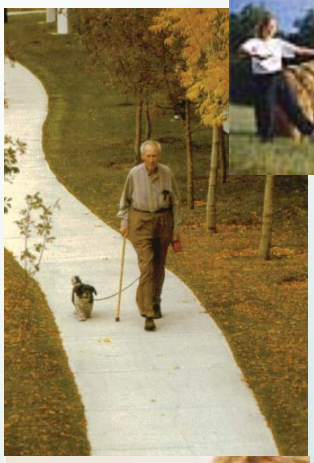



Urban Residential Community for Elders






Design Level D9 - Thesis

October 13, 2010

Barry Sullivan - AB940002

The Royal Architectural Institute of Canada Syllabus Program

Urban Residential Community for Elders

by:

Barry Sullivan
AB940002

RAIC Syllabus, Calgary

Provincial Coordinator: Garry Milton, AAA (Ret.)
Calgary Coordinator:Lloyd Ostrinsky

Mentors:
Alec Doutre, AAA, AIBC, MRAIC
Barry Johns, MAAA,MAIBC, MMAA,FRAIC,RCA
Chris Roberts, CET, AAA,MRAIC, LEED

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SECTION ONE - DESIGN LEVEL D9A

EXECUTIVE SUMMARY

Executive Summary

Growing older is an event that not everyone wants to be reminded of yet we are all unable to stop the passing of time. Our needs change as we grow older while our desire to remain independent and self-sufficient remain constant.

As we age, there comes a point in most people's lives that the dilemma of independence versus some form of required daily assistance comes forth. It is when this heightened need for assistance becomes more constant that the possibility for relocation to a suitable facility may be required.

Within Alberta, there are currently multiple levels of care facilities for seniors ranging from independent living through to long-term care. The current problem is that each facility only specializes in one level of care with a small few beginning to offer a second tier of care. As additional care is required by each resident that exceeds a facility's capabilities, residents are currently required to relocate to another care facility. As one transitions to each level of care, some elderly see this as a "march of death". Associated with a facility relocation is typically a reduction in independence. Each successive relocation brings a reduced feeling of self-control and sometimes a diminishment of one's dignity.

The location of the various levels of care facilities in outer urban or suburban locations is a second issue of concern. Most locations are isolated with few or no amenities nearby and separated from the remainder of society. The only reason one would visit a care facility is if a family member resides within as there are very few enjoyable places to visit within, especially in upper level care facilities.

This thesis focuses on the development of a multi-tiered, aging-in-place facility that allows residents to reside within regardless of their care requirements. It also provides an opportunity for older couples to remain together even if their care needs differ.

The second emphasis of this thesis focuses on keeping residents as active participants in society and to avoid the feeling of isolation. By developing a facility in an urban location, it will provide residents with amenities outside of the facility to utilize, allowing multiple opportunities to fill leisure and social time. Also, an urban location provides opportunities to integrate this facility's amenities into the surrounding urban fabric providing opportunities for facility bound residents to remain socially active with community members.

Figure #1 A, B - Imagery of Female Family Groups

SECTION ONE - DESIGN LEVEL D9A

CHAPTER ONE:

INTRODUCTON

Introduction:

Creating suitable and sustainable housing for our aging population is becoming more important each year because of the demographic impact of the aging "baby-boomer" generation. This "baby-boomer" group, born between the years of 1947 – 1966, currently encompasses an age range of 43 – 62 years of ages.[1] From this we can see that the world as we know it will become noticeably "grayer" in the near future.

Currently, Statistics Canada has the "baby-boomer" demographic group consisting of approximately 9.8 million people or approximately 31.7% of Canada's current population[2]. Within this demographic group, 55% are currently between the ages of 35 – 45 while 9.8% is over 65 years of age. By 2016, residents over the age of 65 are expected to grow to 14.5% of the population, and by 2031 roughly one in four Canadians will be over 65.[3]

The increasing quantity of residents aged 65 and over will influence future trends seniors housing through their increased expectations, higher incomes, increased education, and comfort with technology. This group will have an impact on setting new standards of care and accommodations for seniors[4].

I is generally expected that this demographic group will continue to live healthier and longer than their parents. It will not be uncommon to have a majority of the older people living well into their late 80's and early 90's. Statistics Canada has projected that there will be approximately 1.6 million Canadians aged 85 and over by 2041, which would be four times that found back in 1995.[5] An example of this is in June 2000 there were almost 300 people over the age of 100 living in Alberta. [6]

With this proposed influential influx of older persons in the future, a need to change the current way in which their health and well-being is met will need to dramatically change so as not to overburden the current state of the health care system.[7] The Government of Alberta has begun to study the needs and parameters of developing more flexible and responsive housing styles that will accommodate a continuum of seniors' health requirements. As well, most people within the "baby-boomer" generation have had to or will have to in the near future, deal with accommodating their aging parents' health needs as that group begin to require additional assistance in their daily living experience.

Figures #2 A, B, C - Imagery from Government of Alberta - Healthy Aging - New Direction for Care

[1] Foot, David K., *Boom, Bust, & Echo: How to Profit from the Coming Demographic Shift*, Toronto, Ontario: MacFarlane, Walter, and Ross, May 1996, page 9
[2] Statistics Canada, Population projections for 2001, 2006, 2011, 2016, 2021 and 2026, July 1 Table
[3] Policy Advisory Committee, *Healthy Aging – New Direction for Care*, Edmonton, Alberta: Government of Alberta, November 1999, page 3
[4] Brodie, Ian ed., *Design for Aging*, Toronto, Ontario; Canadian Standards Association, December 2001, page 1
[5] A Portrait of Seniors in Canada, Second Edition, Statistics Canada, 1997
[6] Steering Committee – Alberta Community Development, *Alberta for All Ages: Directions for the Future*, Edmonton, Alberta; Government of Alberta, June 2000, page 17, 21
[7] Brodie, Ian ed., *Design for Aging*, Toronto, Ontario; Canadian Standards Association, December 2001, page 1

It is from within this context that the proposed thesis is: ***To develop an urban "aging-in-place" facility offering a continuum of services that responds to the varying degenerative physical capabilities of residents ranging from independent to dependent on health care assistance without the need for resident relocation to another outside care facility.***

Current Seniors Health Care System:

Current health-care issues for older people revolve around accessibility to health care services including medical procedures and proper medication within the Alberta health care plan. As the "baby-boomers" demographic age towards retirement and beyond, their focus will also expand to include adequate accommodations and assistance for their physical and emotional health needs.

In 1997 the Government of Alberta begun a review of long-term care within the current health care system in anticipation of the pending impact that the "baby boomer" demographic will bring. The outcome of the report demonstrated the need to develop various methods of assisting older people earlier before the need for relocation to a care facility occurs. This proposed assistance interjection is to be aimed at dissipating the potential incoming quantity of people over a longer period of time thus reducing the impact on existing long-term and assisted living facilities by this future influx of seniors.[8]

Many provincial governments in Canada and national governments around the world, are attempting to focus their efforts on the concept of "Healthy Aging" in conjunction with their focus on preemptive health care of older people. This effort focuses on overall "wellness" for older people while developing programs and providing information promoting the concept of living a "higher quality of life" through becoming or staying healthy and active. An example of this philosophy is the development of the Government of Alberta's "Healthy U" program now being promoted throughout the province in multiple media formats.

The Canadian Standards Organization is another organization beginning to understand the diverse effect the "baby-boomer" demographic shift will have on the economy. Currently, of the 7% of Canadians that are institutionalized, 75% of those currently reside in some form of long-term care home. Of that number, the Canadian Standards Organization feels that this quantity of people could be greatly reduced if the "products, services, and environments" that currently surround seniors on a daily basis were more effectively designed to better serve these people's needs.

The economic incentive for producers of such products, services, and environments to attend to this is vast as demonstrated by the fact that in 1996, households headed by seniors accounted for $69 billion spent on goods, services, and taxes representing 13% of all expenditures in Canada.[9] Also, overall the real income of seniors was rising faster than that of typical families in Canada.

The goal of developing better products, services and environments for older people would be to not only enhance their daily lives but would also allow them to maintain their independence longer. This increased independence could potentially occur in their own residence without the need for outside assistance from care providers. Given the fact that by 2041, one in four Canadians will be over the age of 65, it will be financially imperative for all aspects of the economy to better respond to the changing needs of our current and future aging population.

[8] Policy Advisory Committee – Alberta Health and Wellness, *Healthy Aging: New Directions for Care*, Edmonton, Alberta; Government of Alberta, November 1999, page 4
[9] Brodie, Ian ed., *Design for Aging*, Toronto, Ontario; Canadian Standards Association, December 2001, page 2

Current Economic Reality:

One of the core reasons for developing preemptive health initiatives is to start to mitigate the future financial infusion required to properly care for this influx of older people. Over the past several years the provinces have had less health care related dollars from the Canadian government to work with, thus reducing the overall health care budgets, while having to deal with increased costs of providing care to an increasing number of people. It is the inability of both federal and provincial governments to fund adequate health programs that are raising the concerns of many "baby-boomer" members.

One example is the deletion of a government regulated minimum 2.25 hours of nursing care per resident residing in long-term care facilities in Ontario that occurred in 2003 while the needs for most residents had been steadily increasing. A study by PriceWaterhouse-Coopers in 2001 indicated that in Ontario there were 2.04 hours per day of care for long-term care residents in private and public run facilities while in Saskatchewan it was 3.04 hours where a majority of nursing home facilities are government run.[10]

In the Ontario government's 2002 budget, subsidies for long-term care facilities in Ontario had increased 64% since 1995 to $1.8 billion that included an estimated nursing staff increase of 13%. In contrast, the personal care funding for long-term care residents had only increased by 14% in that same time frame. The Canadian Union of Public Employees have found that much of the funding increases in the for-profit long-term care facilities have gone towards the reduction of reduced municipal subsidies, purchases of incontinences and nursing supplies, or reduction of their deficits rather than responding to care needs.[11]

It is not uncommon to have care facilities understaffed to the point that some residents rarely receive more contact than at meal and bed times unless they receive some form of medication during the day. There are many horror stories that basically define some of these facilities as nothing more than elderly warehouses that can barely keep up the demand of feeding, bathing, and medicating the residents properly.[12]

In Alberta, the 2004 Budget increased health care spending by 8.4% or $618 million, with $390 million of that going towards increased funding of the provincial health authorities and their related work. While the current economic climate can sustain the current increases in health care costs, there was no future funding formula put into place to cover future health care needs of the "baby-boomer" generation.

Besides the health authorities, there are also groups that assist in the care and housing of seniors in Alberta such as the Bethany Care Society and the Metropolitan Calgary Foundation to name a few. It is these varied groups that the Government of Alberta is depending on to assist the health authorities in the long-term care of older people. It is a combination of these service groups and facilities with government run facilities that the Government is hoping will answer the needs of the upcoming seniors influx.

Besides funding from the regional health authorities, these additional groups such as Bethany Care Society and Metropolitan Calgary Foundation rely on "accommodation fees" paid by the residents, which help offset costs for food and lodging. While this was allowed by Alberta Health to increase in 2002 by 14%, it was the first increase in seven years for these facilities.

[10] Yee, June; "Funding Long-Term Care", *50 Plus Magazine*, February 2004, page 50
[11] Allen, Doug; "*Report on Long Term Care and Complex Continuing Care – Ontario Council of Hospitals Unions – April 2003 Convention"*; Canadian Union of Public Employees, April 2003
[12] Muggeridge, Peter, "Warehousing The Old", 50Plus Magazine, (February 2004)

While the Province of Alberta regulates these "accommodation fees", the increase did not come close in meeting the previous seven years of inflationary costs experienced by the service providers.[13] It has now become typical for these care providers to look towards the communities they serve for endowment funds and charitable donations to assist in their daily operations.

The hypothetical and potentially real problem is that as a large number of the "baby-boomer" generation increasingly retire from the work force and are in need of these services, how will the future economic models of both the federal and provincial governments along with the private sector care providers be sustainable? With a working population that will eventually be smaller than the non-working population, one can only assume that the retirees will be required to pay for a majority of these services on a personal basis.[14]

Figures #3 A, B:
General Photographs of Elderly Couples

Alternatives to Current Situation:

Given the economic dynamic that will accompany the aging "baby-boomer" generation, providing for a more accommodating way for older people to live, work, and move will become a financial reality for many companies and facilities. While products and services may changes for this influential group, the reality is that aging brings on limitations to everybody; whether these are sensory, body function, physical, or cognitive. While these limitations vary for each person, eventually they will impress upon each individual a need for some form of assistance in their daily routines to help them function at an acceptable level.

Combined with the development of on-going healthy life initiatives by governments and medical groups, the need will still arise for people to require housing facilities that can respond to the variety of personal limitations that each senior will face in their life. Overlaying this housing need on the diminishing potential economic funding for seniors strengthens the need for facilities that can react to the older person's needs while remaining economically sustainable. ***It will be the development of a new type of facility that can accomplish both that will be required in the future and upon which this thesis is based***.

Currently the Government of Alberta in their *Healthy Aging: New Directions for Care (1999)* document, is pursuing the development of further care options beyond the two currently found today; their home or a long-term care facility. Some of the options that the government is looking into as supportive housing are:

- The development of supportive housing, programs on effective methods to stay healthy, to better integrate and coordinate available services for easier access by older people, and
- To develop multi-faceted facilities encompassing long-term care, sub-acute care, respite care,

[13] 2002/2003 Annual Report, Bethany Care Society, Calgary, Alberta, page 5
[14] Statistics Canada, Population projections for 2001, 2006, 2011, 2016, 2021 and 2026, July 1 Table 2021 / 2026

dementia related care as well as incorporating community care and wellness programs.[15]

When assistance through home care services become excessive on the home care system, the older person would be recommended to relocate to a continuing care environment where most people with either complex or chronic health issues would reside.

It is proposed by Alberta Health that the supportive housing function would expand from its current role of home care to providing multiple options for health assistance encompassing a variable range of services. Part of that function would include the unbundling of health, social services, and housing so as to allow people to make choices about the kinds of services they require and to tailor them to suit their needs.

The focus of the new supportive housing system will be on achieving quality of living for all older people, supported as needed by their relatives, friends, and community networks, as well as by responsive services. It would be recognized that by working together, the government, Albertans, regional and provincial authorities, non-government organizations, volunteers, and the private sector will all have an active role in contributing to the health of aging residents.

The coordination of access to the potential health services supportive housing care would be handled by a central "Coordination, Assessment, and Referral for Entry Services (C.A.R.E.S.)" group. This group's responsibility would be the assessment of people's needs and arrangement of appropriate services for each older person.

It is the provincial government's approach that by creating home-care service, supportive housing options, and a series of multi-faceted facilities that achieve an economy of scale, they will collectively respond to the older persons' needs while maintaining financial sustainability in the future.

Potential Modifications to Current Institutions:

A by-product of the current seniors care system is to inadvertently over-institutionalize seniors beyond their true care requirements. As mentioned earlier, once older people reach a point where they must obtain assistance to maintain themselves, the lack of housing options force them to relocate to a care needs facility that usually provides greater services than they initially require. What studies have found is that this over-provision of services to the individual has a detrimental affect on the way they interrelate to the environment around them. By over-providing services, this reduces their ability to cope with their environment and in some opinions creates a situation where the recipient truly requires these services faster than if they were not subjected to them as early.[16]

To deal with the issue of over-institutionalization, the provincial government has realized that the current status of seniors care in Alberta must change to remain viable. Therefore the government has proposed that multiple incremental levels of care are required between the independent living and the long-term care facilities currently now in place. The further development of home care services, congregate care, and assisted living facilities will help provide care to older people in less costly facilities or in their homes, allowing them to be independent for longer. It has also been demonstrated that by providing seniors with only the care they require allows them to remain in a much more independent state for a longer time.[17]

[15] Policy Advisory Committee, *Healthy Aging – New Direction for Care*, Edmonton, Alberta: Government of Alberta, November 1999, page 16 - 19
[16] Newcomer, Robert J. ed., Housing an Aging Society – Issues, Alternatives, and Policy, New York, New York; Van Nostrand Reinhold Company Inc., 1986, page 10
[17] Newcomer, Robert J. ed., Housing an Aging Society – Issues, Alternatives, and Policy, New York, New York; Van Nostrand Reinhold Company Inc., 1986, page 112

Based on a health care system whose emphasis is on not over-institutionalizing older people, the government is focusing on new strategies to ensure that future proposed care facilities will provide residents with autonomy, provides for their needs, their safety, and allows for their participation in their own care.[18]

Thesis Objective:

The objective of this thesis is to create a facility that will provide flexible care that can appropriately respond to all residents while managing the care level of each resident so as to provide only what is truly required to maintain their independence. This would accomplished with a facility offering:

- All levels of care between independence and long term care
- Minimization of "over-institutionalization" by providing only the care needed
- Provide residents their autonomy, independence and self-direction of one's life and care options
- Continued community connections to maximize socialization through family, friends, and community.
- Staff that understands care requirements of each care level as well as each resident's requirements through on-going consultation.

Facility amalgamation, maximizing resident autonomy, and minimizing resident isolation in a facility located in a strategic urban location will create an architectural paradigm that is unique and worthy of further investigation.

Thesis Assumptions:

Based on the need to keep this proposed thesis within a reasonable scope of work and so that it may be completed within a reasonable time frame, the following assumptions have been put forth in aiding to define the proposed scope of study:

- That local conditions are an indicator of the same prevailing conditions for seniors housing across both the province, nationally, and internationally within North America
- That alternate forms of seniors housing may be available in other countries but due to lack of published information, minimal research could be completed on these geographic areas.
- The thesis is based on the lack of adequate seniors' facilities within Western Canada.
- This thesis will concentrate on the qualitative criteria of this form of development while material finish quality, durability, and suitability will not be discussed as it pertains to the quantitative criteria.

Thesis Limitations:

- Research was only conducted in Alberta as it is assumed that there is relative uniformity of current senior's care across western Canada
- The Capital Health Authority and the Calgary Health Authority are the largest health regions and in charge of most seniors' care facilities; only research was completed within these jurisdictional areas.
- Issues with regards to funding of programs, funding impacts on various programs, or aspects of user charges have not been incorporated into this thesis review due to the complexity of charges utilized both locally, nationally, and globally.

[18] Brodie, Ian ed., *Design for Aging*, Toronto, Ontario; Canadian Standards Association, December 2001, page 8 -13

SECTION ONE - DESIGN LEVEL D9A

CHAPTER TWO:

EFFECTS OF AGING ON SENIORS

Seniors as Meaningful Members of Society:

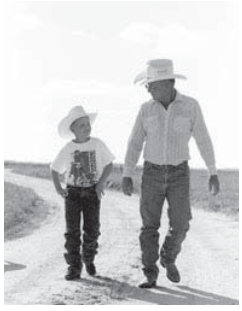
As people become older and retire from their occupation, it is typical for their sphere of friends and acquaintances to decrease, thus reducing the person's sphere of social influence. As this minimalization of social influence continues to grow, the older person has less feeling of importance within either his or her local community and feels more secluded which eventually diminishes their sense of confidence and level of self-worth.




Figures #4 A - D: General Photographs of Elderly People

Part of the problem with the isolation of older people from society as they relocate into seniors' facilities or have health issues that restrict their mobility is the diminished interaction with their surrounding community. An extension of this isolation occurs as their social group eventually disappears due to death or relocation.

Only within the last 10 years has the importance of seniors within our communities begun to be reappreciated yet native Indians have practiced this within culture for years. People are again beginning to understand that there is a vast wealth of knowledge and history connected to these members of our society that currently is not being fully utilized and past onto our younger generations. Both gerontologists and sociologist alike recognize the positive effects of creating a place or situation that facilitates the ability to have inter-generational exchange. As well, it is beneficial to the longevity of these older people to attempt to remain active within their local and civic communities.



Figures #5 A - C: General Photographs of Elderly People

The level that older people remain active within the community as they age is directly proportionate to the level of health of the individual; the more these people remain active in their community, the longer they stay healthy. It is this core idea that is now beginning to shape how housing for older people is created and located as well as how it is interfaced with the surrounding community fabric.[19]

[19] Porter, Douglas R., et at. *Housing for Seniors: Developing Successful Projects*, Washington, D.C.: Urban Land Institute, 1995

The importance of access to neighbourhood resources and information is clear as it impacts general life satisfaction, morale, and overall optimal functioning of the older person. Many residences are being located closer to public transportation stops and next to convenient walking routes within local communities. This also becomes increasingly important, as older people require additional assistance with their mobility and transportation needs. There has also been some effort made to incorporate some type of community facility within these residential facilities that will provide a source of interaction between the residents and the outside community on a regular basis. The proposed types of facilities range from a coffee shop to day-care to a central community centre useable by all local community members.

Effects of Aging on Seniors:

Figure #6: Reprinted from Bethany Care Annual Report 2007, pg. 9

The need to be a meaningful member of one's society remains a psychological cornerstone for people throughout our lives, yet the ability to physically and socially remain a member changes as one ages.

Aging has an effect on all aspects of a person's physiology including physical changes such as diminishing mobility, strength and stamina, visual and hearing acuity, and tactile and thermal sensitivity.[20] The degrees of change vary greatly from person to person and also can vary slightly from day to day for each person. Below are the typical symptoms that occur as one ages.

Mobility: A number of factors that together over a lifetime facilitate the need for people to move more slowly. Most mobility reduction begins with the body's natural inability through fatigue to stand totally erect. This eventually reduces or restricts one's ability to walk, stand, sit down, or turn without requiring additional time or help. As well, balance becomes more difficult as we age due to deterioration of the inner ear that also affects our hearing.

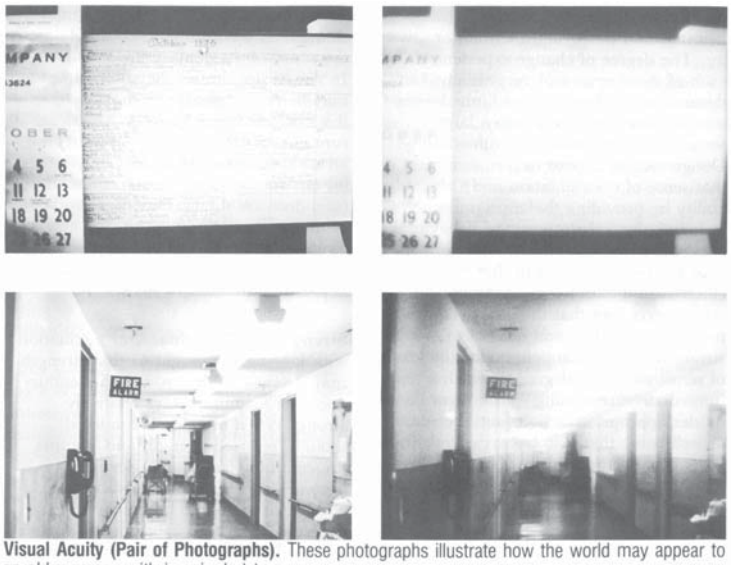
Strength and Stamina: Earlier on it was understood that as one ages, strength and stamina also deteriorate affecting our potential range of motion. This has an effect on the local environment of these older people with regards to shelf heights and storage locations that they can easily access.

What is being found now is that through on-going exercise even in the older people, that it has a dramatic effect both on their current health as well as their ability to reduce signs and symptoms of various health ailments including arthritis, diabetes, and osteoporosis. It also has a positive effect on their mental health and well being.[21]

Figure #7: Reprinted from Edward H. Noakes, Design for Aging: An Architect's Guide (AIA Press, 1985), pg. 8

Visual acuity: Our vision begins to decline at the age of 40 and therefore for older people, visual impairment could include reduced colour sensitivity, increased sensitivity to glare, and loss of visual field and acuity. It is understandable that increased lighting for most visual tasks is required with even further increases in lighting levels for such things as reading or some crafts.

[20] Noakes, Edward Henry, et al. *Design for Aging: An Architects Guide*, Washington, D.C., AIA Press, 1987
[21] United States Centre for Disease Control & Prevention, National Centre for Chronic Disease Prevention and Health Promotion web site (http://www.cdc.gov/nccdphp/dnpa/physical/growing_stronger/index.htm)



Visual Acuity (Pair of Photographs). These photographs illustrate how the world may appear to an older person with impaired vision.

Figure #8: Visual Acuity Photograph

Hearing: Sounds relate to a person's environment, from providing important warning signals to facilitating conversation with other people. Sound also aid us in monitoring our local environment.

Two main types of hearing losses occur with age; "flat loss" and "selective loss"[22]. Flat loss is a loss of hearing at all frequencies while selective loss generally effects the reception of higher pitches. The intensity or loudness required to hear may increase with age, although in many cases sheer volume will not increase perception. Men over 55 years of age generally have greater hearing difficulties than women over 55[23].

Tactile and Thermal Sensitivity: As sensitivity to touch naturally declines with age subtle changes in the environment can go unnoticed by older people. Smell also declines in relation to touch although sensitivity remains high enough to distinguish stronger odours.

Temperature sensitivity as well as pain sensitivity also diminishes with age which in turn effect an older person's ability to distinguish dangerous temperatures as well as their tolerance to temperature changes. Further detailing of physical changes occur in Appendix One.

Architecturally, these physical changes in older people equates to small, unobtrusive changes to their surroundings through such things as door handles versus knobs, a shift of lighting design towards specialized lighting for reading and other tasks or generalized light type and placement to reduce glare. It also has an impact with warmer ambient temperatures for most people due to their reduced sensitivity.

[22] Koncelik, Joseph A., *Aging and the Product Environment*. Environmental Design Series, vol. 1. Stroudsburg, PA.: Dowden, Hutchinson & Ross, 1983.
[23] Atchely, Robert C., *The Social Forces in Later life: An Introduction to Social Gerontology*. Belmont, CA; Wadsworth Press, 1972.

Influence of Social Change on Elderly Psychology

Figure #9: Elderly Assistance

At least as difficult as physical and mental changes that confront aging, the aspect of social change is sometimes the most daunting that one must encounter. Retirement from the workplace, limitations in mobility, and separation from family and friends can place enormous psychological and emotional burdens on older people.

The ability for older people to become socially active within new environments has direct bearing on their health and well-being. Recent research shows that one of the most reliable predicators of death among elderly who have been transferred from one setting to another may be the loss of desire to penetrate the social and physical environment.[24]

Designing For Older People:

Understanding the physical, physiological, and psychological effects aging has on older people accompanied by the influence the upcoming population shift will have on the economy and urban fabric in the future, is paramount for architects to begin to understand the principles upon which good design for older people should be based.

The United Nation's 'Principles for Seniors' address older persons' independence, participation, care, self-fulfillment, and dignity. The Health Canada National Framework on Aging speaks about five core principles: dignity, independence, participation, fairness, and security.[25] Similar in nature, both documents strive to ensure that seniors are treated in a dignified and personable manner and with the respect that they rightly deserve. It is the amalgamation of both of these frameworks that decisions affecting older people should be based. As the occurrence of senior abuse is brought to light from time to time, the conscience of our current society and policies such as these are bringing about changes to mitigate such happenings.

Figure #10 A-D: Elderly Assistance Tools

Attempting to change a past history of marginalization of the elderly, and focusing on facilitation and provision for the changing psychological needs of older people will have an impact on the future physical world around them. For instance, by looking at the aspect of dignity, we see that programs and environments for the elderly should be focused on ensuring these people are treated with respect and enhance their sense of self-worth and importance regardless of their age. As a result, this would translate into a facility that would be able to better respond to seniors hearing or visual disabilities, allowing them to better participate in their community.

[24] Koncelik, Joseph A., *Designing the Open Nursing Home*. Community Development Series no. 27. Stroudsburg, PA: Dowden, Hutchinson & Ross, 1976.
[25] Department of Health and Wellness, Minister of Public Works and Government Services Canada, Principles of the National Framework of Aging; Ottawa, Ontario, 1999., page 6 – 7.

The psychology of independence for older people is most important, as it is this aspect of their physical transgression that most will be unwilling to accept. Society's current predicament is that as these older people age and physically digress, there are limited options available to provide assistance in their daily needs. Independence as defined in both previously noted publications center on the need to accommodate the varied abilities of these people while allowing them to do as much and experience as much as they are physically able to do while providing access to nourishment, shelter, clothing, employment, education, and medical attention.

As noted in the Canadian Standards Association's Design for Aging[26], maintaining autonomy for older people would allow for them to operate at the highest possible level of functioning with the absence of barriers to access and to exercise the following rights:

1. The right to be as self-reliant as possible
2. The right to direct what is happening to oneself
3. The right to fail

Physically, autonomy could be enhanced by the utilization of assistive technology or adaptive services that could facilitate the longevity of independence by the older person. In many cases, it is very low technology items that could be installed that would assist older people in prolonging their independence. Items such as a jar opener mounted underneath the upper cabinets in the kitchen, grab bars in the washroom, or the installation of brighter lighting can greatly enhance and extent the autonomy of an older person.

Autonomy equates to the ability to control one's life, which in turn leads to a feeling of maintained independence. Maintaining a sense of autonomy eases the transition from independent into a trend toward greater dependency. By providing older people the opportunity to dictate the desired response to their health care needs, it enhances a feeling of independence and autonomy for each individual.

Participation centers on the ability to provide an ongoing connection to people, places, and activities previously experienced in their home. This ability to retain these connections and provide a continued feeling of respect and autonomy will ease the acceptance and transition to greater care and assistance as it is needed.

As older people have the largest quantity of donatable time, it is understandable that at least 20% of older people are currently engage in volunteer work. It would seem logical that a majority of groups and organizations will depend on the resources and knowledge of this population group and in return provide a sense of purpose and fulfillment for these older people while aiding in their longevity and vibrancy.

The principle of dignity is unfortunately forgotten in many long-term care situations, yet which is similarly defined in both previously noted publications. Dignity is defined as the ability for older people to be treated with respect, maintain a sense of self-esteem, live in security, free from exploitation and physical or mental abuse. The concept of dignity and the feeling of self-worth is inter-connected to autonomy and personal satisfaction through one's ability to function with minimal assistance and having one' decisions respected.

Figure #11 - Elderly Assistance

[26] Brodie, Ian; *Design for Aging*, Ottawa, Ontario; Canadian Standards Association, 2001, page 9

Figure #12 - Elderly Assistance

Equitable access to necessary treatment and services would summarize both “fairness” and “caring”. The range of treatment and services can range from medical, financial, legal, social, and psychological. It is also noted in the United Nations document that the ability to enjoy human rights and fundamental freedoms should also be seen as a basic necessity. A by-product of the principle of caring would be the concept of self-fulfillment. The United Nations defines self-fulfillment as the ability for older people to be able to “pursue opportunities for the full development of their potential”[27] which would include access to educational, cultural, spiritual, or recreational pursuits.

In the minds of most elderly, the most imperative of the stated core principles is that of safety and security. From a psychological perspective, the elderly typically perceive themselves as being more susceptible to crime due to their physical inability to retaliate[28]. There have been multiple ways in which older people have changed or modified their residence to provide a more fulfilling feeling of safety.

Financial security of this generation of older people is foremost on their minds as the possibility of outliving their retirement savings could have a higher probability of occurring based on the fact that people are living longer. For older people looking at retiring between 55 and 60 years old, it is conceivable that they could live to the point of being retired for as many years as they were part of the workforce. Given this fact, is probable that you will see many older people beyond the age of 65 still active in the workforce only to ensure that they will be financially stable in their later years.

As the “baby boomer” generation is more active physically, mentally, financially, and politically the need to have these people treated in a manner outlined in the two noted documents will become even more customary. It would be safe to hypothesize that in the future it will be standard to respond to physical, physiological and psychological needs when designing residences for older people.

Changes Affecting Seniors and their Housing:

Many older people face a serious challenge on a daily basis – how to function autonomously as they encounter an environment not designed to meet a wide range of typical abilities and are therefore not conducive to the concept of aging in place. While 93% of Canadians aged 65 and older live independently, older people living in nursing homes represents three-quarters of all Canadians who are institutionalized. This proportion could be substantially reduced and more older people could enjoy a quality of life within their own communities if the environment in which they must live would be more effectively designed to respond to their variable needs[29].

While the facilities designed for use by older people can be characterized by their specific supportive, living, and/or social environments, and by the physical settings delivering personal, social, and health care services. Not all personal, social, and health care services must be provided in a specific facility. The services that older people require can range from very low; as the provision of maintenance on an independent living floor, to very high level as would be provided in a nursing home environment. To maintain efficiency and cost effectiveness, historically people of similar needs have been accommodated in a facility providing related services. In that way, a larger variety of individual needs can be met in a smaller number of facility types specifically designed for aging.

[27] Brodie, Ian; Design for Aging, Ottawa, Ontario; Canadian Standards Association, 2001, page 37
[28] Robert J. Newcomer, M. Powell Lawton, and Thomas O. Byerts, Housing an Aging Society, Agincourt Ontario, 1986, page 148.
[29] Brodie, Ian; Design for Aging, Ottawa, Ontario; Canadian Standards Association, 2001, page 1

The next step of evolution on accommodating the aging of older people would be to develop a network of assistance that would cover aging needs from very little to very high within one facility, since many internal components within these various facilities are currently overlapping.

A major advantage of developing one facility that could accommodate most older people with the possible exception of dementia residents would be that one would not have to again negatively impact their network of friends and sense of community that they develop after they have re-established themselves following their primary move from single family home to their present accommodations.

An important aspect of relocating older people to an environment that responds versus over-responds to their needs was reviewed in the research by Nahemow and Lawton (1973)[30] who postulated that the more assistance an individual is provided beyond their required needs, the less self sufficient that individual will become quicker. Therefore, the more help an older person is given beyond his requirements, the faster an elderly person will deteriorate to requiring the assisted being presented. This research again demonstrated the need not to over-assist and thus prolong the elderly person's independence.

As elderly people currently move through the health care system from independent living towards long-term care, the principles of providing autonomy, respecting their needs, and allowing for their participation in their care is increasingly lost along the path. As can be currently seen in nursing homes in Canada, it is not uncommon for long-term care patients to be residing in environments that are inhospitable at best. A quotation from an article in the Canadian Association of Retired People's magazine 50 Plus best summarized the condition of some long-term care facilities: "(The author) approached a small common room in a long-term care facility in Ontario and (found) a crowded room with upwards of 30 people – the majority women – (who) appeared to be in a highly disheveled state, with unkempt hair and mismatched, ill-fitting clothing. Most were propped up on couches or restrained in wheelchairs, either staring off into space or gazing blankly at the television…and a thick fog of gloom, loneliness, and boredom seemed to engulf the place."[31] Elderly people do not deserve such an environment in which they must exist.

With more than 200, 000 Canadians – one third of the entire 85-plus population now residing in long-term care facilities, it is time that a system that achieves the goals stated in the previously noted Principles of the National Framework on Aging be developed.

Summary

How we deal with the physical, physiological, and psychological aspect of older people in a built form will look vastly different than what has been previously built to date due to the influence of the baby boomer generation. One would surmise that a greater inter-connection of elderly to society will be a high priority to minimize potential social isolation. As well, segregated care levels through multiple facilities will disappear or at least be minimized as care for elderly will be more holistic and focused on seamless continuing care.

[30] Soldo, Beth J., Housing an Aging Society, New York, New York, Van Nostrand Reinhold Co. Inc., 1986, page 10
[31] Muggeridge, Peter,"Inside Canada's Nursing Homes", 50Plus Magazine, February 2004, page 15 – 20.

SECTION ONE - DESIGN LEVEL D9A

CHAPTER THREE:

EXISTING FACILITY REVIEW AND ANALYSIS

Existing Facility Programming and Government's Effect on Future Programming:

As discussed earlier, up until the 1990's the basis for senior's care consisted of either older people living independently at home or being required to relocate to an institution specializing in the care of elderly people. Since the 1990's alternate levels of elderly care have emerged in the forms of "50+" facilities, congregate care facilities, and assisted living care facilities which are developed as less institutional means of accommodating seniors.

Some of the more pronounced problems for older people with the current health care system include the need to relocate to where the required services are provided and that these varying services are not coordinated. It is currently extremely confusing for individuals that may have hearing or vision difficulties to navigate the existing health system to find the services they require. As well, each relocation further accentuates this "march of death" as each facility grows more institutional in nature.

The most dominant problem with early seniors' facilities is they typically are extremely old and outdated, both in the built form as well as their service delivery ideology. It is not uncommon in some of the older facilities to have two to four elderly adults living in a larger sleeping room, not unlike that found in hospitals, with only a bed and a possible set of dresser drawers to call their own. This level of care exemplifies the previous institutional mentality of seniors care.

Other problems with a majority of older facilities for all care types are the lack of private socialization space for reading or watching television. Issues such as dignity, autonomy, and response to individual needs are greatly compromised to the point that most residents feel that they have become an entity within the facility rather than a person.

Current Non-Institutional Housing Options:

As people age and the need for additional assistance grows, more current solutions that respond to this have included relocating older people into their children's homes, having in-home health service provided, or relocating to a form of board and care homes[32] so as to avoid an institutional setting. The most traditional method of meeting the needs of older people was to share a household with a family member or friend who was capable of providing the needed assistance and oversight. Up until the late 1980's, this was the only alternate form to institutionalization. The typical level of care available in this situation is adequate for most older people while their required needs are low. As their needs increase, it is typical to have a caregiver's capabilities maximized to the point of providing in essence inadequate care for the older person.

For some older people who do not want to burden loved ones with their physical limitations on a regular basis, a system of having in-home health care provided is an option only in larger municipalities. As this system is typically delivered on a user pay basis, it is typically uneconomical for most retired older people to be able to financially afford this on a long-term basis.

[32] Brummett, William J., *The Essence of Home: Design Solutions for Assisted Living Housing*; New York, New York, Van Nostrand Reinhold, 1997, page 11

The third option previously available was the relocation of older people to a board and room facility. These facilities were typically independently run by local groups or charitable organizations and typically contained 1 – 3 residents with a live-in caregiver / owner / operator. The service provided in this option included meals, laundry, housekeeping, and some assistance with daily activities. As most operations were incapable of accommodating residents with mobility impairments, incontinent or transfer dependence, or the inability to administer medication, this option typically did not fully respond to the needs of the residents.

As previously stated, the goal of this proposed facility is to provide a proper environment that accommodates the range of needs of the residents in as non-institutional of a setting as possible.

Current Elderly Housing Facilities:

Throughout North America there are a multitude of facilities focusing on elderly care running under different names but in all, there are four different types of care levels under which all of these facilities fall. The four different elderly care levels are based on the dependency level of the residents. These four levels are: Very Low, Moderate – Low, Moderate, and Moderate – High. The fifth level of High is restricted for hospitals and acute care facilities.

Under each of the four levels are a series of facility names that are similar in nature but have various names based on the region of the continent they are located in. An approximate range of facility types based on the four care levels are indicated below.

Level of Dependence	Facility Type
Very Low	Independent living apartments Condominiums Granny Flats
Moderate – Low	Congregate living facility Retirement homes or villages Group homes
Moderate	Assisted living facilities Board and care homes Personal care homes Hospices / Lodges
Moderate – High	Long term care homes Nursing homes Extended care facilities Continuing care retirement communities

Of the multiple names or terms for the four levels, this thesis will focus on the facility names and their definitions listed below. Following that, we will review the typical goals and components of each facility to better understand their capabilities and limitations.

Facility Definitions

Very Low - Independent Living Facility: a housing facility – multi-family, single-family, or a combination of both – catering to older people with minimal limitations, very limited services but with a varying range of amenities.

Moderate / Low - Congregate Housing: usually a multi-family facility catering to older people with a common dining space and sometimes limited support services such as housekeeping and transportation. Also includes a varying range of amenities within the overall facility. Resident care ranges from 0.5 hours up to 2.5 hours per day per resident depending on their needs.

Moderate - Assisted Living Facility: A facility that includes a central dining space that is designed with features and staffed to assist the frail elderly with daily activities. The complex also includes a more limited range of amenities to suit the average condition of these residents. Resident care ranges from 3.0 hours up to 4.5 hours per day per resident depending on their needs.

Moderate / High - Continuing Care Facility: A facility that may include multi-family housing that provides a continuum of care, including housing, health care, and various support services. The complex will usually include more mobility sensitive amenity spaces both indoors and outdoors that are in keeping with the average condition of these residents[33]. Resident care ranges from 4.5 hours up to 6 hours per day per resident depending on their needs.

Independent Living Facility:

Figure #13 - View of front entry of The Lodge at Valley Ridge

Up until the early 1980's, there were very few housing choices for older people outside of an institutional setting with the exception of some independent senior's housing being created by some religious organizations. This was because it was always assumed that most people would live in their existing residence until they were no longer able to take care of their residence or themselves and would require an institutional setting.

Older people who did not want to have to take care of the yard work and maintenance in an older home or whose house was not able to respond to the their physical needs were left with either condominium or apartment living in very few newer or updated facilities.

Currently typical independent living facilities include a range of 100 – 250 units within a development and are typically a clustered style of residential accommodations focused around a central amenity building or facility. The range of units may include townhouses, apartment style units, and freestanding single-family units. Usually, independent living facilities are found as separate facilities from other types of older person housing facilities. There are some newer facilities that have added a small component of assisted living into the independent living facility that would accommodate people for a longer period as their level of independence diminishes.

[33] Porter, Douglas R., et at. *Housing for Seniors: Developing Successful Projects*, Washington, D.C.: Urban Land Institute, 1995, page 7

Typical suites contain 1 or 2 bedrooms, a bathroom, kitchen, living / dining room, and some form of storage space with potential den in a townhouse, bungalow, or apartment style. Unit types typically include studio units, one and two bedroom units with and without den or hobby room. Units can range from 400 sq. ft. to 550 sq. ft. for a studio suite, approximately 600 sq. ft. to 750 sq. ft. for a one bedroom unit, and a two-bedroom unit that range from 800 – 1100 sq. ft. The breakdown of suites is typically found to be ± 5% studio suites, ±45 – 55% 1-bedroom units, and ±40 – 50% 2-bedroom units[34].

