

URBAN DESIGN CONSIDERATIONS FOR THE  
VERSATILE SHIPYARD SITE IN NORTH VANCOUVER

by

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B.A., The University of Victoria, 1993

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS (PLANNING)

in

THE FACULTY OF GRADUATE STUDIES  
SCHOOL OF COMMUNITY AND REGIONAL PLANNING

We accept this thesis as conforming  
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THE UNIVERSITY OF BRITISH COLUMBIA

October 1999

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Date 6 DECEMBER 1999

## ABSTRACT

The aesthetic and social qualities of urban form combine to generate meaning for people as they relate to the environment in which they work, live and play. The provision of quality urban form can promote a heightened experience of place, stimulate social interaction, enhance safety, and provide people with a generally pleasant visual experience. Unfortunately, it appears to be in short supply, particularly in North America, which has led a number of theorists to dissect the problem and advance abiding principles to guide new development. While these principles are extremely valuable tenets, they are vast in number and vary depending on the priorities and focus of the theorist. It becomes difficult to choose which set of principles to follow. However, translating design theory into a practical application can not occur without careful consideration of the context and understanding the requirements of a development's potential user group.

The study surveys design theory and distills the more consistent and important points relating to quality urban design features. From this large body of knowledge, a systematic approach to the practical application of the information is developed. This approach can develop a context by which design elements can be discussed and assessed in a broader forum. The site selected as a test study area is the former Versatile Shipyard site in the City of North Vancouver. The site was selected because of its strategic location in the City, the waterfront exposure, its heritage significance, and pending redevelopment.

The thesis begins by assessing design theory against two case studies: a residential development in the False Creek area of the City of Vancouver, and a

similar development at the Westminster Quay in the City of New Westminster.

These sites were selected as case studies because their context is relatively similar to the Shipyard site. From this, a design matrix is developed which embodies a conceptual hierarchy of theory. This is coupled with contextual background information pertaining to a specific study area and its surrounds, and the planning framework influencing its development. Using this accumulated information and design matrix, a conceptual urban design plan is proposed for the Shipyard study area.

The main conclusion of this thesis is that the process of culling theoretical information into a matrix, combined with a contextual assessment, produced a design concept that improves upon planning work undertaken to date for the Shipyard study area. Furthermore, the process would appear to have a broader application to other areas of redevelopment where quality urban form is the desired goal.

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## ACKNOWLEDGMENTS

I would like to thank the following individuals:

Committee members Alan Artibise and Michael Seelig for their considerable expertise not only at the thesis stage, but through the course of lectures at the School of Community and Regional Planning; they will be sorely missed.

My wife, Mary Catherine, for placing her life on hold and offering unflagging support and endurance during this processes. Also for her exacting literary standards and feedback. My parents, Harry and Iris who have, as always, offered their patience and support.

Kirk Miller and Brian Underhill of the Agricultural Land Commission who showed an interest in this undertaking and bent over backwards to provide me with the necessary time off work to research and write this thesis.

Gary Penway from the City of North Vancouver for all of his assistance and background on the Versatile Shipyard site. Richard White also from the City of North Vancouver for agreeing participate as an external examiner, and for his insightful discussion.

## CHAPTER 1.

### 1.1. BACKGROUND

The quality of urban form affects all human beings at a very fundamental level. Those places that are aesthetically pleasing and interesting are typically vacation destinations. Tourists visiting such regions as Europe want to experience the vitality of the urban form, and participate in the social throng in sidewalk bistros or along a riverfront promenade. People seem to have a need to experience "place" containing this type of vitality. It is logical to assume that quite a number of places do not exhibit this characteristic. There is a great body of literature which condemns the quality of contemporary urban design and form, and describes the associated social ills. There is also a similarly great body of literature on critical elements that contribute to a quality urban environment. While the "average" tourist to a European destination might well be able to describe the features that they most enjoyed about a place, they would likely be unable to define the elemental components that were the foundation of the cognitive experience. The shop front, the stimulating textured paving treatment, the tracery of light and shadow playing on the floors and walls of intimate outdoor public spaces, view corridors that permit glimpses of architectural beauty buried in distant urban form, stairways and pathways, opening and closing spaces, and connection with the social fabric of the city. These are but some of the features that characterize a desirable destination whether it be European, North American or Asian in context. The challenge for the designer becomes one of translating these types of positive cognitive experiences to a new location in a way that is relevant to its context. This is one role of urban design.

In his book "Design Control: Towards a New Approach", Tony Hall (1996) describes four elements that embody the meaning of urban design. They include:

- creating urban form to meet an expressed need;
- arranging of buildings to create positive outdoor space, the furnishing and landscaping of these spaces, and other outdoor public spaces;
- maximizing the efficient functioning of buildings and space for the users;
- maximizing the aesthetic qualities of buildings and space for the user.

In order for the urban designer to translate these elements into quality urban form one must not only have an innate design sense but a common, somewhat codifiable language that can be used to articulate the design concept to others such as city Planners and politicians, the general public, the developer, and other design professionals. The problem becomes therefore, what language to use.

Many theorists have their own specific language that defines aspects of quality urban form. For example the Prince of Wales (1989) offers ten principles: the place, hierarchy, scale, harmony, enclosure, materials, decoration, art, signs/lights, community. Jane Jacobs (1992) promotes different elements: appropriateness, order, mixed use, the street, short blocks, gradual change, legibility, robustness, richness of activity, consultation. The elements offered by Kevin Lynch (1992) speak to the same issue of quality urban form but are largely different than the first two examples. His list includes: legibility, identity, imageability, paths, edges, districts, nodes, landmarks, and the sense of the whole. A final example that contrasts all of these examples is the "pattern language" described by Christopher Alexander *et al.* (1977) wherein 253 elements of design are presented. It would be a difficult task to

pick through this great body of knowledge and language concerning urban form and extract useable elements, while preserving the contextual integrity which, if not done, would render the information meaningless.

Notwithstanding the question of a suitable common design language, in crafting a meaningful development concept plan, the designer must also add to the design paradigm, contextual elements of a site. For instance, issues relating to past land uses can affect the public's interest in a site. Other issues such as surrounding land uses, movement patterns, and economic factors will directly influence design to a greater or lesser degree. At the administrative level, local government planning priorities and objectives will also have implications for such elements as building height, public space, densities etc., all of which are considerations for the designer. Therefore, some of the main challenges are understanding a clear set of effective design principles or elements, and synthesizing them with the contextual background.

## 1.2. SCOPE & LIMITATIONS

The purpose of this thesis is to apply design theory to the Versatile Shipyard site in the City of North Vancouver. It would be beyond the scope of this work to attempt a synthesis of all design related language and meaning. Rather, selected general theoretical examples of design elements and their practical application are examined. The intent is to develop a systematic way of applying this information to the design of a site. The Versatile Shipyard site was selected because of its strategic location in the greater urban context, its waterfront exposure, its shipbuilding history, and its impending redevelopment. For these same reasons, the

Shipyard site and neighbourhood in which it is located has been studied extensively by the City of North Vancouver with a view to managing redevelopment in a way that responds to the planning objectives listed in its Official Community Plan and other documents. In 1997 the "Versatile Shipyard Land Use Study" was prepared by a consultant representing the interests of the property owner, the City of North Vancouver, and the Vancouver Port Authority who own the water rights. It marked the first redevelopment concept plan for the site. Although the plan is general in scope, it does have structural flaws in relation to design theory. The proposed urban design concept in this thesis is meant to build upon existing planning work providing a reasonably detailed urban design vision for the Shipyard site. Furthermore, the design is meant to reflect the significance of the site, and contribute to the image and usability of North Vancouver's Lower Lonsdale area for its residents and visitors.

### 1.3. METHODOLOGY

The methodology used for this study is comprised of two types of research: literature review and physical case study analysis. A literature review of publications pertaining to architecture, urban design, and planning was performed in order to define a theoretical base for a proposed design concept. Using the results of this review, two case study examples were chosen in order to provide the opportunity for physical application and assessment of the design theory. The sites were selected because of their general consistency with the contextual features of the Versatile Shipyard site. Information obtained through this process was supplemented by a review of reports and plans from the City of North Vancouver in order to dovetail

the design concept with planning objectives. A demographic analysis was performed to understand who would be the likely users of the shipyard development. This information was necessary to the understanding of how the site might be used and the meaning and requirements placed upon it. Finally, all of this information was synthesized to create the foundation of the proposed urban design concept for the Shipyard study area. All of the photographs, illustrations, and maps are the work of the author.

#### 1.4. STRUCTURE

The study begins with an analysis of some general urban design theory that would be important to the study area. Such elements as space, buildings form, the landscape, and waterfront setting are explored in order to generate a body of applicable information. These inputs were used to translate the information to existing urban form. The chapter concludes with the presentation of a design matrix that embodies some of the more important design concerns. It is used as one of the main elements guiding the proposed urban design concept which is developed later in the thesis.

An analysis of the site context follows in Chapter 3 where the historic land use background of the study area and the adjacent community is examined. This is developed further through analysis of the current economic status of the location in which the study area is set. Furthermore, a comparative demographic analysis is undertaken to round out the information.

Examination of the planning context follows in Chapter 4. The Planning work undertaken by the City of North Vancouver in and around the study area is examined in order to provide an understanding of the City's vision for redevelopment of the study area. Based on this, proposed planning considerations particular to the Shipyard site are offered in conjunction with strategies to promote the framework for an optimal urban design concept.

All of the information assembled in the first chapters is used to develop a proposed urban design concept in Chapter 5. The existing site features are discussed as a prelude to a detailed description of the design concept. Elements such as building form, colour and texture, public space, waterfront setting, the landscape, and access are systematically discussed in the context of proposed specific urban design qualities.

The main results of the study are summarized in Chapter 6. The thesis concludes with an examination of further areas of suggested research.

## CHAPTER 2. LITERATURE REVIEW & COMPARATIVE CASE STUDIES

### 2.1. INTRODUCTION

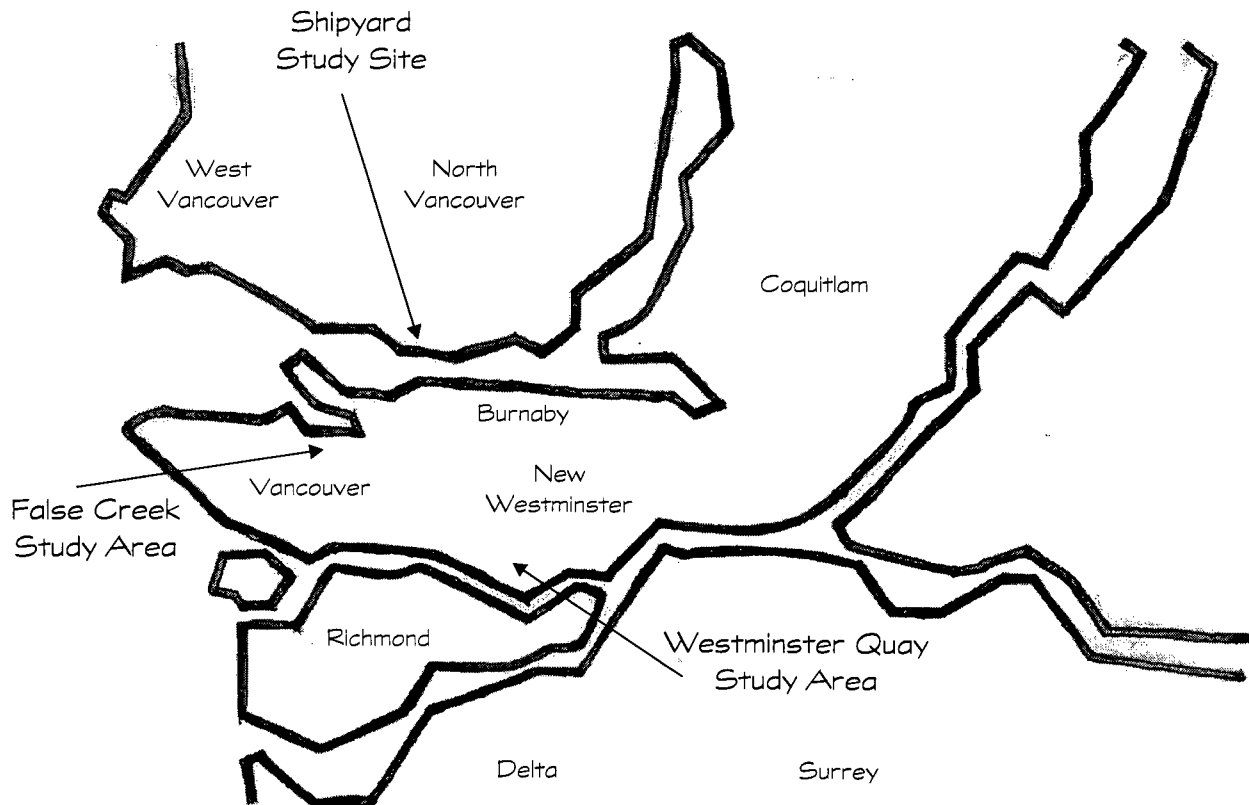
The constitutive elements that combine to produce quality urban form and all of the ensuing benefits for a city's inhabitants are almost limitless. Consequently, the volume of literature on this subject is enormous. In discussing what constitutes good urban form, many theorists offer permutations of elements they consider to be the most important, with some overlap. The most common of these overlapping elements will be discussed in this chapter. The literature survey will not be limited to this chapter; it will also be performed throughout Chapter 5: Shipyard Urban Design Concept. The purpose here is to ground some of the more detailed design aspects particular to the Shipyard site.

The overlapping elements, previously mentioned, will be used as a theoretical background for testing two case examples that are relevant to the shipyard study area. This will provide a practical translation of the theories which leads to a better appreciation of their qualities. Moreover, the understanding obtained by applying some of the more esoteric elements to case examples will make it easier to accurately reflect the theory in the conceptual design of the shipyard study area.

### 2.2. COMPARATIVE CASE STUDIES: SITE & SITUATION

Two sites were selected for case studies: False Creek in the City of Vancouver and Westminster Quay in the City of New Westminster (see Map 1). They were

Map 1: Locational Context



Source: Author

selected for a number of reasons: waterfront exposure, former industrial or port oriented lands, land use, locational features near popular public venues such as Granville Island or Westminster Quay Public Market, and their location within different planning jurisdictions with potentially different development goals.

The False Creek study area is located on the south side of a small marine inlet (called False Creek) that is adjacent to the City of Vancouver's central business district. It is located within an area of the City that has quite a diverse mix of land

uses: industrial, commercial, residential, and recreational. Consequently, it is a vibrant location with all of the associated activity. The study area is a linear site approximately eight hectares in size and is bounded by major roads and water. It is a portion of a much larger, primarily residential development. It was selected as a discrete unit because it is separated from the balance of the development by a large park. Consequently, while it fits into the overall development, it appears to function as its own community. Development of the site began in the early 1970's which has allowed the buildings and landscaping to mature.

The Westminster Quay study area is situated on the north bank of the Fraser River, slightly east of the City's small downtown area. It is located within a region that is experiencing redevelopment from industrial and associated land uses to primarily commercial oriented land uses. The main draw for public activity is the Public Market, adjacent and to the east of the study area, and the riverfront pathway. The study area is approximately ten hectares. It is linear in configuration being bounded by the Fraser River to the south, a road and rail lines to the north, the Public Market to the east and abandoned industrial lands to the west. Development in this study area began in the mid-1980's and has progressed incrementally due to market constraints; it is still not built out. Consequently, the urban form lacks the aesthetic softness that often comes with maturity.

### 2.3. SPACE

Public space is located throughout the city in one form or other. It forms a critical tissue lending understanding and coherence to the urban form. There are

however, edges to space that can be vague; where the legibility of ownership becomes ambiguous. The concept of space, both private and public, has been studied in great detail by such notable researchers as William Whyte, Stephen Carr *et al.*, Jane Jacobs, and Kevin Lynch. However, in the plethora of information on this subject there are two broad aspects of public space which are more useful in the context of the case studies. The first is the classification of public spaces and the second concerns what people require in a public space and how they might be inclined to use it.

#### 2.4. SPACE, TERRITORY, & RESIDENCE

The precise meaning of the term "space" is critical in understanding its intended form and function. For instance, Habraken (1998) argues that there is a clear difference between the concepts of space and territory. He suggests that "private" and "public" refer to space generally, but not to territory specifically. A further refinement of private and public space into the typologies of private, semi-private, semi-public, and public space defines those transitional areas which are not strictly public or private, but somewhere in between. However, even though there is a finer grained morphology of spatial definition, the fact is that a space can be designated for a particular function but the perception of how it can be used is ultimately somewhat subjective and illusory. More specifically, territory does not necessarily correlate with one of the spatial typologies, rather, territory can contain varying proportions within the range of public and private space depending on the perspective of a particular individual.

Figure 1. Space & Territory



Source: Author

An example of this paradigm is evident in figure 1 from the False Creek study area. Here we see what might be termed as a left-over space (i.e. a space with no clear purpose) which was clearly intended to function as a public or semi-public space. This space has been claimed by the residents and now, intuitively, becomes a functional part of the private range of space (a concept proposed by Oscar Newman in his book *Defensible Space*). However, this scenario is not common in the False Creek study area and is totally non-existent in the Westminster Quay study area. The reason might be due to the maturity of the respective environments in that residents, presented with a reasonable opportunity, might be more inclined to claim

and modify ambiguous space for their own purposes in areas that have had the time to evolve into a more spatially legible environment.

In both study areas, spatial definition tends to be strongly reinforced by physical and architectural elements. This can be achieved by such techniques as a change in grade. Figure 2 shows how the separation of a pathway (linking residential entries) on the right side from the main pedestrian thoroughfare connotes a domain change.

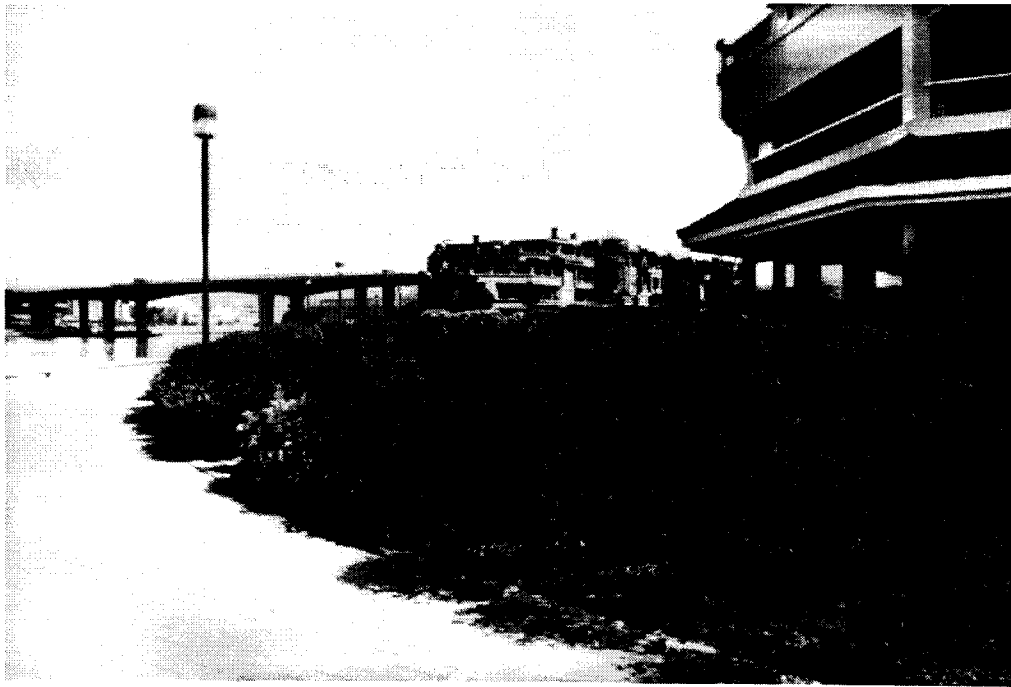
Figure 2. Spatial Definition Through Grade Change



Source: Author

The strategic design of landscaping can act as a soft boundary between one spatial realm and another. In figure 3, a residential unit in the False Creek study area is situated in very close proximity to a heavily used pathway. By sloping the ground

Figure 3. Passive Land Use Separation Through Landscaping



Source: Author

up toward the unit and heavily planting the intervening area, the space is afforded a legible purpose and can be claimed by the residents as a part of their territory. In contrast, figure 4 shows a grassed area between the semi-private outdoor space of ground floor residential units, which is defined both by plant material and a wall, and the public pathway in the Westminster Quay study area. The grassed area does not communicate purpose or ownership; it cannot be claimed by the residents nor the public. Figure 5 shows a situation where the semi-private zone at the residential entrances of this co-op housing building is compressed into a very small area between the sidewalk and front door. The robust plant material, while creating potential personal safety risks, does reinforce the boundary of spatial domain which is critical with this type of intense interface.

Figure 4. Spatial Ambiguity



Source: Author

Figure 5. Spatial Transition Through Landscaping



Source: Author

There are public and/or semi-public spaces in both of the study areas that are entirely ambiguous and will likely remain so unless physically modified. An example of this in the Westminster Quay study area is evident in figure 6, which shows two residential buildings with ground level units having clearly defined semi-private outdoor patio spaces. In between the buildings is a wide swath of grass. The intended purpose of this space is to provide access to emergency vehicles but it does not function as an access. The space is illegible; it is not wide enough for people to use it comfortably for recreation or play space, and it does not invite any pedestrian use.

In the Westminster Quay study area this scale of ambiguity is not common. However, in the False Creek study area it tends to be far more ubiquitous. There are three examples of space which has no spatial or territorial context and will never be claimed in its current form. In figure 7, a grassed central area or quasi-courtyard area of the residential complex has an indistinct purpose. It is too observable to be used comfortably as a general public space but it is not strongly reinforced as a semi-private space in view of its relationship to the building. Figure 8 shows a partially landscaped and grassed area bounded by a pathway and a residential building (this space is mirrored on the other side of the path). In examining the space no clear understanding of its purpose is evident. It is too open and observable by residents to be used comfortably by people in general and thus simply becomes a space to pass through. Finally, figure 9 shows the most extreme example of spatial ambiguity. The residential buildings have ground floor outdoor spaces clearly defined by shrubbery. Bisecting the space is a pathway with wide grassed verges on either side creating a vast open area. Again, the purpose of the space is unclear; it does not function as a

Figure 6. Unclaimable Space



Source: Author

Figure 7. Functioning of Space & Relationship to Building Orientation



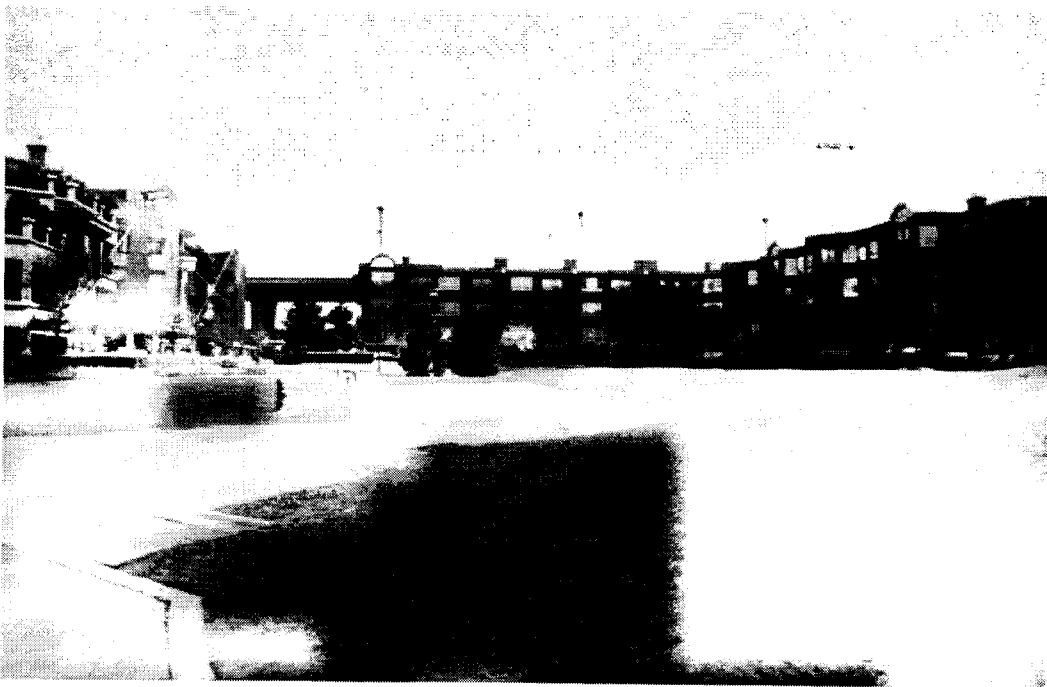
Source: Author

Figure 8. Spatial Ambiguity



Source: Author

Figure 9. Dislocation of Open Space



Source: Author

useable space and cannot be claimed territorially. Therefore, it simply becomes a vacuous space for the pedestrian to pass through. This kind of relationship is acknowledged by Carr *et al.* who maintain that "many public spaces have been designed to be uncomfortable, to encourage people to look at or move through space rather than use it" (1992, 154).

Carr *et al.* suggest that one of the reasons for this type of problem is that Developers often fear that "their public spaces will be taken over by 'undesirable' or 'deviant' users... as a result, these spaces have typically been treated as front yards, signs of status but not for use" (1992, 15). Studies of space have revealed one critical issue which is that the greater the sense of control and territoriality over a space the greater the usage and fulfillment of residents' needs. These spaces, particularly in the False Creek study area, could be retro-fitted so as to achieve this objective which allow people to develop a connection to it.

## 2.5. PEOPLE & PUBLIC SPACE

The delineation of space and the effect of territoriality are important mechanisms that contribute to the finer-grained elements of legibility of the urban environment and to the connections people develop with it. At a larger spatial scale, public space areas of the city provide a vital context in which people can connect with the built and social structure that frames their everyday experience (Jacobs, 1992; Lynch & Hack, 1990). Carr *et al.* poetically describe public space as "the stage upon which the drama of communal life unfolds" (1992, 3). Public space is a place for people to see people and be seen (Alexander *et al.*, 1977). People gain great pleasure in

people-watching, socializing, being entertained, and consuming and buying food and other goods (Carr *et al.*, 1992). Christopher Alexander *et al.* note that public spaces can provide an environment where people can "gather together to rub shoulders and confirm their community" (1977, 169). It can act as an important setting for socializing with neighbours, friends, and family. However, the usage of public space has evolved. Carr *et al.* observe that public space is no longer used strictly for "relief from crowded and working environments" they are now used more widely for group enjoyment and individual development and discovery (1992, 10).

## 2.6. THE FUNCTIONING OF SPACE

There are a number of different types of urban public space which invite particular kinds of usage and require certain features in order to make them function properly. Some of these types include parks, recreational areas, plazas, squares, children's play areas, pedestrian ways, and what might be described as small pedestrian rest pockets (small seating areas). However, not all of these forms exist within the study areas. Therefore, what will be examined are squares, pedestrian ways, pedestrian rest pockets, and children's play areas.

### 2.6.1. THE PUBLIC SQUARE

Alexander *et al.* (1977) have observed that people naturally seek out concentrations of other people. Furthermore, in order to create concentrations of people, a self-supporting mix of services and community facilities must be densely arranged to define a square and create a focus or node. Kevin Lynch describes the

function of nodes as "conceptual anchor points in our cities" (1960, 102). Nodes are essential in the functioning of a healthy community neighbourhood: they tend to draw different people to the space throughout the day bringing a greater sense of vitality and interest to the place (Alexander *et al.*, 1977). Jacobs underscores this idea suggesting that "only a genuine content of economic and social diversity, resulting in people with different schedules, has meaning to the (place) and the power to confer the boon of life upon it" (1992, 101).

Many authors have written of the essence of a positive public square, each of them with their own formulas for the right size, shape, orientation, paving treatment, enclosure, and volume etc. There is, however, some overlap in their ideas. For instance, in discussing the famous Piazza San Marco in Venice, Lynch (1960) notes that one of the strong grounding features of this public space is its connection to the Grand Canal which is a dominant feature of the city. The significance of a grounding feature is reinforced by Carr *et al.* who explain that "one way to achieve a deeper and more lasting meaning (of a public space) is to emphasize the connections between place and its context" (1992, 266).

The spatial definition of the square is an important feature in providing clarity for the users. The buildings around the square enclose it creating an outdoor room; "they make a definite shape out of a space, so that it appears as an important event in the city scene, a positive feature, rather than a no-account left over" (van de Ven, 1987, 104). Alexander *et al.* propose that spaces which are negative (i.e. shapeless) will likely not be used, and to create the sense of enclosure and shape, "surround each space with wings of buildings, trees, hedges, fences, arcades, and trellised walks, until

it becomes an entity with a positive quality" (1977, 518). A further refinement of this view is proffered by Hedman and Jaszewski who suggest that a three-dimensional space provides "a positive sensory experience" that has the effect of "enhancing the perception of community among those sharing the space through the heightened awareness of their physical relationship to others" (1984, 54). They advise that there are a number of fundamental elements which serve to further enforce the volumetric character of the space such as appropriate scale (according to specific vision and height-to-width ratios), architectural definition, or textural qualities of materiality. Other theorists writing on this subject, such as Alexander *et al.*, Carr, *et al.*, Michel, appear to share this view to some degree, but nonetheless propose different sets of necessary criteria.

Alexander *et al.* (1977) suggest that in view of the diverse and spontaneous uses of such public space it is important to achieve a subtle balance of definition without being overly defined. Lynch (1960) supports this, proposing that the ability of space to change over time is an important quality of good environments. A simple example is the ability to move furniture around in relation to the sun. This resonates with the view of Carr *et al.* who argue that

"designs for public places often are too constrained, not providing for basic human needs such as comfort, relaxation, and discovery. They may allow only for passive engagement with others or be structures only for predetermined actions, making them rigid and unchallenging. Little is left to the imagination of the user. As a result, the space may be cold and uninteresting, out of context with its setting and not inviting to its intended users" (1992, 17)

Vitality is afforded to a public space which functions as a community focal point or node, by enabling flexibility in the use of space and the associated ephemeral territorial configurations. This becomes fundamental to people's comprehension of what their community is and how they can choose to function in it.

What becomes evident in examining some of the principal building blocks of the spatial qualities of urban space is how they work as a whole to influence how a space can and will be used, the commensurate value users will place upon it, and ultimately, how it contributes to the greater good of a community. In transferring this to the study areas it is possible to quickly ascertain the degree of congruity.

