

URBAN DESIGN REQUIREMENTS, B. C. PLACE
Vancouver, B. C.

By

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ABSTRACT.

A new set of urban design requirements is proposed to replace the current urban design guidelines for the B. C. Place site in Vancouver, B. C. The site is 90.6 hectares of open area, contiguous to the downtown. It is the subject of extensive planning activities. The site has been chosen because it is free of most of the typical impediments that constrain urban planning in more congested areas of the city. Accordingly, a new way of expressing urban space is appropriate.

To be valid urban design requirements must be conceived with a purpose in mind. The purpose, here, is the essential element of urban design, a shared vision of urban space. It must define, within a broad public consensus, a set of urban design requirements communicating, over an extended time period, a consistent vision of urban space.

Six urban design requirements are set out to implement a shared vision of urban space. They have been reduced to a minimum to provide as much freedom of expression to the design professions as possible. They are under six headings: Interim Land Use, Site Development, Physical Form and Design, Environment, Occupancy, and Movement.

Pivotal in the composition of the urban design requirements is an instrument called the Orthodox Surface Modulator, augmented by a Check List of architectural design elements. Together they become a metaphoric framework of reference, a part of the creative process within the development control system.

The Orthodox Surface Modulator, as it is applied, describes the volumetric forms of building envelopes and the public urban spaces between buildings. It describes

buildings and spaces to enhance public amenity. It may, under specific environmental circumstances, mitigate undesirable site conditions by describing building envelopes as buffer buildings, shielding passive urban space from noise and distractions.

Urban Space is discussed. A Shared Vision of Urban Space, how it is evolved by public discourse, and a proposed Theory of Urban Space is explained. A critique of current urban development on Burrard Street, Vancouver, between Georgia Street and the waterfront explains why the present urban design guidelines, transfer of development rights and bonusing, have failed to produce the intended urban spacial amenity.

Urban design requirements are not a new phenomenon. Only since the early 1970s have they taken on their present complex form in the City of Vancouver. A brief historic outline traces the antecedents of the proposed urban design requirements, placing them in context from early Greek attempts to rationalize optical distortion to the present day.

The proposed application of the six urban design requirements and the the Surface Modulator would be mandatory. The manner in which the elements of the Check List are integrated into the matrix of the Surface Modulator is proposed to be discretionary. The complete set of urban design requirements are intended to be used in a negotiating procedure common in planning practice.

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FRONTISPIECE.

" We are lovers of beauty without extravagance, and lovers of wisdom without unmanliness. Wealth to us is not mere material for vainglory but an opportunity for achievement; and poverty we think it no disgrace to acknowledge but a real degradation to make no effort to overcome. Our citizens attend both public and private duties, and do not allow absorption in their own various affairs to interfere with their knowledge of the city's. We differ from other states in regarding the man who holds aloof from public life not as 'quite' but as useless; we decide or debate, carefully and in person, all matters of policy, holding, not that words and deeds go ill together, but that facts are foredoomed to failure when undertaken undiscussed. For we are noted for being at once most adventurous in action and most reflective beforehand. Other men are bold in ignorance, while reflection will stop their onset. But the bravest are surely those who have the clearest vision of what is before them, glory and danger alike, and yet notwithstanding go out to meet it. In doing good too, we are the exact opposite of mankind. We secure our friends not by accepting favours but by doing them. And so we are naturally more firm in our attachments: for we are anxious, as creditors, to cement by kind offices our relation towards our friends. If they do not respond with the same warmth it is because they feel that their services will not be given spontaneously but only as the payment of a debt. We are alone among mankind in doing men benefits, not on calculations of self-interest, but in the fearless confidence of freedom. In a word I claim our city as a whole is an education to Greece, and that her members yield to none, man by man, for independence of spirit, many-sidedness of attainment, and complete self-reliance in limb and brain."

Pericles, 431 B. C. as quoted by Thucydides.

Translated by Sir Alfred Zimmerman.

CHAPTER 1. INTRODUCTION.

The city has come about in history as a place where people meet, to generate wealth, as a place to work and a place to live. When we come together in the city to accumulate wealth we spend much of our time in the residential environment. For reasons of security and prestige that environment is as important to our working day as any part of urban life.

In the past decade, the move to the suburbs has been arrested in favour of a closer link between work and residence. Residential accommodation is replacing old industrial areas in the city. They are becoming more densely populated. The diversification of building use and occupancy is testing the previous notions of conventional zoning.

This proposal sets out a way of addressing this contemporary issue. The issue is the combination of complex building use and higher residential densities. In this context the proposal defines urban design as an issue of public urban space. That is the manner in which it may be designed to ameliorate the circumstances of multi-use and higher densities.

The perception of public urban space is in the collective eye of the general public, almost as a cultural phenomenon, but the actual creation of it is the responsibility of the two professions whose day to day activities transform the public vision into tangible forms. The two professions are Architecture and Urban Planning. The architects are the artists who contribute the designs of separate buildings. The planners, when they are working on behalf of the city, co-ordinate the individual efforts to bring about a cohesive composition of space. These two professions come together to practice the art of urban design.

The thesis deals in the area of interface between the professions of Architecture and Planning. A relevant concern has to do with the consociation of Planning and Architecture in recognition of those most responsible for the outcome of the detailed deliberations from which public urban space results. These two professions meet to conduct their respective tasks, to interpret the urban design component of the development control system. In order for them to conduct their work effectively they must co-operate in that part of the planning process that has a direct effect on the amenity of the urban environment, the design of public urban space.

The way people view their city is cultural and subjective, the nature of the work is art. They are not analytical. The manner in which urban space is viewed by the public is an outcome of their cultural values. Because of this a vision of urban space is elusive and once it is established it should not be interpreted as definitive.

The elusive nature of the public's perception of space suggests that the best medium in which the two professions may co-operate in their work is a concise set of urban design requirements that have two attributes. The first is that they are unequivocal, that there is no doubt what is mandatory and what is discretionary. The second is that they must not impede the creative abilities of the practitioners. For these reasons the urban design requirements are proposed as a framework of reference.

1.01 Purpose. The thesis proposes six urban design requirements for B. C. Place in Vancouver, B. C., Canada.

For urban design requirements to have any validity they must be motivated by a vision of urban space shared by the general public. For that to transpire they must be encouraged to debate their ideas through a public forum. That vision, when it is established, must then be communicated to those who are able to bring it into realization.

There are many people and organizations involved in the realization of urban spaces. They are the developers who undertake to organize the work of building. They are the architects, acting as urban designers on behalf of the developers, who will design the buildings that enclose the public spaces. They are the planners who will administrate the requirements, through the medium of the development control system, that directs the work over an extended period of time.

The purpose is to develop a means whereby the professionals may communicate to one another, via an array of urban design requirements, to create urban space in accordance with the shared vision expressed by the public.

Architectural and urban design styles are currently undergoing many changes. Post modernism has been imitated for over a decade as a reaction to modernism. Evidently modernism turned its back on tradition too abruptly (Jencks & Chaitkin: 1982). Modern urban design lacked a direction "*Towards a city with a memory*" (Jencks & Chaitkin:1982) in reference to the bulldozer urban renewal of the recent past. The current style emerging is called the New Spirit (Farrelly: 1986). The New Spirit is, to quote Peter Cook, more "*spatial*" (Cook:1986), allowing more freedom for the individual to explore the intrinsic multi-dimensional quality of architecture as a continuing experience. Farrelly states

that "*post-modernism is dead*" (Architectural Review: 1986: 7-12). Architecture and urban design are in for a very exciting future.

But despite the excitement on the international scene the everyday work of the many devoted professionals seldom reaches the heady heights of the new styles. The everyday outcome is often the result of hard detailed work, trading off costs and practicality. They do respond to current styles but seldom with the panache of the originators. Their work too often appears to be the accumulation of unrelated business transactions.

The freedom of practitioners to respond to these changes must be respected. But simultaneously, as an urban space takes many years to accrete, some means of co-ordinating these styles must be applied. There is the need to co-ordinate changing architectural styles, over an extended time period, into a cohesive spacial composition.

Therefore, the purpose of these requirements is to provide spacial consistency throughout the inevitable changes of architectural styles and to return the creative work of interpreting urban space to the design professions.

1.02 Assumptions. In contemporary urban design we are in danger of rearing a generation of young people whose sensitivities and expectations of the urban environment is measured by the status quo. In metaphor; we are conditioning them to see good urban design in the local supermarket parking lot.

The modern city is an agglomeration of unrelated forms and purposes. The resulting cacophony belies the planning effort that has been directed into making it a better place; more than we are ready to admit. Urban designers have been

unsuccessful in their efforts to co-ordinate the design of individual development projects. The enthusiasm of the early modern planners and their progeny, in their quest for social egalitarianism, caused them to ignore many of the desirable spacial characteristics of the late Baroque urban environment. The result is a modern city that fails to add up to more than a sum of its various parts.

Modern cities contain many well designed buildings. The city of Vancouver is no exception. However, these buildings are isolated. The effect of their design is diluted by the chaos in which they are sited. When viewed together their discordant, separately conceived elements, augur against the traditional understanding of urban space. The conception of the street, the plaza or any urban area is violated by this opportunistic process of development.

In introducing Urban Space, Rob Krier writes *"The basic premise underlying this chapter is my conviction that in our modern cities we have lost sight of the traditional understanding of urban space"* (Krier:1979: p.15)

Edmund Bacon concludes Design of Cities, with the chapter, "Looking into the Future Amalgamation of Planning and Architecture." Here he writes *"The water colour by Paul Klee (see Figure 1.) expresses the interrelation of planning and architecture. Here the grey rectangles suggest areas defined in accordance with usual painting procedures, and the architecture gives a glow which illuminates the whole. The architectural rhythms, occupying only a small part of the area set up a harmony which reverberates through all the spaces, showing that it is not necessary to design in detail every square foot of an area to achieve a great and unified work."* (Bacon: 1974: p.319).

There is a need, however, to come to terms with a lack of spacial cohesiveness in the contemporary city. Modern, as distinct from post-modern, architecture has placed emphasis on the virtues of individual design at the expense of the total urban space.

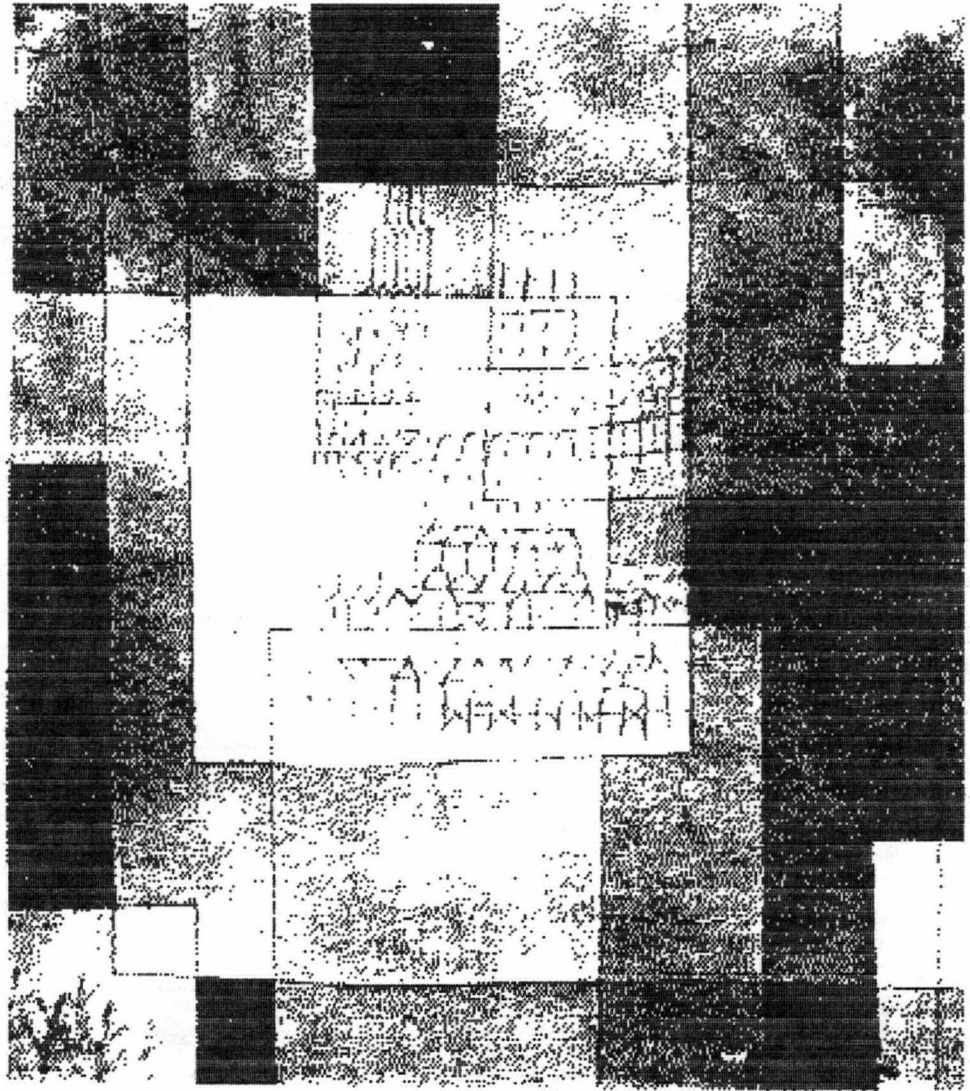


Image of Paul Klee painting.

FIGURE 1.

Possibly the need may best be met by sensitizing our collective consciousness into an appreciation of urban space as it was recognized in the Baroque city planning. The underlying concepts and elements of the Baroque seem to be emerging as a valid form of urban design, again. That is not to say there is virtue

in promoting a backward glance at a nostalgic, Baroque image that probably never existed.

There could be an opportunity for continuing the historical task of making possible co-ordinated efforts toward an integrated sense of urban space; the shared vision of urban space. It is argued that this may best be communicated by means of an array of concise urban design requirements, using the proposed Surface Modulator and the related Check List.

1.03 Scope. The scope of the work is directed specifically towards the implementation of a shared vision of urban space for the B. C. Place site, in Vancouver.

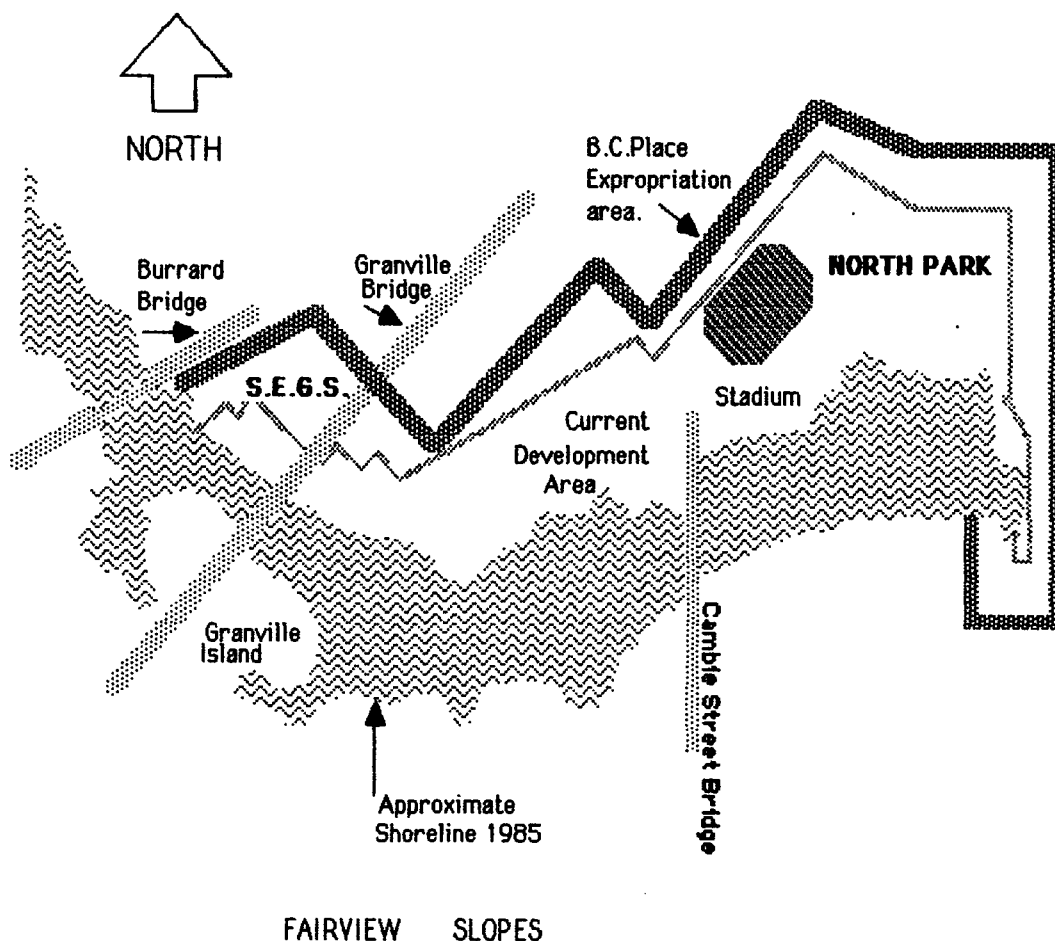
The area comprises 90.6 hectares of land on the north shores of False Creek, **Figure 2**. The site is chosen as a large scale opportunity to introduce a new approach. It offers an opportunity to implement the lessons learned from the developments on the south shores of the False Creek site during the 1970s. The site is undeveloped and free, in large measure, of existing constraints.

An opportunity, to bring into effect new philosophies of city building that have been theorized for years, presents itself. These opportunities manifest themselves in spacial layouts as in the North Park plan presented by the B. C. Place Corporation in 1985. This plan, in that area north of the Georgia Viaduct, has to some extent emulated the conception of urban space postulated by Krier in his book Urban Spaces (1979).

B. C. Place is currently the subject of a planning study being carried out by the

B. C. Place Corporation in partnership with the Vancouver City Planning Department. Some basic urban design guidelines have already been formulated. The scope is to propose a concise set of urban design requirements as an alternative to the guidelines currently being formulated by this partnership.

DOWNTOWN VANCOUVER



MAP OF THE FALSE CREEK BASIN.

Showing the northshore site of B. C. Place.

FIGURE 2.

The B. C. Place site could be a test case for a generic set of urban design requirements. These could, in turn, be applied to other parts of the developing downtown. But the primary purpose is to concentrate on the specific site because the north shore of False Creek is unobstructed by a previously placed,

onerous burden, of physical or legal constraints. This offers an opportunity to propose requirements uninhibited by other extraneous factors.

B. C. Place is a development that reflects a world wide urban condition. London, England, is faced with the redevelopment of dockland areas; an undertaking similar yet infinitely larger than the B. C. place proposals. Liverpool, Kingston-upon-Hull and many other cities in that country are facing similar conditions. In Canada the same situation exists. Since the late 1960s many of Canada's major urban centres have seen vast downtown areas (used previously as railyards and industrial docklands) open up. Toronto is planning, and indeed has already developed a major portion of, the Harbourfront areas. Montréal and Québec are planning to re-define the use of their *vieux cités*.

1.04 Format. There are eight chapters and an appendix. A significant portion is devoted to developing an instrument for communicating the shared vision of urban space. This instrument is the Orthodox Surface Modulator. The Surface Modulator is the pivotal element in the six proposed urban design requirements as the means of communicating the essential elements of urban space to those who will put it in place.

Chapter 2 explains this instrument, the Check List that augments it, and briefly outlines the proposed urban design requirements.

Chapter 3 describes how the Orthodox Surface Modulator is transformed into the Applied Surface Modulator. The Check List is described and each architectural element that is part of the Check List is explained as it relates to the Surface Modulator.

Chapter 4 describes the various ways of perceiving space. It expresses what may be understood by a Shared Vision of Urban Space.

The section of this chapter titled The Principle of Sustained Interest describes how the subjective and subliminal cultural views of the public ought to be expressed by the application of the artist's interpretation; via the medium of the urban design requirements articulating the proposed vision of urban space. The principle describes how the creative composition of the architectural elements of the Check List and the articulation of surfaces by the Surface Modulator may enhance the richness of urban space.

A Theory of Urban Space is proposed. Part of the theory describes a model of urban space as a conceptual means of visualizing the effects of propinquity of building facades. The theory makes a connection between the surfaces that enclose urban space and the way they influence spacial quality.

The contemporary state of urban development in Vancouver is viewed and critiqued in the area of Burrard Street between Georgia Street and the waterfront. The public urban spaces on this street have come about by implementing the currently accepted zoning measures of transfer of development rights and floors space bonusing. This may be said to be an example of what to avoid at B. C. Place.

Chapter 5 briefly outlines the historic background of urban design requirements in the context of the subject of the thesis.

Chapter 6 lists the six urban design requirements in greater detail. Each requirement is followed by an explanation with examples of their application (in some instances).

Chapter 7 discusses the implications of the use of the Surface Modulator. One of the implications is the use of diskette software as a medium for conveying the Applied Surface Modulator as part of the regulatory system.

The conclusion, in chapter 8, postulates what may result in the application of this proposal.

The appendix contains an historical review of past planning and design efforts for the False Creek basin. It was conducted as a first step in preparing this thesis and created the impetus for the proposal presented here.

1.05 Aspirations. If a set of instruments is found that may be included in the special zoning for the B. C. Place site, then this endeavour will have more than served its purpose. Ideally these instruments will provide a means of regaining the beauty of urban space, a quality many would contend is lost and forgotten in recent city developments. This set of instruments will help implement an urban environment that will instill in future generations a sense of urban space that is inspiring and attainable. With a set of urban design requirements, a vision of urban space that emulates the beauty of the Baroque city and satisfies the exigencies of the evolving contemporary city, may be achieved.

CHAPTER 2. THE SURFACE MODULATOR.

The Surface Modulator is the pivotal instrument of the urban design requirements. A Check List of architectural elements augments its purpose. This instrument is explained in the following chapter. First, however, is a brief listing of the six urban design requirements so as to place the Surface Modulator in context.

2.01 The Urban Design Requirements. There are some 1300 pages of urban design guidelines and studies in the Vancouver City Planning Department's roster of instructions to prospective developers and design professionals – not all of them are applicable to the B. C. Place development. As work proceeds it is likely the volume of paper will grow. There is some considerable controversy within the development community as to the effectiveness of these documents (Chilton: 1984).

The six Urban Design Requirements proposed are:-

- * U.D.R. no.1. Interim Land Use. There must be no expedient, ad hoc development carried out to impede the implementation of the shared vision of urban space, as described by a future Amended Surface Modulator. Therefore, a plan will be formulated to describe the essential areas of neighbourhoods and land use.
- * U.D.R. no.2. Site Development. The general volumes of built form will be described, in outline form, using the Amended Surface Modulator. The physical massing of the neighbourhoods will be shown. The Amended Surface Modulator will appear to be a broad contour map of the site at this stage.

* U.D.R. no.3. Physical Form and Design. A more detailed volumetric outline of the built forms will be described, geometrically, using the Amended Surface Modulator. The character of the positive (buildings) and negative (urban spaces) forms proposed to occupy the site, will be depicted.

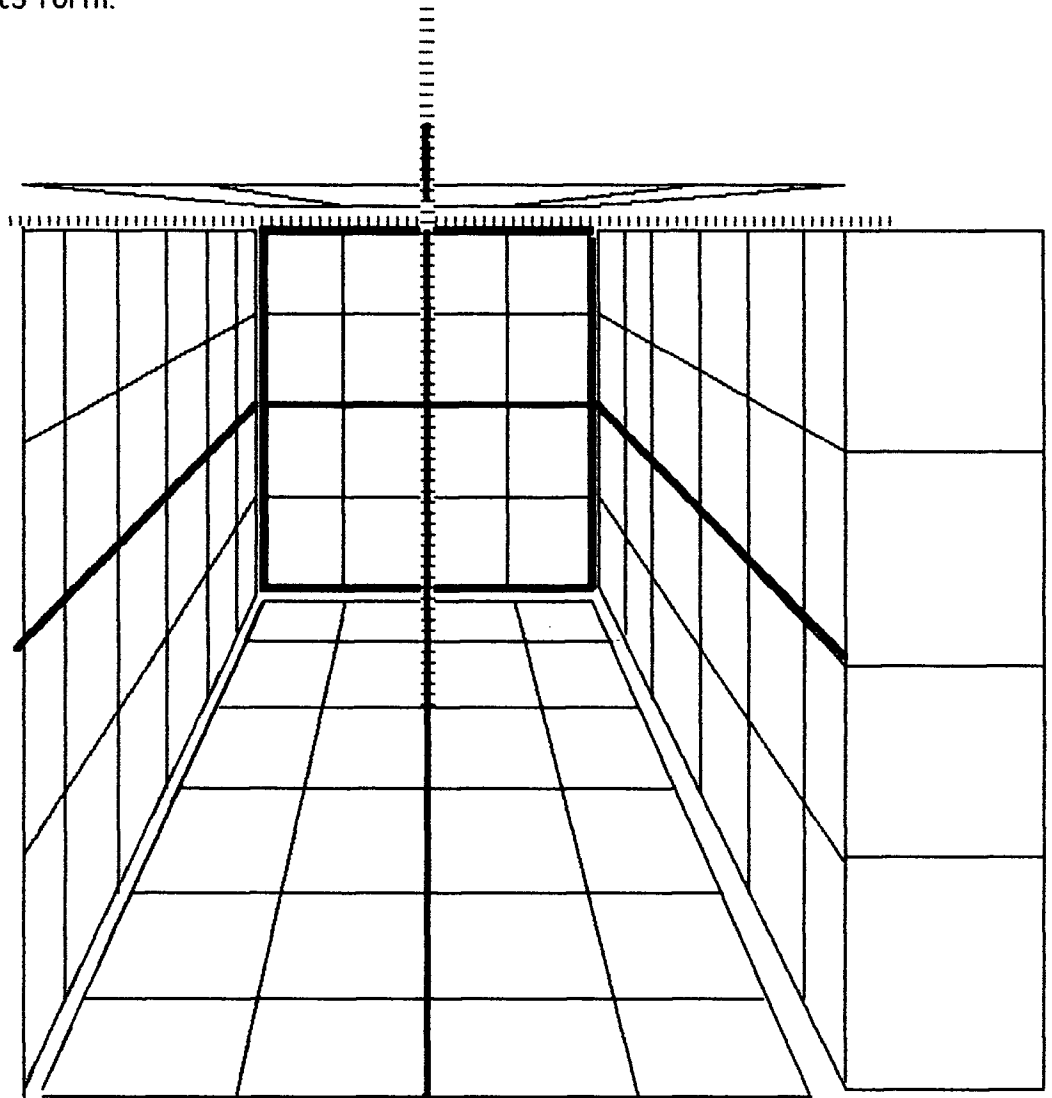
* U.D.R. no.4. Environment. All the environmental aspects of the site should be considered. A response to sun orientation, light/shade, prevailing winds, noise and contours, is articulated by the Amended Surface Modulator. This requirement describes the manner in which, using the Amended Surface Modulator, the developed forms and spaces respond to all the environmental characteristics. The effective use of buffer buildings comes under this requirement.

* U.D.R. no.5. Occupancy. The volume of the built forms are described by the Amended Surface Modulator in a manner that includes most uses and functions. The use to which a volume within a building is applied is open. Density is prescribed by volume not by floor space ratio. This requirement describes the manner, using the Amended Surface Modulator, in which building envelopes enclose urban spaces by including multi-functions within a prescribed building.

* U.D.R. no.6. Movement. All movement within the urban spaces is to be planned in relationship to the form of the urban spaces. This is to be done by relating traffic patterns, using an overlay plan, to the Amended Surface Modulator. This requirement describes the modal split of traffic in relationship to the shape and volumes described by a future Amended Surface Modulator.

2.02 The Orthodox Surface Modulator is the generic term given to this instrument of urban design. The raw material from which the shared vision of urban space is crafted into a physical form is moulded by this instrument.

The Orthodox Surface Modulator is a graphic. As the pivotal part of the urban design requirements, the shared vision of urban space for the B. C. Place site is directed by its form.



The Orthodox Surface Modulator
FIGURE 3.

The graphic form of this instrument is an imaginary set of plane surfaces upon which is described a grid work of intersecting lines, see **Figure 3**. The plane surfaces are metaphors of all the surfaces that enclose urban space. They represent horizontal surfaces such as pavements, roadways and plazas. Vertically they represent the facades of buildings and walls that potentially enclose urban space.