Currently, locally a typical resident is 75 – 78 years old and looking at down-sizing from their single-family home to something that will allow for a more care-free lifestyle. This proposed change would more easily accommodate traveling for longer periods of time without the worry of security and upkeep of their single family home. These residents are looking for an accommodation with adequate room for one to two people that would compliment their current lifestyle.

For many independent living facilities there is no medically related services provided but most have a wide range in indoor and outdoor amenities that may range from lawn bowling and outside gardens to central theatres spaces, pool tables, and swimming facilities within these developments. The overall range of amenities are correlated to the range of agility and mobility of the residents.

Figure #14 - View of one-bedroom suite and studio suite at Trinity Lodge

Figure #15 - View of Living Room in Studio Suite at Lodge at Valley Ridge

Congregate Housing:

Congregate living allows for elderly residents in relatively good health to maintain their social and functional independence while having access to common support services like meals and housekeeping. Some people who, because of their general frailties and slight sensory impairments, feel vulnerable to accidents or crime seek the security of group living and professional protective oversight found in this type of facility.

Figure #16 - View of Studio Suite at Trinity Lodge

Typically, congregate housing facilities are multi-family apartment style buildings developed in mid to high-rise structures that range from 70 to 250 units. The individual units are typically one or two bedroom suites containing a bedroom(s), bathroom, kitchen with a full size refrigerator, sink, dishwasher, and microwave, and living / dining room in an apartment or bungalow style unit. The units are furnished and decorated by each resident. Some units may include a removable cook top range that allows for some minor cooking to be completed in the suite. The availability of these cook tops are dependent on the capabilities of the resident.

[34] Blitch, Ronald B., *Design for Aging: 1996 – 97 Review*, Washington, D.C., Rockport Publishers, 1997, pages 19 – 43.

Central spaces in these facilities focus around dining rooms and central kitchen facilities, along with a variety of activity and amenity areas. Amenity areas range from a central general store that sells snacks and personal staples such as toothpaste and soap to cooking, crafts, and music spaces. Indoor activity areas could range from theatre rooms, larger social spaces for aerobics and dancing to billiard rooms. Outdoor activity areas may include walking paths, gardening, and games areas.

Residents of congregate housing facilities generally are older retirees who recognize their physical limitations and crave opportunities for social interaction. About 65 - 75% of the residents are women who live alone; with 25% - 30% being couples and the remaining 5% are single men. The average age for people relocating to these facilities ranges from 75 – 85 years old.

At this care level, a greater abundance of studio and 1-bedroom units versus the 2-bedroom units are common. A typical unit mix for these facilities would be ±5 - 10% studio units, ±60 – 70% 1-bedroom units, and ±20 – 35% 2-bedroom units.


Figure #17 - View of Dining Hall at Lodge at Valley Ridge


Figure #18 - View of Lounge / Arts Studio at Trinity Lodge


Figure #19 - View of Pool / Games Amenity Space at Trinity Lodge

Assisted Living Facilities:

Assisted living is a group arrangement for the physically and cognitively frail elderly where a wide range of individualized assistance is available 24 hours a day from a professional care-giving staff in a physical and operational environment that wholly embraces the quality and character of home.[35] The essence of creating a facility that is designed to bring about a feeling of "home" is increasingly important as older people require additional assistance in their daily routines which previously had meant the relocation to an institutionalized facility.


Figure #20 - View of Kitchen component in Studio Suite at Lodge at Valley Ridge

Residents are typically considered semi-independent, often needing assistance with many activities of daily living such as walking, dressing, medication, bathing, toileting, or eating but only for a short time of the day. It is typical for each resident to receive approximately 3 to 4.5 hours of assistance scattered throughout the day depending on his or her individual needs[36]. Their rooms are considered their private apartments within a supportive, extended family community[37].

Accommodations within a typical facility would include a range of studio, one bedroom, and two bedrooms suites. Each suite includes a bedroom(s) or studio layout with either a closet or armoire, room for living room style furniture (chairs and sofa), small curio or bookshelf, and space for a television. There may also be

[35]Brummett, William J., *The Essence of Home: Design Solutions for Assisted Living Housing*; New York, New York, Van Nostrand Reinhold, 1997, page 3
[36] Mr. Greer Black, Bethany Care Society, interview by author, Calgary, Alberta, March 19, 2004.
[37] Brummett, William J., *The Essence of Home: Design Solutions for Assisted Living Housing*; New York, New York, Van Nostrand Reinhold, 1997, page 3

potentially a small kitchen with apartment style refrigerator and microwave.


Figure #21 - Resident in Art Class

The suites range from 350 - 400 sq. ft. for studios, to 480 - 600 sq. ft. for one bedroom and 700 -1000 sq. ft. for two bedrooms. Facilities within the suites would typically include private baths with roll-in showers, kitchenettes with a sink, removable range-top, microwave, and small refrigerator. The suites would be lockable and have individually controlled heating / cooling.

About 70 - 75% of the residents are women who live alone; with 10% - 15% being couples and the remaining 10 - 15% are single men. The average age for people relocating to these facilities ranges from 75 – 90 years old. At this care level, a greater abundance of studio and 1-bedroom units versus the 2-bedroom units are common. A typical unit mix for these facilities would be ±10 - 15% studio units, ±75 – 80% 1-bedroom units, and ±5 – 10% 2-bedroom units.

Understandably, as the mobility of the residents digresses, the facility amenities also correspond to this movement shift. Amenities now begin to focus on more sedentary activities such as cooking, reading, puzzles, computers, board, and card games. There is still the ability to participate in exercising and dance activities that are utilized to maintain their health and mobility. There are also performance spaces used by groups to entertain the residents. Outdoors, amenity areas include walking paths suitable for use by walkers, scooters, and wheelchairs, as well as games, sitting areas and some raised gardening areas.

Continuing Care Facilities:

Continuing care facilities, previously known as nursing homes or extended care facilities, are care facilities that provide custodial care, meal service, housing, health care, housekeeping, and various support services within a comprehensive living environment.

Typical residents usually require some form of mobility assistance in the form of walkers, canes, wheelchairs, or scooters. They also usually require more intensive care and supervision as residents are often characterized with multiple, chronic diseases and disabilities. The majority of residents require assistance with tasks that may include bathing, dressing, toileting, and/or mobility along with eating.[38] Typical care time for residents would average 4 ½ to 6 hours of time per day[39].


Figure #22 - View of Dining Hall at Laurier House
Photograph by James Dow


Figure #23 - View of Primary Spine Corridor at Laurier House


Figure #24 - View of Reading Lounge at Laurier House

In response to the limited self-care abilities of the residents, suites are relatively small in size. The suites in older facilities vary from single occupancy to quadruple occupancy. The contents of the suite usually contain a bed for each resident, an accessible washroom, a chair or chairs for visitors, a side table for personal belongings, and a closet for clothes. There may also be a place for a television within the suite. These rooms

[38] Noakes, Edward Henry, et al. *Design for Aging: An Architects Guide*, Washington, D.C., AIA Press, 1987, page 40
[39] Ms. Cathie Gillespie, Capital Care Group, interview by author, September 29, 2003.

in the older facilities ranges from 180 sq. ft. for single rooms to 250 sq. ft. for double occupancy rooms


Figure #25 - View of Front Entry - Laurier House
Photograph by James Dow

In older facilities, residents typically only used their rooms for sleeping and all other activities occurred throughout the remaining public areas of the facility. This institutional design mentality has had a degrading impact on the residents and therefore is in the process of modification to create a more respectful atmosphere in these facilities. In newer facilities, a typical suite consists of a sleeping / bedroom space with closet and dresser drawers as well as a separate living room area for socializing, reading, crafts, and television viewing.

It has only been in the last 10 years that the design philosophy of continuing care facilities has changed, allowing residents to reside in a more residential style of room that can accommodate a separated living and sleeping space within each unit. It is being recognized that to respect the dignity of the resident, it is important to try and accommodate only one person or a married couple per unit.

The facility sizes range from 40 continuing care units found within a combined care level facility upwards of 120 units in a strictly continuing care level facility. Depending on the ownership group and the site characteristics, it is not uncommon to see facilities having 80% double occupancy / 20% single occupancy to the opposite of 80% single / 20% double occupancy.

Typical amenities would include a central food service and kitchen facility, central administration areas, and nursing stations. The nursing station is typically a design form generator from which up to 60 beds can be administered. Around this station would be subsequent examination and consultation rooms in proximity to the nursing station, medical rooms, central bathrooms, housekeeping, and medication rooms.

Central to the older facilities would be amenity spaces that would accommodate television viewing, resident lounges for reading and socializing. In newer facilities, libraries, crafts areas, performance spaces and lounges focused next to outdoor activities are also being included. Design philosophies that begin to accommodate resident private space both indoors and outdoor as well as more structured socializing spaces are making their way into more current designs.

Staffing of Facilities:

At most low-level care residential facilities such as independent living facilities, the required on-site staff consists of building maintenance and administration that are low in relation to the overall resident quantity.

For congregate level care facilities, it is common to have at least one nurse on staff depending on resident quantity for days and evenings with only administration handling calls after the nurse has left. This provides residents with assistance throughout the day in the form of medication assistance, some dressing functions such as shoelaces, ties, or buttons.

Staffing levels for both assisted living and long-term care facilities have the same nursing ratio for daytime, evening, and night time care levels. During the daytime, the ratio of residents to nursing staff averages 6:1 to 8:1. In the evening, that ratio drops to approximately 12:1 and during the night, the ratio drops to 20:1.

Figure #26 - Reprinted from Diane Y. Carstens, Site Planning and Design for the Elderly (Van Nostrand Reinhold, 1985), pg. 54

Combined Care Level Facilities:

Typically, most facilities that cater to the less intensive care levels for older people such as independent living and congregate care facilities are larger developments. As the need for nursing care on a more intense level is required, facilities offering these services such as assisted living and continuing care services are beginning to combine services and create larger facilities for both economic and length of stay reasons. Currently in both Canada and the United State, it is not uncommon to have developments with 250 – 1500 suites within a facility.

Economically, operators in many facilities have been looking at combining levels of care being provided within one facility. This is a three fold approach in that they are to be able to attract a wider range of clientele, keep their clientele longer by accommodating their needs as they change over time, as well as economize on staffing, facility costs, and project administration costs in one facility.

The above noted older persons' housing developments may be combined in various ways and may or may not include skilled nursing facilities for residents who require medical, nursing, or rehabilitative services. One example would be to have congregate housing sometimes augmented by assisted living units or a long-term care facility. Independent living facilities may be combined with one or more types of dependent-living facilities. In the United States, typical projects sizes would include congregate housing at 150 – 200 units, assisted-living developments at 30 – 50 units, and continuing care facilities having 200+ units including 40 – 60 nursing beds.

In the United States, it is not uncommon to have what are referred to as Retirement Communities that cover expansive sites ranging from 33 – 80 acres and housing 225 – 320 units. These developments typically include a series of cottages, apartments, typically centered on a health facility and accompanying central amenities. The second largest project found in the research is Leisure World in Laguna Hills, California. The project encompasses 1661 acres and consists of 2584 buildings housing 13 100 living units and approximately 22 000 residents[40].

Locally in Alberta, Bethany Care Society has a number of facilities that combine long-term care with assisted daily living units within one complex. Each level of care is typically separated into their own wing of the facility, which leaves food services, amenity spaces, and administration in the centre of the building.

A typical sized development is currently between 125 and 150 suites[41]. Developments any larger than 150 units will require a more tiered level of administration to properly manage the facility. As Bethany Care's goal is to develop "residential" feel to their facilities, larger facilities requiring increased management will quickly create an atmosphere of an institution – opposite of where most seniors would like to live. Therefore, the overall size of a project is still important when establishing the proper atmosphere a development is striving to create. Depending on the level of care being provided within a facility, the average unit mix and type can be found in the accompanying chart.[42]

[40] Carstens, Diane Y., *Site Planning and Design For The Elderly*, New York, New York, Van Nostrand Reinhold Co., 1985, page 53.
[41] Greer Black, Bethany Care Society, interview by author, March 19, 2004.
[42] Porter, Douglas R., *Housing for Seniors – Developing Successful Projects*, Washington, D.C., ULI – the Urban Land Institute, 1995, page 53.

Average Unit Mix by Type of Facility: Developments Built in 1991 and 1992

Facility and Unit Type	Minimum	Mean	Maximum
Independent-Living			
Studio		None	
One-Bedroom	75	103	130
Two-Bedroom	50	60	70
Other		None	
Total Units	145	163	180
Congregate-Care			
Studio		None	
One-Bedroom	56	62	68
Two-Bedroom	16	76	136
Other	136	136	136
Total Units	84	162	240
Assisted-Living			
Studio	68	68	68
One-Bedroom	4	4	4
Two-Bedroom		None	
Total Units	72	72	72
CCRC			
Studio	1	41	115
One-Bedroom	12	69	134
Two-Bedroom	3	18	87
Other	2	13	21
Total Units	38	116	203
Combined without Skilled Nursing Facilities			
Studio	12	39	67
One-Bedroom	29	61	92
Two-Bedroom	11	17	26
Other	15	20	24
Total Units	117	145	213
Combined with Skilled Nursing Facilities			
Studio	1	40	211
One-Bedroom	2	91	1,664
Two-Bedroom	1	42	406
Other	1	49	355
Total Units	175	320	485

Source: American Seniors Housing Association, *The State of Seniors Housing 1993* (Washington, D.C.: American Seniors Housing Association, 1993), pp. 14–15.

Figure #27 - Reprinted from Douglas R. Porter, *Housing for Seniors - Developing Successful Projects* (Urban Land Institute, 1995), pg.53

The underlying requirement of both single care level or multiple-care level facilities is the standard need to relocate older people as their health needs change to the point of requiring services outside of the scope of care available within their current facility. What this typically means is that older people are located from a congregate care to an assisted living facility when some of their more reoccurring needs are beyond what is available to congregate care. Although they do not require all of the services of assisted-living, they are transferred only because congregate care cannot handle all of their needs.

This required relocation disrupts patterns of friendship and community that are the cornerstones of these people's lives. As discussed earlier, this lack of belonging to a community or group of acquaintances has a negative affect on the older person's psyche and eventually their health. Therefore, it is in the best interest of the current and future older people to create a residential paradigm that accommodates the increased availability of services without the need of facility relocation.

Interviews:

As part of this research document, there have been three interviews completed to gain a better understanding of the current operating conditions in Alberta. These interviews occurred with Cathie Gillespie at Laurier House in Edmonton (long-term care) operated by the Capital Health Region, Jacqueline Besier of Trinity Lodge in Calgary (assisted living), and Peggy Gibennus at The Lodge at Valley Ridge (congregate care) both operated by Diversicare Limited.

The Lodge at Valley Ridge (congregate care facility)

Built in the mid 1990's, the facility houses approximately 100 residents over three floors. Of the residents, approximately 20% - 30% are couples while the remaining are single. There are three types of rooms, studio suites (± 440 sq. ft.), one-bedroom suites (± 650 sq. ft.), and two-bedroom units (± 995 sq. ft.). The facility is classified as congregate housing as it provides a meal plan and weekly housekeeping and linen services for the residents.


Figure #28 - View of Front Entry at Lodge at Valley Ridge


Figure #29 - View of Pedestrian Path on site at Lodge at Valley Ridge


Figure #30 - Covered Sitting Area at Front Entry at Lodge at Valley Ridge

The building is located within the community of Valley Ridge and is surrounded by single-family houses which wall in the perimeter of the site from non-residents providing a private enclave within the grounds for walking and sitting for residents.

The average age of the residents is 83 years old but do range from their mid-70's up to 98 years of age. The residents are independently mobile and must be able to bath, feed, and toilet themselves to be eligible for this facility. Although mobile, most residents require some form of assistance in moving around which usually is in the form of canes, walkers, scooters, or wheelchairs.

There is a licensed nurse practitioner on staff 24 hours per day to predominantly handle emergencies but is known to assist residents with minor items such as getting in / out of the bathtub or doing up buttons for those with arthritis. Other amenities within the building include an in-house hair stylist, a small general store for incidentals, chapel with piano and organ for residents use, various lounges, crafts, and games rooms, and outdoor walking paths and patio spaces.


Figure #31 - View of Gaming Hall at Lodge at Valley Ridge

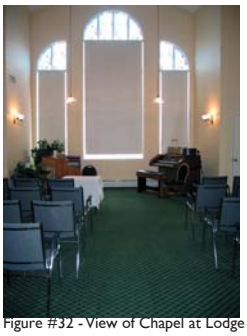


Figure #32 - View of Chapel at Lodge at Valley Ridge


Figure #33 - View of Multi-purpose Room at Lodge at Valley Ridge

The building also has two guest suites available for families of the residents. Both suites are studio units that can easily accommodate a couple, costs $75.00 for singles or $85.00 for a couple, and include breakfast and supper for the visitors. The building utilizes this as an additional source of income to offset operating expenses.

Amenity spaces are excellent and include a large, second level multi- purposes space that is used for performances for various events that may include groups coming in to sell jewellery, clothes, make-up, or skin care to the residents as well as games nights in which friends of the residents are invited to attend. The space also is used for cooking and has an adjoining exercise room Additional lounges are dispersed within the building and vary from small social spaces to casual lounges that provide continental breakfasts for residents who do not wish to partake in the larger breakfast meal in the dining room. There is also a lounge/pub/movie room that is also frequented for a nightly drink and for movie nights. There is also a billiards/games room that is well utilized on a daily basis.


Figure #34 - View of 2nd Floor Lounge / Fireplace


Figure #35 - View of Exercise Room off Multi-Purpose Room


Figure #36 - View of Main Floor Lounge / Mailbox Activity Area


Figure #37 - View of 2nd Floor Breakfast Lounge

Hallways are bright and inviting with only short distances between the central building core and the casual conversation spots located intermittently along the corridors. These areas are used as rest stations for elderly located at the farther ends of the corridors.


Figure #38 - View of Hallway Lounge / Rest Area

Suites typically consist of a bedroom(s) or distinctive sleeping area, washroom, multiple closets, small kitchenette, and outdoor patio / deck. The kitchenette includes a small apartment size refrigerator, microwave, sink, and for larger suites a dishwasher.

Resident turnover is averaging approximately three per month with most residents relocating to more care intensive facilities. The safety of the resident

is monitored within the building in various ways. In the washrooms there are grab bars installed as required by the resident as well as emergency cords to pull in case of emergency. It is also required that all residents must participate in supper in the dining room. This provides the staff with the ability to ensure that all residents are accounted for.

The only negative to the facility is its' location in the distance suburb of Valley Ridge and its long commute via transit back to the city's downtown. Due to its' location, residents depend upon the transit system which is limited due to only having one transit route to choose from to leave the community. As well, there are minimal number off-site amenities approximately three blocks from the facility across a major roadway, which may act as a deterrent to slower moving residents.

As Valley Ridge is one of the newest facilities in Calgary for independent care, it therefore should be at the forefront of care for this type of facility. Therefore, it was a logical choice to interview this local establishment. In conclusion, Valley Ridge is an example of a newer facility responding very well to the beginning of the elderly care lifecycle. As such, a summary of Valley Ridge's attributes would be as follows:

Positive Attributes of Valley Ridge:

- Newer facility, more current than most in Calgary meaning that it also is most current in planning and operational philosophy.
- All residents have their own room maintaining privacy for the individual, even when minor assistance is required.
- Multiple spaces on each level for socialization that include varying from quiet lounges to the central pub to large multiple purpose spaces.
- Nice outdoor spaces that include open and sheltered spaces along with various planting gardens along the pathways within the property.
- Architecture integrates well within the Valley Ridge neighbourhood – look is no different than a standard multi-family project.

Negative Attributes at Valley Ridge:

- No walking destinations beyond property for residents (ie.: grocery store, pharmacy, cultural facilities, etc.)
- Location isolates facility from urban vitality – neighbourhood residents predominantly working therefore little action occurring during most days – lack of visual vitality outside of site.
- Services / Staples (grocery store /pharmacy) must be reached via facility van or public transportation.


Figure #39 - View of Building looking from street

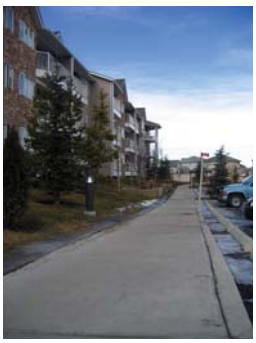


Figure #40 - View of pedestrian walkway around the buidling


Figure #41 - View of gazebo along exterior walking path

Trinity Lodge (congregate and assisted-living facility)

Trinity Lodge is a combined care facility housing both congregate care and a newly developed assisted-living component. The original facility housing the congregate care component was building in the 1970's and had been upgraded twice since then. The assisted living component of the facility was completed in April 2004 as an additional building wing to the overall building. The overall facility will house approximately 180 – 190 residents that range from their mid 80's through until their late 90's with two centurions residing in the building. Currently, the average resident stays in the building approximately three to four years and resident turnover is approximately 4 – 5 residents per month.


Figure #42 - View of Front Entry at Trinity Lodge

Figure #43 - View of Front Entry / Assisted Living Addition - Trinity Lodge

The reason for a visit here was to study a multi-level facility found in an inner-city area next to a major roadway and near a regional shopping mall. The building is located on a side road next to Glenmore Trail SW west of the intersection of Elbow Drive SW The facility is also located near the Chinook Shopping Mall. Most residents utilize either the limited transit routes close to the facility or the chauffeur service available. Currently, eight to ten residents continue to drive their own vehicle.


Figure #44 - View of Pool / Games Lounge


Figure #45 - View of Exercise Lounge


Figure #46 - View of Internet Cafe


FIgure #47 - View of Exterior Enclosed Courtyard

As with Valley Ridge, there is a licensed nursing practitioner on staff 24 hours per day for the staff to handle emergencies and provide limited supportive care. With regards to the assisted living facility, there are a number of licensed nursing practitioners and nurse's aides on staff to provide assistance to those in need. The resident to staff ratio is typical of most facilities which are 6:1 in the daytime, 12:1 in the evenings and 20:1 during the night.


Figure #48 - View of Primary Dining Hall


Figure #49 - View of Secondary Dining Hall

Food service for the facility occurs from one central kitchen and is dispersed from there to the three dining rooms within the facility. There is a segregated dining room for special needs residents who require assistance eating. This ensures that staff has the ability to focus on residents and assist them in their meals.

It also was found that those residents living in the remaining of the building appreciated the separation as it did not pose a constant reminder that they were indeed aging and may someday be in the same situation as those requiring assistance at mealtime. A positive planning initiative is the separation of the main dining hall from the remaining building which, while convenient to access, does not overpower the overall building planning.

Figure #50 - View of Studio Suite

Figure #51 - View of Studio Suite

Figure #52 - View of Make-shift Kitchen Component in Renovated One Bedroom Suite

Amenity spaces within the compact site include two external sheltered courtyards that provide wonderful sitting spaces in the sun or shade while the surrounding building assists in blocking the winds. One courtyard has a stream and bridge as visual highlights for the residents. There are also a number of lounges of various sizes, a health and wellness centre, arts and crafts studio, a general store / pharmacy, barber shop / beauty salon, and a central library. Other amenity spaces also include an internet café with multiple stations and a billiards / shuffleboard room.

Room types range from studio suites (265 – 440 sq. ft.) to studio suites with a den (534 – 560 sq. ft.) to one-bedroom suites (460 – 650 sq. ft.). There are kitchenettes available in some of the one-bedroom suites that consist of a sink, small refrigerator, and microwave. Suites typically contain a distinctive bedroom / sleeping space, armoire or closet, washroom, and living space including bookshelves / cabinets for storage of personal item.

The current situation in Trinity Lodge is the recombining of studio suites into one bedroom suites with the need to install a small kitchen amenity to house a sink and microwave. The facility has less requests for small studios but has great demand for the combined one-bedroom units. A variety of meal plans are available for residents depending on their needs. The only mandatory meal is supper. This ensures that all residents are seen once per day by staff and can be accounted for daily.

In conclusion, Trinity Lodge is an example of an existing facility attempting to change to suit the current conditions existing in the elderly care marketplace. As such, a summary of Trinity Lodge's attributes would be as follows:

Positive Attributes of Trinity Lodge:

- Multiple level facility housing congregate and assisted-living residents.
- Inner city location (near Glenmore Trail / Elbow Drive SW and Chinook Shopping Centre).
- Each resident has own suite regardless of needs – preserves autonomy / dignity / sense of privacy.
- Exterior sheltered courtyards provide a variety of outdoor experiences including gazebos and a pond / stream.
- Medical services nearby at Mayfair Place.

Negative Attributes of Trinity Lodge:

- Next to major roadway (Glenmore Trail) creating very high traffic noise, especially with semi-trailer traffic).
- Location provides poor access to amenities (Chinook) and poor access to site from Elbow Drive or westbound Glenmore Trail SW
- Poor pedestrian connection to site from Elbow Drive SW

- No access to adjacent residential neighbourhood to south of the site.
- Services / staples (grocery store / pharmacy) must be reached via facility van or public transportation.
- No opportunity to interact with surrounding community.

Laurier House, Edmonton (long-term care):

Laurier House is a unique building and has a unique operating philosophy for the Capital Health Region as it represents their first attempt to truly create a long-term care facility within a residential or non-institutional environment. The overall building is approximately ±4 400 sq. m. (±47 450 sq. ft.) over two floors designed in an "L" shape plan in an easily understandable residential vocabulary. Another unique operating philosophy for this facility is to allow family members to live with residents in the facility. As such, the residence has a wide range of residents from late 30's to late 90's.

Figure #53 - View of Front Entry - Photograph by James Dow

The building houses 78 suites consisting of 10 studio suites, 41 one-bedroom suites, and 27 two-bedroom suites that house approximately 105 residents. Each unit includes a small kitchenette that has a full refrigerator, microwave, sink, and two-burner range. Ranges are included due to the varying limitations of some of the companion residents. There are no lower cupboards built in the suites so as to accommodate wheelchair access to all counters. The units range in size from 570 sq. ft. for a studio suite up to 800 sq. ft. for a two-bedroom suite. All aspects of the facility are wheelchair accessible.

Figure #54 - View of Typical Suite - Photograph by James Dow

Figure #55 - View of Typical Suite - Photograph by James Dow

Amenities in the space include a large television room for residents and a large activities room that is a multi-purpose space used for card and game playing, bingo, performance space for incoming entertainment groups, and a space to play on the piano and have a sing-along. There is also an available guest suite, not unlike Valley Ridge, where resident's guests can stay when visiting.

As the facility is a continuing care facility, there is 24 hour nursing staff on duty to assist the residents. All residents, as a requirement for living in the facility, must be able to actively participate in their care planning. Nursing levels are at a higher ratio than found in assisted living and therefore each resident may receive up to 4 ½ to 6 hours per day of assistance or treatment depending on their level of need. The residence can accommodate all forms of physical disabilities and impairments but is not capable to handle dementia patients due to the facility's open site.

The truly unique aspect of this facility is the ability for residents to be able to live with their spouse, companion, or adult child who do not necessarily qualify for this level of services but are still allowed to live there. These companion residents must reside within the same suite as the primary resident but are only required to pay a smaller monthly fee, mostly to cover the cost of food and laundry services.

Figure #56 - View of Primary Dining Hall - Photograph by James Dow

Besides the innovative approach to allowing mixed-capabilities within the suites, another item of importance is the care taken to the level of residential detail found throughout the building. A focused effort was put forth to ensure that no part of the facility seen by the residents or the public had any indication of an institutional feel.

Due to the increased needs accommodated at this facility, most qualified residents are wheelchair bound and require lengthy levels of care and assistance. The average age of the residents is 87 years old but do have residents as young as 35 years old. The residents reside in the facility anywhere from six months upwards of four years but have been averaging anywhere from two to three years.

As with other facilities, all meals are prepared in house and served in the central dining area. All residents have full access to meals and snacks throughout the day. As a safety precaution, all residents are required to either be at supper or ensure the staff knows of their whereabouts so as to ensure that no one has wandered off or is sick and in need of help.

Laurier House is a progressive facility that should advance how people view and relate to elder residences if only it were more publicized. As such, a summary of Laurier House's attributes would be as follows:

Positive Attributes of Laurier House

- Long term care facility with a de-institutionalized architectural vocabulary.
- Even with enhanced assistance requirements, residents still live in independent suites.
- Nursing station centralized in one location on main floor and very discreet in comparison to remaining spaces on main floor.
- Finishes, material, and facility layout would typically be found only in lower level care facilities, therefore making this facility seem less institutionalized and more residential in nature.

Negative Attributes of Laurier House

- Suburban location on quiet, dead-end street which minimizes street activity and visual interest beyond site for residents to observe.
- No opportunity of interaction with surrounding community.
- No destinations nearby for residents to enjoy with family without requiring a vehicle (with the exception of West Edmonton Mall which is located over a pedestrian bridge at the end of the street).

Facility Review Summary

The goal of the facility review was to gain further insight and understanding of what each care level entails as well as gaining an understanding of what current local facilities have to offer. By understanding the capabilities of each care level, it will form the basis of understanding the capability of being able to combine these care levels into a facility providing holistic and seamless health care to its' residents.

Valley Ridge facility has a wide range of amenity spaces both indoors and outdoors as well as good suite designs that are seen as a very good example to draw upon in the design of a new facility.

At Trinity Lodge, the outdoor amenity spaces are extremely beneficial to residents and excellent spaces to utilize in a new facility. As well, the current problem the facility is having with room combining is also a positive to draw upon in a new facility and to realize that providing the ability to combine rooms and separate rooms is beneficial in the flexibility of a future facility. As well, the ability to install and remove kitchen type facilities is also beneficial.

In Laurier House, the keys to draw upon for a future development would be the focused concentration of residential detail and the ability to promote multi-level care needs within a suite.

Global Seniors Care:

Beyond what is presently happening in Alberta with regards to seniors care, a cursory review of the trends and current care situations in other countries has also been completed. This research was conducted with the goal of finding more effective methods of accommodating seniors' needs or to foresee future trends in related care issues currently occurring in other parts of the world.

A major issue facing most health care and governmental jurisdictions is the need to provide care for seniors in rural areas beyond the services provided in major metropolitan areas in an efficient manner. Through various examples, the common underlying concept is the extension of elderly independence with various forms of assistance where required. The ability to delay or negate the need for institutionalization of the elderly is seen as a positive both economically for governments and from a quality of life perspective by the elderly.

In Saskatchewan, there are various initiatives and pilot projects being utilized that in general have created various small-scale facilities in many small towns that provide a place for care for the local senior population. These facilities provide caring assistance to both residents living within these facilities and extending out into the community to those still able to live at home with minor assistance originating from these care facilities.[43]

To also respond to the needs of the increasing quantity of seniors, Saskatchewan has created the Saskatchewan Assisted Living Services (S.A.L.S.). This organization's objective is to enable seniors living in social housing to remain in their homes while providing community-based services for tenants who need a combination of shelter and supportive services so as to retain their independence. The organization sets out to oversee the provision of services through the development of renovated or newly constructed facilities. These new care facilities that are privately run must abide by the principles and policies of the organization so as to maintain funding by the Government of Saskatchewan. [44]

In the Niagara Region in Ontario, the Niagara Region Housing Program has created a successful home sharing program that acts as a referral agency for seniors looking to open their home to people of similar age and capabilities. To many seniors in the region, the ability to share accommodations may prevent the need for an older person to have to leave their home for alternate living arrangements. The ability to share chores and household duties extends the capabilities and longevity of the homeowners before requiring relocation.[45]

No matter where in the world one looks, most industrialized countries have or are beginning to focus care for the elderly on preventative measures versus construction of institutions in which to house them. A majority of countries are attempting to be pre-emptive and focus on ways and means to keep the elderly in their existing residence with upgrading services delivered to match their needs. Whether it is the Carer Program in Australia or Britain's Home Improvement Agencies, most countries are focusing on assisting the elderly to remain in their existing residences for as long as possible.

On the forefront of this movement has been Denmark. In 1991 Denmark developed the 'Senior Citizen' label

[43] Johnston, Gail, The Road to Grandma's House: Ways to Support the Housing Choices of the Aging Generation, Edmonton, Alberta, Muttart Foundation, 2000, pg 92-106
[44] ibid, pg. 113 - 119
[45] ibid., pg. 107 - 108
[43] ibid., pg. 127 - 138
[44] ibid., pg. 244

that created a nationally recognized uniform set of standards for the construction of housing suitable to all including the elderly. These standards demonstrate that all new, renovated, refurbished, and converted homes with this label have been built to accommodate an "aging-in-place" physical environment. These houses have the ability to transform and transition as people age and require less additional equipment to live with on a daily basis. The results from the creation of the 'Senior Citizen' label have been positive resulting in a greater quantity of housing stock being developed that will accommodate the aging-in-place philosophy for all people as they age.[46]

Australia

Australia is also not immune to the "baby boomer" phenomena as they are projecting over the next 40 – 50 years a 100% increase in residents over age 70. Therefore, the government of Australia has chosen to address the challenge of an aging population by creating a climate for self-help and care for others through a system of support programs such as the Home and Community Support program, the Community Aged Care Package program, Respite and Resource Centres, Carer Programs, Aged Care Assessment Teams, and the Domiciliary Nursing Care Benefit.[47]

All three levels of government have some role in either funding, administering, or providing long-term care and other services for the elderly. In broad terms, the federal government and the state governments jointly fund the Home and Community Care program as well as housing programs while local government play a role in administering or providing some services.

Residential focused aged care has evolved from the 1970's where nursing homes predominantly handled aged care from minimal up to intensive nursing care to currently where hostels and community care now handle a majority of the care. Community aged care packages provide clients with a tailored package of personal care services in the community which are designed to substitute for low-level residential care. These care packages are in addition to funding for community services under the Home and Community Care programs.

To ensure proper elderly care, the federal government created teams of health professionals known as Aged Care Assessment Teams who act as gatekeepers, approving people for different forms of residential care based on their needs. This enabled a more targeted approach to funding while ensuring that proper care levels are provided to clientele.

The Carer Program, which provides the greatest majority of care, was created to assist the elderly in daily activities such as bathing, feeding, dressing, medicating, toileting, and general supervision. The carer is seen as someone who assumes the role of responsibility for the financial, emotional, and physical well being of the elderly individual. By providing such an important role in the overall health care system, the Australian government has created a support network for these carers through government wages, benefits and time off with pay for undertaking additional employment or training, and holidays. The government has also created a series of respite centres throughout the country that specialize in carer support services and 24-hour emergency respite cover.

Again, the Australian government has realized the importance of providing alternate means of assisting the elderly in their homes rather than physically creating cost intensive facilities that would provide the same level of care as the carers provide. This program has responded very well to the elderly, especially due to the sporadic and sparsely populated locations within the country.

[46] Johnston, Gail, The Road to Grandma's House: Ways to Support the Housing Choices of the Aging Generation, Edmonton, Alberta, Muttart Foundation, 2000, pg 127 - 138
[47] ibid, pg. 244

For elderly requiring a greater level of care, the federal and state agencies have created the Council of Australian Governments Coordinated Care Trials whose goals are to provide better coordinated system of acute care as people are required to transition from one care level to another between both federal and state government agencies.

Japan

In Japan in 2007, the elderly over age 65 will account for more than 20% of the entire population. The alarming statistic is that by 2025, there will be communities where 87% of the population will be older than 65. To further exacerbate the dilemma, the fastest growing population segment is those over 100 years old.

Typically, the elderly have been cared for by the younger family members and it is not uncommon to have three generations of family living in the same household with the wife having to care for potentially four aged parents. Eroding this typical level of family care is the realization that the younger generation is currently working and studying longer hours than their parents before them, leaving less time for caring for their elderly members.

Japan's approach to resolving the growing percentage of elderly include the concept of "active aging" which focuses on the continuing ability for elderly to remain active in both the workplace and society beyond age 65. Initiatives to create a higher quality housing stock focusing on elderly self-support, government programs aimed at promoting and prolonging elderly health, and initiatives to capitalize and pass on elderly knowledge and experience in the workplace are being studied as ways to promote self-supporting elderly longevity.

As in other countries, Japan is quickly understanding the correlation between health care costs and elderly self-sufficiency and that by promoting healthy living, there is a reduction in both costs and the quantity of spaces in specialized facilities required to care for the aging. Japan is also looking at developing house for self-support and care for the elderly along with support centres for in-home care dealing with the physical, physiological, and psychological aspects for caring for the elderly.

Figure #57 - Elderly People in Action

New Zealand

In New Zealand there is little with regards to specialized seniors housing overall for the elderly. Instead, the government has created a series of homeowner assistance programs for elderly focusing on costs associated with home renovation, maintenance, and taxation relief. Again, in New Zealand the government is focusing on having seniors reside in their own homes as long as they are capable of doing so.

As for care and assistance in their later years, home support services for elderly are provided through the community care services programs in which the assistance comes to their home to assist in daily activities.

Where seniors housing is provided, it is typically provided through either Abbeyfield homes or private retirement villages for those over 55. While the retirement villages are very similar to independent or assisted living facilities found in North America, an Abbeyfield home is a group home on a typical residential street focused on providing supportive housing for seniors who live very much like a family. Abbeyfield homes

are intimately scaled and knit in to a typical neighbourhood, are small-scaled to accommodate group of 7 – 10 elderly, and are easily established, which as a concept, works extremely well in either the rural or urban locations across New Zealand.

Britain

Britain, like Canada is also facing the effects of the "baby-boomers" generation who at age 65 or older will account for 25% of the overall population by 2025. Therefore, it was becoming vitally important to the British government to find effective and financially prudent methods to provide for this growing population within the means of a diminishing tax base.

In 1998, Britain had approximately 11 million retirees with only 5% of those living in institutions. The remaining seniors were living in their own homes. With that statistic, Britain has focused on a series of home support initiatives for the elderly which includes visits from social workers, health professionals, and meals on wheels. Additional assistance with domestic chores and day programs, transportation subsidies and special transportation for the disabled allow the elderly to access to the community.

Housing options beyond their own residence for seniors include various housing associations, abbeyfield housing, and almshouses that account for more than 200 000 specially designed dwellings for older people. The housing associations, otherwise known as "registered social landlords" are funded and regulated by the federal government with their primary focus on housing redevelopment and new construction.

Registered social landlords oversee a diverse range of facilities from small almshouses to large housing associations. They are also responsible for not only redevelopment and new construction but for rental units as well as home sales for people on lower income.

Britain's largest financial investment for elderly housing is currently providing an aggressive program of home adaptation and improvement for the redevelopment of their outdated housing stock. There has been the development of various home improvement agencies which are focused on helping the elderly stay in their homes thus reducing the need for specialized housing. Government support for housing includes capital allocation for registered social landlords, for new construction and the development of social housing, expenditures on housing from regeneration programs, and initiatives to help the poor with tax relief or income support on mortgage payments.

The federal Housing Corporation is currently promoting an integrated approach to services and care for the elderly which is being administered with the local authorities. The local jurisdictions will be responsible for developing their own methods of assessing needs and planning services for the elderly in their area.

Germany

In 1962, the Kuratorium Deutsche Altershilfe (KDA) was created to promote up-to-day models of aid to seniors. Today, this independent organization is a key advocate for seniors to the federal government. This group has been instrumental in creating many initiatives including meals-on-wheels, day programs, respite care, and assisted living facilities through start-up funds and governmental influence.

Currently this group is initiating numerous conferences and congresses bringing together experts from all levels of government, health and nursing care, welfare associations, colleges, and universities to discuss the practical implementation of improved concepts for providing aid to seniors. One of the current initiatives being championed by the KDA is the need of improved living conditions for seniors in their homes through the provision of home care services. The ability to assist seniors in staying in their home longer helps in reducing the need for additional specialized facilities.

KDA is also reviewing the foundation of what "nursing homes" are, need to be and how they should be changing with regards to the future seniors' needs. They have compiled a strategic planning model for nursing homes which would be centrally located with a maximum of 100 suites of which 80 would be single suites.

The most significant contribution of the KDA is the establishment of "GeroCare" network which brings together people from the field of practice in different European countries to exchange information and experiences in a two-day seminar combined with workshops that occur on a yearly basis. Typically, participants come from care and care-resource institutions located within the European Union.

The goal of "GeroCare" is to gather new ideas, directions, and useful strategies in the provision of care and assistance for older people. As well, the dissemination of current information, experiences, and scientific results from the field of practice both within the European Union and globally are also typically found on the annual agenda.[48]

Austria

In Austria, approximately 20% of the population is over age 60 with a majority of seniors being women. Most seniors are physically fit, like to travel, and enjoy an active cultural life. A full one-third of this group is also financially affluent to afford higher levels of retirement care when required.

Austrian seniors care predominantly focuses around "residential homes" whose goal is to house residents who are located in the surrounding communities. These homes are typically created around an independent living format with the ability to include assisted living care within the facility. Within these facilities, a special care unit is available for residents who fall ill and are in need of a higher level of nursing care during a short period of time.

Apartments within these residential homes are approximately 30 sq.m. (323 sq.ft.) for singles and approximately 40 sq.m. (430 sq.ft.) for couples. Facilities within each unit provide the ability to cook simple meals. Common laundry facilities and cleaning assistance is provided for all tenants. Organized activities, medical help, and a trained nurse is standard for all homes.

For meals, breakfast is served in the dining room, dinner is served in the individual apartments in thermos containers, and supper is set out as a cold buffet so as to allow residents to be flexible for their evening mealtime.