#### 2.6.1.1. FALSE CREEK STUDY AREA

Within the False Creek study area there is one space in particular that offers the appearance of a public square (see figure 10). It is a shared surface area but is primarily used by pedestrians. The square is enclosed on three sides by five and five plus storey buildings and the fourth side is psychologically bounded by a seawall path that functions like a promenade. It is oriented toward the inlet and commands impressive views of the marine activity, city form, and the North Shore mountains which together act as a grounding feature. As such it relates strongly with its spatial context and creates a very perceptible coherence. Underfoot is flat stone paving which has stimulating qualities of texture and pattern and contributes to the character of the space. A number of complementary businesses are arranged around the perimeter of the square and at ground level with predominantly residential units above.

Figure 10. Spaces as Public Squares - False Creek study area



Source: Author

The mixed-use program that surrounds the square coupled with its location adjacent to the busy seawall pathway should distinguish this space as a community node. However, while the intention might have been to create a node, this area does not function as one. Very few people were observed lingering in this space even though outdoor space in the area was heavily used. One of the most striking aspects of the square is its expansiveness and sterility. It feels out of scale with the adjacent buildings. The few trees located at one end of the square serve only as a minimal decorative element. If a greater number of trees of an appropriate species were planted in the square, they would create a leaf canopy that would prevent the vertical leakage of space and would fully contain the spatial envelop. The final basic

weakness of the square is that no seating is provided which might encourage people to sit and socialize. The square appears to be a missed opportunity for contributing to the well-being of the community as it functions only as a space to pass through rather than a public outdoor room to live in.

#### 2.6.1.2. WESTMINSTER QUAY STUDY AREA

There is only one space in the Westminster Quay study area that might be classified as a pedestrian focal point in that pathways open up into the space. No other community focal point exists within the residential area. The space is an expansive area with a central still water feature transected by a pedestrian foot bridge (see figure 11). The space is contained on two sides by four storey

Figure 11. Spaces as Public Squares - Westminster Quay study area



Source: Author

residential structures, on a third side by the river bank pathway, with the fourth side being open.

There are two main attributes to the space. First, the textural paving treatment of inter-locking brick pavers contributes both visual interest and horizontal scale. Second, the pedestrian is allowed to make a direct connection with the water feature. Cullen (1971) refers to this second attribute as "immediacy", i.e. direct contact unimpeded by railings or other such conventions. This ability imbues the square with more vitality and affects a stronger meaning for the user.

While the size and shape of this area could be adapted to function as a public square, the space lacks many of the necessary features. For instance, there is no mix of uses in this area, or in the residential area overall. Therefore there is nothing that would necessarily draw people to the space. This was evidenced by its utter desolation even though it is adjacent to a well-used riverfront pathway. Furthermore, there is nothing to keep people there even if people were drawn to the space. The artificial water feature, spatial configuration, and riverfront pathway fencing seem to completely dismiss what should be the grounding feature of this space: the Fraser River and its marine traffic. The space does not respect the context it is located within, thus it feels contrived losing its significance and meaning. It is out of scale with the adjacent buildings and feels oppressive with its wide, flat surfaces (exacerbated by winter conditions). There is no volumetric quality afforded to the space for two reasons. First, the opportunity to provide enclosure is lost at the one end where there is no building or feature to contain the space, and second, there are no trees to

provide texture and vertical definition of the spatial envelop. There is no furniture for residents or pedestrians to sit on so as to view the water and interact with others. The space is utterly void of any significant humanizing elements. The defining gesture in the separation of the user from the space are the signs which are posted around perimeter of the water feature directing people not to feed waterfowl.

This space contributes nothing to the residential community; what it does do is detract from it by functioning as a large inhuman void in the urban fabric. People are not and would not be drawn to this space as a useable outdoor room in its current form. It is simply a space one passes through, quickly.

#### 2.6.2. CHILDREN'S PLAY SPACES

Play and socialization of children is fundamental to their healthy development. The ability for children to test themselves physically and intellectually is the "foundation of the development of their cognitive abilities, and their sense of competence" (White 1959 quoted in Carr *et al.*, 1992, 125; Fowler, 1992). Therefore, it follows that the environments in which they would pursue such activity through play must be stimulating and allow for spontaneous and imaginative play (Lynch and Hack, 1990; Alexander *et al.* 1997; Fowler 1992). Whereas in suburban or rural settings, children have access to many flexible natural elements, in urban settings it is more of a challenge to find similar opportunities. One of the problems for play-area design in higher density residential areas is described by Jane Jacobs as a having its genesis with the street hating "Garden City Planners" who thought that "the solution to keeping children off the streets and under wholesome surveillance was to build interior

enclaves for them in the centers of super-blocks ...the trouble with this scheme ...is that no child of enterprise or spirit will willingly stay in such a boring place" (1992, 80) The perspective of Alexander *et al.* (1977) is consistent with this as they categorize formal style playgrounds, such as jungle gyms and asphalted play areas, as being sterile and useless, not performing the necessary functions which are basic to a child's needs (Design Council 1979).

Carr *et al.* (1992) suggest that adventure playgrounds are seen by parents, officials, and designers as a more attractive option to the fixed traditional playground as it encourages greater usage and visceral connectedness. Furthermore, they recognize the inherent design challenges acknowledging that "neighbour play areas probably require the greatest setting and adaptability of any designed environment" (Spivack 1969 quoted in Carr *et al.* 1992, 171). However, beyond the intricacies necessary in the design of a successful play space, there are basic requirements necessary for use by both parents and children such as comfortable seating arranged to enable face-to-face interaction, tables, running water, and ideally, restrooms (Carr *et al.*, 1992).

The value of play areas is not limited to children; adults also benefit by them. Children act as a social lubricant for adults who might be strangers and would otherwise not communicate and thus, often facilitate the establishment of friendships. Lynch and Hack (1990) comment on the fact that for children and mothers, such places create possibilities for contact which is a large component of their everyday world.

#### 2.6.2.1. FALSE CREEK STUDY AREA

In the False Creek study area, the play areas tend to be located in the interior regions of outdoor space that is created by groupings of residential buildings. This location is useful for parents in monitoring their children, but older children who might wish for some degree of privacy have no other formal spatial options available to them. The play areas are focused around fixed-use equipment. In the majority of play areas, the equipment appears to be original and dilapidated (see figure 12), and in a few locations it appears to have been replaced with more fixed equipment (see figure 13). In all cases the play opportunities offered by the equipment do not encourage imaginative play or otherwise constitute engaging environments. In the case of the older equipment, it is too physically challenging for children of an age that would find it stimulating, and too limited for those old enough to be able to use it. The newer equipment appears to be more suited to very young children and does not offer anything to older ones.

Many of the play areas had various structural problems. For instance, the heavy vegetation evident in figure 12 is visually pleasing, but it might cause personal safety concerns. Another elementary example is fixed seating that is not oriented toward the play space allowing for easy supervision (see figure 13). No other seating is provided in this space which probably means that it would not be used by parents.

The survey of the play spaces at the False Creek study area was done at a time when children could be expected to be playing outdoors. However, no children were observed using any of the play spaces. Given that the tenets concerning the structure and form of play spaces would apply equally to this location, it is clear that

Figure 12. Observable Courtyard Play Space



Source: Author

Figure 13. Unsuitable Play Space Infrastructure



Source: Author

the spaces do not provide the necessary elements that would allow it to function as intended.

#### 2.6.2.2. WESTMINSTER QUAY STUDY AREA

As with the False Creek study area, play spaces in the Westminster Quay study area are predominantly located in the interior outdoor rooms created by the grouping of residential building. Similarly, this is useful for loose parental supervision. Unfortunately, the small size of the spaces and proximity to the buildings would cause a significant degree of shading, particularly in the winter months, making it less desirable.

The play areas in this case were comprised of various opportunities such as small hard surface areas for "shooting hoops", sand-filled digging areas, and some fixed equipment such as swings (see figure 14). In each, a number of children were observed. They tended to be varied in age but age specific groupings were evident. All of the play features were heavily used. The landscaping affords the play area some privacy but is not so dense as to compromise feelings of personal safety.

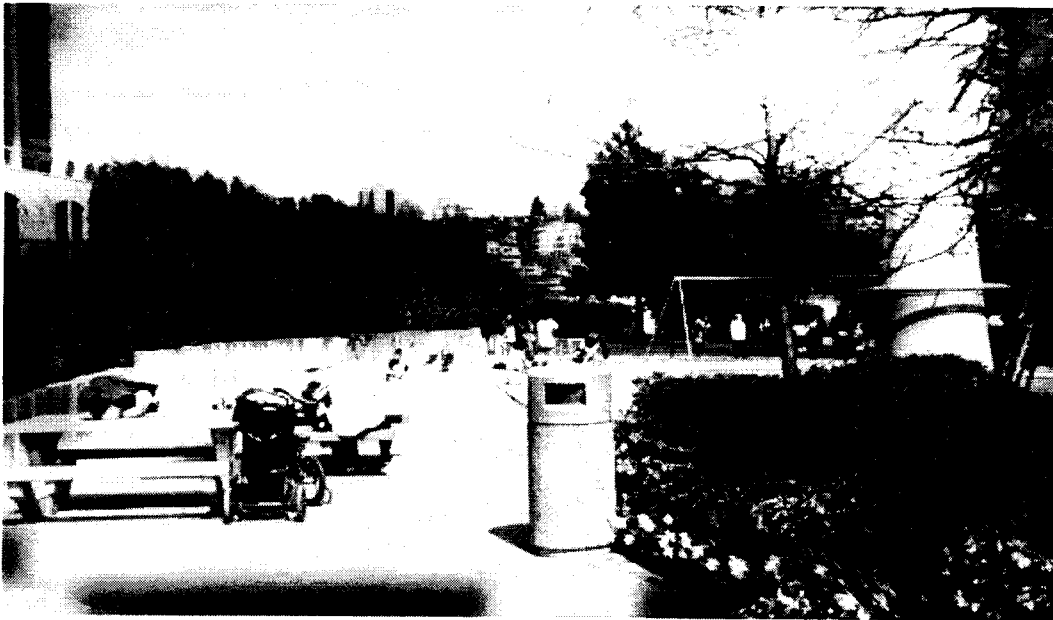
In contrast to these internal style spaces is a large, exposed play area situated at approximately the mid-point of the study area, adjacent to the riverfront pathway (see figure 15). Such a space in this location allows children the opportunity of connecting with the world at large which adds an additional visceral layer to play. This play area has the same type of play-use mix as the others in this study area. This is supplemented by thematic marine related play features such as a mock submarine, and lighthouse. The space is completed by the inclusion of picnic tables, toilets, and



Figure 14. Observable Unprogrammed Play Space

Source: Author

Figure 15. Sensitively Designed Play Space



Source: Author

garbage receptacles which provide comfort and ease for the parents and children. The landscaping is sensitively applied providing the positive features of plant material without compromising feelings of safety.

Overall, this space seems to adhere most closely with the requisite principles of play-area making, although the other "courtyard" spaces have a strong degree of congruence. All of the spaces exhibited high levels of use by children of a reasonably diverse age range which stands in strong contrast to those play areas in the False Creek study area. In considering the structure of the play spaces and the usage in both of the study areas it is clear that there is a strong correlation with the literature on the subject.

### 2.6.3. PEDESTRIAN PATHWAYS

Pathways are critical structural elements of the urban fabric. Lynch believes that they form the lines of movement through the urban complex and "are the most potent means by which the whole can be ordered" (1960, 96). This relates to other aspects such as legibility and the identification of place. Hechsher proposes the idea that the spatial organization of the modern city "is being largely determined by the fact that people like to be on foot as observers and participates in the urban scene" (1977, 29).

Within the pattern of pathways which run through an urban area is a hierarchical ordering of use. The most distinct is the pathway that functions as a main pedestrian spine or promenade. Alexander *et al.* consider the importance of this type of pathway suggesting that "people of all cultures may have a general need for

the kind of human mixing which the promenade makes possible" (1977, 170) This type of mixing includes children who use this type of space for unspecialized play which provides them with the opportunity to form their notions of the world (Jacobs 1992)

Particular characteristics can influence how and to what degree a pathway is used. For instance, Norberg-Schulz believes that "the character of a path is ...determined by its relation to places. It either leads toward a goal, away from a point of departure or it forms a ring around the place" (1971, 51). Moughtin expands upon this proposing that "a path has a beginning and an end, definite places or nodes along its length - places of special use and activity; such paths can be scaled, have contrasting elements but above all else, they must present to the observer a stimulating and memorable image of connected places" (1992, 134). This is echoed by Alexander *et al.* (p. 172) who suggest that "people find it easier to take a walk if they have a destination" (1977, 172). Such concepts provide a framework of understanding for urban form.

Cullen (1971) recognizes that one of the most powerful instruments in unifying and joining an urban space is the floor which acts like connective tissue highlighted by what he describes as the dramatic scenery of the floor. Lynch (1960) offers a similar perspective on this theme suggesting that key pathways should have special or particular characteristics that differentiate them from lower order pathways. Elements such as specific uses at path edges, continuity through landscaping, unique spatial qualities, smells or sounds, and particular textural treatment of building facades can be used to indicate direction, changes in function, and context (Lynch 1960; Cresswell 1979).

Visual features along pathways can be powerful components of the pedestrian experience. For instance, those places along a pathway such as a bend, intersections, or focal points are elements that frame a view. Mackin & Krieger argue that framed views are important to the pedestrian experience and "they deserve particularly interesting buildings, monuments, artworks, or dramatic natural features" (1989, 32). Furthermore, at a more esoteric level, they believe that the pedestrian experience is enhanced by strong street walls which "must entertain the eye and be comfortable, not oppressive to walk along" (1989, 32).

#### 2.6.3.1. FALSE CREEK STUDY AREA

These fundamental structural and aesthetic elements can impart legibility to the urban fabric, drama to the pedestrian experience and enrich the social weave. Furthermore, they are useful in analyzing the general characteristics of pathways in the study areas. The False Creek study area has a latticework of pedestrian pathways. It is bounded by a street oriented sidewalk on the south edge and a seawall walk on the north. The seawall walk connects at the western end to Granville Island and terminates at the eastern end below the Cambie Street bridge. However, it will eventually be connected to the greater False Creek seawall walk. Within the interior of the study area there is a series of pathways of different sizes that connect residential enclaves and lead into the greater pathway system. The graduated hierarchy, direction and function of pathways provides a clear legibility of the study area (see figures 16-18). This has been achieved through various means. For instance, a row of shops adjacent to the main square is defined by an arcade

which encloses the pathway in front of the shops (see figure 16). The pathway shown in figure 18 has several elements which define it as being a specific order and imbue it with a particular spatial quality such as the width (which can allow it to be used as an informal play area), inter-locking brick paving treatment, the visual interest enhanced by the articulated building wall and the highly textured landscaping, and the trees which provide human scale, separation, enclosure, and continuity to the pathway.

Another example is a small pathway that leads into a residential enclave (see figure 17). This pathway is a well defined and intimate space which is achieved through the use of a tree canopy and strong path edges. The path terminates in a visually contrasting open area which reinforces the sense of transition and entry. A final example is the seawall pathway which functions as a promenade (see figure 19). The views into the residential enclaves as well as the marine environment and city reinforce its connection with the overall urban fabric. The western end of the pathway is strongly defined by Granville Island. In contrast, the eastern end lacks this strength with only the visibility of the Cambie Street Bridge acting as a destination. The pathway is well contained by the water edge and residential building walls which are only broken where internal pathways connect into the seawall or by public space areas. Only a curb psychologically separates the pedestrian from the water which elevates the sense of connection. This relationship also creates a strong tension between the landforms and the water environment.

The pathway is a heavily used surface sufficiently wide to accommodate cyclists, roller-bladers, and pedestrians. As a result, it attracts a wide range of users and

Figure 16. Spatial Definition Through Architectural Form



Source: Author

Figure 17. Spatial Intimacy Through Landscape Treatment



Source: Author

Figure 18. Visual Texture Through Landscaping & Building Form



Source: Author

Figure 19. Seawall Promenade



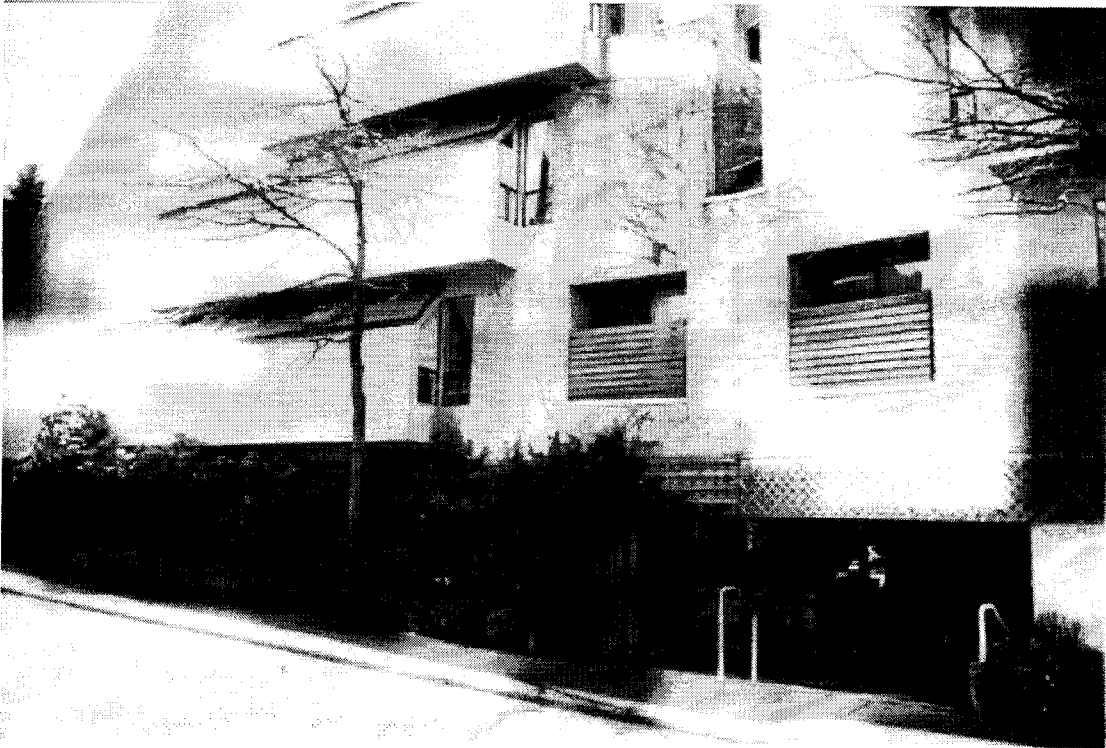
Source: Author

Figure 21. Framed View of Vancouver Cityscape



Source: Author

Figure 20. Oppressive Residential Street Wall



Source: Author

acts as a social environment. Many people were observed watching the activity on the pathway, chatting with others, or participating in the urban mix.

Some of the evident visual weaknesses along the pathways in the study area involve poorly managed view termini. Opportunities to successfully frame views have been lost to uninspiring blank building walls. Figure 20 shows an example where the pedestrian feels the bulkiness of a building as a result of the blank wall. Various means are available to avoid this with the most common being specimen trees. However, in contrast, figure 21 demonstrates how powerful some of the framed visual termini are within the study area. In this example, the pedestrian is reminded of the greater urban context in which he exists, and that experience is made all the more dramatic by the size of the framed view which is contained by the building form on the left and the trees on the right. These types of elements become fundamental to people's comprehension of what their community is.

One of the strongest comfort features along the pathway system is the seating areas. For the most part, this has been successfully accomplished. Figure 22 shows one form of seating that allows the pedestrian to pause along the path and absorb the magnificent views as well as remain relatively within the pedestrian flow. In other examples, the pedestrian is provided with a more meditative opportunity either by elevation of the seating area as shown in figure 23 or by placing the seating in a more tranquil environment as shown in figure 24. In the interior of the study area where views are less dramatic, the placement of seating in sensitively landscaped, relaxing pockets can encourage these areas to be used as social meeting points in addition to their more practical function. This type of provision is one of the features

Figure 22. Vitality and Pedestrian Seating



Source: Author

Figure 23. Reflective Pedestrian Seating Opportunity



Source: Author

Figure 24. Meditative Pedestrian Seating Environment



Source: Author

that tends to connect people to their urban environment. However, in strong contrast is a bland seating area that is bounded on two sides by roads and as such is somewhat of a hostile space. It has no context or relationship to its surroundings. It is not landscaped or otherwise designed to function as a stimulating, comfortable rest or meeting area. No people were observed using this space other than to pass through it.

#### 2.6.3.2. WESTMINSTER QUAY STUDY AREA

The pathway system in the Westminster Quay study area is not as strongly developed as in the False Creek study area. A riverfront pathway defines the one edge of the study area and the other main edge is defined by a street-oriented

sidewalk. The New Westminster Public Market functions as a start or end point at the north end of the riverfront pathway and the south end lacks any sense of destination or starting point. There are very few public cross linkages connecting the riverfront pathway with the street-oriented pathway and none that connect the various residential enclaves together. This prevents any opportunity for significant comprehension of the urban fabric in the study area and connection with the greater urban context. The river interface is left as the only contextual connection with place. There are a number of pathways, however, that function as a pedestrian connection typically to the riverfront or the street oriented pathways. It is reasonable to assume that the objective is to provide privacy.

Figure 25 shows one of the main cross linkages. This functions as a shared surface access. The bollard in the foreground restricts general vehicular access and the space is well contained by building forms softened by landscaping and trees on both sides of the pathway. The interlocking brick paving treatment is visually interesting and has a different pattern to that used on the riverfront pathway thus providing differentiation. The visual terminus is the riverfront walk and the Fraser River.

The small pathways that lead from the residential enclaves to the riverfront walk (see figure 26) or from the street to the interior as shown in figure 27 are comfortable, visually appealing pathways that are given clear spatial definition through vegetation and building form. The proximity of some of the pathways to the residential buildings, as seen in figure 27, can achieve a degree of private ownership of the space and hence security. This might create some ambiguity for visitors as the space is not

Figure 26. Intimate Interior Residential Pathway



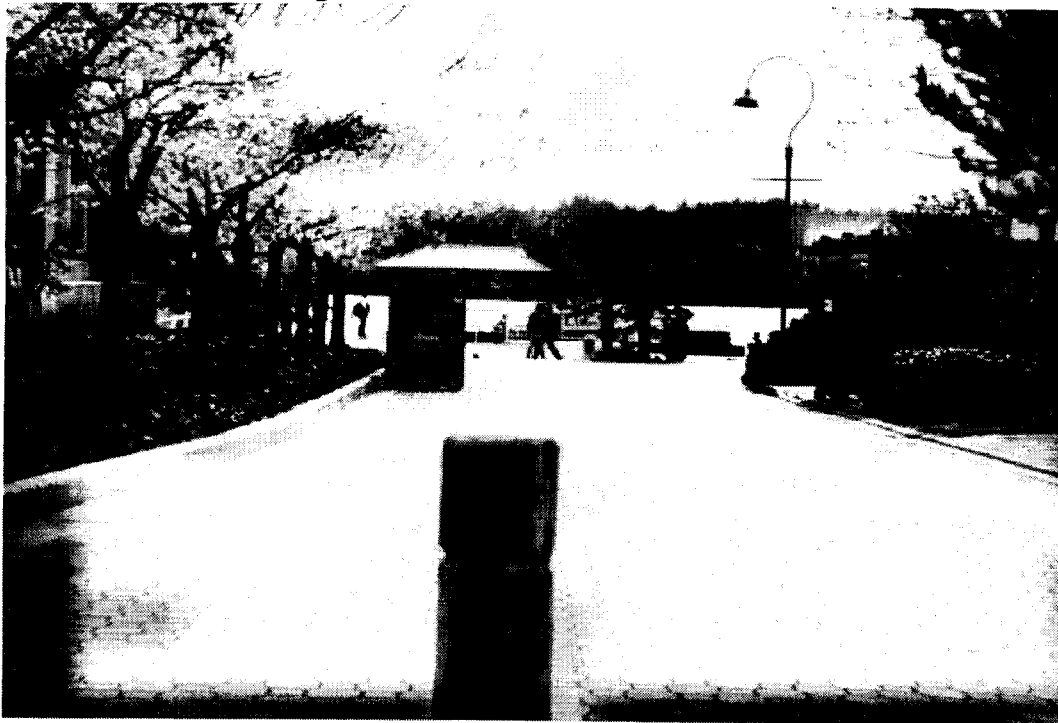
Source: Author

Figure 27. Visually Appealing Pathway Through Landscaping & Building Form



Source: Author

Figure 25. Shared Surface Access



Source: Author

clearly public or private, but one would likely learn this through experience. Thus this type of pathway is limited in use and functions as an exclusive public space.

Another example is the pathway shown in figure 28 which appears to have the same kind of function. In the context of the study area, the design (such as the paving treatment and width) more closely resembles the main cross linkages or access. As this is not consistent with the other comparable pathways, its function becomes rather confusing. In terms of visual appeal, the pathway is defined on one side by a well articulated building wall and trees, which when mature will provide a more human scale and sense of enclosure, but currently has no element whatsoever defining or enclosing the other side. Furthermore, some of the visual appeal is compromised by the lack of plant material along its length which pronounces the hard surfaces of walls and floor. In view of these weakness, the pathway acts more as a void in the urban fabric than as a vital pedestrian space.

The riverfront pathway is the main public pedestrian corridor that should function as a promenade, but does not entirely. Conceptually it is defined on one edge by residential buildings and the other by the River. Immediately adjacent to the pathway on the left side of figure 29 are trees which might provide both separation from the residential structures and some human scale by mitigating the bulk. Unfortunately, the trees are located intermittently along this side of the path so that no sense of continuity is offered. Whereas on the right side of the pathway, the trees form a solid sense of enclosure and continuity - a very legible feature in the study area. Ironically, while enclosure in some instances is a welcomed experience for the pedestrian, in his case it reduces the connection with the River. Furthermore, the



Figure 28. Pathway Lacking Positive Visual Form

Source: Author

Figure 29. Enclosure Created Through The Use of Street Trees



Source: Author

main pathway is setback from the River edge which is in strong contrast to the False Creek study area seawall design. There is a second, fenced pathway between the main pedestrian pathway and the River. The reasons for the separation are not apparent and it appears to receive substantially less use. Rather than enhance the riverfront experience, this second pathway acts as an additional buffer fracturing the connectivity. Whereas in the False Creek study area the pedestrian has visual and physical access to the interior path systems and residential enclaves from the seawall pathway, such opportunities along the riverfront pathway are prevented by physical boundaries such as the fencing and ventilation intakes as shown in figure 30. These elements have unfriendly connotations and neutralize the sense of community wholeness.

Some of the successful features on the pathways are the visual focal points at various bends. For example, figure 31 shows one visual terminus composed by a lighthouse and imitation submarine feature, which is a part of a play area, with a railway trestle behind, and behind that a bank of trees frames the overall view. In other examples, such as figure 32, potential unpleasant pedestrian elements such as a blank wall, emphasizing building bulk, is overcome by trees which soften the surface, reduce the feeling of bulk, and introduce a more human scale to the pathway.

The textural treatment of the riverfront pathway provided by interlocking brick and wood planking, imparts visual interest and differentiates it from other pathways. The width of this pathway is sufficient to accommodate pedestrians, cyclists, and roller-bladers. As a consequence it is well used and heightens the potential for social interaction.

Figure 31. Visually Interesting View Terminus



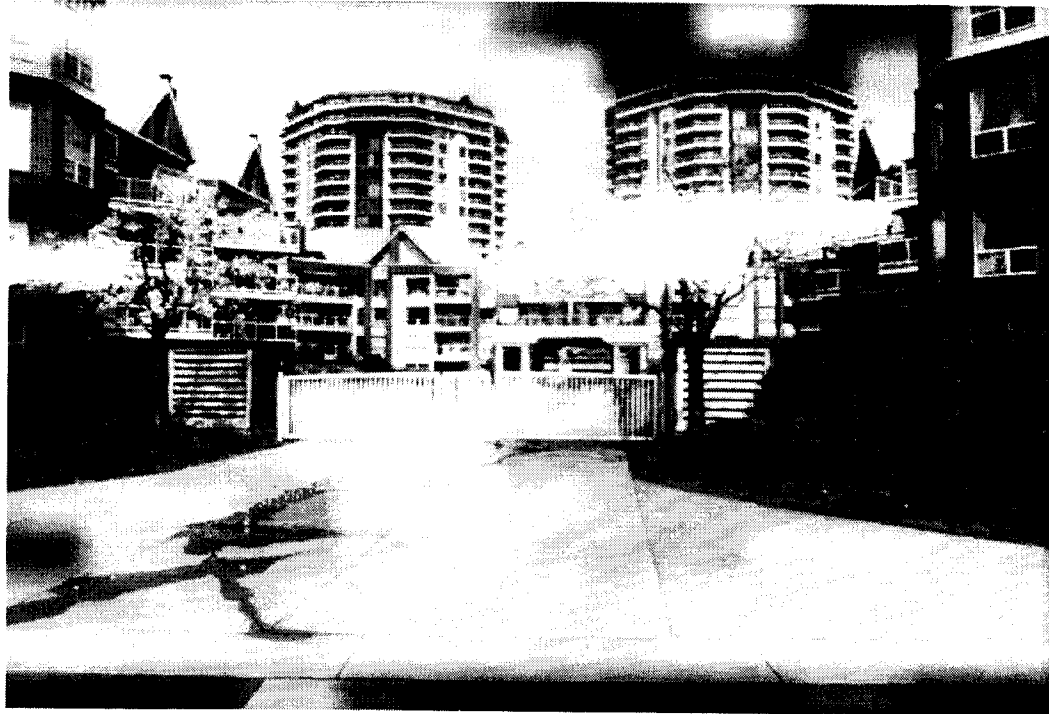
Source: Author

Figure 32. Providing Visual Texture With Plant Material



Source: Author

Figure 30. Limiting Access Through Physical Deterrents



Source: Author

Finally, we consider public seating. While there is none within the internal pedestrian areas, there is an abundance along the riverfront pathway. Much of it is located on the edge of the pathway set well back from the River. The theme of disconnection with the River environment is demonstrated in figure 15 where public seating is comfortably located under a tree with visually appealing landscaping around it. However, it is oriented perpendicular to the River so that the user must turn to be able to see it.

Figure 33. Appropriately Oriented Street Furniture



Source: Author

#### 2.6.4. BUILDING FORM

Building form is a critically important, defining element of the urban fabric. It has the power to stimulate positive human experience or to constrict constructive social interaction. The genesis of this feature lies within a building's architectural features, its site and user responsiveness, and its relevance to context and urban built form. When such elements are appropriately managed, the results can be dramatic, however when there is dissonance, the impact can be destructive.

Mackin and Krieger (1989) in their discussions on built form argue that buildings should respect their context in both aesthetic and practical ways. Buildings should harmonize with adjacent buildings, but not necessarily copy, in terms of vernacular, massing, and height. In this regard, Alexander *et al.* (1977) argue that in order for rhythm and pattern to be respected, buildings should not vary more than one storey from their adjacent neighbours. Furthermore, they should relate well to the ground so as to enhance rather than detract from the pedestrian experience. For instance, windows are always preferable to blank walls and when a blank wall cannot be avoided particular attention should be paid to rich detailing of the surface to stimulate visual interest (Mackin & Krieger 1989).