The grid lines enscribed upon the surfaces delineate what will become the architectural features of the surfaces. These lines determine the proportion of openings, the rhythm of columns and openings. They describe the features of the composition.

Space, in its three dimensional form, is represented by the configuration of the cage-like grid work of lines. The building envelope is set by the volume of the Surface Modulator. The public urban spaces, that is the spaces between the buildings, is described as volume between the grid surfaces. The grid like configuration is manipulated by the urban designer. He interprets the shared vision of urban space and the environmental conditions of the site.

The Orthodox Surface Modulator is an instrument to help the urban designer predetermine the shape, area, form and content of urban space as it is enclosed by building facades. It is a mandatory part of the proposed urban design requirements.

2.03 The Check List. A detailed Check List of architectural elements augments the Orthodox Surface Modulator, see **Figure 4**. The two, are related and dependent upon each other.

The architectural elements of the Check List and the manner in which they are applied to the Surface Modulator have no precedent. They, and their application, have their antecedents in the work carried out at the Chicago Institute of Design in the late 1940's.

Two particularly influential authors were teaching at the Institute during that time. They were Lazlo Moholy-Nagy who wrote Vision in Motion (1947) and

Gyorgy Kepes who wrote Language of Vision (1944). The architectural elements are a distillation of the ideas, contained in the books of those authors, tempered by my own design experience as an architect.

The metaphor of the surfaces and the enscribed grid is meaningless until values are ascribed to them. Urban surfaces, upon which lines are etched, do not alone make architecture. So a Check List of architectural elements augments the Orthodox Surface Modulator as a reminder to the urban designer of the surface elements that are needed to make urban space.

The urban designer lays out the grid as a guide to future architectural designers to follow, in order to co-ordinate the composition of the total urban space.

The use of the architectural elements of the Check List are a discretionary part of the urban design requirements. Freedom of design is left to the urban designer to compose the surfaces and the space in the manner that best interprets the shared vision of urban space. Once the urban designer has set up his spacial composition, the manner in which the elements of the Check List are composed, then the elements he has chosen become a mandatory part of the urban design requirements.

The elements of the Check List, **Figure 4**, are arranged graphically in the following manner for ease of recognition. The elements are placed under three headings to denote their category. *Plastique* and *pallette* refer to the manner in which the surfaces are composed and made up. *Emploi* refers to the nature of the activity within the space.

The following paragraphs explain the elements of the Check List. They do not necessarily follow the strict dictionary definition. Their purpose, as stated earlier, is to remind the designer of the make-up and content of the elements of three dimensional space.

PLASTIQUE

**METRE-PROPORTION ENCLOSURE-VISTA
SURFACE CHIAROSCURO AMBIENCE
PROPINQUITY
SCALE
ICON**

PALLETTE

**PERMEABILITY
COLOUR TEXTURE MATERIALS**

EMPLOI

GRAIN MOTION RITUAL

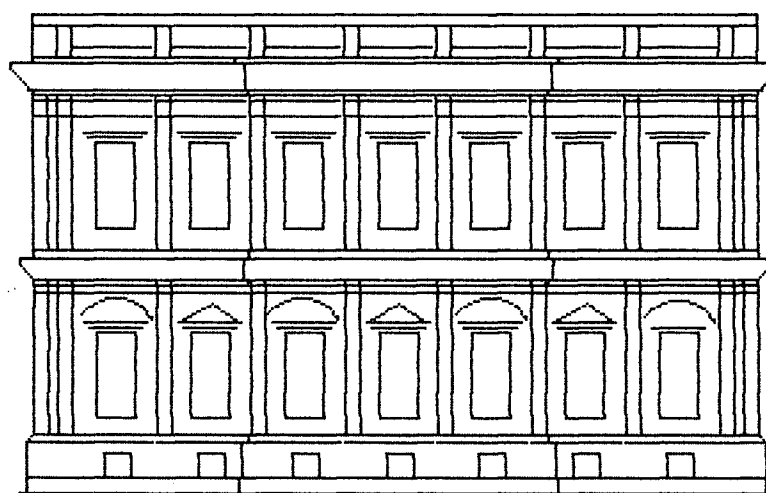
THE CHECK LIST.

FIGURE 4.

Plastique. The art of modelling.

Metre. The lines in the Surface Modulator set up metre, the repetitious intervals of the architectural elements, that make up the facade enclosing the urban spaces. The physical characteristics of the building face, windows, doors and all the architectural characteristics follow this metre. See **Figure 5.** Metre is the manner in which intervals of occurrence (of architectural elements) repeat. It is similar to a device used in poetry.

The verse of Shakespeare is, for instance, set to an iambic metre. This is an occurrence of the rhyming syllables in a di-da, di-da sequence. The facade of the Banqueting House, Whitehall, London designed by Inigo Jones in 1621 has a repetition of windows and wall surfaces set up on that rhythm.



The Banqueting House.

Whitehall Facade.

FIGURE 5.

This outline figure shows the manner in which metre is set up. It illustrates the close relationship between proportion and metre.

Proportion.

Note: The facade is based on the proportion $1/\sqrt{618}$ the Golden Mean. See figure 26.

Metre.

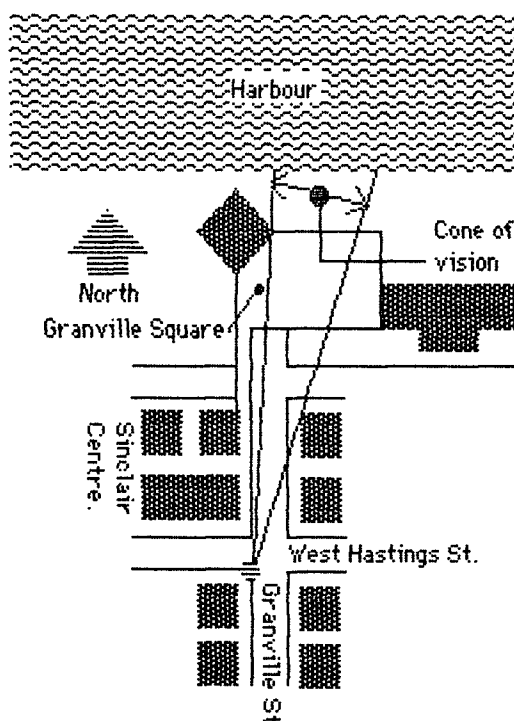
Note: The rhythm of the windows and the pediments.

Proportion. This is hyphenated to metre; the two are closely related. See **Figure 5**. It is the expression of relating comparative parts. The size of a wall panel, or opening, may be compared in its area to the total wall surface in which it is situated. Width and height may be articulated to define proportion. Proportion is inherent in the artistry of the composition of the architectural elements.

Enclosure. The nature of space is enclosure. Surfaces enclose it. The manner in which the surfaces are shaped moulds urban space. It is related to a sense of space explained in *A Theory of Urban Space* (4.02).

The contemporary, cultural sense of space comes from man's early instinct for shelter (Olivier: 1969: passim). A primitive sense of security evolved, in history, into a symbolic language of faith (Kepes: 1944: p.8). The Sumerian ziggurat and the medieval cathedral became focal points around which the indigenous

community grew. Eventually the market became as much a part of the city as the ceremonial religious display spaces. Soon these spaces became a symbol of stature, monuments in planning; as in the Third Empire Paris (Sutcliffe: 1971: passim).



A Cone of Vision as seen from the corner of Granville @ Hastings

FIGURE 6.

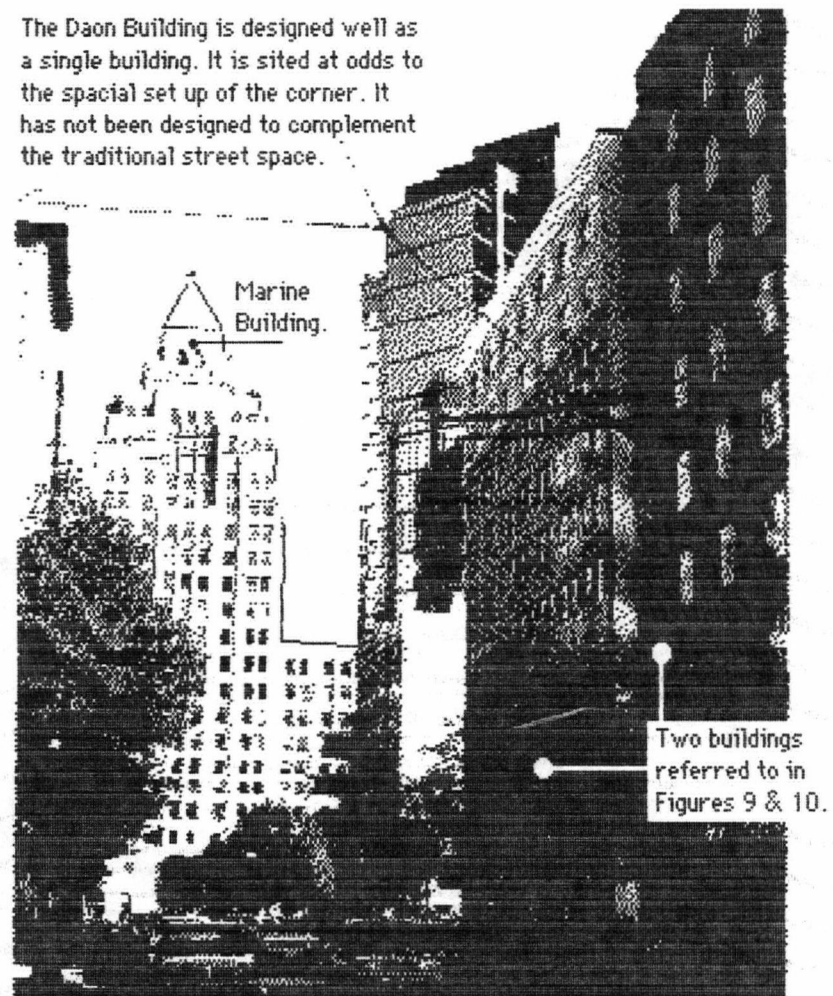
The tradition of the human need to congregate is the motivation behind the creation of urban space (Olivier: 1969: passim).

Vista. Enclosure is closely related and hyphenated to vista. Vista penetrates enclosure, opening an opportunity for a cone of vision. A cone of vision is the imaginary triangular, horizontal plane seen from the eye to the distant vista through the interstices between buildings, see **Figure 6**.

For example, a vista of the harbour and north shore, looking north down Granville Street, in Vancouver, B. C., is circumscribed by the buildings on the street. The cone of vision vista as seen describes a view of the water and the harbour framed by the buildings of Granville Street. The interstice between enclosing surfaces of an urban space provide an opportunity for vistas, or views.

The art of enclosure requires carefully placed space in relation to openings and penetrations between buildings. Vista is the opportunity to penetrate the enclosure.

The Daon Building is designed well as a single building. It is sited at odds to the spacial set up of the corner. It has not been designed to complement the traditional street space.



The Marine Building completes the spacial enclosure of west vista.

West Hastings Street.

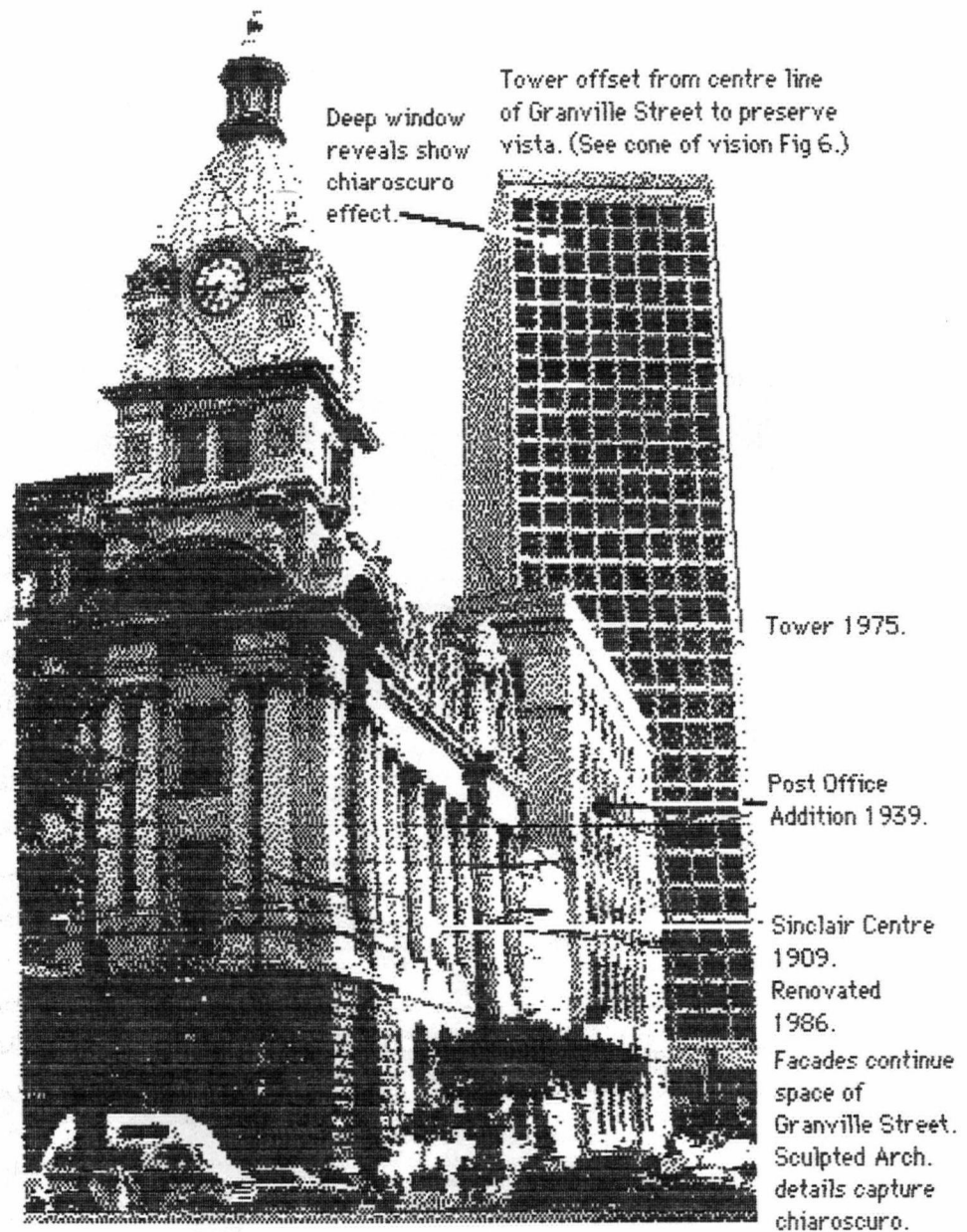
Viewing westward, 800 & 900 block.

FIGURE 7.

A view of street enclosure is seen in **Figure 7**. This street space is a good example of urban space enclosure. The view shown is towards the west, along West Hastings Street, Vancouver, B. C., Canada.

Surface. Surfaces are the basic ingredients of urban space. The manner in which surfaces are related determines the ambience of space enclosure. The

imaginary grid work planes of the Surface Modulator are the metaphoric representations of the surfaces.



North West corner, West Hastings Street @ Granville Street.

Old Post Office, now Sinclair Centre. Granville Square behind.

FIGURE 8.

The composition of the Check List gives the surfaces quality. The surfaces comprise the walls, the pavements and the overhead features. The following four headings are the ingredients that make up the quality of the surfaces.

Chiaroscuro. Chiaroscuro is light and shade. This is rare in modern architecture. The severe surfaces of sheer glass walls do not lend themselves to the play of light.

The post office corner of the Sinclair Centre, **Figure 8**, shows a chiaroscuro effect of the surfaces of late revival architecture. The indented facades demonstrate the effectiveness of the play of light of the deep window reveals on the Granville Square tower. Architectural elements on a surface, window openings, columns, cornices etc., set up light patterns in different environmental situations. The movement of the sun throughout the seasons and at different times of the day contribute to the effect. These varying qualities form compositions on the surfaces that respond to moving light conditions.

Ambience. The subliminal effect of the surroundings on our psyche is conditioned by ambience; the general and overall view of the total composition of the space. It is an intangible value bringing all the senses to bear on the composition of the space. It is the sum total of colour, texture, shape, form and the artistry with which they are composed.

Propinquity. The nearness of objects, surfaces etc. to one another in space is propinquity. It creates the flux in the model of urban space described later, see **Figure 24**.

Scale. This is a reference of size in relation to a predetermined hierarchy. One hierarchy of scale could be in relation to the human form. Vitruvius and Leonardo da Vinci expressed this level of scale in their proportional representation of the Norm-man. This is described in greater detail later, see **Figure 27**.

Icon. Symbolism is icon. The values of society are expressed in the, oft taken for granted, details imposed unwittingly upon urban artifacts. The response is subliminal. Symbols may be chosen to appropriately represent the use, meaning, and function of urban space. Symbolism may be unconsciously demonstrated.

Icon, as symbolism, is an element in the design that may be used consciously to communicate a collective value system such as a shared vision of urban space.

Symbolism is a culturally conditioned value. Early religions used steps, as the temple is approached, to invoke an awe of religious mysticism in the minds of the uninitiated. This has carried through into modern times through the medium of classic proportion. Banks and other public institutions use, for example, the classic order of columnated facades, invoking the icon of the Greek temple, to inspire confidence in the financial system. Often this a subliminal effect both on the part of the observer and the creator. When the language of the symbolism is so culturally entrenched it is unquestionably accepted as icon.

Contemporary icon is found in the manner in which hotel or office building lobbies may be decorated. Modern architecture is rife with an icon that defies traditional definition. That in itself is subject to the interpretation of icon as, ostensibly, no symbolism.

Palette. All the items under this heading are surface materials. They are the elements of the building facades that are immediately evident to the visual and tactile senses.

Permeability. The manner in which the design elements, on the surface, draw the attention of the observer into the depth of the surface is the absorption factor; permeability.

Layered surfaces, glazed openings, complex surface compositions and overlayed planes can have the effect of drawing attention into the surface beyond the immediate perception. The diapered, mosaic, features of Moslem architecture encourages the attention to penetrate beyond the immediate surface.

Colour. (Colour has a profound subliminal effect on our psyche). Colour theory is a science; colour application is an art. Colour can be used as an application on a surface or as an integral part of the material of which the surface is composed.

Colour is an element in which social conditioning plays an important part. Colour is not inherent in the surface material so much as a quality of wave length to which the retina responds. Colour interprets the meaning of that response to the visual cortex of our brain (Ross: 1986).

Colour is a matter of relationships. Colour cannot be valued out of relation to its surrounding colours. Colours complement one another in a manner that, when in juxtaposition, they enhance one another (Chevreul: 1839: passim).

Colours are used to modify and enhance the ambience of a volume. In specifying colours spatially, proportions as well as dimensions have to be considered (Itten: 1970: passim).

Texture. The quality of surfaces that respond to a visual and tactile experience are textured. Texture may be composed as a closely experienced quality inherent in the material of which the surface is made or it may be experienced as distant elements made up by combining architectural facets applied to the surface (Moholy-Nagy: 1947). To some extent, a tactile quality can be used in the same manner as chiaroscuro but on a smaller scale. Chiaroscuro refers to large scaled elements and light reflection. Texture is more to do with surface substance; small scale and touchable.

Materials. Materials are the stuff of which the surface is made. That may be natural stone, wood or many modern building materials, or it may be manufactured; i.e. metal, concrete or plastic.

Many decorative effects can be achieved with the use of well composed contrasting or complementary materials. They may be structural or they may be decorative.

Emploi. The employment of space and the occupation that transpires within a space can be influential. The intent of the meaning is to express activity as a reference to the manner in which the urban space is used.

Grain. This refers to the consistency of the traffic moving in a space. If the grain is defined as being coarse, the traffic is mixed; i.e. trucks, private vehicles and pedestrians. If movement is defined as being fine it may be, say, vehicular traffic, moving in one direction, or pedestrian traffic on a restricted pathway.

Motion. Motion in space is the direction and velocity of movement within the space.

Ritual. The nature of the activity within the space becomes ritual. A ritual may be a simple meeting of two friends or it may be a glorious parade. It may be a commercial activity or it may be a private small scale occurrence.

This is the explanation of the Orthodox Surface Modulator and the Check List. These two devices used together are the proposed urban design tools. Their purpose is to define and create a shared vision of public urban space.

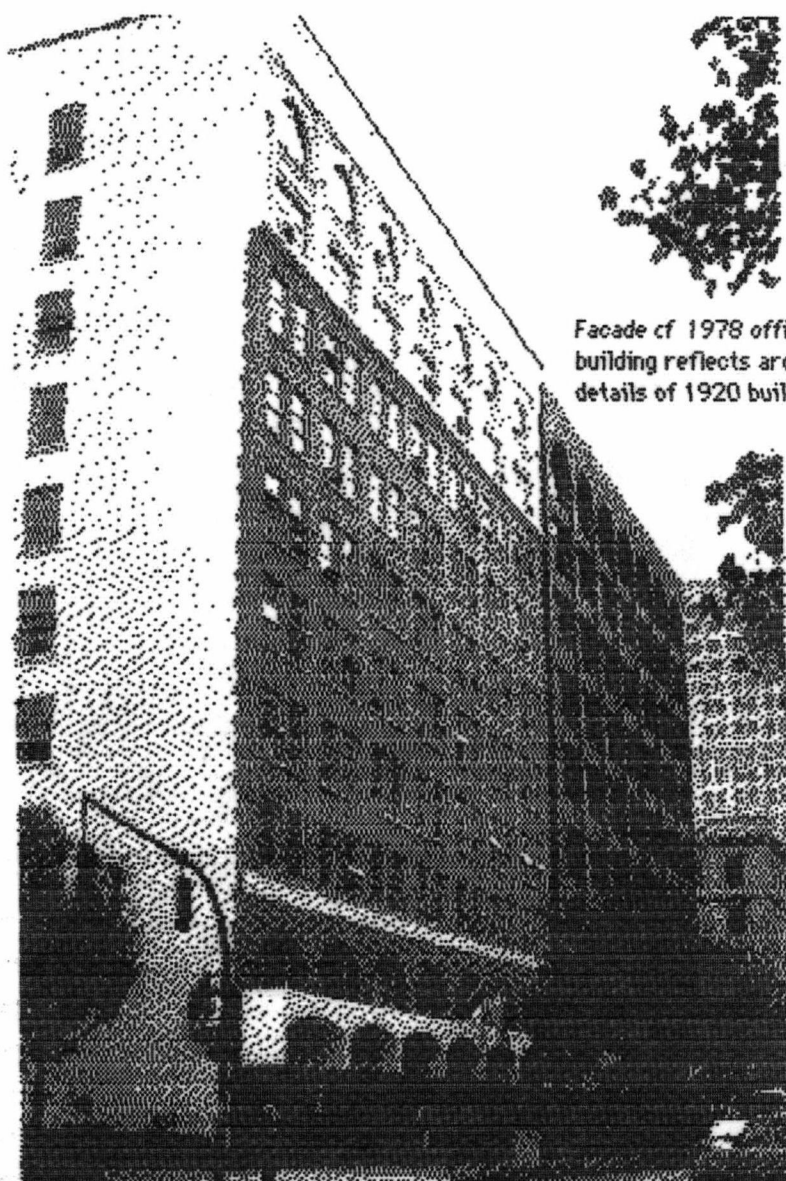
CHAPTER 3. THE SURFACE MODULATOR APPLIED.

3.01 The Applied Surface Modulator. The Orthodox Surface Modulator, comprised of the imaginary planes, as **Figure 3** illustrates, becomes the Applied Surface Modulator after the grid lines have been composed to fit an on-site set of conditions. In combination with the Check List of design elements, **Figure 4**, it is the instrument for implementing the urban design requirements. These planes represent walls, roofs, pavements, plazas and whatever elements contribute to a sense of enclosure. They are imagined in the mind's eye of the urban designer. Once imagined they are drawn and may be placed in a computer program to be manipulated with ease and convenience.

The Applied Surface Modulator is site specific. The grids of the Orthodox Surface Modulator are articulated to meet special environmental conditions and the shapes of the spacial forms; that is when it becomes the Amended Surface Modulator. The site conditions are, among many things, topography, sun orientation and the physical characteristics of the elements that constitute the building area. The Applied Surface Modulator, in the hands of the urban designer, presets the general spacial principles of the building envelopes and the spaces between.

A limited application of an instrument similar to an Applied Surface Modulator has recently been used by the Vancouver City Planning Department. In this case it has been applied as a "Build-to Line" (see chapter 5). **Figure 9** shows two buildings on the 800 block West Hastings Street, Vancouver, B. C. , Canada. They were designed decades apart by separate architects. In order to preserve the architectural continuity on that part of the street the Planning Department set about co-ordinating the facade of the new building (built in 1976), to the facade

characteristics of the older building. In the Vancouver City Planning Department they refer to that process as good neighbourliness.



Facade of 1978 office building reflects arch. details of 1920 building.

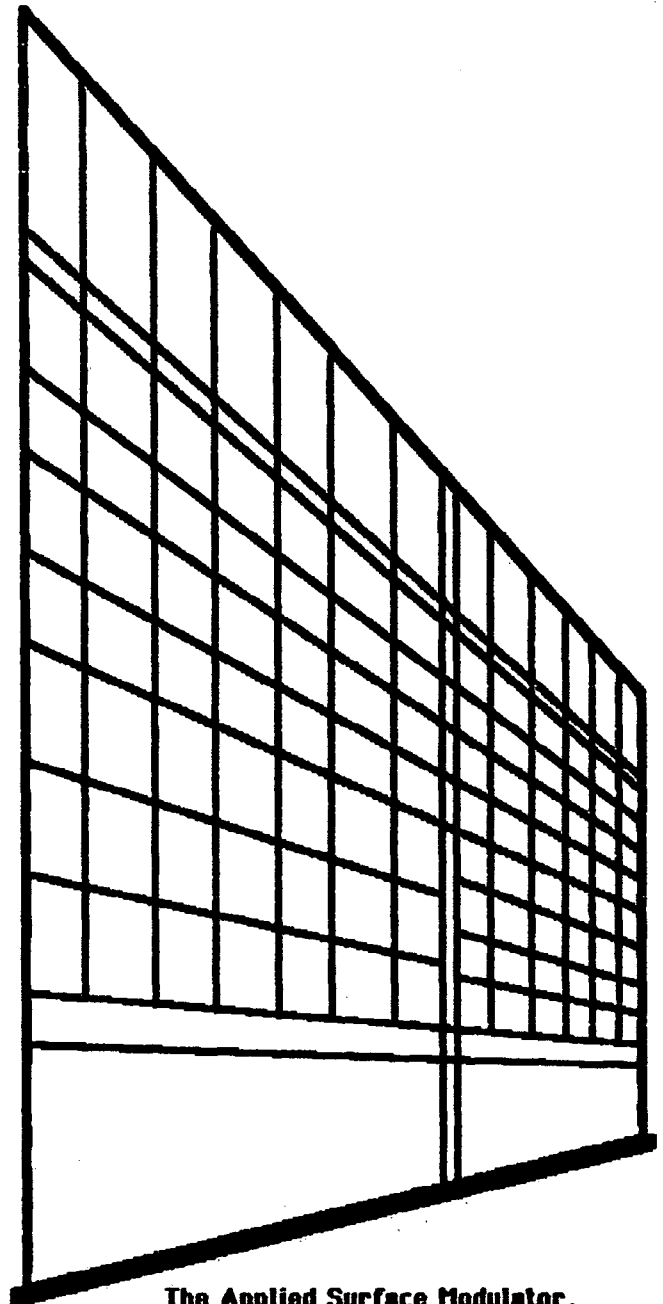
West Hastings Street.

North side, 800 block.

Figure 10 represents the theoretical Applied Surface Modulator for the coordinated facades of these two buildings.

FIGURE 9.

An Amended Surface Modulator was not used but **Figure 10** is an application imagined as if one had been used. It is a good example of the application of the Build-to Line in the city. It approximates the practical application of the Amended Surface Modulator as near as there are examples to show.



The Applied Surface Modulator.

See Figure 9. West Hastings Street, Vancouver, B. C.

FIGURE 10.

3.02 Scenario. An explanation of how the Surface Modulator is applied can be understood best by tracing the events of one possible scenario of the development process. The following paragraphs imagine a sequence of events depicting the relationships between the various protagonists in the planning of the development of a new urban space.