Denmark

The federal government's primary goal is to provide the elderly with the greatest possible choice of housing types. Seniors housing is publicly subsidized and especially planned for the elderly and disabled in accordance with the "Housing for the Elderly" law passed in 1988. These laws stipulate the size of units and the minimum type of amenities to be incorporated for a seniors' development. Housing units must be a minimum of two rooms, plus kitchen and bathroom, with an accommodation area of a minimum of 67 sq.m. (614 sq.ft.).

[48] ibid., pg.258

Previous to the passing of the “Housing for the Elderly” law, nursing homes were predominantly the option for the elderly who required nursing or support with most of the resident’s monthly pension withdrawn to pay for the services. The aim of the new policy was to create a greater choice of accommodation types for seniors requiring various levels of care. The goal was to offer housing and care geared towards the needs of the individual while providing the physical basis for the autonomy of the elderly.

Sweden

In Sweden, the local governments are responsible for the care of the elderly with their general objectives being to guarantee a secure income, good housing, service and care according to their needs. Publicly provided support services allow the freedom of choice and influence for the recipient while maintaining high standards. Sweden has a strong emphasis on delivery of care to the home. Through the framework currently in place, there has been a large reduction in the institutionalization of the elderly even though the numbers of people requiring care has increased.

With the emphasis on freedom of choice, there is a wide variety of options available for the elderly to choose from depending on their required needs. Services houses are blocks of flats containing from 20 to 100 units of which most were built in the 1970’s and 1980’s. The flats consist of three rooms, kitchen, and bathroom with the availability of home care services if required. For amenities, there is typically a restaurant, activity room, and chiropractic services among others.

Old age homes are typically built for people unable to live by themselves even with the aid of home services similar to assisted living facilities here. The suites in these homes are typically 10 – 15 sq.m. (110 – 160 sq.ft.) with their own toilet. Meals are served in communal dining rooms with activities organized and care provided.

Nursing homes have changed their focus towards the ability to handle dementia, severe medical needs, and terminal illness which equates to serving only the most frail and most needy. To augment the range of services, some nursing homes also provide hospice care, respite care, short-term rehabilitation, and/or dementia care.

In recent years, group dwellings have become an alternative to institutions for people with a greater need for care and supervision. Group dwellings include cooperative housing arrangements for those with physical handicaps or psychiatric problems although most common are group dwellings for cognitively impaired persons.

A group dwelling is characterized as a small housing collective of six to eight people in which each resident has their own room, share communal space and have access to services and care provided by resident staff.

Summary

This section summarizes the type and level of amenities within each care level with the understanding that a basis level of what is now being provided in the current region is laid out. From this basis level, I have set the framework to compare proposed suite types and accessories for the proposed facility against what has been discussed here.


Figure #58 - Elderly Person in Wheelchair

As well, the review of three facilities in Alberta gives a current understanding of the range of care level in place including some of the more current facilities with the goal of setting the baseline from which the proposed facility will be judged.

Although there was little information concerning detailed European or Australian facilities, it is interesting to see that the goals and objectives for seniors care are universal. Of the Alberta facilities, a wide array of care types and accommodations have been reviewed providing a basis upon which the proposed will be evaluated.

This review also provides a basis for individual room accommodations and amenity spaces expected at each care level. This review at each care level will form the framework for the proposed units in the proposed facility.

As previously eluded to, the goals of developing an idealistic elderly housing environment is to have an environment that responds to each patron's dignity, respects their independence, and allows their participation in how their care is administered. The difference in between the current and proposed environment is that these goals will be maintained throughout the entire range of elderly accommodations.

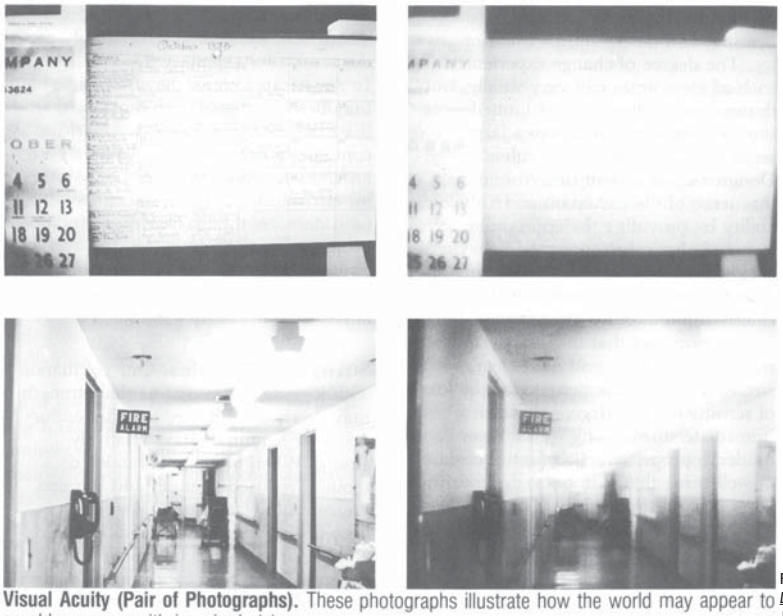
SECTION ONE -DESIGN LEVEL D9A

CHAPTER FOUR:

FUTURE OF HEALTH CARE IN ALBERTA

Changing Needs and Effect on Residential Requirements For The Elderly:

As the elderly change over time, two aspects of their physiology change and affect their independence: sensory functions, and cognitive functions. There are also two physical aspects that degenerate over time: bodily functions and physical functions[49]. These four aspects of change, depending on their extent, have an important effect on the level of independence or dependence each elderly person will require.



Visual Acuity (Pair of Photographs). These photographs illustrate how the world may appear to an older person with impaired vision.

Figure #59 - Reprinted from Edward H. Noakes, *Design for Aging: An Architect's Guide* (AIA Press, 1985), pg. 8

The limitation of vision has a great impact on the elderly that ranges from how these people are able to control range elements and microwaves to understanding how to escape from their residences in case of a fire or emergency. Visibility limitations range from being near-sighted or far-sighted to being colour blind and up to partial or complete blindness as they age. One typical problem that most older people must deal with is their sensitivity to glare. Colour perception also changes over time as the lenses of the eye thicken and yellow. This causes the lens to filter out violet, blue, and green, particularly along the dark end of the spectrum. Yellow, orange, and red are thus easier to see than darker colours or those in the blue-green range.[50] Architectural solutions to compensate for visual limitations can range from increased illumination levels for personal tasks or building signage, colour changes at the top and bottom of grade changes and stairs, larger graphics for signage and controls, and improved contrast between various surfaces. As most people highly depend on their vision to comprehend their environment, the primary goal is to illuminate their local environment in a clear and concise manner.

Changes in cognitive functions can include a wide array of physiological progressions or regressions. Some of the possible changes may include changes in memory and how we interact with our immediate society, changes with language and speech pattern, personal temperament, and even motivation.

Most cognitive functions center around or are influenced by changes in mental activity. These changes can be caused by physical changes to the body through natural deterioration or through diseases. Motivation as a cognitive change is usually seen as the easiest to rectify; typically through the creation of greater

[49] Brodie, Ian; Design for Aging, Ottawa, Ontario; Canadian Standards Association, 2001, page 24 - 32
[50] Carstens, Diane Y., Site Planning and Design for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1985, page 11

environmental stimulation. Accommodation of multiple social activities, the inclusion of pets within the residence or facility, or exercise programs are all means utilized by seniors residences to provide avenues have residents remain mentally and physically active.

Changes to a person's temperament, language capabilities, or memory may range from "old age" and forgetfulness to minor physiological changes in one's ability to comprehend. Temperament changes may include inappropriate or abusive verbal behaviour, inability to be agreeable or to express their needs. Language or literacy changes typically consist of a reduction in the processing of the language mostly due to under usage.

Cognitive changes that affect memory may include changes in emotion, remembering, judgment, or organization of ideas. The deterioration of cognitive skills may lead to the onset of Alzheimer's or other dementia diseases that typically require segregation into a secured environment.

Architecturally, low-level cognitive changes in people are best controlled through the use of tactile markings of some surfaces, colour coding of important features or spaces in a building. More predominant cognitive changes that may lead towards dementia typically require more defined and controlled boundaries in which the elderly must reside.

Physically, all people do degenerate over time, with the range and extent different for each person. Changes in bodily functions such as breathing, continence, ingestion, or voice have emotional effects on each individual, most carry only minor architectural implications. On the other hand, physical changes such as anthropometrics, equilibrium, dexterity, manipulation, reach, strength, or mobility have far-reaching effects with respect to the environment surrounding older people. These are dealt with by providing correct architectural hardware on doors, in washrooms, in hallways, and within suites. They may include handles instead of knobs, grab bars, jar openers, or handrails in hallways to name a few.

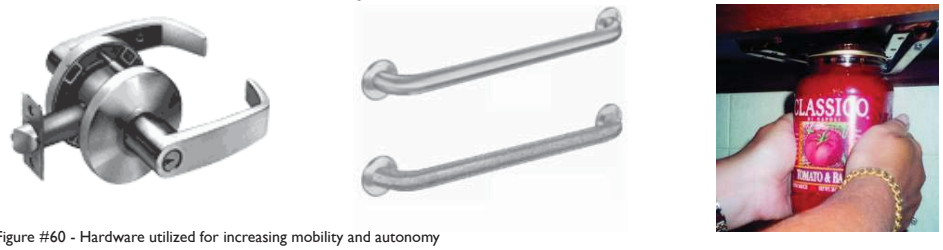


Figure #60 - Hardware utilized for increasing mobility and autonomy

As we age, our range of motion becomes more defined and limited which impacts how one can relate to their immediate surroundings with regards to bending down or up to reach something on a shelf or climbing stairs. Changes in a person's equilibrium typically dictate the need for additional handrails and lower surfaces to provide support and balance. Changes in one's dexterity or grip affects our ability to open jars or doors. The subtleness of the physical changes that occur are never linear in progression but rather variable in nature. This variation in physical limitations demonstrates the need to develop an environment that can accommodate these changes.

Physical changes to older people have considerable effects on their local environment. Inconsistency in an older person's equilibrium requires the need for level surfaces for walking, additional support locations, or the ability for the environment to be amenable to wheelchairs and scooter usage within a building. Physical modifications to a building required to augment the independence of older people could be as simple as modifying door hardware from knobs to handles or as dramatic as providing lift stations at water closets and bathtubs. For a more in-depth list of architectural solutions to a range of physical limitations, refer to Appendix One.

Design Philosophy For The Aging:

Physical and physiological changes to people affect how they are able to relate and manipulate their environment. The objective of developing an environment for older people is to create a setting that is supportive yet unobtrusive. An excellent concept in designing environments for older people comes from Diane Carstens in Site Planning and Design for the Elderly:

Figure #61 - Institutional HallwayReprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 57

"The overriding design concept (in designing for the elderly) must be to provide a 'prosthetic environment' that permits the optimal functioning of the individual by offering support when needed, but allows for independence, challenge, and learning."[51]

The primary design objective for this type of facility should be to increase the autonomy of each user in an inconspicuous manner, respect the user's rights to choose how they wish to be accommodated and be able to provide for their individual needs, abilities, and aspirations while assuring them the highest possible level of functional and physiological safety and security.

It should also include the development of a strategy to accommodate their physical needs in a non-institutional setting. As discussed earlier, older people will hesitate to move from their familiar residential environment to any form of institutional setting. To minimize the trauma of relocation, one must creatively develop an elderly friendly environment that is visually more residential rather than institutional in vocabulary. This element is key in resident satisfaction. This could be achieved with baseboard, millwork and door detailing among others.

While the needs of each resident is continually changing, the overall care structure provided will need to remain relatively constant. To support the complexity of needs while maintaining a residential atmosphere, it will be advantageous to develop multiple methods of accommodation for similar problems. One example would be the utilization of bright task lighting at crafts or games locations rather than general bright lighting. By selecting the appropriate fixture type, lighting locations and light levels these small change to lighting philosophy will greatly change the ambiance of a room to a residential feel from what would easily be an institutional atmosphere.

Figure #62 - Examples of task lighting for increased ease of reading for elderly residents

Figure #63 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 13

Figure #64 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 15

Figure #65 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 12

[51] Carstens, Diane Y., Site Planning and Design for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1985, page 15

Beyond creating a physical environment that responds to the multiple needs of the elderly residents, the ability to nurture a philosophy that address issues of respect, dignity, and participation are also required. This is in keeping with the two recognized publications: "The United Nations Principles for Older Persons" and "Principles of the National Framework on Aging" that were discussed earlier.

Residential Place within Institutional Framework

Housing by nature portrays a certain set of needs and values to its residents, two of which are the feelings of independence and autonomy. People throughout their life need to have housing that allows them to control their surroundings. The feeling that one's home is his or her castle is among the most primary feelings that make the difference between one's satisfaction and dissatisfaction with their housing. Because of the central role housing plays in our self-identity, housing satisfaction in turn is a central element in our overall feelings of satisfaction and well-being.[52]

A diminished feeling of independence and control naturally comes with the relocation to a facility providing greater assistance than what is currently being experienced, especially if this relocation of older people comes without their full cooperation or acceptance[53]. Relocation issues tend to gravitate to the perceived and sometimes actual loss of privacy, control, and ownership. As well, by placing an individual in an environment that is undemanding typically fosters frustration, boredom, and dependency and can be as negative in impact as environments that are too demanding.[54]

To mitigate the effects of relocation, a facility's goal should be to focus on how to make a resident feels he or she is in control of their environment and that there is a sense of ownership and privacy within their new suite. Residents who feel that they are in control of their lives showed higher levels of activity, were more satisfied with their lives, and had lower mortality rates.[55] The goal of any residence is to attempt to recreate or re-establish the sense of familiarity, rootedness, orientation, and belonging for each resident.

Creating an atmosphere where by older people are happier and remained more positively involved in their personal care allows staff to be focused more on those who truly require assistance. By refocusing the staff workload towards the most needed, it would provide the opportunity for staff and residents to spend more time in more pleasant social interactions. This change in quality of interaction time possibly could alleviate residents' negative attitudes about aging, typically expressed towards the staff. Also by instilling a sense of autonomy in residents, it also fosters a greater sense of self-esteem and self-assurance[56].

Another effect of a more friendly and pleasing living environment will be on the residents' family and friends. Through the development of an inviting atmosphere one would hypothesize that it would lead to the more visits by family and friends. This increased frequency of family visits would in turn have a positive effect on the self-esteem and motivation of each resident.

Sense of Home

Understanding the positive associations related with a residential environment, it is easy to see the importance of minimizing the impact of the institutional vocabulary and philosophies from past care centres and to focus on developing a residential environment that is more positively attuned to familiarity and comfort . As noted in the current health care reforms put forth by the Alberta Government, it is the goal of the health community

[52] ibid., page 43
[53] Blank, Thomas O., Older Persons and Their Housing, Today and Tomorrow, Springfield, Illinois, Charles C. Thomas Publisher, 1988, page 157
[54] ibid., page 76
[55] Blank, Thomas O., Older Persons and Their Housing, Today and Tomorrow, Springfield, Illinois, Charles C. Thomas Publisher, 1988, page 161
[56] ibid, page 162

to create an environment where "tomorrow's seniors (should) experience healthy aging while they age in place"[57]. Therefore, the goal of the proposed reform would encourage keeping people either in their homes or in a home-like environment as long as possible before requiring their relocation to what would eventually be an acute care facility.

The assertion that a "homelike" environment holds the most therapeutic potential for frail, semi-independent older people has been a conclusion drawn recently and historically by a number of leaders in the field of gerontology-environmental studies. There is certainly little question of the emotional and psychological benefits of residing in a place more closely identified with the concept of "home" than one of "hospital" or "institution"[58]. Therefore, the primary architectural vocabulary utilized in a new housing development for older people should be focused on being "homelike" in nature.

The concept of "home" can be interpreted as both single-family home or residence within a multi-family facility. By attempting to define the term "homelike", one begins to see two parallel thoughts concerning what constitutes "home" or "homelike". First is the physical nature of the environment around us and what tangible items assembled together create a comfortable environment that one associates with "home". Examples of this would include the type and quality of finishes, level of detailing, and scale of rooms. Examples of this would include such things as finding tile or carpet versus sheet linoleum as a floor finish or detailed baseboards and moldings versus rubber cove base, generally items typically found in residential design.

Second would be the embodiment of "home" found within the interaction of the resident with the physical environment. A residential typology would evoke a series of private, semi-private, and public rooms that most people can relate to. Within the public spaces, interior design and furniture placement would enhance an environment that would draw people together, encourage social activity and interaction, and in turn provide a sense of home for each resident[59].

Figure #66 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 14

Figure #67 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 21

Figure #68 - View of The Lodge at Valley Ridge - Front Entry

These interactions could be the general activities of daily living or social activities that psychologically define "home". Together, the physical and psychological identity of "home" also helps to define who we are within the context of the environment around us.

This symbolism of what "home" is could be described as our anchor from which we leave to "explore the world" and then return to its' safety. From this understanding of "safety and comfort" of what our home means to us and in defining who we are, we begin to understand the importance of "home" as a cornerstone to our "being".

[57] Bethany Care Society, "Healthy Seniors in a Healthy Alberta", Calgary, Alberta, January 2002, page 6
[58] Brummett, William J., The Essence of Home: Design Solutions for Assisted Living Housing, Van Nostrand Reinhold Company, New York, New York, 1997, page XIII
[59] ibid, page 164

The symbolism and identification of “home” can be best defined with three conceptual foundations: identification, orientation, and qualification. Within each concept a number of individual ideas emerge that speak to the essence of “home” in relation to the concept. These form the foundation of the social, organizational, and environmental norms that describe a setting as “home”[60].

The concept of identification both reflects on and projects who we are and from which we express our identity and individuality. Home provides the physiological basis from which one defines their parameters of good / bad, tolerance, understanding, and nurturing of the world around them and from that directly affects who we are and how others see us. Home also provides us with a location to store what is precious and meaningful which in turn defines who we are and what we stand for. As well, we also identify home as where we receive our love and support which effects our individual character. From the physical and physiological parameters of what we each define as “home”, we each are defined by these combined influences that affect who we are and how others see us.

The notion of home also acts as an orientation point from which we venture into the world of the unknown. Home is understood to be a place that defines stability, comfort, and territoriality for each person as it is traditionally seen as a place of refuge and comfort. From this base of stability, it provides each of us with the courage to venture forward and explore. Without a stable base from which to begin, it is difficult for people to nurture, grow and expand their horizons.

Home is a means of qualification about whom we are, it provides a place of shelter, it provides each of us with a choice in lifestyle and image, as well as typically provides a place from which one has reasonable control over their immediate environment. Privacy and territoriality are also important attributes of “home” as they provide a place for solitude and a realm of personalization. Home also provides opportunities for enlightenment, interaction, challenge, and stimulation.

Together, these conceptual foundations form the symbolic concept of “home” that subconsciously ground our place within the world. It is from these concepts that potential design generators can be found, which can direct the creation of a superior living environment for older persons in a health care assisted development, rich in character that speak to the essence of “home”.

Architecturally, identification, orientation, and qualification of “home” is different for everyone, from suburban to urban, from single family home to apartment. What ties this variety of residences together is the scale of the spaces, the materials and detailing in the finishes, and the sense of comfort and safety combined together that encompasses “home”. It is this attention to detail in all of the above that will be required to bring forward a sense of “home” recognized by all residents.

Attributes of “Home” in an Older Person’s Care Facility

Understanding that a sense of “home” is fundamental for the successful psychological acceptance of the residents to a care facility it is important to understand the effect that this philosophy will have on various attributes of the proposed development.

[60] ibid, page 36

A successful development must start at the street edge and carry through to the individual suites of each resident. Site considerations involving site location, connectivity to the surrounding neighbourhood fabric, and site presence within the neighbourhood are important.

Figure #69 - Entry to Valley Ridge Congregate Care Facility

Figure #70 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 12

Figure #71 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 15

Site Selection / Design Considerations

The relocation of an older person from his or her home can at times feel confusing, distraught, or unsettling because of their disconnection to their familiar neighbourhood surroundings. Therefore it is important to select sites that allow for close proximity to commercial and social places beyond the site which provide residents the ability to stay connected to a "neighbourhood fabric" and provide places to visit outside of their new home. Connecting to the surrounding neighbourhood also means close access to public transportation, as this is typically becomes their main mode of transportation over time.

As people age and mobility-limiting impairments set in, the need for social interaction outside of their home does not diminish with age. Therefore it is advantageous to provide some type of facility, either commercial or service oriented in nature, that acts as an amenity to both the residential facility and the surrounding neighbourhood. This proposed amenity would provide a place for stimulating resident / community interaction. By providing an amenity of this type it establishes the facility as a productive member of the neighbourhood while enhancing resident's opportunity to remain as meaningful members of the neighbourhood community.

Site / Building Entry

Site entry is important for both visitors and residents alike as it defines the building entry, creates a sense of arrival, typically creates public and semi-public space for both, and a sense of security and safety for residents. Building entry should always be protected from precipitation and convenient for vehicular pick-up and drop-offs. The utilization of a vestibule is important to keep cold air out of the main lobby and to protect people waiting inside from drafts.

Attributes of the building design's "home-like" quality starts at the entry of the site. Entryways introduce the development to the neighbourhood while orienting both visitors and residents in an appropriate manner. Building entry also provides socialization spots for residents with both visitors and community alike.

Figure #72 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 14

Figure #73 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 21

Figure #74 - View of The Lodge at Valley Ridge - Front Entry

Enhancing the entryway procession with places for sitting or informal interaction is also encouraged. It is also encouraged that any major outdoor activity spaces start and end at the main building entry. This will allow the building entry to function on multiple levels as not only an entry / exit location for residents and visitors but also as a start point for residents on their outdoor pursuits. It also assists in making the building entry a more concise control point for staff to oversee the resident activity near the entry.

Outdoor Amenities

Within the site, design elements such as walking paths and outdoor amenity areas provide additional locations to enjoy the outdoors while remaining close to the facility. Recreational choices for older people range from walking, shuffleboard, gardening, and swimming to people or bird watching. Also, the range of on-site or near site amenities should accommodate the wide variety of physical capabilities of the proposed residents.

Private outdoor space is also essential to provide residents with the kind of informal activities such as people watching or relaxing that may take place most comfortably in solitude.

Figure #75 - Reprinted from Diane Y. Carstens, *Site Planning and Design for the Elderly* (Van Nostrand Reinhold, 1985), pg 68

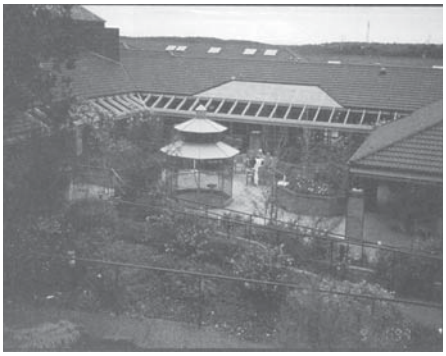


Figure #76 - Reprinted from Canadian Mortgage and Housing Corp., Housing Options for People With Dementia, , pg. 46

Figure #77 - Reprinted from Canadian Mortgage and Housing Corp., Housing Options for People With Dementia, , pg. 46

Figure #78 - Reprinted from Canadian Mortgage and Housing Corp., Housing Options for People With Dementia, , pg. 137

Parking

Parking is essential for some elderly to maintain their independence[61]. Parking on site for both staff and residents should be close, have a minimum of confusion, and easily accessible for residents while in turn being disguised, minimized, and decentralized if possible so as not to overpower the overall site development. Minimizing the size of parking pools and locating them closer to the sides or rear of the building assists in maintaining the “residential” feel of the facility and lessens the impact of large tracts of parking within what should be a residential neighbourhood.

[61] Carstens, Diane Y., Site Planning and Design for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1985, page 40

Parking lot design should emphasize clarity and predictability and be of a scale that keeps walking distances for residents short and their visibility high for security purposes. One must keep in mind with parking lot design that some residents will have visual and mobility impairments that reduce their driving skills including poor peripheral vision and problems with twisting their bodies and heads.

Materials

Part of the success attributed to developing a "home-like" ambiance is the appropriate style and scale of the building materials selected. Material selection, material quality and spatial character speak to the visual, referential, volumetric, and tactile characteristics of the spaces and are philosophically linked to more of a residential association.[62]

Both interior finishes, exterior finishes and detailing should reflect the tactile qualities of "home". Built-in furnishings or special elements such as exterior benches or gazebos, interior bookshelves, a china cabinet, or fireplace within a main space should be of a fine level of detail reminiscent of a residence. If a place is to be understood and accepted as a "home" at a daily or intimate level, it must carry the warmth, engagement, comfort, and beautiful qualities that bring forth the intended response.

Building Design Considerations / Attributes

A building main entry is an important aspect as it serves as both a control point and as a programmatic "front porch" to the facility. Typically the building entry area becomes a community space, orientation space, and building control point for both residents and visitors. Usually, building entries open into an entry foyer next to building administration and central public spaces for residents. These public areas will define the ambiance of the building and therefore require careful detailing to project the atmosphere of "home".

Figure #79 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 12

Figure #80 - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 15

Pathways versus Corridors

From the building entry, clear internal pathways to individual suites are required to maintain resident orientation. Typically this pathway is down a double-loaded corridor or series of corridors leading to one's suite door. The problem is that this style of corridor typically has an institutional connotation due to their lack of spatial quality, and are usually absent of differentiation and articulation.

[62] Brummett, William J., The Essence of Home: Design Solutions for Assisted Living Housing, Van Nostrand Reinhold Company, New York, New York, 1997, page 47

There are two approaches to mitigating the negative impact of a traditionally double-loaded corridor. The first approach is to possibly use a single loaded corridor providing views outdoors and opening up this space in conjunction with an informal meeting place along the way.

Where it is necessary to have a double loaded corridor, an alternate approach is to jog or offset the corridor to create a socialization space for residents. Corridors should be seen as an opportunity to provide interior and exterior views, locations for passive and active engagement between residents, and a renewed orientation to place, time of day and year, and happenings within the facility.

Corridors are also seen as pathways within a facility as they provide residents the opportunity to go for a walk indoors during inclement weather or during the winter.

Figure #81 - Views of hallway lounge at Valley Ridge

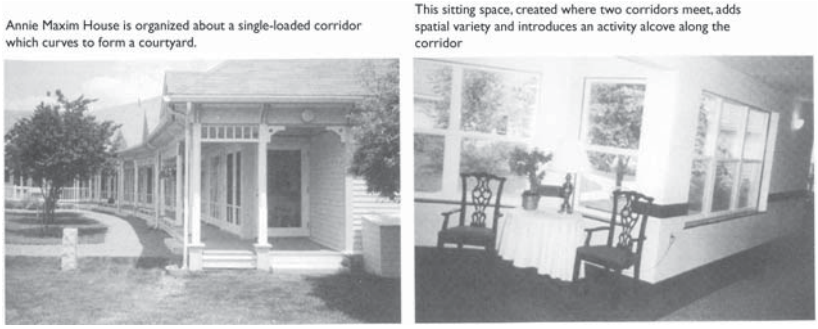


Figure #82 - Reprinted from William J. Brummett, *The Essense of Home* (Van Nostrand Reinhold, 1997), pg. 45

Suite Entry

Suite entries provide the opportunity for residents to personalize their "front door" while providing a semi-public transitional space between public corridor and private suite. While providing functional components at a suite entry, the ability to personalize a suite entrance with plants, photos, or other items individualizes suites, providing variety along the corridors for the residents. Personalization also speaks to the "homelike" architectural vocabulary where one would expect each residential entrance to be different along a street.

Alternate appropriate design strategies for a suite entry include offsetting the suite entry off the corridor in an adequately sized alcove that serves a number of strategies, both physical and psychological. Architecturally, the alcove can also be seen as an informal front porch to the hallway in which a resting place can be created that may allow a place for socializing with other residents as they pass by.

Suite Design

The power to have reasonable control over one's own domain is fundamental to the concept of "home". This includes control of inside-to-outside relationships, public to private participation in activities, and ability to control one' surroundings within their place of residence profoundly support this concept. Therefore, the design and adaptability of the suite to the resident's needs is paramount in achieving this concept of "home".

Figure #83 - View of typical suite - Laurier House Reprinted courtesy of James Dow

Typically in some facilities for older people, sleeping and living areas within a suite are combined or the distinction between them is blurred to the point of visually having one space for both activities. In most cases, these spaces are culturally incompatible and require physical separation. If situations where a distinction is not made the resident's bedroom becomes a semi-public social space and the resident's private space reverts back to their entire room. Conversely, the social space or living room incorporates the bedroom and the resident must socialize within the suite where the bed becomes part of the furniture ensemble. To truly create a differentiation

of public and private space within the suite, separation of these two primary spaces is typically sought.


Figure #84 - View of typical studio suite - Trinity Lodge

The ability to manipulate the level of separation and visual access between these spaces takes into account issues of preview and control to and from the sleeping area. While separation is desired, some form of visual connection between these two areas may be desirable for clarity and orientation. Ease of access between these two spaces are also required for those that are mobility challenged.

The amalgamation of these spaces typically occur in studio suites where the overall room changes function through the day; being a bedroom at night and entertainment / living space during the day. The aesthetical arrangement of the room in successful only when it is acceptable to the resident as not all people can accept the amalgamation of both the sleeping and social rooms within a suite.

Living Room


Figure #85 - View of typical studio suite - Valley Ridge

From the entry, the first impression of a suite is through the layout and finish of the living room space. It is also the space within the suite that must accommodate the most varied of activities from reading, entertaining, television watching, and hobby activities. Therefore flexibility in both design and space planning is essential for the positive creation of a living space. Material selection and detailing is also important in advancing the sense of "home" within the space.

Lighting within this space must also be able to accommodate the above range of activities from low-level light for television watching to high intensity light for reading and hobby work. Window placement is also important with respect to furniture placement and their relationship to the overall suite layout.

Kitchen / Dining

Kitchen and dining areas within a suite are spaces that transition in use over time as residents' age and kitchen space is utilized less for meal preparation and more for drink and snack preparation. Psychologically a dining and/or kitchen area is an important part of maintaining the identity of "home" and the cornerstone of such activities that speak to the behaviors, activities, aromas, and sounds of a typical home. A resident suite not equipped with some form of such space denies this fundamental aspect of "home".


Figure #86 - Kitchen Suite - Reprinted from Ronald B.Blitch, *Design for Aging* (AIA Press, 1997), pg 95

The ability to provide some form of kitchen or kitchenette speaks to resident choice, independence, and autonomy. While many residents may not wish to or be able to use some items found in a standard kitchen, they afford an important symbolic entity as well as a psychological value to the resident. The ability for a kitchen to change over time as resident's needs and abilities change is important so as to avoid residents from overtaxing their capabilities to perform standard food preparation tasks.

One example of a changeable kitchen that meets the resident's needs would include the removal of a stove to be replaced with a range top. Over time the range top to be replaced with an additional kitchen counter that holds a microwave or toaster oven that is accessible by wheelchair. Also, upper cupboards can be adjustable to accommodate residents as they transgress from being independent to requiring walking aids and wheelchairs. The utilization of the kitchen

space as one ages would range from full meals as an independent person to having the ability to make tea and light snacks in private while utilizing the services of a facility dining area. .

Washrooms / Bathing

As older people age, they find it increasingly difficult to get in and out of a standard bathtub and the probability of slipping greatly increases. As well, the normal boundaries of privacy and dignity are at risk when one must gain assistance in an activity as traditionally private as bathing and toileting.[63] However, before outside assistance is required, there are various means of providing assistance without involving a second individual. It is therefore important to provide a washroom with the flexibility to adapt and change as the assistance requirements of the resident increases with age.

This would include the ability for a wheelchair to properly access and maneuver within the washroom, a place for the mounting of grab bars, or the conversion of a vanity to becoming wheelchair accessible. The ability to have an emergency call system located within the suite at some time is also required.

Bathtubs and showers need to be able to accommodate older people as their mobility and strength decreases with age. This could mean the installation of side-entry tubs or low threshold showers with seating that can accommodate wheelchairs.

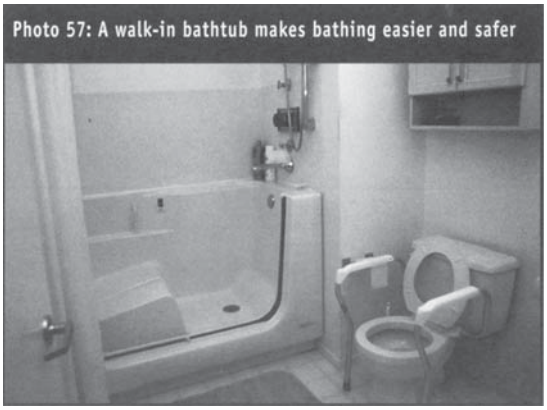


Figure #87 - Handicap Accessible Washroom - Reprinted from Canadian Mortgage and Housing Corp., Housing Options for People With Dementia, , pg. 60

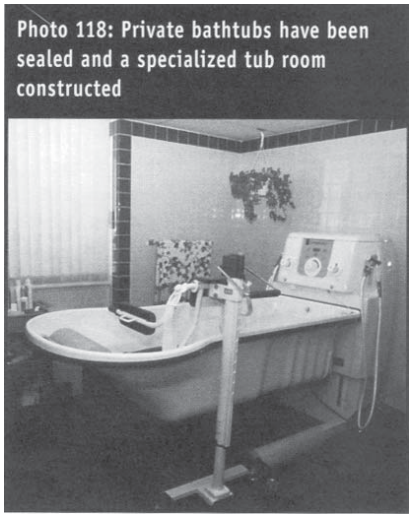


Figure #88 - Assistive Bathtub - Reprinted from Canadian Mortgage and Housing Corp., Housing Options for People With Dementia, , pg. 98

Storage

Storage areas are important for a variety of items ranging from linens to seasonal clothing in a well-organized and well-lit space and must be accommodated within the suites wherever possible. It is not recommended to have group storage or distant storage as it is difficult to access for people with cognitive or mobility disabilities. Storage in a washroom for toiletries, medicine, and towels is important and must be easily accessible when incorporated into the overall design.

[63] Brummett, William J., *The Essence of Home: Design Solutions For Assisted Living Housing*, New York, New York, Van Nostrand Reinhold Company Inc., 1997, page 86

Personally Adjustable HVAC Controls

The ability for a resident to control his or her suite by being able to lock the front door or be able to control the interior environmental control systems is critical in maintaining the sense of autonomy and independence while maintaining a reassurance of personal safety and security. Older people have less tolerance for temperature swings in ambient air temperature therefore it is important to be able to control their HVAC system to be comfortable. It is preferable for residents to have an individual temperature control within their suite to accommodate their narrower comfort level range. It also fosters the resident's own sense of control, dignity, privacy, and autonomy.

The ability to have operable windows not only furthers the perception of autonomy and relates to the sense of "home" but also provides the resident with the option of providing natural ventilation. By not relying solely on mechanical means for air control assists in not transferring airborne diseases from suite to suite through a mechanical system.

There are also opportunities for providing oxygen outlets within the suite to accommodate residents if they require it. Outlets would typically be found in both the bedroom and living areas.

Ease of Adaptability to Changing Needs

Ease of adaptability refers to the ability for the physical environment to be reasonably manipulated and changed to suit the changing physical and cognitive needs of its residents. The philosophy of "aging-in-place" describes an environment that is able to respond or adapt to the changes that may take place through aging and is supportive of its' residents needs over time. An inability to adapt over time, even at the myopic level, may force some residents, as their needs increase, to become more dependent on a caregiver or relocate to another more intensive facility.

An environment capable of changing and responding to the resident's varying needs supports the issues of permanence, consistency, and independence. Anticipation of the needs to enable small-scale suite adaptations will increase the length of stay and extend the user's independence. By providing opportunities and affordances for such changes to take place relatively easily, the experience of having to make a change in response to changing needs of the resident becomes less traumatic, more normalized, and may be initiated by the resident themselves.

Amenity Spaces / Places

Neighbourhood Amenity Spaces / Places

An important aspect of developing a home for older people is responding to the additional time that residents have to partake in various personal interests and leisure activities. These activities range from attending events and social gatherings outside of their home to socializing with acquaintances or participating in various activities within or near their residence. Therefore, it is important to recognize this social and leisure time by facilitating an array of places and spaces, both internal and external for the residents to utilize. It is also important to recognize that there are potential amenities found within the surrounding neighbourhood that will also play a role in the social lives of the residents.

The availability of neighbourhood amenities will have a considerable affect on the resident's social network and affirmation of remaining independent. By providing a destination for residents to visit outside of their home via walking or with a short transit ride allows opportunities for socializing with both residents and community

members. Therefore it is critical that when site selection is conducted that provision of outside amenities or service oriented establishments are in close proximity to the future residence for older people.

Due to the anticipated diversity of the residents, the broad range of services and amenities desired by this respective group would typically be found closer to or in an established neighbourhood or inner city area. Some examples of these potential areas in Calgary would include Britannia, 4th Street SW, Inglewood, or Kensington.

It is important to note that as people age, proximity of services becomes an increasingly important determinant of how far people will venture beyond their residence to access these facilities[64]. The availability of services as near as possible to the residence will have an implication on the satisfaction of the residents which in turn effects their overall feeling of independence and individuality.

It is important to recognize that climatic effects will also have a bearing on the frequency of use to these services as well as where the residents go to acquire these services. In a study conducted by Thomas Blank (1982)[65], he observed in people in general and elderly in particular, have an increased propensity to shop in locations where they could get all of their shopping and service needs attended to in rather than running from place to place. This observation correlates to the increased difficulty older people have with walking as they age. A popular place for many older people to congregate for shopping and services are at shopping malls or highly concentrated shopping districts. Therefore, any residence for older people is best suited as close as possible to neighbourhood amenities, or accessible enough through multiple means of transportation, so that they are accessible in all climatic conditions and reachable for older people with mobility impairments.

External Site Amenity Spaces

As people age, their sensitivity to changes in climatic conditions increase and it affects the ways in which these people experience the outdoors on a seasonal basis. Therefore, any spaces created for outdoor enjoyment must take into account how the seasonal variations will affect that space. The importance of outdoor space must not be underestimated though, as residents who spend a majority of their time indoors greatly appreciate any potential for outdoor enjoyment.

Of the various outdoor spaces that could be part of a residential development, there are four general areas; outdoor areas for social interaction, outdoor areas for enjoying nature, areas for health and exercise, and enjoying the outdoors from the inside[66].

Areas for social interaction include spaces to converse and also to be near the activities of others as “sitting and watching” is a very active form of participation for many elderly people, enabling them to feel part of the activity. Therefore, it is advisable to create social areas near activity nodes that allow residents the potential for meeting people engaged in various activities rather than only in sedentary gatherings.

Some examples of popular activity nodes include:

- Main building entry points amenable for people watching
- Next to both external and internal recreational areas or along walking paths
- Areas adjacent to food services or cafés

[64] Blank, Thomas O., Older Persons and Their Housing, Today and Tomorrow, Springfield, Illinois, Charles C. Thomas Publisher, 1988, page 93
[65] ibid, page 94
[66] Carstens, Diane Y., Site Planning and Design for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1985, page 83

Outdoor areas for enjoying nature are also closely related to resident's health and exercise. By providing opportunities for viewing and being a part of nature, it also provides the residents with a seasonal awareness and may aid in cognitive orientation to the passing of time. Spaces to enjoy nature may include vegetable and flower gardening, bird watching, or places to read in the shade of the outdoors.

Figure #89 - Outdoor Gazebo - Reprinted from Diane Y. Carstens, Site Planning and Design for the Elderly (Van Nostrand Reinhold Co., 1985), pg 111

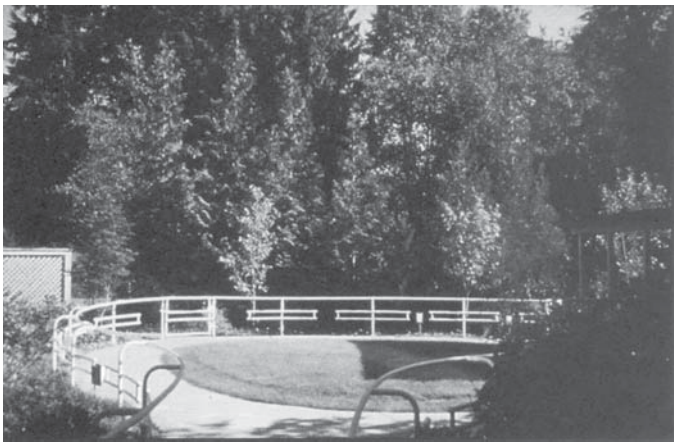


Figure #90 - Outdoor Structured Park - Reprinted from Canadian Mortgage and Housing Corp., Housing Options for People With Dementia, , pg. 113

Purposeful exterior spaces and rooms designed with a specific range of activities are also positive amenities that can be utilized on a seasonal basis. These spaces may include gardening in raised planter beds, a pavilion for outdoor crafts and hobbies, or a greenhouse. These areas will provide opportunities for residents to partake in familiar and therapeutic activities that continue to stimulate the mind and body.

The ability to incorporate gardening areas that can be seen from the indoors provide a window of entertainment during inclement weather. Also, locations for enjoying nature do not have to be concentrated at grade level but can be incorporated into plaza areas, balconies, or other outdoor areas through planter boxes, hanging plants or the incorporation of bird feeders.

While social and nature spaces are typically less intensive on site development, areas for health and exercise typically become the main reasons for older people using outdoor spaces. Here it is typical for these spaces to be able to offer a range of challenges while offering support to those whose health limits their range of activities[67]. Site size, site location, economic class of residents, physical restrictions of residents, and climate affect ranges of activities that can be accommodated.

