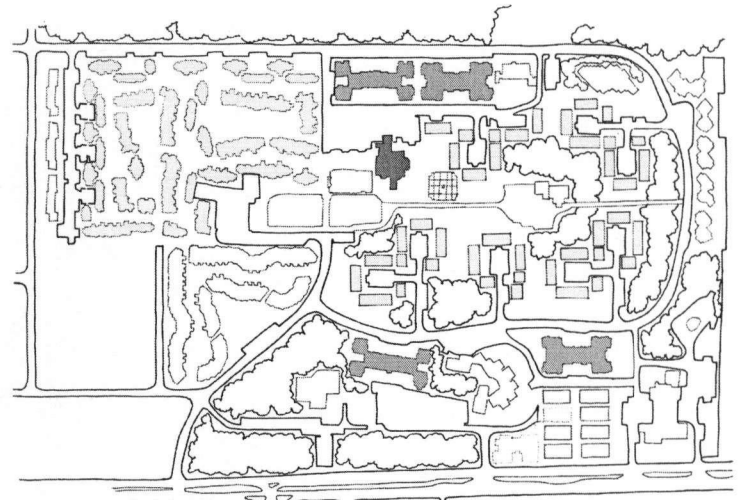


Figure 11 - Existing Plan

### PLAN 1

The principles considered in this plan are:

- Connected streets
- Infill development

This plan features some adjustments to the road network, but basically keeps it in its existing configuration. Infill occurs on the green edge and within some of the dispersed woods on the site.

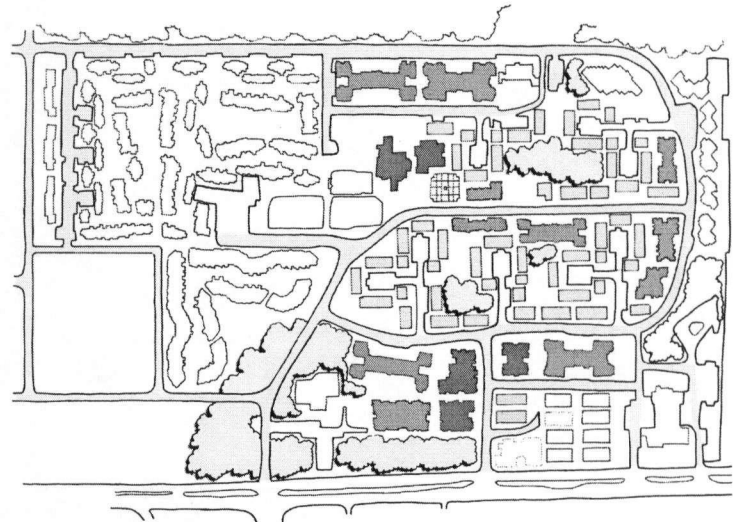


Figure 12 - Plan1

### PLAN 2

The principles considered in this plan are:

- Increased density:
- Neighborhood core
- Grid system of streets

In this plan there are major changes to the courts' configuration. Replacing demolished courts by more houses with communal spaces, grid streets provide better connectivity to the surrounding neighborhood. The area obtained in the centre of the site is an ideal location for the community heart.

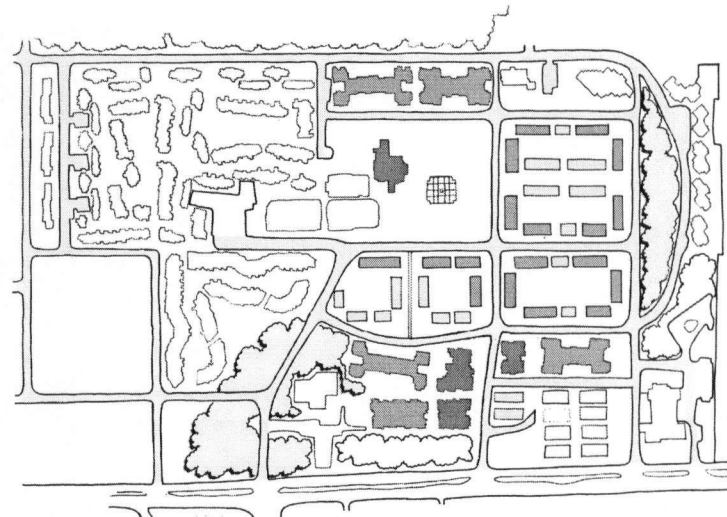


Figure 13 - Plan2

## PLAN 3

The main principle considered in this plan is:

- Connected green fragments

This plan prioritizes the open space and integrates pieces of green on the site to create a connected green corridor.

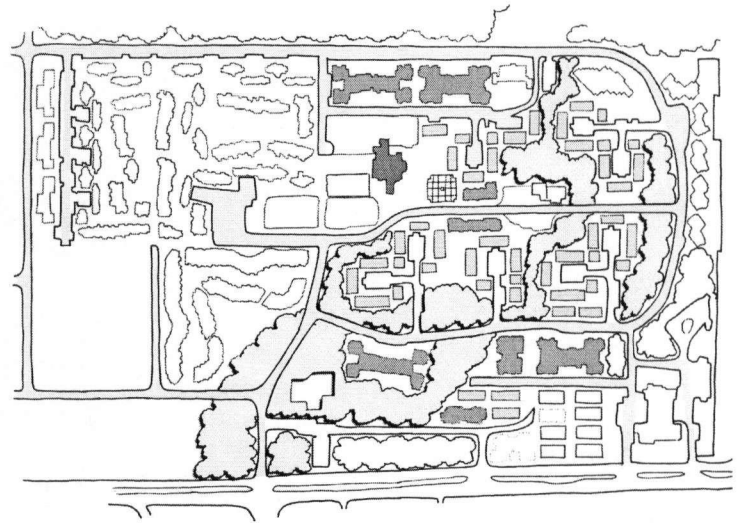


Figure 14 - Plan3

## PLAN 4

The principles considered in this plan are:

- Connected green fragments
- Neighborhood core
- Connected streets
- Reduced surface runoff

This plan combines the major principles discussed above. Some of the courts are demolished while the plan keeps the rest and offers on-street parking for them. This provides an opportunity for a major east - west road to run through the site and increase the connectivity.

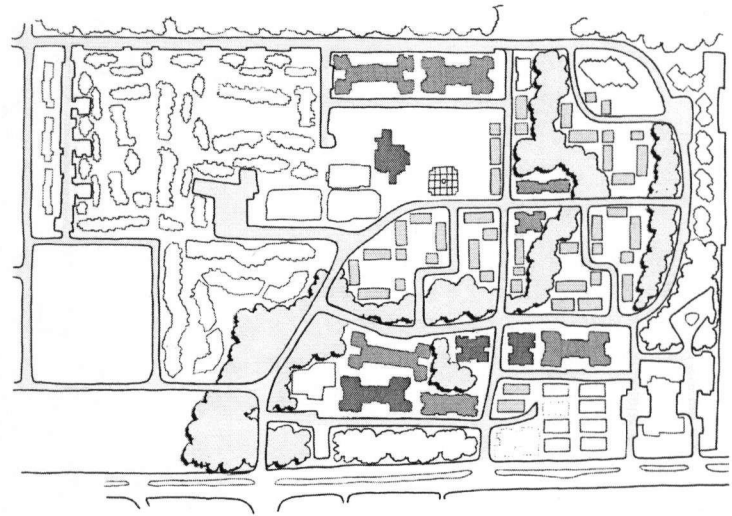


Figure 15 - Plan4



• TOWNHOUSES



• LOW RISE APARTMENTS



• HIGHRISE APARTMENTS



## Evaluation Criteria

These alternatives were judged by series of criteria, which have direct relation to the project objectives.

The evaluation criteria shown in Table1 are as followed:

- Increasing density
- Reducing co-efficient of runoff by reducing parking surfaces onsite
- Strengthening the community core by a concentration of amenities
- Reinforcing the existing green corridor
- Maximizing linkages (connectivity)
- Increasing the diversity of housing types

With an emphasis on increasing density and increasing diversity of housing types, **Plan1** scored two Highs, three Mediums, and one Low.

**Plan2** scored high in all criteria except for reinforcing the existing green corridor.

Emphasizing the green corridor, **Plan3** scored low in the rest of the criteria.

**Plan4** scored medium in increasing density and increasing diversity of housing types, but high in other sections.

The results show that the plans that fulfilled the criteria best were **Plan2** and **Plan4**. Although **Plan2** seems to have higher score, it has not addressed the very critical issue of a continuous green corridor. So this low score will eventually disqualify **Plan2** and results in choosing **Plan4** as the preferred choice. However, since **Plan4** does not score highly in all criteria, a final plan (**Plan5**) was developed, to combine the best parts of all the plans.

	INCREASING	REDUCING CO-EFF	STRENGTHENING THE	REINFORCING THE	MAXIMIZING	INCREASING DIVERSITY
	DENSITY	OF RUNOFF BY	COMMUNITY CORE	EXISTING	LINKAGES	OF HOUSING TYPES
		REDUCING PARKING	BY CONCENTRATION	GREEN CORRIDOR	(CONNECTIVITY)	
		SURFACE ONSITE	OF AMENITIES			
PLAN 1	H	M	M	L	M	H
PLAN 2	H	H	H	L	H	M
PLAN 3	L	L	L	H	L	L
PLAN 4	M	H	H	H	H	M

Table1 - Evaluation sheet

## Selective Plan (Plan5)

Addressing factors of increasing density and diversity, **Plan5** is a blended option, which combines the following factors:

- The advantages of introducing a grid system
- Keeping and connecting fragments of the green corridor
- Maintenance of the existing physical plan
- Infill development
- Reducing the parking surfaces