Buildings also have a responsibility to relate to their particular frame of reference such as a particular historical vernacular (Mackin & Krieger 1989). This is due primarily to the continuity and relevance, and thus sense of place, buildings can offer an urban environment. Punter and Carmona (1997) propose that buildings should clearly express their function in order to provide legibility and identity to an area. Functional ambiguity occurs when traditional building forms are blurred from their socially understood function (Punter and Carmona 1997).

Alexander *et al.* express concern about the negative aspects of high-rise buildings; they suggest that

"they are not cheaper, they do not help create open space, they destroy the townscape, they destroy social life, they promote crime, they make life difficult for children, they are expensive to maintain, they wreck the open spaces near them, and they damage light and air and view" (1997, 115).

These conditions are also recognized by other theorists such as Newman, Jacobs, and Lynch. High-rise living can lead to psychological disorders. Alexander *et al.* (1977) suggest that the reason for this is high-rise living disconnects people from the ground and all of the associated everyday activity. They propose a "four storey rule" which is the maximum height for residential buildings. At this height they suggest, people can comfortably walk down to the street, can clearly see faces, can speak with people on the ground, and can generally feel connected with the street environment.

The orientation of buildings and the shadow effect is an important consideration in function of the building and adjacent outdoor uses. Alexander *et al.* (1977) put it in the simplest terms: if a building shades spaces they will not likely be used and if there is a large band of shade adjacent to a building, people will not cross it to go to sunny areas. This has implications for elements such as rear yards or patios. Alexander *et al.* (1977) note that shaded rear yards tend to be used only for storage purposes which ultimately will further detract from the quality and comfort of the space. Lynch and Hack (1990) suggest that the quality of light bathing a space is a direct determinant of its character and use. It can create dramatic effects through shadow or by revealing the textural qualities of a wall surface. It has the ability to emphasize or de-emphasize particular elements. All of these effects change in form based on the time of day or season adding a further layer to the cognitive experience.

Since the value of streets is evident, it is useful to examine how the building wall defines space. Concerning the issue of spatial containment, Alexander *et al.* (1977) argue that buildings should be built right up to the edges of paths, streets or open

space otherwise setbacks will create an ambiguity or will otherwise destroy the spaces they are meant to shape. Furthermore, they believe that building walls should "take on slightly different angles as they accommodate to the shape of the street" (1977, 594). This lends an "organic" rather than a rigid feel to the shape of space, which is a more comfortable experience for the pedestrian.

The scale of the street or pathway, which is defined by the buildings walls, will affect the perception of the space. Hedman and Jaszewski (1984) argue that appropriate proportion is necessary to the creation of a strongly defined space. For instance, in cases where the street width to building wall height is at a ratio of 1:4, the space is weakly defined and a positive sense of enclosure is lost. In contrast, where the ratio is 4:1, very little if any of the sky is visible without a major physical adjustment. Furthermore, light access begins to be restricted in this range. The optimal ratio is 1:2 where the pedestrian is permitted peripheral views of the sky but also experiences a strong connection to the building wall within a normal field of view (Hedman and Jaszewski 1984).

Alexander *et al.* (1977) consider the placement of entrances as one of the most important features in a building plan. They stress that entrances must be placed in such a way as to be clearly visible so that people approaching the building can easily orient themselves. Furthermore they should provide some transitional quality between the public realm of the street or pedestrian path and the private domain of the residence (Alexander *et al.* 1977). This can be achieved by such measures as a change in elevation, the placement of a portico, or a change in paving treatment so as to demarcate the change in space.

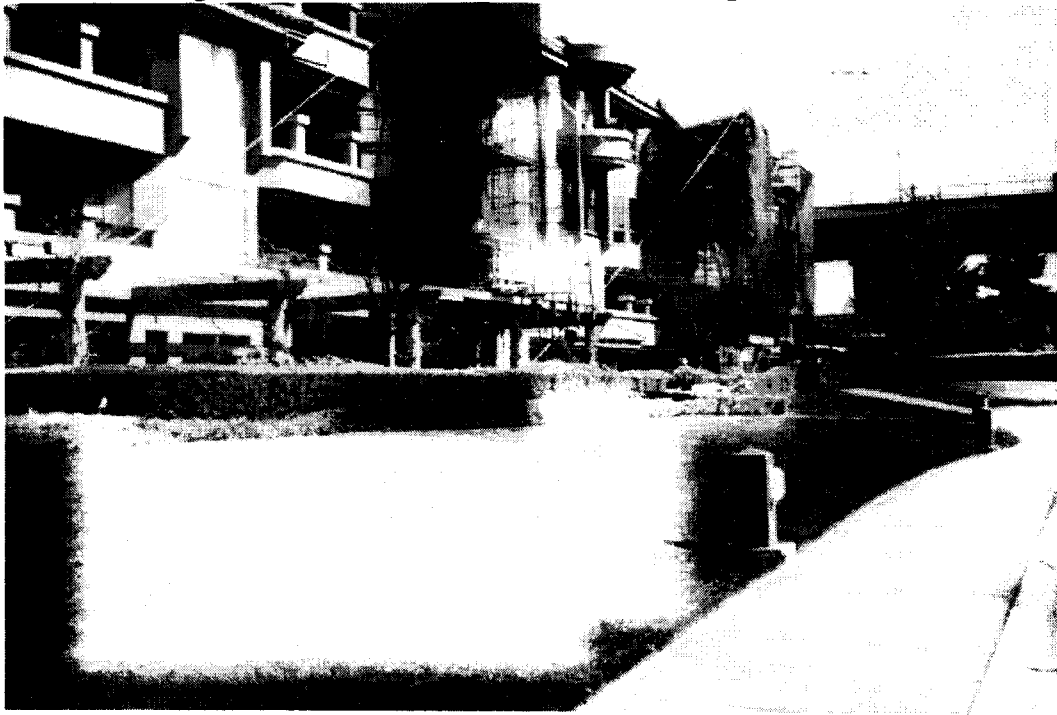
There is a clear role for architecture in the contribution to the qualities of public space through careful attention to such details as proportion, roof line, fenestration, materiality, colour, texture, detailing etc. (Punter & Carmona 1997). While these elements are essential ingredients in the creation of spatial quality, they are architectural and discussion of them is beyond the scope of this work.

#### 2.6.4.1. FALSE CREEK STUDY AREA

Generally, the built form of the study area is not homogeneous in its physical and aesthetic form. However, at a smaller scale, particular consistencies that define residential enclaves are evident. The height of most buildings is four storeys or less, however, there are some high-rise buildings. Both typologies are located adjacent to each other rather than arranged according to size. This juxtaposition does create a feeling of dissonance and runs counter to argument offered by Alexander *et al.* (1977) concerning rhythm and pattern. The taller buildings do not appear to connect with the ground as sensitively as the typical lower storey buildings. In these cases, the pedestrian is often setback from the base of a building further than the 25 meters necessary for the ability to recognize individuals as documented by Lynch and Hack (1990). Consequently, they impart a feeling of alienation.

However, the problem of pedestrian alienation through building connection at ground level is not particular to high-rise buildings. Figure 34 shows an example of a low rise building that is set back a considerable distance from the sidewalk. This relationship creates a number of problems. To list a few, it prevents a connection between the pedestrian and the resident, it fails to provide strong spatial definition of

Figure 34. Pedestrian Alienation & Building Connection



Source: Author

the pedestrian street, and it ignores the optimal street width to building height ratio. Problems in the street width to building height ratio are apparent in figure 35 where a narrow sidewalk placed against the building form feels somewhat compressed and over powering. In contrast to both examples is figure 18 which shows a case in which all of these elements have been respected resulting in a well defined, human-scale space that is a highly pleasurable pedestrian experience.

The semi-private residential entrys were found to be very legible generally. Definition of this transitional domain was approached in different ways. The predominant approach was a grade change as shown in figure 36. In this example grade change, plant material, and personalization of space clearly defines the area. Figure 37 also uses grade change as a feature demarcating entry space; however, in

this example it is coupled with fencing which, at a pedestrian level, is somewhat of a hostile gesture as it severs ties between resident and street life. Definition of the transitional entry area is more of a challenge in the case shown in figure 5. In this example, the building is set close to the sidewalk. As it is a level entry and a small space, definition is more challenging. However, the problems were somewhat overcome by the mature shrubbery which tends to extend and strengthen the transitional area. A contrast to these very legible residential entries is shown in figure 38. In this example, access to several entries is gained through a narrow and ambiguous opening in the building wall. This ambiguity extends further as it is difficult to easily determine which stairway leads to which door.

Many of the buildings are oriented north-south which affords good overall light penetration into internal outdoor residential enclaves and front and rear yard areas. There are, however, buildings that are oriented in a east-west direction which obviously creates some shadow effect. The high-rise buildings do create shadow problems in some of the outdoor public spaces such as the main public square, sections of the seawall pathway, and landscaped spaces between buildings. This obviously has implications for how or if these spaces are used. Figure 39 is an example of a shading problem. Not much beyond high noon, shadow from this building covers a large amount of this outdoor amenity space; this will be even more problematic in the winter months. By late afternoon, shadow from this building also impacts a seating area adjacent to the seawall pathway and the pathway itself.

The different architectural styles of the buildings relate well to each other creating a feeling of rhythm. Unfortunately, they do not reflect the historical industrial

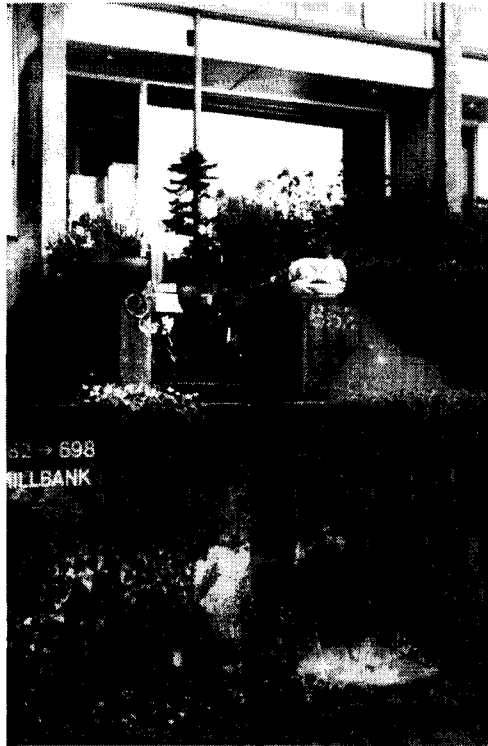
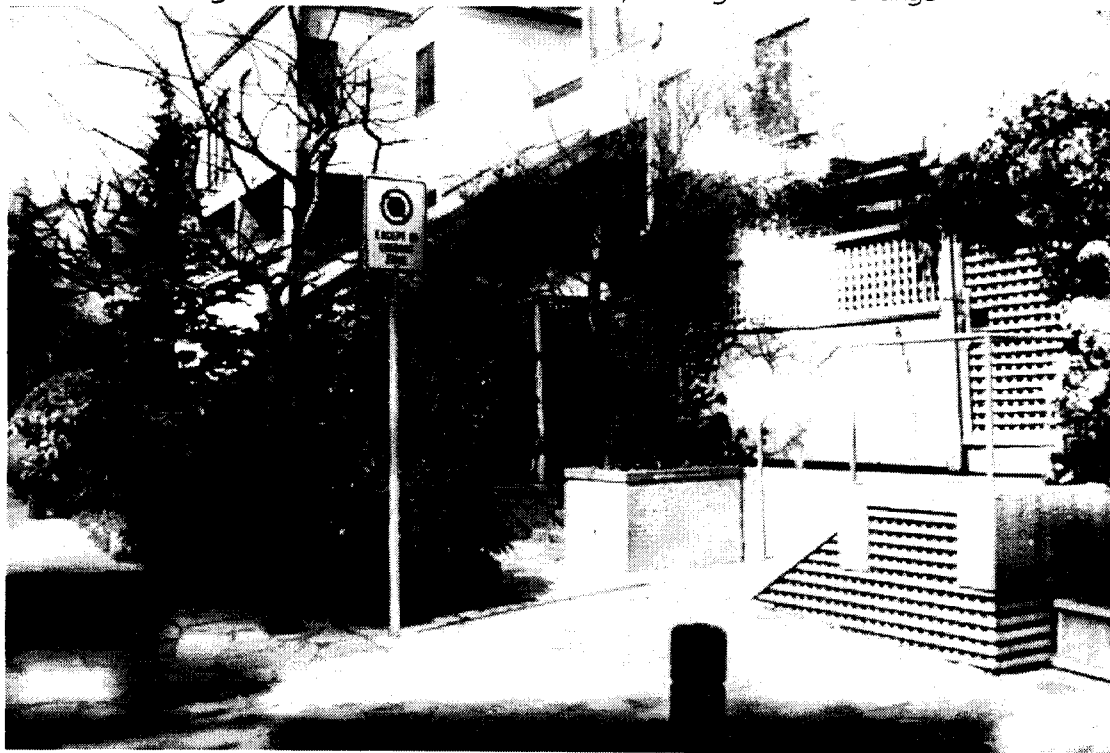


Figure 36. Transitional Residential Domain

Source: Author

Figure 37. Demarcation of Entry Through Grade Change



Source: Author



Figure 38. Ambiguity in Residential Entrances

Source: Author

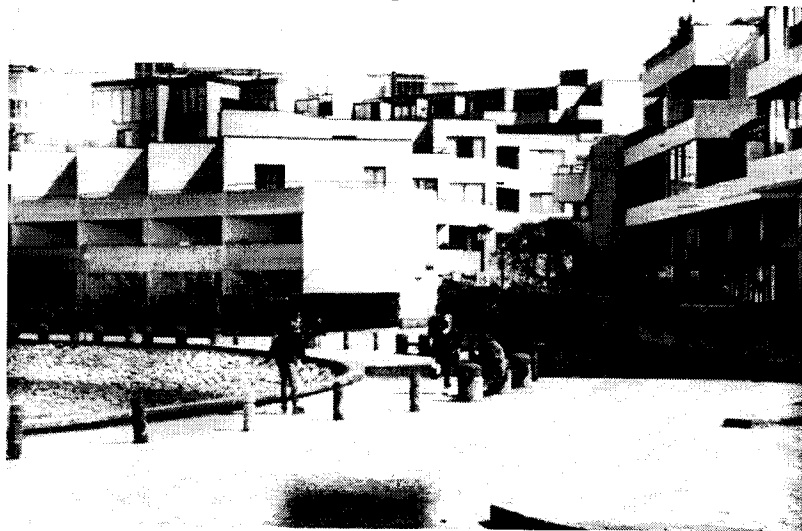


Figure 39. Shadowing of Outdoor Spaces

Source: Author

past of the False Creek area. The severing of this linkage is not only a missed opportunity to imbue the area with a distinctive historical character from an aesthetic or experiential basis but it also rejects a significant form in the growth of the City of Vancouver. Furthermore, there are broader implications for urban identity city wide. In terms of general features, the buildings have well articulated surfaces which tend to be visually interesting. Building walls are often offset from one another creating a more interesting spatial definition, but in only a few instances are blank walls comfortably managed. For example, the fortress-like building wall in figure 20 imparts a feeling of oppressiveness and seems to ignore the connection to the street environment. Wood boarding across two windows reinforces this siege-like state. Figure 40 shows another example where a blank wall on the three storey building in the foreground is treated in a somewhat clumsy manner. While the wall works well to direct the pedestrian eye along one or other of two pathways, it could have been softened by a tree, for instance, which could then be used as a pleasant seating area for people to rest and watch the pedestrian traffic and marine activity.

Figure 40. Blank Building Walls in Pedestrian Space



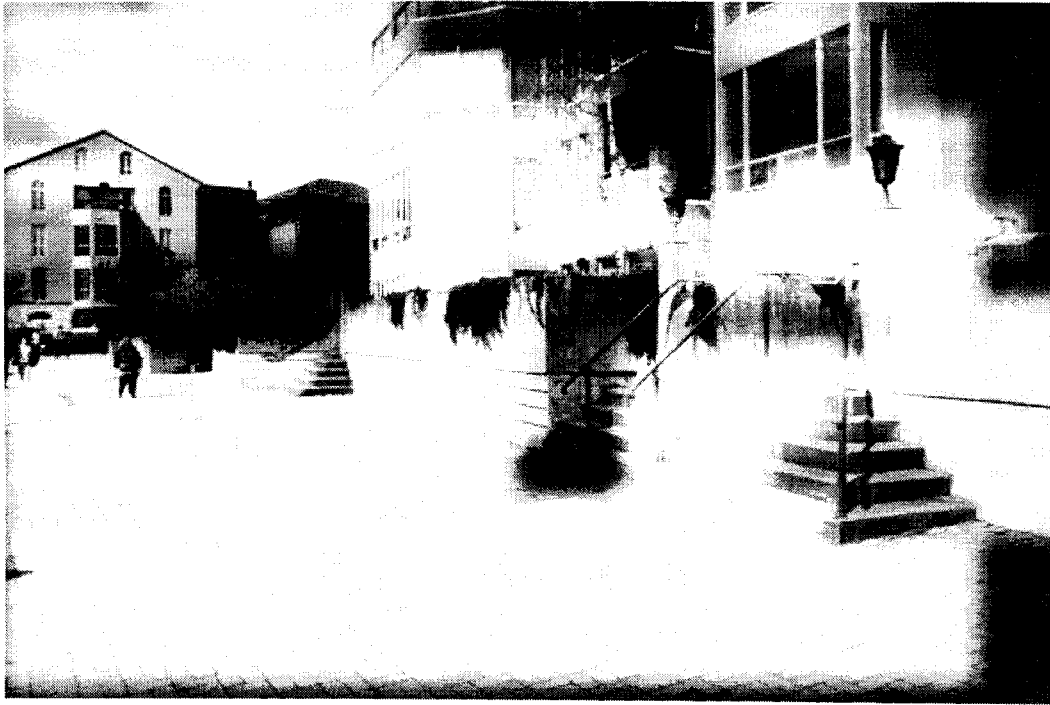
Source: Author

#### 2.6.4.2. WESTMINSTER QUAY STUDY AREA

Buildings in this study area are predominantly low-rise structures, particularly along the riverfront pathway, but a small number of high-rise buildings do punctuate the built form. Clearly, it is difficult to create a comfortable transition in building heights between these two very different typologies. In the case of tall buildings, the ground connection is quite weak throughout the study area. The building does not sit on a distinctive base which might be engaging for the pedestrian; rather, the repetition in architectural style is repeated from the ground floor up. This weak connection is also evident in some of the low-rise buildings. Figure 41 shows an example of such a building. A somewhat high concrete wall also reinforces this sense of disconnection. In contrast, the building shown in figure 42 shows a comfortable connection and transition of space at ground level which is not only more visually appealing, but might be more likely to offer residents an opportunity to engage in the social life of the pathways.

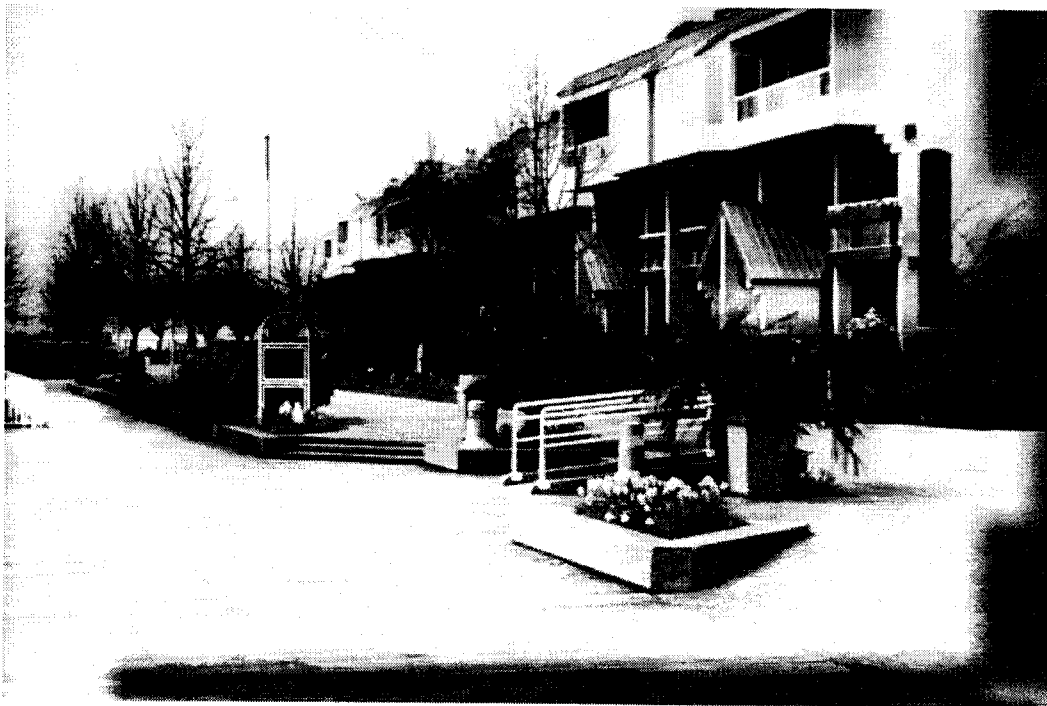
There is an approximately equal mix of buildings that are either setback from pathways or built up to the edge of them. Figure 4 shows an example of a setback that creates some spatial ambiguity. The distance involved is sufficient to allow residents in their outdoor patio areas the opportunity to be anonymous and disconnected with the external social activity. In other cases as shown in figure 43, residential structures are essentially built up to the edge of the pathways, heightening the connection between the two environments. As the pathway system in this study area is very minimal, space created by buildings walls is not a significant feature in the urban fabric. Many of the spaces between buildings, although appearing to exhibit

Figure 41. Weak Connection Between Building & Street



Source: Author

Figure 42. Strong Connection Between Building & Street



Source: Author

Figure 43. Heightened Connection Between Public & Private Domains



Source: Author

good width to height ratios overall, either function solely as visual amenity spaces as shown in figure 44, or as amenity spaces meant for passing through rather than living in as shown in figure 45. Notwithstanding, there are some examples where building walls contain and define small pedestrian ways very effectively at a human scale.

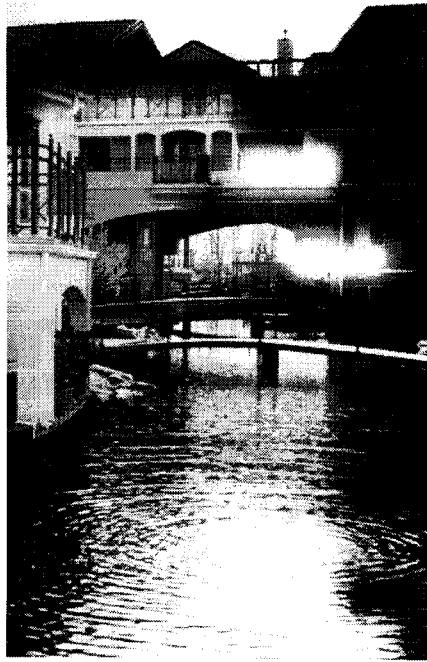
Building entries tend to be legible throughout the study area. In most cases, the areas of spatial transition are reinforced through grade change as shown in figure 46. However, in those cases of level entry, other features, such as the fencing shown to the right in figure 46, are used to mark the change in territory. What is apparent in the two types of transitional boundary identification is that grade change can be more visually stimulating and more inviting than fencing which might connote security problems or a desired disconnection with neighbourhood life.

Many of the buildings in the study area are oriented in an essentially east-west direction. This is likely in response to an objective of capturing River views in residential units and to the linear configuration of the site. Furthermore, many of the buildings are positioned quite close to each other resulting in a significant number of small spaces. These two factors in concert cause a considerable amount of shading within the outdoor interior areas of the residential enclaves. This is exacerbated by the solar angle and building heights which do not correspond with appropriate building height to width ratios. Figure 47 shows how building height can significantly impact outdoor spaces located on the north side. The visible shadowing which covers nearly 50% of the space would be increased during winter months when the solar angle is at a minimum. Consequently, this would not encourage pedestrian usage in a meaningful way.

In view of the two building typologies within the site, it would be difficult to achieve a rhythmic architectural building style. However, even within the context of low rise structures there is no consistency in pattern. Each residential enclave seems to suggest an attempt to stand-out as a distinct unit rather than part of a greater theme. For instance, the Mediterranean theme shown in figure 48 stands in strong contrast to the more contemporary westcoast vernacular evident in neighboring buildings. As a consequence, a disjointed, kitschy, built form is created lacking harmony and feeling of place. Furthermore, this "flavour-of-the-day" architecture neglects historical vernacular that makes the larger urban fabric of New Westminster distinctive. There are strong features that do successfully link the study area to the greater urban context. For instance, the building massing shown in

figure 49 creates a strategic view corridor that promotes a psychological connection between the site and the greater urban fabric beyond. This positive type of pedestrian feature attenuates the feeling of separation from the world beyond and confinement within the site.

Figure 44. Visual Amenity Space



Source: Author

Figure 45. Transitional Amenity Space



Source: Author

Figure 47. Shadowing of Public Space



Source: Author

Figure 46. Transitional Boundary Definition



Source: Author

Figure 49. Strategic View Corridor



Source: Author

Figure 48. Quasi-Mediterranean Architectural Vernacular



Source: Author

## 2.6.5. THE LANDSCAPE

The landscape is a primary ingredient in the creation of spaces and particularly those that are comfortable, human environments in which to linger. It is a part of the connective tissue that defines the urban form. Lynch and Hack believe that the landscape should be "perceptually coherent" and "one whose visual image is congruent with life and action" (1990, 153); a concept also argued by Norberg-Schulz (1971). Therefore, the landscape element in the formation of place cannot be abstract or decorative if it is to satisfy the visceral needs of human beings. Furthermore, Lynch and Hack (1990) propose that the sensed quality of a place is an interplay between the form and the user. The palette of vegetation used in the sensitively design landscape environment allows people to connect with the natural processes of life: the changing seasons, life cycles and decay (Lynch & Hack 1990). At a different level, Punter and Carmona (1997) believe that landscaping provides the designer with an opportunity to accentuate the positive features of a site and minimize the negative. As such, it is the designer's objective to enhance the expression of place and its connection with the greater whole (Lynch & Hack 1990).

Plant material in the landscape functions in a number of ways. Building edges, pathways, and outdoor spaces can be softened and enlivened by plantings of bright "annual" flowers which people can sit by, touch, and smell (Alexander *et al.* 1977). Climbing vines are often preferable to blank buildings walls as they add colour, texture, and according to Alexander *et al.* (1977), blur the interface between building and landscape. Furthermore they argue that "a building finally becomes a part of its surroundings when plants grow over parts of it as freely as they grow along the

ground" (1977, 1136). An added feature is that vines, as well as other plants, can act as an insulative thermal buffer often causing a reduction in temperature between the air and building surface by as much as 5° C in summer months and reducing heat loss in buildings by as much as 30% in the winter (Hough 1989, 40). This effect can extend to temperature and solar mediation in the outdoor environment generally (Hough 1989).

Trees and shrubs can be used in defining space and enclosure and providing legible depth perception through regular spacing. They can be used to create a sense of entry, define a square, volumes, spectacular walls, or avenues (Lynch and Hack 1984; Alexander *et al.* 1977; Mackin & Krieger 1989). The effect of filtering light through branches and leaves can create visual beauty, as noted by Alexander *et al.* "it lends excitement, cheerfulness, gaiety, and we know that areas of uniform lighting create dull, uninteresting space" (1977, 1106). Trees have a profound meaning for human beings: "there is even indication that trees, along with houses and other people, constitute one of the three most basic parts of the human environment" (Alexander *et al.* 1977, 798). Alexander *et al.* also propose that the "trees that people love create special social places; places to be in, and pass through" (1977 799).

The value of trees to the experiential quality of the urban environment is clear. It is recognized by Arnold (1980) who states that trees are the most exquisite but sparingly apportioned raw material in urban design. Alexander *et al.* (1977) believe that the trees which are being planted in today's urban settings do not satisfy people's cravings for them. They believe that "they will never come to provide a

sense of beauty and peace, because they are being set down and built around without regard for the places they create" (1977, 798). Arnold (1980) feels that the notion trees and shrubs are simply "furniture or sculpture to decorate exterior spaces" rather than design elements that define scale and spatial proportion is an indictment of the popular view of landscape design. Arnold (1980) and Punter and Carmona (1997) share a similar conviction that when trees are used as "decorative" or "softening" elements, it is in order to correct design deficiencies that should not have occurred in the first place.

The outdoor floor surface is not simply a surface that exists between buildings. It is, according to Cullen (1971), a connecting surface; a surface that can have scenic qualities to it. The floor surface must, he insists, have a tactile quality and contribute a sense of drama. In this regard, Alexander *et al.* pose a rhetorical question: they ask "how can a person feel the earth, or time, or any connection with his surroundings, when he is walking on hard mechanical wash-easy surfaces of concrete, asphalt" (1977, 1141). They believe such unimaginative surfacing material contribute nothing to the visual quality of the urban environment, and nothing to the natural ecosystems that exist within it. Lynch and Hack (1990) argue that the characteristics of the paving material can act as a "background that unifies a scene" or a dominant feature that sets a pattern. To this end, paving material can be used to act as an organizer of space and activity (Lynch & Hack 1984; Civic Trust 1972). Recognizing this, Punter and Carmona state that there is a need to "emphasize the importance of the floorscape to the urban experience" (1997, 253).

#### 2.6.5.1. FALSE CREEK STUDY AREA

The density and form of plant material varies within the study area. In some of the residential and public spaces the vegetation is mature and dense to the point of being overgrown. Such planting environments as tubs, boxes, planters and the like are not typically used which is more natural and appealing in this context as it acts as a strong contrast to the otherwise highly-ordered form. A diversity of plant varieties is used which provides more visual interest due to differences in form, structure, and seasonal attributes. In many cases the plant material works well in softening building edges, and defining and enclosing space. Overall, the landscaping features complement the study area relating well to the topography and buildings, and add to the richness and legibility of the study area.

Consider the space shown in figure 18 situated between two residential buildings. Enclosure of the pathway is achieved at ground level by the shrubs and vertically by tree branches which provide ceiling definition. The building mass is thus obscured and feels less overpowering than it would otherwise. The regular spacing of trees provides a feeling of continuity and legibility. Finally, the paving material unifies the space at a horizontal level and provides visual interest. Many of the quality space-defining features proposed by theorists appear to have been achieved in this particular location within the study area.