The building of an urban environment is a collective undertaking. There are many persons and organizations involved. In describing a scenario of how urban space is created by using the Applied Surface Modulator first the role, in this instance, of those involved in the deliberations must be clarified:-

.0201 The Public. In the final analysis all the other protagonists are responsible to the public. Today the public expresses their collective vision of urban space primarily through the medium of public meetings. Their vision is expressed in general terms such as all high-rise development or low-rise, the mix of park land to built-up land, the type of land use as a mix of commercial, office, residential.

.0202 The City. The City is responsible to the public. The role it must perform at B. C. Place is circumscribed; a Provincial Crown Corporation is not bound by the City's by-laws. Precedent has enabled the City to represent the public by working in partnership, on the planning, with the B. C. Place Corporation. They have carried out their mandate by conducting public meetings, administering the urban design guidelines through the development permit process and ensuring their intent is carried out.

.0203 The Planner is the agent of the City.

.0204 B. C. Place Corporation is the Crown Corporation responsible for the development of the site. The Corporation is responsible to the Provincial Government.

.0205 The Urban Designer is the agent of B. C. Place Corporation. He is also the agent of private development companies who have been authorized by B. C. Place

to develop certain portions of the site. He is the professional responsible for interpreting the shared vision of urban space, converting it into an Applied Surface Modulator, appropriately manipulated to the conditions of the site, as an instrument to communicate to the architects.

.0206 The Developer is the individual or company responsible for organizing the construction of the buildings and spaces on incremental land parcels. Sometimes small developers are referred to as builders.

.0207 The Architect is the agent of the developer.

3.021 The following scenario is one of many occurrences that may result in a completed development. The events are described for illustrative purposes only. The scenario shows how the Applied Surface Modulator may be used to implement a shared vision of urban space within the general framework of the existing regulatory system:-

.0211 The public expresses its shared vision of urban space through the medium of public meetings or other appropriate means.

.0212 B. C. Place Corporation calls upon their urban designer to interpret the vision into a coherent package that may be communicated to prospective developers. It is done by applying the Surface Modulator to the overall site. The urban designer creates a design that responds to the physical characteristics of the site. At this stage the design is conceptual. Its purpose is to provide a broad framework that will give a general direction. The term Overall Development Framework, O. D. F.'s (section 6.022 of the thesis) was chosen by B. C. Place (Report no. 3: April 1983) to designate this level of planning. The urban designer

will use the Applied Surface Modulator to describe the overall volumes and heights in various parts of the site. At this stage the details of the Check List will not be applied.

A second stage of planning may follow. Accordingly, the site is divided into smaller increments in response to the physical and environmental constraints. The site then becomes divided into Overall Development Plans, O. D. P.s (Report no. 3: 1983) and within the O. D. P.'s the urban designer may designate smaller increments of land called Area Development Plans, A. D. P.'s (Report no. 3:1983). The development sequence of the O. D. P.'s and A. D. P.'s may be ascribed by B. C. Place according to market conditions.

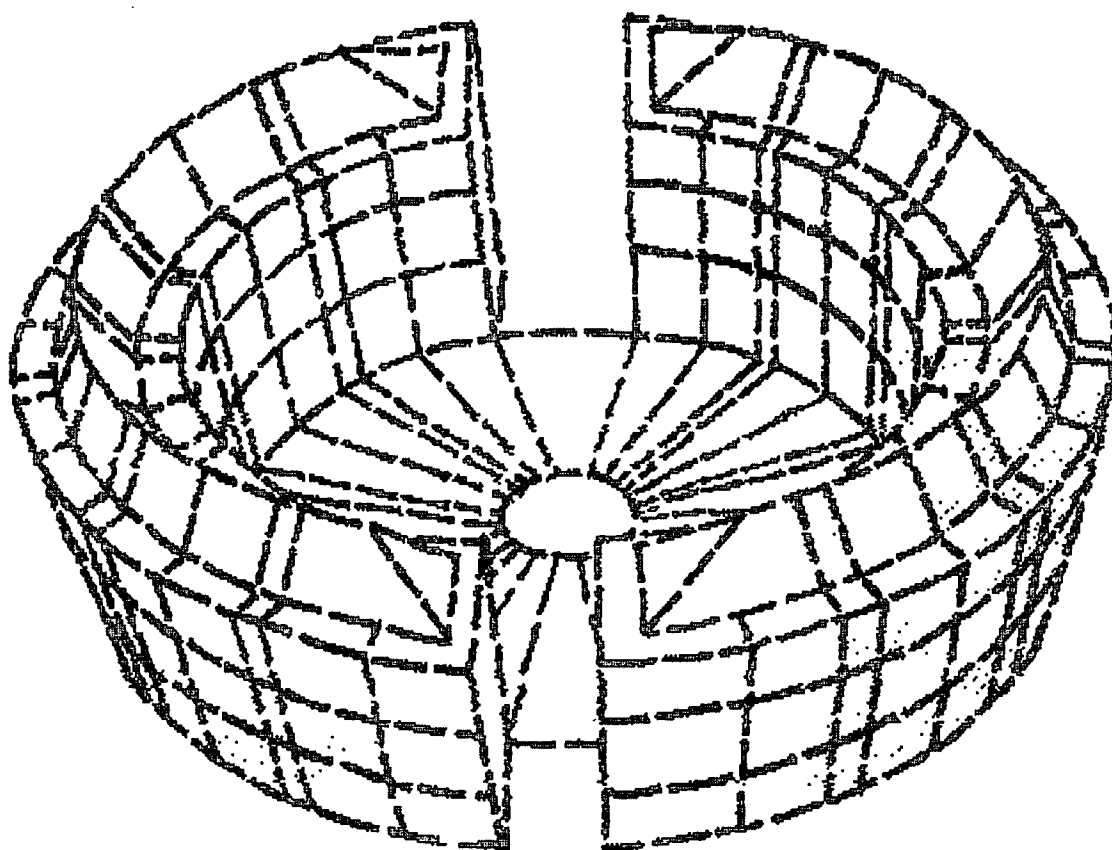
At this stage the Applied Surface Modulator describes the general form of the neighbourhoods in response to environmental conditions. These should be approximately 15 hectares in area, which is what an A. D. P. should be. Buffer buildings (section 3.03) may be described at this stage. The form of the neighbourhoods then become recognizable.

.0213 On a continuous basis throughout the negotiations a consultation frame work is installed so that the designers and developers keep the City's Planning Department fully informed on the current proceedings. The planners contribute and participate in this consultative process.

The City responds by adopting the concept of the Amended Surface Modulator as a part of the B. C. Place Expo development district (B. C. P. E. D.) Zoning.

.0214 The B. C. Place Corporation chooses to develop some Increments.

.0215 A developer expresses an interest in one or more of the A. D. P.'s. Considering his pro forma, the developer instructs his urban designer to set up a scheme of building envelopes. The urban designer is instructed to follow the concept of the O. D. F. and develop the concept in further detail. The urban designer uses the Amended Surface Modulator to describe it by following the shared vision of urban space established by the public input process.



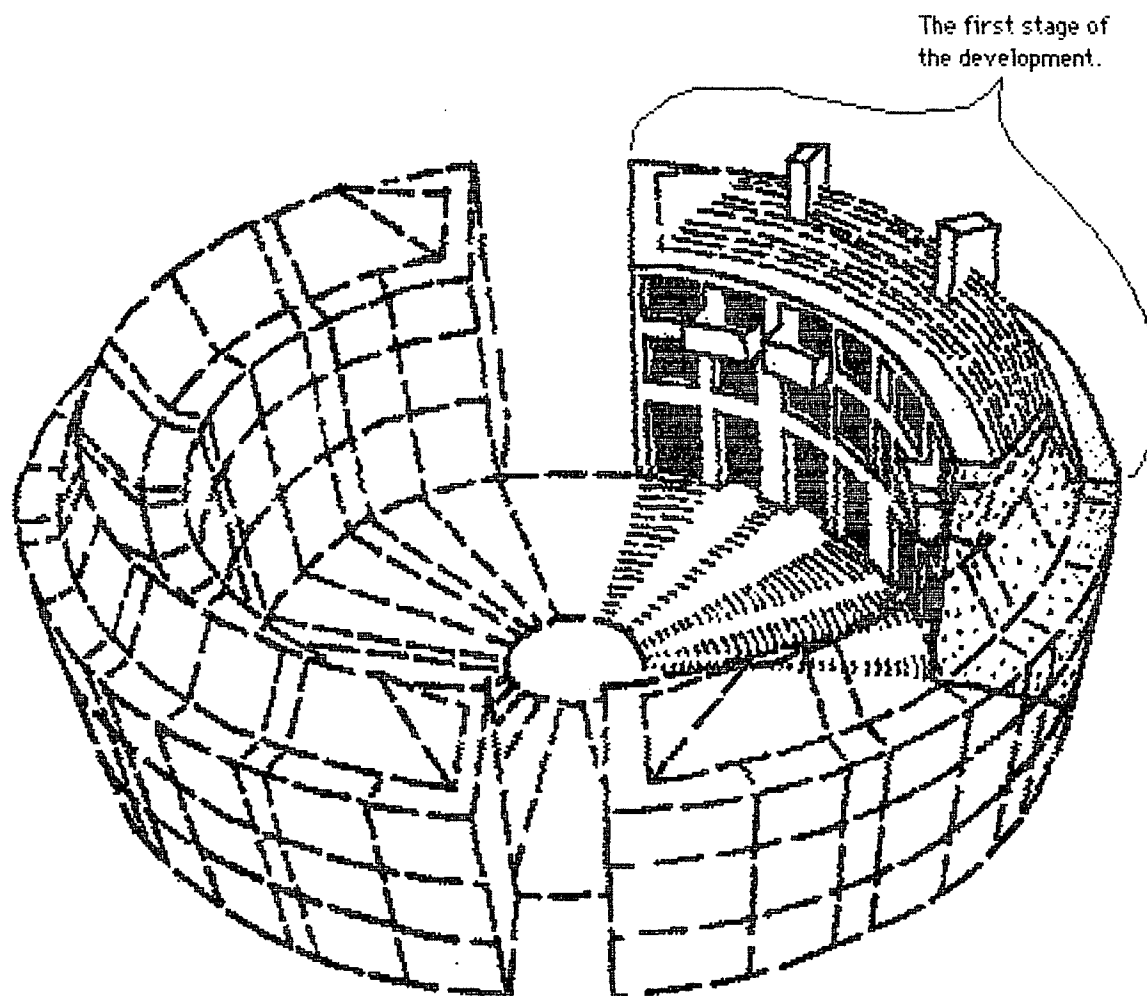
The Amended Surface Modulator.

The abstract grid as it would
be inserted into a by-law.

FIGURE 11.

The Surface Modulator sets up the building forms, the spaces between the buildings and the quality of the surfaces that enclose the spaces. At this stage the architectural details of the Check List are introduced. The urban designer has the freedom to apply the architectural elements of the Check List in a manner suitable to his interpretation of the shared vision of urban space. But once his

composition is finalized all subsequent architects working on the space must follow the items as they are described.

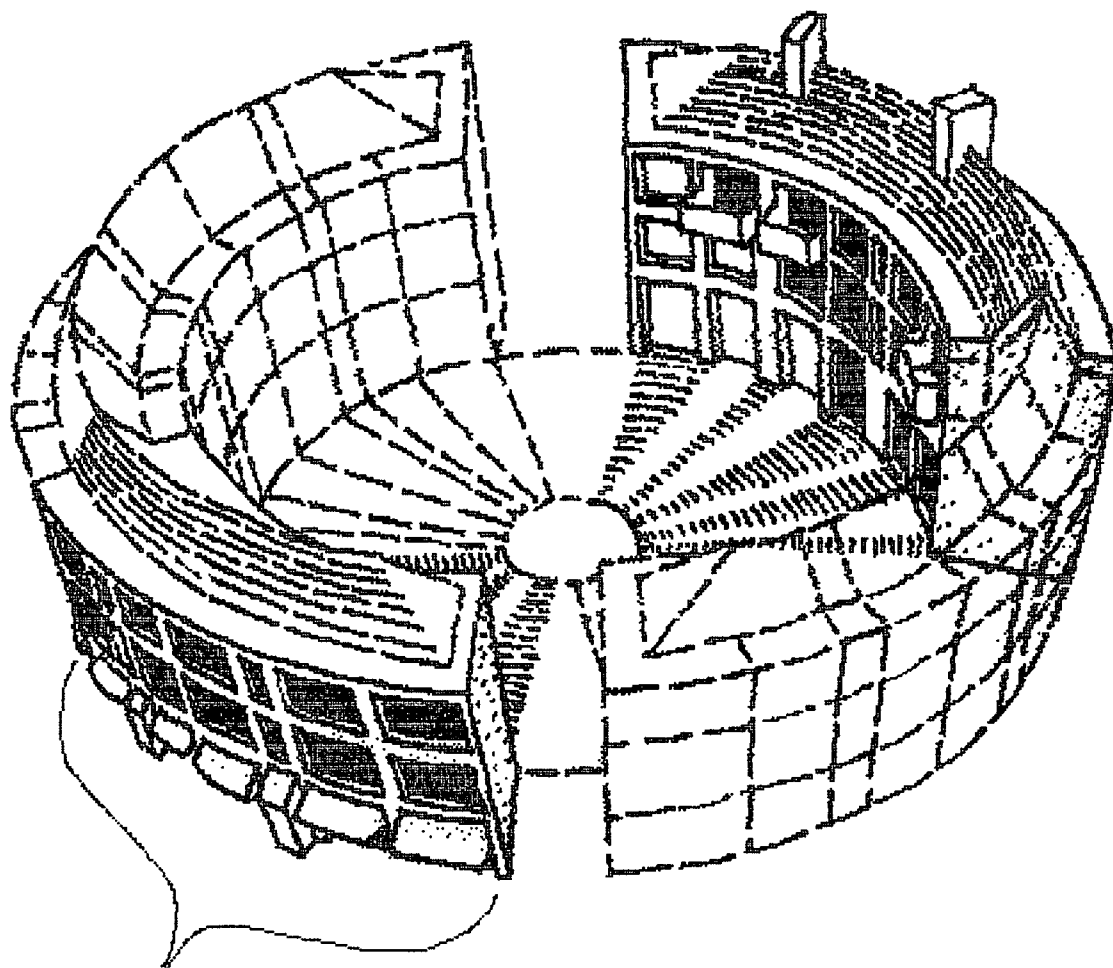


The Amended Surface Modulator.
In this figure the first stage
has been placed into the spacial composition.

FIGURE 12.

The urban designer, in the process of compiling the spaces, must designate minor tolerances in specifying the application of these instruments lest the freedom of subsequent architects is hindered beyond practicality. The grid lines on the Surface Modulator are intended to set up the proportions and rhythm of the architectural characteristics and the quality of surfaces that enclose the space. Within this context freedom of creative expression must be encouraged not blocked.

A negotiated decision could be reached between B. C. Place and the developer on the spacial configuration. The planner is then responsible for ensuring compliance with the original concept which would be adopted as the City's development control for the area. Agreement is the consequence of a shared vision of the urban space. This shared vision is expressed graphically by using the Amended Surface Modulator and Check List.

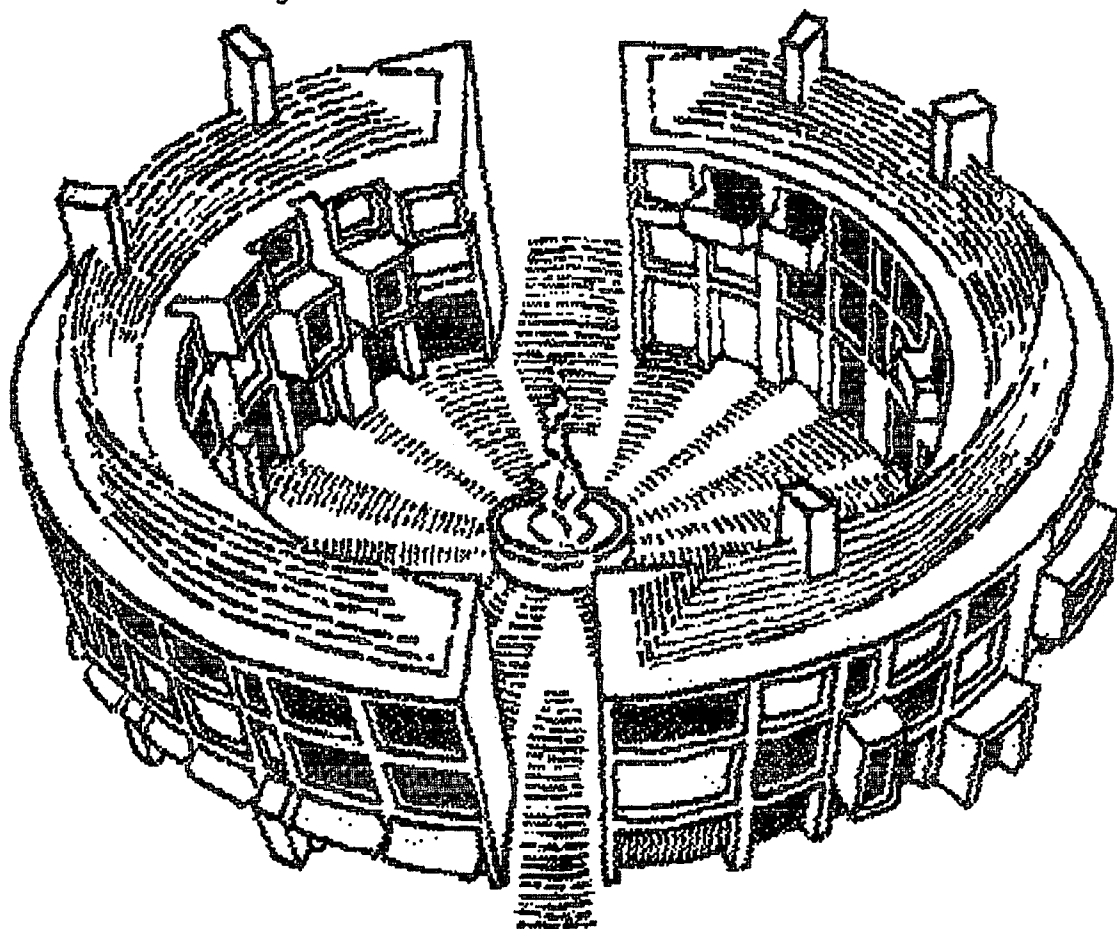


The second stage
of the development.

The Amended Surface Modulator.
FIGURE 13.

.0216 The developer proceeds to market land covered by the A. D. P.s over a period of time. Work proceeds with many builders, developers and design professionals participating. Individual designers of each parcel need not be in communication with one another but are, nevertheless, guided by the vision graphically communicated by the Amended Surface Modulator and the Check List.

Figure 11 is a graphic depiction, in abstract form, of what the urban designer has compiled. The Amended Surface Modulator is included as a part of the development control designated for that A. D. P.



The Amended Surface Modulator .
 The urban space is now completed.
 All developers and designers followed
 the shared vision of urban space.

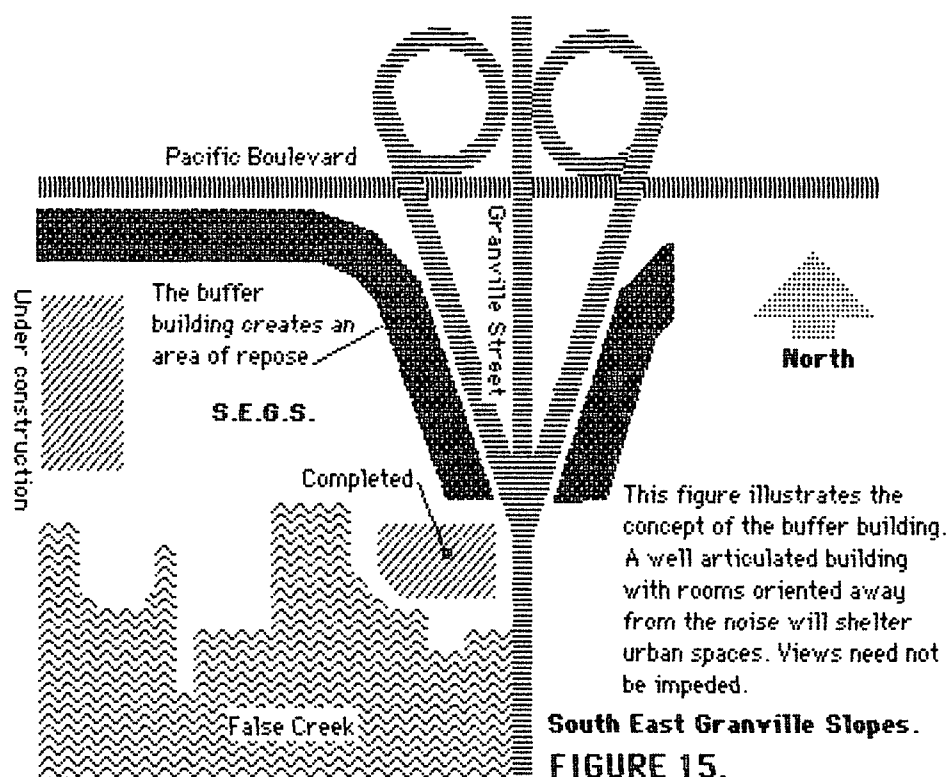
FIGURE 14.

.0217 Smaller developers proceed to organize for the design of buildings and spaces within the A. D. P's. They call upon their architects to draw up detailed plans in accordance with the Amended Surface Modulator and the Check List.

The architects are bound by the development control to follow the broad spacial requirements of the Applied Surface Modulator and Check List. **Figure 12** shows how the development may begin. The first building has been constructed within the grid framework.

Inside the building envelope the architects have design freedom. The integrity of the shared vision of urban space will be preserved by following and using the Surface Modulator and Check List. **Figure 13** shows the buildings proceeding according to plan. There are still some remaining parcels of land to be developed.

The sequence of buildings that are constructed follow the predetermined spacial configuration of the Applied Surface Modulator and Check List. Finally the development is completed. **Figure 14** shows the vision of urban space as it is completed.



There is room for individual idiosyncrasies of the designers but the integrity of the space has been followed. Many organizations have been directed towards completing the whole vision.

3.03 Environmental Buffers. Environmental and site conditions should be considered when applying the Surface Modulator to interpret the shared vision of

urban space. Buffer buildings can be designed to ameliorate much of the negative effects that may arise. Micro-climates, noise protection and views are issues that are tempered by the design and judicious placement of buffer buildings.

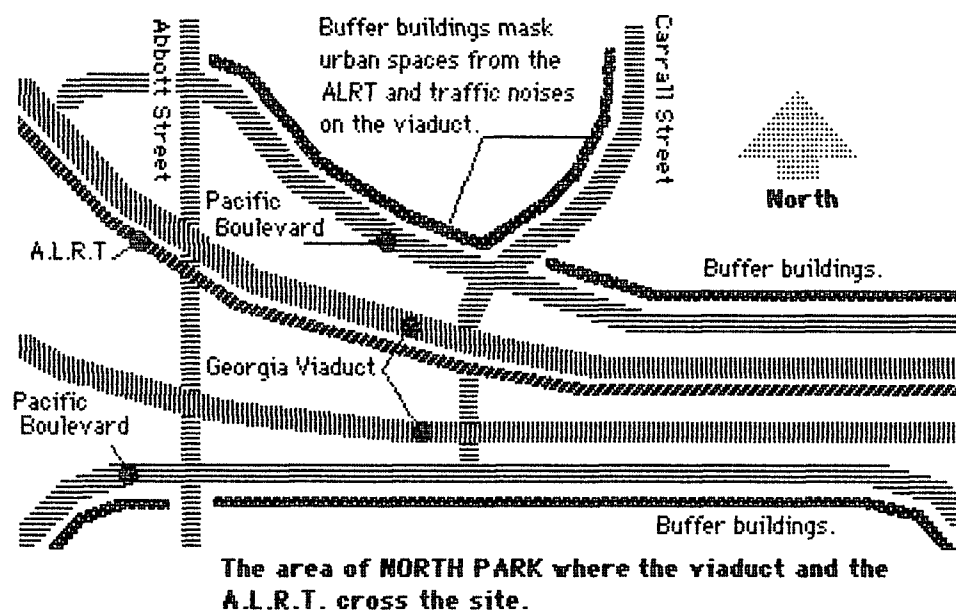


FIGURE 16.

Buffer buildings are structures purposefully designed to shield passive urban spaces from noise. The placement of buffers should shield a space from the noise of a busy bridge or congested area.

Micro-climates can be created by articulating buffer buildings. Their shapes can provide protection from wind and their surfaces may be designed to direct and reflect sunshine into a special urban area.

Buffer buildings may be formed to frame views. They may themselves be views if designed appropriately. A well designed buffer building, surrounding a well designed urban space, should be considered a worthwhile view in its own right.

The urban designer uses the Amended Surface Modulator to communicate the shape of buffer building envelopes that, in turn, define urban spaces.

In the early 1960's the concept of the buffer building was first proposed by Ralph Erskine, a Swedish architect in his design proposal for the northern Swedish community of Svappavaara. He first proposed them for climate control in northern communities. Subsequently, during the early 1970's he built a very successful buffer building in a housing development, dubbed the Byker Wall, in Byker, a suburb of Newcastle-upon Tyne, in England. He designed the form of the building to shield a very well contained, compact housing development from the deleterious environmental effects of a traffic thoroughfare immediately to the north.

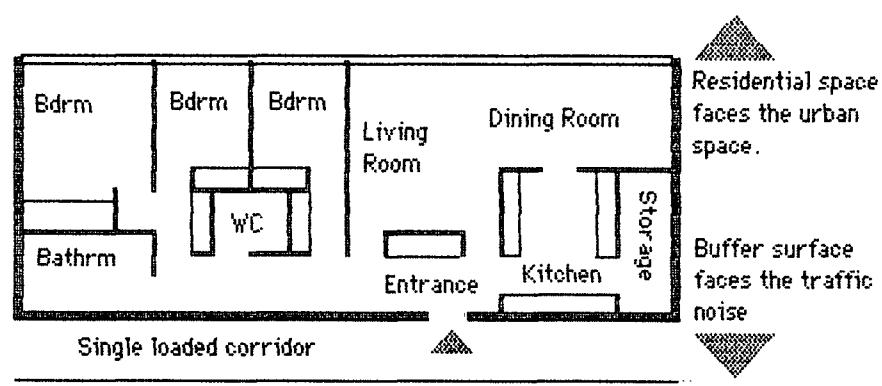
A similarly successful use of the buffer building was applied in the St. Lawrence development in Toronto (Hulchanski:1984: passim). The Cathedral Court Co-operative was designed for this purpose, see **Figure 31**. The development runs alongside the transcontinental railway tracks adjacent to downtown Toronto. The buffer building was placed along the length of the tracks. It shielded the housing from the noise and unsightliness emanating from the rolling stock.

Figure 15 demonstrates the possible application of buffer buildings used to temper the overpowering presence of the Granville Street Bridge in the area of the South East Granville Slopes Overall Development Plan.

Figure 16 shows the possible use of buffer buildings in the North Park area of B. C. Place. They are articulated to counteract the inevitable noise pollution emanating from the advanced light rapid transit line (A. L. R. T). The articulation of buffer buildings in these two cases is for environmental purposes.

They may also be used to define views and vistas and create a sense of urban space. **Figure 17** shows a suitable building plan for a buffer building.

Toronto City Hall is a good example of a buffer building and a fine example of modern architecture. The Finnish architect Viljo Revell was the designer. In developing the design he was responding to the micro-climatological conditions in a manner similar to that used by Ralph Erskine. Both worked under similar environmental conditions. Because of this approach the form of the Toronto City Hall building presents its back on the northern part of the city. The north aspect of the building makes no reference to the city behind it. The significant architectural effect is directed towards the south, Nathan Philips Square. The buffer aspect of the form is well intended but the city is excluded; and that need not have happened. Such an omission can be avoided on the B. C. Place site.



A type of buffer building plan.

FIGURE 17.

In the False Creek, south shore, development the buffer condition was handled by using an earth berm (Canada Mortgage & Housing Corporation: 1977). To the south of the residential areas there is a busy road and a rail line. The berm was placed between these areas and the traffic, as an effective means of environmental shielding. The berm technique is very wasteful of urban land.

There is a close relationship between the concept of urban space created by buffer buildings and the opportunities for views and vistas. Views and vistas, in Vancouver, are traditionally of the water and the mountains. In most cases not

all suites can enjoy such views despite ingenious plan layouts. If high buildings are designed for a view they may be sited at the expense of others whose windows do not face the view. In this case, a pleasant view or vista can be created by well designed buildings and urban spaces.