• TOWNHOUSES



• LOW RISE APARTMENTS



• HIGHRISE APARTMENTS

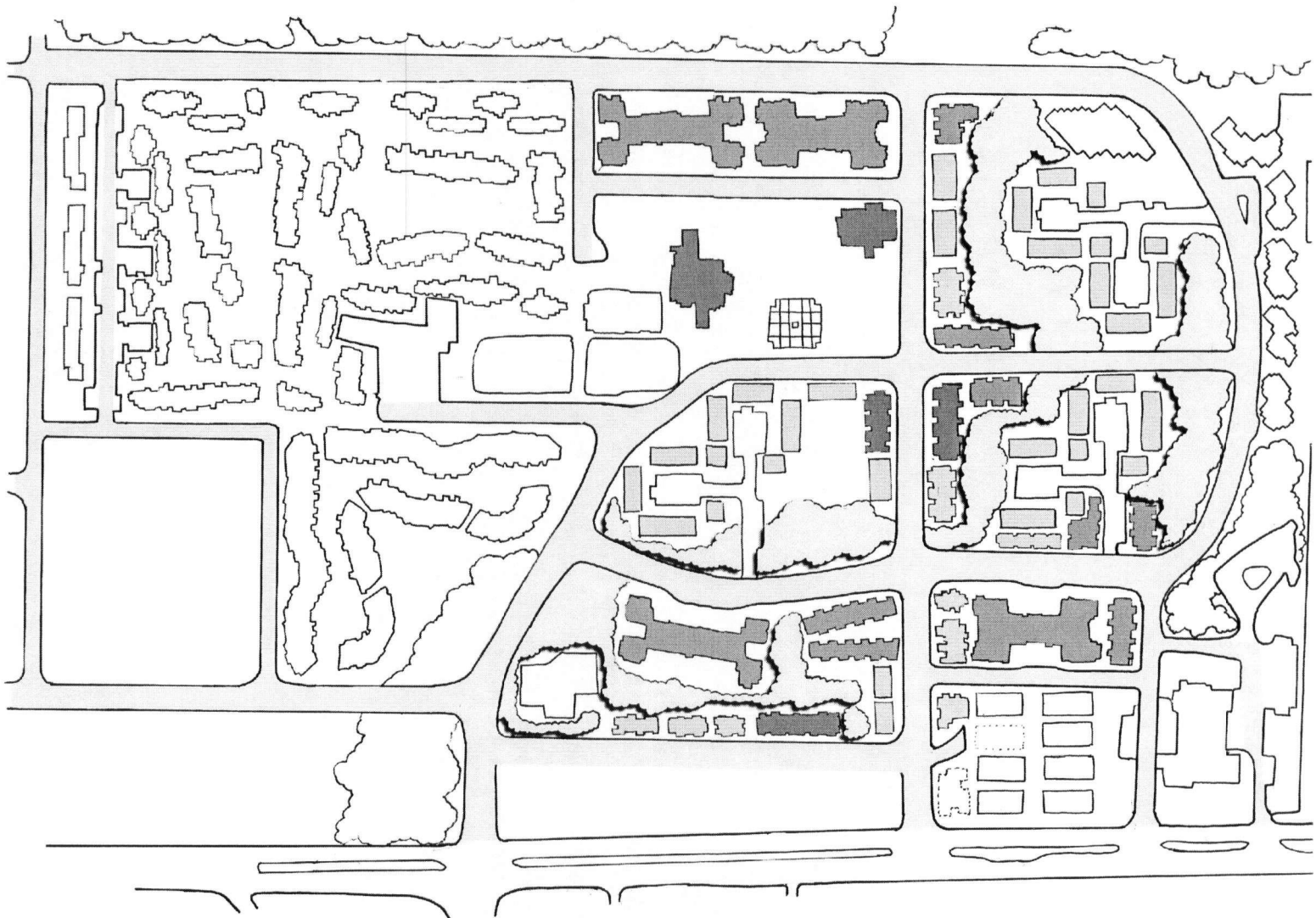


Figure 16 - Plan5

## Proposed Site Plan

To achieve the most appropriate and lively design option for Acadia Park, and to meet the principles for the Comprehensive Community Plan, a number of changes have to be made.

**1. Connected streets** make walking, bicycling, and using the bus more feasible by significantly reducing trip distances and increasing the number of safe and pleasant routes for such travelers. A road network provides multiple locations for neighborhood access by a variety of modes, along with multiple routes between two points on the road. As a result these changes are proposed:

- Faiview Avenue is relocated and aligned with Thunderbird Boulevard, considered as Gate11, one of the entrances to the campus (intersection with traffic light).
- Acadia Park Lane is turned into a vehicle access road, connecting Osoyoos Crescent to Fairview Avenue.
- Agronomy Road is extended to Western Parkway and across Wesbrook Mall into the Acadia neighborhood.
- The road access west of Berwick centre is extended all the way through the site to the east.
- Fairview Ave coming from Acadia road on the east is accessible to vehicles until it reaches the plaza next to the Commons Block. It extends to the Fairview Crescent but just provides access to emergency and other service vehicles.

**2. Higher density** "New Urbanist" development reduces trip lengths; and makes bicycling, transit, and walking more viable. People living in high-density areas are much more likely to walk than those living in low-density areas. In this regard the following removal and infill development are suggested in the Master Plan:

- Melfa Court and Oyama Court are removed.
- Berwick Preschool is removed.
- The floor plans of those townhouses in courts facing new streets, are flipped around to facilitate accessing these units from the streets.
- Infill happens along a new central east-west road, to provide a strong urban form with limited setbacks and an urban façade with multiple entry points into the buildings.

**3. Mixed housing types** provide the neighborhood with a mixed income environment, since the mixed types provide a range of housing affordability. Hence diversity of housing types are proposed:

- A new high-rise is located close to the existing Acadia high-rise.
- Townhouses and apartments of different types are built all over the site.



**4. The existing Parking lots** in courts are turned into courtyards, offering the neighborhoods play areas in front of the buildings. While they still provide access to emergency vehicles, asphalt is replaced with concrete rounds laid on gravel to facilitate percolation. This helps to reduce surface runoff on the site. On-street and underground parking are offered as substitutes.

**5. Core areas of natural landscape,** including selected stands of existing forest areas on the site are protected and connected. Thus:

- Continuous multi-use, people oriented green corridor extend through the whole site to promote linkages between the various uses, destinations, and adjacent green edges (i.e. Pacific Spirit Park).
- One pod of Salmo court building including 6 units is removed to give way to the green corridor.
- Green edges are kept, to provide a natural edge to roadways and a sense of community in a forest setting.

**6. Pocket play areas** are designated to provide play spaces convenient to each set of buildings.

**7. An identifiable heart** or focal point is created in the area next to Commons Block and different paths connect the core to surrounding open spaces and residential buildings.

**8. An urban stream** is located on the green edge to the south to manage the runoff on the surface and direct it to detention and infiltration areas.