A different type of spatial definition is shown in figure 50. In this example shrubbery and short walls are used to define the perimeter of a seating area and to separate it from the adjacent residential building. What is achieved is the creation of an intimate pedestrian sub-space. In contrast, figure 24 shows a pedestrian sub-

space that is made intimate by trees. In this case, shrubbery was likely not used as the space is located adjacent to a highly public pathway, hence personal safety might be compromised. However, the effect is similar to the space defined by shrubbery.

A final example of how landscaping is used to separate and enclose space is shown in figures 51 and 52. In figure 51, a landscaped berm creates a soft, and highly textured wall opposite a residential building. It creates an almost meditative environment in contrast to the busy pedestrian activity on the other side of the berm. Furthermore, the berm accommodates and emphasizes a natural knoll rather than attempting to disregard it. A similar effect is evident in figure 52 where what looks to be a natural treed knoll acts as a soft wall separating a busy four lane arterial from the interior of the site. A residential access road curves around it and out of view. The impact is quite significant due to the associated noise attenuation. The result is the creation of a more tranquil, neighbourhood-feeling space.

Figure 50. Landscaping & Spatial Definition



Source: Author

Figure 52. Earthworks that  
Separate & Enclose Space



Source: Author

Figure 51. The Use of Landscaping to Separate & Enclose Space



Source: Author

#### 2.6.5.2. WESTMINSTER QUAY STUDY AREA

The landscaping program in this study area significantly contrasts that in the False Creek study area. It tends to be much less dense and far less coherent.

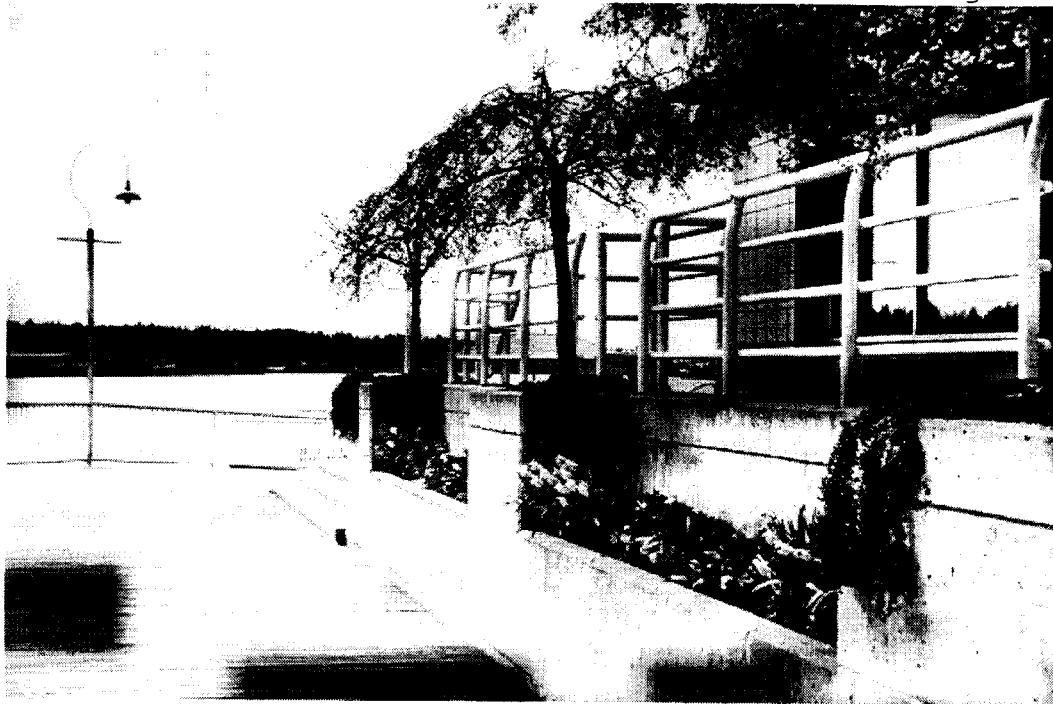
Specifically, landscaping appears to be more of a decorative versus architectural element. In many cases, plant material is not used in applications where it could significantly improve the qualities of space, and in others, it is used without creating a quality effect in relation to the ideas described by theorists. For the most part, the landscaping does not complement the study area in a significant way and does not enhance the legibility.

One of the strong features is the annual colour. Along the edge of the riverfront pathway are large stretches of flower beds which add brightness and provide seasonal evidence especially in early spring before other flowering plants have come into blossom. In one location, a raised planting bed allows for informal seating by the flowers which is considered to be a positive feature by Alexander *et al.* (1977) (see figure 53). Also shown in this figure, are ornamental cheery trees that are planted in what are functionally concrete containers. Because of its artificiality, this is a feature that theorists, such as Arnold, rail against.

The landscaping shown in figure 54 is more decorative than functional, seemingly used to fill in left-over space; what Lynch and Hack (1990) refer to as "green stuffing". It does not seem to provide any significant spatial definition, and it does not act as a transitional feature. In contrast, the evergreen hedge on the left of figure 55 offsets an otherwise looming residential building, and together with the plant material on the right side of the path, creates a comfortable pedestrian experience.

Of note is the bench at the far end of the path which seems to suggest an attempt to provide a positive pedestrian experience. The concept of reducing the feeling of building bulk and improving human scale is evident in figure 56 which shows how trees can be used to achieve this effect. Furthermore, the trees are effective in blurring the hard building edges. The brick pavers add to the visual quality of the space and act as a unifying medium. While vines were not used on buildings in either study area, they are used as a tool to soften a reasonably high retaining wall as shown in figure 57. In this case, the ivy, together, with the other plant material work to define a transitional area between public and private domains which adds visual interest to the streetscape and a particular character.

Figure 53. Landscaping Features Used to Create Informal Seating



Source: Author

Figure 54. Landscaping Used to Fill In Left-Over Space



Source: Author

Figure 55. Softening the Pedestrian Experience Through Landscaping



Source: Author



Figure 56. The Use of Trees to Improve Human Scale

Source: Author

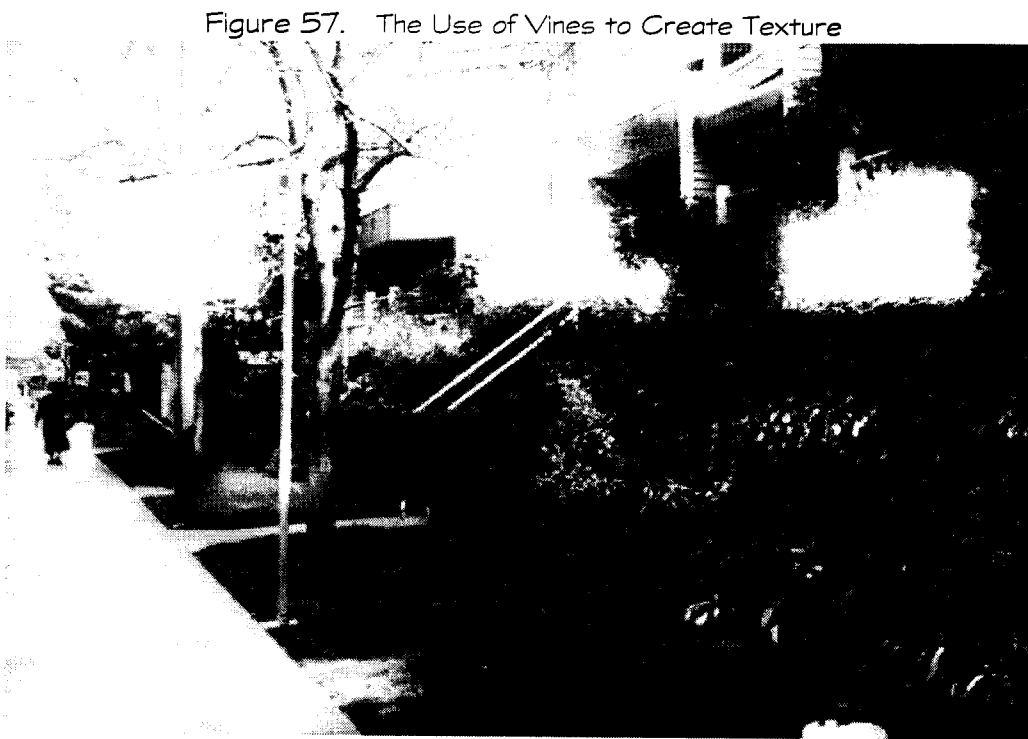


Figure 57. The Use of Vines to Create Texture

Source: Author

#### 2.6.6. THE WATERFRONT SETTING

The presence of water acts as a magnet for human beings. Wherever it is, so to will be people. Notwithstanding its commercial use, water is enjoyed actively through recreational activity, or passively as a meditative element. Lynch and Hack (1990) describe water as a medium that can affect all of a human being's senses. They suggest that moving water can instill a sense of life in the viewer. Alexander *et al.* promote this idea by suggesting that "the need that people have for water is vital and profound"; a view echoed by other theorists on this subject such as Carr *et al.* (1995), Jane Jacobs (1992), and Tony Hiss (1990) (1977, 136). They continue by observing that society often ignores the psychological importance of such sites, but once identified as significant they should be "preserved, (and) embellish them in a way which intensifies their public meaning" (1977, 133). Carr *et al.* (1992) suggest that the way a waterfront is treated is central to the meaning it has for the users. What is important is designing the edge so that people's contact and connection to the water is maximized. Carr *et al.* (1992) summarize how such an opportunity can be squandered through a quotation by R. Hester: "the traditional design would have bulkheaded the entire waterfront to create a clean, well defined edge, but we have all sorts of edges, some hard, some muddy, some sloppy, and look how people use it."

##### 2.6.6.1. FALSE CREEK STUDY AREA

The connection to the waterfront has been treated quite sensitively creating a significant degree of vitality. This has been achieved by locating a main pedestrian pathway immediately at the water's edge. The pathway winds along the shore, rather

than defining the shoreline, lending an organic feel to its shape. In fact, the path appears as though it were located without any manipulation of the shoreline (see figure 58). This natural element, in contrast to surrounding highly-ordered urban fabric, creates a pleasant sense of visual relief and connection to nature; a feature that lends personal meaning to a place. There is only a short concrete curb that separates the pedestrian from the water which essential removes any barrier to the interface and therefore is a strong cognitive element which intensifies the pedestrian relationship to the marine environment.

Figure 58. An "Organic" Pathway



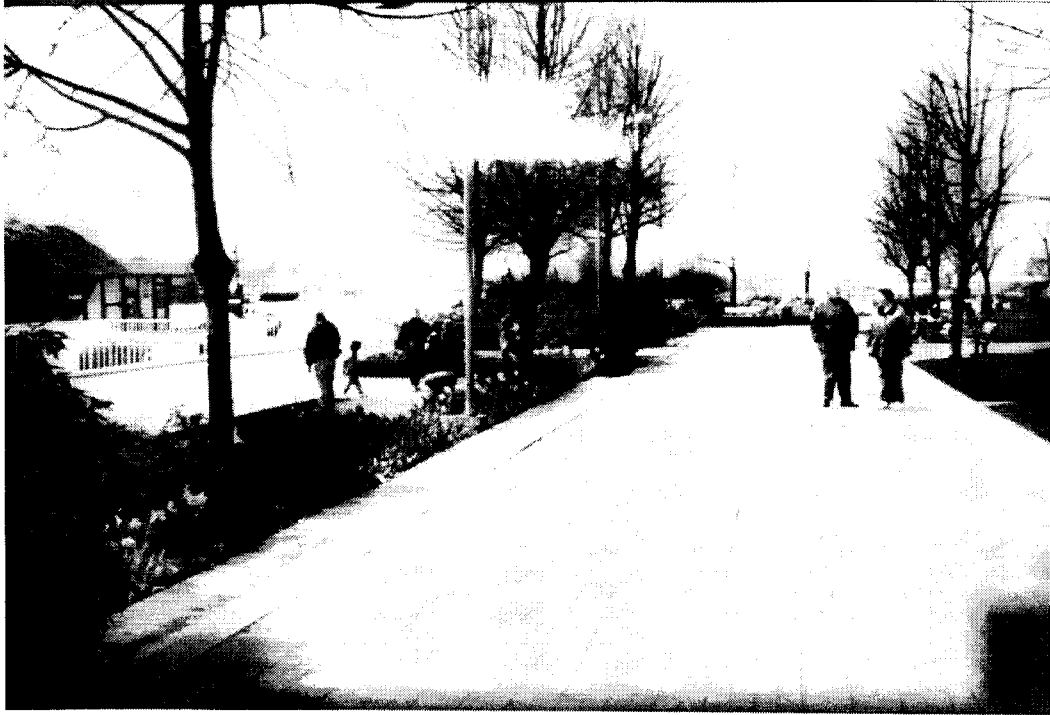
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However, as positive as this interface might be, it could provide more. The shoreline zone between the pathway and water is treated differently. One section is a masonry surface that angles into the water. As a surface, it is artificial looking and creates a feeling of dissonance with the natural shape of the shoreline. Furthermore, it is a very slippery surface that functionally restricts people from climbing down the bank and touching the water. In another section, the zone is comprised of rip-rap. This is far more natural looking and more appropriate at a visceral level. However, due to the steepness, it too is a difficult surface on which to climb. Hence, there is no functional physical access to the water provided in the study area. This might well be due to administrative reasons such as liability issues for example. However, the increased connection afforded people by allowing direct access to the water in sections along the shore would mean that people would not have to drive to the beach for this specific experience and would therefore, greatly enhance their connection and meaning to this waterfront environment.

#### 2.6.6.2. WESTMINSTER QUAY STUDY AREA

The shoreline in this study area is treated quite differently than that in False Creek. Similarly, a main pedestrian pathway has been located near the water edge. However, there is a small "sub-path" which is immediately adjacent to the River along a significant portion of site, which is separated from the main pedestrian flow by a bank of vegetation and a grade difference (see figure 59). This would likely cause the pedestrian to experience a sense of detachment from River environment, i.e. there

Figure 59. Space Transition Through Grade Separation & Landscaping



Source: Author

would be a break in the immediate connection. The organic shoreline definition of the False Creek study area was not a strategy used in the Westminster Quay study area. The shoreline has been "bulk-headed" and is a very linear feature. Therefore, it has much more of a hard, unnatural feel to it.

A wood plank floor treatment reminiscent of industrial waterfront vernacular is used along a portion of the pathway. This imparts a degree of character to the space and provides unity with the dock-like theme created by piles that suspend that portion of the pathway over the water. Further south along the pathway, this design is replaced by a rip-rapped shoreline and a brick paving treatment. These interfaces do not permit any opportunity for people to touch the water and to connect with this environment. Furthermore, fencing along the entire pathway acts as a further

impediment unless one feels adventurous (see figure 60). What is clear in this case, is how profound such barriers to water contact are to the meaning people might attach to the place. The waterfront environment is transformed from a place where one could engage nature to a place where one is permitted an arms length look at it. The human experience is reduced to the role of an over-protected observer and much of the opportunity for contextual relevance is forfeited.

Figure 60. Physical Impediments to Water Connection



Source: Author

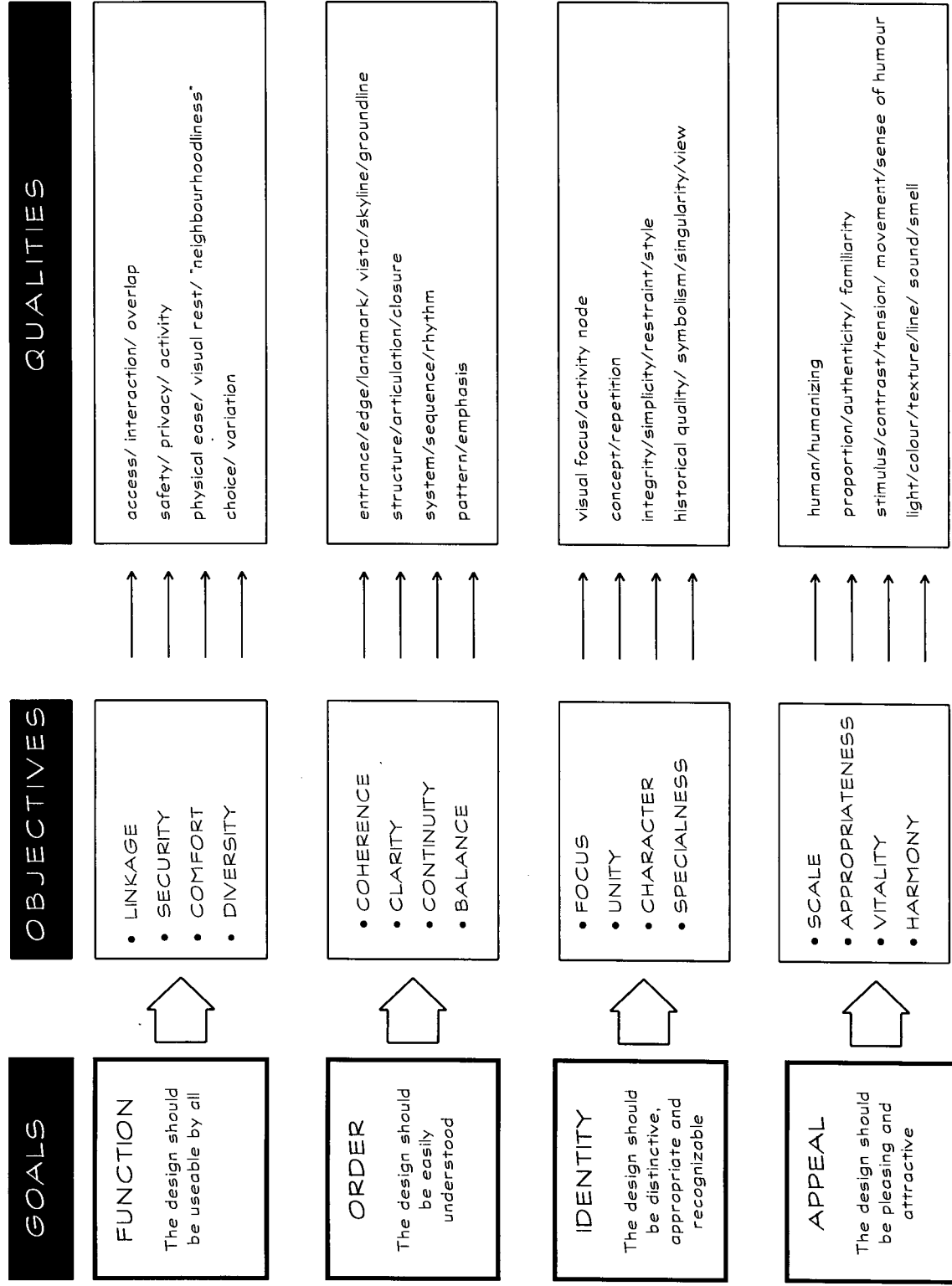
## 2.7. CONCLUSIONS

In the above, some of the important elements that constitute good urban design have been examined and these ideas used to analyze the two case studies. From this body of work flows a number of points that will be translated into a design concept intended to represent good urban form. To render these wide ranging ideas

into a manageable form, they have been configured to form a matrix (see figure 61).

The matrix is comprised of three categories: *Goals*, *Objectives*, and *Qualities*. There are four *Goals* which are general value statements that define the vision of the urban environment. For each *Goal* there are four *Objectives* which are more defined formulations of the value statements. Typically, several *Objectives* will be relevant to any urban design feature and are elements that a design plan might be checked against. Finally, for each *Objective* there is a varying number of *Qualities* which provide the finest grained detail. These begin to translate the above ideas into a physical form. They function as a set of criteria by which to achieve a particular *Objective*. The key in using the matrix effectively is to make it fit with the understanding of the probable site users.

Figure 61: Urban Design Matrix



Source: Author

## CHAPTER 3. SITE CONTEXT

### 3.1. INTRODUCTION

In order to produce an urban design concept that is relevant and meaningful for a development's users, it is essential to obtain an accurate understanding of the context in which the development site is situated. This provides the foundation on which to begin the design process. The types of information necessary to achieve this objective include an understanding of the relevant history affecting the site and adjacent areas, economic profile, local government vision, and demographic profile. Each of these elements will be examined in this chapter and the findings will be reflected in the design concept for the Shipyard study area in the City of North Vancouver.

This chapter will examine the site context in two parts. The first part will discuss the historical context that relates how the community evolved since its incorporation in 1907, the decline in the economic structure and built form of the Lower Lonsdale of the City of North Vancouver, and the City's response to the problem of decline. The second part of the chapter consists of an analysis of the current context which examines the demographic profile of the city in order to determine who would be the likely users of the Shipyard study area, the economic structure of the community and waterfront in order to assess the implications for the study area, and its accessibility at a local level and beyond.

### 3.2. HISTORICAL CONTEXT

#### 3.2.1. LOCATION

The City of North Vancouver is situated on the north shore of the Burrard Inlet; it is bounded by the District of North Vancouver which together with the District of West Vancouver comprises a region called the North Shore (see map). This region is contained by the Burrard Inlet to the south, and the coastal mountains to the north, east, and west. Consequently, it is very much oriented to the City of Vancouver, the Lower Mainland, and, at a macro-scale, the Pacific Rim.

#### 3.2.2. A HISTORY OF COMMUNITY DEVELOPMENT

Early settlement of the City of North Vancouver was fueled by large numbers of immigrants attracted by its successful port function, the advantage of a transcontinental railway, and an overall economic vitality. Except for a small precinct called Moodyville, located in what is now the Lower Lonsdale area in the City of North Vancouver, the North Shore was incorporated as the Municipality of North Vancouver in 1891 (City of North Vancouver). However, property and business owners did not support a local government structure that had such a large undeveloped area to administer; it was felt that their interests would be better served by a more localized and responsive administration (City of North Vancouver, 1988). In 1907, the City seceded from the Municipality and incorporated. It later merged with the Moodyville quarter to comprise an area of 1276 ha (City of North Vancouver, 1988).

The North Shore was essentially undeveloped and quality timber was plentiful. The economic hub was a comparatively small area comprised of Moodyville and an area that is now Lower Lonsdale. Its early advantage lay in its inherent hegemony as a deep sea port vis-à-vis the shallower Vancouver port. The local economy was focused on transportation sensitive industries such as lumber mills, ship yards, dry docks, fish canneries, and a foundry. Local timber resources were harvested and brought to this location for value-added processing such as boat and ship building, and door and sash factories. The community flourished as a result of these economic conditions.

### 3.2.3. INDUSTRIAL DECAY

Ironically, the railway located along the water front which was intended to improve transportation and market access, severed generalized water access and consequently acted as a disincentive to some industries and businesses (City of North Vancouver). This, coupled with other more esoteric factors, served as a catalyst for decay of the industrial infrastructure and consequently, the economic and social dynamism.

A final chapter in the City's vibrant industrial past came to an end when the long established ship building company, Burrard Yarrows (and briefly Versatile Shipyards), closed in the 1980's. This industry with its considerable work force contributed significantly to the vitality in the otherwise fast decaying Lower Lonsdale area. With its closing came the vacating of an expansive land area situated in a visually prominent and strategic location. This created a serious void in the urban fabric further

elevating the sense of economic desperation for the once prosperous Lower Lonsdale area.

#### 3.2.4. A RESPONSE

In an attempt to reverse this downward economic spiral, large areas of Lower Lonsdale have been under going incremental revitalization and retro-fitting. This was an enhancement strategy initiated by the Lower Lonsdale business community and administered by the City. A number of planning studies were generated that resulted in, among other things, a responsive policy direction, which translated into development and design guidelines, streetscape improvements, and other outdoor "beautification" initiatives. Improvement in the urban fabric has occurred incrementally. Old and once vacant and dilapidated buildings have been slowly restored and leased to specialty retail stores and professional services. Higher end condominium apartment buildings are being constructed in this locality in many cases replacing decayed rooming style residential building stock. Collectively, these elements have injected a vibrancy to the area. Development in the Lower Lonsdale area has been consistent with the principles of the Greater Vancouver Regional District's Regional Town Center Policy (see Section 2.3.2.). The rejuvenation of the urban form and services are now imprinting a distinctive positive character on the area which in turn acts as a magnet to new residents, businesses and visitors.

#### 3.2.4.1. LONSDALE QUAY DEVELOPMENT

Perhaps the single most ambitious and significant of the redevelopment projects in the City is the Lonsdale Quay development located on the waterfront in the heart of Lower Lonsdale and adjacent to the Shipyard study area. The concept adopted by Council was one which incorporated park space, low-rise residential, office, with over 8,000 square meters of retail, market and hotel space (North Sore Economic Development Commission, 1990).

The project was a joint City and Provincial initiative that evolved from a Provincial endorsement of recommendations advanced in an early 1970's metropolitan transportation study. Specifically, the study proposed that a North Vancouver to Vancouver passenger ferry service be developed as an alternative to the construction of a tunnel or additional bridge structure in order to manage increasing traffic congestion. As a consequence of the study, the Province expropriated nearly 40 acres of land for the "Seabus" development (City of North Vancouver, 1988).

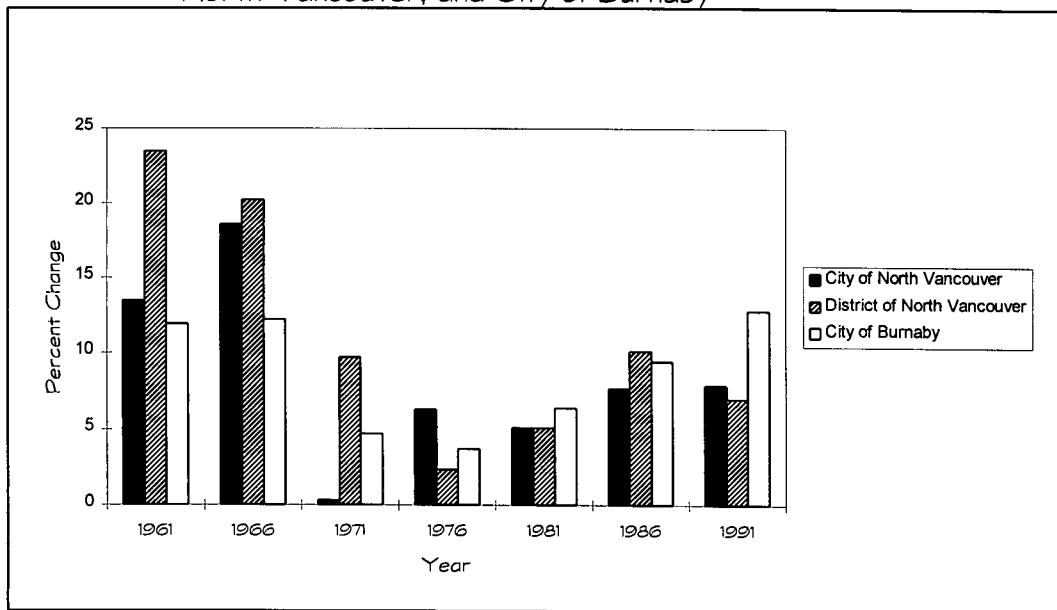
It was also at this time that the City of North Vancouver embarked on a new Official Community Plan process with the objective in the Lower Lonsdale area being the creation of a template for stimulation of future growth and development, and to once more open up the shoreline to local residents. From this flowed a progressive document entitled "Lower Lonsdale Waterfront Study" which set out development and design guidelines for this area.

### 3.3. PRESENT OVERVIEW

#### 3.3.1. DEMOGRAPHIC & POPULATION PROFILE

The population growth rate in the City of North Vancouver has fluctuated since incorporation, reaching an all-time low in 1971 (see figure 62). This trend appears to share a degree of consistency with the rate for the District of North Vancouver and the City of Burnaby. The primary causes are likely diverse and macro-scale, but it is logical to conclude that there is some correlation between a more recent upward trend and the changing urban fabric in the City of North Vancouver.

Figure 62: Rate of Growth for the City of North Vancouver, District of North Vancouver, and City of Burnaby

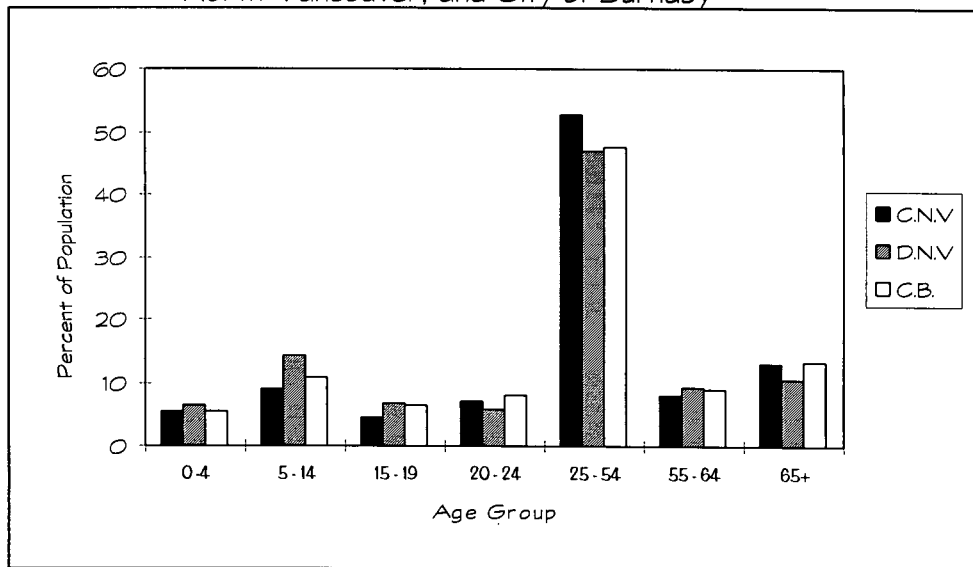


Source: Statistics Canada

The City of North Vancouver has a large percentage of single person households clustered in Lower Lonsdale and adjacent areas north (City of North Vancouver 1993)<sup>1</sup>. In addition, the City has a comparatively high percentage of rented dwellings coupled with the lowest average household income on the North Shore

(Statistics Canada, 1996). This stands in contrast to the other North Shore Municipalities. Together, these elements likely influence the perception of the Lower Lonsdale area in the minds of North Shore residents. This would have implications for attracting "empty nesters" on the North Shore who are looking to sell their family home and move into to smaller, lower-maintenance town houses or apartments and remain in their extended North Shore Community<sup>2</sup>. The demographics for the City of North Vancouver, District of North Vancouver, and City of Burnaby indicate a correlation that lends some weight to this concept (see Figure 63). What is

Figure 63: Age Profile for the City of North Vancouver, District of North Vancouver, and City of Burnaby



Source: Statistics Canada

evident is that there are fewer children in the City of North Vancouver than in the other two jurisdictions which correlates with the large single person household statistic (City of North Vancouver). However, the City of North Vancouver has a higher population percentage in the age category 25 - 54 years than either the

District or the City of Burnaby (Statistics Canada, 1996). As this age category marks the prime family years, it bears out a similar correlation between the high number of single family households and the relatively high number of high density residential units in the City. The one final relevant category of note is the 65+ age group which corresponds with retirement years. The District of North Vancouver has a higher population percentage in the 55 - 65 age category than the City of North Vancouver (Statistics Canada, 1996). However, at 65+, the relationship reverses which might be an indication that empty nesters are relocating to the new apartment developments in the City of North Vancouver where they are closer to services and other amenities.