Site location will have an effect on the physical accommodations available to residents. Sites located in inner-city areas will more likely have the capability to be close to neighbourhood amenities such as swimming pools, leisure centres, or other recreational amenities for the more physically active.

Detailing areas for health and wellness activities that respond to the residents' diverse needs are important as designing for general design issues regarding spatial quality and relationships, challenge and support, and the provision of site specific recreational facilities. A typical means of providing exercise for all agility groups include walking paths near or around the facility of varying lengths that also incorporate access to social or nature areas. These pathways also tend to lead past various indoor spaces that again bring the connection of indoors/outdoors together as one.

[67] Carstens, Diane Y., Site Planning and Design for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1985, page 86

The ability to view nature and outdoor activities from indoor spaces is a popular activity as well as therapeutic, especially for those with mobility limitations and during the winter months. Consequently, public, semi-public, and private indoor spaces should all be enhanced to provide views and visual connections to the outdoors where possible.

It is also recommended to open up windows and walls to the outdoors making them more multi-functional during the summer season. This provides the opportunity for the more frail to feel as if they are part of the outdoor environment as well when physical barriers such as walls are removed when weather permits.

Solar Orientation

Most outdoor activities will benefit from direct or indirect sunlight during the day while providing shade near these activities for residents as they desire. Therefore, building orientation should maximize the number of different private and semi-public spaces that can receive sunlight. Careful building orientation can also extend the seasonal outdoor spaces by maximizing solar exposure and reducing wind exposure.

Orientation of the indoor space should also be reviewed so as to understand climatic impacts on what is typically a glazed space. Solar gain in winter is enjoyable while in summer can be uncomfortable. This can be mitigated with operable windows or sliding doors. Detailing to reduce glare from winter sun should also be addressed as older people are much more sensitive to glare.

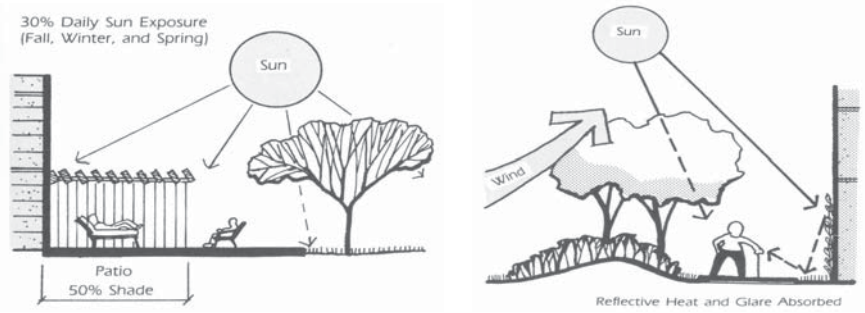


Figure #91 - Solar Design Review - Reprinted from Diane Y. Carstens, *Site Planning and Design for the Elderly* (Van Nostrand Reinhold, 1985), pg 95

Environmental Site Design Factors

One aspect of designing for outdoor use involves the way that the environment is perceived or comprehended. It must be understood how age-related changes in the sensory system and cognitive functions affect the way older people perceive and negotiate the environment. These changes require particular responses to spatial organization and general design to facilitate orientation and wayfinding, the predictability of space, socializing and claiming space, and environmental comprehension[68].

Orientation and Wayfinding

Failing memory and difficulty forming new mental concepts make it more difficult for older people to orient themselves or find their way in less familiar environments or where multiple directional options or distractions are present. Therefore, in site planning it is essential to develop patterns and wayfinding mechanisms that are easily understood and identifiable for the user. This may be created through spatial organization, unique features along a path to provide destination markers, hierarchical space planning, or through easily read signage and direction markers.

[68] Carstens, Diane Y., Site Planning and Design for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1985, page 19

Predictability of Space

The design of outdoor spaces should suggest definite types of uses as well as indicate what group size the space is intended for. Unplanned spaces for general use are frequently underutilized due to their ambiguity and lack of ownership for any part of the space.

Within the series of outdoor spaces there should be a range of groups that can utilize the spaces from singles and couples to small or large groups. Outdoor spaces should be clearly defined and of an adequate size to accommodate the proposed group size for the space. It is important to create spaces that can be seen as one's own or as one group's own for the duration of their stay. Although the spaces are of an intimate size, they should also be visually and physically connected to other nearby activities or spaces. Also, the scale of most spaces must be of a more intimate, smaller scale that develops a sense of closeness promoting social interaction.

Spatial Preferences

Besides having clear and unambiguous social spaces, smaller socializing spaces are generally more appropriate since this activity is typically done in smaller groups of 2 – 6 people. Smaller social spaces are also psychologically more comfortable as they can be more easily negotiated and more easily claimed by the user(s). As older people have cognitive difficulties including hearing diminishment, smaller groups provide the ability to converse easier with acquaintances. Therefore, a series of smaller, intimate spaces that can connect to a larger space are much more amenable to residents than larger ambiguous spaces.

Environmental Comprehension

Sensorially loading the environment is one approach to compensating for age-related sensory losses. A sensorially loaded environment is one that provides tactual, visual, and auditory stimulation to reach those with one or more sensory impairments. Of these, tactile stimulation is the most important as visual and auditory senses are the first to diminish.

By sensorially loading the environment, it facilitates a more comprehensive understanding of the environment, increases the ease of use and encourages participation in a wider range of outdoor activities. If older people cannot understand the environment, they are more prone to hesitation and eventual restriction of activities which may artificially inhibit them from enjoying the outdoor spaces.

Safety and Ease of Use

Outdoor spaces should promote both real and perceived security while allowing for ease of access between outdoor and indoor environments. Outdoor spaces should be allow for visual surveillance from both staff and residents of the facility at all times as well as offer physical protection from the outside neighbourhood. Also, an easily understood transition from semi-public to neighbourhood spaces is also required for residents with visual impairments.

Ease of access to these outdoor spaces is also essential for those that are less mobile, who may be unsure of their ability to participate in activities, or are unsure of their ability to negotiate environments demanding more physical or psychological effort.

As many older people require time to evaluate and prepare for environmental changes, transitions areas should be made available for sitting or resting that do not impede pedestrian progress. These areas should also afford a view of the upcoming activity ahead and to provide additional time for people to adjust to the upcoming environmental changes.

Comfort and negotiability of the outdoors are major concerns for many older people. Some aids are easily understandable such as handrails and wheelchair ramps while others are more subtle such as lighting level adjustments, reduction of glare, or hazardous ground plane textures. Therefore when designing for older people, all of the cognitive responses to the environment must be addressed.

Internal Amenities / Services

Beyond what is available around and in proximity to the site, services provided within the proposed facility will be utilized most heavily. As the level of mobility drops with residents, these internal amenities will be more heavily utilized. While it is not possible to completely respond to all residents' social and contingent needs, it is prudent to be able to respond to the most basic of these, especially during the winter months.

Within a given facility, there are two types of internal amenities that require review: availability of medical services and of personal services.

Medical services within a health related centre for older people may include:

- Normalized and positive bathing experience
- Distinct location and semi-discreet access for medical consultation
- Administrative control of medications to residents when required
- Communication systems within all rooms for medical assistance

Normalized and Positive Bathing Experiences

As older people age, they find it increasingly difficult to get in and out of a standard bathtub and the probability of slipping greatly increases. As well, the normal boundaries of privacy and dignity are at risk when one must gain assistance in an activity as traditionally private as bathing. However, before outside assistance is required, there are various means of providing assistance without involving a second individual.

Within the washrooms of each residence, the ability to incorporate the installation of grab bars when required is a prerequisite. A second device is the use of a side entry tub being installed in place of the typical tub. These tubs allow the user to enter the tub easily from the side without having to be lifted by staff or awkward machines. Simple devises such as these will prolong the need for secondary assistance for most people for many years.

By providing a bathroom or separate bathing room design that maximizes the potential of the resident to bathe relatively independently, or at least take a primary role in the activity, it embraces the privacy and dignity issues. Creating a homelike character within the room and maximizing opportunities for positive experience during bathing could temper this unusual and potentially undignified and traumatic experience.

Distinct Location And Semi-Discreet Access To Medical Consultation

An important part of the overall proposed facility must include the ability for residents to consult with their doctor or one of the facility doctors. It is typical for facilities such as assisted living and long-term care to have some system in place that provides for weekly, monthly, or yearly physician visits for all residents that occur within the facility.

For the resident to feel most comfortable, this process should be completed away from major entry points into the facility or primary social spaces. This separation provides the privacy residents require to discuss a medical matter with their physician. The location of these consultation rooms must be easily accessible for all residents but separated so that residents can access them without being distinctly noticed.

Typically, consultation spaces consist of a small waiting room and front desk with a small number of consultation rooms for doctors to visit and consult with residents.

Administrative Control of Medications

While some residents are completely capable of administering and monitoring their own medication, other residents, especially as they age rely on the assistance of the staff to properly administer correct dosages at proper times. The ability for some residents to read the prescription bottles becomes more difficult and timing of the medications is sometimes lost as the older people are more susceptible to losing track of time.

This service is not only necessary to maintain the health of the residents but also provides them with piece of mind knowing that they are taking their medications correctly. It also allows the medical staff to monitor prescriptions and the required refills.

Communication Systems Within Rooms

There are three communication devices that older people rely upon within their suite; alarm system, call system, and the telephone system. With the alarm system special attention must be given to the design of any alarm system intended to warn older people of emergencies. The key is to both communicate the appropriate information about the emergency and stimulate an appropriate response. Because many older people have both hearing and visual impairments the need for redundant cueing is essential in any alarm system. As well, one must be cognizant of the fact that in some emergencies an evacuating resident may risk greater injury than by staying in a place of refuge and await assistance.

Call systems are provided in each unit in multiple locations so that if a resident becomes sick or rendered helpless, the system will alert staff and bring assistance. Typically call system buttons are found in the rooms where most accidents occur; bedroom, bathroom, and kitchen.

Call systems consist of push buttons within these rooms that are easily accessible for residents if assistance is required or newer technologies allow for the resident to wear a transmitter pin that can send a help signal to a central location.

Telephone System

A telephone system of all styles and types remains the major medium of communication for older people. Easily accessible telephone locations within each suite are mandatory and easily visible public phones are required for both public and residents. Telephone systems adaptable to older people with hearing impaired devices and large readable numbers and text are also required.

Another system that is becoming more standard is that of a computer station within the suite as well as a focal point within the amenity areas. As the current seniors become more familiar with the technology, they are utilizing it more for both correspondence with family and friends, entertainment, social, and financial uses.

Personal Services / Amenities

Beyond the suite, the residents should have the ability to experience multiple opportunities for socializing either one on one, in small groups, or in larger groups. Being socially active is important from both a physiological and a sociological standpoint. Studies have shown that older people who live in an environment that promotes an increase in their social activity level also are able to combat depression, which leads to higher levels of life satisfaction.[69]

Personal services and amenities are seen as spaces that provide activities, entertainment, or social or personal benefit to each user while providing physical and/or mental stimulation that assists in combating physical and mental fatigue. While some services are best accommodated directly in the building, some can be within close proximity to allow residents to mix with the community while enjoying these amenities as well.

Communal Kitchen

A central communal kitchen allows older people the ability to continue to cook while being overseen by facility staff or family members. Spaces such as this allow residents the ability to continue to bake or cook at their leisure while ensuring their safety by staff. Communal kitchens or 'family kitchens' also provide the opportunity for residents and their family to gather during festive occasions and cook a family meal such as Thanksgiving supper. This room allows residents the opportunity to assist in cooking for their family with the assistance of family members.

Games / Crafts / Arts Room(s)

As discussed during an interview at Laurier House in Edmonton, a major focus of the staff is to provide the opportunity for all residents to keep busy and active. With that, the games room or crafts area becomes a focal point of activity in the daily lives of the residents. These rooms can vary from a central multi-purpose room that serves both needs or distinct rooms for specific functions.

In Valley Ridge and Trinity Lodge the buildings includes separate billiards room, games room, arts room complete with kiln for clay and pottery work, and a separate internet / computer room. These various rooms have been designed to accommodate a more focused range of activities, which in turn allowed for wider accessibility to all residents.

Other spaces that serve multiple purposes for residents include the maintenance room that also acts as a woodworking shop or the chapel space that serves as the music hall for the remainder of the week. Other spaces of interest that could also be incorporated into the overall development could include a greenhouse, sewing / quilting room, or choir / theatrical space.

Social Spaces

Providing spaces that support the ability for people to gather in discussion is important, especially to those less mobile. These may consist of larger and smaller spaces including a lounge / pub where residents can stop for a drink at night that may include large screen televisions. It may also include various lounges scattered throughout the building for small groups to gather to have tea or talk.

[69] Regnier, Victor, *Housing the Aged*, New York, New York, Elsevier Science Publishing Co., 1987, page 6

Laundry

Consider laundering as a multi-sensory experience refers to the sensory stimulation and cues that the task of laundering provides. The opportunity for residents to do their own laundering supports their independence while the task of doing laundry is a familiar household chore full of scents and sounds that provide sensory cues reinforcing the nature of the place as home. The laundry facilities must accommodate the washing and drying of clothes as well as ironing and folding areas.

The laundry room quickly becomes a place of casual activity and an informal meeting place along a circulation route. Activities such as laundering provide additional avenues for socializing with other residents in an unstructured space.

Potential External Amenities

There are a series of amenities that older people wish to have but do not necessarily need to be found within their residential complex. It is proposed that these amenities could be found within easy walking distance and accessible to the entire community.

From an esthetics standpoint, some of these may include a hair salon, barber shop or manicurist. As the quantity of residents within a development and the required frequency of visits to these services may not necessitate these facilities being located in house, access to these services are still required. Therefore, placement of services within the community in the vicinity of the residence is most desirable for both residents and service owner. Other services that are utilized on a monthly or periodic basis may include a bank, a hearing aid clinic, or medical supply/rental center nearby may also be appreciated.

As all generations are being promoted to seeing the benefits of staying healthy, the ability to access various forms of exercise rooms, swimming pools, or some form of fitness centre nearby is also desirable. While it still may be necessary to provide some forms of equipment and spaces in which to use it, it may be financially prudent to have a community recreational facility in close proximity to the proposed residence to offset costs for large-scale items such as swimming pools and hot tubs.

Other amenities desired by older people and located within an easy walk of the proposed facility could include a theatre, library, chapel, or convenience store. While it is not uncommon to have these services within a facility, the ability to have these services as community based allows the proposed residents to stay connected with the local community outside their residence.

Accessing Amenities Through Alternate Transportation Methods

Public transportation becomes the premise upon which personal independence is measured as people age and cannot continue to independently drive their vehicles. Reliable, accessible, regular, barrier free, and affordable public transit is critical to maintaining a person's independence as it allows them the ability to continue on with their lives at a pace and schedule suitable to each person.[70]

[70] Wireman, Peggy / Antionette G. Sebastian, Environmental Considerations for Housing Sites for the Elderly, New York, New York, Van Nostrand Reinhold Company Inc., 1986, page 172 – 173.

Mobility is critical to the physical, social, and psychological well being of all people. Transportation facilitates social contacts and independent living by allowing the older people to do their own shopping, make trips to doctor's offices or community service agencies, and cultural and recreational facilities.

Proposed locations of elderly housing should take into consideration the available transit stop locations within proximity of the site and whether they are located along major or minor bus routes. It is preferable for elderly to be able to board a bus on a major route, as it typically will not require the rider to transfer to another bus line. The need to minimize transfers is recommended as the elderly find it difficult to board and depart buses due to their limited mobility.

The act of waiting for transit also must be taken into consideration when planning for older people. As transit riders during non-peak hours are predominantly elderly, providing comfortable conditions in which to wait are appreciated. This would constitute being screened from prevailing winds and covered from precipitation.

At some residences, chauffeured vehicles are available for residences for a nominal fee or on a scheduled basis. While these remedy the problem of waiting for public transit, they provide only a marginal service improvement while limiting the independence of the resident. The preferred situation is to have a facility located along a major transit route that is serviced regularly and will transport the residents to the downtown area where most services and amenities can be sought.

Conclusion:

"Home" is what we are really designing, only with a more focused clientele that has a greater range of assistance requirements. We need to focus on the attributes of home - identification, orientation, and qualification.

As noted earlier home "identification" defines who we are. In conjunction with this, architecturally we would see residents being able to customize their room through colours, wall decor, and furniture. This would also evolve to suite customization of rooms such as the kitchen where it can be restructured and modified to suit the resident's capabilities, even as the resident changes over time. As well, the bathroom can also be modified to add grab bars as required, or change the side accessed tub to a wheel-in shower.

Home "orientation" provide a safe haven from which residents venture forth to explore and define who they are with respect to their surrounding environment. Architecturally, residents require a clear orientation of where their "home" is and how they navigate from it to other locales within and outside of the facility. Ease of understanding with respect to wayfinding diminishes anxiety and apprehension while allowing residents a greater willingness to venture out which in turn minimizes isolation.

Home "qualification" is defined architecturally as defining one's "territory". The ability to easily distinguish between private, semi-public, and public spaces in both a resident's suite as well as throughout the facility responds to our basic needs of "required space". Defined territory allows resident to do things in solitude, in small groups, or with as many people as they desire which is critically important to keep people from isolating themselves in their suites. As noted previously, older style institutional facilities had only "common" spaces beyond their sleeping space in which to socialize. That in turn diminished a resident's sense of individuality and made them feel more like a "number" in a herd of people.

As home in its' basic sense defines who we are, "sense of home" and "design for aging" are compliments to "home" through the massing and scale, the detailing within the spaces, and how each space interrelates with the adjoining spaces. The goal to create a collection of spaces appropriately scaled and detailed that provides a comfortable residential feel.

“Design for aging” supplements the “sense of home” detailing by providing supportive elements that inconspicuously assist those that require assistance for either visual, physical, or cognitive impairments. This could be through the use of handrails on walls, larger text on signage, or assisted door openers or handles on doors rather than knobs..

Now that we have defined what “home” is and the physiological and psychological importance of it to each of us, we can now layer onto that the architectural elements related to what creates a “sense of home”. From there we supplement the “sense of home” with the assistive elements found with “design for aging”.

With the “home” now in place, the location of the proposed facility has a major impact on the well-being of the residents. As noted earlier, the ability to minimize age related isolation by providing social and leisure opportunities in and around a proposed facility is the foremost aspiration.

The ability to provide services and amenities within and around the facility create the opportunity to integrate rather than segregate the facility and thus the residents with the surrounding neighbourhood. Socializing with others in conjunction with the surrounding amenities maintains a reason for being for many seniors.

By providing a place of interest, interaction, and socialization between the facility and community it should also provide a more comfortable place for families to visit the residents. Outdoor amenities such as parks and playgrounds provide places for children to play while parents visit grandparents, possibly at the local neighbourhood coffee shop adjoined to the facility.

To be successful, amenities need to be incorporated both internally and externally on site as well as within the adjacent neighbourhood. This allows for use of different spaces through all four seasons which is also important to the residents especially during the long, cold winter.

The importance of amenities go beyond just providing somewhere for residents to visit from time to time but have the ability to exponentially expand on the overall “livability” of the residence. Why do we continually place seniors facilities in isolated suburban or inner urban areas when the people still have the time and desire to remain socially connected?

SECTION TWO - DESIGN LEVEL D9B

CHAPTER FIVE:

PROPOSED FACILITY DEVELOPMENT

Project Definition

This proposed facility will have the capability to accommodate a full range of seniors care from independent to those with long-term care requirements. This facility will be able to accommodate this range of assistance through creative and flexible suite design, allowing residents to stay within their suite as their care needs change or are required to relocate to a separate dementia facility. A benefit of consolidating the various levels of care into one facility is the reduction of infrastructure costs which maximize health care dollars on care.[71]

The residence will be designed based on the concept of "home" that integrates aspects and concepts of the "sense of home" while further refining the design to incorporate items discussed in "design for aging". The facility will be designed fit comfortably within its' contextual surroundings.

The residence will be located in a central urban location that will provide an opportunity to have neighbourhood amenities nearby for the residents to utilize. The facility will be designed to include jointly used amenity spaces that will precipitate the coming together of both community and residents and provide the ability for residents to stay connected with the surrounding neighbourhood.

Described herein are the definitions and requirements for each care level, staffing requirements for each level, and unit styles typically found currently at each level. These care level requirements combined with the proposed site and building amenities put in place the framework for the architectural programming of the proposed facility.

Current Population

In the inner city communities of Calgary as noted in Appendix Two, there is an average of 32% of the residents aged 45 or older with approximately 45% of the seniors in these areas living alone. In conjunction with the "baby-boomer" population that is aging and in time will only skew these statistics upward, one can see the need for a well placed facility to accommodate the near-future needs of these residents.

Definition of Care Levels

A definition of each care level and its' required respective building support spaces is required to better understand each level and to form the foundation upon which the site and building programming will be based. We know that through the transition of care, each level change occurs in only small increments. Therefore within the care level analysis, we will also study the typical capabilities and symptoms of residents at each level. A summary of the care level analysis found in Appendix Three will be dealt with here.

Independent Living

As seniors age and decide that residential upkeep is becoming too time consuming and / or too burdensome, relocation to a residence where upkeep is completed for them typically occurs. For most people, the time that this occurs is between 65 – 85 years old and usually occurs earlier for single women than any other group.

[71] Policy Advisory Committee, Healthy Aging - New Direction of Care, Edmonton, Alberta: Government of Alberta, November 1999, Pages 16 - 19

Physically most people are agile and mobile and continue to lead full, enriching lives with only unencumbering minor ailments. Typically, people are semi-retired or retired and possibly traveling for a portion of the year while socially active when at home.

From this group, approximately 70 – 80% of these people will transition to a higher care level at some time in their lives, with the transition evenly split between congregate care and assisted living. The demographic makeup of this type of facility would be as follows: 5% single men, 30 – 40% couples, and 55 – 65% single women.

Typical accommodations for this group consist of approximately 60% one-bedroom / one-bedroom plus den and 40% two-bedroom / two-bedroom plus den with approximately 50% of each unit type incorporating a separate den / study / office area.

Congregate Living

Congregate care is defined as residents requiring minimal assistance through the day, typically ranging from ½ to 2 ½ hours of assistance each per day. Assistance would range from assistance with fastening buttons on clothing due to arthritis, getting in / out of a bathtub, medication overview and/or dispensing, or other forms of minor regular assistance.

Most residents typically range from late 70's to early 90's. They are socially active with minor mobility impairments. It is not uncommon to find residents utilizing canes, walkers, or scooters. Physically, a range of diminishments including hearing, dexterity, strength, or visual acuity that are common in most residents. Psychologically, residents are less able to cope with surrounding environmental changes and are more likely to remain close to their residence. This also means that they are also less likely to be leaving for extended periods of time and enjoy more social activities in and around the residence.

Most people do not drive and depend on alternate forms of transportation such as local transit or what is provided by the residence. A greater importance is placed upon amenities closer to the residence that are easy to get to within a reasonable distance based upon their level of mobility.

Transitions from this care level would range around 30%, with approximately 70% of those moving to an assisted living facility and 30% moving to a dementia care facility. The demographic makeup of a proposed facility such as this would be very similar to the independent living facility; 5% single men, 20 – 30% couples, and 65 – 75% single women.

Assisted Living

Residents residing in an assisted living facility would typically range from late 70's to early 90's with an average age being approximately 83 years old.

A majority of residents would have some form of physical or cognitive impairments requiring greater daily assistance. The range of assistance for these residents would include food preparation, incontinence, mobility, or sensory modalities. Assistance by caregivers would range from 3 – 4 ½ hours per resident depending on ailments.

Sensory functions are typically deteriorating with strength, visual acuity, and hearing being most noticeable. Changes in sensory functions from congregate care residents to assisted living residents are noticeable in some residents but are minor in nature. Psychological changes are again noticeable but minimal and typically involve reduced capacity to react to a changes in the surrounding environment. Stability within their

surroundings is highly regarded and changes or modifications, unless occurring in a slow, steady manner are not appreciated.

Transportation needs are typically answered by either public transit where residents utilize standard bus routes, through the use of the handicap transit buses, or through the use of transportation provided by the residence.

Socially most residents attempt to remain as active as possible, mostly within the residence but where possible in the surrounding community as well. The ease of mobility has a high relationship as to the level of social activity outside of the residence. Therefore, a majority of people residing at this care level depend upon social activities within the residence to keep active.

Transitions from this care level are small as most residents pass on at this level. Of the 20% that transition out, 70% leave for long-term care facilities while the remaining 30% would move to a dementia care facility. Typical stays at this level of care based on the age of the incoming residents are approximately 3 – 4 years. The demographic breakdown of this type of facility would be approximately 5% men, 10 – 15% couples, and 80 – 85% single women.

Long Term Care

Residents typically range in age from early 80's to early 90's with a larger number of centurions not uncommon. An average age of resident in a typical facility is approximately 87 years.

Residents would reside in this care level when they require daily assistance with a number of cognitive or sensory restrictions or deteriorations. When combined, the level of overall deterioration would require approximately 4 ½ to 6 hours of care per day per resident. Physical deterioration typically includes a combination of physical (strength), hearing, dexterity, balance, and cognitive functions.

Transportation outside of the residence is typically handled by handicap buses or special vehicles utilized by the residence that can accommodate wheelchairs and scooter's or possibly with a caregiver or family member.

Socially, most residents rely upon activities that occur within the residence to remain active mentally and physically and do not typically leave the residence for extended lengths of time.

Transitioning from this care level is minor with only 10% of the residents leaving for a dementia care facility. The average length of stay for most residents is typically 3 – 4 years. The demographics of this care level are predominantly single women (+/- 90 – 95%) with few single men (5 – 10%) and no mentionable couples. Typically, one member of a couple would reside here while the remaining member could reside at a lower care level.

Facility Transitioning and Response

With the facility being planned as an aging-in-place establishment, the ability to respond to the transitioning of residents from one care level to the next is required. A summary of the above transition rates noted previously would be as follows:

Care Level:	Yearly Transition Rate:	Transition To:
Independent Living	+/- 20%	10% Congregate 10% Assisted Living
Congregate Care	+/- 30%	70% Assisted Living 30% Dementia
Assisted Living	+/- 30%	70% Long Term Care 30% Dementia
Long Term Care	+/- 10%	Dementia Care

With over 7000 seniors currently living alone in the inner city of Calgary, and approximately 1400 seniors living alone with the communities immediately adjacent to Inglewood, it would be considered prudent that a conservative target of 7 - 10% be considered as potential residents.[72] Based on the other facilities in the vicinity in Hillhurst and Bridgeland, this rate would seem adequate.

As noted in Appendix Four (Unit Matrix Chart), with the transition rates utilized from above, we see that of over time the unit quantities required for each care segment would crest early in the third to fourth year. Based on the transition rates, the following unit ratios would be required for each level.

Care Level	Unit Quantity
Independent Living	52%
Congregate Care	13%
Assisted Living	20%
Long Term Living	15%
Total Units Required:	100%

Unit Styles

As the progression through the various care levels occurs, it is typical to have unit sizes decrease in size. This is a direct relationship between activities focused outside the living unit in the common spaces and less utilitarian space within each unit.

Starting with independent living, units typically range from studio units up to two bedroom units. Studio units range from 400 sq. ft. to 550 sq. ft. One-bedroom suites range from +/- 650 to +/-800 sq. ft. while two bedroom suites range from +/- 850 to 1100 sq. ft. Typically studio units are 5% of the unit mix, one bedrooms are 55% of the unit mix while two bedrooms make up approximately 40 % of the unit mix.

At the congregate care level, units typically range from studio suites up to two bedroom suites. Studio suites are approximately +/- 450 – 550 sq. ft., one-bedroom units are approximately +/- 600 – 750 sq. ft. and two bedroom units are approximately +/- 800 – 1000 sq. ft. Unit mixes at this level range from 15 – 20% studio suites, 45 – 55 % one-bedroom units, and 25 – 40% two bedroom units.

[72] Community Social Statistics, City of Calgary Community Services – Policy & Planning Division, 2004

In assisted living care, suites range from studio units up to 2 bedroom units that are slightly smaller in nature than congregate care. Studio units range from +/- 400 – 500 sq. ft., one-bedroom units are +/- 600 – 700 sq. ft., and two-bedroom units are approximately +/- 800 – 950 sq. ft. Unit mixes are typically 15 – 20% studio units, 65 – 70% one-bedroom units, and 10 – 15% two-bedroom units.

As care levels intensify in a long-term care facility, unit sizes respectively reduce in size as well. As noted earlier, a majority of potential residents do not require a full complimented suite as food preparation is completed elsewhere in the facility. Therefore, typical unit mix consists of studio units and one-bedroom units with sizes from 440 sq. ft. for studio units up to 600 sq. ft. for one-bedroom units. The unit mix is typically found to be 35% studio units and 65% one-bedroom units.

Building Programming

Based on the information provided above, a further breakdown of the suite types and sizes for each care level is proposed below.

Independent Living –	52% total units	
One Bedroom	30 %	± 650 – 750 sq. ft.
One Bedroom + Den	30 %	± 750 – 850 sq. ft.
Two Bedroom	20 %	± 900 – 1050 sq. ft.
Two Bedroom + Den	20 %	±1100 – 1400 sq. ft.
Congregate Care –	13% units total	
Studio Suite	24%	± 450 – 550 sq. ft.
One Bedroom / One-bed + Den	48%	± 600 – 750 sq. ft.
Two Bedroom / Two-bed + Den	28%	± 800 – 1000 sq. ft.
Assisted Living –	20% units total	
Studio Suite	20%	± 400 – 500 sq. ft.
One Bedroom / One-bed + Den	60%	± 600 – 700 sq. ft.
Two Bedroom / Two-bed + Den	20%	± 800 – 950 sq. ft.
Long Term Care –	15% units total	
Studio Suite	34%	± 400 – 500 sq. ft.
One Bedroom / One-bed + Den	66%	± 550 – 650 sq. ft.

Facility Staffing

As residents progress through the various stages of an aging-in-place facility, medical staffing requirements increase in relation care level required. Beyond the required medical staffing for each level of care, there are also various administrative and building services staff not directly related to specific care levels. The required quantity of non-medical staff areas will be in correlation to the size of the facility. As the overall quantity of these staff will be handled during the future programming of the overall facility, there is no need to directly define this non-medical staff quantity at this time.

It is understandable that for the independent living level no medically related staffing is directly required. Any medical care that may be periodically required can be handled with the staffing requirements of subsequent care levels.

Congregate care and assisted living care have similar staffing ratios. Typically during a day shift, the staffing ratio is approximately six residents to one staff member (6:1) while evening is approximately 11:1. The night shift staffing requirement is typically 20:1.

Long term care, which has greater staffing demands consequently, has a higher staff ratio. For most long-term care facilities the average day staff ratio is around 4:1 while evening drops to 8:1 and night shift typically averages 20:1.

The medical staffing requirements for all levels averaged against the ratio of resident types equate to an average total staffing load ratio of approximately 8 to 1. Staff for all other aspects of the building operations, maintenance, food preparation, and cleaning would be calculated as part of the overall building programming and preliminary design development to be completed in the next phase.

Building Support Spaces

Varying levels of care brings with it the need for a varied requirement of support and service spaces for each care level. After a review of the support and service requirements for each care level, a summary of spaces will be provided for the purposes of building programming.

Independent Living

Support spaces for this level are minimal and typically would consist of those found in a typical multi-family building. These spaces may include garbage room, maintenance room, mechanical spaces, loading / receiving spaces and service room. These support spaces may also include administration services for the complex that would also be included as part of the overall building programming.

Congregate Care / Assisted Living Care

As these two care levels are similar in support requirements, a review of their combined requirements will be undertaken. An administration component would be typically found at the entry to the facility, subsequent service spaces would include maintenance, mechanical service rooms, central kitchen facilities, receiving / loading area, security, staff room and locker facilities. There would also be additional storage areas for residents to store seasonal items outside of their suites. Additional support spaces would include a central mailbox location, housekeeping and laundry facilities. Beyond a central food service seating area, it is not uncommon to find various coffee stations and snack bars located close to lounge areas.

Medical support spaces would include a central nursing station, central bathing area, therapy area, medical consultation area, and medical records storage area.

Long Term Care

As with the previous care levels, long term care would have the same types of service spaces. These spaces would have a greater emphasis on central bathing, medical consultation and therapy as it relates to either a greater quantity of equipment or more specialized pieces of equipment. Some of the additional medical spaces required at this level of care would include a nourishment station and additional toilet rooms for residents providing more convenient access.

Building Amenity Analysis

As this is a proposed aging-in-place facility there are inherently a wide variety of potential amenity spaces desired for each care level within the overall complex. As some amenity spaces would be care level specific, most spaces would be utilized by all residents and visitors.

Starting from inside, amenity spaces for this type of aging-in-place facility include a general array of activity areas and lounges. Under activities, the proposed spaces include the following:

- Arts and crafts space
- Large assembly area / multi-purpose space
- Non-denominational chapel
- Exercise area
- Library / puzzle room
- Games room / movie room
- Sun room / greenhouse
- Laundry rooms
- Personal balconies

Lounges are truly seen as multi-purpose spaces whose purpose is to provide places for various sized groups of people to gather, places for residents to entertain family members outside of their suites, places for residents to gather and watch television, and for people to read. In conjunction with some of the lounge spaces is the ability to have coffee/ snack stations for residents to utilize between meals. With these various functions in mind, lounges must be able to comfortably accommodate group sizes from 4 – 6 people up to 15 - 20 people, where above this level would utilize the large multi-purpose space.

Outdoors, amenity spaces include places for people to meander, sit, watch activities both inside and outside of the site, and for various activities. Some of the outdoor activities will include gardening, walking paths, exercise areas, and games areas. Some of the outdoor games area will include checkers/chess, badminton, croquet, horseshoes, or lawn bowling. Outdoor spaces do not have to be at grade and can be elevated to provide residents with additional security or weather protection, whether that means elevated grade levels or amenity locations on rooftops. Affecting the use of outdoor space will be the solar orientation of the spaces. Therefore the design will adequately control the negative aspects of the weather including minimizing wind effects and maximization of the sun.

Respite Care

The concept of respite care is a vital component to the well being of seniors and their caregivers in any community. As there is a large baby-boomer and elderly population in the surrounding communities, it would be beneficial to provide a respite centre that would accommodate daily, overnight, and short-term stay capabilities as a service to the surrounding community. The ability to house up to 6 – 8 elderly for various stay lengths would be a highly utilized in an inner-city community. Medical and non-medical staff required for this area could be drawn from the main staffing pool of the overall building.

This facility will provide short term stay capabilities for up to three elderly and providing for another five patrons on a daily basis. Programming for this care centre will be included in the overall building programming noted later in this chapter.

Commercial / Service Uses

Integral to the composition of the overall facility is the inclusion of commercial and service uses that are accessible by the community at large. The importance of such uses lies in providing the opportunity for both residents and community members to be able to utilize these proposed uses together. It also simultaneously allows the residents the ability to stay in connected with the neighbourhood and feel that they are part of the community.

Some examples of possible uses include Community Care / Wellness / Walk-in Clinic, bakery / coffee shop, dry-cleaning depot, neighbourhood pub, physiotherapist, textile repair shop, chiropractor, or community multi-purpose room

Community Care / Wellness Program / Medical Walk-In-Clinic

As a meaningful member of the community, this building would also provide facilities for a Community Care / Wellness Centre / Medical Walk-In-Clinic that would be accessible to all members of the surrounding community as well as the residents within this proposed aging-in-place facility. The goal of the facility would to provide neighbourhood health care, health information and assistance in regards to healthy lifestyle choices and other programs that could be jointly administered by the Calgary Health Region.

Facility Programming

Based on the large defined space categories listed above, the proposed building program has been developed based on a resident population of 100 people which approximately 7% of the seniors living in the adjacent communities. This number was selected based on the average resident population of the various facility types noted earlier. It was also chosen as a number from which building programming can be assigned and then easily scaled based on the final design of the facility. As this is a theoretical design, preconceived occupant loads are not part of the final programming for the site.

Proposed Building Programming:

Administration	
Office Area	
Gen. Manager	20 sq.m.
Food Operations	85 sq.m.
Nursing Care Manager	8 sq.m.
Building Maintenance	24 sq.m.
Recreation Manager	8 sq.m.
Resident Liaison	8 sq.m.
Admissions Manager	8 sq.m.
Payroll / Human Resources	20 sq.m.
General Office	60 sq.m.
Reception / Waiting	16 sq.m.
Boardrooms	36 sq.m.
Sub-Total	***285 sq.m.***
Entry / Lobby	***260 sq.m.***

Community Spaces

Respite Centre	280 sq.m.
Community Multi-Purpose	200 sq.m.
Medical Clinic	200 sq.m.
Coffee Shop	250 sq.m.
Sub-Total	*930 sq.m.*

Dining / Food

Seating Area	200 sq.m.
Private / Semi-Private Dining	80 sq.m.
Kitchen / Food Prep	125 sq.m.
Coolers / Freezers	40 sq.m.
Dry Good Storage	20 sq.m.
Servery Stations	10 sq.m.
Sub-Total	*475 sq.m.*

Recreation / Leisure

Multi-purpose Room	100 sq.m.
Games Room	40 sq.m.
Library	40 sq.m.
Internet Café	15 sq.m.
Lounges	40 sq.m.
Reading / Discussions	40 sq.m.
Television / Movies Lounge	40 sq.m.
Family Gatherings	40 sq.m.
Gym / Fitness	40 sq.m.
Crafts / Cooking	40 sq.m.
Chapel / Music	200 sq.m.
Pub	150 sq.m.
Sub-Total	*785 sq.m.*

Maintenance

Maintenance Office	30 sq.m.
Maintenance Storage	80 sq.m.
Repair / Hobby Shop	45 sq.m.
Mechanical Room	40 sq.m.
Electrical Room	40 sq.m.
Loading / Receiving	150 sq.m.
Garbage Room	150 sq.m.
Sub-Total	*535 sq.m.*

Staff

Staff Room	30 sq.m.
Staff Lockers	50 sq.m.
Supervisors	50 sq.m.
Physiotherapy	50 sq.m.
Bathing Rooms (1/floor)	15 sq.m.
Nursing Stations (1/floor)	20 sq.m.
Medication Dispensary (1/floor)	10 sq.m.
Sub-Total	*225 sq.m.*

Suites

Suite configuration is based on 100 residents noted previously. Of that residents would be categorized based on care requirements. The breakdown based on care requirements would be as follows:

Independent: *52 residents*

40% couples / 60% single residents
Unit breakdown: 5% studio / 55% 1-Bedroom / 40% 2-Bedroom

40% couples = 20 residents = 10 suites
6 - 1 bedroom units (55%) +/- 55 - 70 sq. m.
4 - 2 bedroom units (45%) +/- 75 - 95 sq. m.

60% single residents = 32 residents = 32 suites
2 - Studio Units (5%) +/- 40 - 55 sq. m.
18 - 1 bedroom units (55%) +/- 55 - 70 sq. m.
12 - 2 bedroom units (40%) +/- 75 - 95 sq. m.

Sub- Total: 2 Studio Units / 24 - 1-bedroom units / 16 - 2-bedroom units

Congregate Care: *13 residents*

25% couples / 75% single residents
Unit breakdown: 10% studio / 65% 1-Bedroom / 25% 2-Bedroom

25% couples = 4 residents = 2 suites
2- 2 bedroom units (25%) +/- 65 - 80 sq. m.

75% single residents = 9 residents = 9 suites
1 - Studio Units (10%) +/- 40 - 50 sq. m.
8 - 1 bedroom units (65%) +/- 45 - 55 sq. m.

Sub- Total: 1 Studio Units / 8 - 1-bedroom units / 2 - 2-bedroom units

Assisted Living: *20 residents*

15% couples / 85% single residents
Unit breakdown: 15% studio / 75% 1-Bedroom / 10% 2-Bedroom

15% couples = 4 residents = 2 suites
2- 2 bedroom units (25%) +/- 60 - 70 sq. m.

85% single residents = 16 residents = 16 suites
3 - Studio Units (15%) +/- 40 - 50 sq. m.
13 - 1 bedroom units (75%) +/- 50 - 60 sq. m.

Sub- Total: 3 Studio Units / 13 - 1-bedroom units / 2 - 2-bedroom units

Long Term Care: 15 residents
5% couples / 95% single residents
Unit breakdown: 30% studio / 70% 1-Bedroom

5% couples = 2 residents = 1 suites
1- 1 bedroom units (70%) +/- 50 - 60 sq. m.

95% single residents = 13 residents = 13 suites
5 - Studio Units (10%) +/- 40 - 50 sq. m.
8 - 1 bedroom units (65%) +/- 50 - 60 sq. m.

Sub- Total: 5 Studio Units / 9 - 1-bedroom units

As the proposed facility is an “aging-in-place” facility with no distinction between care levels, a proposed suite program has been synthesized from the above suite requirements based on the included care levels. The proposed suite program based on a population of 100 residents will be as follows:

Studio Suites	11 suites	+/- 40 - 45 sq. m.
1 Bedroom Units	54 suites	+/- 50 - 55 sq. m.
2 Bedroom Units	20 suites	+/- 65 - 70 sq. m.
Sub-Total	85 units	+/-4 865 sq.m.
Total Building Program Area:		***+/- 8 360 sq.m.***

Site Selection

Selecting a site includes incorporating the philosophies of providing a proper environment for older people to reside in as discussed earlier. Therefore the location of such a facility is extremely important as the surrounding neighbourhood must also contribute to the success of the proposed building by providing amenities and services available to both residents and community members. Typically, it is difficult to "create" a community around a suburban residential location and therefore site selection of the facility becomes all the more important.