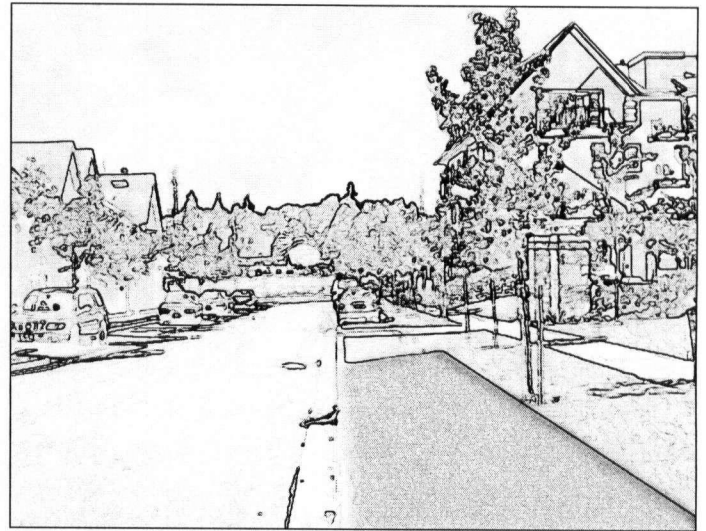


Figure 17 - Example of a Local Street

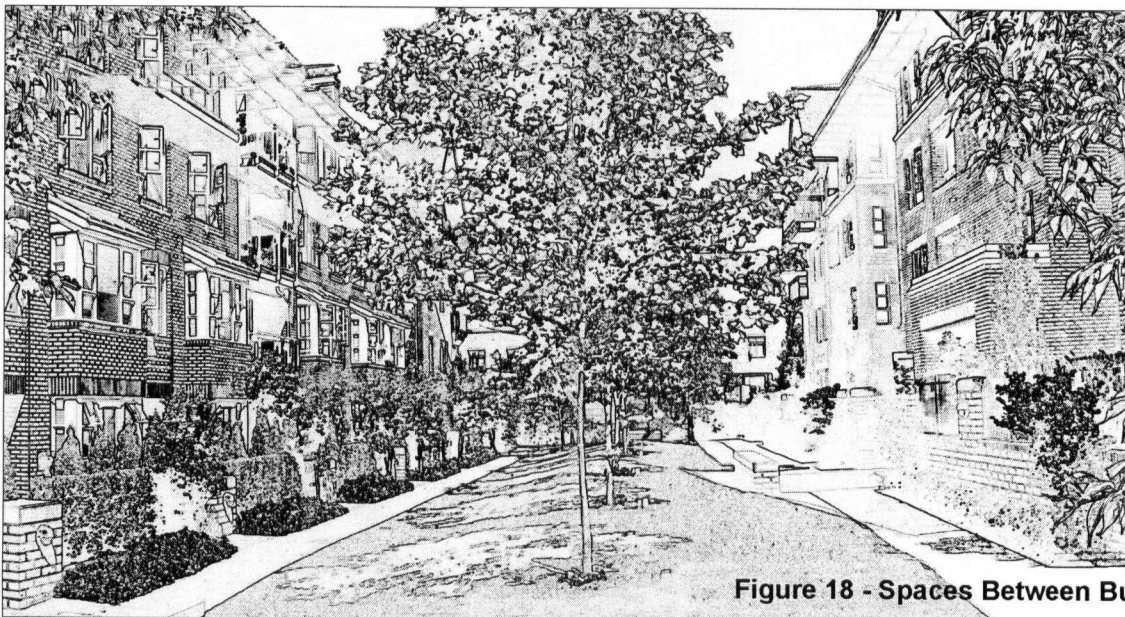


Figure 18 - Spaces Between Buildings

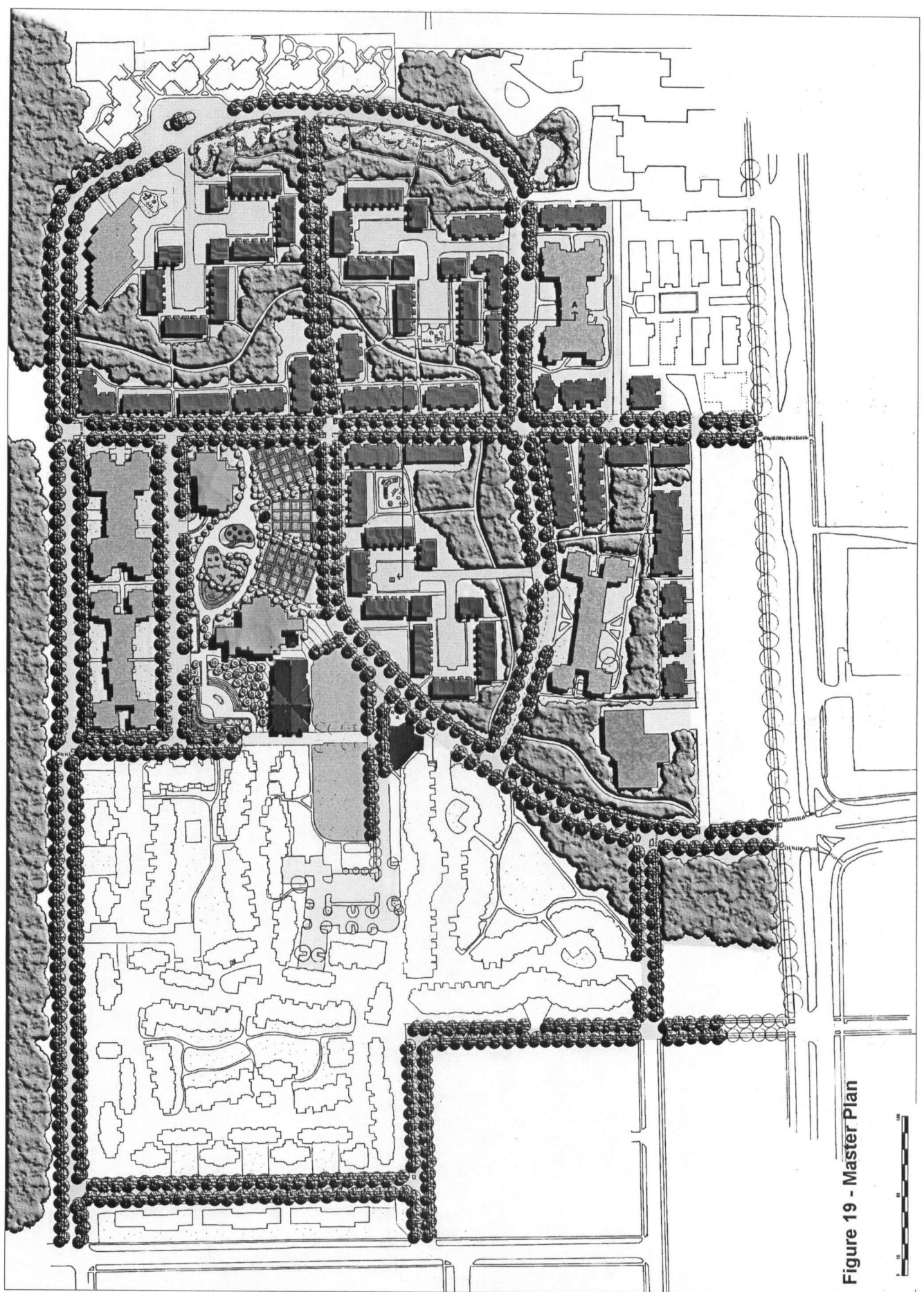


Figure 19 - Master Plan

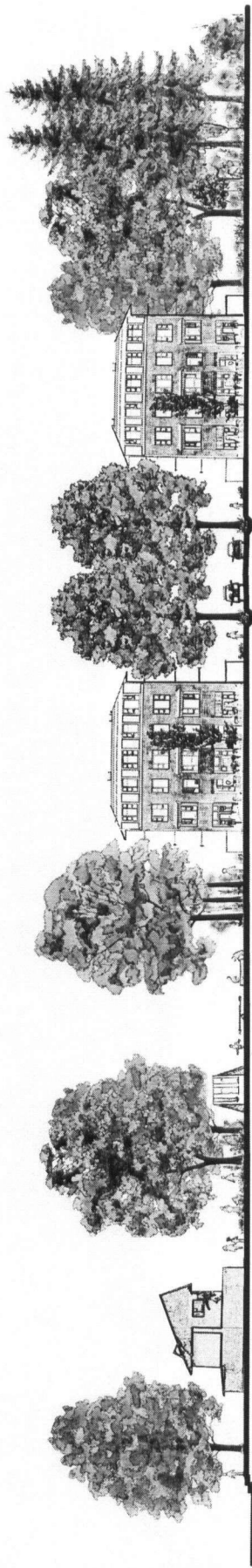


Figure 20 - Section A-A

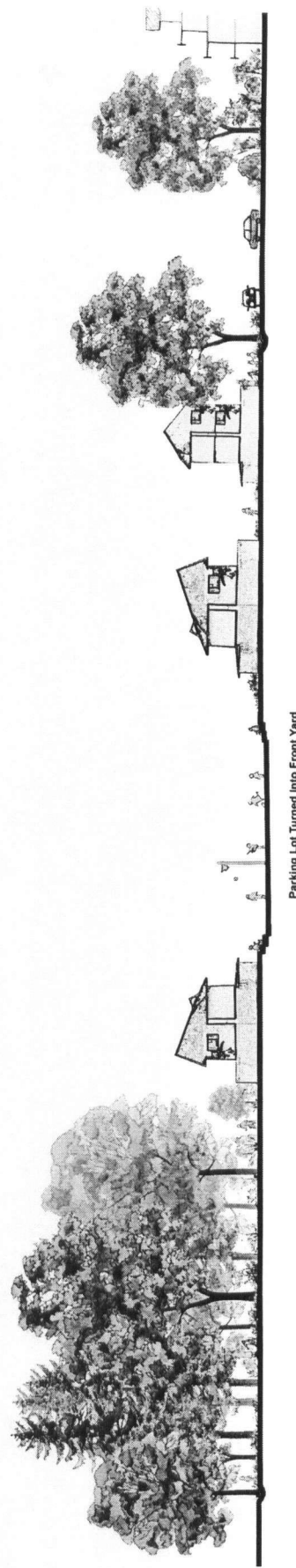


Figure 21 - Section B-B

## Street Typology

The roads in Acadia Park are classified under the “Neighborhood Road” category. In this project, rearranging roads is proposed to ensure that pedestrians, bicycles and vehicles can move more safely and efficiently.

On-Street parking buffers pedestrians from vehicle travel, narrows the street in order to slow traffic to a safer, more livable speed, and provides convenient parking locations for nearby services.

Streets and lanes are considered as an extension of the open space by ensuring that they have ample landscaping in the form of swales and row tree plantings.

Six types of local streets are proposed integrating open space and circulation system. These types are color coded in relation to the master plan.

Street **Type1** has 13.35 meter right of way with swales and on-street parkings on both sides. The central Acadia Park Lane is of this type.

Street **Type2** has 14.20-15 meter right of way with a swale on one side and vegetation buffer on the other side (next to stream). The street next to the woods and daycare centres (south part of Osoyoos Crescent) is of this type.

Street **Type3** has 15.05 meter right of way and the new east-west road on the site is of this type.

Street **Type4** has 17.0 meter right of way and west part of Osoyoos Crescent is of this type.

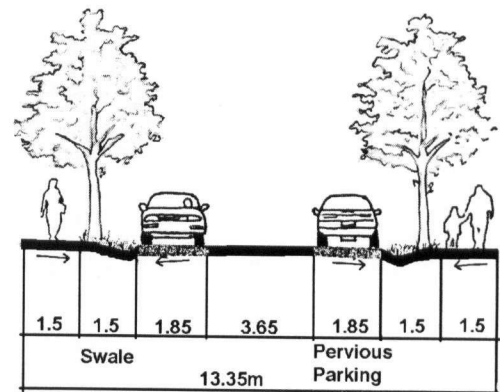


Figure 22 - Street Type1

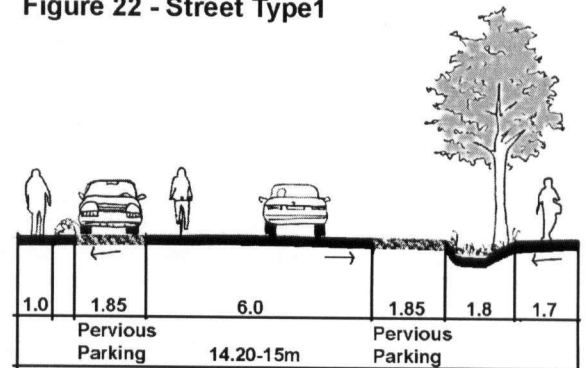


Figure 23 - Street Type2

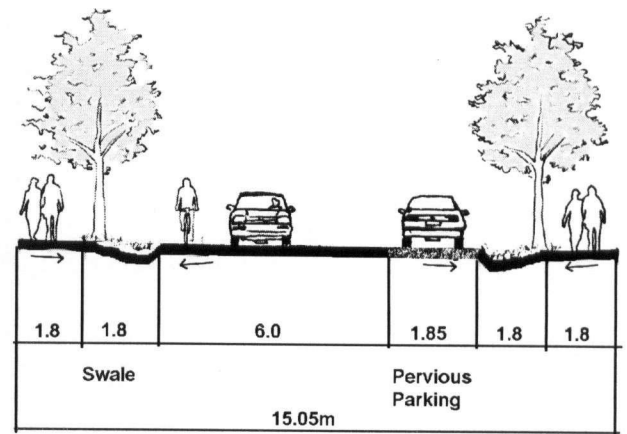


Figure 24 - Street Type3

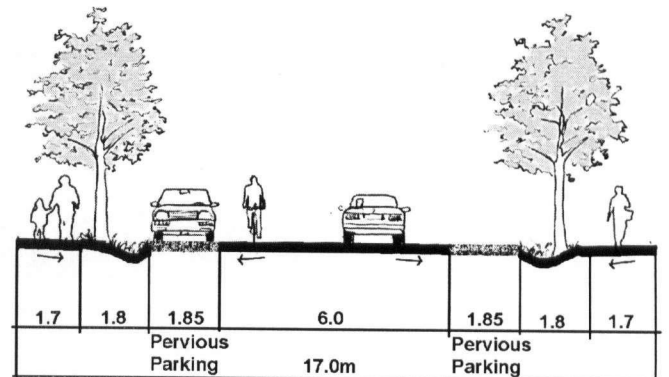


Figure 25 - Street Type4



Street **Type5** has 18.35 meter right of way with on-street parking in front of the buildings on one side. The road between the plaza and apartment buildings is of this type.

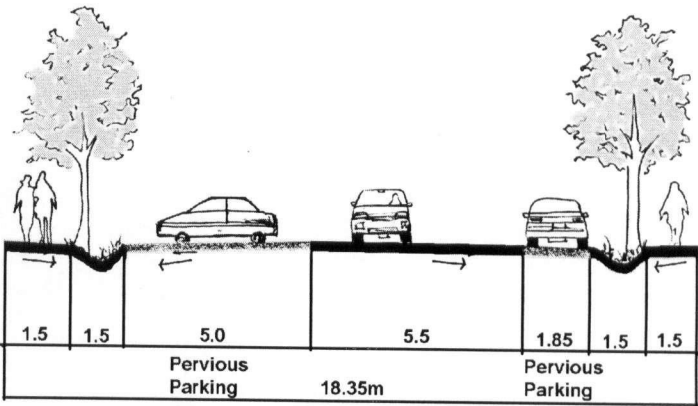


Figure 26 - Street Type5

Street **Type6** has 20.15 meter right of way with on-street parking at the back of the buildings. Acadia Road on the east part of the site is of this type.

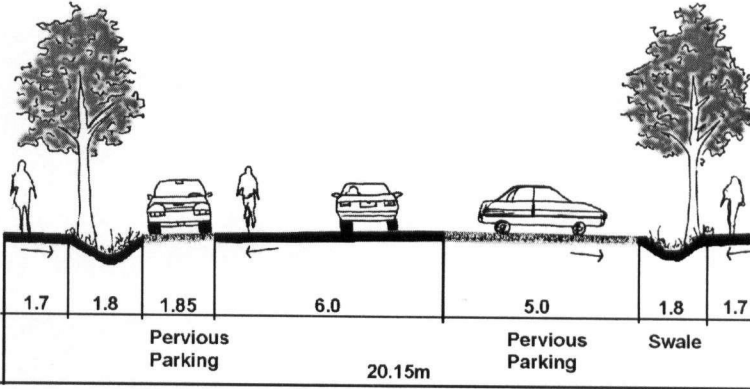


Figure 27 - Street Type6

Figure shows different types of streets on the site. Each color refers to a specific section (Street Type) which was discussed earlier.