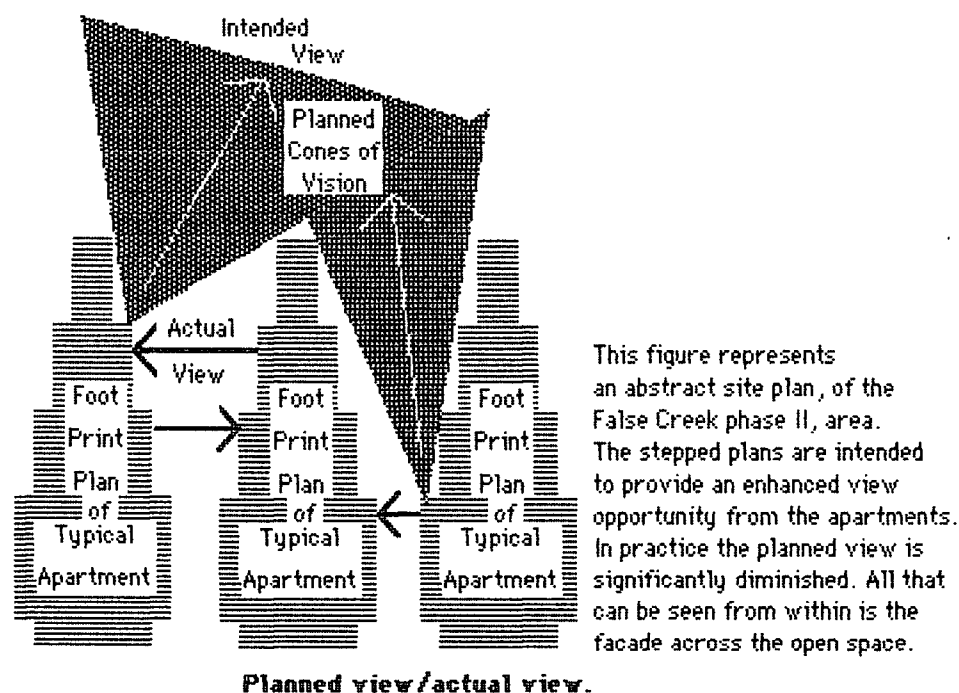


FIGURE 18.

If a vista of the mountains is to be provided for a few windows, clearly not all can enjoy the amenity. The question remains as to what proportion of windows can practically be exposed to a realistic vista. Generally access to the view is less than had been planned for.

The design priority of the False Creek, south shore, phase II development has been views. The spacial configuration of the buildings took second place. The purpose was to design a building form that provided as many suites with views as possible. The ensuing layout may indeed fulfill this requirement in theory. In practice only a limited number of suites were accessible to the view. See **Figure 18.**

The notion of views should be predicated upon the prospect of a well designed building being the view as well as the panoramic vista. The buildings and spaces between the buildings should, themselves, be seen and designed as an amenity of the vistas and views available on the site.

Despite the very high priority afforded the vistas and views in the planning process the low percentage of those able to enjoy the amenity has gone unnoticed. The concept of the creation of urban space with well designed buffer buildings is a means of providing more urban views as well as panoramic vistas.

CHAPTER 4. SPACE.

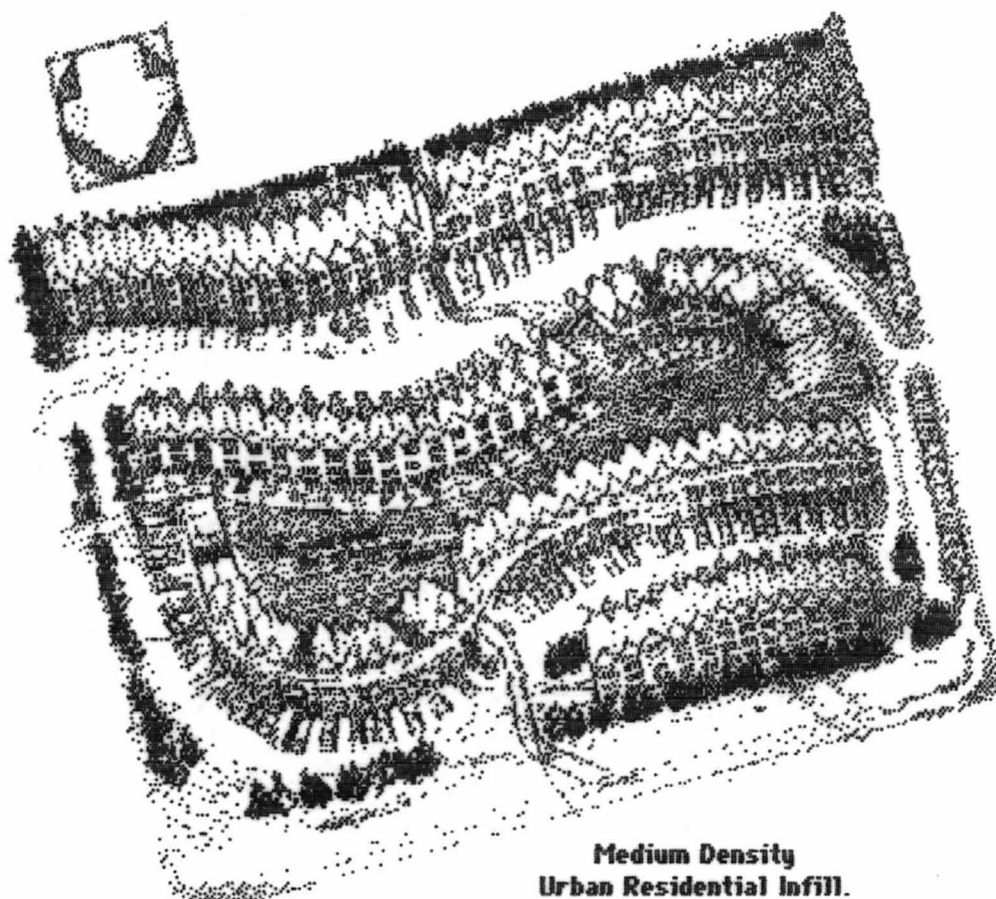
Urban Space is discussed in four sections in this chapter. The opening, The Principle of Sustained Interest (Section 4.01) is an essay on the design of urban space as it is currently perceived by the public (in this author's opinion), and how a richer understanding of space may be accepted. **Figures 19, 20, & 21** are used to illustrate. They have been taken from the author's files as instances of practice where an attempt has been made to apply the principles stated. The drawings are digitized reproductions. The concepts convey an image of sweeping forms and urban spaces that could be the result of the application of the principles contained in the thesis.

A brief conception of what a shared vision of urban space may be and a theory of urban space is discussed after the Principle of Sustained Interest.

The chapter concludes with a critical assessment of the urban spaces in a newly developed area of Vancouver to demonstrate the effects of the current urban design guidelines.

4.01 The Principle of Sustained Interest. Architectural detail is a decisive component in the composition of public urban space. The way in which urban designers and architects compose the elements described in the Check List determines the quality of the building surfaces. They determine the way the surfaces reflect sunshine, the way the surfaces attract our interest and the way the separate building structures relate to one another. This quality is referred to as the Principle of Sustained Interest.

The Principle of Sustained Interest states that architectural surfaces enclosing an urban space must have a defined quality.



Medium Density
Urban Residential Infill.
FIGURE 19.

The composition of these elements must be treated in a manner evoking an observer's capacity to probe beyond his immediate recognition. The composition of the architectural elements that comprise the surfaces should sustain the interest of the observer, in a manner that stimulates his intellect to search for more complex elements in the surfaces, beyond his immediate observations. The interest of the observer should be stimulated by the designer's wit and skills in composing the architectural elements of the surfaces, provoking a continued search well beyond first glance and thus sustaining the interest of the observer.

The Principle of Sustained Interest has to do with the architectural detailing of the city as perceived by the users. Building surfaces that ultimately enclose the

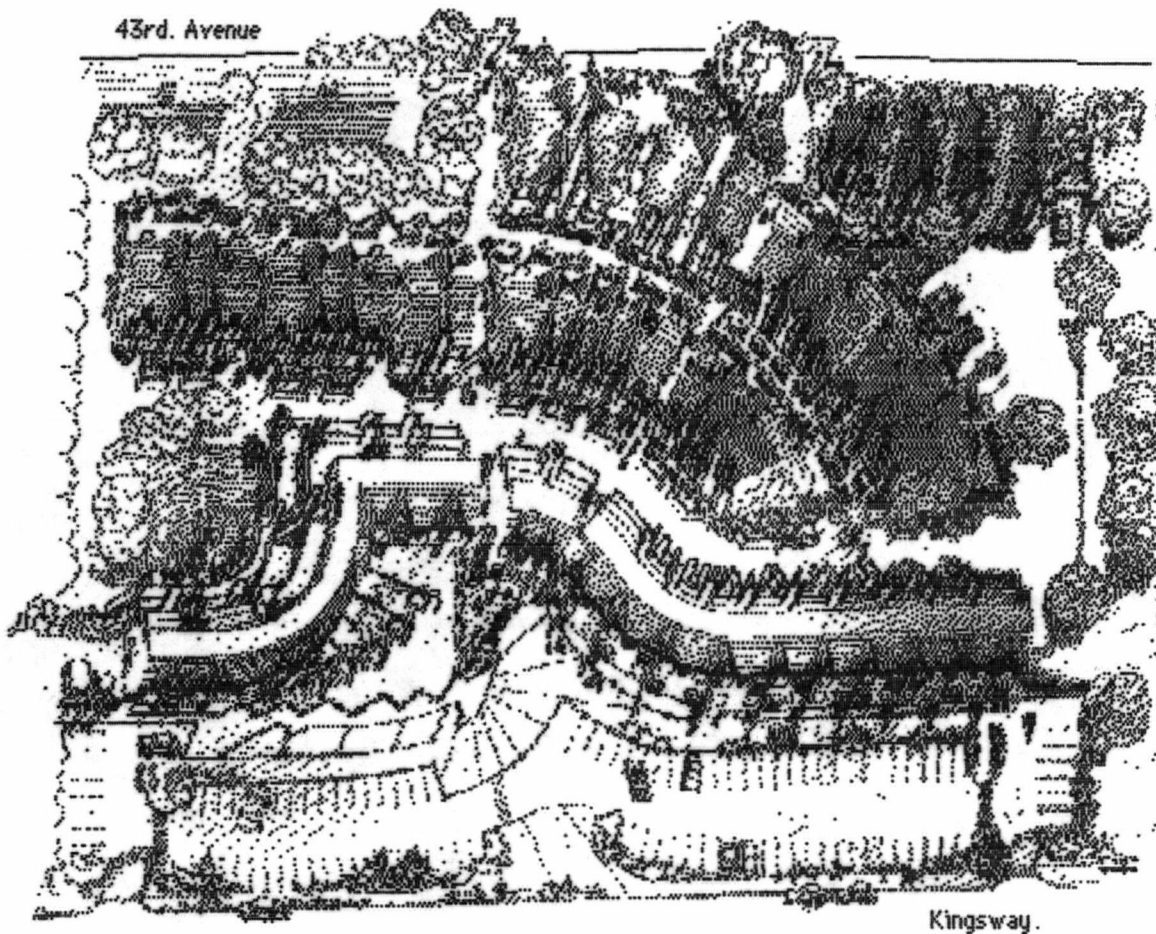
many spaces that make up the urban content are the focus. The condition the principle addresses is almost completely left to happenstance. Yet, without engaging the reluctant attention of the bystander an attempt is made to improve his amenity. The quality of urban space is created by manipulating the elements of *plastique* and *pallette* as described in section 2.03.

The outcome of the application of the Surface Modulator to space and composition of elements of the Check List, may be the design techniques needed to help develop a sense of space that goes beyond shop fronts and nostalgia. The following paragraphs elaborate the argument for this principle.

Architecture has a similar role in city building as does the fourth estate in legislation. It informs the public on their cultural and economic well-being. The manner in which the architectural detailing of urban space is composed describes, to some extent, the intensity of interest the public has for their urban environment. Architecture is media. It is as equally potent as the newspapers and television. The effect upon our psyche is subliminal and forthright. In the news media content and meaning can be distorted. "Newspeak" can be used to divert our attention. In the media of architecture this does not occur. When the city speaks it says what it means.

The general public is nevertheless, apparently, preoccupied with more pressing issues than their immediate participation in urban design issues. They appear to be, generally, disinterested in the esoteric arcanum of urban design until they can pass judgement on the finished effect. Understandably not everyone is interested in the ongoing development of the urban environment. Yet despite this general lack of concern, the impact of urban design upon us all is subliminal and

it is profound. The effect is unavoidable all the time at all levels. No one can avoid using the streets at some time in their lives.



Mixed Use Urban Infill.
FIGURE 20.

Politicians and planners are prone to attract attention to urban design using the ephemeral nature of coloured sketches resplendent with boutiques, boats, buntings and other paraphernalia. Evidently these must be used to achieve the goals of development simply to attract interest. They are, nevertheless, capricious in nature and hardly able to contribute to the lasting amenity of the urban environment. The design professions have thus abrogated their design decisions to the professional renderers. It therefore becomes incumbent upon those who profess a more meaningful interest to deal with the subject on a more profound level. This is the purpose behind the Principle of Sustained Interest.

Edmund Bacon draws our attention to the importance of the amalgamation of architecture and planning (Bacon: 1974). He contends it is the very essence of urban design. Yet the illustration he uses in the final chapter of Design of Cities (Bacon: 1974) is a reproduction of a Paul Klee painting. Does this demonstrate a lack of viable examples for him to use?

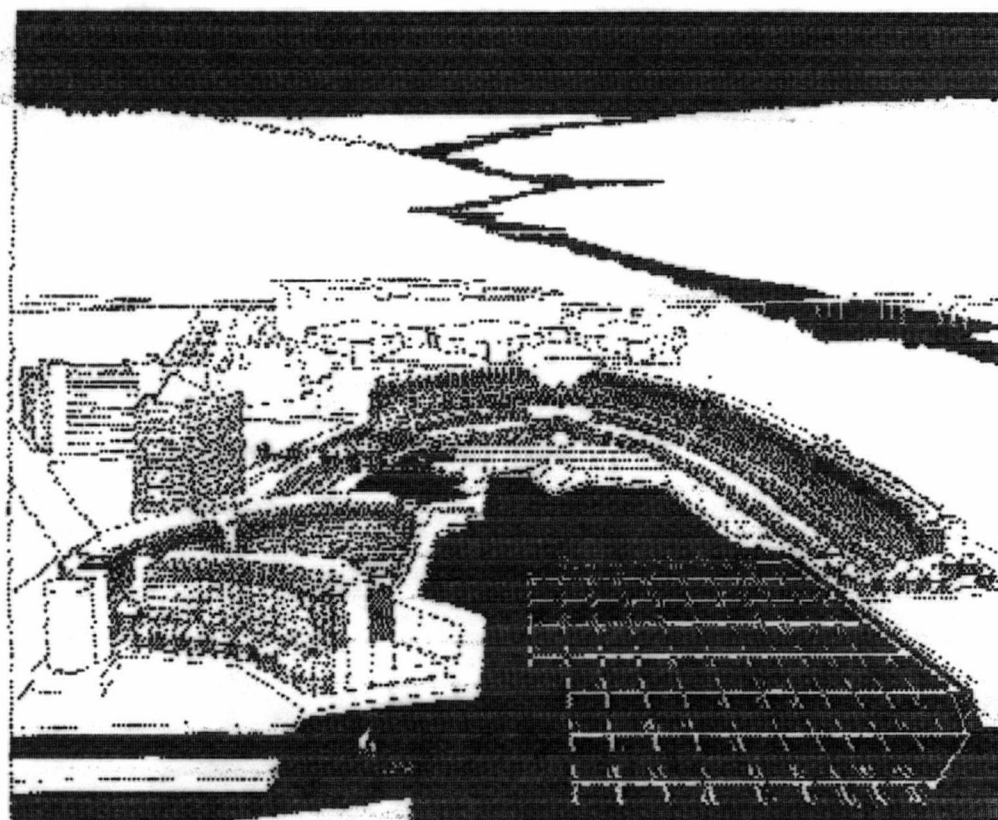
Urban design is so often illustrated as consumer grottos and tourist traps. How many fishermen's wharves, nostalgic facades, trendy boutiques and ethnic restaurants can a well balanced, mature city sustain? Demonstrably it is very many. Nevertheless, the profound and lasting nature of the city is to be discovered in the depth of its noetic content.

Notwithstanding the mass of conflicting and consorting forces that conspire to make the city; despite the Machiavellian intrigues and power play, it is the confluence of all these forces, as they bear upon our sensibilities, that forms the image of the city. And those images manifest as architecture.

On this premise, then, the perception of the city is linked directly to architecture. Urban space is public space surrounded by architecturally treated surfaces. The manner in which urban architectural space is perceived depends, substantially, upon the quality of these surfaces that enclose it and the manner in which the surrounding buildings are articulated.

The level upon which urban space is perceived is dependent upon the quality of architecture and the degree to which the pieces are related to one another. With a view to making a contribution in this area the Principle of Sustained Interest is introduced.

In order to be practical and workable, the principle should be expressed by a simply understood instrument that can be applied to the working conditions of the urban design profession. The instrument is introduced in its basic form as the Orthodox Surface Modulator, see **Figure 3**.



**Medium Density
Urban Residential Infill.**
FIGURE 21.

The grid of the Surface Modulator sets up the quality of the facade, co-ordinated building to building. A crucial element in urban design is to facilitate co-ordinating the design of facades collectively. For many reasons it is not possible, nor in fact desirable, to build every space enclosing facade simultaneously. The grid of the Surface Modulator provides the co-ordinating reference to match new infill surfaces to existing older surfaces. The instrument helps independent designers co-ordinate their work as they perform in different time frames.

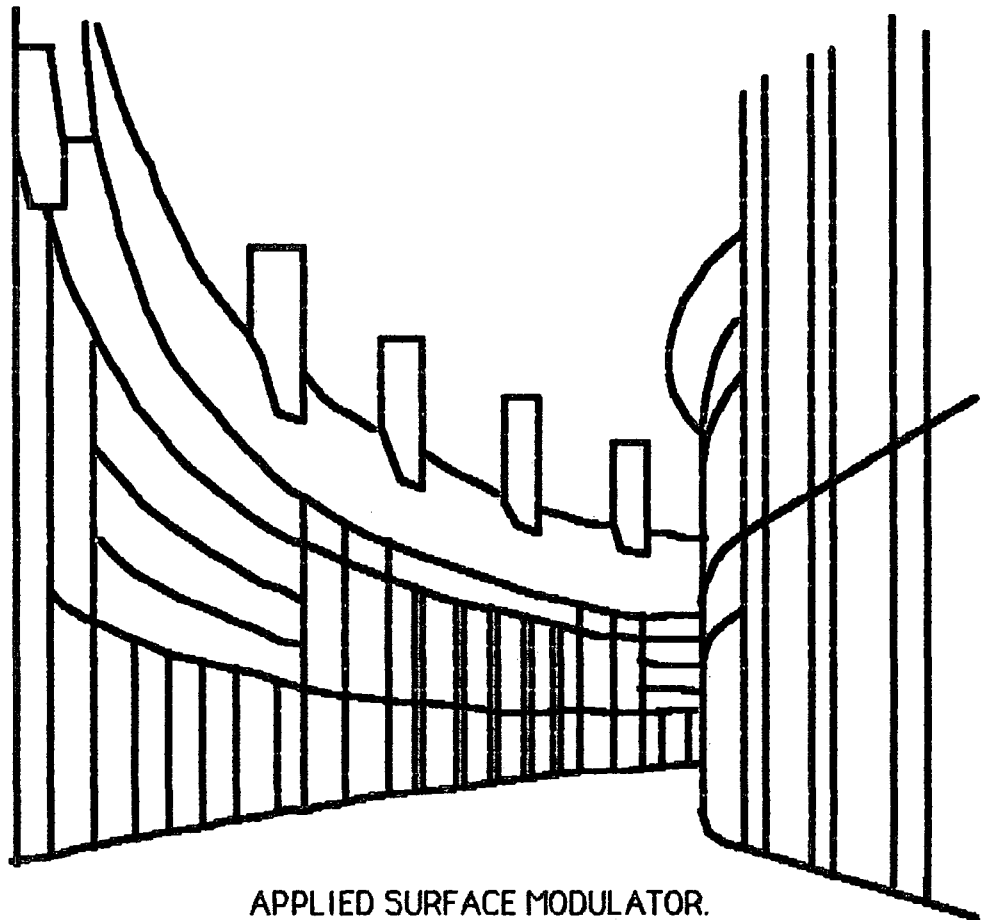
The Orthodox Surface Modulator is a sophisticated design instrument. The process of spontaneous creativity is not usurped. The best way for it to be used is as a framework lest a suffocating barrier to spontaneity is encouraged.

An instance of a possible Amended Surface Modulator is shown in **Figures 9 & 10** referred to earlier. The figures show the Orthodox Surface Modulator used in an actual, but limited, circumstance. **Figure 22** is another example. It shows the imagined Amended Surface Modulator that may have been applied – had such an instrument been necessary – to the building facades of Regent Street, London. Shown is that part of Regent Street known as the quadrant. The design was by John Nash, at the behest of the Prince Regent in the first quarter of the 19th century. The enclosing surfaces have since been rebuilt but the integrity of the essential space is beautifully preserved.

The configuration of the spaces show a respect for the graceful curves and spaces typical of the Georgian period in Great Britain. Not only are the urban spaces of John Nash to be appreciated but also those of the Woods, elder and younger. They have seldom been matched in modern architecture. That is why the Surface Modulator, as an instrument to mould and shape urban space, is proposed as a pivotal part of the urban design requirements.

Surface Modulators are intended to guide the development of many forms, volumes, curves, rectangles, serpentine or indented surfaces. The purpose is to set up a spacial continuity within a system that recognizes the benefits of separate building contracts. The conception behind the instrument allows for spacial continuity and, within that parameter, encourages diversity.

The Surface Modulator is an instrument to facilitate and encourage the development of quality urban spaces. It is an instrument of urban design. Yet, architecture and the design of cities is the work of artists. No instrument can obviate that.



APPLIED SURFACE MODULATOR.
Regent Street, London, Great Britain.

FIGURE 22.

The following anecdote will reinforce the argument proffered by the Principle of Sustained Interest.

One day after passing, for the umpteenth time, the Midland Bank on Poultry in London (designed by Sir Edwin Lutyens) Nikolaus Pevsner noticed details he had not been conscious of before. Surface forms he thought were pilasters, indeed,

were not. They had bases, they had capitals but nothing in between. These subtleties simply aroused his dormant interest in the building once again. That is the Principle of Sustained Interest at work. It is the result of a committed artist bringing his wit and skill to work on what could have been another moribund experience. That is the substance of what will make our cities livable and happy places; the subtle elements of design that will give us pleasure over and over again.

4.02 A Shared Vision of Urban Space. The remaining legacy of the Baroque city is its most lasting quality; the beauty of urban spaces. That quality is impossible to emulate today. For to regress into a nostalgic wish for a long gone era, redefining the process, is of no help when it comes to achieving a vision of urban space appropriate to contemporary conditions. Rather, the first step is to establish what meaning space has for us today.

A shared vision is a cultural consensus within a community. When that community enjoys a balance of social, political and economic concerns there is a release of civic energy that may be directed to the finer aspects of urban life. That release prepares the way for such a cultural consensus. Pericles' Athens enjoyed this balance and the civic artifacts exist today to remind us (Maclean:1955).

A shared vision of urban space implies a collective social view. The many cultural, economic and social conditions that confluence to bring about such a concept are complex. There is evidence to suggest that within the subliminal consciousness of western society there still lurks a vestige of the shared vision of urban space manifested by the Baroque period.

Clearly however the authoritative, regal means by which the concept of Baroque space was implemented is unacceptable in the present political system. But we have not, yet, devised a system to harness the economic and political urban energies to implement our own shared vision of urban space accordingly. To research the subject definitively is a task beyond the scope of this thesis. But it is necessary to briefly make some comments on its content so as to place in context the urban design requirements that are proposed.

Urban space as used here is defined in section 4.03 of this chapter. A shared vision of urban space is an ideal for which to aim. Civic pride is inspired by the appearance of designed urban spaces that are usefully placed and suited to their purpose. A shared vision of urban space is a quality of values that is expressed in the physical elements of the city but bears a spiritual meaning to its citizens. The collective meaning of urban space is shared when we recognize the need to design buildings visually related to one another; that is when the collective meaning takes on a physical form.

There have been many attempts to acquire a shared vision of urban space in society. The large number of visitors, who expend great effort and money to visit such places as St. Marks Square, Venice and other European and Latin American urban spaces, attests to this. But there are no instruments for bringing it about.

Prior to the individualistic approach of modern architecture a shared vision of urban space was a foregone conclusion. Compare the layout of Regent Street, London (Cameron & Cooke:1980) with the Rue de Rivoli, Paris (Cameron & Salinger:1984). Although the two streets are built of different materials they have a spacial quality that may have been seen at the time as culturally universal. Each reflected the national idiosyncrasies yet space was conceived of

as the essence of the composition. The late Baroque city was a world wide phenomenon. It has been ignored since separate building developers chose to express the image of their organization as an icon of individuality and power (Blake: 1974).

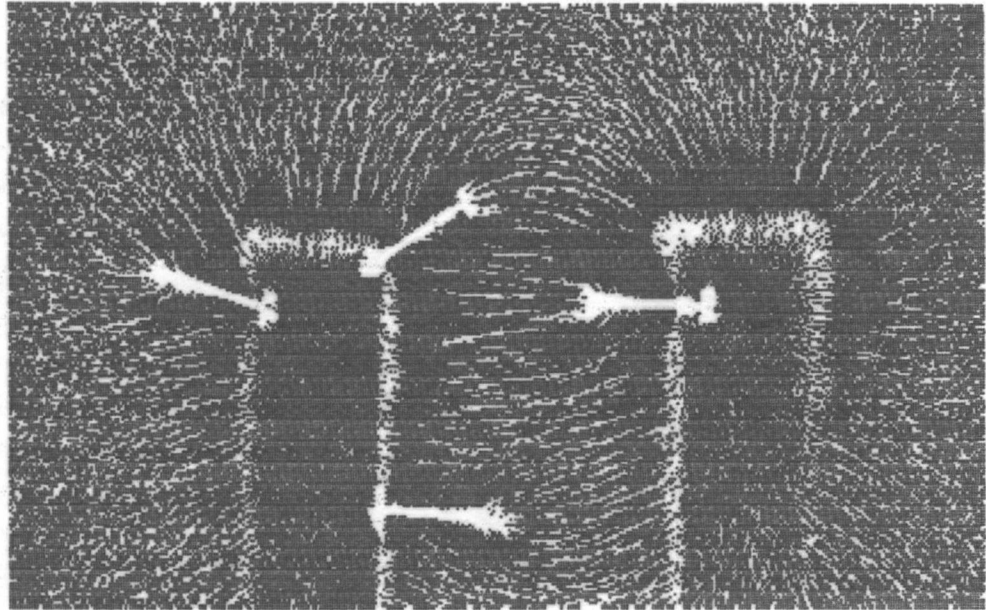
After 1923, Colin Rowe said (not entirely in jest) there is a cut-off date of a sense of urban awareness (Rowe & Koetter: 1980). Until that time there was a consensus, albeit traditionally imposed, on how a city should be built. That consensus required that street patterns be followed and that building facades be designed to merge together as a flowing composition.

Increasing evidence shows a renewed interest has come about seeking a consensus as to what is an appropriate expression of urban space for Vancouver. The North Park plan at B. C. Place, **Figure 37**, and the attempts on West Hastings Street are two examples, **Figures 9 & 10**. There is a resurgence of literature on the subject (e.g. Krier: 1979, Bacon: 1974).

4.03. A Theory of Urban Space. Urban space is volume enclosed by surfaces set in a built up environment. Volume is the measure of capacity of civic plazas, streets, walkways, back lanes, parking lots and landscaped areas accessible to the public. Surfaces are the vertical planes of the building walls, and the horizontal planes of the streets, plaza pavements and landscaped areas.

The quality of urban space, as defined here, is determined by the quality of the surfaces with which it is enclosed (Graves: 1980). The manner in which the walls, the pavements and the details are composed and the manner in which the relationships of architectural elements are articulated influence the *plastique* of the space. The elements of the Check List, under *plastique* and *pallette*, are

the main ingredients that make up the surfaces. These elements are referred to by Graves when he talks about the quality of surfaces. The manner in which they are related and composed on surfaces is the key to the quality of space.