The selection of a site for this project is focused upon the ability to have the residents remain connected to the adjacent community. To achieve this primary goal, a proper site for this project would include the following criteria:

1. Location within an urban inner-city neighbourhood
   - Walkable neighbourhoods with all housing adjacent to the street
   - Porches instead of garages on the street facades
   - Pedestrian oriented / walkable streets

2. Access to community / neighbourhood services
   - Grocery
   - Medical / dental / optometry
   - Financial
   - Entertainment
   - Shops and restaurants
   - Theatres / galleries / cultural venues
   - Personal services

3. Ability to provide services that are meaningful to the adjacent neighbourhood
   - Easily accessible by residents and neighbourhood
   - Services complimentary to those existing in the neighbourhood

4. Have easy access to Calgary Transit systems
   - C-Train if possible
   - Primary transit routes to inner city

Beyond providing amenities for the facility, the ability for the facility to be both programmatically and physically integrated into the surrounding neighbourhood fabric is also beneficial. This would include building massing and street-face interaction appropriate to the surrounding neighbourhood. An example may be to have building orientations that respect the privacy of the surrounding residential neighbours. Another example may include the integration of on-site walking paths with the neighbourhood sidewalk network for both residents and neighbours to utilize together.

The proper location for this facility is an inner-city location that straddles both a residential neighbourhood and commercial district which the existing urban fabric. The proposed commercial district needs to respond to the amenities, services and transit needs of the facility while providing the opportunity for the residential component of this facility to integrate with the adjacent residential neighbourhood.

From the proposed criteria, nine inner-city sites were selected based on the criteria that they currently needed to be empty with no requirement for major demolition. The site also needed to not have any potential site contamination that would be the product of past development. The full site selection report is noted in Appendix Five.

From the site selection analysis, the selected location for this facility is located between 10 and 10A Street NW between 3 Avenue NW and Gladstone Road NW in Kensington. The parcel currently has a split zoning of C-COR1f2.8h13 and M-CG (d72). The C-COR1 zoning stretching along 10th Street NW and the M-CG zoning along 10A Street NW. The current size of the site is approximately 1.3 acres.

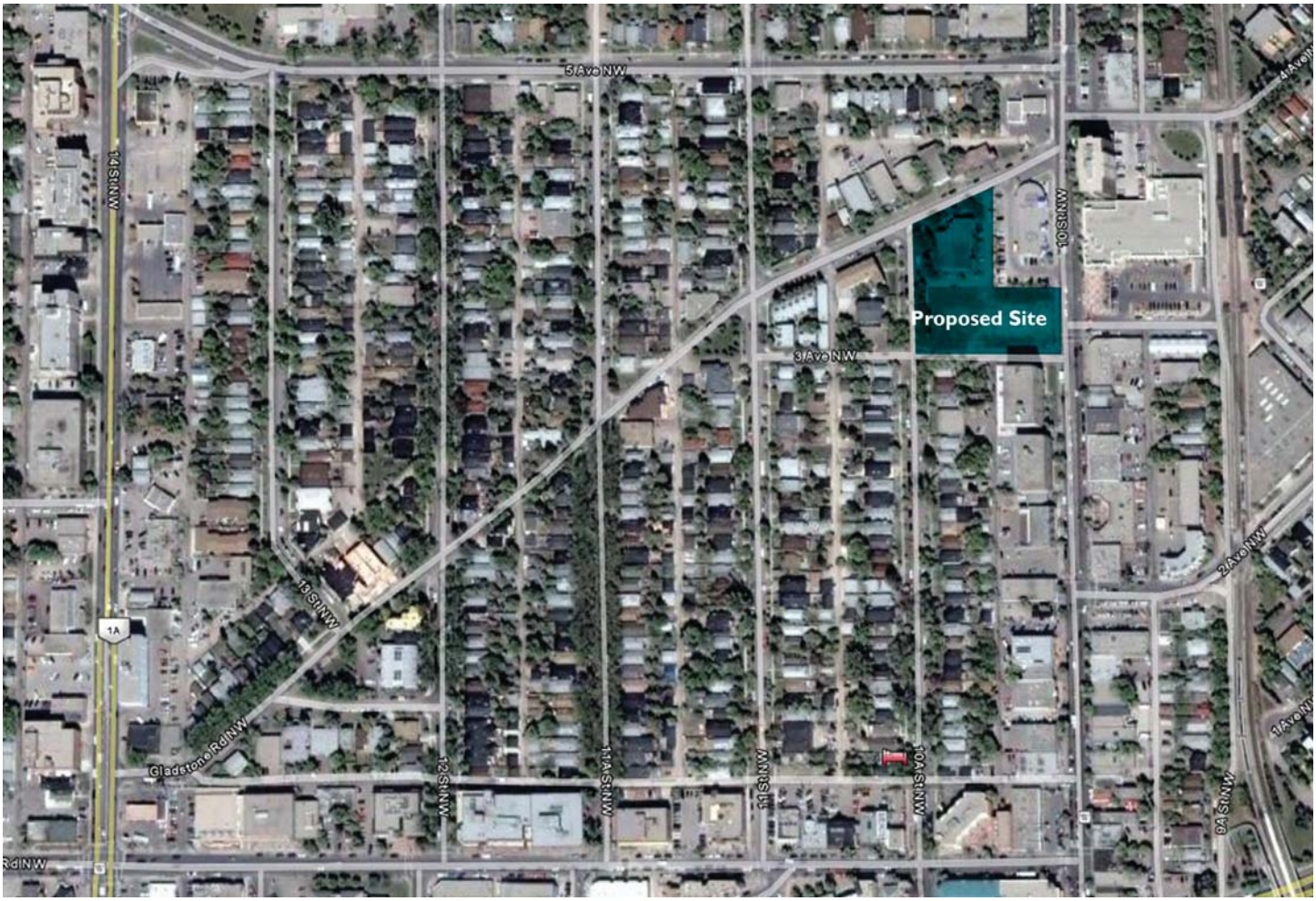


Figure #92 - Aerial View of Proposed Site Location in Kensington

Site Assumptions

As part of the redevelopment of this block for the proposed aging-in-place site, there are three peripheral site assumptions that have been taken into account. First is the redevelopment of the adjacent Kensington residential sites with the zoning change to multi-family with a density of 72 units per hectare (29.15 units per acre). This density change will allow for denser site redevelopments in the future. Second, over time the adjacent financial building will redevelop but only to the maximum allowed under the current zoning.

The third assumption is that 10th Street NW will continue to remain predominantly commercially oriented but with a future increase in mixed use developments as further redevelopments occur along the street. Also, the increasing importance of pedestrian movement along the street will remain and will always be paramount regarding future redevelopment along the street.

Site Amenities

The proposed site is rich in neighbourhood amenities, has an ease of accessibility, and is part of a community with visible vitality. The proposed location is well situated and benefits from a wide array of positive attributes and include some of the following:

A. Next to a major transit routes along 10th Street NW. and the C-Train station in Kensington
   - Along a major access route to and from downtown as well as the northwest quadrant of the City,

B. Next to 10th Street NW with its' wide array of shops, restaurants, galleries and personal services for all age groups.

C. Canada Safeway is across the street

D. Next to a residential enclave that only has limited vehicular traffic
   - The residential area bordered by 1st Avenue NW., 14th Street NW, 10A Street NW, and 5th Avenue NW
   - The residential area is accessed from either 5th Avenue NW, Gladstone Road NW, or 3rd Avenue NW

Figure #93 - Site Context Photographs

SECTION TWO - DESIGN LEVEL D9B

CHAPTER SIX:

PROPOSED URBAN COMMUNITY FOR ELDERS

Revised Theoretical Statement:

Within the context of a dynamic urban neighbourhood, the design creates a residential development that incorporates an 'aging-in-place' archetype providing a continuum of care services. This development will sustain a residents' connection to community, both holistically and individually, and foster a sense of "home" for residents.

Preamble:

Influenced by my own grandmother's experience as she transitioned from independent living to congregate care before her passing, I observed the impact this change had on her. As a result, I have been interested in the evolution of seniors care and the effect these transitions have on the aging population.

From family and friends' experiences of transitioning into various levels of health care facilities, I began to observe various reoccurring negative outcomes caused by the current health care environment. Issues of over-institutionalization, facility specialization, and the need to transition facilities as one's health changes created a negative effect on people's psychological states, both through social separation and overbearing institutional environment when they were to be enjoying their "golden" years.

From these negative influences, my proposition for this reinterpreted aging-in-place facility focuses on residents' ability to:

- Maintain their sense of autonomy to the greatest extent possible
- Prevent the need to change facilities due to health changes except in the extreme circumstance of dimentia.
- Remain a meaningful member of society
- Create a sense of "home"

Key Goals:

A key goal regarding the final design primarily focus on the connectivity of the project to the community in which it is located and to the neighbourhood residents within that community.

Connectivity to community is a critical element of the overall design as it is the key to providing the opportunity for residents to maintain their connection to the neighbourhood specifically and society in general. This connection to community also reinforces the residents' feeling of being a meaningful member of society. Through social interaction with a community and its' members, residents can maintain their sense of connection within society.

Connection to the community can occur through provisions of community spaces in the facility that both community members and residents can utilize. One example would be a "community hall" that could accommodate community bake sales, farmers market, trade show, or craft sale. By providing opportunities through space development to bring together neighbourhood residents and elderly facility residents through unstructured programs, it allows both groups to stay connected through a series of events throughout the year.

Another development option would be that of a bakery or coffee shop reminiscent of a small town bakery. This type of facility would be a community cornerstone utilized by not only neighbourhood residents and facility residents but also commuters on their way to the C-Train. By providing a series of opportunities for the elderly residents to remain in contact through unstructured opportunities, it again furthers to reinforce the elderly residents' connection to society in general and the neighbourhood in particular.

A second key goal is the ability to connect residents with services and amenities not only within the facility but also to have amenities adjacent to the facility. The proposed site along 10th Street NW provides this with its' varied commercial offerings south and north of the site. Examples of this include the Royal Bank branch adjacent to this site, Canada Safeway across the street, and numerous coffe shops, retail stores, and personal services to the south.

Another aspect of the connection to services and amenities is the ability to provide multiple means of transportation to residents so as to expand their opportunities to venture away from the facility and neighbourhood. This site is adjacent to both a transit corridor along 10th Street NW and the C-train station in Kensington only one block east of the site.

A third key goal is the ability to provide a true 'aging-in-place' facility. The concept of "aging-in-place" focuses around residents being able to transition the size of their residence without having to physically relocate to another part of the facility. In the Manor Homes, suites are designed to transition from two-bedroom units to one-bedroom units or studio homes. This allows the opportunity for residents to down-size space without having to relocate. Another aspect to the 'sense of home' development is that this facility is designed to accommodate residents' health care needs ranging from independent living through to long-term care requirements without the need to relocate from their suite. The execption to this would be if a resident was impacted with the onset of dementia that would require their relocation ot a specialized facility.

A fourth key goal is the development of a "sense of home" for residents as they transition from various previous habitational situations to this style of development. A sense of home is a holistic convergence of three philosophical ideologies that:

1. Defines our identity,
2. Creates the foundation from which we orientate ourselves into the community, and
3. Defines our personal territory.

The concept of a 'sense of home' is important as it is a radical shift from many health care facilities that maintain an institutional focus with their accommodations, especially as health care needs are increased for residents.

The last key goal is maintaining a sense of individuality for residents. This is created by providing a "front door" entry to the suites from the street in the Manor Homes for visitors through the multiple entry pavilions. This sense of entry maintains that connection to the street and thus a sense of address for these suites from the street.

For the Loft Homes, a sense of address is created based on its' urban location. Here a strong entry element is created at the street that leads to the elevator and then connects to the south lounge on each floor. From the street one can visually track access from grade to each level of the Loft Homes. The sense of individuality of the homes is expressed through the building elevations by pairing outdoor rooms of adjacent Loft Homes.

The ability for residents to customize their suites will also separate this facility from that of others and lessen the stress of transition. Residents can furnish their suites with their furniture, decorate as they desire, and customize their interior entry by personalizing their "address" station. The address station is a passive and interactive element adjacent to their entry door that will house personal photos, crafts or other items that they wish to display as well a digital screen for displaying personal photographs. The station would also include a digital white board or message center for others to leave notes for the resident of that suite. This would be seen as an expanded concept of a "street address" to signify a resident's unit.

Site Analysis:

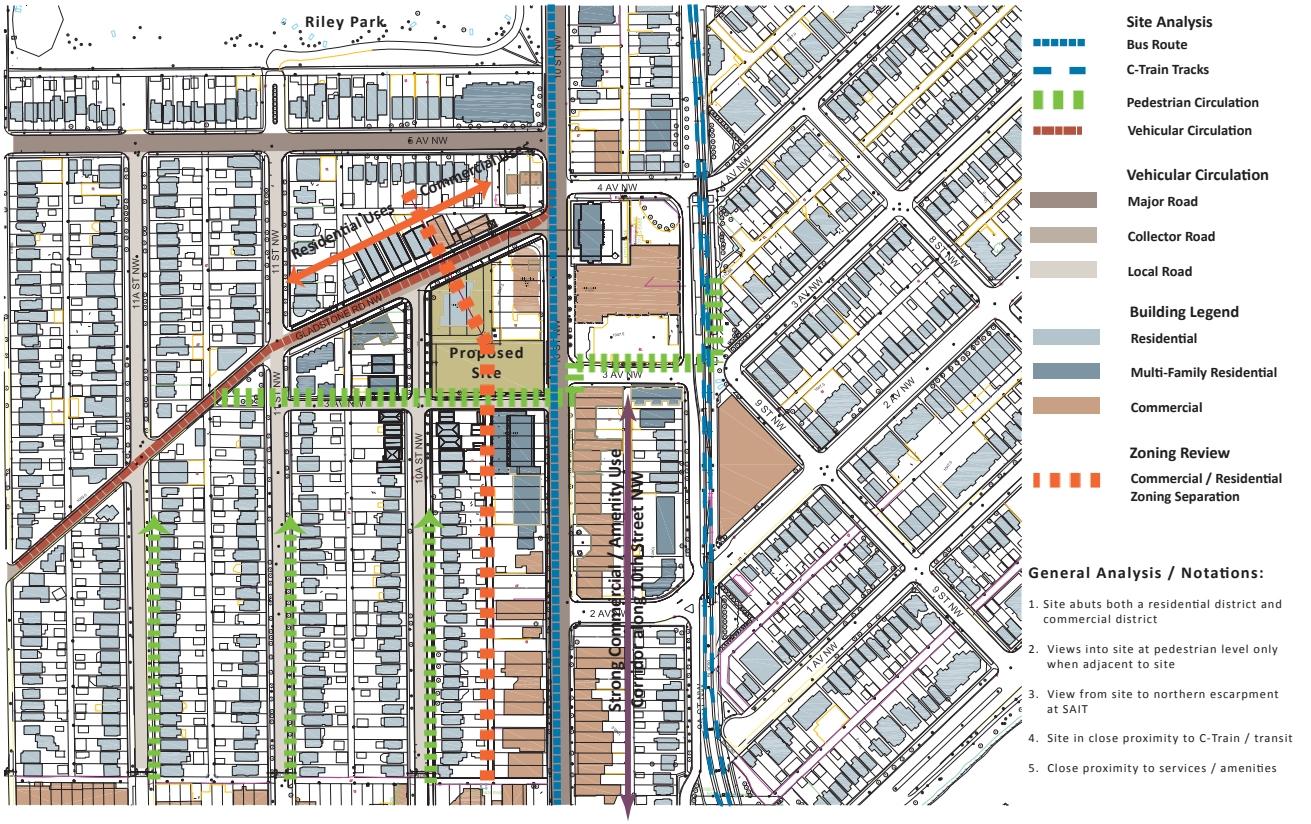
Understanding the site starts with appreciating the dynamics of it's' location including the dichotomy of both urban mixed use and residential edges around the site. On 10th Street NW, there is a definite commercial and pedestrian oriented edge to address that becomes a continuation of the urban commercial fabric from south of the site. The site sits at an important pedestrian crossroads between 10th Street NW and 3rd Avenue NW, therefore it is important to continue that commercial activity with this development at the pedestrian level. The site sits adjacent to a residential neighbourhood on the west and south that influenced the scale, materials, and building design massing.

Strong pedestrian north /south direction movement is generated by Kensington Road NW and downtown to the south and continues north towards S.A.I.T. and the inner city neighbourhoods of Rosedale, Briar Hill, Mount Pleasant, and Capital Hill.

In the east / west direction, pedestrian movement originates from the Kensington C-Train station located east of Canada Safeway. From that location, pedestrian movement westward continues along 3rd Avenue NW where pedestrians typically cross the street at the controlled pedestrian crosswalk at 10th Street NW. This controlled crosswalk is highly utilized by pedestrians and it is not uncommon to see groups of pedestrians crossings occur every 1 – 2 minutes during peak times. From there, pedestrians pass by the site and filter into Kensington along 3rd Avenue NW.

Site analysis including an environmental review, amenities review, and visual analysis and how they impact the site are noted below.

Site Analysis



Access / Amenity / Visual Analysis

Figure #94 - Site Access / Amenity / Visual Analysis Diagram

Site Planning Opportunities / Constraints

To understand the multiple dynamics acting on the site, an investigation was carried out studying the unique aspects of the four distinctive sides of the site.

10th Street NW is the primary pedestrian oriented street that is also the major transportation corridor. This side of the site provides an opportunity to continue the pedestrian oriented commercial corridor from the south. 3rd Avenue NW is the pedestrian corridor for Kensington residents from the C-Train line and provides the site with a connection to the neighbourhood residents along this frontage. 10A Street NW is a residential oriented street with low scale multi-family development adjacent to the site. This frontage is developed with residential units focused on the pedestrian oriented street in keeping with development south along 10A Street NW. Gladstone Road NW is the primary vehicular access into Kensington and this site capitalizes on this feature by creating parkade access from this street. This street is also diverse in nature with both commercial and residential development adjacent to the site's north boundary.

These investigations are expounded further as noted on Drawing 'D' on the adjacent page.

Site Analysis / Site Programming / Conceptual Design Summary:

Understanding the dynamics of the site planning analysis and then incorporating the architectural parti, a series of iterations and options were developed and analyzed against this information. The final site programming option brings to fruition the objectives and goals of the thesis statement and architectural parti.

The selected option creates the opportunities for neighbourhood gathering and community interaction through the Urban Market and Urban Garden that also connects both the suburban and urban residential options, understanding the Loft Homes above the Urban Market. The Urban Market extends the commercial corridor from south on 10th Street NW while providing a varying retail and amenities experience to both the residents and neighbourhood members alike.

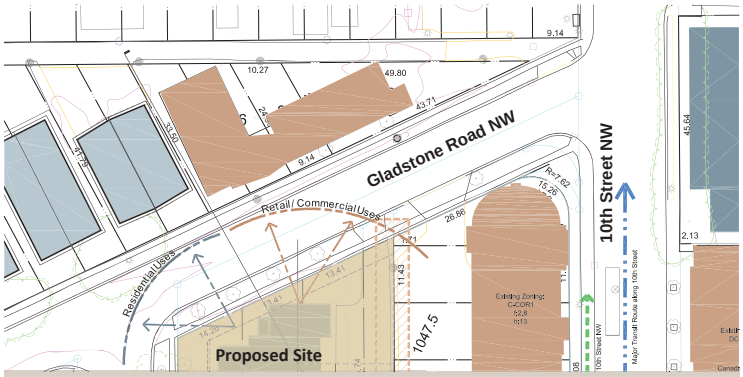
The volume of the proposed Urban Market that transitions to the volume of the Urban Garden links together the suburban Manor Homes and the Loft Homes in the tower in a bright, airy space that will provide a wonderful green sitting area, especially through the winter months.

Figure #95 - Site Programming Analysis

The final design also responds to the public / private transition in the three directions noted previously. This is accomplished in the east / west direction by utilizing the Games Room / Family Kitchen space in the Manor Homes as a transitional semi-public space between the semi-private space of the Manor Home and the public space of the Urban Garden. In the south / north direction, the transition occurs between the Urban Garden and Urban Courtyard at the outdoor seating area. Vertically in the Manor Homes the transition occurs within the semi-public space of the Games Room on the Main Floor and it transitions to a semi-private space in the

Final Thesis Design Presentation

Site Opportunity / Constraints Analysis



Gladstone Road NW:

Analysis:

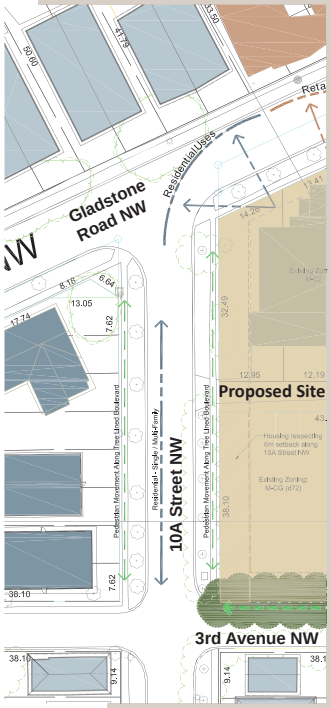
- Part residential / part commercial frontage
- Varied building setbacks (1.5 - 6m)
- Separate walks
- Wide street / primary vehicular access to neighbourhood

Opportunities:

- Service / back of house potential adjacent to financial building parking field
- Varied setbacks allows for flexible building placement
- Potential public uses adjacent to commercial frontage

Constraints:

- North facing / lack of direct sun
- Duplex units across street speak to short-term tenancies
- Northeast view from site less appealing with gas bar, retail
- Site has lack of enclosure at north end



10 A Street NW

Analysis:

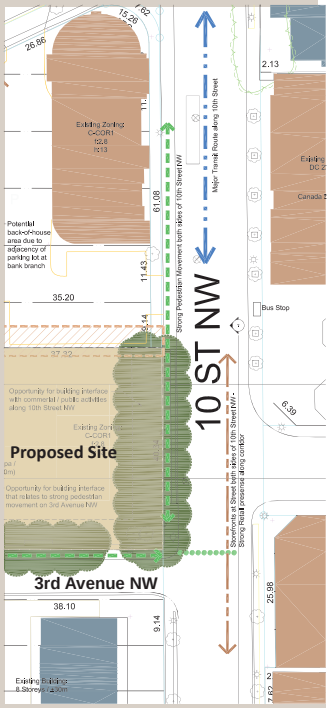
- Separate tree-lined walk adjacent to narrow tertiary road with parallel parking each side
- Local road only
- Varied building setbacks (4m - 6m)
- Contains multi-family units adjacent to site and single family south of site.
- Building heights range from 2 - 3 floors

Opportunities:

- Prevalent multi-family residential uses
- Walkable neighbourhood with separate walks
- Varied setbacks allows for a range of building placements
- Closer building placement provides opportunities for resident / community interaction
- Local traffic = minimal impact on pedestrian movement
- Narrow road = slow moving traffic

Constraints:

- Narrow streets limits capability to enter site with vehicles
- Residential uses only on this street



10th Street NW

Analysis:

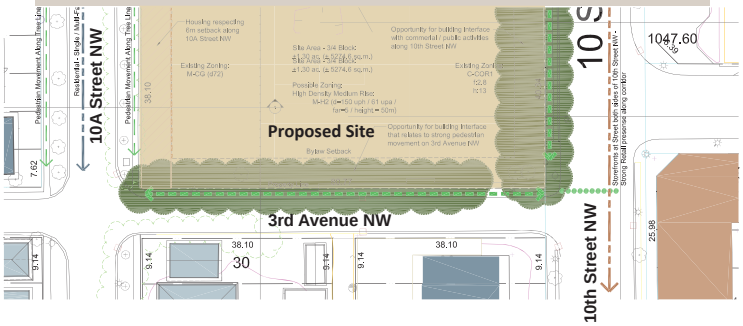
- Pedestrian / transit oriented street
- Major street designation
- Strong commuting traffic use
- Street-front commercial / setback on residential uses along street
- Site access from southbound traffic
- LRT station close by (1 block)
- Across from large food store
- Site on prominent pedestrian oriented commercial street
- Many amenities primarily south of site

Opportunities:

- Potential public uses adjacent to strong pedestrian route
- Adjacent to multiple transit options
- Adjacent to varied commercial / services uses
- Ability to build to street edge
- Option to reintroduce commercial uses from south

Constraints:

- No vehicular access to site
- Public face needed / little privacy capable
- Residential to south interrupts pedestrian / commercial street fabric



3rd Avenue NW:

Analysis:

- Highly utilized pedestrian corridor
- Narrow street impacts vehicular access / speed
- Adjacent to side yard of properties on south (parkade structure of apartment building)
- No sidewalk on south side of street
- Minimal setbacks along street from 10th to 12th Streets NW.

3rd Avenue NW:

Opportunities:

- Strong pedestrian link provides neighbourhood connectivity to site
- Minimal vehicular traffic accentuates strength of pedestrian movement

Constraints:

- Narrow street width means limited vehicular access on this side of site
- Building face to respond to pedestrian movement
- Adjacent apartment has solar impact on east side of site

Figure #96 - Presentation Board 'D' - Site Opportunities / Constraints

Library on third floor. In the Loft Tower, the transition occurs floor by floor, starting with the Urban Market and transitioning to semi-public space on the mezzanine level, semi-private space on 3rd floor and then to private space above on floors Four through Seven.

Urban Fabric Analysis:

Analysis of the site was expanded beyond the boundaries of the site to understand both the existing massing around the site as well as the potential massing options available for the four street edges. Besides investigating the existing neighbourhood conditions, projections were also made as to what potential neighbourhood redevelopment could occur that may impact this site.

Figure #97 - 10th Street NW - View South showing future potential massing

On 10th Street NW, the primary goal is to frame the street while continuing the urban fabric from the south. The goals for 3rd Avenue NW include providing for a comfortable pedestrian environment that augments the existing pedestrian route currently in place. The residential vocabulary of 10A Street NW meant goals for this site edge focused on maintaining the residential paradigm while addressing the strong pedestrian orientation of the street. As Gladstone Road NW is vehicular oriented with a mix of residential and commercial uses, the goal for this street respects the pedestrian oriented street and capitalizes on its' status as a neighbourhood entry. The full analysis for each face of the site is denoted on Drawing 'F' on page 8 of the Illustrations section. These goals in conjunction with the site analysis set the basis for the massing analysis of the site.

Architectural Parti:

The architectural parti combines the four primary design concepts:

- Community integration,
- Urban garden as a connection between urban and suburban residential components
- Integrating and capitalizing on the adjacent pedestrian movement and commercial corridor
- Utilization of public space as a community gathering space.

Figure #98 - Architectural Parti Sketch

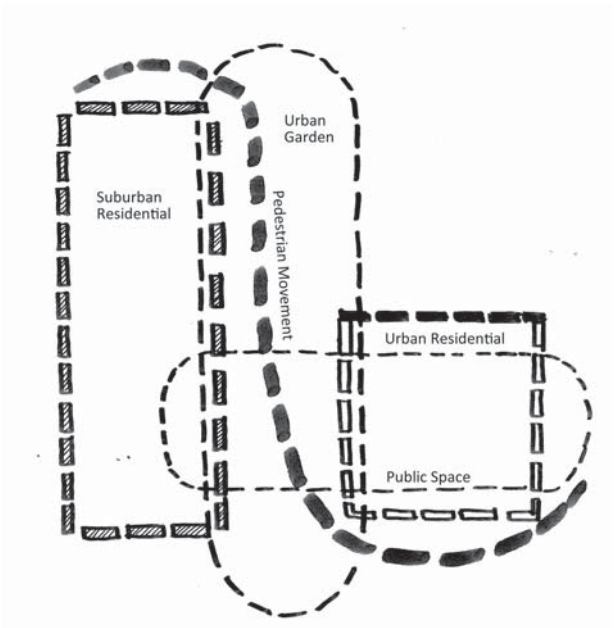


Figure #99 - Architectural Parti - Section

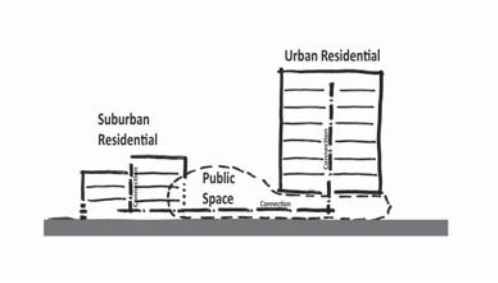
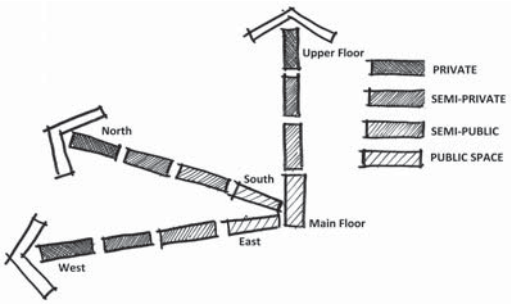


Figure #100 - Public / Private Transition Concept



The parti also examines the natural transition from public to private space in the east / west direction, north / south direction, and vertically from grade. This element is important as it demonstrates the need for separation between suites and public space through layers of transitional space that occur within a comfortable means for residents.

Preliminary Massing Concepts:

The diversity of each site street edge demanded an in-depth analysis of each edge and the impacts each side has on the adjacent neighbourhood.

The impact of the commercial corridor on 10th Street NW meant that the proposed massing for this street edge focused on a massing that framed the street based on Kevin Lynch's rules of proper street proportion from his book *Image of the CIty*. The massing also has to by sympathetic to the strong pedestrian movement along the street.

Massing along 3rd Avenue NW is a transitional street between the commercial orientation of 10th Street NW and the residential orientation of 10A Street NW. Massing along 10A Street relates to the existing urban fabric of both the single family homes, infill homes, and the multi-family developments adjacent to the site.

A full analysis of each site edge is noted on Drawings 'G', 'H', 'I', and 'J' on pages 9 - 12 in the Illustrations. The outcomes of these individual analyses provide the framework for the massing analysis for the final design concept.

Massing Studies / Analysis:

Beginning with the architectural parti and working through various studies and massing analyses, the primary concept was combining a suburban residential component and urban residential component that are knitted together with public space while respecting the four distinctive site edges. The final analysis and massing concept on which the final solution is predicated capitalizes on the four distinctive site edges and combining the diversity of the site into a comprehensive solution.

Responding to the importance of the 10th Street NW commuter and pedestrian corridor, the final building is designed to continue the commercial frontage at both main and second floors tying in to the commercial street fabric to the south. Further influenced by the pedestrian movement along 3rd Avenue NW, the building design provides opportunities for neighbourhood interaction and comfortable access through multiple entry locations along the south elevation.

The Urban Garden is a transparent, airy space that accommodates winter plant growing, public seating area, and neighbourhood activities; creating a "social" living room for both community and resident members to gather in. The Urban Garden is the social transitional space between the suburban

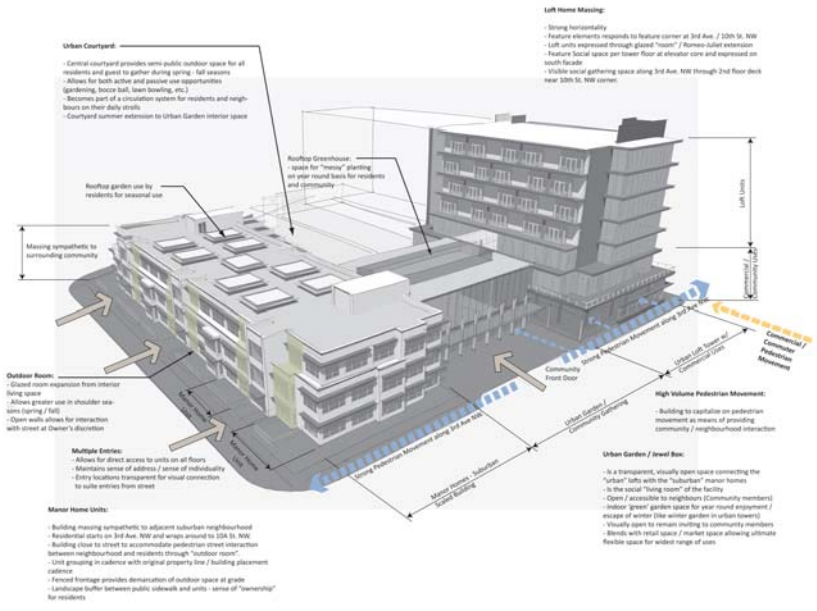


Figure #101 - Final Conceptual Building Massing

Manor Homes and the commercial activities that connect to 10th Street NW. As an extension to this, the Urban Courtyard provides a continuation of the indoor Garden into the outdoor Courtyard for residents and visitors to enjoy through the spring to fall months and expanding on the opportunities and activities that can occur within.

The Urban Market provides not only the commercial needs of community and residents, but also provides flexible space to accommodate different types of markets depending on time of week or time of year. The space is also sufficiently flexible to provide a venue for social gatherings (wedding receptions, birthday parties, etc.), lecture hall, trade show venue, and concert hall. Some of these options are noted on Drawing 'O' at the end of this chapter.

The Manor home massing is broken down into small scaled clusters by the multiple entry features located along 10A Street NW providing direct access for the suites from the street. Around the Manor Homes, the utilization of outdoor rooms provides opportunities to further open up the elevations for visual connectivity between residents and community members.

Massing of the Manor Homes is developed around a two storey base with a third floor that is set back to assist in breaking down the overall massing. The entry features at three storeys accentuate the entry element and become easily discernible to visitors. The two storey massing is in keeping with the suburban residential massing of the single family homes to the south and with the multi-family homes across the street on the west side of 10A Street NW.

Final Design Solution:

Connectivity to Urban Community:

This project's connection to community is centered around opportunities to provide passive, informal meetings between residents and neighbourhood members throughout the year. The basis for this interaction began with the inclusion of services and amenities sought by both groups that would provide opportunities for these interactions to occur. In the final design, these informal encounters would occur within the Urban Garden and Urban Market / Galleria as well as the Neighbourhood Loft levels of the development.

Figure #102 - Conceptual Weekday Market Layout

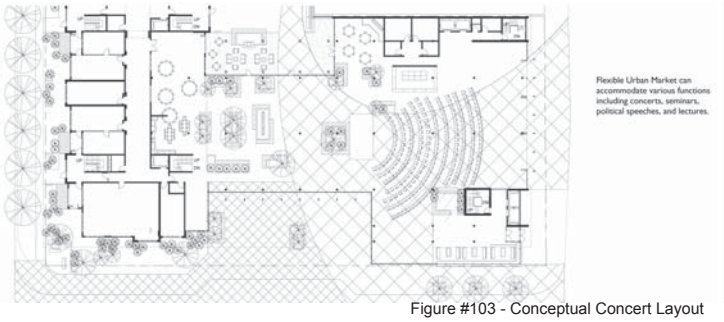


Figure #103 - Conceptual Concert Layout

Figure #104 - Conceptual Weekend Market Layout

A market concept was chosen based on the changing dynamic that is typical of an urban market. Design influences for this were drawn from the Calgary Farmer's Market and the Millarville Market. The continual changing vendors that would occur on a weekly and seasonal basis would provide a dynamic, evolving environment that would act to draw in the people from the surrounding neighbourhood to use this facility on an ongoing basis.

The flexibility of a market / galleria space also provides opportunity to expand on the potential range of uses that can occur within the space. This could include rearranging the space for concerts, lectures, or political rallies. The space could also be used for a small trade show or convention due to it's' flexibility of layout. Besides the daily market that would typically focus on food stuffs, the market could also change to accommodate craft bazaars that would change seasonally for spring, fall, Halloween, or Christmas.

Another key element of connectivity is the inclusion of the urban garden. The concept of garden is introduced as an activity that provides active and passive participation. It is an activity with emotional ties to both the community and facility residents and can be enjoyed year round in both active and passive manners. An urban garden ties together both the residential and commercial sides of the site as an indoor / outdoor urban room, analogous to a neighbourhood "living room" for year round use by both facility residents and neighbours.

A third element of connectivity is the services and amenity spaces located both in the Market / Galleria level but also on the Neighbourhood Loft level. The food services (dining / pub) spaces are meant for use by both residents and neighbours as another avenue for socialization. The inclusion of office space is to provide space for medical related offices that would be utilized by residents and neighbours alike.

Multiple dining locations are provided for residents to allow them the opportunity to dine throughout the facility and as well as in a central location. Residents and neighbours alike can dine in the main dining area, pub, urban garden, or Family Kitchens / Lounges in the Manor Home wing.

Figure #105 - Proposed Mezzanine Level - Loft Tower

Transition of Residents:

The characteristics of residents that would move into a facility such as this is a key element that is integral to the design of the facility. As a framework for the facility design, it is proposed that residents would move to this facility from two primary sources. One source is single family homes, typically located in the suburbs, that these people would bring with them their ideals of "home". A second source of residents are the urban dwellers relocating from inner city condominiums who bring with them a distinctively different set of ideals about "home". This design is meant to accommodate both sets of ideals concerning sense of address, sense of entry, and identification of 'home'.

Another aspect important to this facility is the transition from public space to private space. This transition occurs in two primary directions; from east to west and from grade to upper levels of the facility. Semi-public / semi-private transition occurs at the main level in the east / west direction at the Family Kitchen / Lounge and Games Room in the Manor Home. In the vertical direction of the Manor Home, this central activity space transitions from semi-public to semi-private by creating an art studio / music studio. Having activities or classes where public patrons would be required to enrol in artistic classes prior to being invited into this space

means that when not in use, the space is utilized more by facility residents and guests. By the third floor, this activity space transitions to semi-private space with the library which is for residents' use only.

In the Loft Home building, one example is on the third floor the spaces and uses are for residents and guests only and not meant for the general public while the second floor containing the restaurant, pub, and office spaces are meant for facility residents and public who utilize this floor as a destination (food service or office visits).

Sense of Home:

As discussed earlier, there are two primary types of residents; one moving from suburban homes and the other from urban / inner city residences. For those moving from suburban homes, the Manor Homes are designed to accommodate this group and their accompanying ideals of what "home" stands for. Here, sense of address includes direct visual access to one's front door and being able to distinguish "where" one lives within the facility. Therefore the multiple entry pavilions designed in the Manor Home building create the multiple entry points to accommodate this.

For urban dwellers, their sense of address is different as it focuses around sense of "building" address versus "suite" address. For the Loft Homes, a sense of address for the building is important and how one accesses the residences above. Therefore a strong sense of entry is developed along 10th Street NW for the tower above that is still sympathetic to the pedestrian scale of the street.

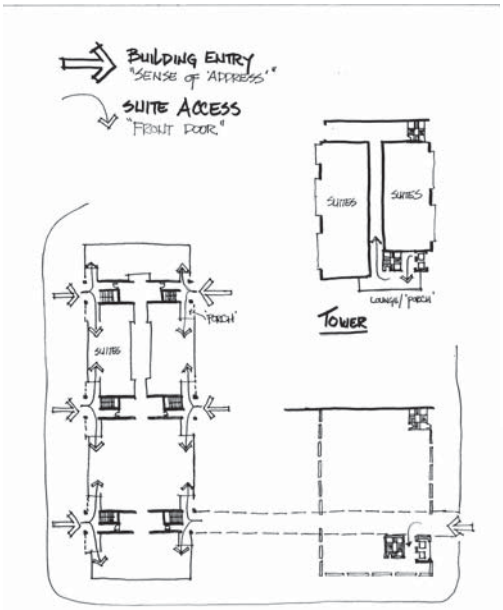


Figure #106 - Conceptual Building Entry / Suite "Address" Sketch

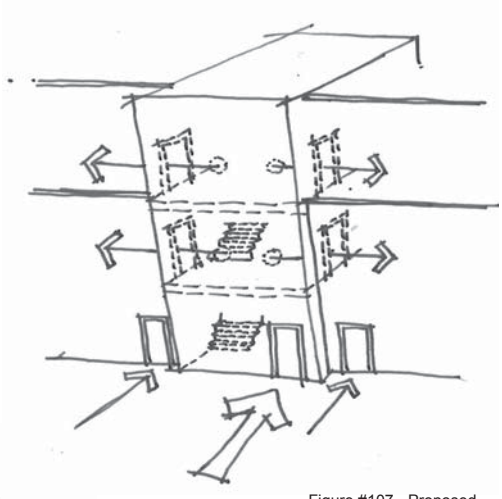


Figure #107 - Proposed Manor Home "Sense of Entry" Sketch

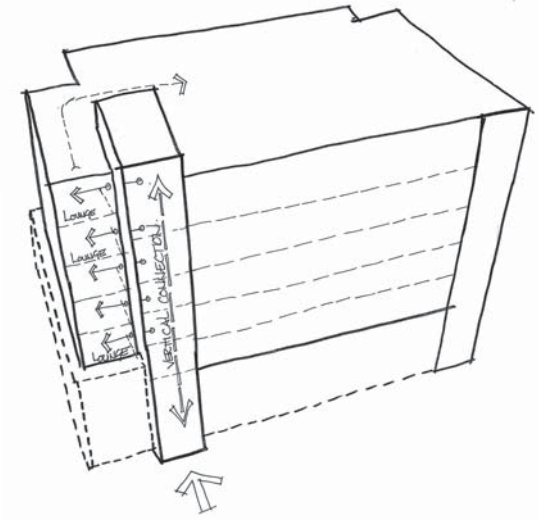


Figure #108 - Urban Tower Proposed "Sense of Entry" Sketch

Groupings of the units are important as it relates back to a sense of “home” and gathering of neighbours on a “street”. Both the Manor Homes and Loft homes are grouped into small clusters so that the number of people living in close proximity of each other is at a scale analogous to a small cul-de-sac of a suburban neighbourhood. In the Manor Homes, the building is designed to create two clusterings of units around a central entry element. The small clustering of units will allow residents to get to know their neighbour without the quantity of people being intimidating.