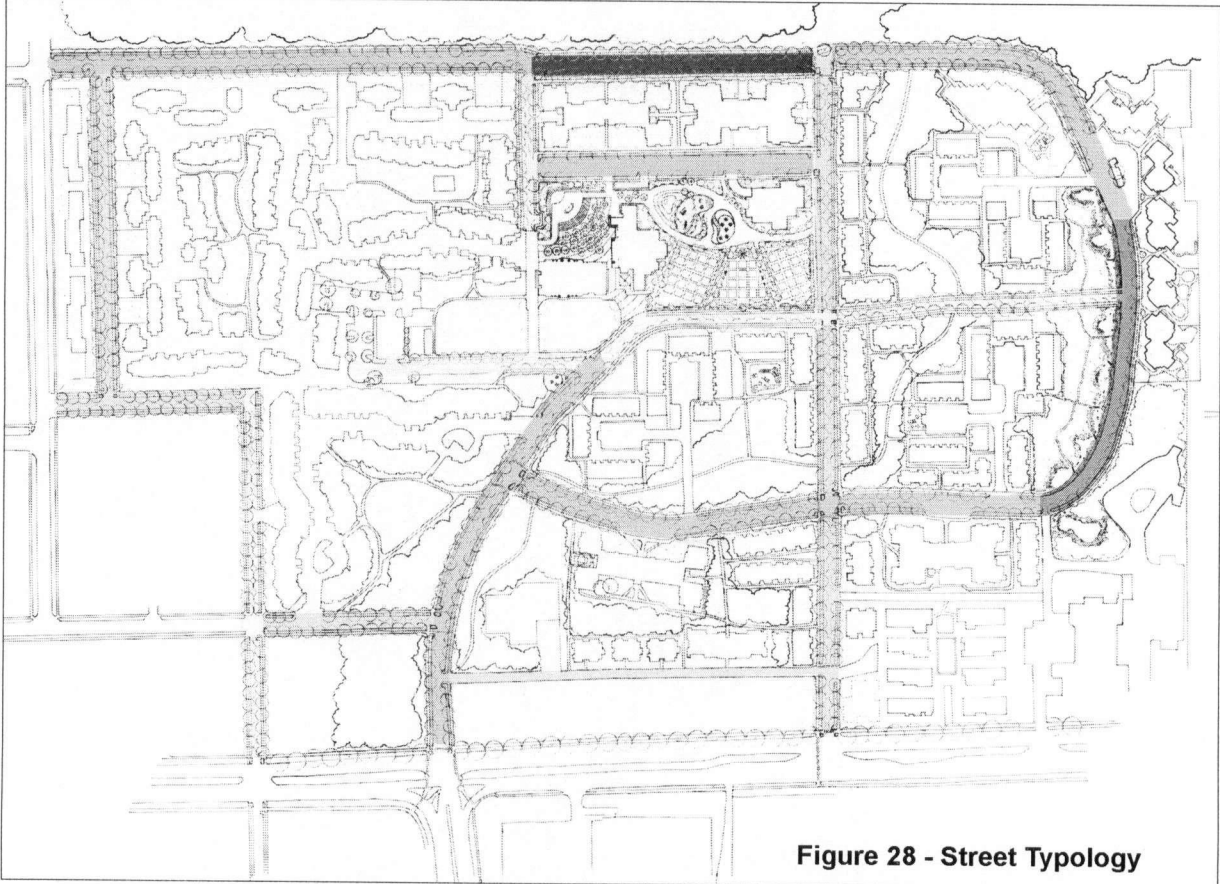


Figure 28 - Street Typology

## Housing Typology

Housing will be primarily street-oriented, with a network of streets that emphasizes through routes, and public pedestrian linkages. It will cover a broad spectrum of physical forms, to ensure that diversity as well as density is considered in the design. Typical building forms according to the principles of the CCP are as follows:

- Row Houses (Townhouses) - Stacked Row Houses with 2 to 3 Storey and 1.0 FSR
- Low-Rise Apartments with 2 to 4 Storey and 0.9-1 FSR
- High-Rise apartments with 6 to 18 Storey and 2.4 FSR

The architecture of the building types shown in this page are just samples of the existing buildings on the site.

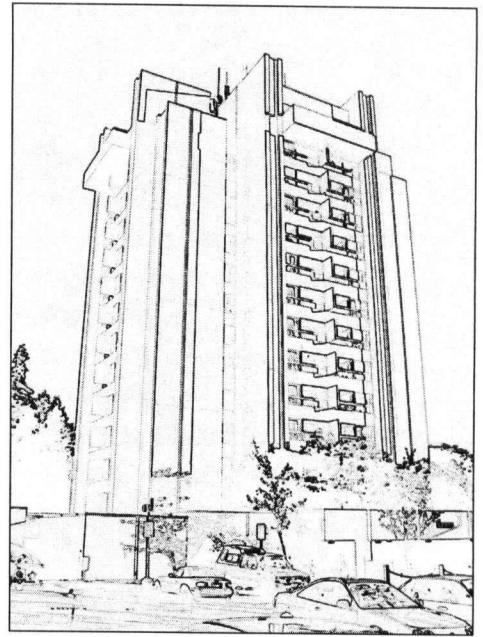


Figure 29 - High-Rise Apartment (14 Storey)

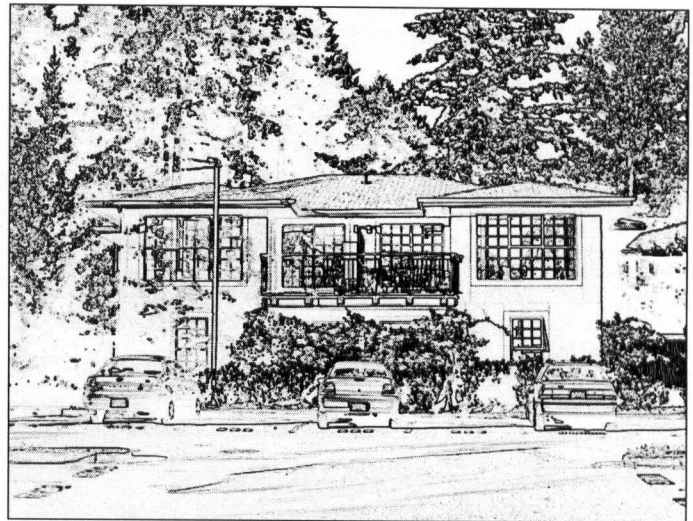


Figure 30 - Low-Rise Apartment (2-4 Storey)



Figure 31 - High-Rise Apartment (6-storey)

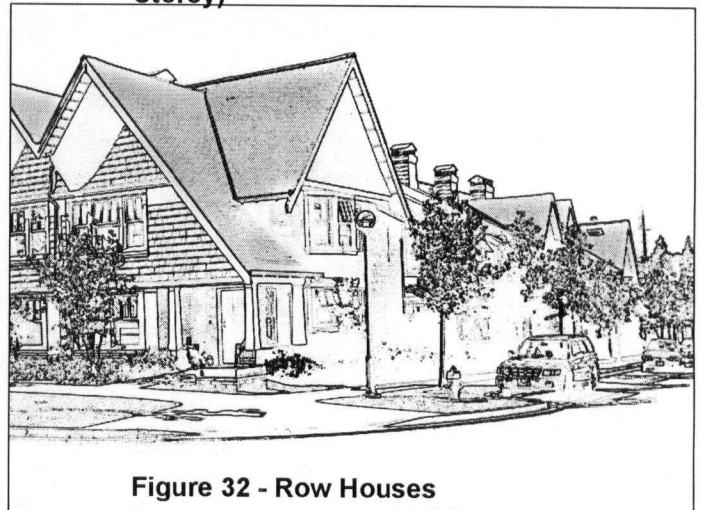


Figure 32 - Row Houses

## Parking Analysis

Off-street surface parking is minimized and underground parking as well as on-street parking is proposed. The existing parking on the site includes:

• Surface parking	491
• Under ground parking	83
• On-street parking	260
• <b>Total parking</b>	<b>834</b>

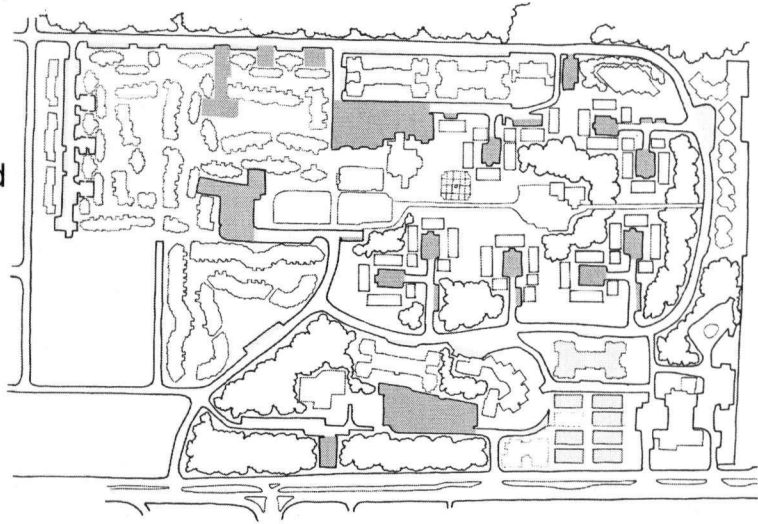


Figure 33 - Existing Parking Space

With eliminating surface parking of the courts, there is a need for a parking substitute. Hence, on-street parking is provided to serve both existing and new townhouses under three storeys. Underground parking is proposed for buildings of four storeys and up and also for high-rise apartments. The proposed parking plan is as follow:

• Surface parking	52
• Underground parking	631
• On-street parking for existing units	277
• On-street parking for others	89
• On-street parking for new units	174
• <b>Total on-street parking</b>	<b>540</b>
• <b>Total parking</b>	<b>1223</b>

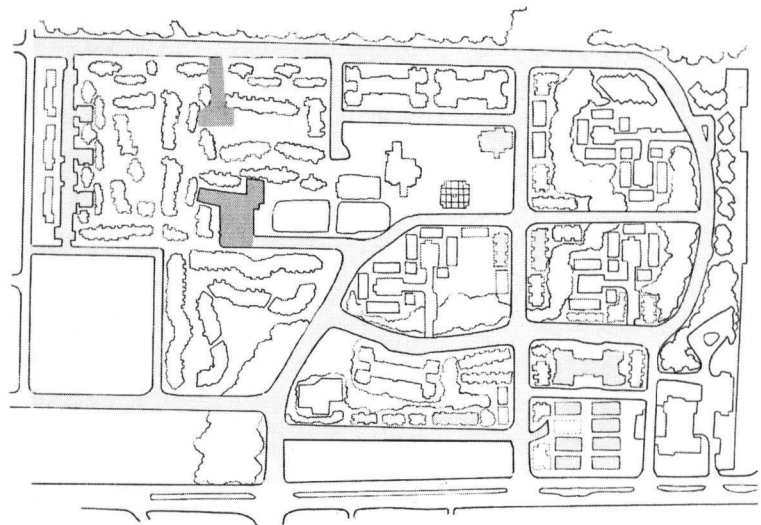


Figure 34 - Proposed Parking Space

As a result, 4380m of streets provide parking for 620 cars, which covers the need for the whole site.