A Visual Analogy of Urban Space.

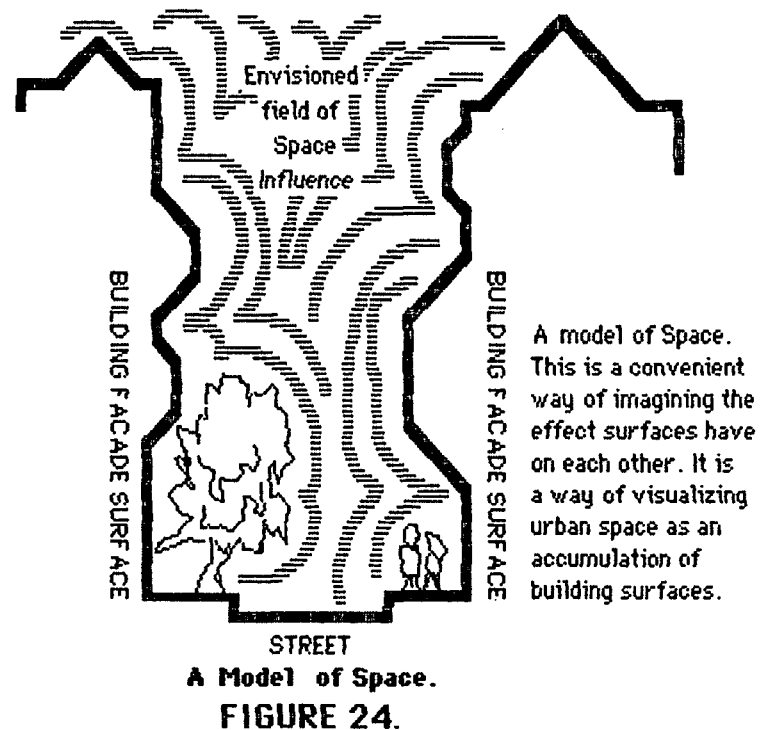
This figure (from Kepes:1944) illustrates the behaviour of iron filings in a magnetic field. The metaphor can be extended to actual urban space surrounded by buildings as is illustrated in figure 24.

FIGURE 23.

The treatment of a surface may be modulated and composed by relating elements of colours, textures and materials in a creative manner (Moholy-Nagy: 1947). The combination of light reflection, shade, materials and texture, and the other items listed under *plastique* and *pallette* make up the ingredients. The subject is well covered in the literature (Moholy-Nagy: 1947, Kepes: 1944).

An explanatory analogy or model of urban space can be postulated by referring to a simple grade school physics experiment on the performance of iron filings in a magnetic field (Moholy-Nagy: 1930). When the iron filings are free floated in the magnetic field they form a pattern that follows the lines of magnetic flux that,

unseen, flow between the poles of the magnet, **Figure 23**. In metaphor a similar field of flux exists in the space between building surfaces. Urban space can only be related to a magnetic field in a generic sense. The field of influence is created by the propinquity of the building surfaces. See **Figure 24**.



The model of urban space helps urban designers visualize intangible architectural values. Urban designers can envision themselves situated in this field of influence emanating from the building surfaces that enclose the spaces they conceive. The field of influence is determined by the shape of the surfaces in the same way as the magnetic field of a magnet responds to the shape of the magnet. The manner in which designers articulate the building surfaces, in relationship to one another, is a significant determinant of the ambience of the space.

The casual observer may not respond to urban space on a conscious level. He will respond subliminally according to the manner and artistry with which the space

✕ is composed. The urban designer, on the other hand, must implicitly understand the theory so that he may consciously manipulate the surfaces into a comprehensive artistic creation.

The following section is a critical point of view on the public urban spaces that have been developed in the last decade. The northern end of Burrard Street in Vancouver is critically scrutinized by the author of this thesis. The opinions expressed are the result of a walk-about survey and discussions with practitioners. The need for the amenity of public urban space was clearly recognized on this part of the street. However, the quality of the resulting spaces, achieved by transfer of development rights and bonuses, are brought into question.

4.04 A Critique. The modern city is the repository of many fine buildings. Furthermore, the planners recognize the urban amenity of providing public urban space between the buildings.

An accepted means to provide public space is by a system of transferred development rights and bonuses. (Vancouver City Planning Department Zoning and Development By-Law no. 3575: 1956). A developer who provides open plaza space on his site is awarded extra density, as a bonus, in return for the dedication of the public plaza. This trading procedure often results in space that is environmentally out of place, i.e. in the shade, inconveniently situated, see **Figure 25**.

Based on discussions contained in the previous three sections of this chapter this system is a demonstrated failure, yet the environmental placing of public urban space is critical (Whyte: 1980).

Furthermore, the prevalent theory of public urban space (Whyte: 1980, B. C. Place: 1983) is that its success is dependent upon ephemeral happenings such as pretty girls on bicycles and street paraphernalia; more the domain of the renderer than the planners and urban designers.

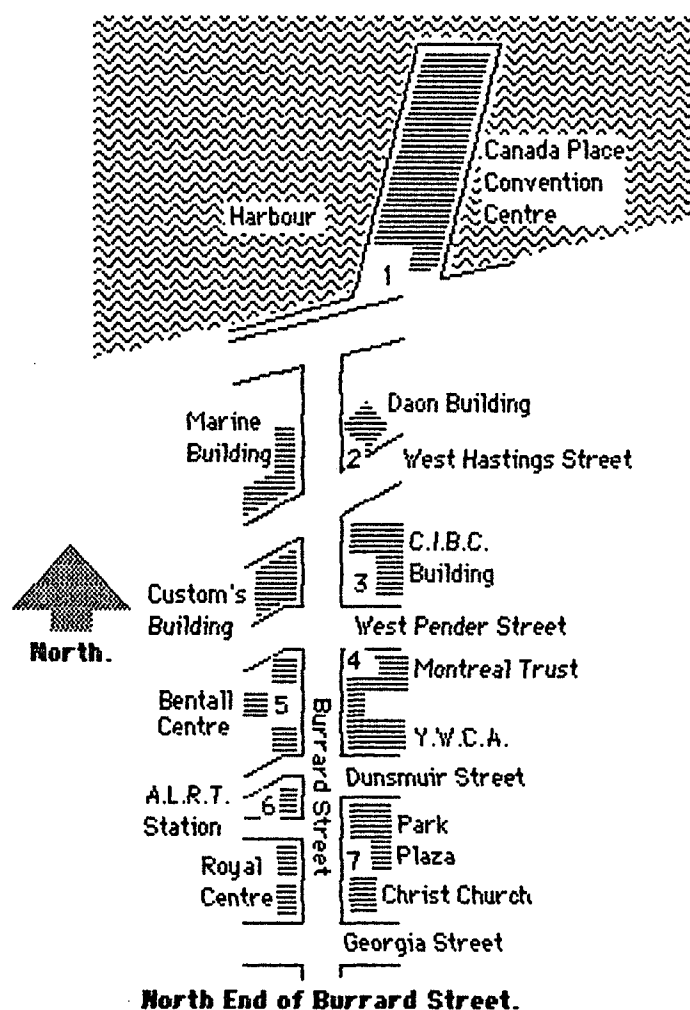


FIGURE 25.

To some extent the design of urban space has become, confusedly, more a matter of retail street activity than that of *plastique* sculpting of physical elements. This activity is of course important but the contention in this paper is that much activity, prosperous merchants and attractive people are the result of a well designed space not the means of creating it.

Retail space depends upon economic factors that do not respond in all places where public urban space is appropriate. A set of urban design requirements will ensure that high quality public urban space is provided where it is necessary and appropriate.

Despite the efforts to continue the traditional vision of urban space on West Hastings Street, see **Figures 9 & 10**, we are confronted with the prospect of repeating, on the B. C. Place site, the chaos of the recently developed portion of Burrard Street, see **Figure 25**; the area from Georgia Street north to the waterfront. There are 15 major buildings sited on this street. In addition there are five small buildings between the Y.W.C.A. and the Montreal Trust. This group appears imminent for redevelopment. The 15 buildings date from Christ Church Cathedral built in 1895, to Park Plaza completed in 1985 and Canada Place completed in 1986.

There are also seven designated public plazas in this area. Each was dedicated as a result of bonus negotiations or transferred development rights, within the DD (Downtown District) special zoning area. From a developer's point of view he may well say, justifiably, that the city is lucky to be granted the spaces. From a civic point of view, clearly there is a lack of understanding of what a civic plaza is meant to accomplish. These spaces have been dedicated, at no little sacrifice, yet their effect is minimal. Plazas nos. 1, 2, 3, 4 and 7 are no more than oversized entrance ways. There is no perceived reasoning to the spacial form of these spaces other than that the developers were granted additional interior space in return for dedicating the public space. They do not have a spacial form that responds to the environment, nor do they respond to a sense of enclosure that encourages quiet lunches, casual groupings or people watching (Whyte: 1980). They are essentially oversized, pedestrian thoroughfares from the street

to the entrance. Plaza no. 6 is a sunken park used as the entrance to the A. L. R. T. station. Plaza no. 5 is the only urban public space on the street that is used for its intended purpose. The overall pattern is that of happenchance, there is no cohesive conception of street space.

These spaces, rather than conceived as an integral part of the streetscape, have been provided by developers in order to retrieve extra floor space within their buildings. The spaces are used because the public has nowhere else to go. They do not contribute, however, to a coherent conception of urban space on that street.

Separately, some of these buildings are well designed; notably the Bank of Montreal (Musson, Cattell Architects: 1977) and the Marine Building (McCarter, Nairn Architects: 1932). Their effect, however, is discounted by a lack of space co-ordination between the buildings. Indeed the overall effect is chaotic.

In cultural terms it is distressing to contemplate how much we have lost of a sense of exhaltation we could experience from enjoying beautiful urban spaces!

Figure 25 is a sketch which compares the spacial relationships of the horizontal street level surfaces in this area. The best way to experience this is to walk the street, consciously applying the principles stated in the proceeding chapters. The lack of cohesion from one legal entity to the other results in none of these spaces contributing to a coherent street conception.

Space no. 7 is an example. The north face of the space is glass and shining pink granite of the Park Plaza building. The east side of the space is described by a stepped, brick wall cascading with water. Christ Church Cathedral abuts the

space to the south, presenting a grey textured surface towards the space. The paving surrounding the Cathedral is considerably higher than the plaza surface and landscaping in steps compensates for the difference. The surface of the plaza undulates, defying, the slope on Burrard street. Occupying the space of the plaza are trees randomly placed, not defining its shape. Ostensibly these trees provide shade and likely do so, unnecessarily.

Across from space no.7 on Burrard Street, a noisy busy thoroughfare, is another park (space no. 6) and a hotel-bank-office complex. Centrally located on the hotel-bank-office complex facade is an obscured and dangerous parking entrance. The park is partly occupied by the entrance to the A. L. R. T. station. The network of pipes and glass, over the station, covers most of the park. This network has no visibly related elements anywhere else on the street. Neither is the space of the park defined by the shapes of the station. The station is a cluttered form, providing minimal weather cover, conflicting with the form of the park. And the two incongruous civic sculptures that have been randomly sited there have to compete, as background, with the severe and conflicting network of pipes.

The Daon building is a well designed building as a separate structure. Nevertheless, the severe, modern, reflective forms of the building intrude intransigently into what was a continuous street space. Sited on the corner of Burrard and West Hastings it became the first building to ignore the continuity set up, traditionally, by the continuous facades along West Hastings Street and the Marine Building opposite. The mass of this building is diagonally, and incongruously, in opposition to the street axes. The triangular space created by the diagonal, space no. 2, was obviously intended to be a street amenity. But the effect on the street left by space no.2 is that of an indeterminate, gratuitous,

oversized, little used entrance way. The real entrance way is off Hastings from the east; architecturally ignored.

The previous paragraphs point out some examples of the confusion the pedestrian experiences. Individual designers proceeded with their own plans, apparently, oblivious to a framework of spacial reference. Seven of the most prominent buildings were designed by the same architectural firm - none of which bare spacial reference to one another.

Had Burrard Street been subject to a pre-arranged shared vision of urban space the ensuing forms would have shown a more coherent pattern. If the previous traditional street pattern had been followed, as is the case just around the corner on West Hastings Street, the public urban spaces would have responded to the requirements of environment and pedestrian use in a more recognizable manner.

The six urban design requirements and the pivotal instruments, the Orthodox Surface Modulator and the Check List, are proposed as an antidote to the urban design mistakes described in the preceding paragraphs. The application of the requirements and instruments to the B. C. Place site provide the planners with a tangible system with which to communicate to potential developers the qualities that are explained in section 4.02, A Shared Vision of Urban Space and section 4.03, A Theory of Urban Space.

CHAPTER 5. HISTORIC BACKGROUND.

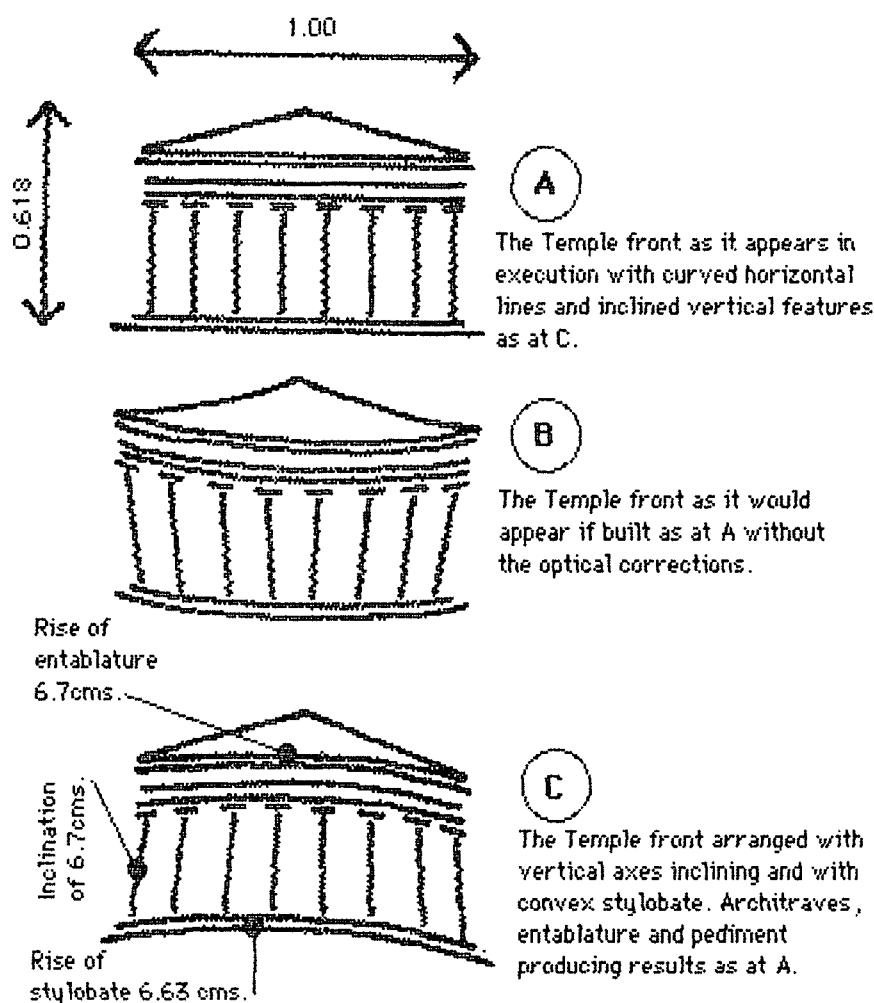
Urban design requirements are not a new phenomenon. They were applied by the *Whig and Tory landowners*; to quote Summerson (Summerson: 1945: 98-112), as a means to control the development of London estates during the rapid urban development of the Georgian period. The history of building requirements date farther back than that. The application of design guidelines is relatively new. In the city of Vancouver, urban design guidelines were introduced in the special zoning for area 6 on the south shore of False Creek (False Creek Comprehensive Development District. 1983-5) in the early 1970s. The following is a brief historic outline of the attempts at control of urban spacial forms that conform to the urban design requirements articulated in this thesis.

Western civilization has had a fascination for the concept of urban space for thousands of years. A sense of space is endemic to our culture. The early Greeks were more adept at expressing their need for spacial containment than any other later civilization. During the Hellenic period, the fourth century B. C., urban spacial expression grew into a most lasting achievement.

The Romans borrowed heavily from the Greeks. Roman building was an architecture of space expressed as an icon of power, not unlike current practice. Subsequent great periods of city design also took as their referent the Greek notion of urban space and architecture.

Documentation can be found reaching back into history to substantiate the rationale behind the need, and the acceptance, of an urban design instrument to establish a shared vision of urban space.. Although the Orthodox Surface

Modulator is an extension of recent work it is possible to trace a continuous line of historic antecedents to back up its use.



Diagrams and explanations as taken from A History of Architecture on the Comparative Method. Sir Banister Fletcher.

The Parthenon Athens East Front.

FIGURE 26.

The Acropolis in Athens is possibly the most potent example to influence world wide architectural movements in history. The design of the urban spaces within the spaces of the Acropolis is an essay in the delicate balance of interrelated urban forms. The design of the Parthenon, by Ictinus and Callicrates in 447-432 B. C., was the result of an intricately composed set of optic curves that compensated for the illusion of perspective (Fletcher: 1896). The east facade of

the Parthenon was designed consistent with the basic Greek proportion now known as the Golden Mean; i.e. the proportion of 1/.618.

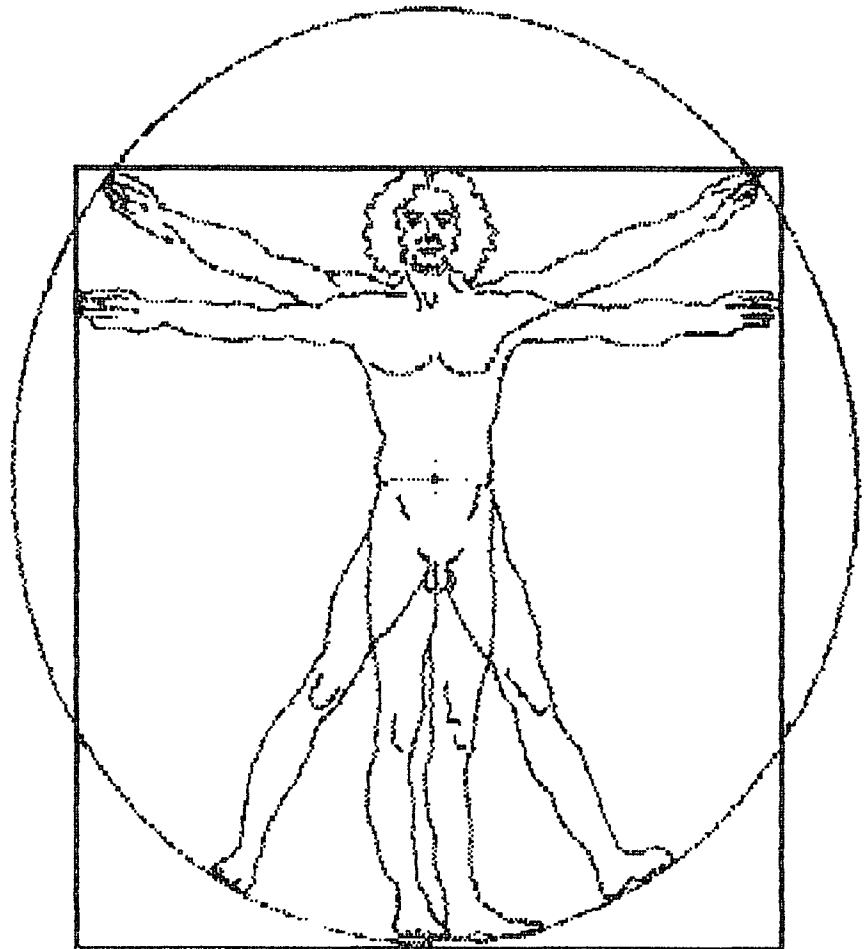
The optical device of compensating for the apparent illusion of the slimness of the columns is called Entasis. The methods of co-ordinating spacial proportions of their urban space is shown in **Figure 26**. This figure depicts the east facade of the Parthenon, Athens. These were the forerunners to the later use of the mathematically based system of proportion used by the Renaissance and architects during later classical revivals. The wisdom of their system wisdom is curiously forgotten in contemporary design methods.

The Roman use of formulae for composing space is documented by Vitruvius in De Architectura, 10 volumes on Roman architecture and city planning, written in the first century A. D. In there he discusses the orders of classical architecture. The orders are the Tuscan, Doric, Ionic and Corinthian orders. These orders refer to the detailed proportion of the columnated facades and architectural details.

Vitruvius went further in his books to codify a system of proportion based on the scale of the human body. He called the figure he devised the Norm-Man (Panero & Zelnik: 1986). It was the precursor to Le Corbusier's modular.

However, before Le Corbusier, and during the energizing ethos of the Renaissance period there were further attempts to establish a means of articulating urban space. Lineal perspective, clear seeing, a graphic method of depicting the way the eye interprets volume onto a plane surface was introduced (Burckhardt: 1860). Perspective used in this manner was developed by Brunelleschi, in Florence at the beginning of the fifteenth century, from the Arabic physicists' research of the manner in which the human eye perceives distance. The Arabs took their basic

research from the second century Ptolemaic grid projection. Brunelleschi and Alberti used this way of seeing to create a new mathematical system of proportioning architectural facades.



*Leonardo da Vinci's proportional figure
based on the Vitruvian Norm-Man.*

FIGURE 27.

Masaccio advanced the conception of perspective as a means of viewing urban space as a unified whole in 1425 (Giedion: 1954). Leonardo da Vinci, contributed a drawing of a human figure based on the Vitruvian Norm-Man. A sketch of his anthropomorphic proportional theory is shown in **Figure 27**. His was a circular and rectangular proportion based on the symbol of man in an outstretched pose (Panero & Zelnik: 1986).

A shared vision of urban space enabled urban designers of the Renaissance to make such a major contribution to the contemporary conception of urban space. Although attempts have been made to codify architectural proportions urban designers of the of the *quattrocento* relied essentially on intuition. Baroque influence made an indelible mark on urban form until the misplaced enthusiasm of modern architecture overrode its finer points (Krier: 1979). It was an influence that extended to all parts of the world.

The 17th century mathematician and philosopher, René Descartes devised a three-dimensional grid similar in appearance to the Surface Modulator. His grid was an object of pure mathematical form, however, and was not devised to be applied as a guide to the forms of urban space. In some respects, what he had devised could be treated as a Surface Modulator in a significantly modified form.

As Baroque forms became part of the culture of Northern Europe the influence of that cultural style moved, geographically, with commerce. The architectural details and forms of Baroque were colonially exported from Europe to North and South America, Asia and Africa. Urban forms influenced by the style are to be seen in as many diverse places. In Buenos Aires Baroque is reflected by that city being seen as the Paris of the southern hemisphere and in Montréal in the enclosing urban form of Philips Square. Johannesburg's capital buildings, designed by Sir Herbert Baker are in the classic revival style of the last hurrahs of British colonialism; reflecting a late Baroque revivalism. New Delhi's Vice-Regal Palace designed by Sir Edwin Lutyens is a similar example. So, still, is the commercial centre, The Bund, in urban Shang-hai.

The Georgian period in Great Britain manifested many urban spaces that can influence the design of contemporary urban space. The much admired urban

spaces of Bath and London, built during that period, were constructed within a development system not unlike the one in use in Vancouver. The urban spaces built by the Georgians were, for the most part, the result of the activities of speculative builders. These builders worked as independent agents following what was perceived to be a market demand. There is a significant difference between the Georgian builder and contemporary society. The Georgians were able to manifest the beauty of Georgian urban space with their innate sense of culture. They, to quote Sir John Summerson, "*combined wealth with taste*" (Summerson: 1945; 27-51).

The most compelling argument in favour of an urban design instrument for following through on a shared vision of urban space is that we no longer have the advantage of a combination of wealth and taste (Krier: 1979). This is why the application of the Surface Modulator is proposed; as a guide for the many different designers, working for different clients in different time frames to co-ordinate their efforts.

In place of that lack of a combination of wealth and taste something else is necessary. Edmund Bacon's suggests (Bacon: 1974) of a closer interrelation of planning and architecture; a means of bringing the professions to a better understanding of one another. Consociating the professions of planning and architecture may encourage a shared vision of urban space.

The onslaught of modern architecture in the early twenties of this century ran roughshod over our traditional sensibilities of urban space. (Krier: 1979). Modern Architecture had a profound effect on the spacial layout of the contemporary city. There are very few good examples of urban space in modern architecture.

There is enough evidence to show that the need for a shared vision of urban space was not lost on modern architects altogether.



Dizengoff Circle, Tel Aviv, Israel.

(From *Progressive Architecture* 11:84)

FIGURE 28.

In Tel Aviv, Israel, for example, an attempt to develop a sense of urban space is Dizengoff Circle, designed by Genia Averbouch in 1935. See **Figure 28**. After the first few buildings were completed, and after the second world war intervened, the enthusiasm to continue the vision diminished. The evidence in Tel Aviv is one of the few examples of the influence of the Bauhaus style of architecture that was applied to a shared vision of urban space. Yet many professionals, at that time, were trying to express the need.

Modern architecture was more concerned with the form and proportion of one facade than with collective space. And it seemed the profession of architecture

was more susceptible to rampant individualism than a concern for a unified urban composition (Blake: 1974).

Planning regulations reflected the concern. Before the 1960's the zoning by-laws, were compiled with site lines measured from single lot lines, quantifiable densities based on fixed, inflexible figures and single use land zones.

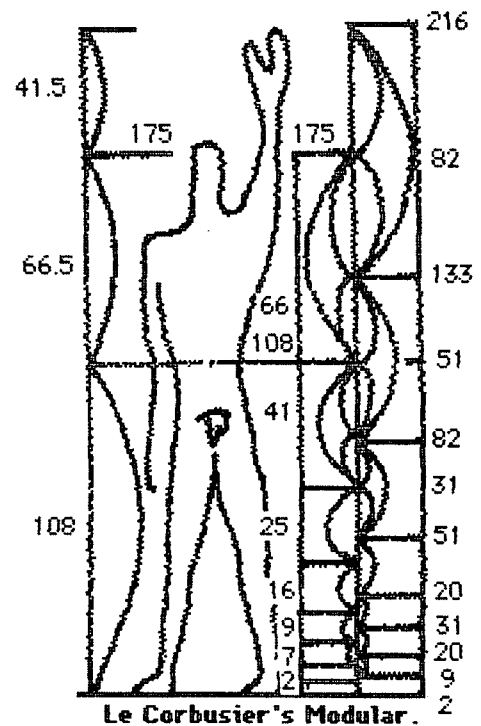


FIGURE 29.

Modern architects relied on intuitive faith to look to the composition of urban space. They resisted efforts to orchestrate a sense of shared space (Seelig: 1984) lest their freedom of expression be violated. There is no evidence to justify this faith. Yet this may be one reason for its overpowering influence. It appealed to the individualistic, free enterprise ethos of its day.

Only one modern architect addressed the issue of proportion as a mathematical formula. He was Le Corbusier. He applied the principle of the The Modular, see **Figure 29**, to the task of proportioning his building elements. The principle was

applied in his later city planning work which dealt with grand avenues and vistas. He was Franco-Swiss, clearly in the tradition of Le Notre and Haussmann (Sutcliffe: 1971).

Similarly the civic centre Chandigarh, designed by Le Corbusier in 1957, is a vast space. The buildings are so far apart it is difficult to recognize any relationships. Brasília, the capital of Brazil, designed by Lucio Costa, who was very much influenced by Le Corbusier, is of the same layout (Moholy-Nagy: 1968).

The modular was a derivation from the 11th century A. D., Fibonacci mathematical scale, (Le Corbusier: 1945) an exponential series of compounding numbers. Le Corbusier applied it to the human form and from it derived a scale of applied proportion. It does not, however, address three dimensional space. It addresses surface treatment and was intended to be an arbiter of spacial proportion. It remains in disuse today.

There is no doubt that throughout history man has attempted to devise an instrument for facilitating the proportions of buildings that contribute to a sense of urban space. The more recent attempt is the Build-to Line. It is an imaginary plane up to which buildings are required to face. It is a device that ensures the spacial integrity of the existing street pattern in the New York jurisdiction of Manhattan.