Unit types also respond to the differing view of the potential residents. Manor Homes focus around an apartment style, multi-room residences where sleeping / living are distinctive spaces. Loft homes focus around the flexibility of space and manipulation of elements to create various living conditions throughout the day.

A key element in the ability to have an “aging-in-place” facility is to provide a configuration of suite designs that can accommodate the transition of space requirements as one ages. Historically, it is found that as people age they require less space in which to live. This can be seen as people typically downsize their residence as the grow older. This flexibility has been designed into the unit plans for the Manor Homes as noted below. The suites have the ability to transition from two-bedroom units down to studio units as one’s space requirements change over time. The design goal is that a resident can move into a two-bedroom suite with their spouse. As a spouse passes on, the remaining resident can return the “second” bedroom and it can be turned into an independent studio suite while the resident remains in her one-bedroom home. As he/she ages and requires less space again, he/she can transition to the “studio” home adjacent and return the one-bedroom unit for use by others.

Figure #109 - Proposed Manor Home Main Floor Plan

Figure #110 - One Bedroom / Loft Unit Plan - Manor Home

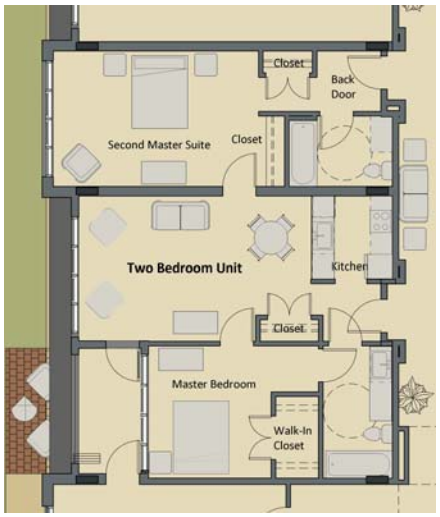


Figure #111 - Two Bedroom Plan - Manor Home

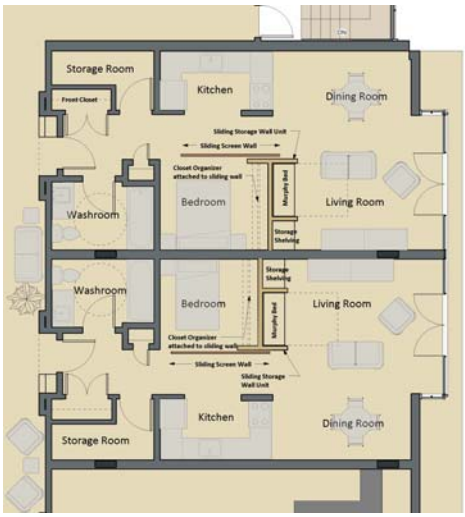


Figure #112 - Loft Home Unit Plan - Showing Sliding Wall

In the Loft Homes, flexibility of suite design is not as dramatic as flexibility lies within it’s’ design concept. As one’s needs change from two to one resident, a change of bed size to a smaller bed and shifting of a primary movable wall will accommodate the enlargement of a living space that may be required as one requires a walker / wheelchair to be mobile. The primary moveable wall system enhances flexibility by having the closet organizer mounted to it on the bedroom side and housing a murphy bed on the living room side. The murphy bed allows the option to provide a second bed for residents if required or to allow for residents to have guests on a periodic basis. To aid in further flexibility, all aspects of the suite layout is wheelchair accessible.

Facility Medical Staffing

Medical staffing for this facility is developed to maximize resources by utilizing medical facilities for both facility residents and community members. Doctors for the facility will primarily work from a medical walk-in clinic located on the second floor of the Urban Loft Tower in the office / services area along 10th Street NW. This provides not only access for facility residents but also neighbourhood residents as well. Residents can see a Doctor as required at the walk-in clinic or if required, the Doctor can visit a resident in their suite depending on the mobility and physical condition of the resident.

Nursing staff will work from the staff facility on the third level of the Urban Loft Tower as well as from nursing stations located on each floor of both the Urban Loft Tower and the Manor Homes. Within the nursing stations will house any required resident medication. On each floor will also be a bathing facility for residents of that floor who may require assistance with bathing due to their physical condition.

Site Services

3rd Avenue NW is changed to a one-way street with traffic going west from 10th Street NW. From this street, site deliveries will occur with delivery trucks parallel parking along 3rd Avenue NW in the lay-by parking. Deliveries for food service and the Urban Market are expected to occur in the morning either before or after the morning rush hour. Moving vans can also utilize lay-by parking along Gladstone Road NW for residents moving in or out.

Garage is picked up in the morning hours either before or after the morning rush hour along Gladstone Road NW. Garbage is stored on the first level of the parkade and brought to grade via a service elevator next to the parkade entry. The garbage bins are brought to grade on garbage day just prior to the garbage truck arrival and delivered back to Parkade Level One upon the completion of garbage pick up.

Pick up or drop off of residents in the Urban Loft Tower would occur along 3rd Avenue NW while residents of the Manor Homes can be dropped off or picked up in the parallel parking area along Gladstone Road NW.

Emergency services accessing the facility would utilize the 3rd Avenue NW plaza / roadway. Ambulance services could pick up residents at the closest entry point or in an emergency situation would utilize the 3rd Avenue NW plaza.

Structural / Mechanical / Electrical Systems

The structural system for the development is a cast-in-place concrete column, beam, and slab system. This system was selected for its' solidity, excellent fire protection characteristics, as well as better sound attenuation. These characteristics were important as the fire protection allows longer evacuation times for the elderly residents while the sound attenuation mitigates the increased volume from elderly residents' televisions and stereos from filtering into hallways and from floor to floor.

Capitalizing on a cast-in-place concrete structure, the primary heating system for the residential units and associated floors is an in-slab heating system. The

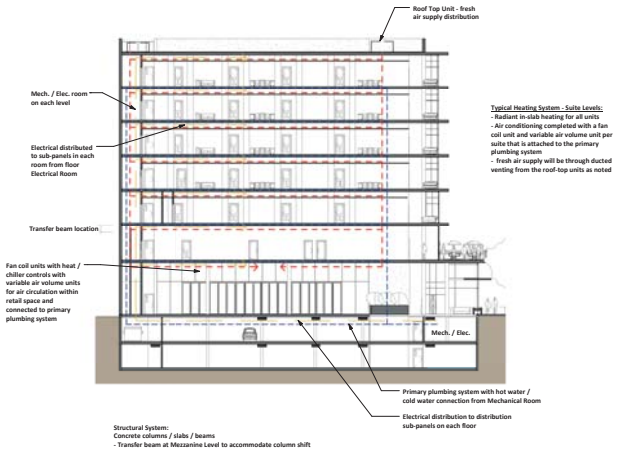


Figure #113 - Cross section of Loft Home Tower showing diagrammatic mechanical / electrical system

rationale for this system is that it provides an even heat throughout the space, is warm on your feet, and is very efficient concerning energy consumption. As this facility is meant to accommodate people with possible mobility impairments, the heating system requirements of a flat, smooth surface works well with the building design.

Fresh air for both pressurizing the hallways and providing fresh air to the suites will be provided through a vertical shaft system located at the end of the hallways in both the Manor Homes and Loft Homes central hallway. The roof top units supplying conditioned / treated air to this system are located on the stairwell roofs on the Manor Home and next to the elevator or north stairwell shafts on the Loft Homes.

Fresh air intake for each unit will be a fan coil unit in the ceiling bulkhead at the rear of each unit that will provide fresh air and supplementary heat. In conjunction with the fan coil unit will be a chiller unit that will provide air conditioning during the warm summer months for each unit. The advantage of this system is that the same duct work can be utilized for both fresh air and cooling, thus maximizing the mechanical system.

Retail, office, public spaces can utilize the same boiler / chiller system and incorporate a variable air volume unit to temper the air in the individual spaces. Between the chiller unit piping (air conditioning) and the boiler unit piping (heating) run to each space, this will be sufficient to condition the air as required.

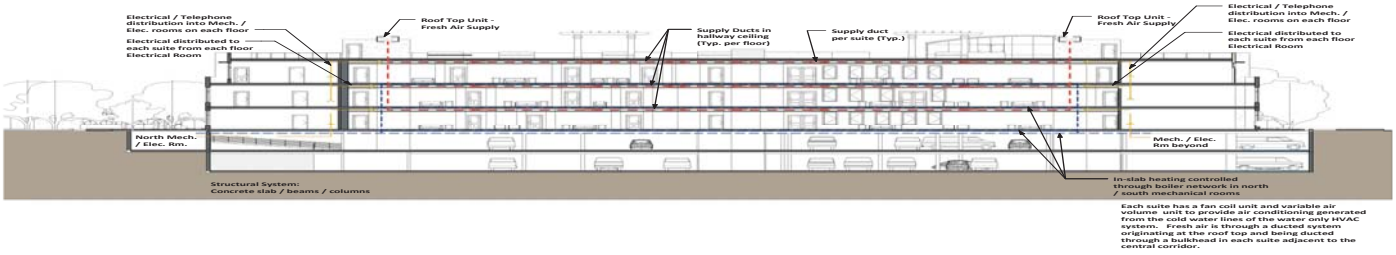


Figure #114 - Cross section of Manor Home building showing diagrammatic mechanical / electrical system

The electrical system is situated in the first level of the parkade with a secondary control panel in the north end of the parkade level. From the primary electrical room, sub-panels are located on each floor of each building. From these sub-panels, electrical distribution is forwarded to each individual suite to their individual tenant panel. A back up generator for the facility would be located in the north mechanical / electrical room for the facility.

Closing:

The primary objective at the outset of this architectural thesis was to create a new archetype for a facility that older people can live in comfortably while acquiring the medical attention that they require when required. My personal goal was to bring forth a design solution that my grandmother would be able to enjoy living in and flourishing in through her “golden” years.

The key to this alternative archetype is the inclusion of ‘community’ as part of a planning group that the facility must incorporate. Bringing community and residents together through multiple mixed opportunities allows residents to remain connected to other people outside of family visitations or other residents. By broadening the opportunities for connection, it will enhance residents’ emotional, physiological, and psychological states which in turn positively affects their health and well-being.

This concept of connection is facilitated through the dynamics and flexibility of the Urban Market space and its’ ability to transform into various venues allowing for a wide array of potential uses by both residents and

community members. The array of options that are possible from within this Urban Market space provide a greater opportunity to attract neighbourhood and community members that in turn facilitate the desired resident / neighbour interaction.

Neighbours meeting neighbours while congregating within a central square is what neighbourhoods, communities, and cities have been predicated upon since their inceptions. The ability for neighbours to meet, discuss, laugh, and live while providing the necessary assistance to those that require it should be the basis of any facility for our older generation. I believe that the key elements presented within the "Urban Residential Community for Elders" project are the cornerstone to which successful elder communities should be predicated upon and provide the opportunity to create something more than "housing" for our parents and grandparents.

At the beginning, the thesis statement proposed to create a building that would incorporate an 'aging-in-place' archetype, provide for a continuum of care services as required, and maintain a connection to neighbours. In conclusion, the concepts, ideas, strategies, and philosophies brought forth through the discovery to create this residential archetype are unique in their collective assembly and the resulting collaboration responds to that statement with a resounding affirmation that we can create a "home" for our parents rather than "place".

Final Design Solution – Presentation

Enclosed herein is the final presentation documentation that has been adjudicated at the final review.

SECTION THREE - DESIGN LEVEL D9B

PRESENTATION ILLUSTRATIONS:

PRESENTATION BOARD GRAPHICS

Illustration #1 - Final Presentation Board 'A'

Final Thesis Design Presentation

Theoretical Statement:

Within the context of a ***dynamic urban neighbourhood***, the design a residential development that incorporates an 'aging-in-place' archetype that provides a ***continuum of care services***. This development will sustain a residents' ***connection to community***, both holistically and individually while fostering a ***sense of "home"*** for residents.

Preamble:

Influenced by my own grandmother's experience as she transitioned from independent living to congegate care before her passing, I saw the impact this change had on her. Through that, I have been interested in the evolution of seniors care and the impact these transitions have on the aging population.

From the experiences of family and friends' transitioning into different levels of care facilities, I began to see numerous reoccurring negatives aspects of the current care environment. Issues of over-institutionalization, facility specialization and the need to transition facilities as one's health changes created a negative effect on people's psychology. This psychological effect was perpetuated through social separation and an enhanced institutional environment as they transition facilities.

From these negative influences, this design will reinterpret aging-in-place facilities and their focuses on residents' ability to:

- ***Maintain their sense of autonomy***
- ***Counteract the need to change facilities with changes to health***
- ***Remain a vital member of society***
- ***Create a "sense of home"***

Key Points:

Connection to Community:

Urban
- located with or near amenities / services / leisure / cultural
- surrounded by a walkable environment
- multiple transit / transportation options

Continuum
- of care services - independent care through to long term care
- of ties to community / neighbourhood / friends
- of independence

Commune
- Place of collective residence
- Gathering of like minded people
- Community of people

Sense of "Home":

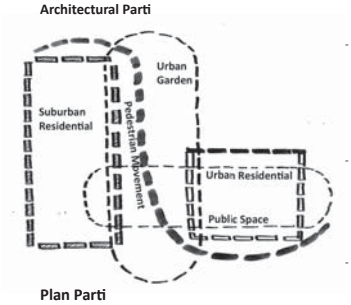
Identification
- defines who we are
- customization to provide individuality

Orientation
- provides foundation / direction in one's life
- clarity of where one's home is

Qualification
- defines one's territory
- distinguish between private / public spaces
- definable space for residents

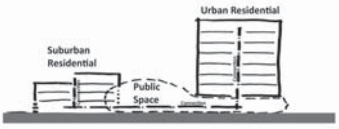
Design Foundation

Architectural Parti



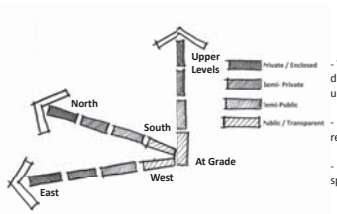
Plan Parti

- Community Integration
  - Mutual services / amenities
  - Public space / amenities utilized by both residents and community members
  - Community year round gathering space
  - Provide opportunities for community / resident interaction
- Urban Garden
  - Activity accessible by all
  - Enjoyed actively or passively
  - Backdrop for other activities
  - Year round activity, important in winter
  - Activity enjoyed by residents and community
- Pedestrian Movement
  - promote community activity within building
  - provide opportunities for community / resident interaction



Section Parti

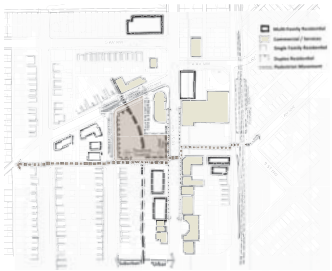
- Public space provides connection to urban corridor of 10th Street NW and pedestrian movement of 3rd Avenue NW
- Connection between urban residential and suburban residential units
- Central gathering space of neighbourhood and residents



Public / Private Space Transition

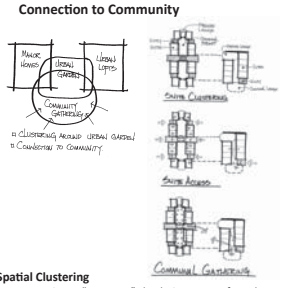
- Transition of public / private space in three directions (east / west, south / north, grade / upper)
- Provide definition of safety / personal space to residents
- Provide definition of public spaces / resident spaces

Dyanamic Urban Neighbourhood

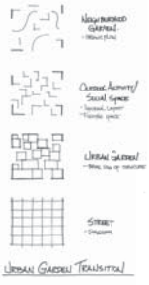


Urban / Suburban:
Site split between suburban neighbourhood and urban corridor

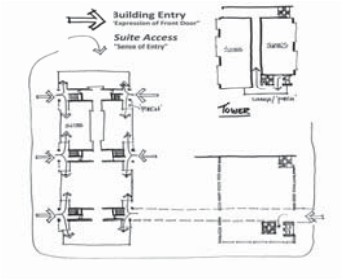
Connection to Community



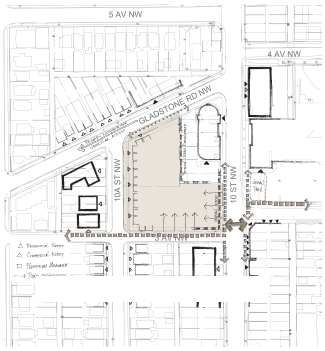
Spatial Clustering
As an extension to "commune", the design extracts from that definition the concept of "clustering / gathering / grouping: beginning with the suite and extending to the overall building design



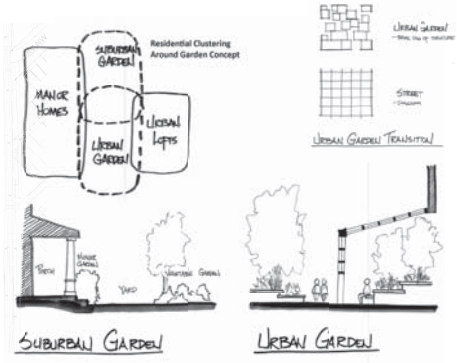
Sense of "Home"



Sense of Address:
Suburban - Units have direct access to street
Urban - Units accessed from central location from adjacent ur ban street



Pedestrian Movement / Building Entry :
Site adjacent to strong pedestrian movement / Adjacent building entries influence design analysis



Urban Garden Rationale:
A garden / growing space is emotionally important to many elderly as it accommodates both active and passive activities within the same spaces. It can also act as a host to many alternative activities that compliment the proposed space. Gardens provides a physical relationship through touch / smell / taste as well as a visual relationship through sound and sight.

Suite Flexibility:
Suite configuration can allow transformation from studio and one bedroom units to two bedroom unit

Illustration #2 - Final Presentation Board 'B'

Final Thesis Design Presentation

Existing Site Photographs


1 View north from within site


2 View northeast from within site


3 View northeast from Gladstone Road NW. / 10th St. NW


4 View of apartment / retail across 10th St. NW


6 View of Safeway along 10th St. NW at 3rd Ave. NW


7 View of townhousing along 3rd Avenue NW


8 View southeast across10 St. NW from site


10 View of retail along 10th St. NW


11 View of retail along 10th St. NW


12 View of retail along 10th St. NW


13 View of retail along 10th St. NW


14 View of retail along 10th St. NW - West Side


15 View of apartments / retail along 10th St. NW

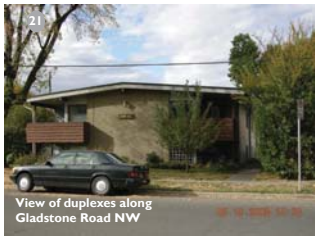

16 View of apartment building at corner of 3rd Ave / 10th St NW


17 View of RBC / Block-busters adjacent to site


18 View of residential along 3rd Ave NW at 10A St NW


19 View of residential along 10A St. NW


20 View of multi-family apartment across street along 10A St NW

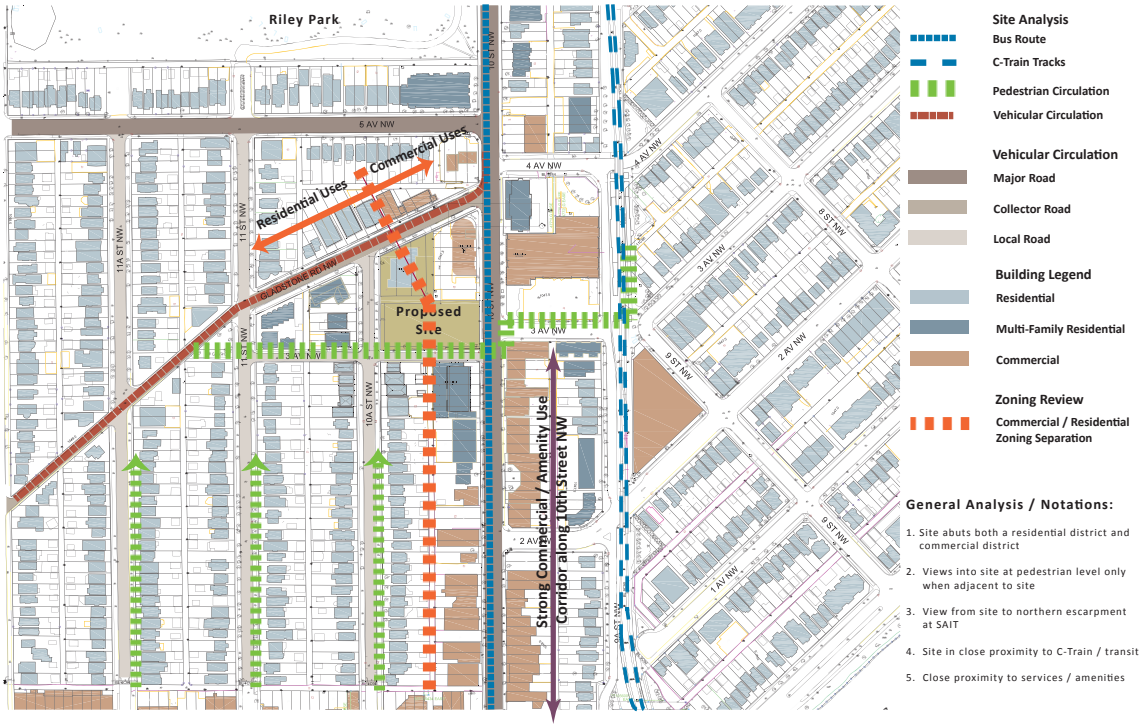

21 View of duplexes along Gladstone Road NW


22 View of residential south of 3rd Ave along 10A St NW

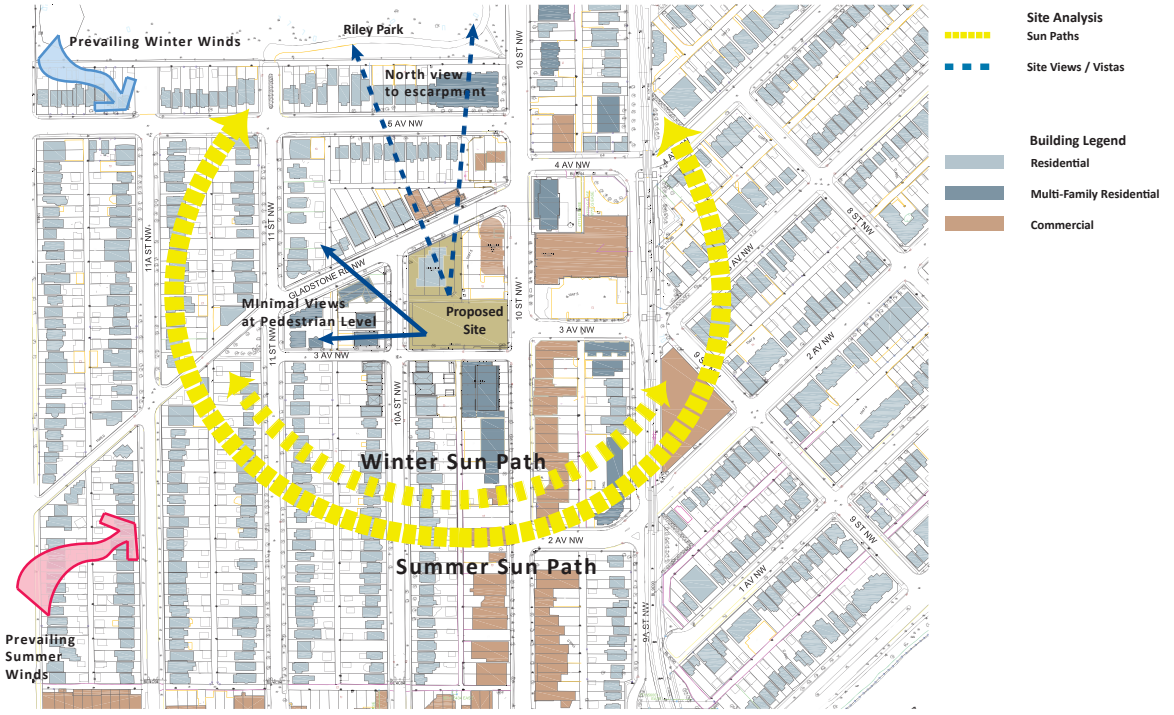
Illustration #3 - Final Presentation Board 'C'

Final Thesis Design Presentation

Site Analysis



Access / Amenity / Visual Analysis



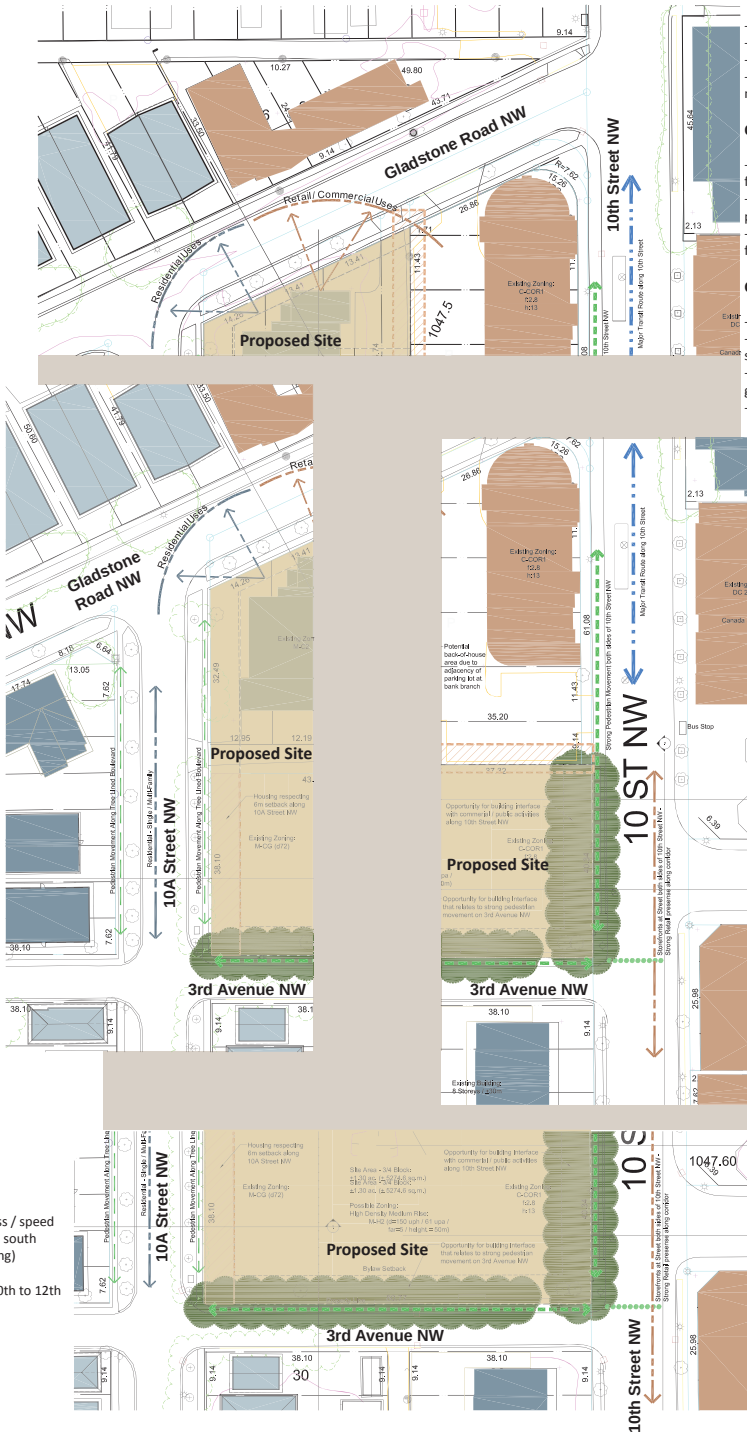
Environmental / Views Analysis

C | ***Urban Residential Community for Elders***
Level D9 (Thesis) - Barry Sullivan - A8940002

Illustration #4 - Final Presentation Board 'D'

Final Thesis Design Presentation

Site Opportunity / Constraints Analysis



Gladstone Road NW:

Analysis:

- Part residential / part commercial frontage
- Varied building setbacks (1.5 - 6m)
- Separate walks
- Wide street / primary vehicular access to neighbourhood

Opportunities:

- Service / back of house potential adjacent to financial building parking field
- Varied setbacks allows for flexible building placement
- Potential public uses adjacent to commercial frontage

Constraints:

- North facing / lack of direct sun
- Duplex units across street speak to short-term tenancies
- Northeast view from site less appealing with gas bar, retail
- Site has lack of enclosure at north end

10 A Street NW

Analysis:

- Separate tree-lined walk adjacent to narrow tertiary road with parallel parking each side
- Local road only
- Varied building setbacks (4m - 6m)
- Contains multi-family units adjacent to site and single family south of site.
- Building heights range from 2 - 3 floors

Opportunities:

- Prevalent multi-family residential uses
- Walkable neighbourhood with separate walks
- Varied setbacks allows for a range of building placements
- Closer building placement provides opportunities for resident / community interaction
- Local traffic = minimal impact on pedestrian movement
- Narrow road = slow moving traffic

Constraints:

- Narrow streets limits capability to enter site with vehicles
- Residential uses only on this street

10th Street NW

Analysis:

- Pedestrian / transit oriented street
- Major street designation
- Strong commuting traffic use
- Street-front commercial / setback on residential uses along street
- Site access from southbound traffic
- LRT station close by (1 block)
- Across from large food store
- Site on prominent pedestrian oriented commercial street
- Many amenities primarily south of site

Opportunities:

- Potential public uses adjacent to strong pedestrian route
- Adjacent to multiple transit options
- Adjacent to varied commercial / services uses
- Ability to build to street edge
- Option to reintroduce commercial uses from south

Constraints:

- No vehicular access to site
- Public face needed / little privacy capable
- Residential to south interrupts pedestrian / commercial street fabric

3rd Avenue NW:

Analysis:

- Highly utilized pedestrian corridor
- Narrow street impacts vehicular access / speed
- Adjacent to side yard of properties on south (parkade structure of apartment building)
- No sidewalk on south side of street
- Minimal setbacks along street from 10th to 12th Streets NW.

3rd Avenue NW:

Opportunities:

- Strong pedestrian link provides neighbourhood connectivity to site
- Minimal vehicular traffic accentuates strength of pedestrian movement

Constraints:

- Narrow street width means limited vehicular access on this side of site
- Building face to respond to pedestrian movement
- Adjacent apartment has solar impact on east side of site

D | *Urban Residential Community for Elders*

Illustration #5 - Final Presentation Board 'E'

Final Thesis Design Presentation

Site Analysis / Conceptual Design Summary


Preliminary Site Option #1


Preliminary Site Option #2


Preliminary Site Option #3

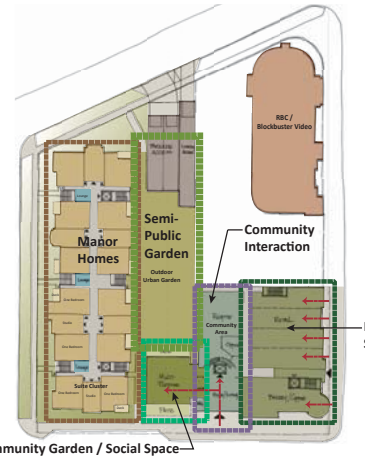

Preliminary Site Option #4


Preliminary Site Option #5

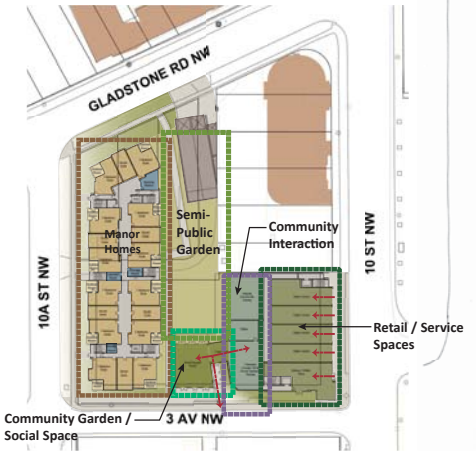

Preliminary Site Option #6


Preliminary Site Option #7


Preliminary Site Option #8



Preliminary Site Option #9



Preliminary Site Option #10

Preliminary Site Option #11

Public / Community Movement

E | Urban Residential Community for Elders

Illustration #6 - Final Presentation Board 'F'

Final Thesis Design Presentation

Gladstone Road NW:

Existing Condition:

1. Primary neighbourhood entry road
2. Transition between commercial (bank) and residential
3. Minimal pedestrian traffic
4. Pedestrian friendly street development
   - tree lined separate walks

Goal: New development should:

- Respect pedestrian oriented street
- Capitalize on street as "neighbourhood entry"
- Massing to blend between 10A Street massing and commercial site

Urban Fabric Analysis

"Great streets have definition. They have boundaries that communicate with the street."

"Streets are defined in two ways: vertically (building height) and horizontally (length and space between buildings)".

"Residential units add density and achieve active urban communities"

Making Great Streets, Allen Jacobs

10th Street NW:

Existing Condition:

1. 10th Street NW is a connection between Downtown & SAIT.
2. 10th Street NW is a street of commercial / service uses
3.. Pedestrian oriented street with vehicular movement
4. Multi-family appropriate location along street
   - currently young professionals / students

Goal: New development should:
- Frame street
- Continue urban fabric along 10th Street NW.
- Continue multi-family appropriate location along street
- Provides "eyes on street" with additional residents

10A Street NW:

Existing Condition:

1. Pedestrian oriented residential street
2. Comfortable massing for pedestrians
3. Buildings should provide "connection" to street

Goal: New development should;

- Maintain residential orientation
- Address existing pedestrian oriented street
- Building to properly frame street to create more "urban" condition

View south down 10A Street NW


10th Street - View South showing
future potential massing

3rd Avenue NW:

Existing Condition:
1. Pedestrian corridor
2. Side street orientation
3. Narrow road section / narrow sidewalk

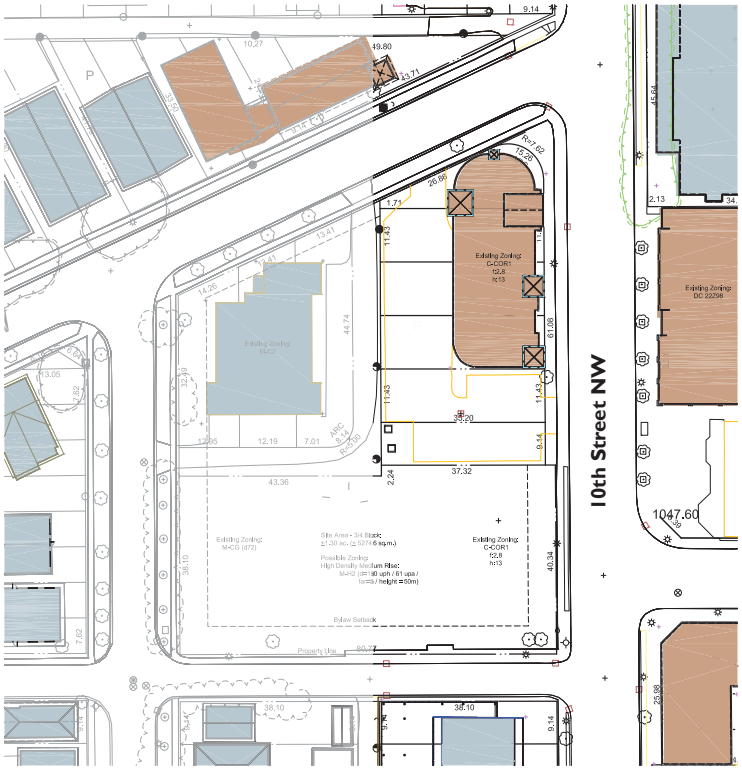
Goal: New development should:

- Properly frame narrow street
- Provide for comfortable pedestrian movement
- Upgrade to a "frontage" street with facing uses onto street

Illustration #7 - Final Presentation Board 'G'

Final Thesis Design Presentation

Preliminary Massing Concepts - 10th St. NW



Building Massing Opportunities - 10th Street NW

Existing:
- Existing multi-storey residential (7, 8, & 12 storey)

- Retail / Office / Service in 1 - 3 storey streetfront buildings

- Small quantity of street-side patios along 10th St. NW

Objectives:
A) Pedestrian oriented, retail development at grade level

B) Rich detail of varied storefronts in keeping with evolution of 10th Street to south

C) Varied opportunities for pedestrians from sitting, walking, gathering to converse along streetscape

D) Retail / Services uses at grade with residential / mixed uses above.

E) Ability to provide sense of enclosure to streetscape

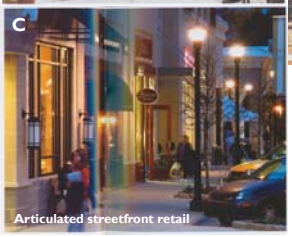
F) 10th Street redevelopment to possibly transition to more densely developed mixed use spaces with retail at base.

Design Strategy:
1) Articulated street-front massing that accommodates retail (B/C) and residential - mixed use above (E, G, H, I)

2) Massing range: 6 - 8 storeys
- appropriate framing to street
- in keeping with existing apartments

3) Rich material palette in keeping with a variety of uses

Streetfront Retail / Service Imagery



Building Massing Imagery

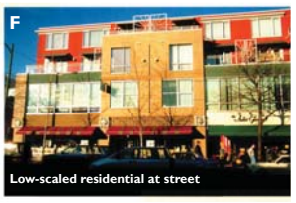


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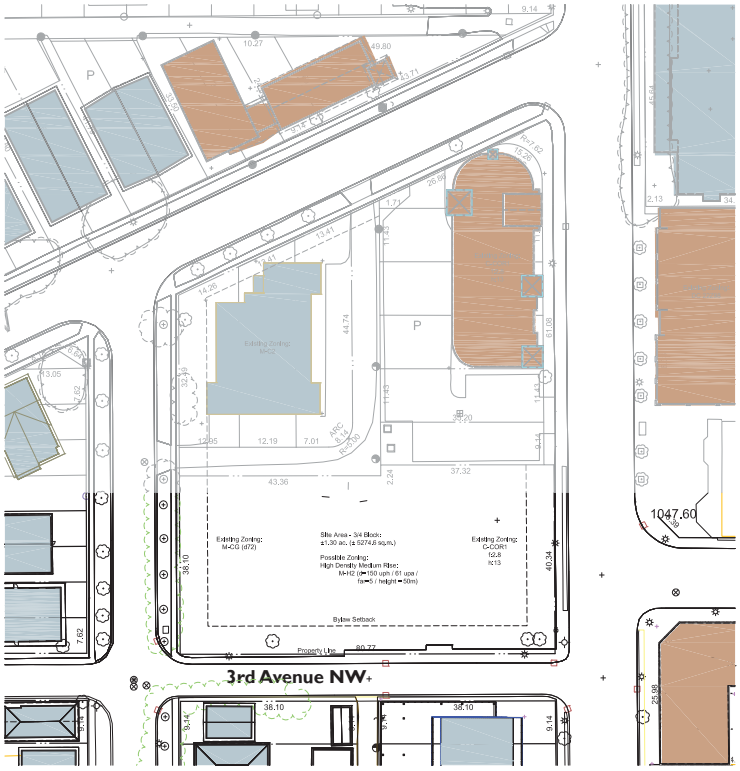
Illustration #8 - Final Presentation Board 'H'

Final Thesis Design Presentation

Preliminary Street Massing Concept - 3rd Ave. NW.



Building Massing Opportunities - 3rd Avenue SW

Existing:

- Transition street between commercial (10th St. NW) and residential (10A St. NW)

- Transition between mid-rise (8 - 12 storeys) and low-rise (1 - 3 storeys

- Existing residential zoning allows for higher density redevelopment to 3-4 storey buildings (72 u.p.h. / 29 u.p.a.)

- strong pedestrian movement along 3rd Avenue NW

Objectives:

A) Low scale multi-level residential development (3 - 4 storeys)

B) Front yard / courtyard between building and street (buffer zone between building & pedestrians)

C) Varied opportunities for pedestrians from sitting, walking, gathering to converse along streetscape

D) Sympathetic building scale along pedestrian oriented street

E) Building massing that begins to frame in street section - suitable to narrow pedestrian oriented street

F) Commercial space to accommodate pedestrian friendly space along 3rd Avenue NW

Design Strategy:

1) Urban edge transition where building setback allows patios / outdoor retail space (E / H)

2) Residential closer to street as urban edge - minimum front porch (B / D / G)

3) Softening of urban edge at residential (C / D) with landscaping

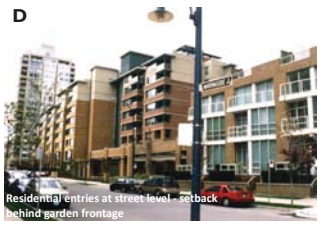
4) Distinctive entrances to residential units at grade (B / C / D / G)

5) Transitional massing along street (3 -4 storeys at 10A St. to 6 - 8 storeys at 10 St).