Based on this demographic profile the probable age categories that would be likely to locate to the Shipyard study area are the 25-54 and 65+ groups. This conclusion is further buttressed by residential sales statistics for condominium and townhouse sales in the City of North Vancouver which suggest that these groups are the primary purchasers. This information is critical to understanding how the Shipyard might be used by residents as well as visitors. For instance, if empty nesters are one category of people that would relocate to the Shipyard study area, then among other factors, mobility and access issues would become a greater design concern. For the younger age category, other design priorities might emerge which together could have significant implications for the form and function of the study area.

### 3.3.2. LOCAL ECONOMIC ACTIVITY

The City, or more particularly the Lower Lonsdale area, has grown from a bedroom community of the City of Vancouver to a Regional Town Center. The concept of a Regional Town Center was developed as a regional planning strategy by the Greater Vancouver Regional District in the early 1970's. The objective was to define a limited number of nodes that would "concentrate suburban high density commercial and residential development and to create centers which contribute to both the overall efficiency and quality of the region" (Artibise et al., 1990, i). In accordance with this strategy, the land use profile in the City of North Vancouver has evolved from a strategic industrial location to a mixed land-use focus. The most visible shift has been from primary and secondary low valued-added processing to diverse, high value-added high-tech industry (Statistics Canada).

Over the 15 year period 1971 - 1986, there has been a reduction of 9.9% in reasonably high paying primary, secondary industries (Statistics Canada). However, this loss has been entirely absorbed by the expanding relatively low paying service sectors (Statistics Canada). This change corresponds with recent literature which suggests that tertiarization and restructuring of the economy have meant both sectoral employment losses and gains (Daniels, Beyers 1991, Kunin & Knauf). Thus it is reasonable to conclude that that this evolving sectoral profile will continue coinciding with similar global restructuring trends. However, the amount of success in achieving a relatively seamless transition is related to the concrescence of City policy initiatives with these trends, standards, and requirements.

### 3.3.3.

### LOWER LONSDALE WATERFRONT

Lower Lonsdale is an area of the City that has undergone close scrutinization by City planning staff and politicians in view of its size, context, and redevelopment potential. Key to this region is the waterfront. As has been discussed, the North Vancouver ports are the deepest within the Burrard Inlet which is material to water related industry and deep sea shipping. The treatment of this feature is fundamental in the direction that the City will proceed both economically and structurally, by either capitalizing on this natural advantage or otherwise pursuing a more balanced land-use strategy.

The value of the waterfront from a business perspective is quite significant. A study of selected waterfront industries published by the North Shore Economic Development Commission revealed that 87.3% of respondents felt that waterfront exposure was essential for their business (1/3 of exports going to the Pacific Rim), and nearly 65% selected their North Vancouver location due to waterfront/port access or low rent<sup>3</sup>. As such, this connection must be carefully managed with the cooperation of the associated stakeholder groups, such as community interest groups and the Vancouver Port Authority, if this segment of the City's economy is to be maintained. Obviously, in achieving a suitable land use mix, such industries are fundamental components. However, Fred McGague notes in the *Marine Digest*, that pressure concerning how the Shipyard study site is developed will be very controversial, and competition for the site will be fierce in view of its location.

Uncontrolled or insensitive development in the waterfront region can cause serious and insurmountable problems for new and existing industry. Linda O'Leary of

the Towboat & Harbour Carriers Association of New York & New Jersey at the Ports & Harbor Conference in 1989, suggests that "shoreline development can exert tremendous pressure on maritime facilities in terms of property values, expansion possibilities or ultimately relocation" (p. 4-5). This position is supported by a local example where the local community provided strong opposition to a proposed expansion of a potash shipping facility in the City of North Vancouver. Residents expressed concerns relating to dust problems and increased train noise (North Shore Economic Development Commission, 1991). A harbinger of change in strategic waterfront locations in the City of North Vancouver is perhaps no better represented than by a comment made by City Planner, R. White, in a report to Council. He proposed that uses similar to Lonsdale Quay would be preferred to continued industrial use of the western portion of the Shipyard study area. Furthermore, he explained that commercial, cultural, residential, and public space should be encouraged to replace the former land use. This position likely reflects the probable long term redevelopment outlook. As such, it will be assumed that the focus of port and port related activity in the Burrard Inlet will continue to evolve in the long term thus fracturing existing industrial and break-in-bulk localization economies. As land heavy industries relocate, expansive waterfront holdings will become available and re-developed as mixed urban oriented land uses such as the Coal Harbor development and development in the once industrialized False Creek area in the City of Vancouver.

### 3.3.4. TRANSPORTATION LINKAGES

The City's locational relationship to Vancouver and the Lower Mainland is an integral element in its development potential. As Vancouver's Central Business District increases in specialization through the process of tertiarization as described by Hutton and Ley (1987) and decentralizes some of the professional and other "land-rent" sensitive services, the City of North Vancouver and more specifically, the Lower Lonsdale area stands to benefit due to the close proximity and the transportation linkages. For instance, in addition to the efficient road infrastructure, is the Seabus passenger ferry located at the heart of the Lower Lonsdale waterfront area (and adjacent to the study area) which connects with the City of Vancouver and the greater regional transportation system including Skytrain. Finally, the C.N. and B.C. Railways have lines which run along the waterfront area and terminate in the City of North Vancouver. This multi-modal advantage is not experienced by many other suburban communities which tend to realize a greater degree of spatial isolation due to increasing traffic flows.

### 3.4. CONCLUSIONS

Up until approximately 35 years ago, the City of North Vancouver had a vital waterfront industrial and port oriented economy. It was able to compete with other similar local economies due to its superior deep water port suitability. However the economy, particularly in the Lower Lonsdale area, declined in recent years culminating in the closure of the City's once largest employer: the Versatile Shipyard. This prompted the City of North Vancouver to engage in a process intended to revitalize

the Lower Lonsdale area starting with the Lonsdale Quay development in the mid-1980's. This injected new life into the area and, in conjunction with continued City efforts, has precipitated further redevelopment and revitalization, as has been discussed in this chapter.

The demographic profile of the City also appeared to reflect the physical and economic trends that have affected it. As has been explained, it traditionally had a high number of young single person households which translates into an available local labour force, particularly important for an industrial and port economy. There has also been a large number of seniors locating in the City, particularly in Lower Lonsdale. A slight shift in the demographics was shown, and of particular note is that the profile of seniors in the Lower Lonsdale area is changing from those who can afford only to rent, to empty-nesters who are looking to relocate in their community to luxury residential units. Both the City's vision and the demographic profile will be used in formulating a responsive design concept for the Shipyard study area in Chapter 5.

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<sup>1</sup> In the City of North Vancouver, 74.3% of the population is a 1 -2 person household versus the District of North Vancouver at 43.9% and the G.V.R.D. at 59%.

<sup>2</sup> The City of North Vancouver has over 60% of its residential stock in apartments versus 15.2% in the District of North Vancouver and 35% in the G.V.R.D.

<sup>3</sup> West Coast ports carry more than four-fifths of U.S. trade with the Pacific Rim and are enjoying a boom in port industries and service activities associated with this rising tide of commerce (Berry, Conklin, Ray, 1987)

## CHAPTER 4. PLANNING CONTEXT

### 4.1. INTRODUCTION

The Planning context is a critical element in the development of the Shipyard study area. It, like other critical features discussed in Chapters 2 and 3, acts as foundation material on which a design concept can be built. The City of North Vancouver has undertaken a great deal of study in the Lower Lonsdale area and Versatile Shipyard site in response to the goal of managing development in the spirit of a Regional Town Center, and overall revitalization. This chapter will examine the planning principles the City will promote in the context of the Shipyard development through iteration of planning objectives stated in its Official Community Plan and other City Planning material. This information will be used to prepare general planning objectives to guide the urban design concept in Chapter 5.

### 4.2. PLANNING AND REGULATORY FRAMEWORK

Recognition of Lower Lonsdale as a vital area by the City of North Vancouver appears to have occurred toward the latter part of the 1970's. What has proved to be a long-term strategic planning focus began with the creation of specific design guidelines in 1979. Perceiving the need for comprehensive planning which would encourage and manage sensitive urban growth, particularly in view of the City's Regional Town Center designation, the City has produced numerous studies and reports that have or still do figure strongly in planning policy for the Lower Lonsdale area. Some of these documents include:

- 1999 - "Lower Lonsdale Planning Study"

- 1999 - "Lower Lonsdale Design Guidelines and Architectural Controls"
- 1997 - "Versatile Shipyard Land Use Study"
- 1997 - "Lower Lonsdale Community Benefits Review Process"
- 1997 - "Proposed Development Options for the Lower Lonsdale Planning Study Area"
- 1993 - "Lonsdale Towncentre Revitalization Plan"
- 1992 - "Lower Lonsdale Community Facilities and Services Needs Assessment"
- 1992 - "Official Community Plan" (O.C.P.)
- 1991 - "Historical Lonsdale Design Guidelines"
- 1991 - "Draft Central Waterfront Redevelopment Guidelines"
- 1991 - "Versatile-Pacific Shipyard Heritage Report"
- 1979 - "Lower Lonsdale Urban Design Plan"

In addition to the studies undertaken by the City, there are a number of others undertaken by community groups in order to assess needs and develop plans for related infrastructure. An example of these studies include:

- 1994 - "North Shore Regional Cultural Facilities Study"
- 1993 - "North Vancouver Museum Preliminary Concept Report"

The conclusions in these studies will likely have a bearing on the mix of uses that will ultimately be planned for the Shipyard site. Using study conclusions as a foundation, some North Shore cultural groups are arguing a need for new and/or larger cultural facilities. The Shipyard site is consistently identified as one of the siting options.

While all of these documents represent pieces of a long term vision for the Lower Lonsdale area, perhaps the most directly applicable are the Official Community Plan

and the Versatile Shipyard Land Use Study. These documents represent the culmination of much public consultation and the achievement of consensus regarding development issues affecting, among other areas, the Shipyard site.

The City's current O.C.P., adopted by Council in 1992, articulates its long term vision for community goals, planning objectives, and development policies. It is an expression of the community's preferences and priorities relating to this vision. The O.C.P. was generated from a number of planning studies, and input received from the public, and City advisory bodies. The O.C.P. update process lasted for five years. The document primarily consists of a declaration of community goals, planning objectives, and planning policies. A number of elements within these categories directly relate to the development of the Shipyard site.

#### 4.2.1. CITY OF NORTH VANCOUVER OFFICIAL COMMUNITY PLAN

The current O.C.P. designations for the Shipyard property are "Industrial" and "Special Study Area" (which connotes an anticipated land use change and O.C.P. amendment). East of the site, lands are also designated Industrial. However, to the west and north, the O.C.P. designation changes to "Town Center" which promotes a mixed use structure. So pivotal is the Shipyard site redevelopment, that the O.C.P. indicates adjacent land uses east of the site and north of the "Industry" designation may be reassessed "as the future of the Shipyard site is clarified" (27).

In Section II.C.2.e. of the O.C.P., the Lower Lonsdale Town Center designation identifies the region as being the City's "recreational and entertainment district with an abundance of first class restaurants, pedestrian ways, shopping and evening

activities" (p. 25). The vitality of such a mix will likely guide the City in defining a suitable land use mix for the Shipyard development so as to effectively dovetail it with the existing urban fabric. Consistent with this is an O.C.P. statement that Lower Lonsdale will continue to be promoted as a "residential focal point for the North Shore" (12). Therefore, in view of the objectives of the Regional Town Center designation and the O.C.P. designation, the City has committed to encouraging the building of "complete communities" where among other things, people would be afforded the opportunity to work, live, and pursue social activity. Furthermore, one of the strategic goals for the management of growth and urban form is stated in the O.C.P. as giving priority to "quality of life considerations like livability and neighborliness" and neighbourhood character (11).

The City's heritage resources are also carefully provided for in the O.C.P. The document references earlier work done by the City on inventorying heritage features, many of which are located in the Shipyard site. The Heritage Conservation section of the O.C.P. lists five policy priorities concerning heritage preservation. One of these could have more significant effects on the Shipyard site in particular. Specifically, the City proposes that "financial incentives are to be considered" in support of preservation. This also complements the O.C.P. objective of ensuring public waterfront access as the Shipyard waterfront is undeniably a heritage resource.

#### 4.2.2. THE VERSATILE SHIPYARD LAND USE STUDY

The other main document which directly affects development of the study area is the Versatile Shipyard Land Use Study. It was commissioned by the City of North

Vancouver, the Vancouver Port Authority, and Coopers and Lybrand Limited. Coriolis Consulting Corporation and Hotson Bakker Architects were retained to undertake the study. Each of the three groups had specific goals that effectively defined the terms of reference. For the City of North Vancouver, the main objective in the development of the Shipyard site is the provision of community benefits or features such as public waterfront access, heritage preservation and cultural facilities (Coriolis Consultants Corp.). For the Vancouver Port Authority, the main objective is to preserve long term industrial waterfront use east of St. George's Avenue and the protection of exiting industry east of the unused portion of the Shipyard site. To this end they indicated a desire to exchange lands with the Shipyard land owners which would achieve this goal. Finally, Coopers and Lybrand want to achieve maximum revenue from the development of the Shipyard site and to acquire the waterfront rights currently owned by the Vancouver Port Authority. The goal agreed to by each of the stakeholders was the following:

To transform a portion of the Shipyard site into a major town center destination that is active and diverse, interesting and publicly accessible, economically viable, respectful of the site's historical past and compatible with the surrounding Lower Lonsdale community, while retaining an active marine industrial/Shipyard operation on the easterly portion of the site."

The consultants began the consultation process by hosting a number of public information meetings and open houses. Information was gathered from participants concerning their vision of the Shipyard site. They were asked to comment on a wide range of topics including an appropriate land use mix, building heights, and heritage. Some of the recurring preferences included public waterfront access, the provision of

cultural facilities, heritage preservation, and a mixed land use. Other stakeholder groups such cultural groups, and Council appointed advisory bodies were brought into the process. Using the information obtained, the consultants were able to iteratively refine and test a concept plan to a point where a reasonable degree of public support was achieved.

The final concept plan proposed by the consultants is a mixed-use concept incorporating residential, commercial, and community uses with the objective of open space and historic building preservation. The plan is quite comprehensive including both quantitative and qualitative elements such as proposed building heights, densities and massing, land-use mix ratios, floor space ratios, general urban design guidelines for development and streetscape character, timing and phasing, financial analysis, and planning process.

Despite the many strong features of the consultant's concept plan, I feel that there are some apparent inadequacies when compared to urban design literature (see Chapter 2). However, it is acknowledged that the proposal is conceptual, with detailed urban design yet to be done. Some of the more significant concerns include:

- the lack of continuity in the street wall particularly along Esplanade where the rhythm of building form is sacrificed to vehicular access and miscellaneous outdoor space;
- the creation of incoherent outdoor spaces (particularly north facing) that appear to be left over space rather than planned space;
- the legibility and connectivity of buildings in the urban fabric i.e. the buildings do not appear to relate to each other to form a functional whole.

Through the O.C.P., the City of North Vancouver has articulated the principles by which the Shipyard will be developed. Together with some of the other planning work undertaken by the City, such as the "Lower Lonsdale Design Guidelines and Architectural Controls", these documents should provide a solid foundation on which to manage development so that it contributes to the community and quality urban form. Although the Versatile Shipyard Land Use Study is meant to address the objectives of each stakeholder group, it seems to address many of the significant O.C.P. elements discussed previously, in very general ways. It is assumed that the City will be stressing compliance with these objectives during the development process.

#### 4.3. PROPOSED PLANNING CONSIDERATIONS

Using the information and data pertaining to the Shipyard site and its context in Chapter 3, and the findings pertaining to urban form in Chapter 2, I have developed an urban design concept for the Shipyard study area. However, it is essential to place this concept in the context of the planning framework developed by the City of North Vancouver. Listed below is a number of the more important planning objectives that translate the design concept into a planning format. They are divided into three categories: community interests, urban form, and perceptual elements. It is recognized that these objectives are generalized statements and do not provide for a precise translation into built form. Indeed, they are not intended to do so. Rather, the intention is to provide a general contextual framework that promotes quality urban form. Prescriptive performance criteria, while useful in controlling urban form,

have limited application as each site requires a specific combination according to the inherent characteristic of site and situation.

### Community Interests

- Provide public waterfront access.
- Activate waterfront edge.
- Create spatial opportunities for flexible and structured programming such as outdoor markets, theater, and cultural events.
- Promote uses that will cause the site to be populated during the longest time per day.
- Provide facilities for adults, children, and the elderly.
- Require mixed-use development in order to promote the concept of a whole community.
- Provide opportunities for personalization of outdoor semi-private residential space.
- Ensure that the development is easily accessible to all.

### Urban Form

- Ensure that the development reflects and creates an effect suitable to its prominent location, and context.
- Promote a "heritage maritime theme" rather than a "generic maritime theme" into the overall scheme.
- Retain key heritage structures and site features.
- Ensure that design standards are adhered to throughout the development process.
- Promote safety through design.
- Promote sustainable design.

### Perceptual Elements

- Ensure landscaping contributes to the creation of space and place rather than being simply used as a decorative adjunct.

- Require architectural design to respect the industrial waterfront vernacular.
- Create and maintain pedestrian linkages.
- Preserve key viewscales and sight lines.
- Promote psychological linkages to marine based activity and the overall urban context.
- Restrict massiveness by maximizing visual complexity and encouraging human scale.
- Encourage sensitive edge treatments.
- Avoid over shadowing of spaces.
- Encourage design that respects the climate.
- Promote design in sympathy with nature.

#### 4.4. PROPOSED PARTNERSHIP ROLE FOR THE CITY OF NORTH VANCOUVER

The strategic significance and value of the Shipyard site to the urban form and community identity is very clear. It is not sufficient that the City of North Vancouver recognize the importance of the Shipyard site. No other waterfront property in the City is nearly as strategically important as the Shipyard site. In order for it to capitalize on the full potential and uniqueness of this opportunity, the City must see the Shipyard redevelopment as a one of a kind center piece for the City by which it, and perhaps the North Shore, will be identified. If not, it is postulated that the development will likely mirror a multitude of others in the Vancouver area, including the Westminster Quay study area, and be essentially non-descript except for a few affected maritime gestures or kitsch.

The challenge for the City from a planning perspective, is to ensure that the Shipyard site potential is properly realized while offering the developer enough of

an incentive to develop the site. It is suggested that in order to realize this objective, development of the study area will have to be restricted. Specifically, the study area must be built out so as to achieve a particular urban form and texture rather than a relatively standard financially viable development concept. This translates into, among other things, reduced floor space ratios and associated building heights. Furthermore, it means a different way of seeing the site and interpreting the design terms of reference.

In order to motivate the developer to forego a maximum-profit development scenario within the study area (versus all of the Versatile lands), the City must take a more active non-traditional role in the development, such as a partnership arrangement. In this capacity, the City would be in the position to achieve most or all its goals while providing creative solutions to the developer to offset any associated lost revenue. Some of the options that might be available to the City in this regard include, standard density bonusing, or transfer of development rights. However, other more unorthodox incentives could be explored further such as granting City owned lands, property tax incentives, waiving development cost charges, and direct financial compensation. By choosing to engage in the process in this manner the City could remove the one element that could compel development within the study area to be less than optimal from an urban design perspective: namely financial performance.

#### 4.5. CONCLUSIONS

The City of North Vancouver has attempted to reverse a trend of economic and physical decay in the Lower Lonsdale area since the late 1970's. To achieve this

it has focused staff resources on preparing studies that would provide the City with a clearer understanding of the parameters of the problem as well as qualitative and quantitative solutions. The City's vision for the Shipyard site has been shown to be consistent with the overall plan for revitalized adjacent areas through the O.C.P. Its goal of building a more sustainable community, as defined by the principles of the Regional Town Center Policy, is clearly articulated in a recent Shipyard land use study. In this chapter some potential pitfalls in an optimal urban design concept were identified. Possible solutions to some of these potential problems were presented in the form of a proposed development partnership between the City and the property owner. The chapter concludes with the presentation of proposed planning considerations which reflect a synthesis of City planning objectives and conclusions obtained in chapter 3. These ideas will form generalized strategic planning parameters that will help guide the urban design concept in Chapter 5.

## CHAPTER 5. SHIPYARD URBAN DESIGN CONCEPT

### 5.1. INTRODUCTION & OVERVIEW

The proposed urban design concept for the Shipyard site flows from the objectives of the Regional Town Centers Policy, Planning objectives articulated in the City of North Vancouver's O.C.P., contextual information contained in Chapter 3, and the conclusions distilled from the literature review and case studies in Chapter 2.

This information will be worked into the urban design matrix goals of "Function", "Order", "Identity", and "Appeal".

The proposed Shipyard urban design concept attempts to appropriately frame the study area in relation to the existing vibrancy of the Lower Lonsdale area. Within this context, the design creates the Shipyard site as a discrete, intimate, and semi-enclosed enclave. Pedestrian and visual paths which collectively create a physical and psychological network of accessible pathways that connect the inner and outer site features with the existing infrastructure.

The concept is oriented around four land use themes: residential, commercial, institutional, and recreational/cultural. The residential component is comprised of low-rise row housing style units. In order to establish residential connections and thereby reinforce the feeling of neighbourhood, the residential blocks are contained within a discrete area in the northeast corner of the site. The commercial component is predominantly restricted to the western edge of the site. The purpose of this location is two fold: firstly, to capitalize on pedestrian foot traffic along Lonsdale Avenue, and secondly, to concentrate nodes of public oriented uses so as to enliven the site, and create a degree of separation from the residential enclave. Within this

area, a heritage structure is maintained for institutional use such as an art school. This type of use is preferential to some other types of uses such as a museum which would have a narrow range of operation hours and clientele. Consequently, there would be a significant number of hours in which the buildings and curtilage would be unoccupied, thus creating a sense of desolation and affecting the perception of the site. In contrast, by the very nature of a post secondary school, the facility will cause a steady stream of traffic through most of a 24 hour period bringing vitality to the associated area. Furthermore, this type of use can encourage sustained public interest. The final component is recreation/cultural. This is comprised of different forms of public space scattered throughout the western portion of the study area and along the waterfront. The object is to provide a range of public space experiences that will have appeal to different people at different times but collectively will energize the entire Shipyard environment. These spaces could accommodate a range of activity from passive people watching, to beach activity, to cultural events such as outdoor art exhibitions or ethnic festivals.

This type of structural organization would cause the site to be utilized for various purposes by different user groups throughout an extended portion of the 24 hour day. This could be enhanced by certain design treatments such as the provision of functional and flexible covered public space. Such space could reduce the impact of climatic constraints and thus increase the number of events that could be held. Places that have character, a feeling of uniqueness, a sense of neighbourhood are more likely to be alluring and interesting to visitors, users, and residents. Such places are less alienating and often inspire owners to be involved and take "ownership"

of their neighbourhood. Consequently, such a situation often results in an increased sense of personal safety and a reduction in property damage resulting from vandalism. Place becomes neighbourhood when various critical elements are provided in the right proportions. The Shipyard urban design concept attempts to achieve this balance.

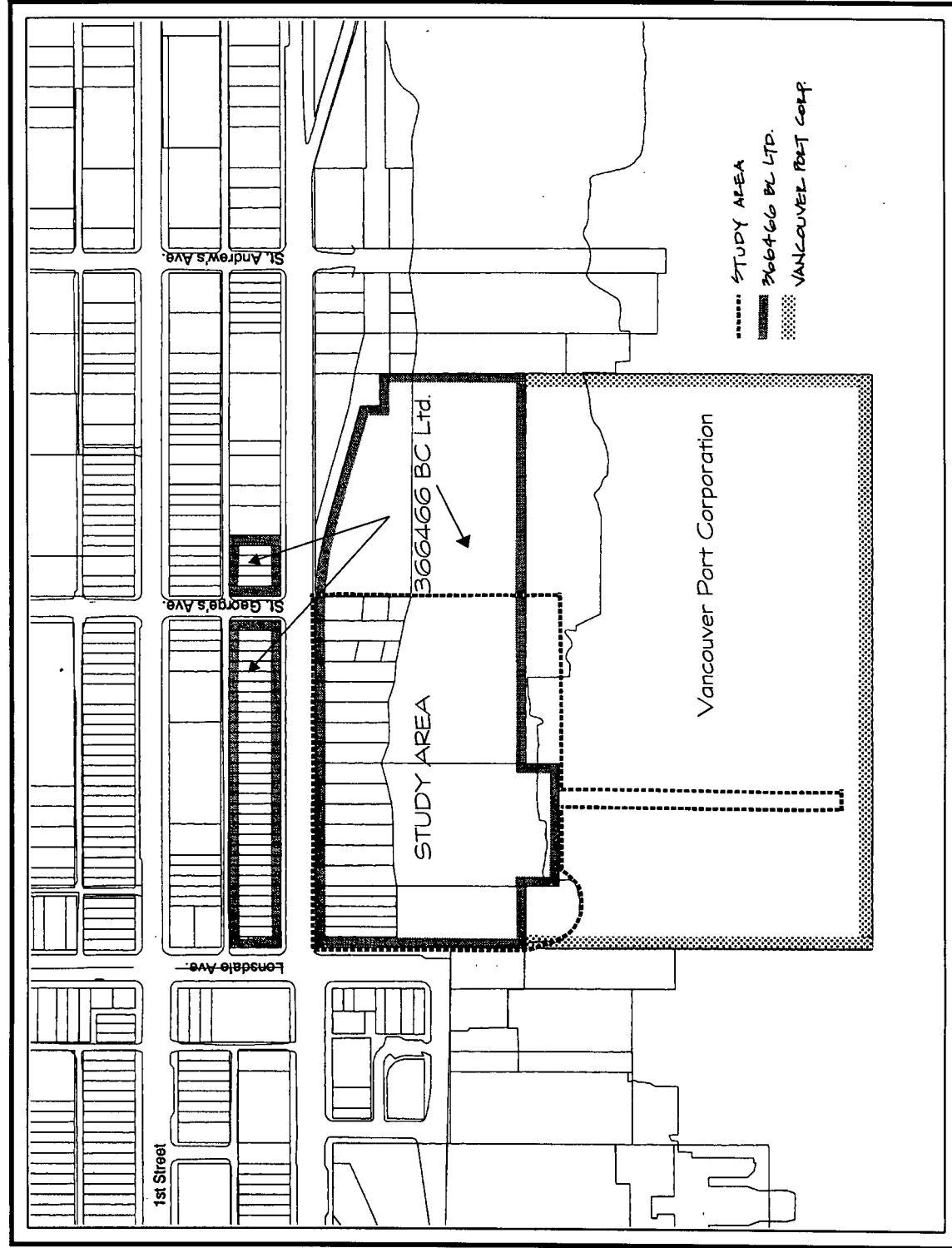
### 5.3. SITE ELEMENTS

#### 5.3.1. STUDY AREA

The Shipyard site is owned by the numbered company 366466 BC Limited. However, its parent company has gone into receivership and Coopers and Lybrand Limited is the appointed receiver. The site is comprised of some 82 fee simple lots totaling approximately 7.1 hectares (City of North Vancouver). However, discussed in the "Versatile Shipyard Land Use Study" is a desire by the Vancouver Port Authority (V.P.A.) to acquire approximately 2.0 hectares on the east side of the site below Esplanade. The strategy is that the V.P.A. could better manage the land use interface thus reducing the long term impacts on industry, and also avoid purchase of that property for speculative purposes which is not consistent with the V.P.A.'s vision for a working industrial waterfront. In trade, the V.P.A. would give the 366466 BC Limited a 3.3 hectare water lot in front of the Shipyard site.

For the purposes of this thesis, it will be assumed that this will be the configuration of the Shipyard lands in total. The study area that will be used for the proposed design concept will be limited to that portion of lands south of Esplanade. The rationale is this portion is unique in view of its waterfront location and adjacent

Map 2: Property Ownership & Study Area



Source: City of North Vancouver

lands uses. In contrast, those lands north of Esplanade, while important to the ultimate Shipyard development, are not particularly distinctive and would not require extraordinary urban design consideration.

### 5.3.2. HERITAGE FEATURES

In 1991, the City of North Vancouver commissioned the "Versatile Pacific Shipyards Heritage Report" in order to inventory and assess the heritage value of the industrial structures on the Shipyard site. The report determined that a number of structures having a high heritage value remained on the site. One of the key conclusions which has a direct bearing on future development of the site is that "the coherence of the site is one of its strongest features. The overall character of the site is dependent on the nature of the individual buildings" (F.G.. Architectural & Planning Consultant 1991, 63).

The site was mostly destroyed by fire in 1911 leaving only the original office building and a machine shop, both built in 1911 (F.G.. Architectural & Planning Consultant 1991). The bulk of building stock was constructed between 1918 and 1945. Of the total, many structures were built during the World War II years when the Shipyard was at its peak activity building a considerable number of corvettes, minesweepers, and victory ships with a 10,000 person work force (F.G. Architectural & Planning Consultants 1991).

The report catalogued 30 structures of which nine, built in the years 1911 to 1943, are classified as having a "primary heritage significance", and 13, built as early as 1925 but predominantly in the early 1940's, classified as having a "secondary

heritage significance" (F.G.. Architectural & Planning Consultant 1991). The past use of these buildings was quite diverse ranging from administration to specialized ship building functions such as a blacksmith's shop, coppersmith's shop, mill and pattern shop, plate shed and mould loft, electrical storage, and the like. All of these classified structures are clustered in the western portion of the site. Those structures located on the eastern portion of the site were identified as having no heritage value.

The structures situated on the perimeter of the site create a defined and essentially unbroken street wall and impart a strong sense of order, identity, and due primarily to the historical significance, appeal to the Lower Lonsdale area. Building heights are predominantly two storeys (some are as high as 22 meters). However the roof lines are quite varied along Lonsdale Avenue. The administrative structures located in the northwest corner of the site are masonry or wood frame buildings clad in stucco. The attached industrial buildings are an interesting juxtaposition. They include the coppersmith's shop (situated at the southwest corner of the site), which is a heavy timber structure clad with corrugated metal siding and roof with monitor venting, and the plate shed and mould loft and electrical store (situated along Esplanade) also heavy timber structures but clad with board and batten siding with corrugated metal roofs and monitor venting. One of the more striking features of these later buildings is the fenestration which consists of banked sash windows designed to maximize natural lighting.