## Density Analysis

In order to provide compact and pedestrian-friendly neighborhood character, density is increased by removing some of the old units in courts, placing new buildings along roads and infill development on the other areas of the site. The existing density plan includes:

• Townhouses in courts	175
• Townhouses in new phase	235
• Low rise apartments	289
• High-rise apartments	80
• <b>Total units</b>	<b>779</b>

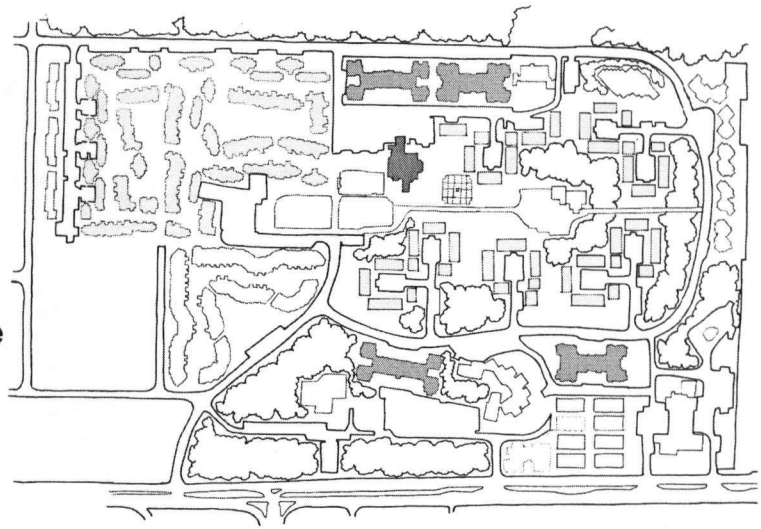


Figure 35 - Existing Density

The proposed density plan is as follows:

• Demolished townhouses in courts	61
• Added townhouses	72
• Added low rise apartments	102
• Added High-rise apartments (6 storey)	348
• Added High-rise apartments (15 storey)	80
• <b>Total added units</b>	<b>602</b>
• <b>Total units</b>	<b>1320</b>

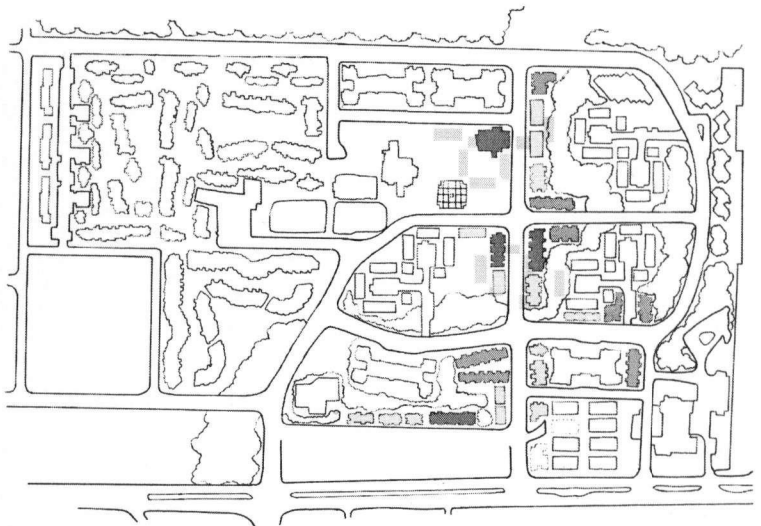


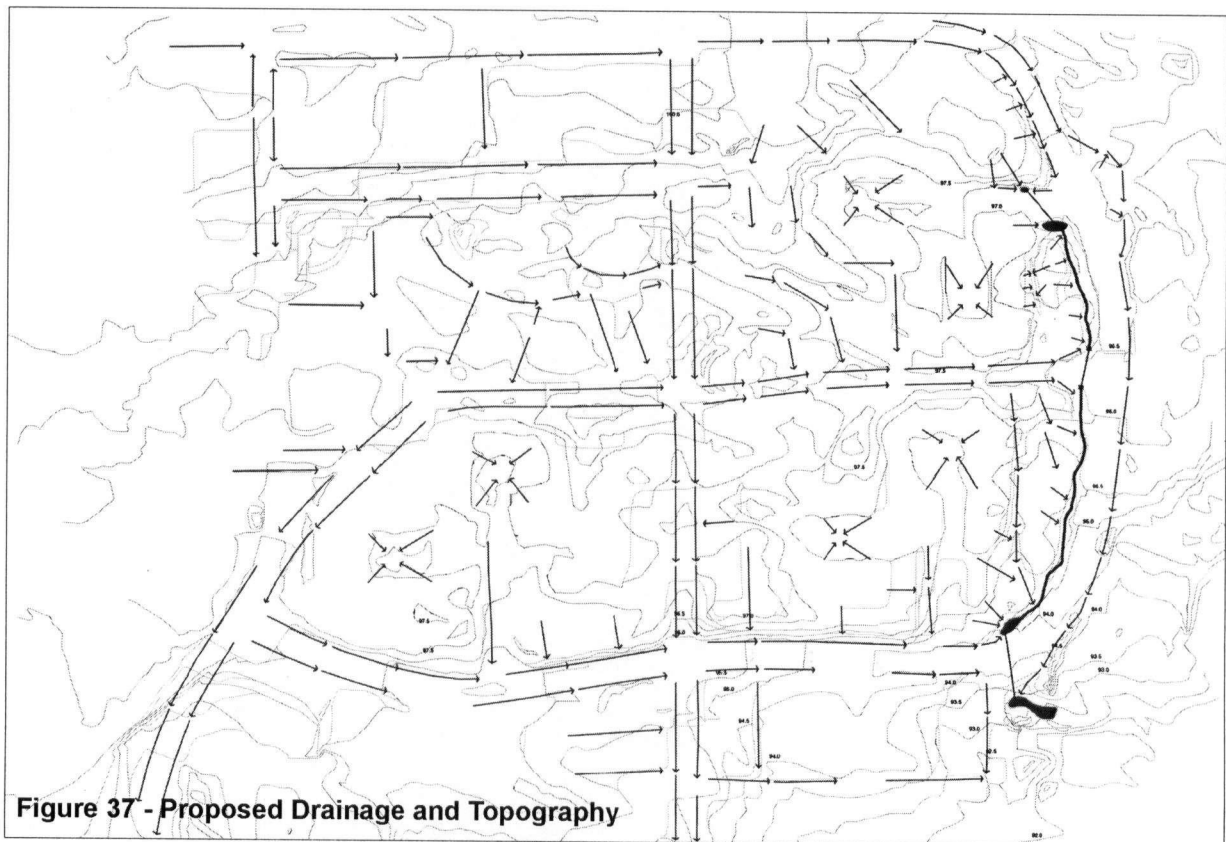
Figure 36 - Proposed Density



## Proposed Drainage / Topography

The campus is currently served by a system of gravity storm sewers and open ditches. There are four main catchment areas. The north catchment area discharges through a GVRD-owned vertical spiral drain and tunnel to the foreshore. The rest, discharges through three outfalls to open channels. This project considers natural drainage techniques as an alternative to conventional stormwater collection. The topography is adjusted so that street corridors collect and transport stormwater in open swales (Street **Types 1-6**). Ideally most of this stormwater will be infiltrated into subsoil; however, stormwater from very large storms will be transported and stored into a retention pond located at the southwest of the site.

Swales, (shallow, grassy channels) are located on both sides of roads to collect the runoff from the street. Stormwater gradually infiltrates to the level of the water table after filtering through the grass and soil. Excess water travels in the swales, along the network of streets to a holding pond where additional infiltration, evaporation, and transpiration can occur. The shoulders of streets are finished with crushed stone so that runoff can infiltrate through the gravel into the soil. In other areas, where it is desirable to encourage groundwater recharge, pervious surfaces are provided.



## Proposed Urban Stream

A new urban stream, another design element intended to manage the precipitation runoff on the surface, is located on the south next to the forest edge. It collects the stormwater from the site by adjusting the contours. In the woods, stormwater is discharged through underdrains connecting to the stream.

The stream will not be running all the year round, but provides a pleasant edge next to the daycare centers. It widens where enough space in the woods allows for it. Trails paved with bark mulch replace the street sidewalk along the stream. Wooden bridges connect trails on both side of the stream.

Culverts allow water to pass under the roads and not be blocked.

An on-site retention pond is created in the woods next to Fire Station, for peak flow reductions and to slow infiltration into the soil. It will be located where topography allows and where it is more suitable for trees to be removed. The overflow will be discharged to drains connected to existing sewer system.