The Build-to Line has no precedent in history. In previous eras, there was an instinctive understanding of the need to relate building facades into a coherent pattern of urban space. There existed a shared vision of urban space. There was no need for such a device. The urban design division of the New York City Planning Department, engrossed in the most intense contemporary building

development, found it necessary to invent the Build-to Line. In 1967 (Barnett: 1982) it was invented to control the streetscape of the theatre district near Times Square.

The build-to line has limitations. In application, continuity of space is not ensure because it is used only on specific and limited parts of the block. In its present form the effect as a modulator of a shared vision of urban space is limited. Yet its effect on the densely developed lower Manhattan perimeter district is to define visual corridors by means of new construction adhering to preset build-to lines (Barnett: 1982).

The City of Vancouver took the principle of the build-to line further. The principle was applied on the north side of the 800 block West Hastings Street to relate a new office building to an existing neighbour. The example is illustrated in **Figures 9 & 10**.

The development of the St. Lawrence Centre by the Toronto City Planning Office in 1977 showed a similar understanding of urban space. The Build-to Line was not part of the planning process but the urban designers applied the principle to the facades facing onto David Crombie Park, see **Figure 31**.

In 1982, the Build-to Line first appears in the urban design guidelines in the Georgia Corridor Report. This is the Greening Downtown Urban Design Study by Baird/Sampson and Associates. The streetscape space of Georgia Street are defined by its use.. Much of that street is now almost built up. The use of the Build-to Line tries to define the new building facades, in relationship to the existing facades. The build-to line is applied in exactly the same manner as in New York.

The people who devised the Build-to Line make no attempt to encourage a spacial continuity other than in the context of street continuity and view preservation. They do not attempt to co-ordinate the composition of neighbouring building details as a total urban space. This is the weakness of the Build-to Line because so much is left to arbitrary interpretation.

The drawback to this limited application of the Build-to Line on Georgia Street is evident in the manner with which it has been applied to the facade of the Bank of B. C. Building opposite the Art Gallery in Vancouver. The facade details of this building are so ponderous that a conflict with the delicate details of the Georgia Hotel, to the east, and the Medical Dental Building, to the west, is the result. If the designers had been required to respond to the grid framework of the Applied Surface Modulator, a more pleasing result may have been the outcome.

The Build-to Line is now a part of the City of Vancouver design guidelines. It is a requirement in the East False Creek design guidelines (False Creek Comprehensive Development District: 1983-5). The Build-to Line describes a vision of urban space, see **Figure 44**, that surrounds Thornton Park opposite the C. N. R. Railway Station.

The new plan for the North Park area of B. C. Place, see **Figure 43**, also, has a layout that is evidence of a limited vision of urban space.

The Surface Modulator is a combination of the Build-to Line and the proportional grid work of Le Corbusier's Modular. The Surface Modulator, by extending the Build-to Line much further to encompass the concept of the building envelope as volume and space as volume in relationship to one another, may ensure that

neighbouring building facades and envelopes are orchestrated into a comprehensive urban space composition.

The concept of the building envelope has been in use on Granville Island since the opening of this facility (Hotson: 1978). The design guidelines that communicate the concept require all new buildings follow the theoretical outline of the building that was previously on the site. Volumetrically the building envelope follows the conception of the Surface Modulator but stops short of co-ordinating the neighbouring buildings, however, as the Surface Modulator purports to do.

The preceding historic outline traces the development of the search for a device such as the Surface Modulator. The design restrictions imposed, prior to the modern period, were more a matter of employing a sensitive architectural response to the tastes of the times (Summerson: 1945), than it was a matter of defined by-laws. Later cultures came to see proportion as a function of an anthropomorphic egocentricity (i.e. Leonardo's figure based on Vitruvius's Norman). The work of the New York urban design division limited their work to expressing the continuation of an existing streetscape (Barnett: 1982).

The Surface Modulator attempts to adopt these antecedents and extends them into an instrument which conveys the conception of contemporary urban space as envisioned by such authors as Rob Krier and the many sensitive architects who are trying to make up for the lack of spacial response evidenced in modern design (Blake: 1974).

Discussion of urban space in technical terms is insufficient of itself. An urban design instrument is one thing but it must also be accompanied by some noetic understanding of the contemporary cultural milieu. Space is a matter of seeing

overall relationships. To continue the discussion without relating it to the character of the culture it is expressing is to leave the influential aspects of space out. In this case space is an expression of the Canadian urban culture.

Space in Canada is popularly expressed as concepts of wide open spaces. The first images that come to mind are the Prairies and the Laurentian Shield. A casual observer of many recent compositions of buildings, campuses, residential and industrial developments, would reasonably assume the expression of Canadian culture is to reveal a character symbiotically close to space unlimited. In all our building compositions, there is a surfeit of space between buildings. But this is more a lack of consideration than a reflection of how we deeply value space. It is one of the fallouts of accepting, at face value, an American cult rather than assessing our own requirements.

Careful studies (McGregor: 1985) indicate that our expression of space as it is interpreted through the genre of landscape paintings (The Group of Seven and other Canadian painters and writers) is quite opposite to what has been believed for years. McGregor's thesis goes into the depth of our attitude as it has been crafted by centuries of facing a hostile environment. To our forefathers the expanse of the wilderness confronting them was incentive enough for them to constantly seek the refuge of enclosure in the fort after making necessary sallies out for food and means of survival. This has indelibly etched the Canadian sense of space, not as open, but as enclosure. In fact the Canadian psyche, rather than yearning for the wide open spaces, is in search for the enclosure of space. McGregor's is a well documented and thoughtful treatise.

CHAPTER 6. AN EXPLANATION OF THE URBAN DESIGN REQUIREMENTS.

6.01 Intent. Six Urban Design Requirements are proposed for the B. C. Place site. The general requirements, that could form the basis for a development control system, include the six urban design requirements.

The proposed general requirements would cover four subjects. The subjects covered would be the administrative requirements, concerned with the contractual agreement between the City and potential developers; the social requirements, concerned with subjects such as housing mix, recreation and park facilities; landscaping requirements, concerning the form of planting material; and the urban design requirements, discussed below.

The Surface Modulator and the Check List are pivotal elements in the proposed urban design requirements for B. C. Place. The two elements are applied in the context of the conditions that exist on the site. The following urban design requirements show an example of how the Surface Modulator and Check List, as instruments for facilitating the implementation of a shared vision of urban space, may be integrated into a zoning format.

6.02 Urban Design Requirements. The urban design requirements would replace the urban design guidelines now in use. The requirements proposed are contained under six headings. The composition and content of these requirements are based on my own experience and perceptions, working as an architect with the current urban design guide lines. The headings follow, in my judgement, the best and most succinct way of conveying a shared vision of urban space to those who would design and build it. The response from the local development and design community contained in the Consultant's Report on the Development Permit

Process (Chilton: 1984). has been duly noted. The application of the six requirements listed below would be mandatory.

A basic framework for the urban design requirements is as follows:

.021 Interim Land Use is the first urban design requirement. During the period between now and final completion a plan should be proposed to describe the use of the land that remains undeveloped.

The projection for the development of B. C. Place envisions a completion process of 25 years. Pressure will continue to encourage adhoc piecemeal projects over the lifetime of the project. For this reason it is necessary to implement some constraint to discourage expedient, interim, decisions that may subvert the proposed vision of space.

The 50 hectares of land remaining after the recent plans (S. E. G. S., North Park, The Stadium and the Expo legacy buildings) have been effected, should not be left as a waste land. Twenty five years is a long time to have such an important and large tract of land left fallow. A definitive plan must be in place to provide stabilization for the site until it is fully developed; if only to stabilize the soil by seeding.

Although the Surface Modulator is not directly applicable to an interim plan, it is as well to ensure some method of protecting the site until the time to develop comprehensively is due.

.022 Site Development. An Overall Development Framework should be formulated to describe the spacial concept for all of the site by responding, incrementally,

to its environmental and physical characteristics. The ensuing incremental land parcels should identify Overall Development Plans and Area Development Plans.

An Applied Surface Modulator could describe, in broad spacial terms, the volume and outline of developments that will project their future.

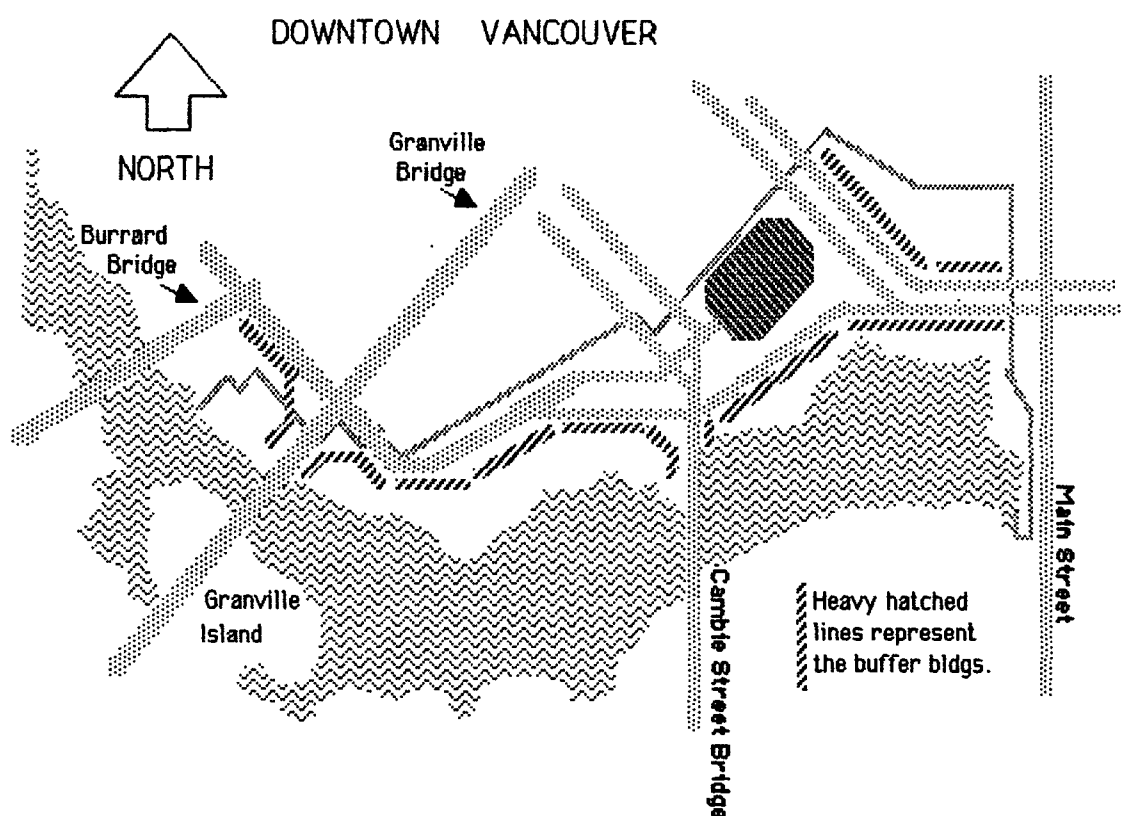
The Overall Development Framework (O. D. F.) is a conceptual plan describing the general thrust the Corporation intends for the site. The Overall Development Plans (O. D. P.) are smaller increments of the O. D. F., worked up in more detail but still spacially conceptual in form. The North Park Plan (the most recent proposal to develop the north eastern part of the site) is described by B. C. Place as an O. D. P. Conceptually the O. D. P. describes the development at the neighbourhood level. Area Development Plans, A. D. P.'s, are yet smaller increments of the O. D. P.'s. They encompass several building sites but may be one or two blocks in size. The above terminology is derived from B. C. Place documents and Report no. 3 published in April 1983.

Single buildings should be approved on the basis of the conventional Development Permit Application Process that has been established at the Vancouver City Planning Department since the early 1970's.

The present management of the B. C. Place Corporation has announced a policy of incremental land development by means of small parcels and more varied parcels of land. ("Small guys get break post-Expo" 1986). Possible basic increments of the B. C. Place site are identified, in **Figure 30**, through a planning process that responds to the environmental constraints presented by the site.

Through this process O. D. P.'s, neighbourhoods, and further incremental parcels become evident. The process of reduction finalizes the vision of urban space by

scale. As each area becomes progressively smaller it also becomes more manageable.



Incremental Land Subdivision.

Showing how the buffer buildings, responding to environmental conditions, define the areas and neighbourhoods on the site.

FIGURE 30.

.023 Physical Form and Design. An Applied Surface Modulator could describe in detail the layout of the positive and negative urban forms. The geometry of the forms of buildings and spaces could be ascribed at this stage of the design work. The forms and volumes of the buildings and spaces will be described by the urban designer by transforming The Orthodox Surface Modulator into an Amended Surface Modulator. By that process the shared vision of urban space is interpreted and the planning responds to the physical constraints of the site. The positive forms represent buildings and other volumetric physical forms. The

negative forms represent the spaces between the buildings; that is public urban spaces, streets, parks, plazas and dedicated areas. The quality of the surfaces should be described by specifying elements of the Check List.

The Amended Surface Modulator could be a mandatory requirement. The composition of the elements of the Check List are at the discretion of the urban designer. When the volumetric composition is fixed all subsequent designs should follow the intent of that composition.

.024 Environment. Public urban space should be designed to maximize environmental conditions. The Amended Surface Modulator could describe the shape and volume of buffer buildings (section 3.03) to achieve this purpose.

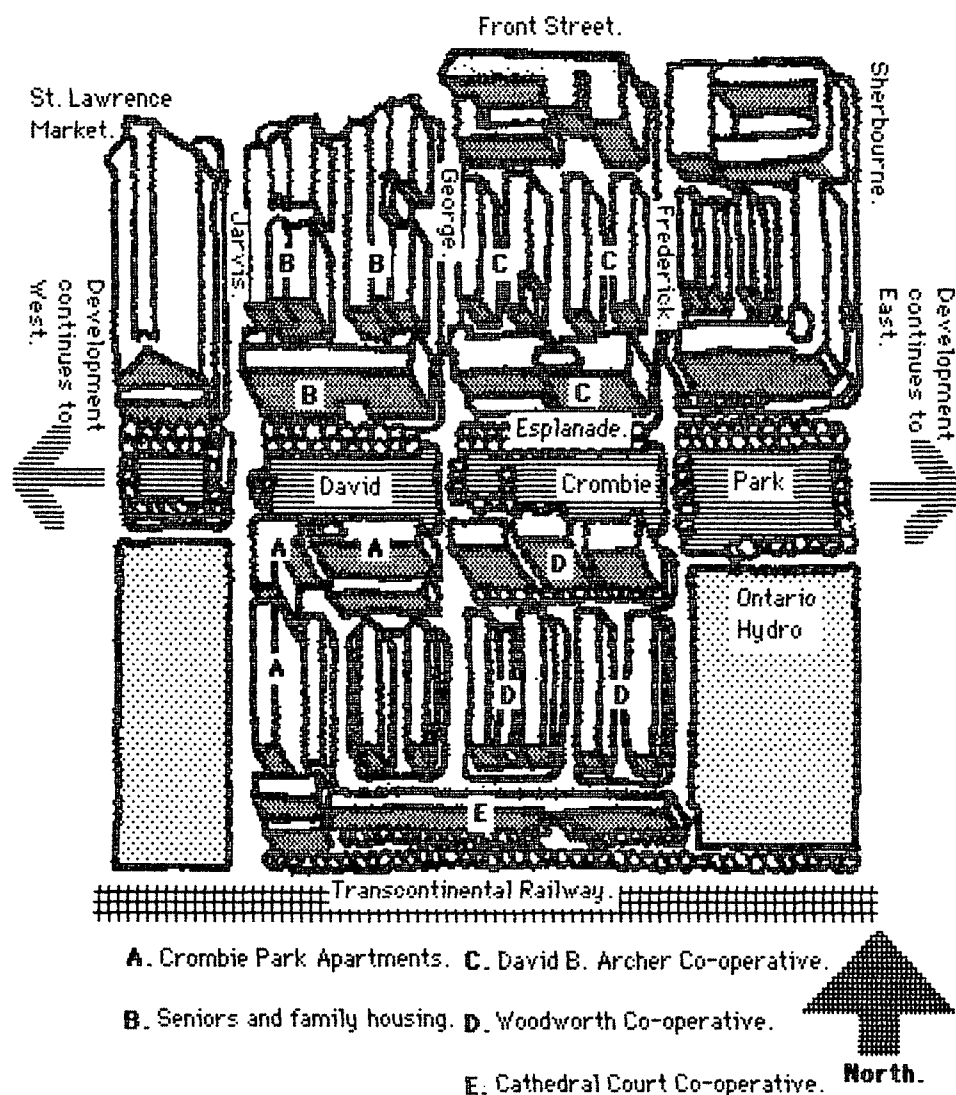
Environmental design of buffer buildings should centre around three major issues:

- * Micro-climates.
- * Noise abatement.
- * View and vista opportunities.

Public urban spaces and private residential passive areas should be shielded from the following site intrusions

- * The B. C. Place Stadium.
- * Pacific Boulevard.
- * Granville Street Bridge.
- * Cambie Street Bridge.
- * The Georgia Viaduct and A. L. R. T.

In the narrow context of these urban design requirements, environmental conditions should be mitigated by moulding and shaping buffer buildings to suit site conditions. Landscaping plays a major part.



Phase A of the St. Lawrence Neighbourhood, Toronto.

The first completed portion of a large inner city redevelopment with characteristics that are similar in some respects to B. C. Place.

FIGURE 31.

Micro-climate. Buffer buildings can be shaped to provide protection from prevailing winds (section 3.03- Ralph Erskine). Surfaces of buffer buildings may be designed to reflect sunshine into otherwise shaded areas. Overhangs may be designed to provide shelter from the rain.

Noise abatement. National Building Code site criteria restricts outside noise levels to 55 dBA. Other areas are restricted to: livingrooms-40 dBA, bedrooms-35 dBA, kitchens-45 dBA (Canada Mortgage & Housing Corporation:1977).

Noise abatement is achieved by creating noise shadows which occur in the 'lee' of buffer buildings and berms. An example of a well designed buffer building in a high density, inner city, residential neighbourhood is the Cathedral Co-operative, in the St. Lawrence Centre, Toronto, see **Figure 31**.

In Vancouver, there is a well designed noise abatement berm sited between 6th Avenue and the residences on the south shore development of False Creek. However buffer buildings are preferable to berms, which are wasteful of land, in inner city developments.

View and vista opportunities. The generally accepted notion, in Vancouver, that views are essentially of a distant, panoramic, nature should be challenged. A well designed building or public urban space can also be a very satisfying view. Indeed, and despite efforts to the contrary, so few residents end up enjoying what may be described as a view that it is important to re-define what view means. The Amended Surface Modulator and the Check List should be used to articulate close up views of urban spaces. By the same token when the opportunity arises distant views should be framed for better effect by designing the interstices in and around the buffer buildings. That way cones of vision can be described, **Figure 6**.

.025 Occupancy is the fifth urban design requirement. Within the restrictions of the City of Vancouver by-laws, governing noise and pollution, the nature of occupancy should be open. The Amended Surface Modulator should only describe

the volume of buildings and public urban spaces. The method of controlling building density should be by volume. The current method of density measure by floor space ratio, F. S. R. (Zoning District Plan By-Law no. 5451: 1981), should be replaced by the volumetric method.

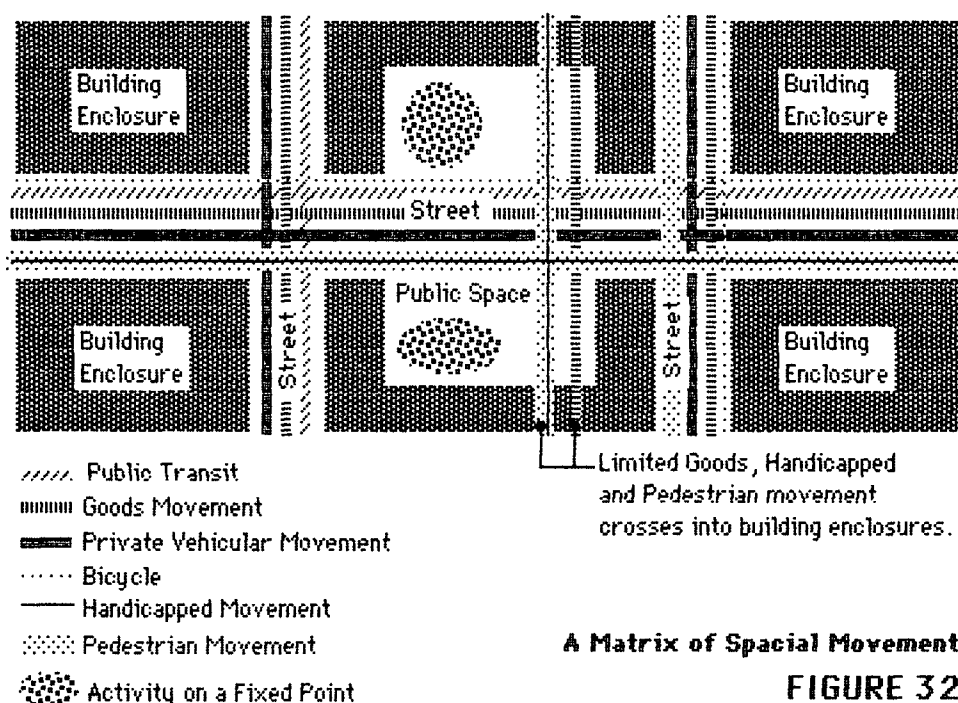
Furthermore, modern technology has made possible a close relationship between work and residence. The general public has responded by choosing to return to live in the inner city bringing residence closer to the place of work. Occupancy could be redefined as living and working within walking distance. A closer relationship between workspace and housing, especially affordable housing within the inner city, could be facilitated.

The Amended Surface Modulator could describe building envelopes that enclose a variety of occupancies: work, leisure, recreation, education, commercial and residential.

Close relationship to varied use is demonstrated in the multi-mix use of the Crombie Park apartment complex (designed by Irving Grossman & Associates, Architects) in the St. Lawrence development in Toronto, **Figure 31**. The complex accommodates, in addition to apartments, two schools, a gymnasium, a club, offices and a community centre, yet the exterior form of the building defies the epithet "*form follows function*."

.026 Movement. A modal split matrix of traffic movement should be designed. The format should be an overlay (McHarg: 1969) to describe movement, each mode separately laid over one another, the relationships between movement and the urban spaces. In the context of the Amended Surface Modulators the matrix should describe movement and traffic grain.

The effect of movement on a public urban space is determined by the velocity, volume, grain and nature of motion.



Traffic that affects urban space includes:

- * Public Transit.
- * Goods Movement.
- * Private Vehicular Movement.
- * Bicycle Movement.
- * Handicapped Movement.
- * Pedestrian Movement.
- * Activity at a fixed point (e.g. a ritual, ceremony of open air restaurant).

The manner in which these levels of movement should be integrated into the space is illustrated in **Figure 32**. Each overlay would represent one of the types

of traffic movement. The condition at the confluence of paths then becomes evident.

The matrix approach to movement is a means of developing a 'shared surface' street which can then be designed for that purpose. The *Woonert* (Smith: 1986) philosophy was applied to 200 streets in Utrecht, Holland to demonstrate the principle of the 'shared street'.

Another approach is demonstrated on Granville Island in Vancouver (Seelig: September 1980). Here the traffic mix discourages the emphasis of any one mode. Velocity is reduced and the interaction of movement occurs through and across the public spaces, even penetrating the building envelopes.

CHAPTER 7. IMPLICATIONS.

The six proposed urban design requirements are more simplified than the current urban design guidelines. The implications behind the simplification can have several effects. The relationship between the development community, the design professions (see section 3.02) and the City will change. A more volumetric understanding of urban space could be included in the development control system by using computer applications. Some limitations, inevitably, will arise.

7.01 Use. The use of the proposed six urban design requirements could affect the relationships within the development community. The requirements are brief and to the point thus clarifying the urban design component in the development control system. The requirements are a framework of reference with a clearly understood goal – the shared vision of urban space, articulated by the public.

The proposed requirements are not onerous, so as to preclude reinterpretation. In fact the format, as a broad set of directives, places the creative decision-making responsibilities with the practicing design professionals. The bulk of the work of conceiving the direction of the development could be transferred from the civic offices to the offices of the practitioners. A greater responsibility is placed on the design professional to respect the intent of the requirements without circumventing them. The often used phrase in the development community "*what can we get away with ?*" will still be prevalent but the responsibility is on the planners to be vigilant in enforcing the intent.

A transfer of responsibility to the design professions is already in effect in the the plan checking process in the City of Vancouver, Permits and Licences.

Qualified design professionals, who satisfy the City of their competence to interpretate the National Building Code, are accorded a stamp to affix to their permit application documents. With this stamp, they circumvent the checking procedure by taking on the responsibility of certifying that their documents meet the criteria of the code. The City organizes seminars in which the professionals are expected to take part prior to receiving a stamp. Similar seminars could be arranged for urban design professionals.

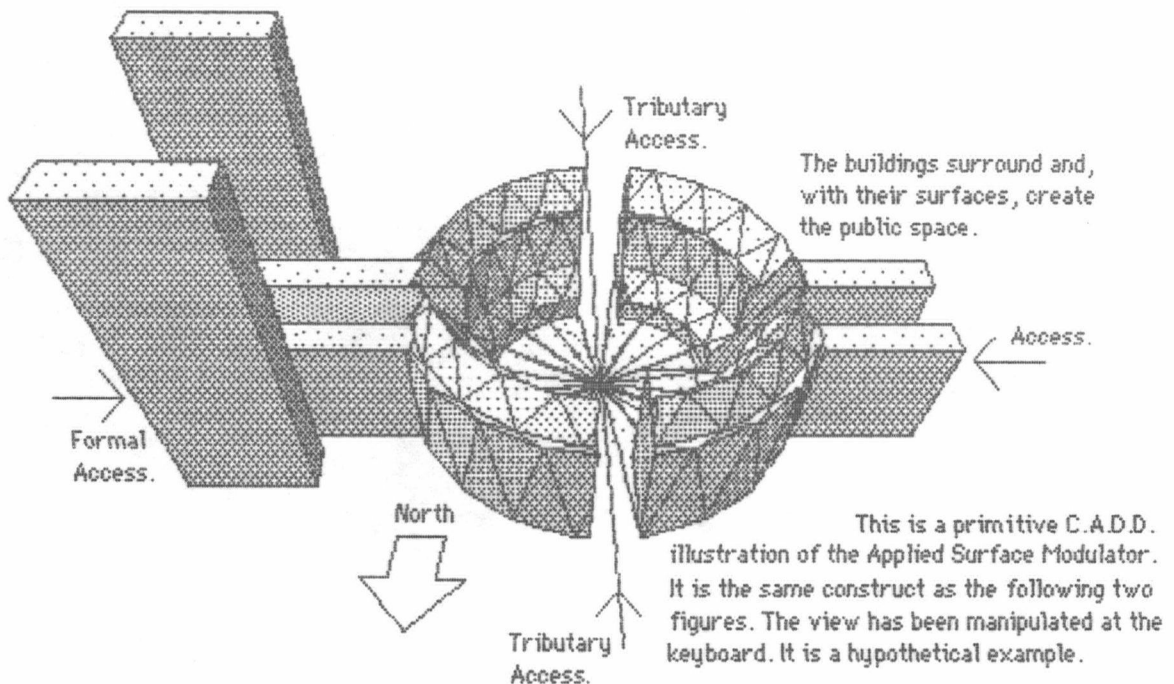
7.02 Simplified Requirements. The requirements are brief and succinct. By being succinct the professional is asked to present his interpretation of the spacial form of the development. He co-operates in formulating his interpretation into the development control system.

The requirements are easier to understand and relatively free of conventional legal language which is inappropriate for the purpose of interpreting the cultural and subjective aspect of society as a whole.

7.03 Volumetric Understanding of Space. The six requirements are formulated on the basis of an interpretation of a shared vision of urban space. Five of the requirements respond to the application of the Amended Surface Modulator and Check List. These instruments are intended to communicate the multi-dimensional quality of space. The requirements therefore are spacially oriented and could encourage, hopefully, a more developed sense of space for the urban community.

7.04 Computer Application. Space is multi-dimensional. It cannot be expressed satisfactorily in words, nor graphically on a flat surface. The best medium for

representation of space should be capable of expressing malleable proportions and volume. The computer is best suited for this medium.