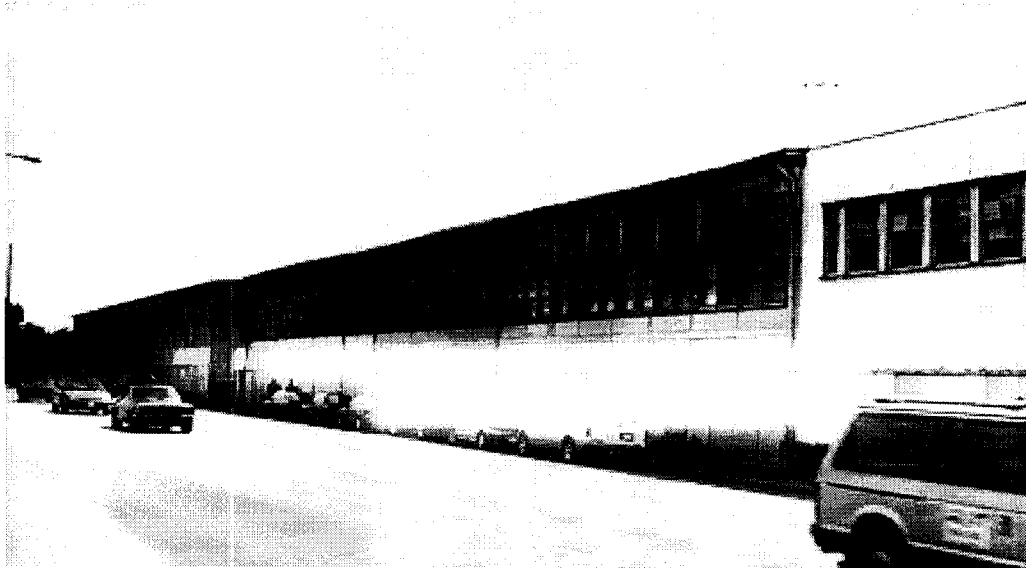
The structures situated within the interior of the site, particularly the larger structures, are varied in height depending on the intended purpose of the building and are predominantly oriented in a north-south direction, for obvious practical reasons,

thus providing striking view corridors. There are essentially two typologies that define the structures: heavy wood frame and steel frame structures. The heavy wood frame structures are typical period clear span industrial buildings clad with corrugated metal on all exterior surfaces and use monitor venting. The fenestration is the sash window arranged in banks and individually. There are some relatively unique features to some of these buildings. For example, the circa 1911 Wallace Shipyards Machine Shop is the only structure on site which has a bank of clerestorey windows, and the circa 1925 Machine Shop is one of two early buildings on the site which used relatively rare steel frame construction versus the dominant heavy wood frame construction of the day. This building has an additional feature which is a wood block floor designed to protect heavy machinery during movement.

Since publication of the "Versatile Pacific Shipyards Heritage Report", several of the buildings have been demolished which has drastically compromised the architectural and spatial integrity and thus the character of the internal built form. However, prior to this recent demolition, the tight network of buildings, varied in size and height, had a consistent vernacular and possessed, to a considerable degree, a number of the qualities that define the "Goals" of "Order" and "Identity".

The structural orientation of the site creates an engaging hierarchical internal street network somewhat suggestive of an "old world" scale. The strong, essentially unbroken, street wall along Lonsdale Avenue and Esplanade creates a strong sense of enclosure within the site and accents the tension between the site and the Burrard Inlet (see figures 64-65). These existing elements could be used as a indispensable template in defining the design principles for redevelopment of the site.

Figure 64. View of Shipyard Site Along Esplanade



Source: Author

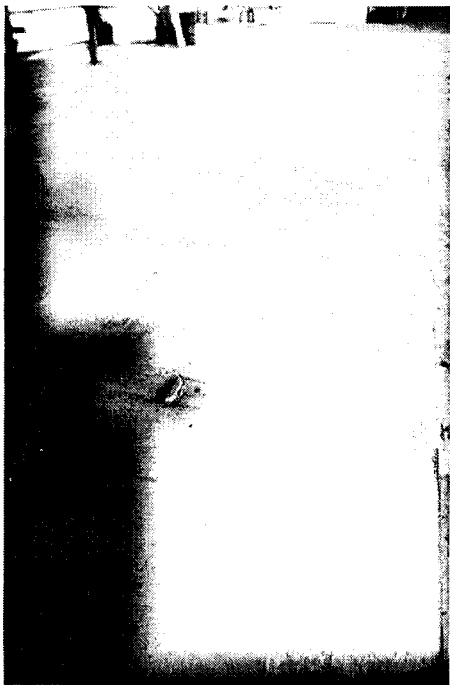
Figure 65. View North Through the Shipyard Site



Source: Author

There are a number of features which strongly reinforce the ship oriented history of the site. These include a slip way<sup>1</sup> toward the east end, a laying out/erection grid<sup>2</sup> (see figure 66), a large crane structure which moves as required along tracks (see figure 67), various pieces of heavy machinery, a network of rail lines through out the site which have been removed, pre-World War II fire hydrants, and other features.

Figure 66. Example of a Laying Out/Erection Grid



Source: Author

Figure 67. Mobile Crane Structure



Source: Author

### 5.3.3. SPECIAL FEATURES

The site has two distinct physical features that could influence site design. They can be either accentuated through sensitive urban design or dismissed. The first of

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<sup>1</sup> an inclined ramp where boats/ships were launched or brought ashore for repair

these features is topography. From Esplanade the elevation drops approximately four meters to a datum point that is predominantly consistent through the main part of the site. There is also a difference in elevation along Lonsdale Avenue; its maximum is approximately four meters at the northwest corner of the site and decreases southward to zero at a point approximately 75% of the way down the property line.

The second feature was noted during a site inspection. This is a fast flowing storm water outfall approximately three meters wide by 30 centimeters deep. It runs beneath the Assembly Shop at the east end of the site. This feature could be incorporated into the development and could be supplemented by storm water from the site. It would add to the experience of place in view of the pleasant sound of running water, and the visual interest.

#### 5.3.4 SITE CONTAMINATION

A soil survey of the site was performed in 1996 which demonstrated that the site has varying degrees of contamination<sup>3</sup> resulting from the nearly 85 year history of ship related industry. Although site remediation and contaminant management would be a necessary component of any future redevelopment of the site, discussion of the associated details and costs are beyond the scope of this thesis and will not be examined.

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<sup>2</sup> a steel grid work of approximately four foot squares within which steel patterns for ship construction were laid out and welded in place to allow assembly of ship sections which would then be set in place on the ship

<sup>3</sup> Contaminants existing on site and in the adjacent marine sediments include heavy metals and petroleum products

#### 5.4. BUILDING FORM (see Appendix 1)

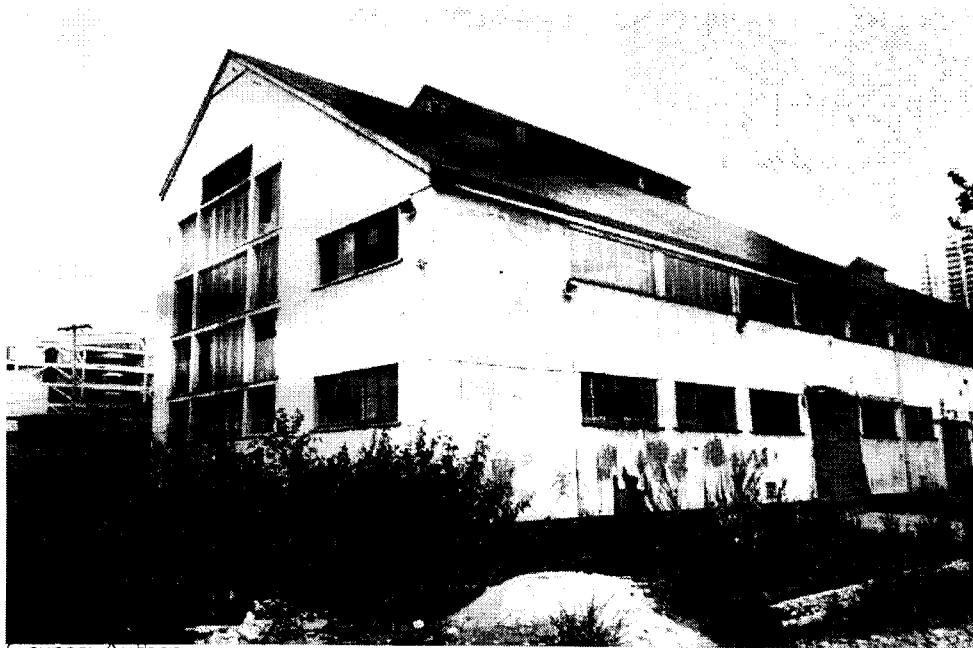
In order to maintain the industrial character and historic significance of the site it must be retro-fitted and otherwise redeveloped in a coherent and comprehensive manner respecting the four fundamental "Goals" as outlined in the design matrix (see figure 61). There might be some particular interest in developing the eastern portion of the site in a contemporary vernacular while preserving the more important existing structures on the western portion of the site. In doing so, the principles of Order, Identity and Appeal would be compromised to some degree thus diminishing the uniqueness of place that would result from a consistent vernacular applied throughout the site. Most of the existing structures are 1-2 floors in height with some buildings, such as the 1925 Machine Shop, on essentially one floor but is approximately 18 metres in height. This pattern should be applied throughout the site.

##### 5.4.1. BUILDING FORM "A"

The retail and office structure along Lonsdale and at the corner of Lonsdale and Esplanade should be single-loaded, with access from both sides (east and west), and not greater than two storeys. This height achieves several objectives: it provides a human scale for the pedestrian, avoids excessive shadow problems, mimics the existing form, and maintains the strong street wall which imparts the sense of enclosure to the site. As the ground floor of Building A would be dedicated to retail, it should be built to the property line and incorporate large sash windows reminiscent of the site vernacular so as to engage the pedestrian and strengthen the identity of the site, particularly as this marks the edge to the site.

The 1943 Coppersmith's Shop has reasonably distinctive fenestration particularly on the south gable and the west side facing Lonsdale (see figure 68). As such, this building is quite distinctive and is somewhat of a discrete landmark for North Shore residents. This building should be incorporated into the retail./office structure fronting Lonsdale Avenue through adaptive re-use ensuring that the aesthetic integrity is not compromised.

Figure 68. The 1943 Coppersmith's Shop



#### 5.4.2. BUILDING FORM "B"

The residential component fronting Esplanade should address most of the elements relevant to Building A. Building B should be ideally two storeys but not greater than three. As this building runs east-west, it will cause some shading of Esplanade. The greater the shadow effect at street level across the overall width of

the streetscape, particularly in winter months, the less attachment to or ownership of the space i.e. it will cause it to be under used or at least it would not be a positive environment for the pedestrian and resident - this effect would be magnified by the heavy traffic flow.

Again, it is important that the form associated with Building B creates a strong street wall along Esplanade and subsequently conveys a sense of enclosure from within. One of the necessary techniques in achieving this is avoiding over articulation and permeability of the facade. Building B is a double-loaded structure with entry from essentially street level and level entry within the site. With regard to the Esplanade side, it is necessary to provide some psychological separation between the public and private realm due in part to the heavy traffic flow, thus some setback is required. The objective would be to bring the residents as close as possible to the street while still providing a sense of privacy and separation. Thus, the building should not be setback more than five meters from the property line and entrances should be elevated by approximately five risers, or about one meter (if much further or higher residents tend to feel more detached from the street life which impacts neighbourhood and safety). The objective of these setbacks is to generate and enforce a feeling that the street or public space is an extension of the residential environment.

The sidewalk along Esplanade is approximately two meters wide and does not provide enough separation between the street and the front property line; again this is exacerbated by the heavy traffic flow. In order to ameliorate this interface, the pedestrian space should be increased to approximately 3.5 meters from the front

property line within which landscaping and an appropriately sized sidewalk can be installed. In order to accomplish this it would be necessary to dedicate a  $\pm 1.5$  meter strip of the Shipyard lands along Esplanade to the City of North Vancouver.

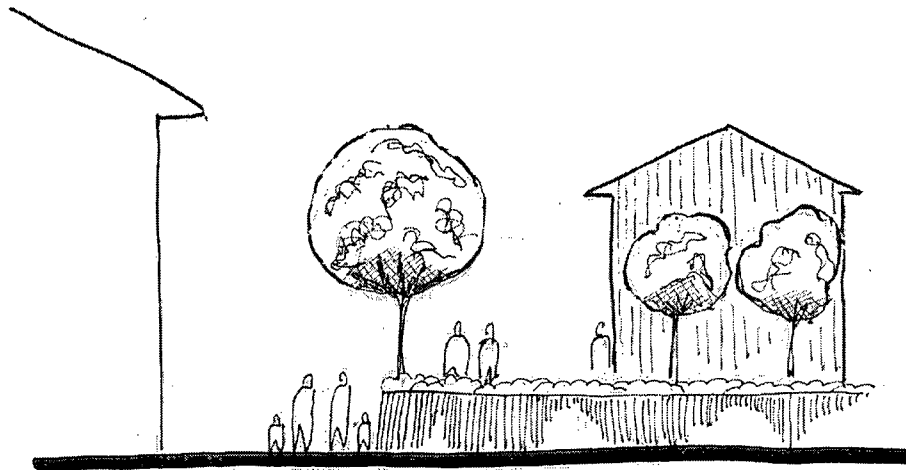
#### 5.4.3. BUILDING FORM "C"

The eastern end, oriented north-south, encloses the site on the third side with repetition of the double-loaded Esplanade residential typology. The formula for Building C is repeated not only for similar reasons as Building B, but also to respect the matrix "Qualities" which define the "Goal" of "Order" - something each of the building forms along the site edge collectively promote. This is pertinent as this side of the site is very visible to traffic along Esplanade as well as St. George's Avenue which, due to its topography, commands a view through the site, and therefore must provide as much edge weight as the other sides.

#### 5.4.4. BUILDING FORM "D"

This form is composed of three double-loaded structures and is the only residential component internal to the site. The overall residential scheme is intended to be focused entirely within the northeast corner of the site; the objective of this approach is that, with the relatively small number of residential units, it affords the opportunity to engage the "Objectives" of "Unity" and "Balance". Furthermore, it allows for the ability to provide a somewhat passive spatial separation between the public areas and activities occurring on the site and the semi-private residential enclave. By doing so it deters unplanned pedestrian movement through the

Illustration 1: Separation Through Grade Change



Source: Author

residential corridors making it easier for residents to observe and monitor the semi-private space for heightened security.

There are several techniques which can serve to achieve a sense of psychological spatial separation. These techniques are quite varied and can range from being hard, such as high walls or fencing, to soft, such as contour change (see Illustration 1). However, hard approaches would compromise the matrix Goal of "Function" which can fracture the site and hinder the feeling of neighbourhood. Instead, by raising the datum of the residential enclave (e.g. one meter), changing the pavement material, designing an "entrance like" form on the perimeter of the residential area, and carefully planning the landscapes, it is possible to connote that casual entrance to the residential enclave is not appropriate, without truncating overall site relevance or linkage from both within and without.

Within this context, it is important to respect all four matrix "Goals". Building heights should reflect existing site scale and should not exceed three storeys. The

structures should be oriented north-south for several obvious reasons: to capture and frame intimate harbor and City views, to maximize midday sun exposure to the outdoor residential street "living areas" particularly in the winter months, and to avoid restricting air/wind movement off of the water. In order to stimulate a sense of somewhat organic, unplanned development, i.e. evolution of form, these buildings should be offset from each other so that the gable ends are well articulated rather than designed to create a uniform wall.

The space between buildings should be narrow enough to create an intimate feel of scale and enclosure, and to encourage verbal interaction between opposite neighbours and a sense of ownership of the semi-public/semi-private residential pedestrian street. However, the space should be wide enough to allow for a degree of visual privacy and psychological separation (this can be enhanced through appropriate tree planting). A good width would be 12 meters for example.

#### 5.4.5. BUILDING FORM "E"

This building is existing the 1925 Machine Shop structure. In view of the architectural and historical significance of this structure it would remain intact on site and unaltered in form. Due to the magnificent cathedral-like spatial qualities of the interior it lends itself perfectly to outdoor and indoor oriented programming (see figure 69). It could accommodate, for example, weekend markets, festivals, theater or music productions under cover in an environment that somewhat blurs the indoor/outdoor interface. This is an important element for typical wet westcoast living especially on the North Shore which experiences high annual rain fall.



Figure 69. View Through the  
1925 Machine Shop

Source: Author

Furthermore, this structure can be utilized as one of the main entrances or axis through the site. There is a strong sense of spatial change and progression as one leaves the expansiveness and busyness of the street, passes through a portal in to the street wall into a stylistic *loggia* then progressing into a darker and somewhat still interior of the 1925 Machine Shop. As one moves through the massive interior of this building one is also drawn to the framed view of the harbor and city beyond into which one finally enters at the end of the passage through. The experience of tension and entrance to the waterfront portion of the site would be enormously exciting and profound and would dramatically achieve the matrix "Goal" of "Appeal".

#### 5.4.6. BUILDING FORM "E/1"

This structure would be a single storey "shed" addition to the main building. It would replicate the vernacular of a similar shed addition that was added to each side

of the now adjacent Pipe Shop building, and would step the considerable bulk of the 1925 Machine Shop Building. This is an important scale feature for the pedestrian who might otherwise feel somewhat overwhelmed.

The purpose of the shed addition would be as office space primarily for North Shore community groups/non-profit organization such as the Lionsview Seniors Planning Society, the Salmonoid Society, for example. By situating such a use/structure in this location, it would establish an edge to the discrete commercial node at the western 1/3 of the site, and encourage greater utilization and thus animation of the internal area.

#### 5.4.7. BUILDING FORM "F"

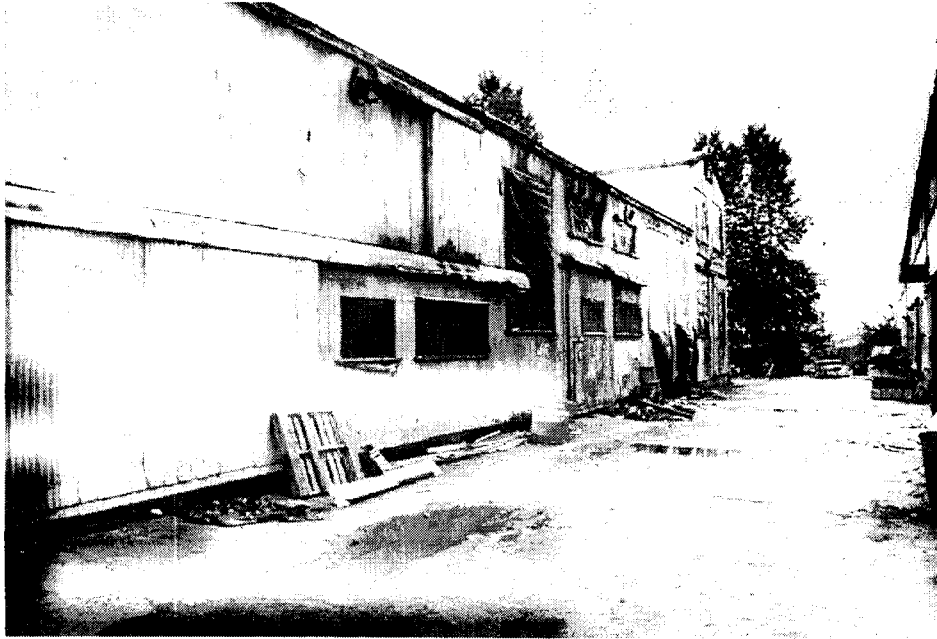
The 1940 Pipe Shop Building is another of the structures on site warranting preservation and adaptive reuse. It is a two storey building oriented in a north-south direction adjacent to Lonsdale Avenue. Its vernacular is of the typical early industrial typology on site (see figure 70). The distance between it and the adjacent row of buildings fronting Lonsdale to the west (approximately 6 meters), affects a comfortable vertical and horizontal scale and sense of enclosure along this internal street for the pedestrian<sup>4</sup>. Furthermore, this spatial relationship heightens the tension between harbor and site.

The building is located near the edge of the site. As such it is not necessarily situated in a prime commercial location (for "footloose" business) and must be carefully

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<sup>4</sup> The former adjacent building to the east called the "Gantry Over Building Berth" was similarly distanced. However as it has now been demolished the left over space must be carefully planned so as to avoid creating spatial and aesthetic dissonance.

Figure 70. Example of Waterfront Industrial Vernacular



Source: Author

programmed. More specifically, a use is needed for this building corner which does not rely on a causal or impulsive customer-product/service relationship. Thus a locationally non-dependent or quasi-self sufficient use such as an institutional use would fill this requirement. In view of the specialness that would be an objective of site design, a less utilitarian use, such as a library or recreation facility, would be avoided in favour of a more unique opportunity such as an art school that would attract spontaneous and intended visitors alike. The relatively large number of people that such an institution would inject into the site would activate and animate the interior over a wide frame of time due to the significant inherent time commitment that accompanies post secondary education. This would in turn stimulate greater overall public interest and participation within the site and thus affecting somewhat of a synergetic relationship.

#### 5.4.8. BUILDING FORM "G"

These structures would be small one or two storey shed-like gabled buildings reminiscent of the small structures that used to exist on site such as the now demolished Paint Shop/Sail Loft or 1951 Men's Washroom Building. The buildings would be situated against the shoreline of the site in the south-west corner opposite the public square. They would be oriented in a configuration which furnishes otherwise unenclosed public spaces with a hard but permeable edge. This form achieves two functions: first, the provision of specialty or other commercial space, and second, the creation of a quasi-enclosed, subset of public spaces. Furthermore, it would create the opportunity for spatial transition and ordering as the pedestrian moves east-west along the shoreline corridor of the site. This quality would imbue one's passage with evolving and abbreviated vistas; a feature intended to animate the pedestrian/social experience thus respecting the four matrix "Goals".

#### 5.4.9. BUILDING FORM "H"

The association of houseboats with the Pacific Northwest Coast has been long standing. For example, the typology was heavily used as the dominant form of accommodation for coastal logging camps as the structures could be easily towed from site to site as required. In the Canadian urban setting, houseboats or floating homes have been used as a form of accommodation far less frequently than the more standard forms of housing stock, although the vibrant houseboat community at Granville Island is perhaps the exception. One of the major reasons for this is the

reluctance of Municipalities to provide for this type of living (G.V.R.D. 1978). This is largely due to a perception that they do not have the ability to exert adequate control over "their location and quality both to ensure compatibility with adjacent land uses, and to ensure an acceptable living environment for the water dwellers" what ever that esoteric element is defined as (G.V.R.D. 1978, 16). However, in strong contrast to this is are places such as Amsterdam, Paris, and London where floating homes serve an important function as self-help housing (Lynch 1982). Lynch (1982) suggests that further research into how floating homes can be fitted into the residential fabric is necessary as this type of living does have its own charm (and cost).

The inherent uniqueness of the floating home can offer the resident an unconventional and distinctive residential experience. Not only does this typology have intrinsic appeal, but from a broader perspective, it would provide a richer weave to the form and function of the urban fabric within the Shipyard site. This in turn contributes to the animation of the waterfront and to the overall interest. Thus, berthing opportunities for approximately six houseboats (for residential or office uses) would be provided for at the south-east corner of the site, adjacent to the park space, so as to minimize view impacts of the harbour and cityscape.

## 5.5. COLOUR & TEXTURE

People are bombarded by colour from every element in their environment from the clothing they wear to the architectural space that defines their work space, home environment etc. People have differing appreciations of colour for a variety of reasons, but in all cases, colour can influence feelings and moods.

In his book "Light: The Shape of Space", Michel suggests that colour produces psychophysiological responses which affect "brain activity and biorhythms, influencing our moods and feelings ...the pituitary and pineal glands interact with the electromagnetic energy of colour, and certain nonvisual cells near the retina may activate photobiological sensations that supplement hormone activity in the body" (1996, 89). For instance, some exposure to red, a *warm* colour, is psychologically stimulating. It can cause a change in the shape of the retina to a more convex form, and "can raise blood pressure and increase respiration and heart rates" (Michel 1996, 90). The response to the colour blue, a *cool* colour, is essentially the opposite. It can cause the retina to flatten, tending to "make a blue surface recede in spatial distance and appear reduced in size" (Michel 1996, 90). Furthermore, the colour can cause such physical responses as a reduced heart and respiration rate, and lowered blood pressure (Michel 1996).

There are a number of parameters that influence how colour is seen and how it performs. For instance, one of the simplest and most obvious realities is that the perception of colour varies between individuals (notwithstanding the implications of colour blindness). Another example concerns the interplay between colour and space: brighter colours make a space appear larger than it actually is, and conversely, darker colours make a space look smaller. In this vein, shadow is a feature that can be used by the designer to create dramatic effects. Its impact on colour is to cause bright colour to be less striking than if exposed to bright light (Civic Trust 1972). In the case of an articulated building cladding such as board and batten or corrugated metal, the surface can create an interesting interplay of colour intensity

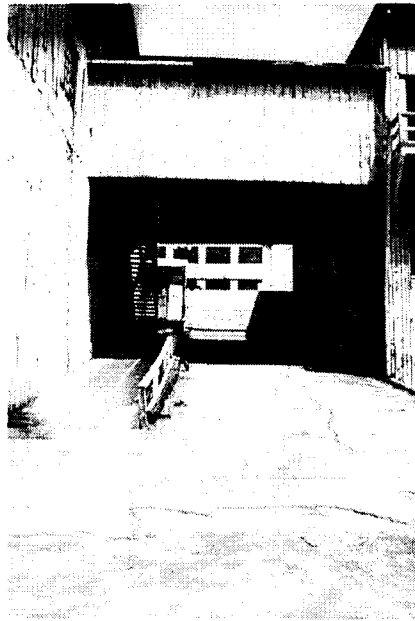


Figure 71. Example of Articulated Building Surface - Board & Batten

Source: Author

and shadow lines that causes space to be held and defined; a relationship that contributes to the quality of the spatial environment (see figure 71) (Hedman & Jaszewski 1984).

Even this brief account of colour behavior has considerable implications in the design of architectural space that performs as it was intended. At a micro-scale level, Michel offers two considerations that should guide the selection of a suitable colour program: firstly, at an esoteric level, he suggests that "the colour of space should be anticipated as the spatial envelop is conceived" and secondly, at a more practical level, that "the function of a space should form the premise for colour selection" (1996, 89). In concert, this translates into an analysis of the dominant spatial boundaries, the furnishings, and the light shadow effects within the spatial envelope.

At a broader, macro-scale level, the Civic Trust emphasize that colours "must respect the character of the area" (1972, 45). By not paying close enough attention to existing colour patterns or relationships and thus using unsympathetic colours schemes, the consequence may "erase the identity or personality of the place they seek to enhance" (Civic Trust 1972, 45). The Trust (1972) advise that overall colour schemes must not create an overpowering backdrop, they should provide a sense of continuity or unity. Within this context, particular properties of the built form can be emphasized with great effect by a change in colour. In the case of the Shipyard site, those buildings that have a shared historical significance, if painted the same colour, could emphasize and provide a coherent connection between the buildings as a whole. Such a simple concept as this can have significant implications in defining a meaningful sense of identity.

## 5.6. PUBLIC SPACE (see Appendix 2)

The treatment of public space in any development is an issue fundamental to its success. Some of the major concerns expressed by critics of North American urban public space include such structural problems as designers failing to create an appropriate fit between the space and its users, or "fitting in" public space to the voids remaining after building massing has been determined (Carr *et al.* 1992). Two principle elements in the creation of successful public space are that the space forms one of the constitutive elements in an overall sustainable mixed land use context, and

that it be evocative and flexible (Rapoport & Cantor 1967)<sup>5</sup>. Carr *et al.* propose that "the designed balance of spaces will affect not only the rights of the users but also the meaning of the park in their lives" (1992, 253).

The challenge for the Shipyard development would be, according to Carr *et al.* (1992), Moughtin (1992), Lynch (1960), or Alexander *et al.* (1997), to design public space, i.e. space between buildings, in a manner that respects the structural, environmental, and psycho-social requirements of a diverse user base. Aside from the pathways there would be seven distinct public spaces designed for the site with each having a particular functional basis; five of these public spaces would be essentially contiguous and located in and around the shoreline.

#### 5.6.1. PUBLIC SQUARE

The public space in the south-west corner of the site would function as a public square space (multi-use) as it is situated in somewhat of a central location in terms of projected movement patterns. More specifically, it would be adjacent to one of the main entrances to the site (i.e. a pedestrian "boardwalk" linkage between the Shipyard site and the Quay development) and at the confluence of a total of three pedestrian passageways which include those between Building Forms A and F, and E and F. The public square would be framed by retail, service, office, and institutional functions to the north and small scale retail/service and marina functions to the south. Thus, a public square at this prime location would act as a conceptual anchor point by

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<sup>5</sup> There are a number of other views concerning the requisite elements necessary for the definition of a spatial envelop; for example Hedman & Jaszewski (1984) suggest that there are as many as seven factors: size, shape, continuity, height of frame, floor configuration, architectural characteristics of surrounding buildings, and sculpture.

providing an opportunity for shoppers, employees, or general visitors to sit and observe, eat lunch, meet and talk etc.

How would this public square be designed so as to render it evocative, flexible and comfortable? The space would be oriented south so as to maximize sun exposure - especially important in non-summer months. In order to manage the sun on high temperature days, trees would be strategically planted to provide some solar relief, and would be deciduous so as to maximize the sunlight during the long, gray westcoast winter (landscaping is discussed in further detail within the self entitled section).

The small retail/service structures located on the south boundary of the public square would not only create a degree of enclosure, it would also reduce the effect of cold seasonal winds coming off of the Inlet. However, as these structures do not form a continuous building wall, the view through to the Inlet and beyond is not truncated and the psychological connection with the Inlet would be preserved. The structures that partially enclose the north boundary (Building Forms A, F, and E) would reduce the effect of evening gravity winds from the North Shore mountains. Not only do these adjacent structures serve to manage a degree of climate control, they would also create a symbolic sense of enclosure - symbolic because the enclosure they would form is permeated by pedestrian and view corridors as well as transected along the south boundary by a waterfront boardwalk - a feature that would engage and connect public square users with the "world" physical and social.

Public seating is a key feature in the life of a successful public square space (Sucher 1995). It is important to provide people with flexible seating options in terms

of where they choose to sit within the space, e.g. at the edge, at the back, or somewhere in the middle, and how they choose to organise the orientation, e.g. grouped, individual, moved in relation to the sun direction etc. Both movable and non-movable furniture would be provided. Movable furniture would be made available during higher use periods (largely for security reasons). During times when it would not be available, the permanent seating would be usable. As the North Shore receives a great deal of precipitation, seating would have to be capable of shedding water quickly as well as being comfortable.