A
Four storey massing set back from sidewalk as buffer

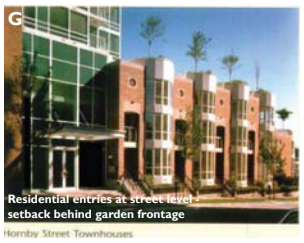

B
Front porch at residential entry - buildings close to pedestrian path


C
Residential entries at street level - setback behind garden frontage


D
Residential entries at street level - setback behind garden frontage


E
Garden wall along pedestrian street - possible patios / outdoor retail spaces behind screen


F
Articulated residential development adjacent to pedestrian streetscape

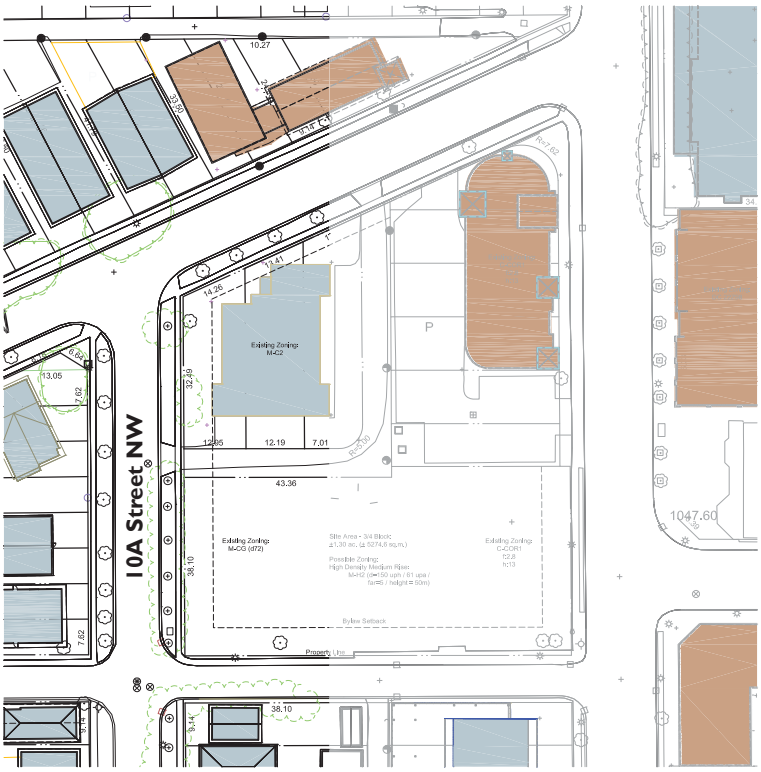

G
Residential entries at street level - setback behind garden frontage
Hornby Street Townhouses


H
Variety of retail opportunities at grade - both patios / outdoor sales spaces
Sidewalk cafés animate Marinaside Crescent

Illustration #9 - Final Presentation Board 'I'

Final Thesis Design Presentation

Preliminary Street Massing Concepts - 10A St. NW.



Building Massing Opportunities - 10A Street NW

Existing:
- Residential streetscape with dominant setbacks

- Pedestrian oriented streetscape with tree lined sidewalks

- Existing zoning (MG(72)) allows for higher density redevelopment (3 -4 stories)

- New densities would still adhere to setbacks

Objectives:
A) Pedestrian oriented, low scale multi-level residential development

B) Front yard / courtyard between building and municipal street / property line

C) Varied opportunities for pedestrians from sitting, walking, gathering to converse along streetscape

D) Sympathetic building scale along pedestrian oriented street

E) Building massing that begins to frame in street section

F) Adherence to setbacks allows for garden buffer between residence and street

Design Strategy:
1) Residential units accessible from street

2) Adherence to setbacks allows for garden forecourts

3) Massing to be 3 - 4 storeys in keeping with redeveloped neighbourhood

Illustration #10 - Final Presentation Board 'J'

Final Thesis Design Presentation

Preliminary Street Massing Concepts - Gladstone Rd. NW.

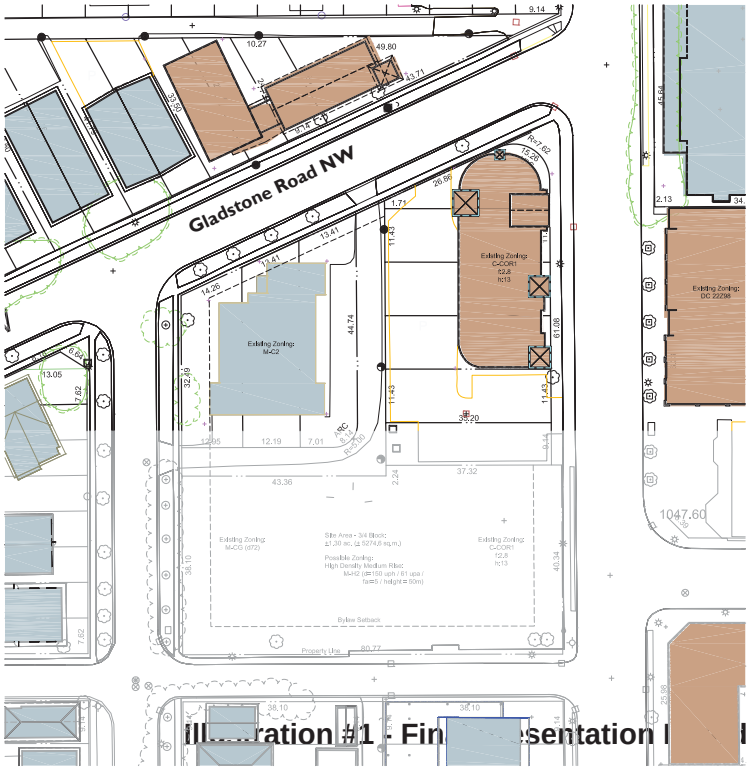


Illustration #1 - Final Presentation Board 'A'

Building Massing Opportunities - Gladstone Avenue NW

Existing:

- Mixed use street (residential / commercial)
- Boulevard tree-lined street
- Primary automotive access to Kensington
- North facing orientation of site
- Existing zoning (MG(72)) allows for denser redevelopment potential of 3 - 4 storeys (72 u.p.h. / 29 u.p.a.)
- 10 St. NW has potential for 3 - 4 storey redevelopment based on existing zoning

Objectives:

A) Pedestrian oriented, low scale multi-level residential development

B) Front yard / courtyard between building and municipal street / property line for building entry

C) Varied opportunities for pedestrians from sitting, walking, gathering to converse along streetscape with respect to building entry

D) Sympathetic building scale between transitional districts

E) Building massing that begins to frame in street section

F) Transitional street: commercial / residential
mid-rise / low rise

G) Formal entry along frontage

H) 10th Street has potential for mixed use mid-rise redevelopment.

Design Strategy:

1) Create a formal entry to facility off of automotive road

2) Building setback minimal in keeping with adjacent street

3) Residential close to street - urban edge transition

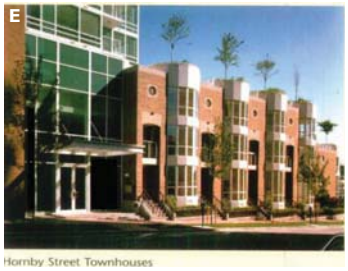
4) Massing at 3 - 4 storeys in keeping with potential redevelopment scale

Potential recessed / courtyard building entry

Entry portico / recessed entry from street

Streetside entry off pedestrian oriented sidewalk

Formal / traditional entry - non descript building type



Modern entry in contrast to residential suites

Hidden entry / blends with residential building

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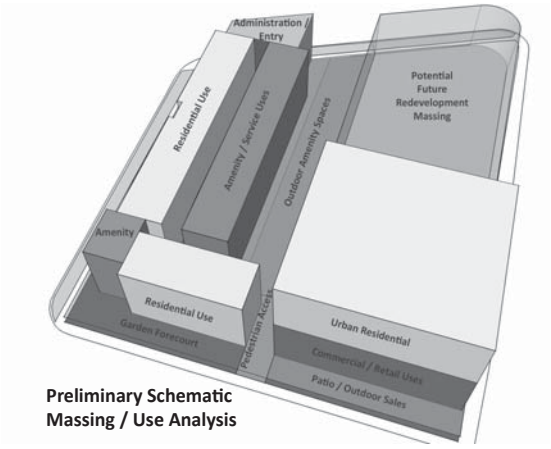
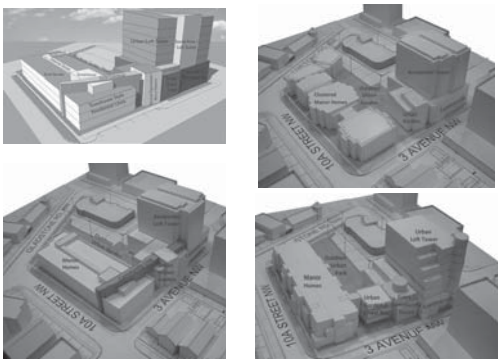
Illustration #11 - Final Presentation Board 'K'

Final Thesis Design Presentation

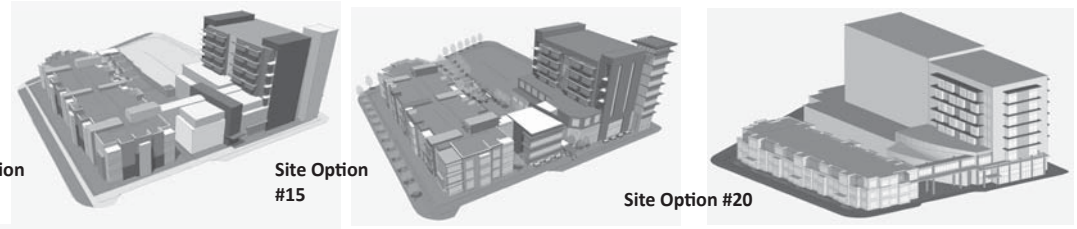


Preliminary Schematic Massing / Use Analysis

Massing Studies / Analysis



Early Schematic Massing Model Options

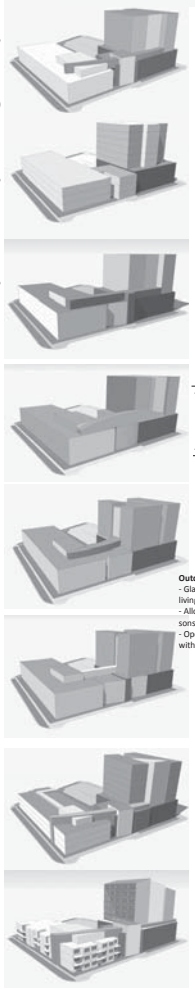


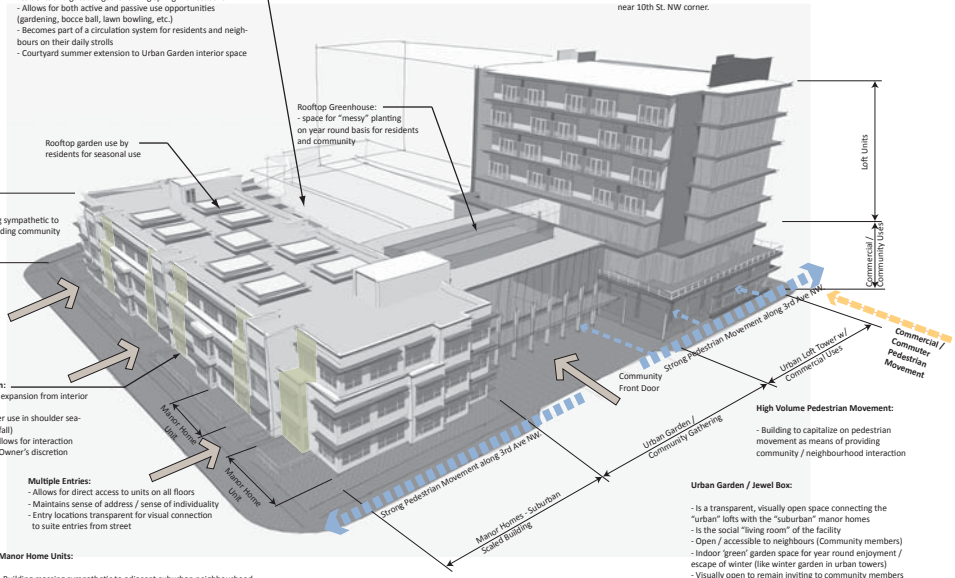
Site Option #14

Site Option #15

Site Option #20

Early Preliminary Massing Concepts





Final Schematic Site Massing Option

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Illustration #12 - Final Presentation Board 'L'

Final Thesis Design Presentation

Neighbourhood View

Vicinity Plan

1 Vicinity Plan
1 : 500

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Illustration #13 - Final Presentation Board 'M'

Final Thesis Design Presentation

Site Plan

1 Site Plan
1 : 200

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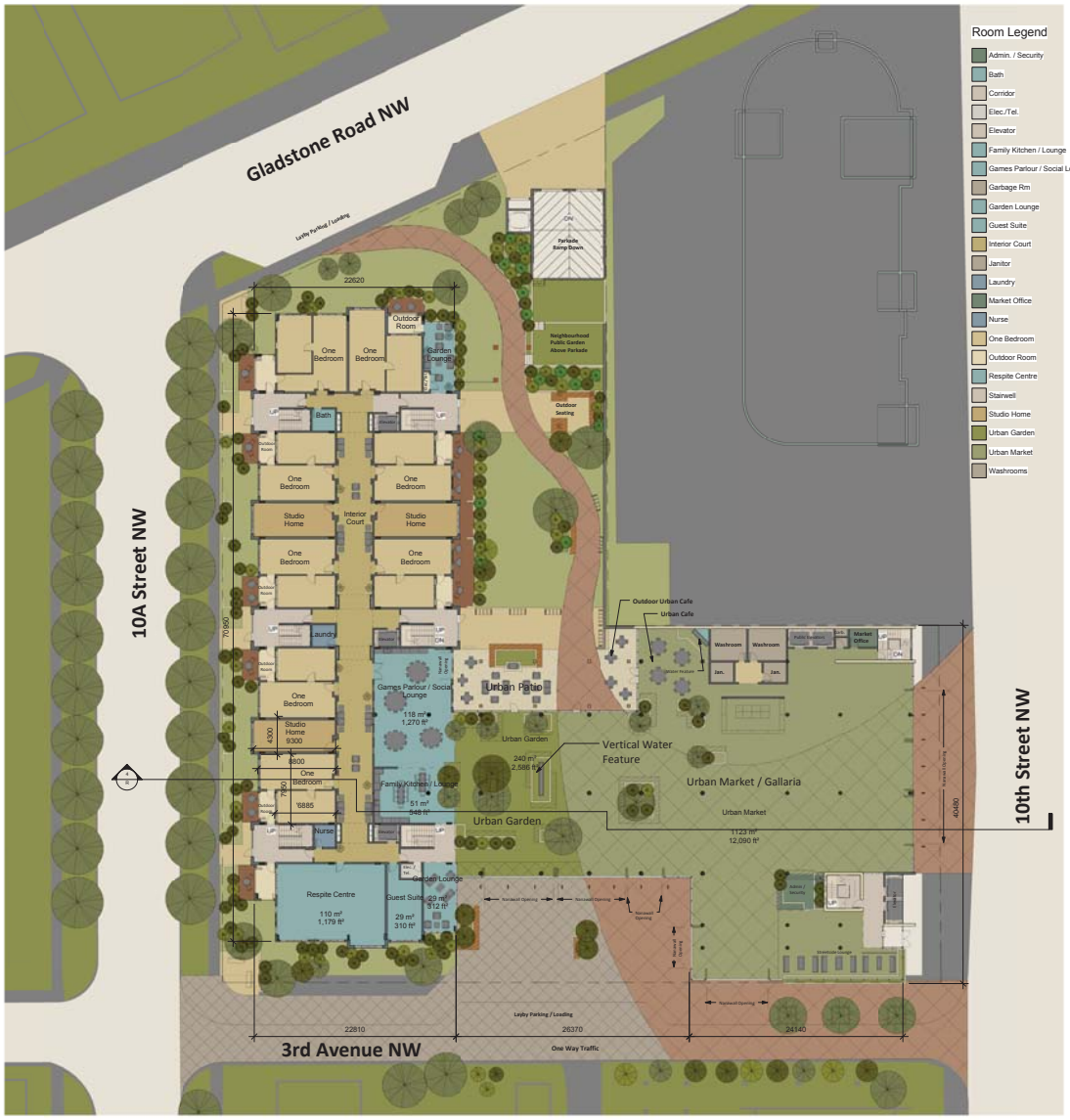
Illustration #14 - Final Presentation Board 'N'

Final Thesis Design Presentation

Main Floor Plan



1 Main Floor
1 : 200

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Illustration #15 - Final Presentation Board 'O'

Final Thesis Design Presentation

Urban Market Plan Options

Weekday markets catering to residents, neighbourhood members, commuters, and C-Train patrons

1 Weekday Market Plan
1 : 200

Markets can vary through seasons and include craft fairs, Christmas markets, and trade shows

2 Weekend Market Plan
1 : 200

Flexible Urban Market can accommodate various functions including concerts, seminars, political speeches, and lectures. Space can also accommodate wedding receptions, anniversary parties, birthday parties, etc.

3 Sunday Night Concert Plan
1 : 200

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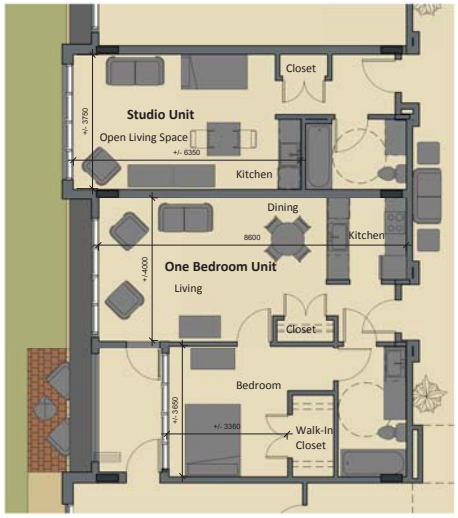
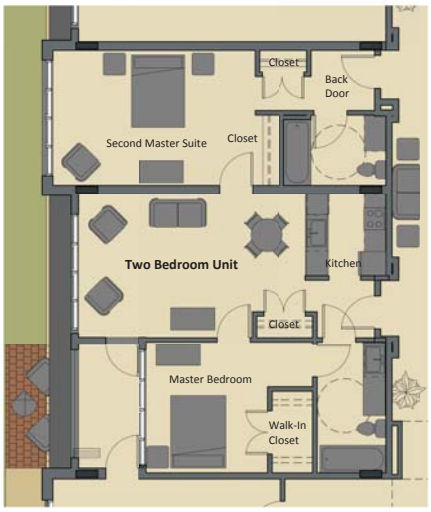
Illustration #16 - Final Presentation Board 'P'

Final Thesis Design Presentation

2nd / 3rd Floor Plans - Manor Home



3 1 Bedroom / Studio Floor Plan
1 : 50



4 Manor Home - 2 Bedroom Plan
1 : 50

Manor Home Suite Flexibility:

Manor home suites are meant to be flexible to provide the opportunity to live in either a two bedroom, one bedroom, or studio suite. When a couple starts at a two bedroom suite, the ability to transition down to either a one bedroom or studio unit is there without having to move to another portion of the building.

The Studio suite is flexible to be arranged as a bedroom or single living unit. The flexible component is the kitchen / closet. At a studio unit, demountable cabinets and sink unit are installed in the plumbing wall. At the time of the unit becoming a two bedroom, the kitchen is removed and an open closet installed behind the entry door.

1 2nd Floor Plan Manor Home
1 : 200

2 3rd Floor Plan-Manor Home
1 : 200

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Illustration #17 - Final Presentation Board 'Q'

Final Thesis Design Presentation

Mezzanine - 3rd Floor Plan-Tower

2 3rd Floor Plan - Tower
1 : 200

Room Legend

- Casual Dining
- Corridor
- Elec./Tel.
- Elevator
- Family Kitchen / Lounge
- Garbage Rm
- Garden Lounge
- Guest Suite
- Interior Court
- Janitor
- Kitchen
- Library / Internet
- Movie Room
- Office / Service
- One Bedroom
- Outdoor Deck
- Private Dining
- Pub / Lounge
- Shafts
- Stairwell
- Washrooms

1 Mezzanine Level - Tower
1 : 200

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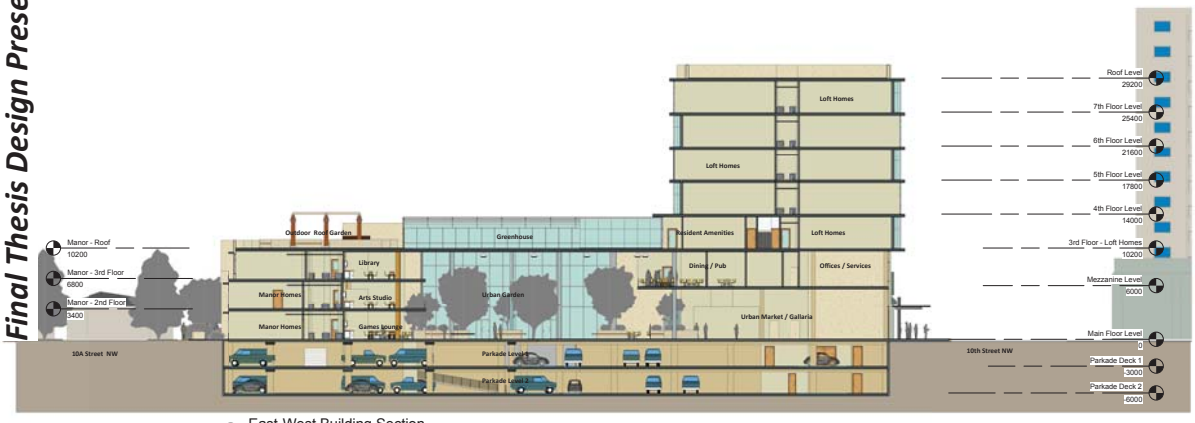
Illustration #18 - Final Presentation Board 'R'

Final Thesis Design Presentation

4th Floor / Typical Floor / Unit Plans / Site Section



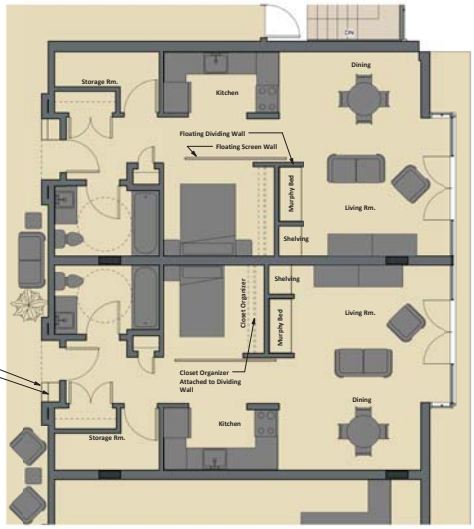
4 East-West Building Section
1 : 200

Room Legend

- Bath
- Corridor
- Elec./Tel.
- Elevator
- Fireside Lounge
- Mechanical Room
- Nurse
- Shafts
- Soleil Lounge
- Stairwell
- Urban Loft Home

2 5th Floor Plan (Typ. Plan) - Tower
1 : 200

1 4th Floor Plan - Tower
1 : 200



3 Loft Home Unit Plan - Tower
1 : 50

Suite Layout:

Lofts are inherently flexible by nature, therefore only minor additional flexibility is required for these suites.

Flexibility revolves around bedroom size and ability to create guest space. Suite has floating wall system that houses:
- **closet organizer to maximize clothes storage**
- **Murphy bed for guests**
- **Shelving / storage**

The bedroom is screened with a floating wall that also acts as a screen wall for the murphy bed when guests are using the bed.

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Illustration #19 - Final Presentation Board 'S'

Final Thesis Design Presentation

Parkade Plans

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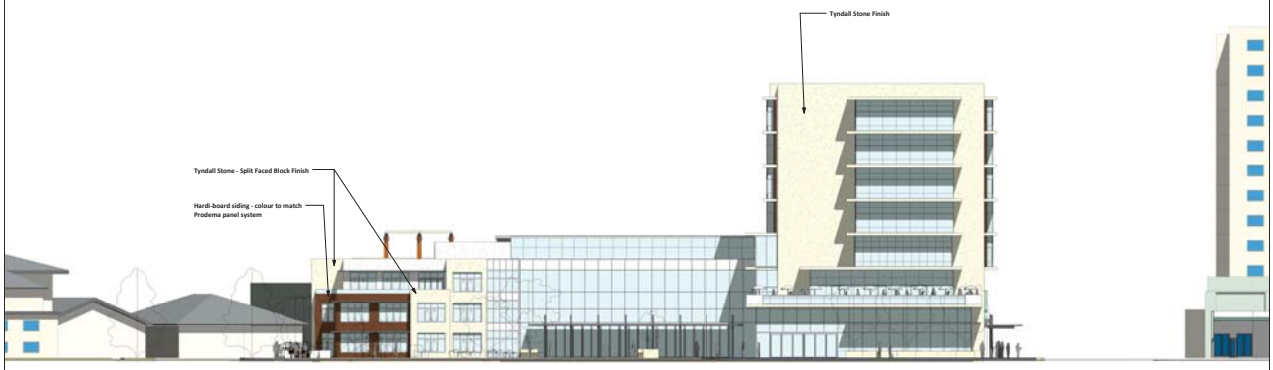
Illustration #20 - Final Presentation Board 'T'

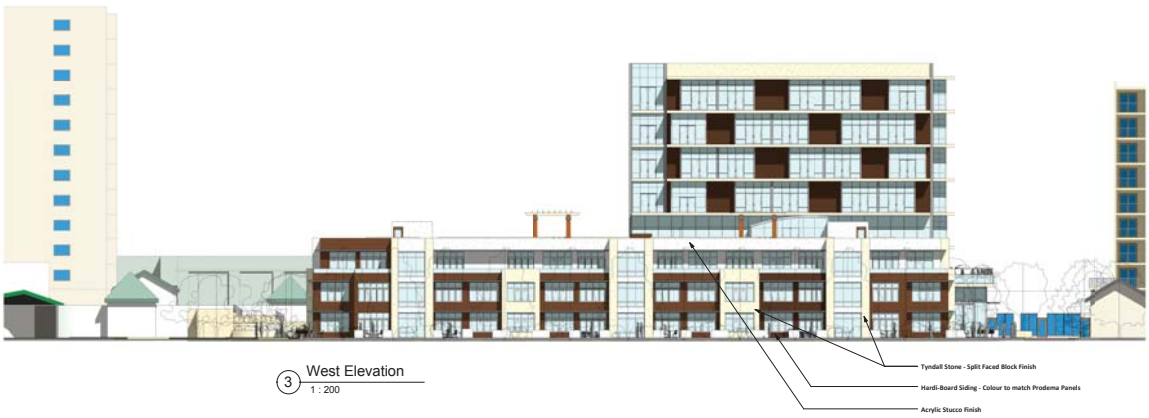
Final Thesis Design Presentation

Building Elevations

1 East Elevation
1 : 200



2 South Elevation
1 : 200



3 West Elevation
1 : 200

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Illustration #21 - Final Presentation Board 'U'

Final Thesis Design Presentation

Exterior Persectives

1 SW Overall Aerial
1 : 1

This view shows the weekend market in progress

2 3rd Ave West-Weekend Market
1 : 1

3 3rd Ave Street-View East
1 : 1

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Illustration #22 - Final Presentation Board 'V'

Final Thesis Design Presentation

Urban Garden Persepectives

1 Urban Garden View from North
1 : 1

2 Urban Garden Closeup
1 : 1

3 Urban Plaza Ped View North
1 : 1

V Urban Residential Community for Elders

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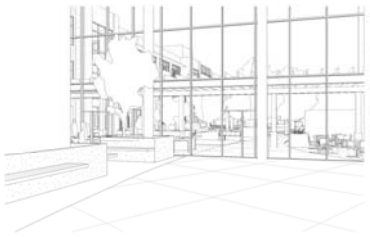
Illustration #23 - Final Presentation Board 'W'

Final Thesis Design Presentation

Interior Urban Garden Views

1 Interior View of Urban Garden Looking West
1 : 1



2 Int Garden View North

3 View of Urban Garden to East
1 : 1

W Urban Residential Community for Elders

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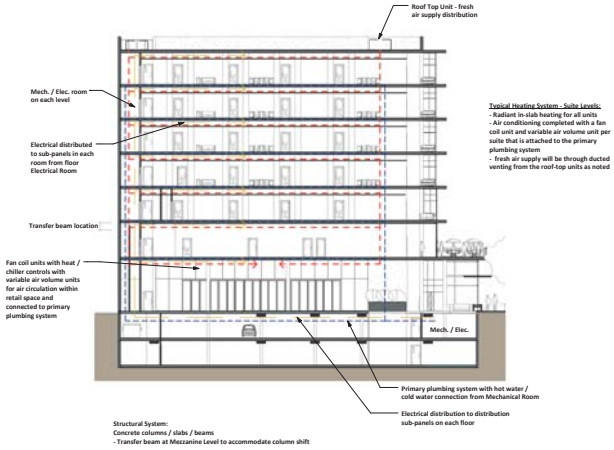
Illustration #24 - Final Presentation Board 'X'

Final Thesis Design Presentation

Mechanical / Electrical Diagrams

1 Manor Home - Mechanical / Electrical Distribution
1 : 200



2 Loft Tower - Mech. / Elec. Diagram
1 : 200

X **Urban Residential Community for Elders**
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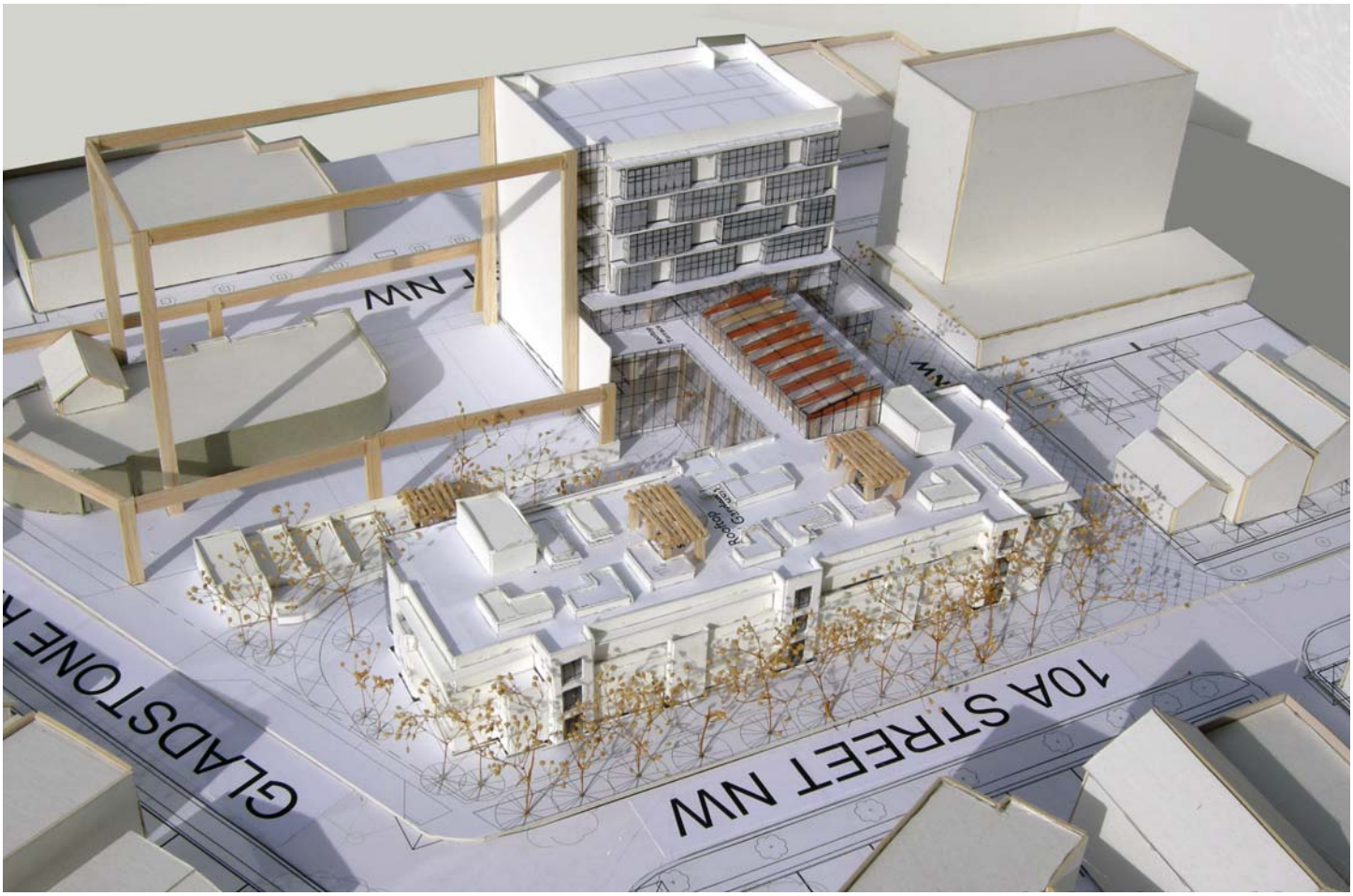
SECTION THREE - DESIGN LEVEL D9B

MODEL ILLUSTRATIONS

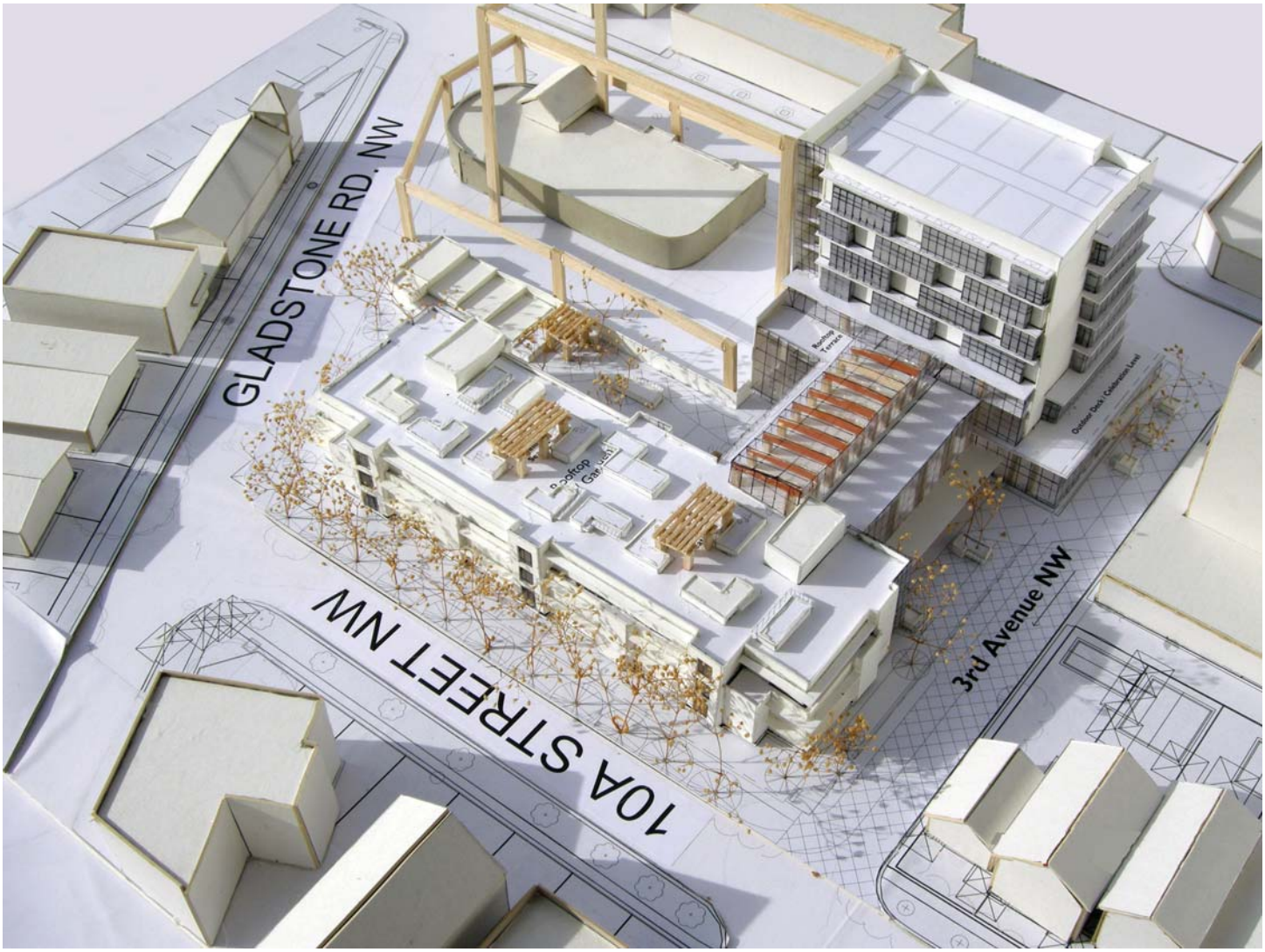
PRESENTATION MODEL PHOTOGRAPHS

Illustration #25 - Presentation Model Photograph - Aerial View from Northwest



Aerial view of model from northwest focusing on the Manor Homes and Urban Garden

Illustration #26 - Presentation Model Photograph - Aerial View from Southwest

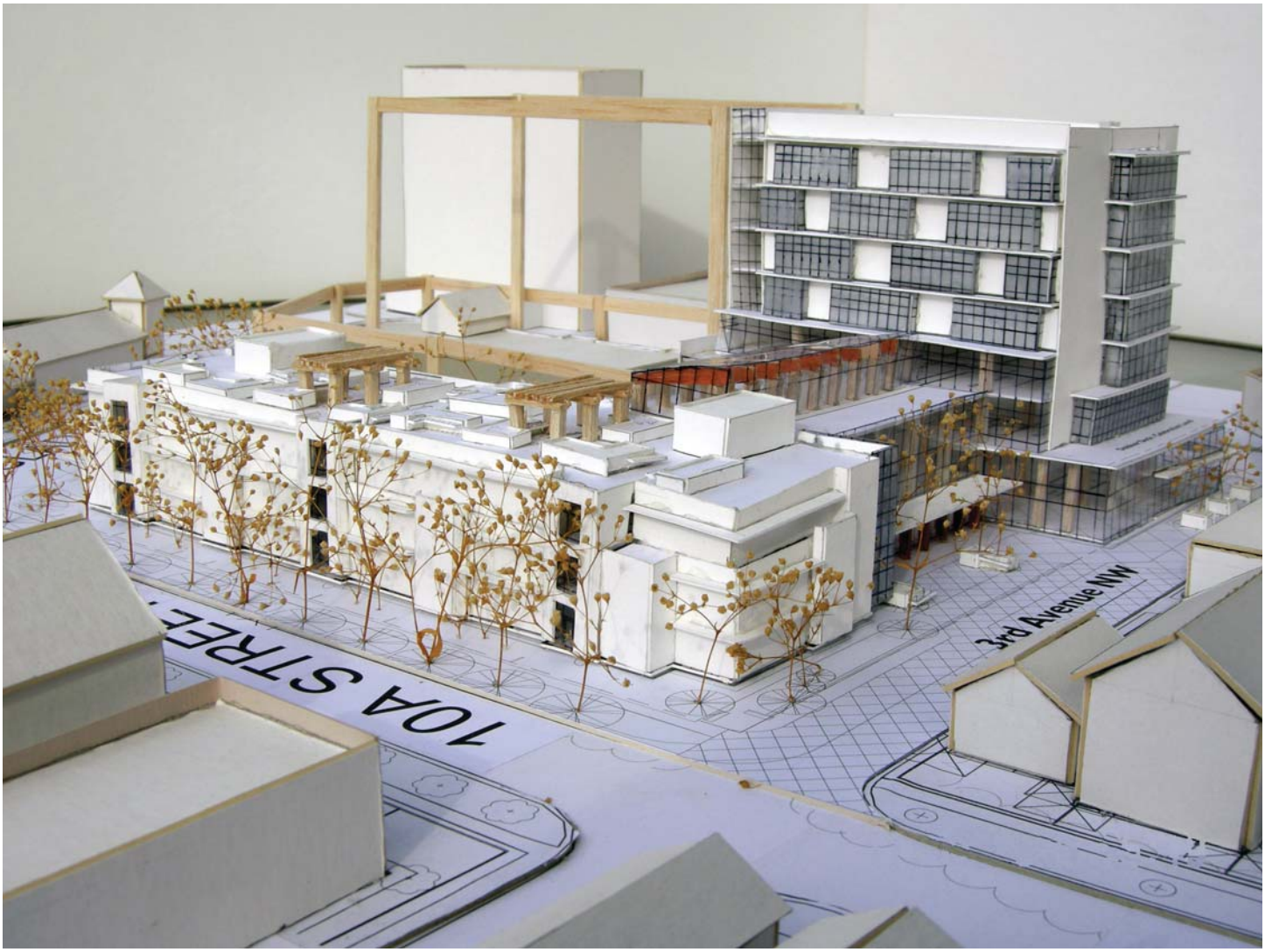


Aerial view of model from southwest

**Illustration #27 - Presentation Model Photograph -
Aerial View of Roof Garden / Greenhouse**

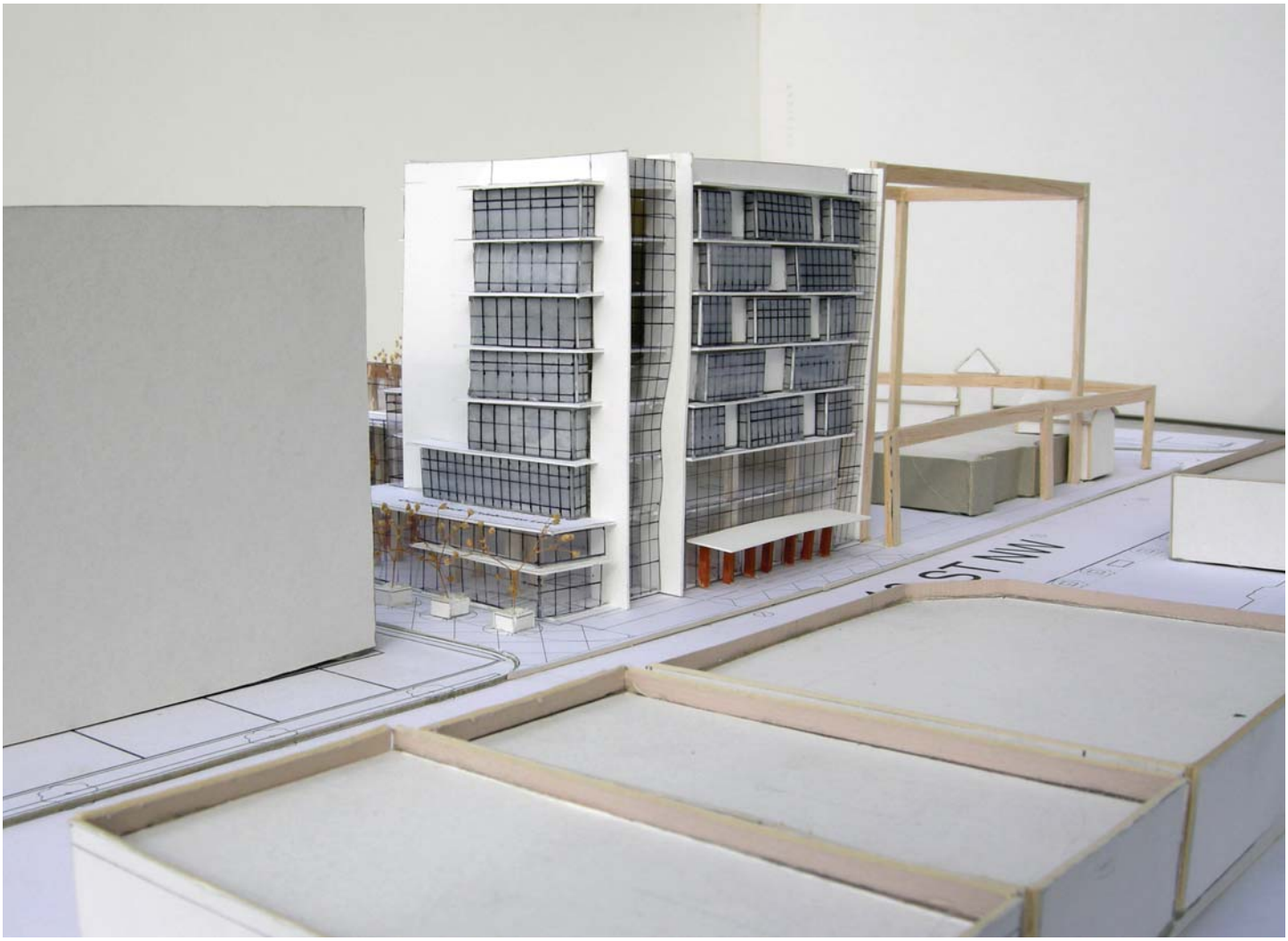
Aerial view of rooftop garden, greenhouse, and urban park from north

Illustration #28 - Presentation Model Photograph - Aerial View from Southwest



Aerial view of model from southwest focusing on the streetscape along 10A Street and 3rd Avenue NW

**Illustration #29 - Presentation Model Photograph -
Aerial View of 10th Street Streetscape**



Aerial view of 10th Street NW streetscape

Illustration #30 - Presentation Model Photograph - Streetscape View Along 10th Street NW

Streetscape view of model looking north along 10th Street NW.