Primitive C.A.D.D. view 1.

FIGURE 33.

The Surface Modulator is particularly relevant to computer application. Three dimensional volumes can be rendered graphically by their linear framework. The volumes can be moved and manipulated within the computer program. Programs, such as Easy 3D, can contain images of space set up by the Surface Modulator.

The computer application makes it possible to view the spacial concept simultaneously from many different angles. The three dimensional, or to be more precise four dimensional, nature of space that the urban design requirements are communicating, is rendered visually more comprehensible.

The fourth dimension is time. The Surface Modulator introduces the possibility of co-ordinating many individual development projects over an extended period.

The grid framework of the Surface Modulator can express the three dimensional component of urban design. The fourth dimensional nature of the Surface Modulator expresses the time lag between the first concept of a large planning undertaking, i.e. B. C. Place, and the eventual completion of the last building projects.

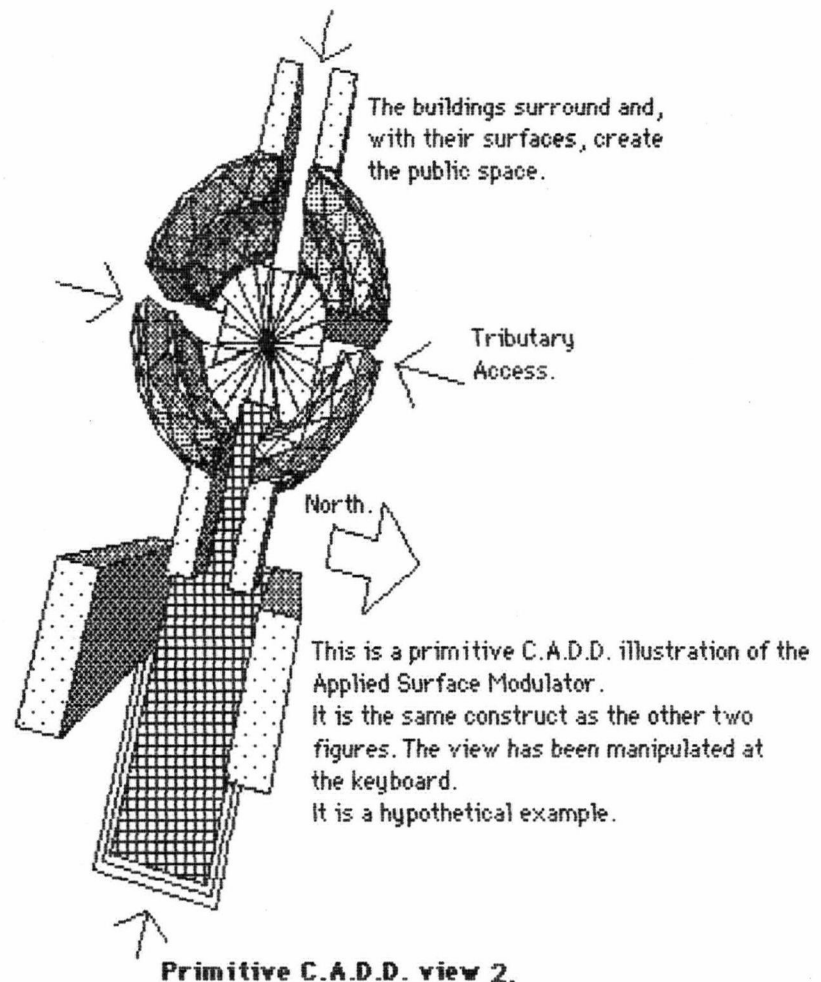
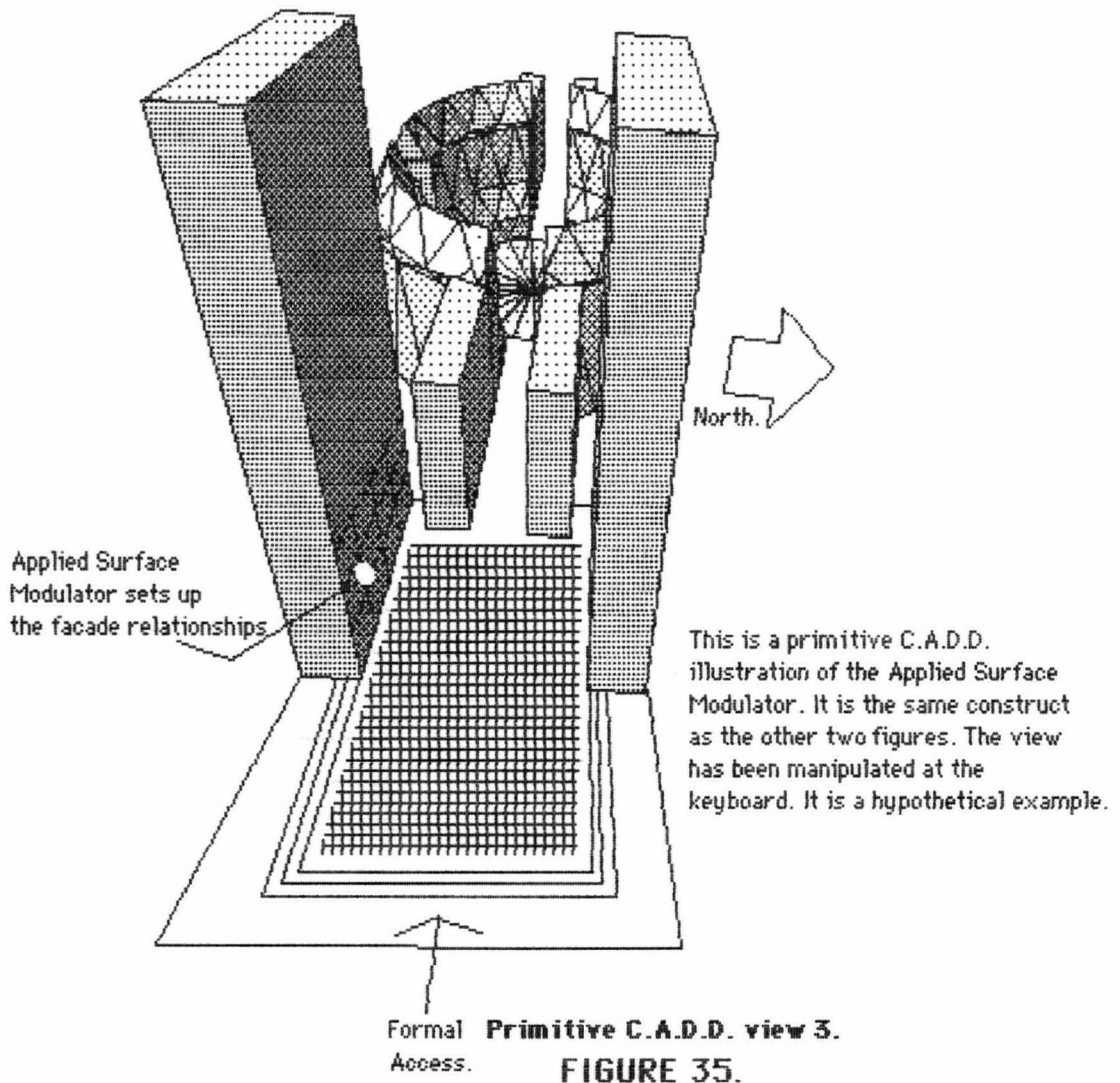


FIGURE 34.

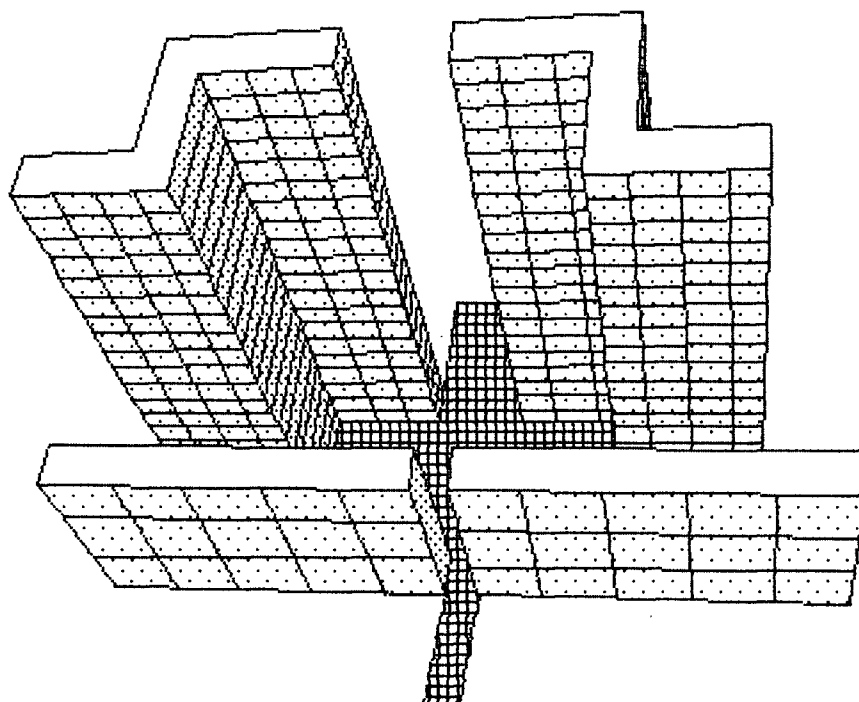
The three figures in this section illustrate the manner in which a Surface Modulator may be used to communicate the vision of urban space in three dimensions. They convey the image of one spacial conception from three different points of view. **Figure 33** is the originally compiled Amended Surface Modulator depicting the agreed upon shared vision of urban space.

Figure 34 is the same, manipulated, Amended Surface Modulator showing the shared vision of urban space from a different point of view.



Each illustration has been manipulated from one spacial form generated in the program. The shared vision of urban space depicted by the Amended Surface Modulator in **Figure 35** is the same as the previous two, seen from a different aspect using the same computer program. This series of figures shows the advantage of the Surface Modulator as it may be applied to off the shelf and readily available computer software.

In case the previous figures mislead , curves are not an inherent part of the composition. **Figure 36** is an illustration depicting a primitive conceptual urban space rectilinear in form.



A rectilinear vision of urban space depicted by the
Amended Surface Modulator.

FIGURE 36.

The four previous illustrations, **Figures 33, 34, 35** and **36** have been compiled on a rudimentary software program for explanatory reasons only. The program is called Easy 3D and is marketed by Enabling Technologies Inc.© specifically for application on the Macintosh computer. It is readily available in retail stores.

This program is not, in itself, adequate for the task of interpreting urban space in a development control system as intended in this thesis. So far a program of the complexity for such a task has not been compiled. The research and resources needed for this undertaking are beyond the scope of this thesis. The powerful potential for such a program, however, is demonstrated in the 4 figures.

7.05 Limitations. There are instances where the Surface Modulator is not an appropriate instrument.

As aforementioned the Surface Modulator is appropriate when applied to areas of medium to high density. Application in suburban, low density, single family, residential developments is not appropriate. The Surface Modulator cannot be applied in developments within an accepted pattern of urban sprawl. In a rural or park like setting where space is not defined by building structure the concept of the building envelope is contrary to the notion of the wide open rural setting.

There are a number of other limitations listed:

.051 The Surface Modulator may, by some, be considered as an unreasonable impediment to the intuitive design process (Seelig:1984). In fact, the purpose behind applying it is to co-ordinate the architectural elements created by the individual designer. It is not intended to limit his intuitive contribution.

.052 There may be perceived limitations in its design application. This perception may encourage undue uniformity of building facades. The key to success is in the creative manner of interpretation. The Surface Modulator in an amended form is a creation of imaginative professionals viewing spacial possibilities as unlimited.

.053 The present relationships of the various individuals and organizations in the development community may for a time be strained, until the requirements are understood. The succinct format will place considerable responsibility on the practitioners. This may not at first be acceptable in the current milieu.

7.06 Conclusion. If Rob Krier, Edmund Bacon, the assessment of Burrard Street (Critique, section 4.03) and many private citizens (who prefer to talk off the record) are believable then we just have to look around to see what will become of B. C. Place. This is possible if a reassessment of the requirements towards a shared vision of urban space is not made.

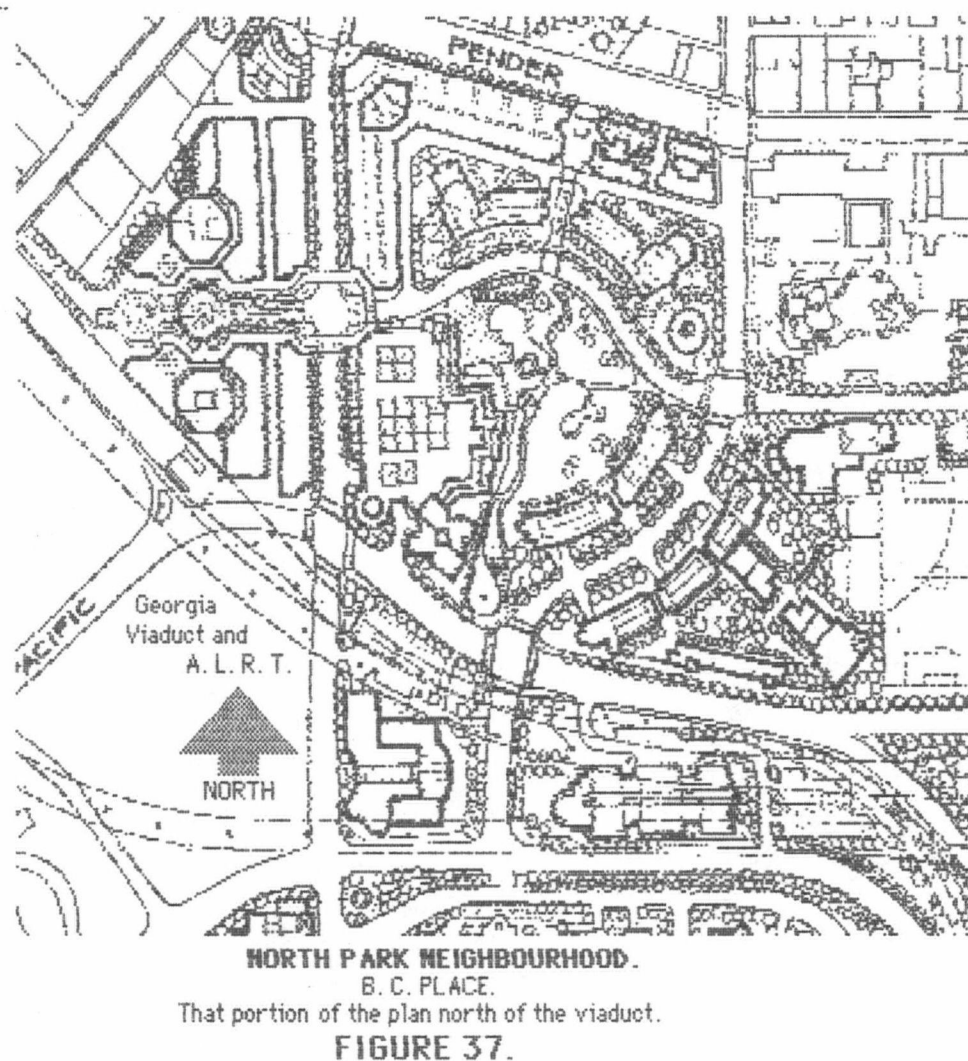
On the south shore of False Creek, area six, phases I and II, the City's development (the south shore between the Cambie and Granville Street bridges), was in the initial planning, a very well conceived spacial entity. The guidelines which were formulated to communicate the intent of that spacial vision were loose and indecisive (Kemble: 1980). The guidelines were formulated in great detail, with respect to the small scale personal activity on the site, but they did not communicate a vision of spacial co-ordination.

Area six is a large development. It has taken since 1974 to evolve and it is still accreting. Many design professionals and many developers have, and still are, contributing to it. The combination of development participants and a loose, spacially undefined, set of guidelines caused the protagonists to lose sight of the original intent. The spacial intent of the overall plan was not picked up by architects working on subsequent incremental developments because there were no spacially conceived requirements to guide them. The finished developments are not cohesive in spacial form and there are very few well designed buidlings defining the spaces.

An array of requirements articulating a shared vision of urban space is no more costly, nor hard to come by, than the planning work conducted on area six. It is only a matter of learning from past experience then acting upon those lessons.

CHAPTER 8. CONCLUSION.

8.01 Introduction. The proposed urban design requirements together with the Orthodox Surface Modulator, have not yet been tested. However, reasonable grounds to believe an improvement in the built urban environment could be an immediate result.



The plans of the North Park O. D. P for B. C. Place show an attempt to follow a vision of urban space north of the Georgia Viaduct, see **Figure 37**. The plan of the building layout is in the preliminary stages. The crescent shaped buildings in the mid-area of the development wrap around an urban space that has the potential to be very well conceived. The spaces are reminiscent of Cumberland Terrace surrounding the east side of Regent's Park, London. Barry Downs,

architect and planner for the project is quoted as saying "... *You may not like Bath, but how do you like Regent's Park?*" (Sun: December, 1985). Clearly, the intent to carry through with that vision should be followed by a set of requirements that will communicate to subsequent designers and developers how the spaces may be followed through to completion.

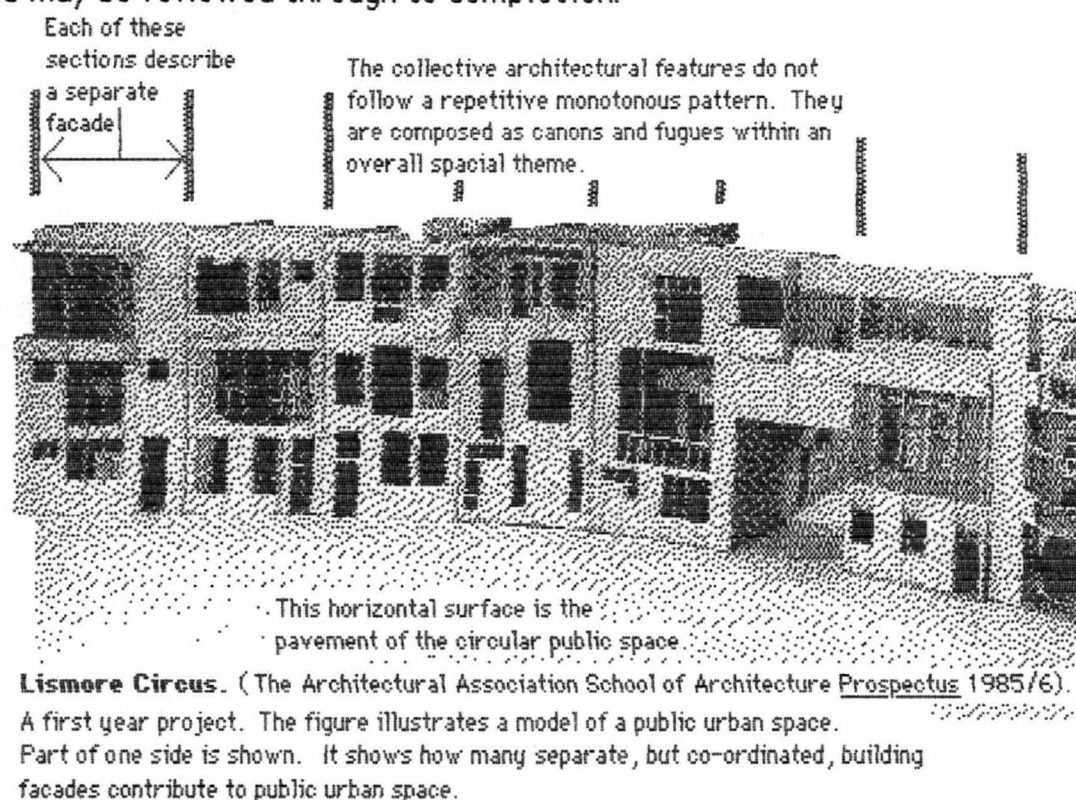
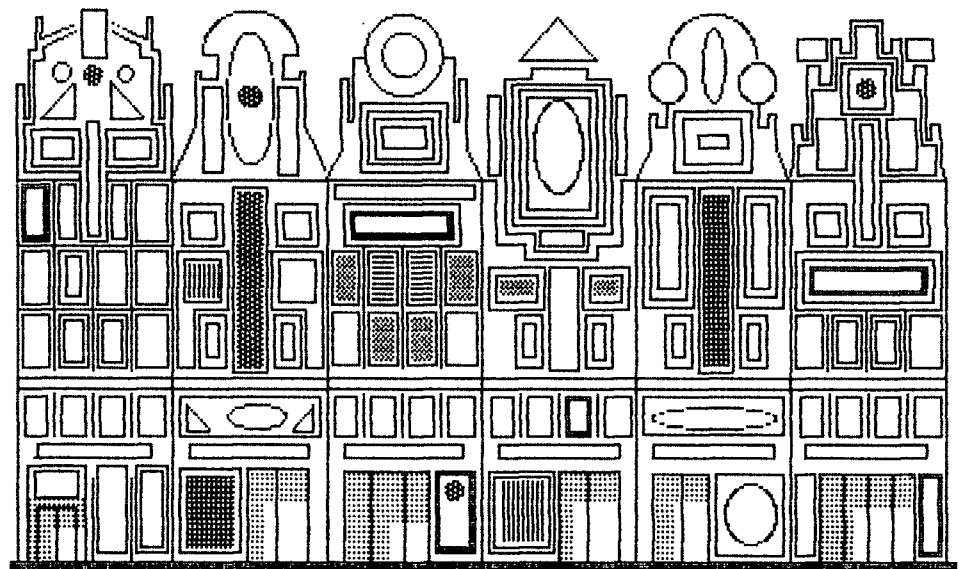


FIGURE 38.

The application of the Applied Surface Modulator need not result in a monotonous line up of identical facades. In the hands of creative professionals the application may be used as intended; to co-ordinate the various separate acts of development and to direct the accretion of a completed urban space. **Figure 38** is an illustration of a first year student group project at the Architectural Association School of Architecture in London, England. It demonstrates the possibility of collectively and individually building up a series of facades into, in this case, a circular urban space.

The Victorian penchant for excessive detailing, known as gingerbread, is often admired by the present generation. One such possible result of the Applied Surface Modulator and the Check List is illustrated in **Figure 39**. In Victorian architecture and streetscape there are examples of a shared vision of urban space where a prolific variation in architectural expression has thrived within the limits of the surface regulation. One very good example is the late Victorian application of Pont Street Dutch facades (Cameron & Cooke: 1980). The ubiquitous application of gingerbread and varied gables attests to the multitude of possibilities still open to the individualistic designer.



A Simulated Effect of the Pont Street Streetscape.

FIGURE 39.

The use of the Surface Modulator is as an urban design instrument as part of the urban design requirements of the development control system. The urban space resulting from the use comes from a shared vision of urban space expressed by the public. The physical form of the space is interpreted by the urban designer, in consultation with the planners and their clients the developers. The interpreted form becomes a part of the development control specific to the site. The vision of space is then followed by all subsequent designers who contribute to the development of the site.

The results of many shared visions and attempts at sharing visions of urban space show that when such a concept is implemented a very satisfactory result ensues. The public in Vancouver have always expressed their desire to see the development of their city regulated in favour of well designed spaces (Hardwick & students:1976).

8.02 Conclusions. The proposed urban design requirements are conceptual in form. The concepts set out a shared vision of urban space as the art of creating public urban spaces.

Urban design requirements can only be meaningful if they are composed with a definite purpose in mind. The objective here is to create a set of urban design instruments which may be used to implement a shared vision of urban space.

Further studies may be pursued as related topics along a number of paths. Here are some ideas.

A shared vision of urban space implies a collective social view. Our culture is not motivated by collective efforts. How can we accept the concept of a shared vision of urban space? Would we value the effort?

What procedures must be instigated to better interpret urban space in the already developed parts of the city?

Buffer buildings make an important contribution to urban space. What impact may they have? How should they be conceived and their purpose implemented?

The major task ahead, however, is to bring a shared vision of urban space into practice. The task could be to analyse the present attitudes, professional and public, toward urban design guidelines; to make the distinction between what is discretionary and what is mandatory; to deal with the requirements as a means to create public urban space. In fact, the task would be to see what the implications are of returning the creative initiative back to the design professions, away from the planning authorities.

The current discretionary guidelines would be superseded by the proposed requirements.

*"Nobody knows where you're going
Nobody cares where you've been
You belong to the city
You belong to the night."*

Glenn Frey.

Theme, Miami Vice.

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APPENDIX.

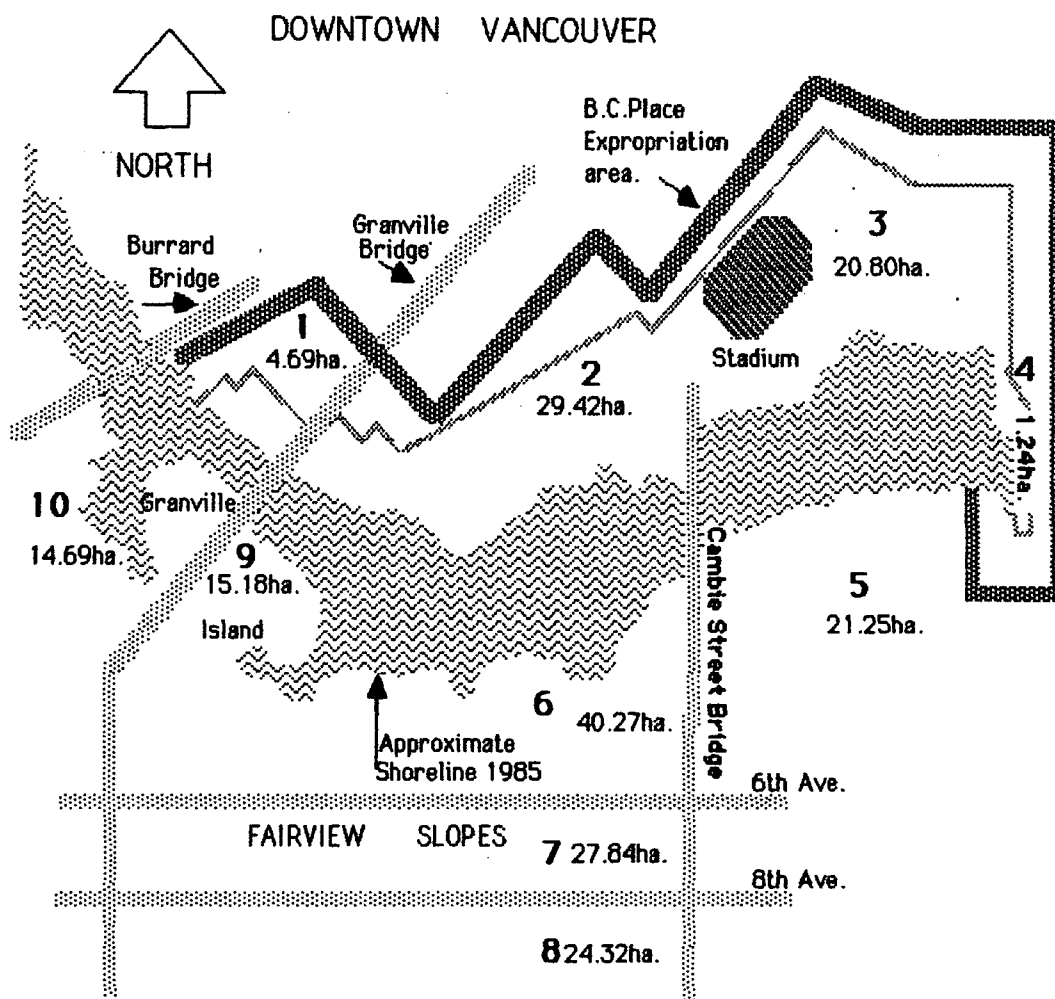
" A filthy window affords a glimpse of human labour and its consequences: people working long hours in foul weather for little pay, straining their muscles, defining their lives, to create yet another monument to avarice and aggression. "

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1.01. False Creek Comprehensive Development District / British Columbia Place Expo Development District zoning.

1.011 References documents	104
1.012 F.C.C.D.D./B.C.P.E.D.	110

1.01 Urban Design Guidelines, False Creek Comprehensive Development District / British Columbia Place Expo Development District and the B. C. Place planning proposals.



SUB - AREAS.

Showing the northshore site of B. C. Place.

FIGURE 40.