As the public square would act as a conceptual anchor point in the context of the development and to impart a degree of evocativeness to the space, a relevant reference to the historical Shipyard use would be adopted. As the public square area would have approximate proportions of 45 meters x 60 meters, it would lend itself perfectly to the use of a hard surface paving treatment that copies the existing laying out/erection grid on site. Other basic features such as site history plaques, feature lighting, rubbish containers, a public washroom facility, bulletin boards, and public art would be included in the design as they add to the fit and feel of the space.

#### 5.6.2. 1925 MACHINE SHOP SPACE

Moving eastward along the shorefront boardwalk one would encounter the 1925 Machine Shop structure. The enormous volume and powerful geometric form created by the internal steel framing are profound features, cathedral like, that would in most cases instill people with a sense of aesthetic reverence. The evocative power of this enclosed space thus formed is somewhat singular in this area of the world. The

multiple clerestorey metal sash windows add to the artistry of this space as intricate light and shadow effects yield an additional geometric composition at ground level. This feature has the added dimension of being responsive to temporal and seasonal changes. With strategic placement of feature lighting, the internal structure would reveal an entirely different texture evoking an altered sense of space and place. Even the floor, which is constructed with cedar blocking, is relatively unique and contributes to the whole. Hedman & Jaszewski propose that "...intense three-dimensional space offers a positive sensory experience that enhances the perception of self by giving each movement significance. It has the complementary effect of enhancing the perception of community among those sharing the space through the heightened awareness of their physical relationship to others" (1984, 54).

In view of this context, the structure would be incorporated into the development without any structural changes so as to preserve its condition as a special building. The interior would be programmed to serve two main functions: a passageway drawing the pedestrian from the external street environment through to the shorefront facilities, and as a place to host special events such as Saturday morning markets, art displays, street entertainment, outdoor theater productions, spontaneous activities. The latter function is of importance due to the wetness of the North Shore environment and by providing such a protected facility, more activity could be brought to the site over a greater period of time and a greater range of climatic conditions - important for program planning. Again, this would be another significant feature that contributes to the vitality and people's connectedness to the site as a place to be.

Finally, the space would not be furnished with any permanent seating and moveable seating would be made available to it only during events. Other, elements such as rubbish bins, historical site information plaques, and significant Shipyard related artifacts would be incorporated for reasons of comfort and interest.

#### 5.6.3. 1925 PIER "B"

Adjacent to the Machine Shop would be the 1925 Pier B which is a considerably large structure measuring 15 meters wide by 213 meters long (F.G. Architectural and Planning Consultants). In view of its length, the Pier provides spectacular views of the North Shore Mountains, harbour activity, City of Vancouver, and sunsets (see figure 72). As such it would be well used by pedestrian traffic so the provision of such basic elements as appropriate seating, lighting, rubbish bins, and pedestal binoculars would be required. Because of its overall size, seasonal street vendors could be accommodated and would be restricted to an area at the north end of the Pier.

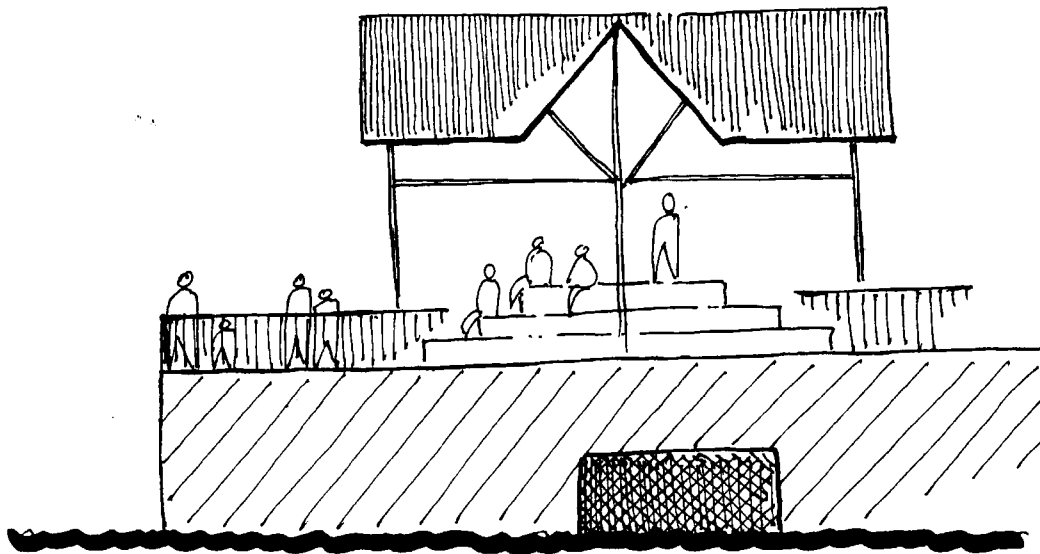
Furthermore, in view of the prominence of the Pier, specific features would be incorporated into the design. For instance, a covered pavilion would be located at the end of the Pier to afford people the opportunity to sit and contemplate the vista with protection from inclement weather thus expanding the window of use (see figure 74).

Figure 72. The 1925 Pier "B"



Source: Author

Illustration 2: Schematic of the Pier "B" Pavillion



Source: Author

As the site is classified as a deep sea port, the Pier can accommodate docking of large vessels. Therefore, provisions would be made to allow for the docking of feature ships, such as "tall ships" that would be open to public viewing. This feature would attract people to the site, who could then engage in other activities thus heightening the overall vitality, and would reinforce the psychological connection to the development as an enjoyable festive place.

#### 5.6.4. CHILDREN'S PLAY SPACE

East of the Pier and adjacent to the Machine Shop building would be space designed as a children's play area. Based on personal experience, this type of space tends to be a highly social environment not only for the children but for parents, as children often act as a social lubricant in situations where adults would otherwise not be likely to engage in conversation with a stranger.

The location is at the approximate midpoint of the site and close to other facilities, adjacent to pedestrian flow (to heighten the feeling of activity/vitality in and around the space and to enhance the opportunity for social interaction), and adjacent to the beach space and the residential cluster (to act as a socializing venue or hub for resident parents). The space would have a south orientation to maximize the solar orientation. For reasons of security, it would have a completely open layout meaning that there would be no vision impeding elements such as vegetation or other such barriers. Seating would be oriented around the perimeter of the space in order to provide some sense of spatial containment and facilitate easy supervision of children.

Deciduous trees would be strategically planted to provide solar relief and maximum daylight during winter months, and a sense of seasonal change. It is important to create such an environment in a sensitive way so as to provide comfort and security for the parent and child alike. Therefore, special fixtures such as picnic tables (in conjunction with regular benches), child-sized drinking fountains, child-sized seating, and perhaps interactive water features would be incorporated into the design.

It would be necessary to have the form and content of the play equipment planned by a specialized playground designer in view of the complexity involved in providing appropriate infrastructure, but the underlying concept would require that the space be legible to the child and encourage imaginative and spontaneous play - essential principles in the creation of a satisfying play space (see discussion in Chapter 2).

#### 5.6.5. BEACH SPACE

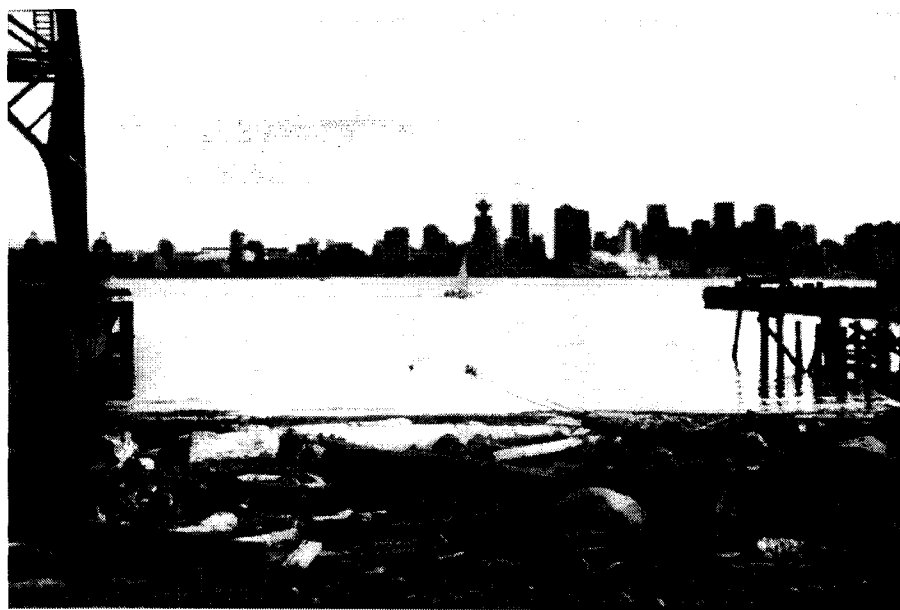
Adjacent to the children's play space would be another type of space - a type of play area: one capable of being used by children in conjunction with the children's play space but also capable of being used by everybody. In both case studies cognitive linkage with the development's most striking feature, the waterfront, is offered by pathways situated at the water's edge. However, actual physical contact is either entirely precluded, by fencing and elevation as in the Westminster Quay development, or made utterly hazardous, by a tempting but slippery paved granite incline or rip-rap, as in the False Creek development. It is acknowledged that at least part of the

reason for this physical detachment may be due to difficulty in overcoming tidal changes, but reasons of public safety surely cannot be another.

The opportunity and value of achieving physical connection with such a powerful natural medium as water cannot be overstated. Not only are there psychological benefits to be gained through relaxation, as anyone can attest to who has thrown rocks into water or simply watched waves break against the shore, but it also connects people more closely with the systems and processes of the natural environment.

The existing slipway, once used by the Shipyard for launching of vessels, has a gentle incline that quietly meets the water (see figure 73). It accommodates tidal activity quite peacefully. This facility would be preserved in its current form but would be complemented by drift logs for seating and some seashore vegetative plantings to imbue the space with somewhat of a more natural ambiance. The creek which currently flows beneath the Assembly Shop toward the eastern boundary of the site would be diverted down the slipway to add greater dimension to the space through sound, texture, and the completion of the environmental cycle of fresh water flowing to its source. The opportunity afforded by the slipway in the context of the Shipyard development is exceptional. The impact of such a feature on visitors to the site as well as residents would be quite profound in terms of connection to and sense of place.

Figure 73. View South of the Shipyard Slipway



Source: Author

#### 5.6.6. "VEST-POCKET" PARK

The shorefront boardwalk would terminate at the south-east corner of the site in what Carr *et al.* (1992) would categorize as a "vest-pocket" park - although the pedestrian pathway would continue unbroken along the road extension. It would be a small space, being approximately 25 meters square, set back from the pedestrian corridor. The objective of the design would be to create a densely planted green space that would offer people a sense of enclosure and separation from the adjacent pedestrian and street activity, with views of the Inlet, the City of Vancouver, and marine oriented activity, but without creating safety concerns. The space would have a sculptural feel through careful manipulation of vegetative form. Seating would be permanent and arranged in such a way as to allow people a degree of separation

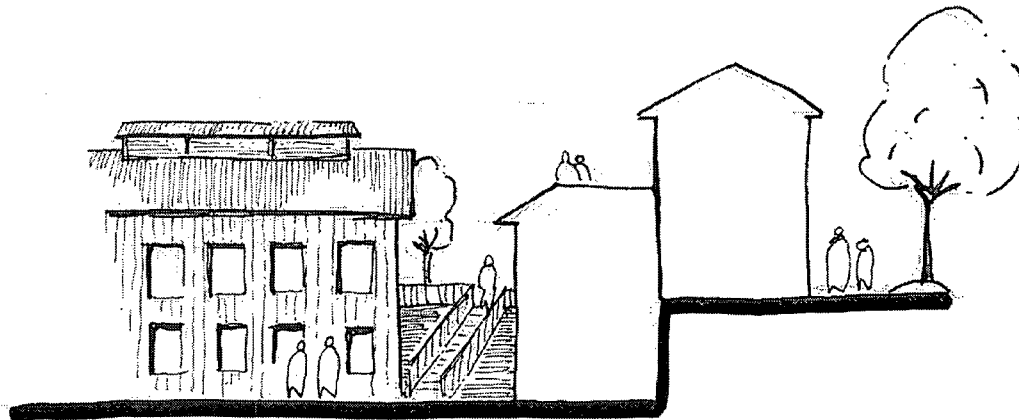
from others. Conceptually, the park would offer contrast to the busyness of the Shipyard site overall by acting as a "stimulus shelter" (Carr *et al.* 1992).

#### 5.6.7. ORGANIC SPACE

Within the interior of the site at the north-west corner would be a space contained by Building Form A to the north, Building Forms E and F to the south, and grade changes at the east and west edges. In view of this juxtaposition some of the area would be shaded by the buildings on the southern edge of the space particularly in winter months. However, the north-south oriented pathways leading from the space to the waterfront would allow a reasonable sunlight penetration at the "high" part of the day even during winter months. The space would be situated at a point where two accesses into the site converge, the main entrance of what would be the institutional facility (Building Form F), and adjacent to the entrance to the 1925 Machine Shop public space (see Illustration 3).

The location of the space is such that it could be used as an extension to other spaces such as the covered 1925 Machine Shop and the public square, particularly in a case where programmed events might require large gathering areas or areas allocated to more specific uses. However, this "organic" space would be left as an essentially unprogrammed area furnished with relevant shipbuilding artifacts or related art pieces; and some permanent public seating. The objective in leaving it unprogrammed would be to encourage spontaneous, dynamic use and association with the space, and allowing people a degree of ability to form the space to their needs.

Illustration 3: Section Through Organic Space Looking West



Source: Author

By its location, the pedestrian flow through the space would lend to it a degree of animation and vitality that would provide an appropriate backdrop for such a scenario.

#### 5.6.8. A MEETING PLACE

Currently, the building mass at the north-west corner of the site (the corner of Esplanade and Lonsdale Avenue) wraps around the corner creating continuity in the street wall. The structure is the 1911 Wallace Shipyard Offices and although it is classified as having primary heritage significance by F.G. Architectural and Planning Consultants (1991), it has very little architectural merit retaining value based only in age; thus the building would not be retained. Various treatment options exist for this highly visible and defining corner such as creating a strong architectural statement or powerful building form.

The design objective for the corner would be to offer pedestrians and passing or waiting motorists a sense of mystery through a break in the building mass where the buildings would be stepped back from the corner to reveal a small and enclosed vista through which one would be invited to explore the internal urban fabric. Not only does this have appeal at a visceral level, thus generating interest in exploring or discovering the opportunities that lie within the site, it also has a practical application. The corner location would be a major entry point to the site for those people crossing from the north side of Esplanade or the west side of Lonsdale. In view of the postulated level of foot traffic at this point it would be logical to assume that at anytime of the day there would likely be people at the corner. Thus the potential for this place to become a meeting place or a place for passive participation in the environment is quite significant. Consequently, it would be imperative to provide for this in a very functional and comfortable way.

By stepping back the buildings at the corner, a small space would be produced ideally suited for pausing, waiting, drinking coffee and the like. Because the space would have a predominantly north facing aspect and situated in a location with relatively heavy traffic flows, it would not likely be used much as a place to sit for long periods of time. The space would be defined by a distinctive feature, such as a large clock, that not only reinforces the space as a meeting place but also provides other functional and symbolic benefits. Permanent seating and comfortable landscaping would also contribute to the sense of the space.

#### 5.6.9. PATHWAYS

The space between buildings not only provides possibilities of physical access to the internal structure of the site but also provides spatial and conceptual definition to its internal form. In studying the organization of pathways, Kevin Lynch concludes that

"the paths, the network of habitual or potential lines of movement through the urban complex, are the most potent means by which the whole can be ordered. The key lines should have some singular quality which marks them off from the surrounding channels: a concentration of some special use or activity along their margins, a character spatial quality, a special texture of floor or facade, a particular lighting pattern, a unique set of smells or sounds, a typical detail or mode of planting" (1960, 96).

The pathways within the site would be arranged in a hierarchical spatial order of flow and purpose. This would be further divided into the categories of public and residential-public space. Within the public area, the pathways would be predominantly ordered in a north-south orientation due in part to the existing built form, but also in order to maximize the opportunity for the pedestrian to capture the harbour view. They would offer the pedestrian different volumetric or sequential spatial possibilities based on the point of entry and selected route. Each pathway would have its own inherent design character in relation to such elements as space, transition, scale, pavement texture, building cladding, and edge uses. All of the "feeder" paths would direct the pedestrian toward the waterfront public spaces and amenities. Christopher Alexander *et al.* observe that "to create concentrations of people in a community, facilities must be grouped around squares which can function as nodes and all paths should converge on these nodes" (1977, 164).

As with the public area, the path network of the residential-public area (i.e. residential enclave) would be predominantly oriented in a north-south direction. The objective of pedestrian movement in this area would be somewhat different to the public area as the destination is one of a number of residences rather than a main public square, bistro or the like. Furthermore, there would not be the same sequential experience of space within the enclave. However, the pedestrian would have the opportunity to experience similar strongly defined volumetric space created by the built form and vegetative tree canopy. Although each residential pathway would not have a different character in order to enhance a sense of pattern or sequence, it would as a whole have textural treatments that would clearly differentiate the enclave from the public areas. Baum (1977) observed that residents will often extend their private living space to the outdoor public environment immediately adjacent to their dwelling by using stoops and sidewalks, for instance, as places to engage neighbours in various forms of social interaction thus transforming the public space into a semi-private space. He proposes that "the conversion of public areas to semi-private space, was viewed as crucial for the development and maintenance of social networks and community control" (1977, 24). This would be of significant importance to seniors/empty nesters that might choose to live at this location. However, it might be difficult to ascertain how the typically wet North Shore weather would influence such social networking. A further observation by Baum of how pathways can be designed to influence their environment is that residents, when connected with their outdoor street space, feel more willing to "exert an influence

over who could use these places, how they were to be used, and when different uses were appropriate" (1977, 24).

Due to the orientation of the pathways and the unimpeded view corridors (no vision impeding vegetation or fencing etc.) to the harbour, people would be naturally drawn to the waterfront amenities and thus connecting with the greater site pathway system. In addition to the north-south oriented pathways there would be two main east-west oriented pedestrian pathways that bound the interior of the site on the north and south sides. Perhaps the most significant of the two and indeed of all the pathways is the waterfront boardwalk. This pathway would be structurally distinct as it would act as the dominant connective element linking the visual and spatial site features in addition to acting as a main linkage to pedestrian ways off site. The volumetric definition of the pathway would be limited to the east and west access points which would attempt to strengthen the sense of entry and exit. That portion of the boardwalk in between would be conceptually oriented to the harbour and cityscape but would be designed in such a way as to provide the pedestrian with constantly changing sense of texture and boundary.

The boardwalk would be visually distinct from other pavement surfaces and being true to its name it would be constructed of wood planking. The purpose would be to use a material that resonates with people in terms of a psychological maritime connection, that has sensory vividness (visually in terms of pattern and colour and auditory in terms of the sound of footsteps), and that it is "soft" in contrast to the hard paving surfaces which would be used through most of the site. This would

reinforce the distinctiveness and legibility of the waterfront pathway as a discrete "place" in the context of the overall Shipyard development.

The other east-west oriented pedestrian way on the north side of the site would offer the pedestrian changing volumetric and sequential spatial experiences as they move along the path. The route would take the pedestrian through the changing environments of the public space area and the residential space enclave which would provide a different interpretation of the Shipyard site. This path would allow for a completion of an internal pedestrian circuit which would be beneficial to seniors who could exercise in physically appropriate, safe and stimulating surroundings.

## 5.7. THE WATERFRONT SETTING

The waterfront area of the site is the most important single feature of the site regardless of temporal or seasonal considerations. Central to any design or plan for the waterfront is the clear understanding of water as a feature of fundamental importance. The most effective way to intensify such a site, Alexander *et al.* observe, is "through a progression of areas which people pass through as they approach the site" (1977, 133). There would be two main objectives for the treatment of the waterfront. The first objective would be to provide pedestrian access along the length of the site, and the second would be to animate the water's edge. In order to achieve the first objective in a stimulating rather than an uninteresting way it would be necessary to avoid designing a pathway that would be linear in configuration. Instead, the design would strive to present changing perspectives of the Inlet as the pedestrian moved along the pathway. Specifically the Inlet is seen thus: entering the

site from the south-west corner, the Inlet is revealed as a view through enclosure in what Cullen refers to as a "spatial drama of relationship" (1971, 33). The view is not captured in the direction of the main pedestrian flow, rather it is perpendicular to it so that the pedestrian can only catch glimpses of it when turning to do so. Moving eastward the pedestrian leaves the semi-enclosed volume of the Public square Space and moves into an area of openness that allows an unfettered view of the Inlet, but again, only by turning to see it. The pedestrian is then briefly directed away from the water revealing views of the Children's Play Area and the residential enclave. The vista soon changes when the pedestrian passes the Beach Space and the offered physical connection to the water becomes legitimate rather than suggestive. Moving past this space the view changes revealing the Inlet without requiring any physical adjustments in order to capture it. Finally this view orientation changes once again as the pedestrian moves eastward and the view ahead of the green park space offers a totally different visual experience, with the Inlet view requiring a look over the shoulder.

In order to add a further dimension to the waterfront pedestrian experience, a boardwalk would be used waterside in order to create an interesting tactile feeling under foot. Even the unique sound of walking on wood planking adds an additional auditory element to the environment and thus adding to the overall experience. Finally, by using a material that would be specific to the boardwalk pathway, it would achieve a sense of legibility or coherent linkage as a common built element connecting both sides of the site.

Other than along the 1925 Pier B, no fencing would be used to separate people from the water. While cantilevered or piers pedestrian spaces that suspend people above the surface of the water do create a dramatic effect, the necessary protective fencing blocks views when sitting and otherwise for smaller children. This is an unfortunate and substantial psychological separation and to avoid this scenario, a different technique would be used whereby the shore banks would be curbed and rip-raped to promote a greater feeling of openness and connection. This system would work well in this application as people would be able to experience the water connection in other ways i.e. over the water on the Pier and at the water's physical edge in the Beach Space.

In order to achieve the second objective, namely animating the waterfront, several approaches would be used. On land these include the boardwalk, Pier B pedestrian area, Children's Play Area, Beach Space, and Park Space each drawing people to the waterfront area. There could be an opportunity with Building Form "G" to use the space between the building and waterfront edge for food and beverage related outdoor patio seating. Water oriented approaches would include the floating home community, and a public marina and moorage facility.

Each of these amenity features would be discrete sub-units but would fit into an overall sequencing of space and place. The associated uses would attract different types of site visitors over different portions of the daytime and evening thus suffusing the site overall, and more particularly the waterfront area, with activity, diversity, and appeal. Finally, it would be important to recognize that the requisite aesthetic qualities established for visual enjoyment and comfort within the Shipyard site should

be applied in equal measure to the waterfront edge for the benefit of marine travelers viewing the form from within the harbour.

## 5.8. THE LANDSCAPE

There exists a significant body of literature that argues the societal value of creating an engaging and connective landscape. For instance, Carr *et al.* propose that "Americans like such natural references and find meaning in them..." (1992, 225). Furthermore, they suggest that the natural elements found in an urban landscape, for example, register with people, are appreciated by them, and ultimately become part of the experience they seek. This is a profound concept when considering the landscape treatment of the urban environment overall but more specifically in the context of the Shipyard site.

Arnold reflects the position of a number of critics on the subject of urban landscaping when he proposes that "in most of our downtown areas we cannot rely on an architectural richness for unity and scale. The typical pedestrian mall is an abomination of signs and plastic furniture with a few undersized trees for added decoration" (1980, 11). The consequence of this is a problem that Hough (1984) describes as the case where urban dwellers have become "perceptually disassociated" with the natural cycles and feel as though the only connection to them is found within the rural landscape or undisturbed woodlands. In recognition of the psychological benefits associated with positive outdoor visual environments, Ulrich stresses that these environments "should be given explicit attention in planning and

design decisions" (18) . Thus, the challenge becomes one of creating a satisfying outdoor visual environment inside and around the outside edge of the Shipyard site.

Along the perimeter of the site, i.e. Lonsdale Avenue, Esplanade, and the St. George's Avenue road extension, a planting strip located between the sidewalk and the curb would be planted with large, lightly-shading street trees (i.e. mature branch height of not less than 6m and an overall height of approximately 13m - 18m) (Arnold, p. 81)<sup>6</sup>. The trees would have a large, semi-transparent leaf canopy so to create a foliar ceiling and allow the play of light and shadow at ground level which is an important concept. Arnold (1980) suggests that by planting large trees close together, a spatial unity is achieved in canopy height and structure and effective light and shadow interplay. Whereas with trees planted too far apart, this unity is abbreviated as each tree develops a dense lower branched crown, interrupts the relationship between light and shadow, and emphasizes individual form rather than the grandeur of the overall leaf canopy (Arnold 1980).

The distribution of trees would transform the streetscape from one vast paved surface, predominantly oriented to the automobile, to two distinct spaces by creating a sub-unit of the street environment. This sub-unit of spatial composition would create a volume defined vertically through a partially transparent leaf canopy, and horizontally by a row of trunks down the length of the planting strip giving the illusion of distance of a solid wall and a building wall on the other side. Thus a feeling of "greater unity and enclosure for the pedestrian" is generated, with a resultant sense

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<sup>6</sup> There are trees planted along the western edge of the site (along Lonsdale Avenue) however, the species, heath, form, etc. would have to be considered in relation to the overall effect proposed.

of safety and separation from the traffic (Arnold 1980). Not only is this attribute important for the pedestrian, it is equally if not more important for residential units that would be fronting the street, as the treed corridor would imbue the semi-private and public space with an enormously increased sense of separation and control. Arnold also proposes that "by extending the branch canopy over the street the immensity of the right-of-way is reduced." and that "...the principle of planting trees close to the curb is applicable to all types of streets" (Arnold 1980, 53).

This treescape would also soften the architectural form of the street wall both in summer and winter. Arnold believes that "trees and architecture must be viewed as a single design rather than a decorative adjunct" as they function together to create an outdoor room (1980, 125). While this is an important concept in the design of this pedestrian space, the relevance within the interior of the site is perhaps even more significant as trees would be one of the integral elements used in defining the volume of some public spaces.

Within the interior of the site the overall landscape concept would be one of openness allowing easy circulation, significant light penetration, relatively uninterrupted views, safety, and lack of clutter. The design would create a balance between emphasizing the industrial form and feel of the site and other objectives such as softening building form, and reinforcing and articulating outdoor space. In order to maintain the industrial feel of the site, the use of plant material would be somewhat limited overall but very strategically located. For instance, planting beds would be used sparingly, and when so, only for such purposes as creating a strong cognitive or emotional statement as is the case with seasonal flower colour. Climbing vines would

be planted in particular locations within the public spaces in order to "break-up" long walls or to provide an informal surface colour and texture.

The paved surface of the pathways and its textural qualities serve to provide a certain visual order, legibility, and/or sensory stimulation through touch and aesthetic quality. Lynch and Hack propose that as the paved surface has such importance, "we should consider its enrichment and not leave it to casual attention" (1990, 170).

Cullen (1971) echoes this sentiment by suggesting that the treatment of floors has changed from a connecting surface to a dividing surface and from a particular surface to a generalized one thus neutralizing the drama of the floor. In view of this paradigm, he argues that "the floor must contribute its own unique kind of drama" (1971, 128).

The homogenous paving surfacings of asphalt and concrete would not be used in the design and construction of pathways within the site. Existing site paving elements such as the cedar blocking would be incorporated in specific locations such as the 1925 Machine Shop building. The once existing rail tracking would be strategically reintroduced in such a way as to provide linkage and connectedness with the past and also as a treatment designed to direct foot traffic in particular directions for instance. In this vein, the grid work frame pattern, which still exists on the site, would be used as a design device to provide spatial definition and visual interest in such areas as the public square. In other locations, such as Pier B or the board walk, cedar planking would be used for pattern and to clearly demarcate the main pedestrian thoroughfare from what might otherwise be classified as pedestrian eddies (i.e. random spots where people stop and chat without blocking the flow of foot traffic). Finally, other materials would be used such as torpedo gravel in the children's play area, concrete

pavers in certain pedestrian areas, and grass in verges lining the residential blocks. As a whole, all of these distinct paving systems would work together to achieve the objective of providing a stimulating and cognitive legibility to pathway surfacing in a manner sympathetic to the principles articulated by Lynch and Hack (1990), and Cullen (1971).

Large canopy trees of the same species as on the exterior of the site would be used within specific interior public spaces. Specifically, trees would be located at the entrance to the public square area to help reinforce the sense and place of entry and strategically within the space in order to provide a sense of enclosure through the definition of volume in the vertical and horizontal planes (Michel 1996). Tall trees planted next to large structures such as the 1925 Machine Shop would provide a more human scale to its great height as the tree provides visual transition or relief between the space and the mass of the building wall.

A smaller tree species planted against the blunt south gable end of Building Form D would similarly provide a pleasant sense of vertical scale for the pedestrian as well as a sense of entry in to the residential enclave and some spatial definition to the perimeter of the residential domain. From an aesthetic perspective, summer foliage and an exposed branched structure in winter would similarly provide a textural transition that would soften the building form and create a territorial separation. Within the residential enclave, vegetation would be more generously incorporated into the design of the outdoor room. For instance, trees would be situated in rows within a planting strip adjacent to the "front-yard" space of each block of residential units to promote the sense of privacy, scale, articulation of space, and territorial separation

(private versus public space) for the pedestrian. Small types of plant material would be used to further demarcate space and to give general aesthetic benefits.

The park space is the final area that would require specific landscape treatment. The use of mid-sized plant material, which could cause personal safety concerns, would not be used anywhere on the site and particularly not in the park. Manipulation of grades and structural elements together with lower growing plant varieties would be used to define the space and sub-space horizontally. The same tall trees species lining the St. George's Avenue extension would be carried into the park space. Again, this would provide a sense of continuity/unity in the context of the site. The use of taller trees would provide the benefits of a defined ceiling but they would also allow for unimpeded vision from the street through the park into the harbour and cityscape. In this case, trees would be used to frame the harbour view.

## 5.9. ACCESS (see Appendix 3)

### 5.9.1. VEHICULAR ACCESS

The most prominent structural access to the site would be through an extension of St. George's Avenue that would terminate in a cul-de-sac approximately 25 meters from the shoreline. This road extension would be significant for a number of reasons. First, it would provide a powerful view corridor through to the harbor and beyond as it is passed by motorists along Esplanade or viewed from the existing portion of St. George's Avenue. This would be one of the constitutive elements contributing to the overall spirit of "place". Second, it would create a hard edge to the site which helps reinforce the sense that it is a discrete precinct. However, this

would not necessarily preclude the awareness of coherent linkages with the adjacent urban fabric. Furthermore, it would create the opportunity for and feeling of "entrance" on all four sides with each portal into the site offering the pedestrian a different experience. This varied perception of site is a cognitive element that conditions the visitor's mind to recognize the site as a place. Finally, from a more utilitarian perspective, the road extension provides a point of entry for "special case" vehicular access to the site overall, the houseboat district, the residences fronting the road, and an underground parking garage. It is recognized that some degree of internal site access must be provided for emergency vehicles, delivery or moving vehicles, service vehicles, and for residents on a selective access basis.