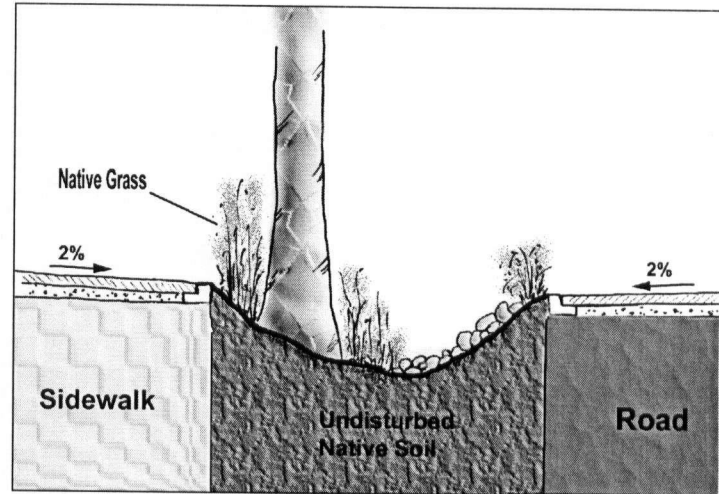


Figure 38 - Proposed Swale Section

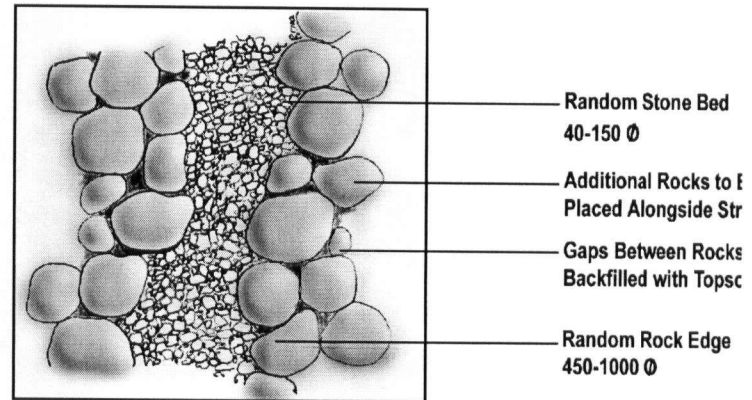


Figure 39 - Stream Bed

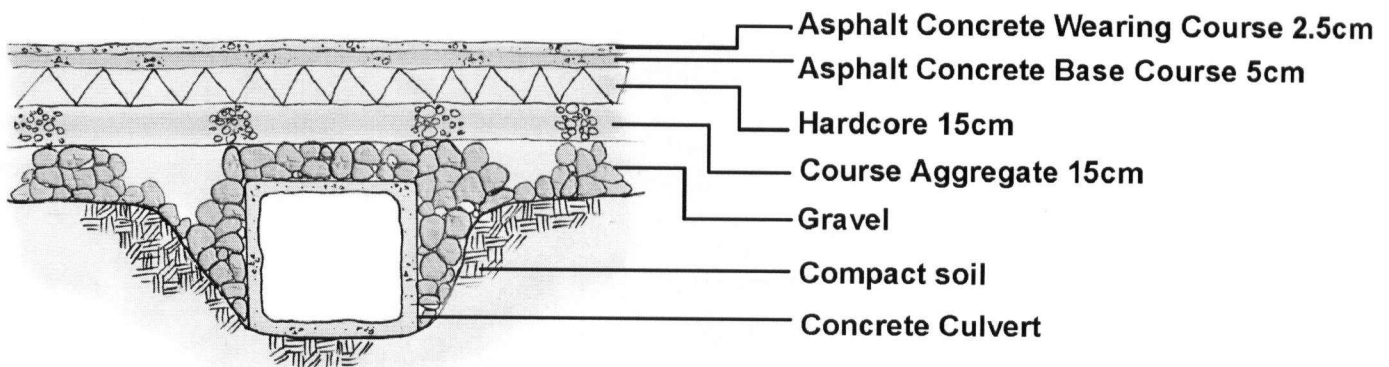


Figure 40 - Proposed Culvert

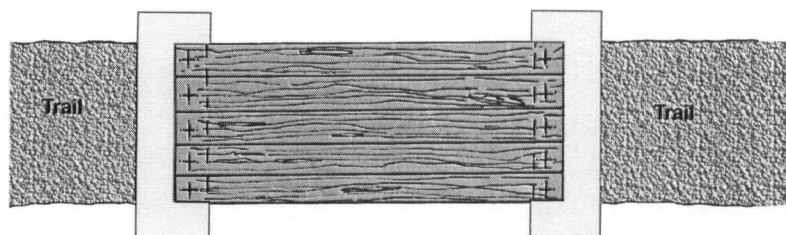


Figure 41 - Timber Bridge Plan

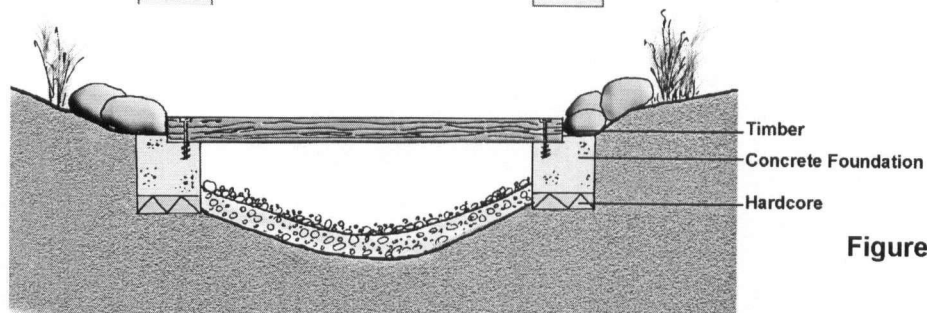


Figure 42 - Timber Bridge Section

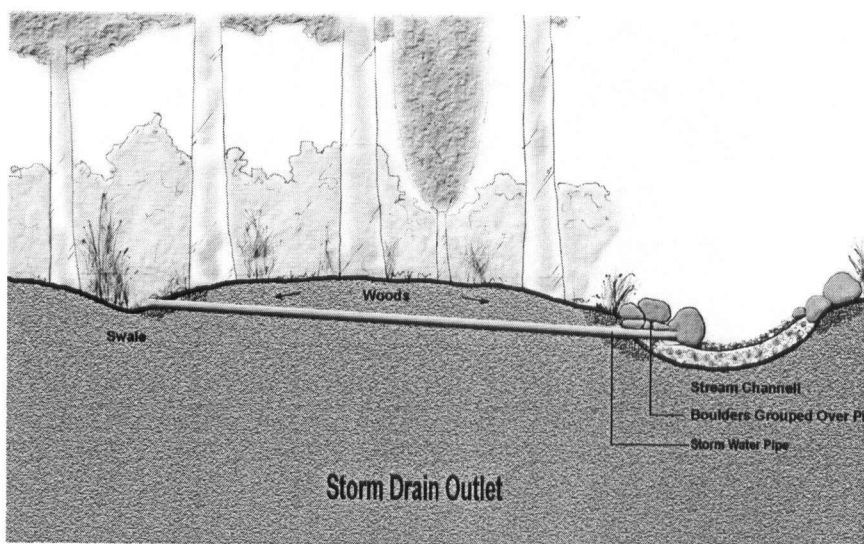
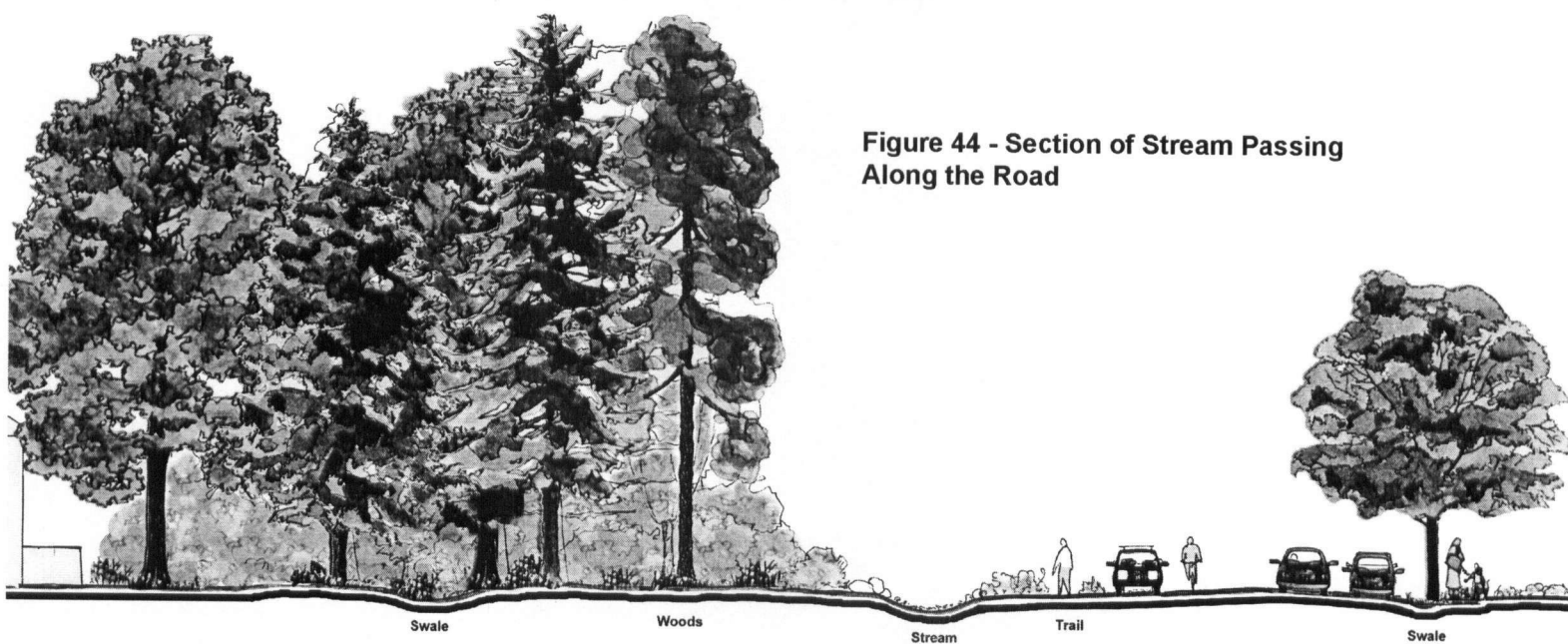