The appendix is an overview of the urban design guidelines that have been compiled by the Vancouver City Planning Department for the area of the False Creek basin. It is that area depicted in **Figure 40**. The compilation of urban design guidelines for this area commenced when it became apparent that the south shore city owned land of False Creek could be developed from their, then, unsightly industrial use into a residential neighbourhood.

Critical comments are made to give some perspective to what is contained in the thesis. This overview points up the adhoc manner in which the guidelines have been developed over the last two decades. The one critical factor this overview shows is a lack of a shared vision of urban space that may have provided a comprehensive direction for us to follow.

There are areas where guidelines contradict one another. There are areas where the guidelines are inappropriate, given the constraints of the site. But there is also a very strong sense that the Planning Department as a whole has learnt from their experiences and the general trend has been positive.

The most recent guidelines, particularly the January 1986 False Creek FC-1 and the B. C. Place North Park plan, demonstrate an awareness of how urban space can affect the living environment, and also how guidelines can implement the sense of urban space originally envisioned.

1.011 Reference documents.

1970. January 16, **False Creek Development Concepts.** City of Vancouver Planning Department. The City introduced five concepts on how to develop the 10 areas of False Creek. The apparent purpose of this document was to stimulate public discussion. They were compiled by the City Planning Department. The content of the concepts responds to a call for citizen input, reacting to the publicly expressed intentions of the City to proceed with the development of False Creek. The controversy, as would be expected, was intense. The range of choices were polarized from high density residential development, industrial use and open parkland.

Concept no. 1 All areas were industrial land use. Commercial strip development was allowed on Broadway and Granville Streets. Community facilities were visualized at First Avenue and Burrard Street. Marinas were located on the waterfront in area 6, phases 10 and 11.

Concept no. 2 Area 1 comprises commercial with waterfront park. Area 2 comprises residential, waterfront park, limited community facilities, a marina and very limited commercial use in the centre and at the Connaught Bridge. Areas 3, 4 & 5 are predominantly commercial with commercially mixed residential, waterfront park and residential. Area 6 is a mixed use concept following, in general principle, the present development with a central park separating residentially mixed commercial neighbourhoods close to the two bridges. In this proposal the continuous sea-wall walk is illustrated.

Concept no. 3 An industrial proposal. There are residential developments in areas 2, 7 and 8 and limited in area 10. A park is proposed in the central portion of area 6; a marina in phase II, areas 6 and 10.

Concept no. 4 Areas 1, 3, 4, 5, 7, 8 and 10 are commercially developed. Areas 2, 6 and 10 are predominantly residential with parks, marinas, community facilities and limited commercial.

Concept no. 5 There is a wide park and sea walk surrounding the False Creek water body. Areas 2, 5, 6 and 10 have residential areas with marinas, limited commercial and community facilities.

The report outlines the statistical data without comment. It was compiled for public presentation to encourage discussion.

1971. September, Proposed Policies. False Creek Development. City of Vancouver Planning Department. This is an outline policy document covering all the aspects of development of the False Creek basin. It defines the land use

densities and zoning requirements. Its contents have since been superseded by later documentation.

1971_2. Progress Reports.

1. March. 71. False Creek study group/Thompson, Berwick, Pratt & Partners.
2. May. 71. False Creek study group.
3. September. 71. False Creek study group.
4. May. 72. Thompson, Berwick, Pratt & Partners.
5. May. 72. Thompson, Berwick, Pratt & Partners.

These documents reflect the discussions in the community, reflecting the polarized opinions. On one side were those advocating all parkland, on the other were those who believed the current housing shortage justified a very dense residential development.

1972. History of False Creek. Opportunities For Youth Grant. Cote, Elligott & Melle. This is a useful chronology of significant dates and events that have occurred in the False Creek basin from 1886 until 1972.

1973. June, False Creek. Policies & Actions. City of Vancouver Planning Department. This is a preliminary to the more comprehensive November publication. It outlines the subjects under the following headings: (i) The water body, (ii) The land use, (iii) The environment and (iv) Transportation.

1973. November, False Creek Policies. City of Vancouver Planning Department. This is the City's reaction to the March 1972 Thompson, Berwick, Pratt and Partner's report and the City Planning Department's report of June 1973. The contents of these reports dealt in the broadest terms with water, land

use and transportation. The following outline of policies have been adopted by City Council:-

Discharge of pollutants not permitted. The existing water body should be maintained and further water area be encouraged. The waters edge shall at all times be accessible to the public. Public open space be 2.35ha./1000 pop. Land use was to be of mixed use with open space available and contiguous to all residential developments. A future link to rapid transit be provided. The removal of the Kitsilano trestle is prioritized. The intention was expressed to remove the 6th Avenue rail line.

1974. Design Competition. Sponsored by the City of Vancouver Planning Department. The area covered by the competition is the city owned south shore of False Creek known as area 6. Three local architectural firms invited to submit ideas:-

Britannia Design (Byron Olson & Ron Walkey).

The separation of the potential residential development of area 6 and the Broadway commercial amenity area by 6th Avenue, and the railway line was dealt with boldly by this entry. Many observers felt this to be the superior scheme. It was a clear attempt to introduce urban densities to False Creek within the realities of the site. It completed the connection across the rail/6th Avenue impass by a developed continuous bridge that was both park and residences; a megastructure. The application of the pattern language was the guide to the spacial articulation.

Thompson, Berwick, Pratt & Partners.

This was the winning entry. It is the present development in area 6, phase I.

Downs/Archambault.

This entry was quite similar to the Thompson, Berwick, Pratt & Partners' scheme but of course varied in details.

1976. April 6, **False Creek Area 6, Phase II.** City of Vancouver Planning Department. This is a sketch proposal by Downs/Archambault, Davidson/Johnson, Architects. It is a document studying two possible alternative uses for this area. The two depict: (i) a predominantly residential concept and (ii) a park and civic building concept.

1976. July 15, **A.D.P. for Area 6, Phase II. False Creek.** Prepared by the City Planning Department.

This is the precursor to the Alder Bay development. It covers the residential area of False Creek extending east from the Granville Bridge, between the shoreline and the rail line, to Alder Street.

Dividing the site into four areas, A, B, C & D, consecutively from east to west, it delineates the areas that will be provided for commercial, residential and community (open space) use. It then refers to building heights, public open space, vehicular circulation and parking, and water area. There is a concluding appendix showing a sketch plan of what, at the time, was conceived as the spacial layout of the built physical form.

1978. April 18, **Granville Island, False Creek_Area 9.** Reference document. Submitted to the City of Vancouver by The Granville Island Trustees as advisors to, and on behalf, of C. M. H. C. The document was compiled by Norman Hotson and Associates, Architects.

1980. July, **The Canadian Architect.** False Creek Decline & Rebirth. Roger Kemble. It explains an overall history, the planning process and the architecture. There are many illustrations of the competition proposal drawings that won Thompson, Berwick & Pratt, Architects the commission to design the overall concept for the area 6 development. It describes the three residential

neighbourhoods: Heather, Spruce and Alder Bay, that make up False Creek area 6. It recognizes the achievement, on the part of the City, in bringing an innovative innercity neighbourhood to fulfilment. Attention is directed to shortcomings; the landscaping and the lack of architectural space co-ordination. It is pointed out that, despite prescribed guidelines in the spacial zoning for this area, there is only one area of the thus far completed development that can be construed as street architecture - Shore Pine Walk in the Alder Bay Co-op development.

Feedback, Jacqueline C. Vischer. This accompanied the above article. It is an abstract from False Creek area 6, phase 1, Post Occupancy Evaluation. Final Report by Vischer, Skaburskis Planners.

It reveals some complaints - lack of parking being one. Minimum parking was intentional as part of the City's policy to anticipate an improved transit connection in the future. The complaints, however, are important and should not be disregarded. But the general acceptance of the residents was positive.

Conclusions state that the False Creek development has had a profound effect on the city overall. The response of the residents was mixed. Generally the development was received favourably. There were reservations expressed on the usability of the semi-private spaces; the inside communal gardens that are surrounded by the residential units. It was noted that it was too soon to make a definitive post occupancy evaluation.

1983. April, Report No. 3, B. C. Place. The first conceptual plan of land use for the B. C. Place site. It was compiled by Fisher/Friedman Associates, Arthur Erickson Architects and the B. C. Place planning group. It is a development of high-rise buildings. It is in a most preliminary form; more a promotional document than a serious plan. It ignores many of the lessons learned in the city over the last 30 years. It was abandoned in favour of a more realistic approach.

1984. St. Lawrence & False Creek. U. B. C. School of Community and Regional Planning, publication. J. David Hulchanski. It is a review of the planning of an important, large, infill neighbourhood in the City of Toronto and the False Creek development in Vancouver. As a detailed comparison of these two innercity developments it is a valuable reference document. Both these neighbourhoods were built in the same enthusiastic civic atmosphere of reform during the early seventies. It is a definitive survey of the facts.

1.012 F. C. C. D. D. / B. C. P. E. D. Guidelines and related areas.

The documents in this section are the official guidelines as adopted by council. They are the documents now followed in the development of the basin. Areas 2, 3 and 5 are as yet not covered by approved guidelines. They will be discussed in their present embryonic form. Area 1 is partially covered by the South East Granville Slopes O.D.P. The remaining three quarters of the area is to be the subject of civic discussion, yet to come.

In 1986 the Planning Department introduced a standard indexing for all guideline documents. It is based on decimal numbering of paragraphs. To date, the two that follow this format are the Cambie Bridge, south corridor and East False Creek guidelines. The system has yet to be perfected.

The guidelines are conceptual in format. They are to encourage improved design in the buildings of False Creek.

1982. May, Downtown South Urban Design, Executive Summary, by Cunningham Dutoit, planning, urban design, landscape architecture.

This was commissioned by the City to deal with the potential urban development of the area on Granville Street north of the bridge. It has an effect on the False Creek basin because it abuts Area 1, the South East Granville Slopes. It is in conflict with the later principles set by the City for area 1, and is not consistent

with the view requirements because the report would allow large high-rise buildings, on either side of the Granville Street Bridge, to form a dramatic entrance to the downtown. It is clearly in contradiction with the current S. E. G. S. guidelines that contain the heights of the buildings. Its purpose is to retain the view that these two gateway buildings will obscure.

1982. November, **Fairview Slopes policies and guidelines**, the City of Vancouver Planning Department.

The guidelines briefly and incompletely treat: existing houses, new development, non-conforming development, the development approval process, traffic and services, parks and open space.

1974-86 inclusive. July-January, **False Creek Comprehensive Development District.** June 1981. Including by-laws to adopt area development plans, **F.C.C.D.D.** City of Vancouver, B. C.

On February 21, 1984 the City declared areas 1, 2, 3 and 4 of the False Creek basin as the B. C. Place / Expo, **B. C. P. E. D.**, development area. Until that time, from June 1981, all areas of the basin, except area 9, were designated F. C. C. D. D. Thus, the current areas covered by by-law no. 4783 F. C. C. D. D. include: 5, 6, 7, 8, 9 and 10.

These guidelines are compiled for convenience into one binding and include the June 1981 documents which are bound into no. 3575, Zoning and development by-law.

Section 1.0 Site Planning reflects the nature of the weakness of guideline approach to the by-law. It has elusive headings such as "interpretive requirements", "community forum" and "taming tall buildings." The intent behind these headings is clear to the authors but of little guidance to the design consultant.

The accompanying sketches are of even less help. They demonstrate the adroit penmanship of the rendering profession, but overlook the civic commitment to effective urban design, and the ingredients that make usable public space or for that matter, views viewable without having to break our necks.

In summation, and to be brief, three essential elements are singled out here examples of deficiencies in the by-law.

Section 2.3 Design Guidelines. (h) Three kinds of views. (i) "nature just outside," (ii) "life of surrounding community" and (iii) "a vista that encompasses distant natural elements." It is intended that these notations be a guide for designers. They are to be used as an impetus for imagination. It has not worked in practice. The notation states "every dwelling unit should have access to *all three*". Only a few homes have a view in False Creek despite the commitment to provide for them.

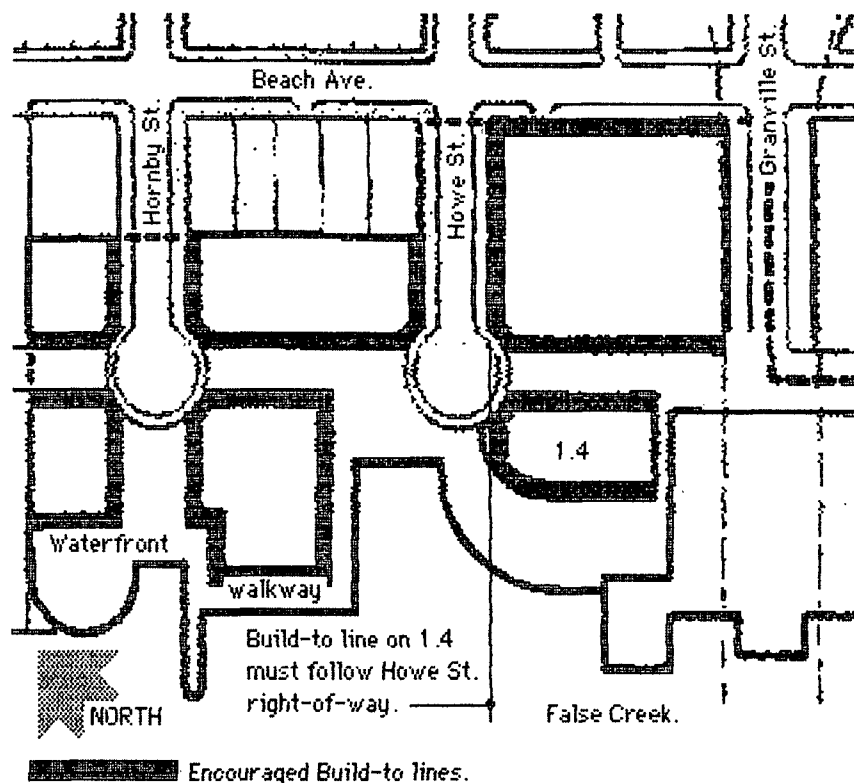
As a consequence of such guidelines the spacial planning of Alder Bay, area 6, phase II has been impeded. On paper the sight lines are convincing, but a visit to the suites demonstrates otherwise. A very small percentage of development, facing north, on the end of the building enjoy a realistic view. From the remaining side suites it is seen by stretching over the balcony or window sill. From a relaxed position inside the suite the view is of another suite, a few feet away, with, lo and behold, your neighbour looking in on you.

Section 2.3 Design Guidelines. (i) Sunny main rooms.

This requirement flies in the face of reality. "Habitable rooms in every dwelling unit are capable of receiving sunlight." This comment is accompanied by a sketch showing the path of the sun as it traverses the southern ecliptic. All of the False Creek developable area within the City's jurisdiction is oriented towards the north; the view, the slope and the traffic quiet. It is a very difficult suggestion to attempt to follow and would best be left out of a guideline.

Area 2. Neighbourhoods.

This area is now included in the B.C.P.E.D. zoning. This guideline seems to rely entirely on another default by the professional renderer. Reference is made to European street environment, tile plazas and squares. It leaves an impression that the notion of neighbourhood is trivialized.



South East Granville Slopes.

FIGURE 41.

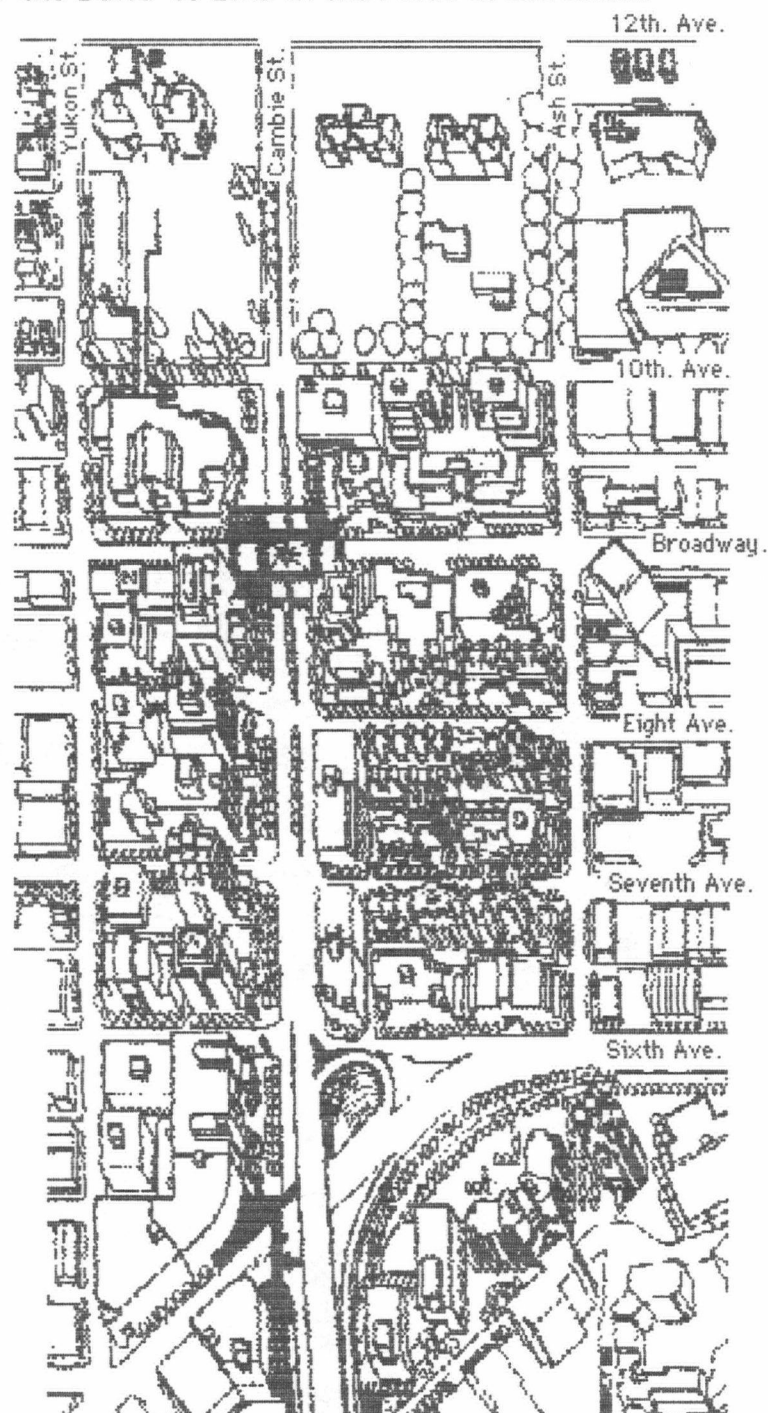
1985. August, S. E. Granville Slopes Official Development Plan.

City of Vancouver Planning Department. See **Figure 41.**

The densities allowed in this O.D.P. vary between 3.0 F.S.R. and 6.8 F.S.R. Compared to other areas of high density in the city it is high. In the West End Development, for instance, the F.S.R. varies between 1.5 and 2.75.

Nevertheless, the sophisticated spacial layout, the proximity to amenities and open space is a new response, by the City, to a higher density development reflecting a lifestyle that B. C. Place has publicly stated it would like to encourage.

This is the first application of the Build-to Line in the False Creek basin.

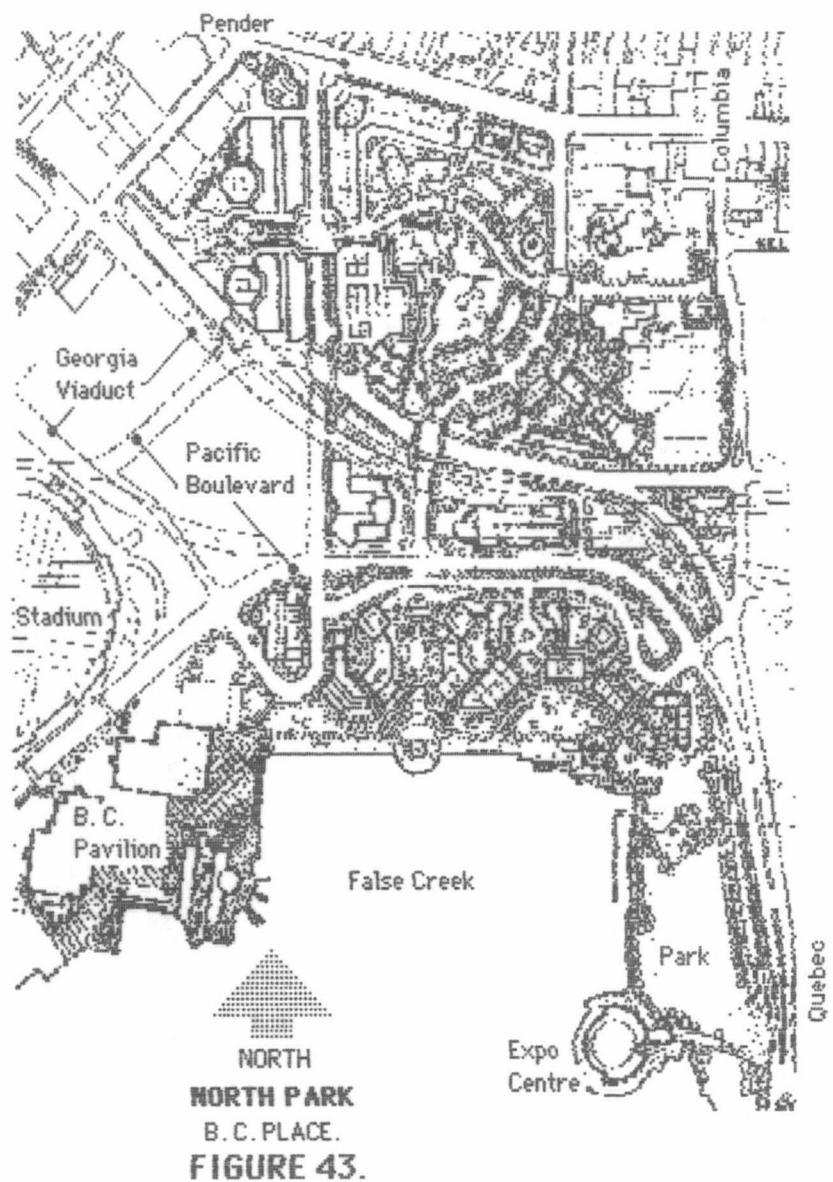


Cambie Bridge South Corridor.
FIGURE 42.

But an opportunity has been lost. Protection from the Granville Street Bridge seems to be essential but has been ignored in this plan.

1985. September. Cambie Bridge, South Corridor Urban Design Study, by Ralph Segal, Architect and John Perkins, Architect. See **Figure 42.**

This is the most comprehensive document of guidelines in the area of the False Creek basin. It covers that area of Cambie Street between City Hall and the alignment of the new Cambie Street Bridge. It is replete with figures, drawings and photographs. It is an attractive and well compiled document.



The graphics are for the most part illustrations of what could be built on the site by using contemporary architectural trends. There are many references to architectural details, from examples, in the city and throughout the world.

It does not address the purpose of public space. It has accepted, at face value, the nature of single buildings as objects unrelated to context, space or a vision of what may be effected to improve what, essentially, is already in place. Had it reflected the qualities (e.g. the application of the Build-to Line) of the 'Greening Downtown' document the quality of the built environment of the South Cambie Street corridor may have been more secure.

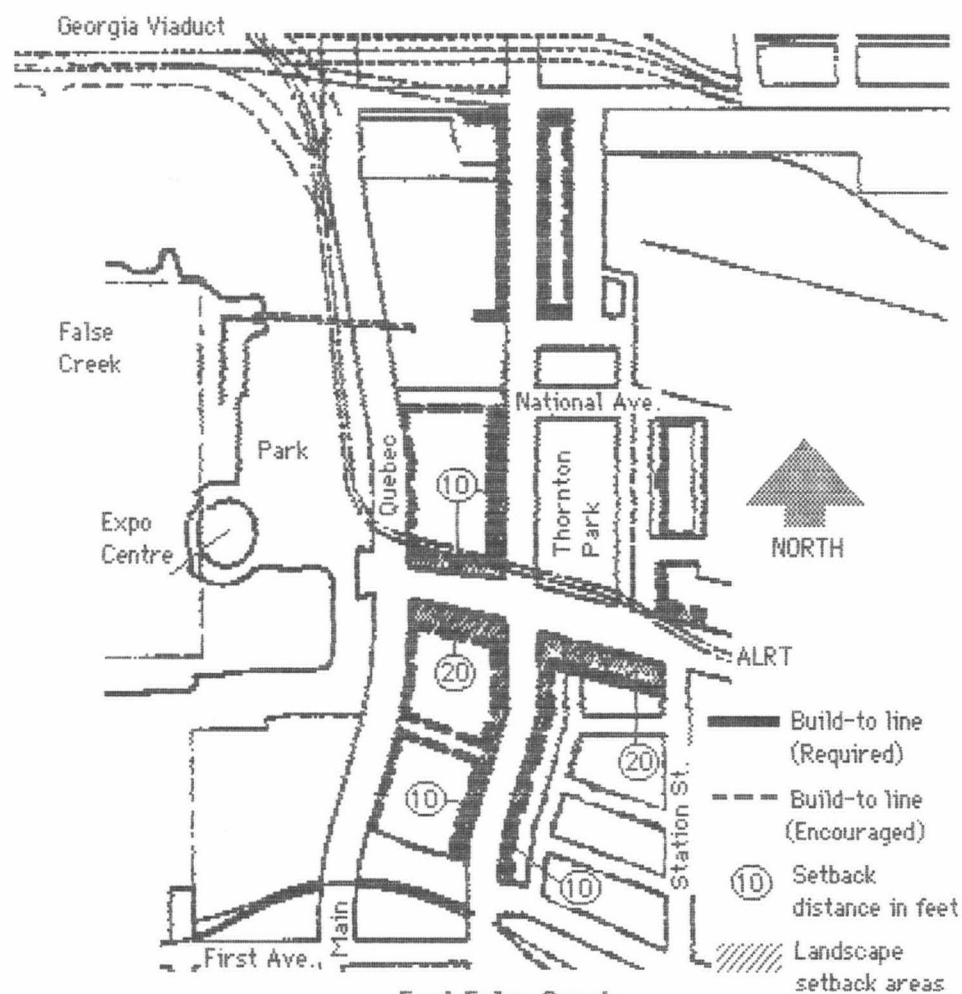
1985. December, **North Park** development concept, Downs/Archambault, B. C. Place planning and design, City of Vancouver Planning Department. See **Figure 43**. It is that portion of the B. C. Place site in the north east sector immediately adjacent to Chinatown. It covers 30.35 ha. There are provisions for 2,500 residential units, 650 being ground oriented for family use. Park area will be 5.3 ha. Office accommodation will be 70,000m². Retail space will be 20,000m².

So far the planning is in a very preliminary form. It reflects the influence of the correspondence between the City, B. C. Place and this author. It is a demonstration of the ability to sculpt and mould urban space with the built form. The spacial articulation of the site in general has been handled very well. It is an omission that the large expanse of land around the viaduct has not been used to the better purpose of protecting the site from the deleterious effects of the viaduct traffic.

1986. January, **East False Creek FC_1 Guidelines**, the City of Vancouver Planning Department. This is the most comprehensive guideline document to come from the Planning Department. It covers the areas surrounding the Quebec Street and Terminal Avenue intersection.

This area is to be commercial mixed use, high density, with some residential accommodation.

It is to be a gateway precinct to the city. This describes a vision that will be the guiding principle. High-rise buildings on either side of Terminal Avenue will be encouraged. The guidelines establish the central image in the relationship Thornton Park enjoys with the C.N. station.



East False Creek.
FIGURE 44.

The comprehensive coverage is in the following headings.

Application.

Expresses the need for quality and compatibility.

General design considerations.

To express neighbourhood and street character, orientation, views, light and ventilation, weather, noise, privacy and security. Building orientation as an

element of interrelated forms is dealt with for the first instance in guideline documentation.

Heavy line represents "Build-to Line".

Reference to the zoning and development by law.

To delineate frontage, height, front yards and off street parking and loading. In this part the Build-to Line is treated, see **Figure 44**. It is done with an understanding of its sculpting role; it is prescribed with a view to building a spacial vision.

Architectural components.

Without encroaching on the designer's prerogative there is a reminder of the salient features of architectural significance. They are itemized: entrances, wall finish, arcades, canopies etc.

Open space.

Outlines, briefly, the manner a building form may sculpt and articulate urban space.

Landscaping.

Briefly draws attention to boulevard trees and surface parking.