There would be two points of vehicular access. The first would be located in the northeast corner from which vehicles would access underground parking as well as the residential quarter. However, as the enclave would have an intentionally raised elevation relative to the other areas of the site, full vehicular circulation would not be possible. Thus vehicles entering the site in the northeast corner would be restricted to movement within that residential quarter. The second access point would be located in the southwest corner of the site. From this point, depending on vehicular size, the entire site could be traversed along the waterfront exiting on to the St. George's Avenue extension (this exit would be controlled and used only in special case situations - primarily for house boat residents). Again, depending on vehicle size, there would be the opportunity for full vehicular circulation within the lower elevation public realm.

Access within the site would be designed primarily with the pedestrian in mind. The British Design Council (1979) proposes that shared surface schemes function only when human living and movement patterns are understood by the designer. Thus, the design challenge for the Shipyard site is to provide shared surface access in such a way as to reinforce pedestrian primacy within the network of internal passageways. The use of the word "passageways" is intentional in this context as it connotes something quite different and more equitable perhaps than "streets" which tends to connote vehicular primacy.

One of the best approaches to mitigate the pedestrian/vehicle street interface is by borrowing from the principles of the circa 1960 Dutch "woonerf" model. The British Design Council define the woonerf as "a residential area in which traffic is not allowed to dominate and where the special layout and street furniture emphasis the prime function of the area as being a place where people live in" (1979, 68). While woonerven are not without shortcomings certainly some of the design elements can be applied to the Shipyard site (Design Council 1979; Appleyard 1981; Carr *et al.* 1992; Habraken 1998). For instance, the use of elements such as scale, grade change, surface change, street furniture, and landscaping is transferable and can achieve both physical and psychological primacy of the pedestrian/resident over the vehicle thus creating a more intimate human atmosphere (Appleyard 1981). The design formula for the residential precinct would be different than the public area in view of the different use patterns and particularly with regard to scale.

A secondary and much less significant access would be water access for marine traffic i.e. recreational boats and commercial vessels. A public docking facility would

provide the opportunity for temporary moorage and access to site facilities/amenities. This provision achieves two things: it respects the marine history of the Shipyard, and it expands the range of use and users thus increasing the vitality and reinforcing the specialness of the site .

#### 5.9.2. PEDESTRIAN ACCESS

There would be five access points to the site: two being entirely pedestrian oriented and two being shared surface access, and one partially shared.

The two strictly pedestrian accesses are both located on the north edge of the site. The access located at the southeast corner of Esplanade and Lonsdale Avenue is primary along this frontage. Together with the small public space from which it emanates, this access creates a strong feeling of entry as the pedestrian is drawn down the stair case into the refuge of the inner site . Furthermore, this would be somewhat of a distinctive entry point from a design perspective as compared to the typical urban street corner, and as such it would be made more pronounced by the strong contrast of its surrounding context.

Another strong feature of this entry is the view east through the site which would change slightly as the pedestrian descended the +/- 5 meters to the site floor at datum. The enclosed character of the interior space would be marked on the north side by the continuous and regular building wall and the south side by a contrasting, highly articulated permeable structural form created by Building Forms D, E, E/1, and F. The view would be finally relieved by the opening at the eastern of the

site that would be created by the connection with the St. George's Avenue extension.

The second entry point along the north side of the site would be approximately 30 meters east from the corner of Lonsdale Avenue and Esplanade. This access would be much less prominent as an entry point with the primary function being a visual/psychological break in the street wall between the commercial and the residential structures/land uses. The alignment of this entry would be such that it would naturally encourage pedestrian flow through the internal volume of the 1925 Machine Shop building which would be designated as a public use facility (see figure 69). Again, due to the elevation change from Esplanade to the site floor, the perspective would vary as one descended, culminating in a view through the building to the harbour and beyond. If this access was to be ramped (as it currently exists) rather than staired, it could also double as an emergency vehicular access to Esplanade.

The access at the south-west corner of the site is, in view of current adjacent land use, perhaps the most significant of the pedestrian entry points. This is due primarily to its relationship with the Lonsdale Quay Public Market, Seabus Terminal and various residential and commercial land uses that form a node on the south side of Esplanade west of the site. The connection with this node as a place to gather, shop, and stroll has long been ingrained thus, with the Shipyard entry situated adjacent, it would be a logical point of connection to the established pedestrian movement pattern in and around this area.

The south-west entry would be a shared surface access that design standards would reflect. It opens immediately into a public square (one of two main public focal points within the site) which, in view of the programming, scale, etc., would infuse the pedestrian with a strong sense of entry. The vitality of the space, into which this entry opens, would be strengthened by the tension that would exist between the articulated site form on the north side of the passageway and the contrasting Inlet on the south (the function and form of the public square is discussed in detail under Public Space). From this place, a view exists through the site to the small park located at the end of the road extension which would create a visual terminus; the appeal of this view would be due, primarily, to the vitality created by the character of form building and programming of the space along the length of the boardwalk.

The two final access points for the pedestrian are shared surface entries and would be located on the east side of the site. The one located in the north-east corner has previously been discussed, thus leaving the entry located at the south-east corner. From this place, the pedestrian enters the site through a small park-like space. The impression created by this "green entrance" would be contrasted by the vitality of the public square located in the south west corner of the site as seen by a view that would exist through to it. Again, the tension that such a juxtaposition creates is useful in affecting cognitive appeal.

## 5.10. CONCLUSIONS

In developing an appropriate urban design concept, various elements were synthesized to create identifiable parameters. The information was obtained through

examination of urban design theory and case study analysis in Chapter 2, the past and present site context in Chapter 3, and the planning context in Chapter 4. The goals for the design concept were to create a sustainable and identifiable neighbourhood community. Furthermore, it was important that it fit well with adjacent urban fabric but stood out as a more vital expression of urban form. The aesthetic, structural, and spatial qualities were important elements in the provision of an elegant character. The historic relevance of the former Shipyard was an important element to reflect in the design as it would be one of the things that people would place significance and meaning in. Finally, it was important that the Shipyard site functioned as a major social node for the City and even the North Shore. It was designed to be accessible and livable.

The urban design matrix presented in Chapter 2 was used to assess specific design features. Each design element, such as Building form or Public Space was checked against "Objectives", and "Qualities" were used to further refine the physical translation of these ideas. The "Versatile Shipyard Land Use Study" is general in scope, providing a proposed development concept with some explicit and implicit urban design statements. As a consequence of using the matrix, the design concept proposed in this chapter was afforded a much greater degree of urban design detail. Moreover, by testing ideas against the "Objectives" section, the design was able to avoid some of the weaker design features of the Land Use Study concept while respecting the integrity of the City's goals. Some of these features include human scale through low-rise buildings, strong, relatively unbroken street walls, and a coherent connection of spaces that are designed to have specific functions. In

producing this urban design concept, it provides the City of North Vancouver with an alternative design for the Shipyard site that promotes a sense of uniqueness and relevance for the North Shore., and is soundly based on strong principles of quality urban design and form.

## CHAPTER 6. SUMMARY

### 6.1. CONCLUSIONS

This thesis has examined some of the more common elements that constitute quality urban design. The conclusions are distilled from a study of literature pertaining to urban design specifically, but also other areas of research such as planning, architecture, and geography. Six urban design features were selected for analysis and use in the study. They include building, form, colour and texture, public, space, waterfront treatment, landscaping, and access. Using the theoretical principles that define quality design in this context, a residential development in the False Creek area in the City of Vancouver and in the Westminster Quay area in the City of New Westminster were critically assessed. The information obtained through this process allowed the development of a matrix that provides a general conceptual hierarchy. It consists of four guiding visionary "Goals" for the design of a place. Each of these is given clearer definition by four urban design "Objectives". These denote certain elements or concepts that define the associated "Goal". In turn each "Objective" is defined by a number of "Qualities" which translates into a more detailed physical context. The matrix is used as a pivotal tool in the proposed urban design concept for the Shipyard study area.

The second important aspect of the research was defining the site context. This was done with a multi-layer approach. First, the historical context of the site was explored in order to assess whether there are any important historical design cues that should be respected in the design concept. It was shown that the Shipyard was a very significant element in the North Shore community and beyond, in view of

the size off its one time workforce and its contribution to the World War II effort. Second, the economic and land use structure of the Lower Lonsdale community, in which the Shipyard is located, was examined in order to assess how the site would have to fit into the urban fabric. It was shown that the Lower Lonsdale area is being revitalized and as such it provides cues as to the role of the Shipyard site. In order to understand who the users of the site might be and to reflect specific user group requirements in the design concept, analysis of the demographic profile was performed. Finally, in order to assess what goals the City of North Vancouver had for the Shipyard site and surrounds, related Planning reports and studies were examined. Through this research it was determined that good urban form, public waterfront access, heritage preservation, and the development whole communities were some of the City's priorities.

All of this information was then used in the development of the proposed urban design concept. The design matrix was used the most extensively in assessment and refinement of the concept within the context of the six aspects covered. However, other information influenced the design. For example, the demographic realities found expression in the form through accessibility considerations, venues that promote social interaction, a site programming opportunities to name but a few. While studies have been done that have resulted in a City supported redevelopment concept on the Shipyard site, the proposed design concept in this thesis is meant to build on it. The singularity and significance of the site's history and place in the urban fabric is meant be reflected in the design. Finally, it is intended to relate better to the existing urban

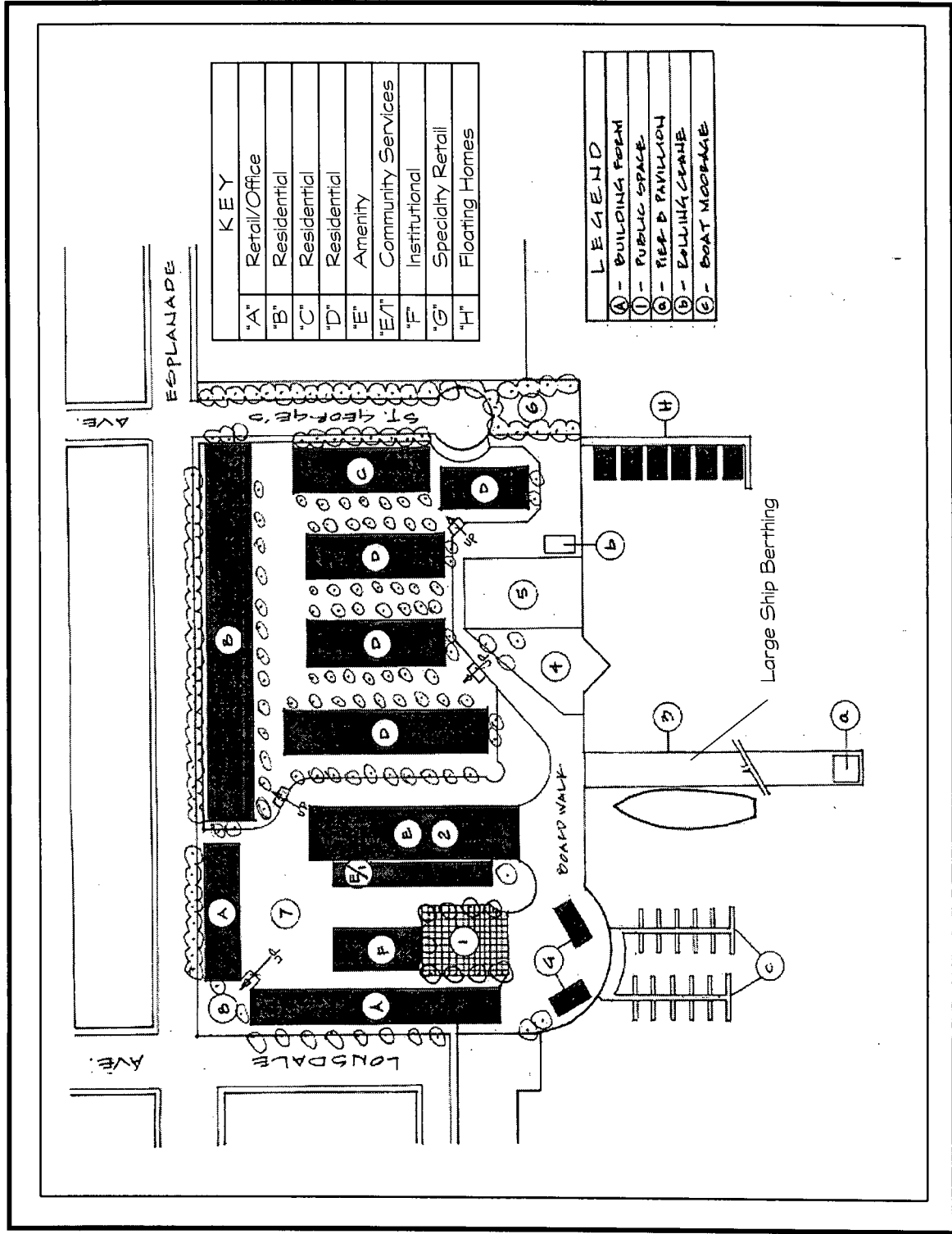
fabric and providing a more profound experience for sites residents and visitors, as well as the entire North Shore.

## 6.2 AREAS REQUIRING FURTHER STUDY

This thesis explores some of the more fundamental urban elements that are necessary for the creation of quality urban form for the Shipyard Study area. However, other areas remain to be explored. For instance, what would be precise financial implications in developing the study area in accordance with the proposed urban design concept. Furthermore, it would be useful to contrast that with projected long-term benefits associated with the development of a quality urban form.

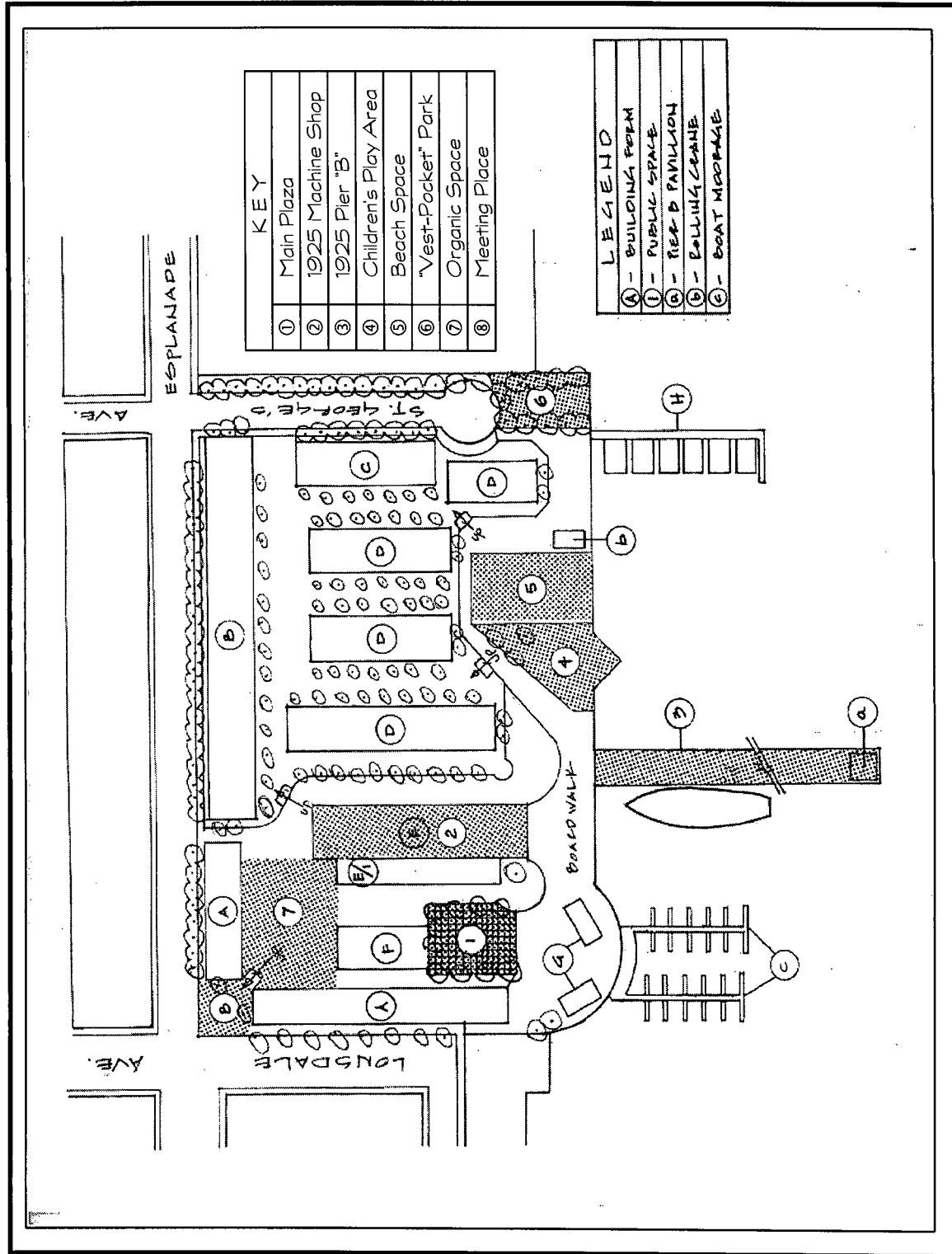
Finally, further development of the design matrix could be undertaken in order to provide an optimal format. It could then be tested in the context of other case studies in order to assess its transferability. In developing such a tool, meaningful discussion of quality urban design could occur in a broader public context and ultimately lead to better urban form.

Appendix 1: Massing Plan



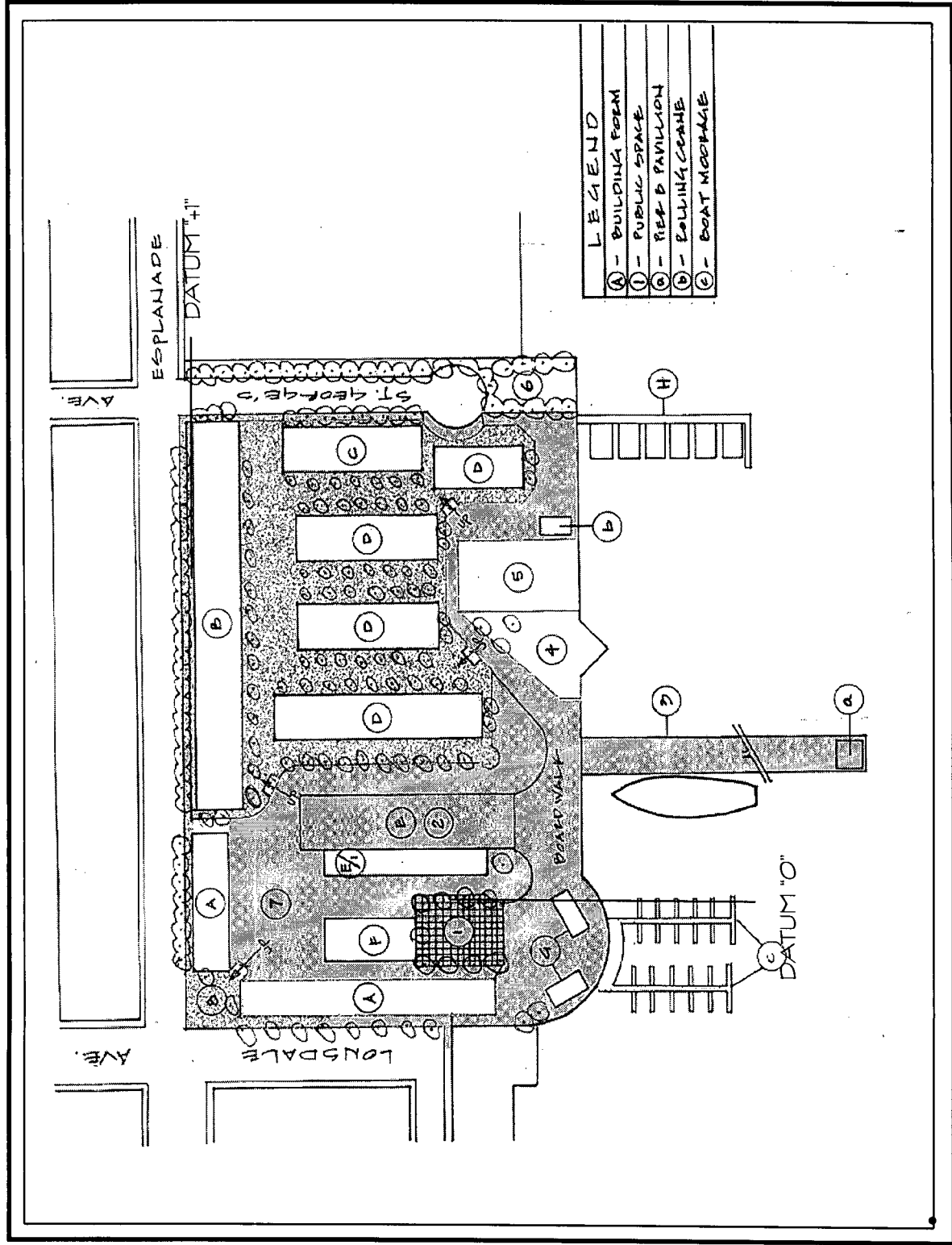
Source: Author

# Appendix 2: Public Space Plan



Source: Author

Appendix 3: Circulation Plan



Source: Author

## WORKS CONSULTED

- Alexander, Christopher, Neis, Hajo, Anninou, Artemis and King, Ingrid, *A New Theory of Urban Design*, Oxford University Press, New York, New York, 1987.
- Alexander, Christopher, Ishikawa, Sara and Silverstein, Murray, *A Pattern Language. Towns. Buildings. Construction.*, Oxford University Press, New York, New York, 1977.
- Arnold, Henry F., *Trees in Urban Design*, Van Nostrand Reinhold Company, New York, New York, 1980.
- Artibise, Alan F.J., Wollenberg, Jay, Hotson, Norman and Fallick, Arthur, *Town Centres and the Livable Region: A Strategy for the 1900s*, for the Greater Vancouver Regional District, April 1990.
- Banerjee, Tridib and Baer, William C., *Beyond the Neighborhood Unit. Residential Environments and Public Policy*, Plenum Press, New York, New York, 1984.
- Banerjee, Tridib and Southworth, Michael (eds), *City Sense and City Design. Writings and Projects of Kevin Lynch*, The MIT Press, Cambridge, Massachusetts, 1991.
- Baum, Andrew and Valins, Stuart, *Architecture and Social Behavior: Psychological Studies of Social Density*, Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey, 1977.
- Brand, Stewart, *How Buildings Learn. What Happens After They're Built*, Penguin Books, New York, New York, 1994.
- Carr, Stephen, Francis, Mark, Rivlin, Leanne G. and Stone, Andrew M., *Public Space*, Cambridge University Press, New York, New York, 1992.
- Corporation of the City of North Vancouver, *Lonsdale Towncentre Revitalization Action Plan*, July 1993.
- Corporation of the City of North Vancouver Development Services, *Lower Lonsdale: Design Guidelines and Architectural Controls*, January 1999.
- Corporation of the City of North Vancouver, *Official Community Plan Bylaw No. 6288*, 1992.
- Coriolis Consulting Corp., Hotson Bakker Architects, *Versatile Shipyard Land Use Study. Final Report*, November, 1997.
- Civic Trust, *Pride of Place. How to Improve Your Surroundings*, Chandlers Ltd., Sussex, England, 1972.
- Cesswell, Roy (ed), *Quality in Urban Planning and Design*, Newnes-Butterworths, London, England, 1979.
- Cullen, Gordon, *The Concise Townscape*, Butterworth Architecture, London, England, 1971.
- De Chiara, Joseph, Koppelman, Lee and the School of Architecture-Pratt Institute, *Planning Design Criteria*, Van Nostrand Reinhold Company, New York, New York, 1969.
- Design Council and the Royal Town Planning Institute, *Streets Ahead*, Design Council, London, England, 1979.
- Ellin, Nan, *Postmodern Urbanism*, Blackwell Publishers, Cambridge, Massachusetts, 1996.

Engwicht, David, *Reclaiming Our Cities and Towns*, New Society Publishers, Philadelphia, PA, 1993.

Architectural and Planning Consultants, *Versatile Pacific Shipyards Heritage Report*, for the City of North Vancouver, 1991.

Fowler, Edmund P., *Building Cities That Work*, McGill-Queen's University Press, Kingston, Ontario, 1992.

Gallion, Arthur B. and Eisner, Simon, *The Urban Pattern. City Planning and Design* (4<sup>th</sup> ed), Van Nostrand Reinhold Company, New York, New York, 1983.

Glassford, Peggy, "Appearance Codes for Small Communities", *Planning Advisory Service Report No. 379*, American Planning Association, 1983.

Habraken, N.J., *The Structure of the Ordinary*, The MIT Press, Cambridge, Massachusetts, 1998.

Hall, A.C., *Design Control. Towards a New Approach*, Butterworth Architecture, Oxford, England, 1996.

Heckscher, August, *Open Spaces. A Twentieth Century Fund Essay*, Harper & Row, Publishers, New York, New York, 1977.

Hedman, Richard and Jaszewski, Andrew, *Fundamentals of Urban Design*, Planners Press, American Planning Association, Washington, DC, 1984.

Hertzberger, Herman, *Lessons for Students in Architecture*, Uitgeverij O10 Publishers, Rotterdam, 1991.

Hinshaw, Mark L., *Design Review*, Planning Advisory Service Report No. 454, American Planning Association, Washington, DC, 1995.

Hiss, Tony, *The Experience of Place*, Vintage Books, New York, New York, 1990.

Holdsworth, Deryck (ed), *Reviving Main Street*, University of Toronto Press, Toronto, Ontario, 1985.

Hough, Michael, *City Form and Natural Process*, Routledge, New York, 1989.

Jacobs, Jane, *The Death and Life of Great American Cities*, Vintage Books, New York, New York, 1992.

Jarvis, Frederick D., *Site Planning and Community Design*, Home Builder Press, Washington, DC, 1993.

Kelbaugh, Douglas, *Common Place. Toward Neighborhood and Regional Design*, University of Washington Press, Seattle, Washington, 1997.

Kunstler, James Howard, *The Geography of Nowhere*, Simon & Schuster, New York, New York, 1993.

Kunstler, James Howard, *Home From Nowhere. Remaking our Everyday World for the 21<sup>st</sup> Century*, Simon & Schuster, New York, New York, 1998.

Langdon, Philip, *A Better Place To Live. Reshaping the American Suburb*, Harper Perennial, Amherst, Massachusetts, 1994.

Licklider, Heath, *Architectural Scale*, Architectural Press, Kent, England, 1965.

Lush, Patricia, "Ottawa rejects B.C. proposals", *The Globe and Mail*, February 27 1991.

- Lynch, Kevin, *Good City Form*, The MIT Press, Cambridge, Massachusetts, 1992.
- Lynch, Kevin, *The Image of the City*, The MIT Press, Cambridge, Massachusetts, 1960.
- Lynch, Kevin and Hack, Gary, *Site Planning* (3<sup>rd</sup> ed), The MIT Press, Cambridge, Massachusetts, 1990.
- Mackin, Anne and Krieger, Alex, *A Design Primer for Cities and Towns*, A publication of the Massachusetts Council on the Arts and Humanities, 1989.
- Marcus, Clare Cooper and Francis, Carolyn, eds, *People Places. Design Guidelines for Urban Open Space*, Van Nostrand Reinhold, New York, New York, 1990.
- McCague, Fred, "Cranes vs. Condos", *Marine Digest*, January 1991.
- Mehrhoff, W. Arthur, *Community Design. A Team Approach to Dynamic Community Systems*, Sage Publications, Thousand Oaks, California, 1999.
- Michel, Lou, *Light: The Shape of Space. Designing With Space and Light*, Van Nostrand Reinhold, New York, New York, 1996.
- Morrish, William R. and Brown, Catherine R., *Planning to Stay*, Milkweed Editions, Minneapolis, Minnesota, 1994.
- Moughton, Cliff, *Urban Design: Street and Square*, Butterworth Architecture, Oxford, England, 1992.
- National Research Council Committee on Urban Waterfront Lands, *Urban Waterfront Lands*, National Academy of Sciences, Washington, DC, 1980.
- Newman, Oscar, *Defensible Space. Crime Prevention Through Urban Design*, Macmillan, New York, New York, 1972.
- New York City Planning Commission, *Plazas for People. Streetscape and Residential Plazas*, NYC DCP 76-22, September 1976.
- Norberg-Schulz, Christian, *Existence, Space and Architecture*, Praeger Publishers, Inc., New York, New York, 1971.
- North Shore Economic Development Commission, *Waterfront Industry on the North Shore*, May 1991.
- Porter, Paul R. and Sweet, David C. (eds), *Rebuilding America's Cities: Roads to Recover*, Center for Urban Policy Research, New Brunswick, New Jersey, 1984.
- Plunz, Richard (ed), *Design and the Public Good. Selected Writings 1930-1980 by Serge Chermayeff*, The MIT Press, Cambridge, Massachusetts, 1982.
- Punter, John, and Carmona, Matthew, *The design Dimension of Planning. Theory, Content and Best Practice for Design Policies*, E & FN Spon, London, England, 1997.
- Relf, E., *Place and Placelessness*, Pion Limited, London, England, 1976.
- Statistics Canada's Internet Site, <http://www.statcan.ca/>, September 1999.
- Sucher, David, *City Comforts. How to Build an Urban Village*, City Comforts Press, Seattle, Washington, 1995.
- Tuan, Yi-Fu, *Space and Place. The Perspective of Experience*, University of Minnesota Press, Minneapolis, Minnesota, 1977.

Van de Ven, Cornelis, *Space in Architecture*, Van Gorcum, Assen/Maastricht, The Netherlands, 1987.

Vente, Rolf E. Vente, "Urban Planning and High-Density Living. Some Reflections on Their Relationship", *Sociology Working Paper No. 66*, Department of Sociology, University of Singapore, 1979.

Verger, Morris D. and Kaderlan, Norman, *Connective Planning*, McGraw-Hill, Inc., New York, New York, 1994.

Von Eckardt, Wolf, *Back to the Drawing Board! Planning Livable Cities*, New Republic Books, Washington, DC, 1978.

Whyte, William H., *The Social Life of Small Urban Places*, The Conservation Foundation, Washington, DC, 1980.

Wilson, Forrest, *A Graphic Survey of Perception and Behavior for the Design Professions*, Van Nostrand Reinhold Company, New York, 1984.