Figure 43 - Under Drain

Figure 44 - Section of Stream Passing Along the Road



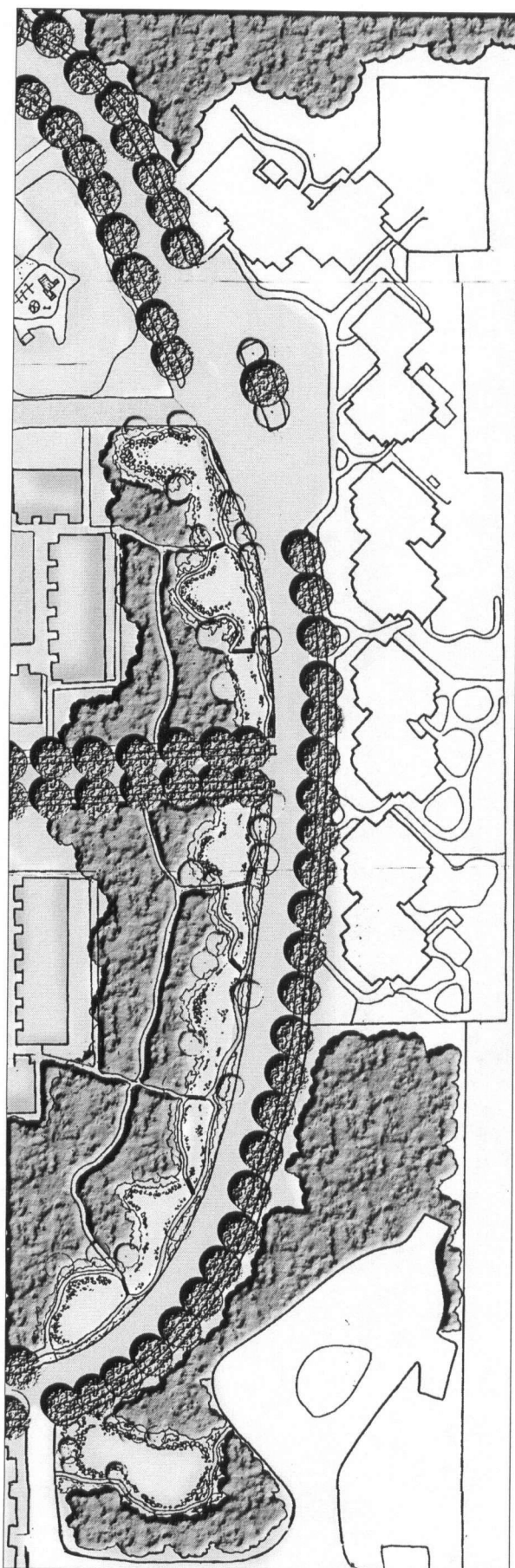


Figure 45 - Stream Plan

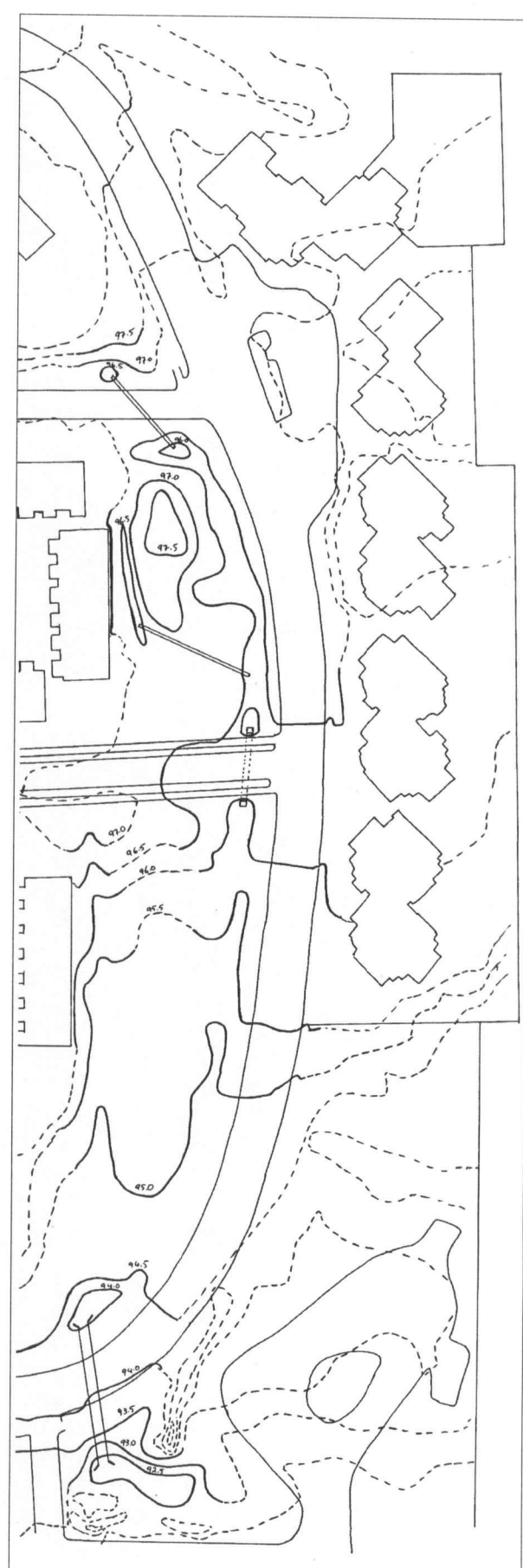
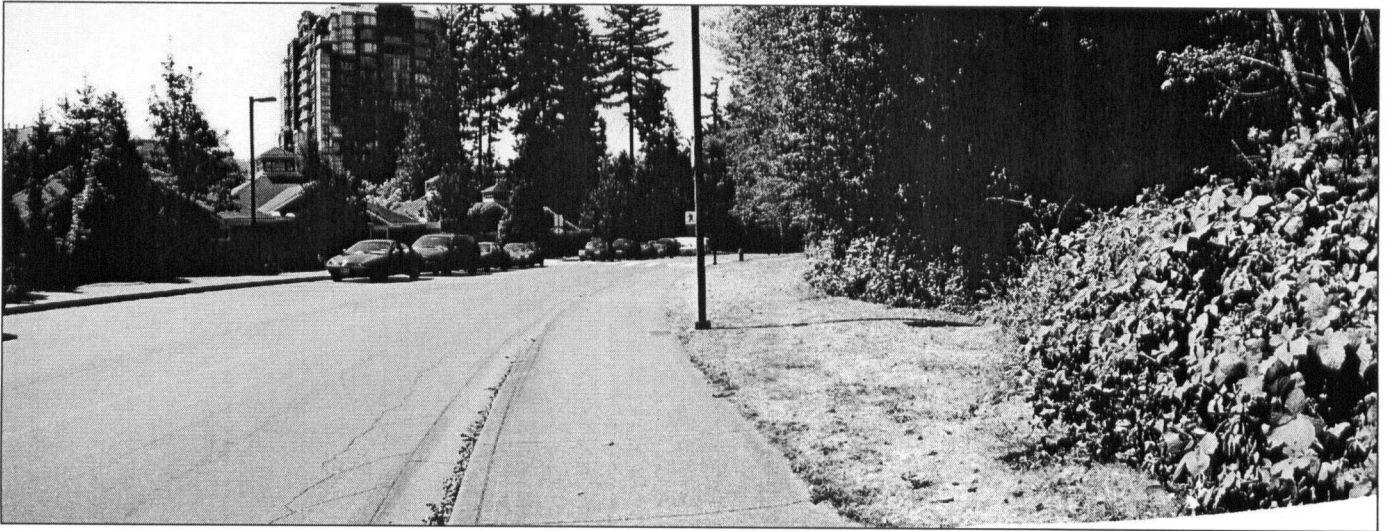
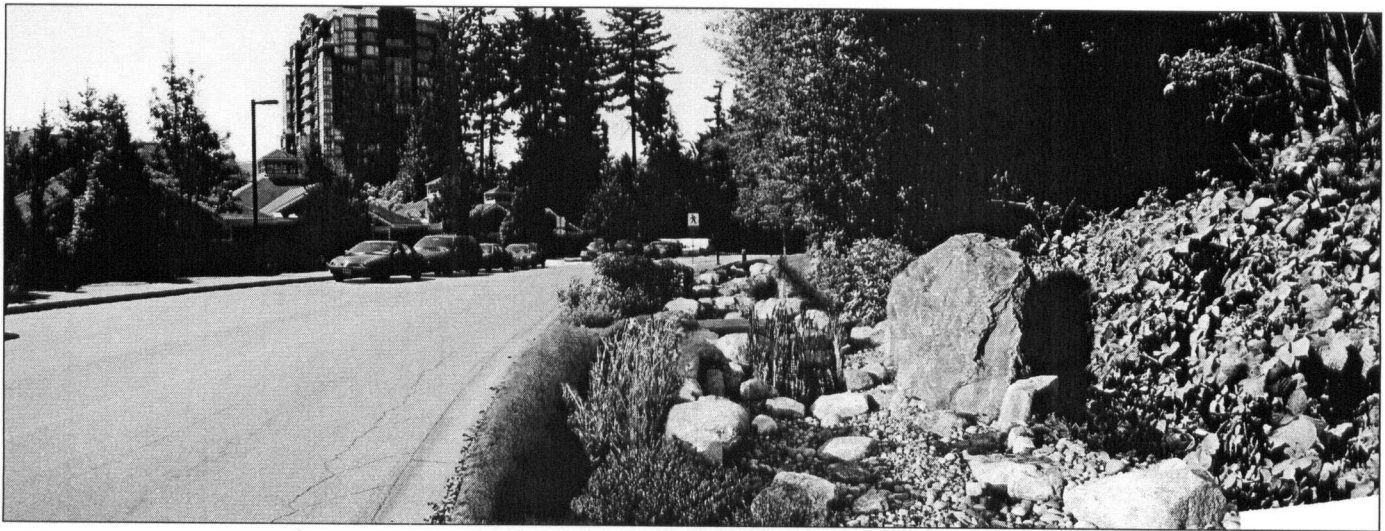


Figure 46 - Stream Topography





**Figure 47 - Existing Road Next to The Woods**



**Figure 48 - Proposed stream next to The woods**

# Proposed Community Heart

In order to make the neighborhood more distinct, memorable and dignified, a revision to the area surrounding the Commons Block is advised. The idea is to incorporate a variety of activities and uses to make the place more of a centre of focus and to encourage community interaction. Having the existing community centre, community gardens and open fields on that site is the rationale for selecting this area.

## Programming

### 1. Plaza

The existing parking lot serving the high rise is redesigned as plaza. In order to create a sense of place and define the plaza as a separate place, it is paved with coloured round concrete and is furnished with planters and seats. This would be a place to meet, walk, read, eat and socialize.

### 2. Stairs

Changes of level can have important visual, functional, and psychological consequences. For most observers, a plaza that includes some modest but observable changes in level is preferable aesthetically to one that is absolutely flat (Cooper Marcus, People Places). Several stairs take people down to a place to sit and look at water, have lunch or watch performances. Part of the stairs widen to a stage for occasional concerts and performances. A small berm creates a sense of separation from vehicular traffic.

### 3. Playground

The area left after removing Melfa Court, is allocated to a central play area. It consists of adventure playgrounds, a play hill, rocks and boulders, a shallow pool, and water play fountains. There are open paved areas for older children to run around and seats for people to sit and watch kids playing.

### 4. Community gardens

Due to the increase in density, there is a need to add to the existing, successful community plots. A new design allows for more gardens and storage sheds. Several shaded routes going through the community gardens connect the new central road to the play area.

### 5. Corner café

The area created by realignment of Fairview Crescent, is proposed for relocating a corner café, which already exists but is hiding in the Fairview residence. This will create a social space for the community to meet and socialize.



Figure 49 - Proposed Community Heart

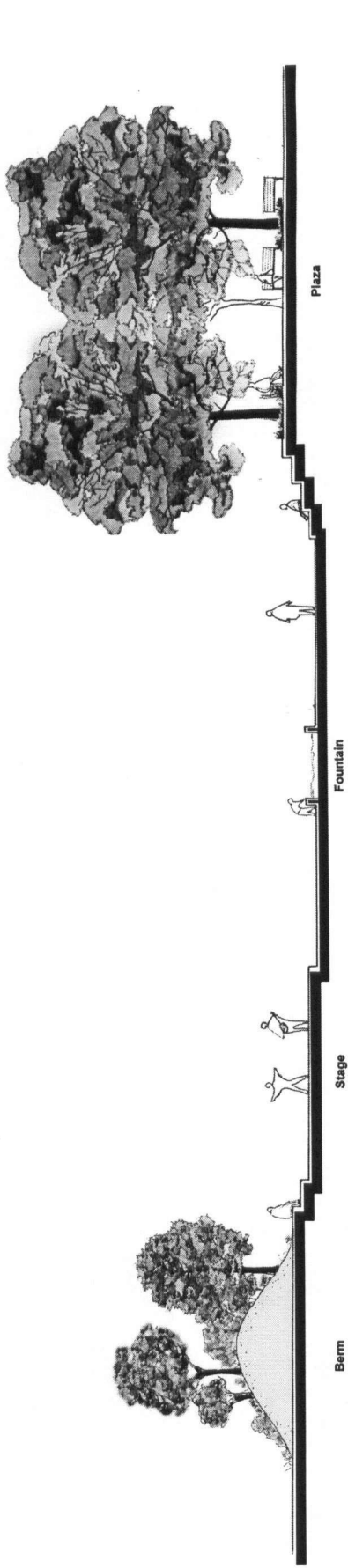


Figure 50 - Section A-A

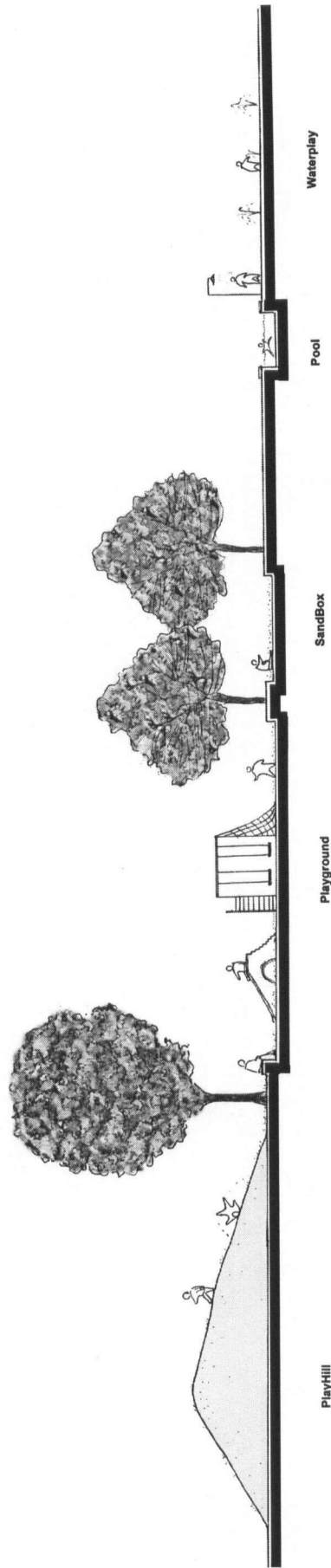


Figure 51 - Section B-B

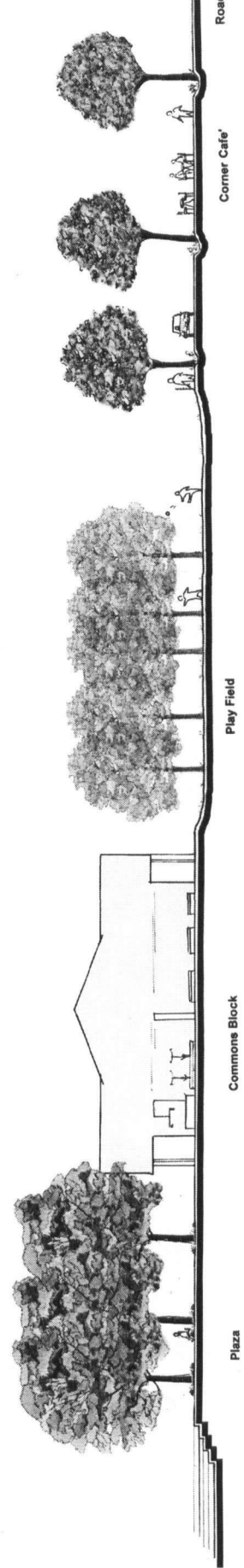
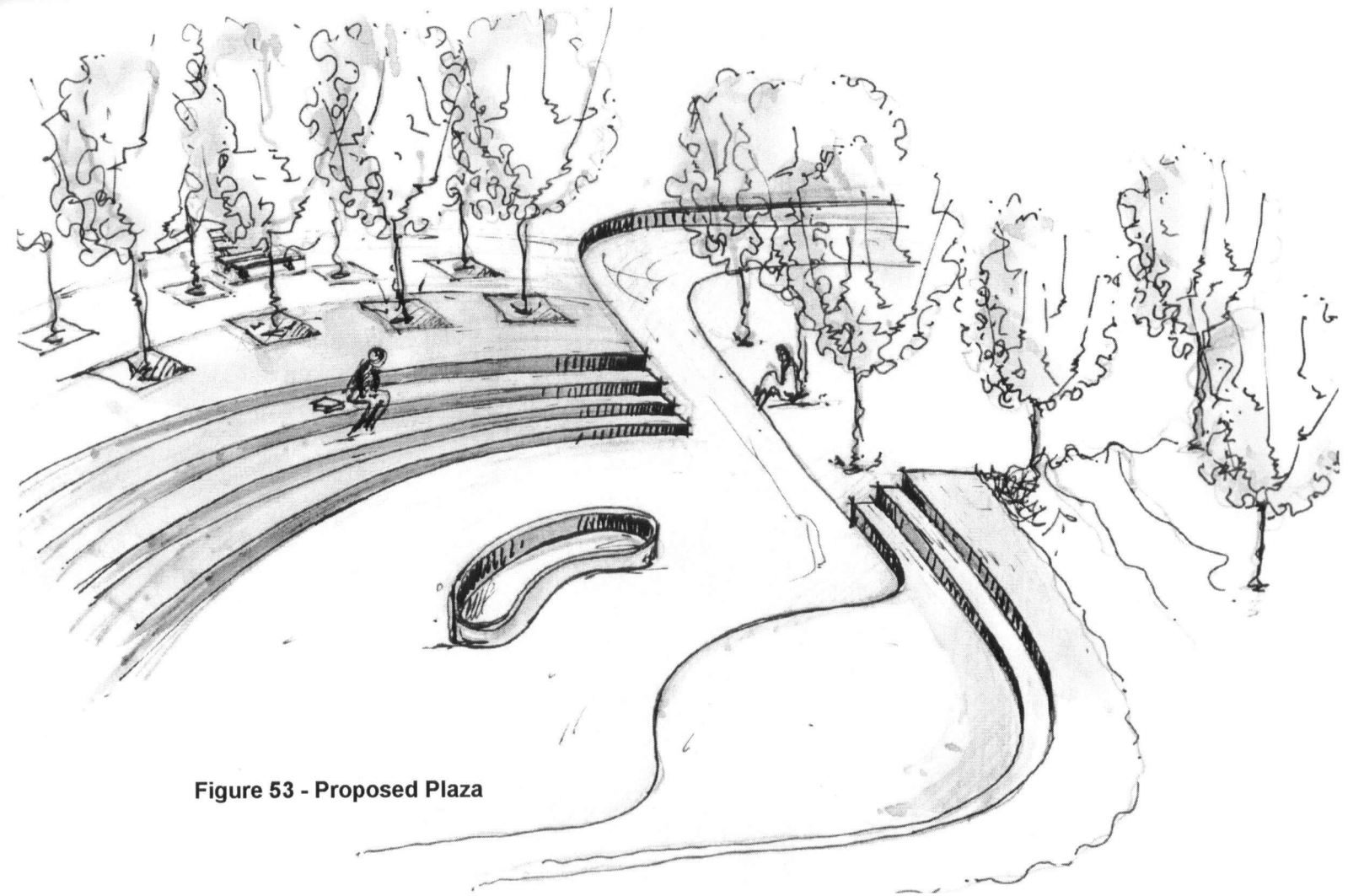


Figure 52 - Section C-C

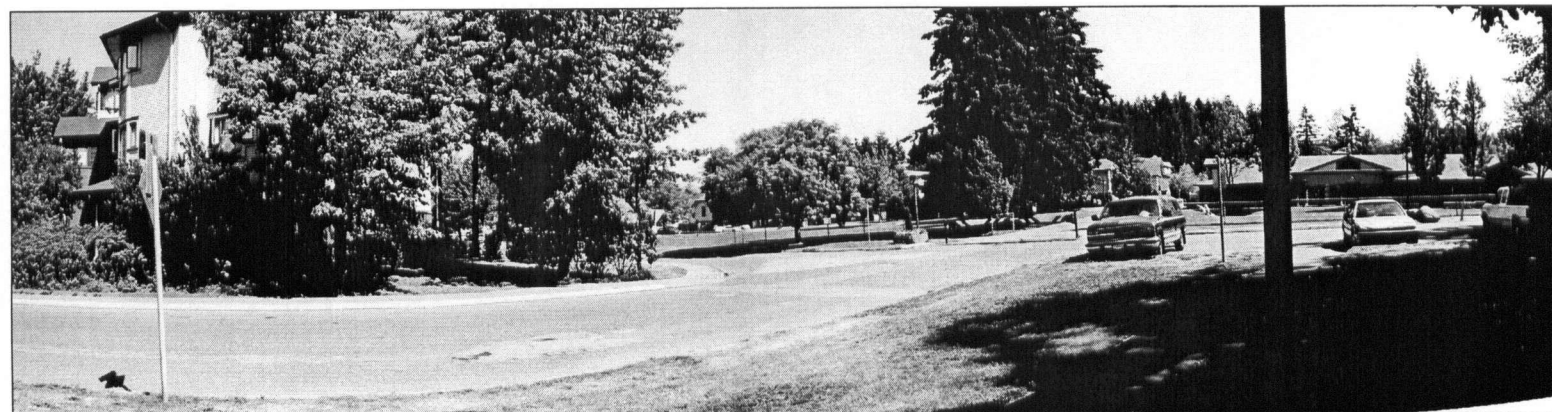




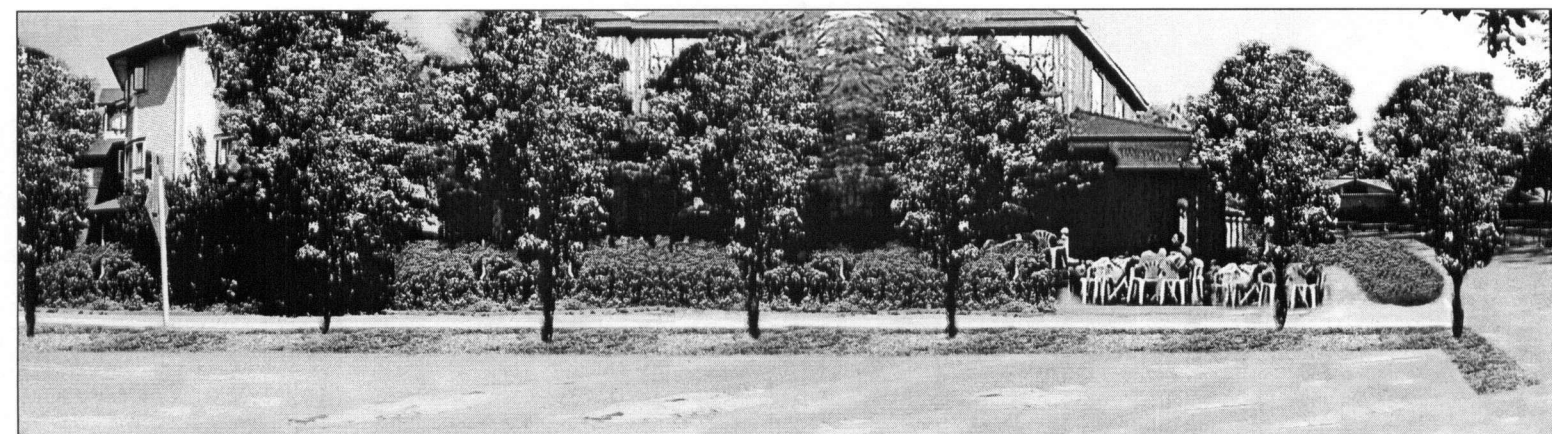
**Figure 53 - Proposed Plaza**



**Figure 54 - Proposed Community Gardens**



**Figure 55 - Existing Road (Fairview)**



**Figure 56 - Proposed Corner Cafe**

## Summary

Fundamental steps should be taken in order to create a sense of place, a sense of community, and a sense of belonging to this residential area on UBC's campus.

This project is partly enframed as the newest directions in the design of socially, ecologically and economically responsible communities.

The design proposals address the main goals of the UBC Official Community Plan, such as protecting and maintaining the "Green Zone" and increasing density and diversity range of housing types. The plan also addressed the real concerns of people living in the neighborhood (who were talked to and been interviewed), such as parking lots in front of houses, play areas, natural surroundings, connectivity and etc.

The principles of the framework, allow for further steps and designs towards the enhancement of the place in the future.

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