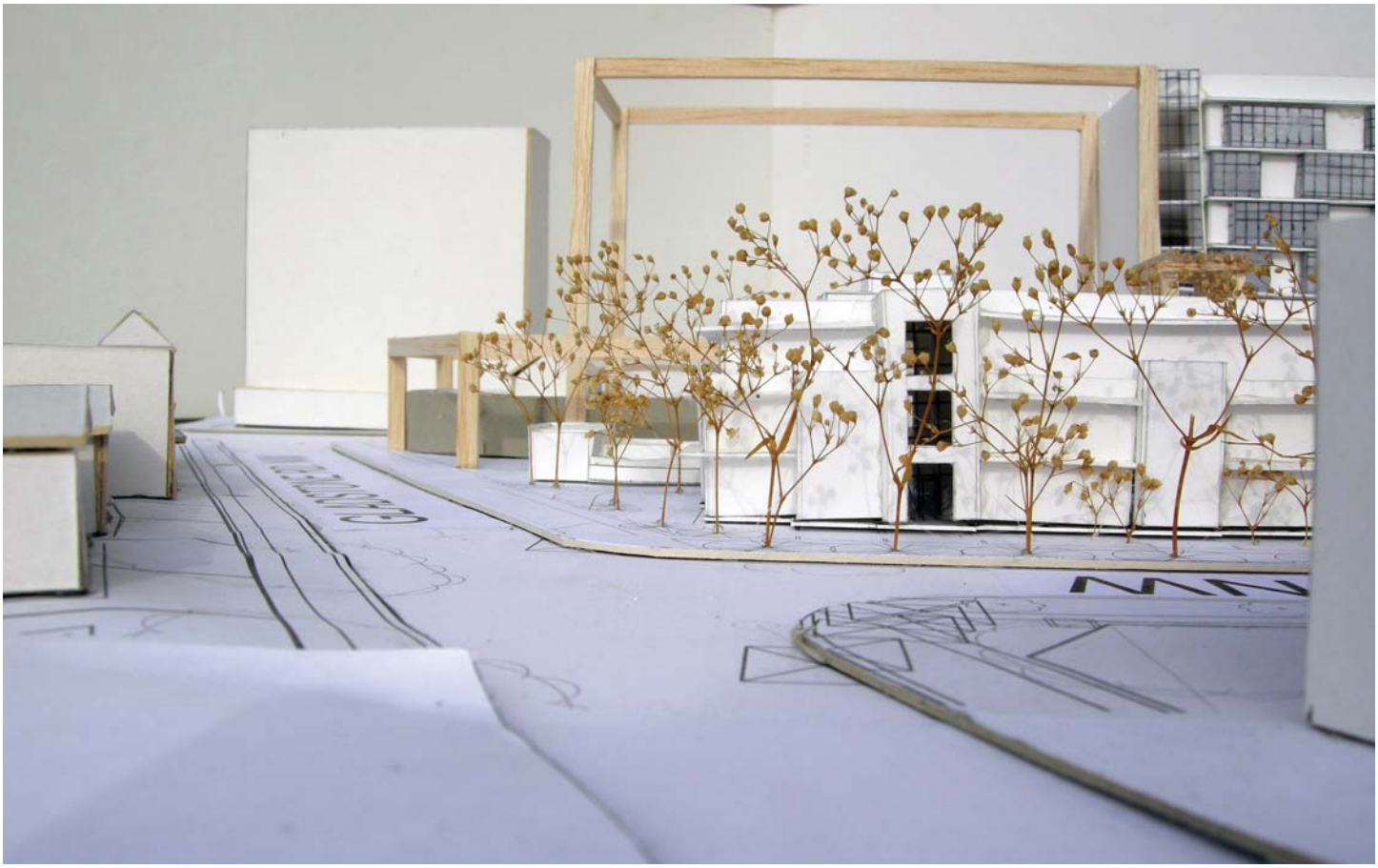
Illustration #31 - Presentation Model Photograph - Aerial View Along 3rd Avenue NW

Aerial view of corner of 10th Street and 3rd Avenue NW

**Illustration #32 - Presentation Model Photograph -
View of 10th Street NW Elevation**

View of building as one approaches from the Kensington C-Train station along 3rd Avenue NW.

**Illustration #33 - Presentation Model Photograph -
View East Along Gladstone Road NW**

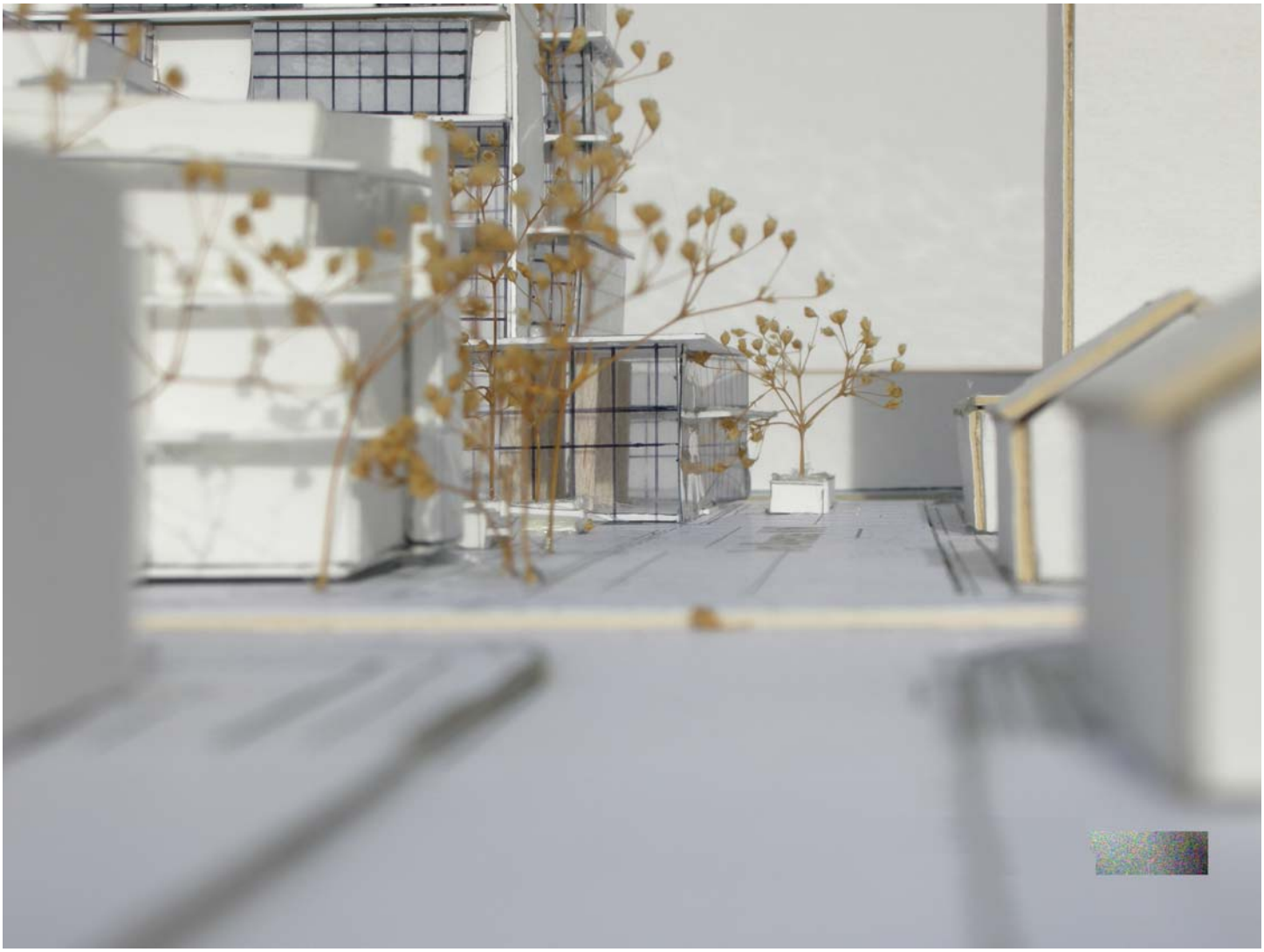


Pedestrian view of project looking east along Gladstone Road NW

**Illustration #34 - Presentation Model Photograph -
View South Along 10A Street NW**

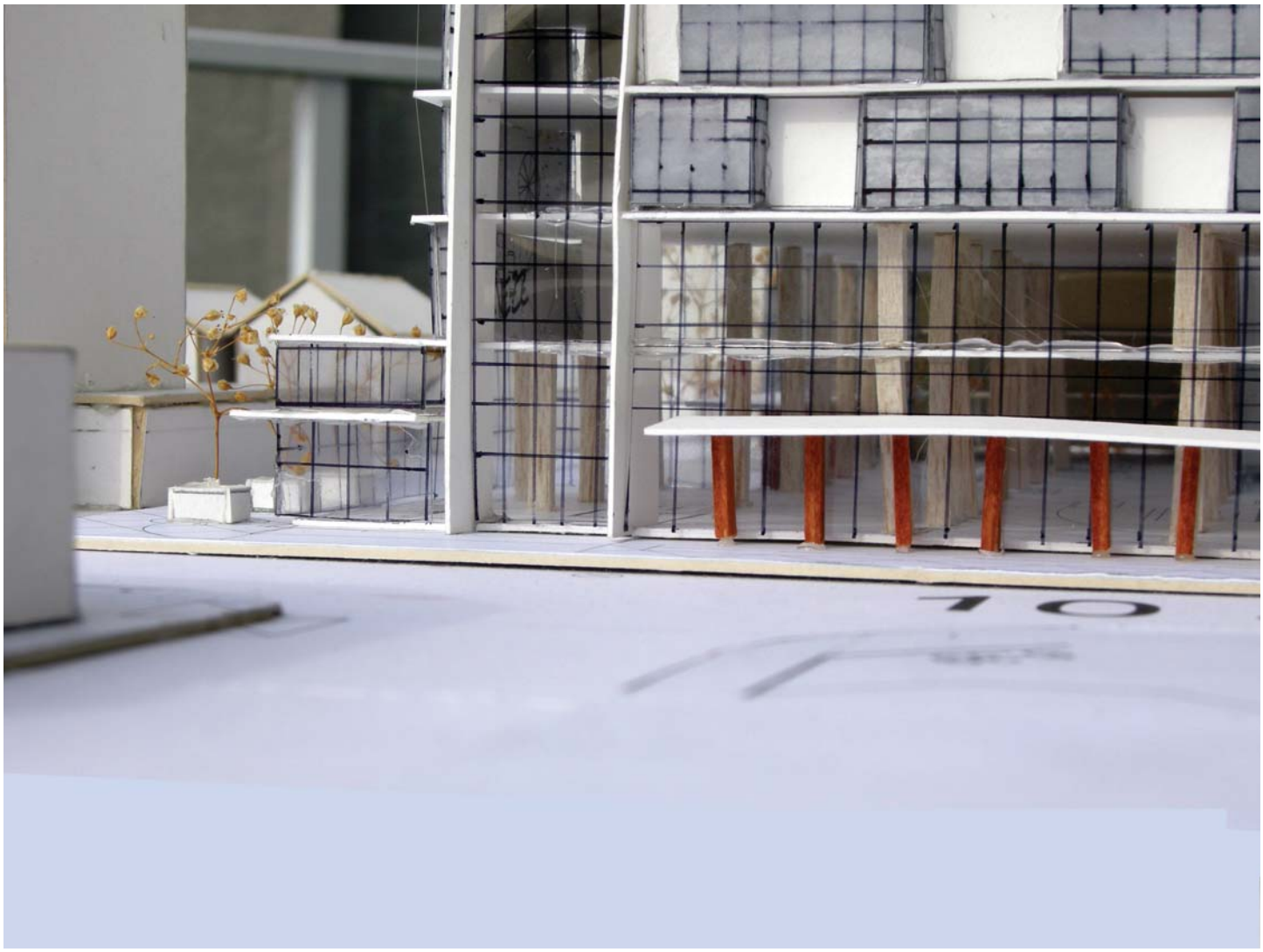
Pedestrian view of project as one approaches northbound along 10A Street NW

Illustration #35 - Presentation Model Photograph - View East Along 3rd Avenue NW



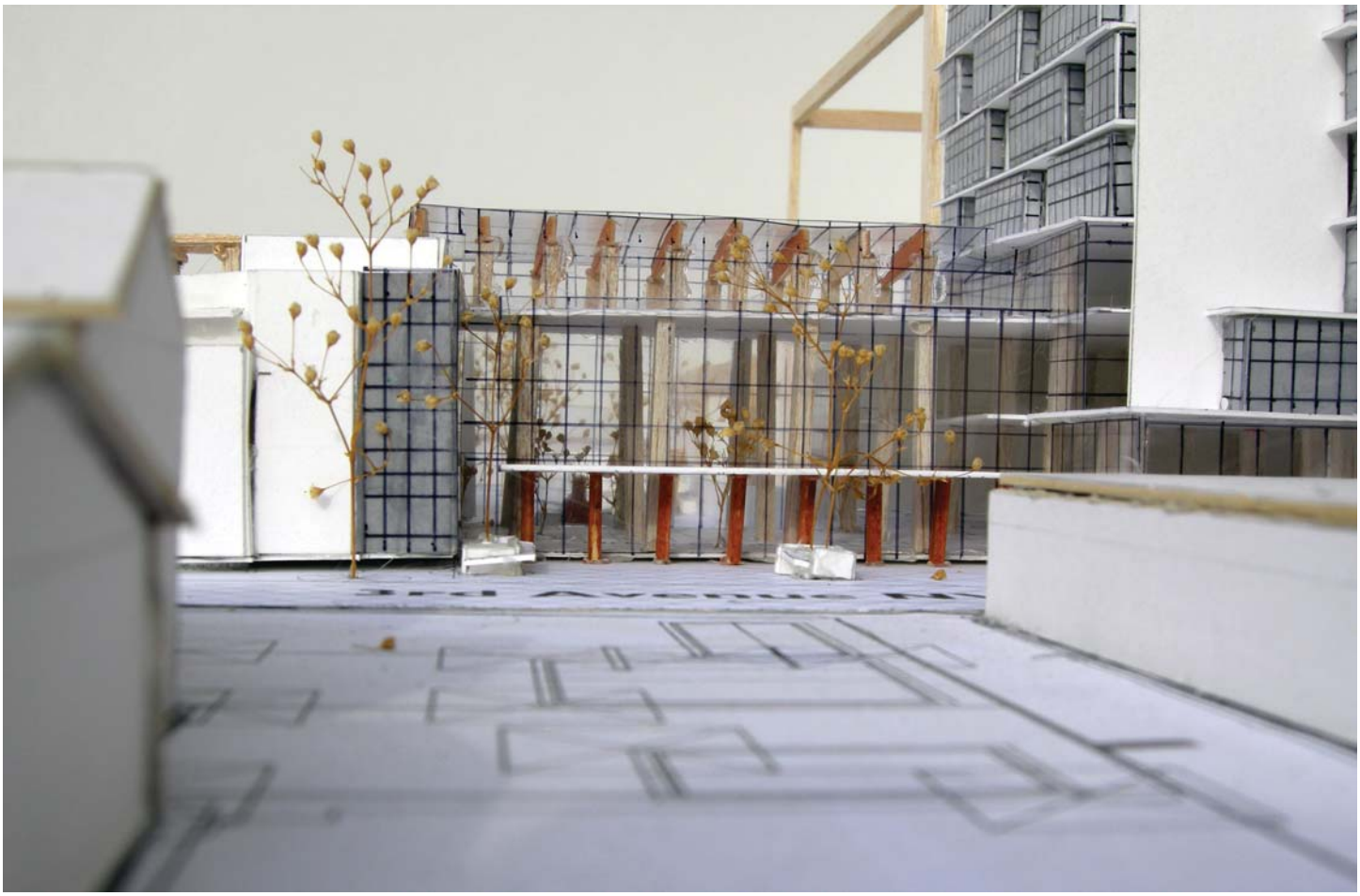
Pedestrian view of project as one approaches eastbound along 3rd Avenue NW

Illustration #36 - Presentation Model Photograph - View of 10th Street NW Streetscape



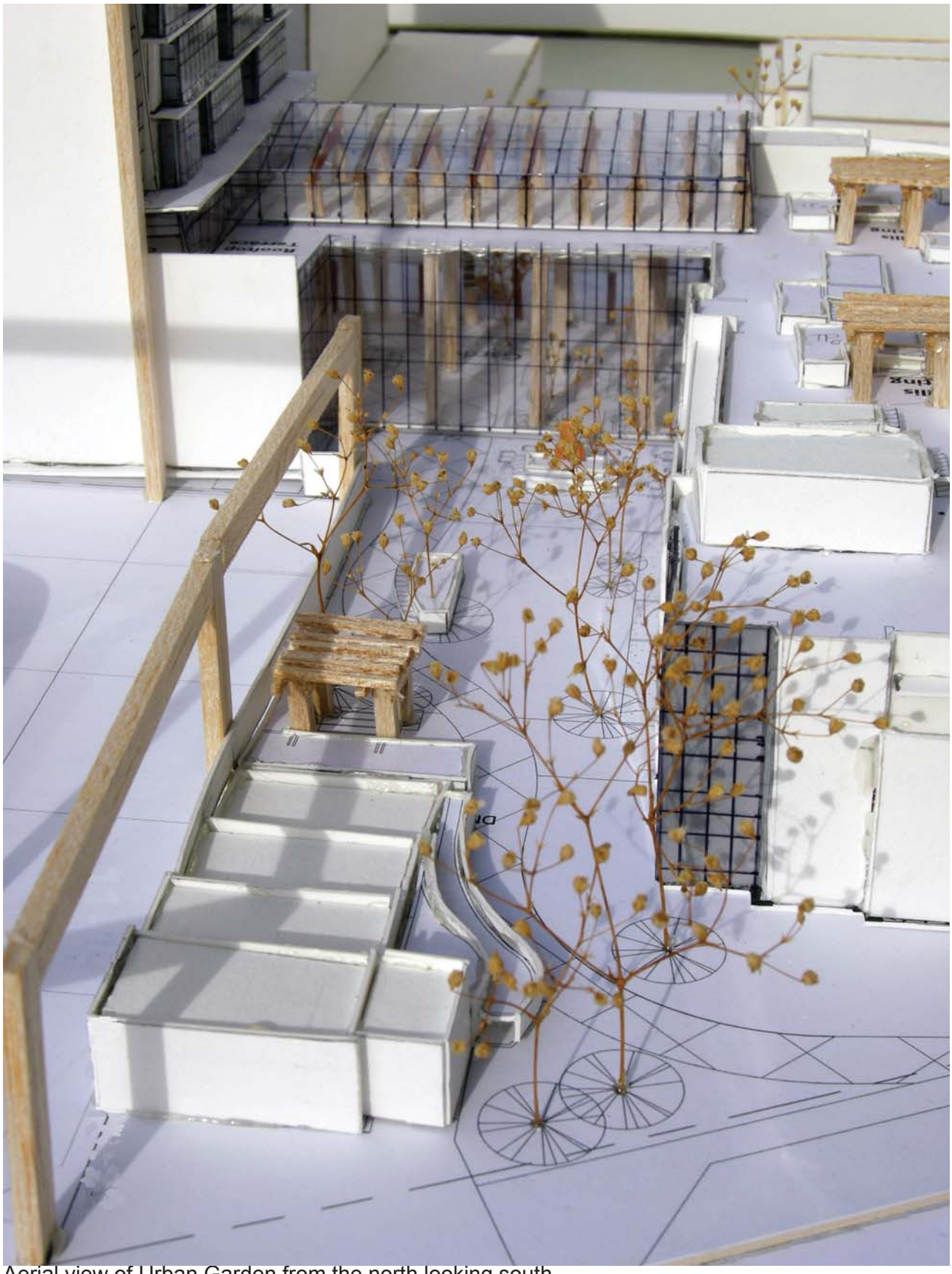
Pedestrian view of project looking west standing along 3rd Avenue NW adjacent to the Safeway parking lot on the north side of the street.

**Illustration #37 - Presentation Model Photograph -
View of 3rd Avenue NW Urban Plaza**



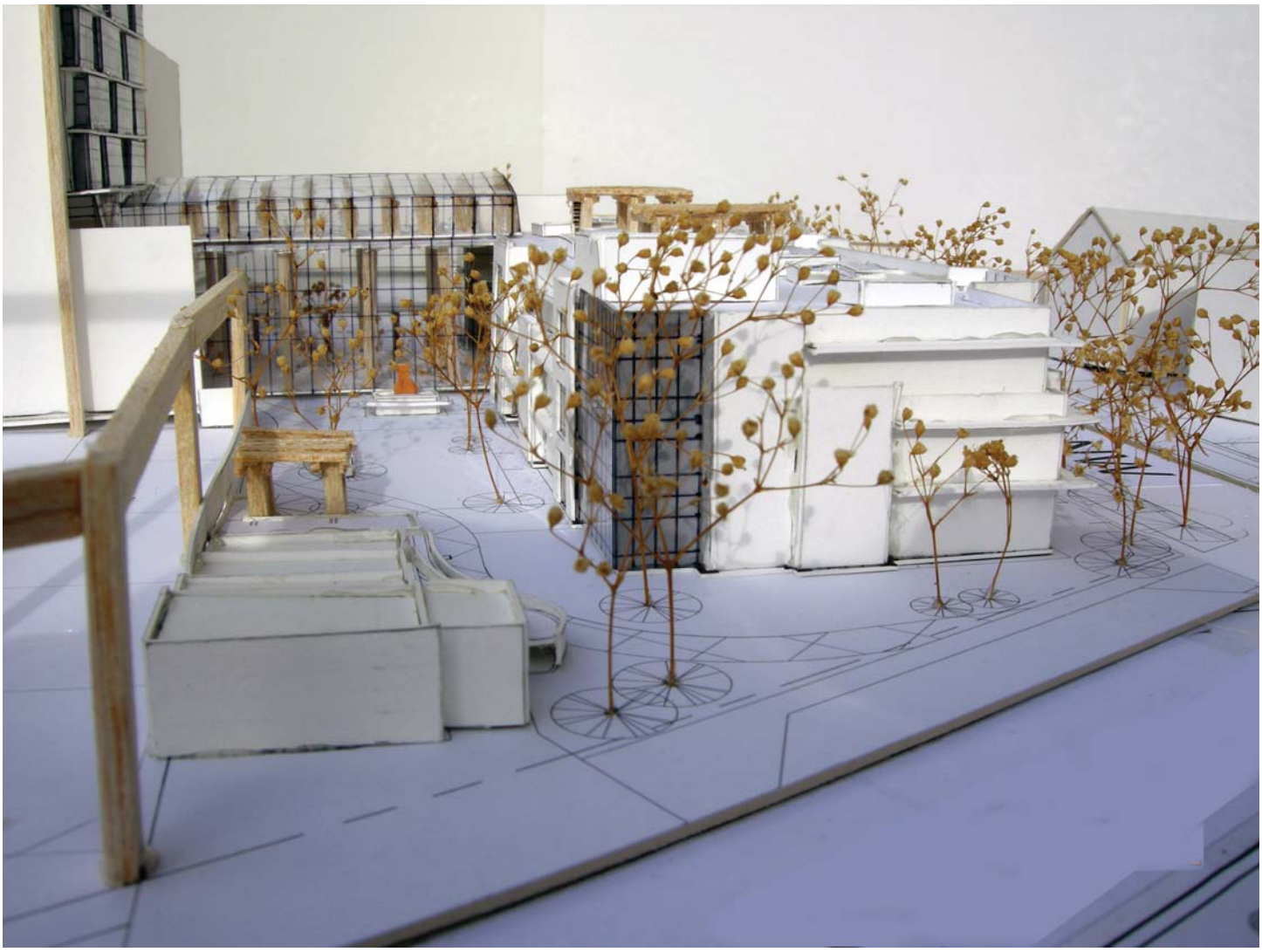
View north of Urban Plaza along 3rd Avenue NW.

Illustration #38 - Presentation Model Photograph - Aerial View of Urban Garden



Aerial view of Urban Garden from the north looking south

Illustration #39 - Presentation Model Photograph - Aerial View of Urban Garden



Aerial view of Urban Garden looking south from Gladstone Road NW

APPENDIX ONE:

SENSORY FUNCTIONS, LIMITATIONS, AND DESIGN SOLUTIONS

Table 3
Sensory Functions, Limitations, and Design Solutions

(See Clauses 5.5, 6.2, and 6.3.)

Function/description	Examples of functional limitations	Examples of design solutions
Hearing Sensing sounds and discriminating their location, pitch, loudness, and quality Auditory discrimination, localization of sound source, speech discrimination Perceptual functions; recognizing and interpreting auditory stimuli	Hearing impairment, deafness, and hearing loss Poor response to high or low frequencies, or full sound spectrum, in speech or music; mishearing speech Acute sensitivity to certain pitch or frequency Reduced ability to hear certain sounds Failure to hear warning bells or sirens Auditory misperception and illusion	• careful enunciation and visual cues from speaker • sound inputs: clear, unambiguous, and of good quality • maximize effectiveness of visual cues and signs • visual and tactile warnings: flashing lights, LED signs and displays, and vibrations • provide visual cues; see *Senior Friendly™ Communication* • improve illumination and lighting levels to facilitate speech, reading, and perception of visual cues • soundproofing of sources of noise • limit or suppress background noise • reduce resonance and echoes (eg, landscaping, carpeting and furnishings) • assistive listening systems (eg, induction loops, frequency modulation (FM), and infrared or direct wire systems) • hearing aids (wide range available, including "smart" aids) • consider needs of lip readers and those using sign language • amplifier for telephone handset, intercoms, video phones, and provision of Teletypewriter (TTY) • telephone access directly to "0"; avoid inappropriate access to verbal instructions • see also Table 4 under *Voice* • selectable speed of speech for voice mail and answering systems • closed or open captioning, surtitles, subtitles (eg, TV, movies, and other monitoring systems) • physical guarding of dangerous areas and spaces where warning noises may not be heard • provide assistance of skilled signing guides and staff • train staff to recognize hearing loss and respond and communicate appropriately when providing services • provide confirming duplicate signals through other senses
Smell Sensing odours and smells Olfactory functions Perceptual functions, recognizing and interpreting sensory stimuli	Unable to be aware of, identify, or differentiate smells, odours, or scents Acutely sensitive to certain smells, odours, or scents Unable to identify dangerous situations, (eg, food that has a foul odour) Failure to note leaking gases or smoke from fires Unable to appreciate some positive sensory experiences Olfactory misperception	• visual, tactile, and audible warning of gases • warning notices and signs: pictograms, icons, and symbols • concise and clear instructions for appropriate storage and "best before" dates • guards, sealed containers, safe storage, and secure openings • environmental control systems (eg, HEPA or carbon filters) • passive barriers to prevent touching materials that cause allergies or contact reactions

Table 3 (Continued)

Function/description	Examples of functional limitations	Examples of design solutions
Taste Sensing qualities of bitterness, sweetness, sourness, and saltiness Perceptual functions, recognizing and interpreting gustatory stimuli	Unable to identify poisons and noxious substances Unable to identify excess of ingredients in food (eg, salt) Loss of appetite Gustatory misperception and illusion	**Note:** *Consider items listed under "Smell" as solutions for this category.* • visual, tactile, and audible warning of poisons • warning notices and signs: pictograms, icons, and symbols • passive barriers to prevent touching materials that cause allergies or contact reactions
Touch Sensing surfaces and their texture or quality, including temperature, vibration, contact, and pressure stimulus Touching; sensing cold and heat; vibration; pressure, pain, or burning	Hyper-sensitivity or insensitivity to touch Unable to sense surface heat or cold or changing temperature Acutely sensitive to heat of contact surfaces or air Insensitive to surface texture Acute sensitivity to certain clothing or textiles Vibration — heightened sensitivity to sound or physical vibrations, etc Atmospheric pressure; heightened sensitivity	• visual, tactile, and audible warning of extreme temperatures • warning notices and signs: pictograms, icons, and symbols • control "local" ambient temperature to comfort level for users • locally adjustable thermostats in rooms • temperature- and pressure-compensated faucets • limit surface temperature and vibration • guard dangerous products, surfaces, areas, and spaces (eg, insulate all exposed hot and cold objects) • consider need to add or remove clothing, or change ambient temperature, to compensate for inability of some seniors to regulate their body temperature (eg, provide coat check services). • passive barriers to prevent touching materials that cause allergies or contact reactions • eliminate or reduce electrostatic build-up
Vision Sensing light and the form, size, shape, and colour of visual stimuli Perceptual functions, recognizing and interpreting visual stimuli	Inability to focus on close or distant images; blurring of vision Complete or partial blindness; loss of central or peripheral vision Colour blindness, poor colour discrimination, blind spots, double vision, night blindness, diminished speed of adaptation to light Reduced ability to see, read, recognize obstructions, or manoeuvre Object identification, depth misperception, and illusion Sensitivity to glare	• large print, increase image size, use magnifiers • simplify image, simplify design styles • improve image and background contrast • colour contrast (eg, make objects such as steps, stairs, and barriers stand out from their surroundings) • maximum contrast (eg, black type on white; avoid green on blue or orange on red) • avoid busy, confusing patterns • make safety and warning signals clear and unambiguous • improve illumination and lighting levels • ensure rate of change of illumination levels is not too rapid • ensure there are intermediate illumination areas for transition from dark to lit area • reduce shadows and glare • ensure good line of sight and unrestricted viewing • provide closed-circuit TV for viewing images • train staff to recognize those with low vision and respond and communicate appropriately when providing services • provide assistance of skilled sighted guides and staff • describe surroundings or landscape, if applicable • give directions clearly and accurately

Table 3 (Concluded)

Function/description	Examples of functional limitations	Examples of design solutions
Vision (Continued)		• provide effective auditory and tactile cues and signs on walls, floors, and at obstacles and hazards • provide Braille and tactile signs • consider significance of signage position • guard or eliminate possible contact with dangerous objects, surfaces, areas, and spaces • ensure predictable and consistent placement of objects, supports, barriers, and signs • ensure inputs are clear, unambiguous, and of good quality • talking books • audible signs • provide confirming duplicate signals through other senses • develop transport systems and access points to accommodate those with low vision • computer software to enlarge viewing areas

Table 4
Body Functions, Limitations, and Design Solutions

(See Clauses 5.5, 6.2, and 6.3.)

Function/description	Examples of functional limitations	Examples of design solutions
Breathing Inhaling and exhaling air Respiration rate, rhythm or regularity, and depth	Shortness of breath, shallowness of breathing Sensitivity to air allergens	• monitor air quality, quantity, temperature, and moisture content • limit physical demands • limit use of perfumes or aerosols in enclosed spaces
Continence Elimination of wastes and the related cleaning functions Voluntary control of elimination	Urinary or bowel incontinence Flatulence, constipation, or frequent elimination Incomplete control of elimination Inability to perform functions related to elimination such as undressing, cleaning oneself, changing a diaper, etc	• locate public washrooms close to facility entrance and at several other locations • provide public washrooms, well signed and easily accessible • family washrooms • elevated toilet or high-mounted seat; seat surface finish • personal hygiene fixtures (eg, bidet, shower, etc) • readily cleanable bathrooms • toileting assistance • easy to remove clothing • positioning of toilet paper • provision and disposal of incontinence supplies (eg, diapers)

Table 4 (Concluded)

Function/description	Examples of functional limitations	Examples of design solutions
Ingestion Taking and manipulating solids or liquids into the body by the mouth	Sucking, chewing, controlling food in mouth, salivation, drooling, swallowing, regurgitation, spitting, vomiting Difficulty in chewing and swallowing Persistent coughing when eating	• feeding aids (eg, specialized utensils, modified cups, and straws) • special diet options • appealing food choices • assistance with dicing, cutting, mincing, and pureeing • tasty liquid thickeners • liquids readily available to assist in swallowing • staff trained to recognize those needing feeding supports and services
Voice Production of sounds by controlling the passage of air through the larynx Making sounds, pitch, loudness, and qualities of voice	Poor clarity, fluency, or speed of speech Inability to enunciate clearly or produce sound Insufficient lung capacity to complete long sentences Temporal or partial loss of speech and hoarseness disorders	• amplifiers on telephone or intercom • artificial larynx or voice box • communication boards, signing aids, pictograms, icons, and symbols • keyboard for teletext or scribing • videophones • Teletypewriter (TTY) • take time, allowing seniors the opportunity to express themselves • signing aids (similar to Bliss symbols)

Table 5
Physical Functions, Limitations, and Design Solutions
(See Clauses 5.5, 6.2, and 6.3.)

Function/description	Examples of functional limitations	Examples of design solutions
Anthropometrics Perceptible physical changes in size, height, etc	**Note:** *See examples provided under other functions/descriptions in this Table* Altered ability of individual to carry out functions such as balance, reach, strength, etc	• dimensions that provide comfort and ease of access, use, and exit (eg, seating, tables, counters, and service points, turnstiles, and access ways for public places) • design for human physical variability (eg, adjustable chair, cabinet height, and shelving, etc) • controls within safe reach for operation (eg, telephones, vending machines, automated banking machines (ABM), and data entry terminals) • place controls and objects within functional reach • provide service assistance for reaching and carrying (eg, store clerk)
Balance, equilibrium Sensory functions of inner ear related to position, balance, and movement Sensing relative position and speed of body parts in space and to each other Vestibular sensing of body movement, direction, and speed	Equilibrium, instability, disorientation, dizziness, tinnitus, and vertigo Psychological awareness and fear of the dangers of falling and possibility of injury, and reluctance to take risks Decreased ability to control the body's centre of gravity	• signs and warnings of dangerous surfaces • clean surfaces (eg, clear of dirt, rubbish, water, ice, or snow) • level surfaces (eg, flushed recessed mats) • surface roughness and crack and hole sizes to be appropriate for ease and safety of pedestrians and those with aids to movement • surface finish to have appropriate friction characteristics (non-slip when wet or dry) • standardized, fixed positions of contact surfaces and controls • adjustable speeds for automated doors and entry systems, as well as elevators and escalators • smooth start and stop of elevators; stop level with landing floor surface • positioning of supports • provision of grab bars or poles; proper continuous handrails; canes or walkers • shopping buggies, carry-out and delivery services; shopping and personal assistance services • scooter or wheel chair • sturdy chairs that are easy to get into and out of • exercise programs at locations that are easy to reach • furniture and contact surfaces designed to be stable when pressure is placed on them
Dexterity, grip Hand and arm use, fine hand use Coordinated actions of handling objects, manipulating, and releasing them using fingers and one or two hands	Inappropriate activation and use of controls Limited hand strength; poor grip Cannot hold smooth surfaced objects; cannot grip small or large objects Limited wrist strength	• surface finish with appropriate friction characteristics (non-slip when wet or dry) • objects of form, size, and weight to allow easy interface or grip • objects require minimum force or torque to operate; limited or controlled resistance to movement • limit or avoid necessity of grip using opposing finger and thumb • objects (eg, household containers) with handles incorporated, or with easy-release mechanism

Table 5 (Continued)

Function/description	Examples of functional limitations	Examples of design solutions
Grip, twist, pinch, pull, lift, press	Limited fine control of speed of movement or positioning hand, wrist, or forearm Difficulty in bringing finger and thumb into opposition Difficulty in adequately separating finger and thumb Inability to rapidly withdraw hand from danger Difficulty in turning door knobs, jar tops, or keys Limitations combined with poor manipulation, lifting, and carrying *(see next item)*	• avoid repetitive movements and need for endurance or stamina • adequate grip tabs for removal of security seals on food packaging, pharmaceuticals, and personal care items • operation of controls to be smooth and provide consistent resistance to movement • controls within safe reach to allow ease of access and easy extrication of hand and forearm • complex operations (eg, push followed by turn) to be avoided • fault-tolerant • fail-safe positioning when carrying out assembly or maintenance, preventing incorrect use • programmable operating limits, rate of change or movement, and timing intervals, allowing senior to respond more slowly • package opening service at stores; replacement caps • film-wrapped retail packaging to have grip tabs for ease of opening • gripping tool for jars and bottles • fine adjustments to use click-stops • change knobs to levers and handles (eg, for doors, light switches, and controls) • spacing and guarding of controls to avoid inadvertent operation • large surface for heads of keys and latches
Manipulation, lifting, carrying Reaching, lifting and carrying Pushing, pulling, hugging, kicking, throwing Use of gross movements of arms, hands, and legs Coordinated actions of raising an object and taking it from one place to another Carrying items in the hands, in the arms, on the shoulders, head, back, and hip	Inability to lift small or large objects or provide adequate control when putting them down Inability to lift, push, or pull Slow speed of movement Inability to coordinate actions of hands, arms, and upper body	**Note:** *Also refer to examples provided under design solutions in dexterity and grip* • gripping aids, ratchet positioning, extension arms • levers for door handles and grips (not knobs) • keys and locks with large easy-to-hold gripping surfaces • limit resistance to movement, provide power or spring-balance assistance, provide accessible operating controls (eg, for entrance doors) • limit need for period of extended effort • movable storage devices and shelving • adequate quantity of storage space and shelving at accessible level

Table 5 (Continued)

Function/description	Examples of functional limitations	Examples of design solutions
Reach Anthropometric ability to operate controls Use of gross movements of arms, hands, and legs	Unable to extend, rotate, or position arms Unable to position, rotate, or swing body at the waist Unable to reach inside cupboards, across a table, or other obstructions Decreased endurance	• cupboard, drawer, or shelving insert on slider or rail-mounted • "Lazy Susan" rotator inside cupboard or on table • tongs and reachers • adjustable shelving and storage; easily movable positions • assistive devices • appropriate location of controls to allow for limited reach capabilities • signage positioning for visibility • accessible product and item price tag placement on store shelves • home help services
Mobility, agility, movement Speed, ease, or coordination of movement Maintaining body position Sensing the relative position and speed of body parts in space and to each other Sequencing and coordinating complex, purposeful movements	Difficulty in carrying out controlled and coordinated movements Reduction in speed and range of motion (eg, joints, limbs, etc) Difficulties in maintaining and changing the position of the body: lying, stooping, kneeling, squatting, standing, or sitting Inability of the legs to support the body Reduced walking speed Difficulty in walking long distances Difficulty in using steps Increased danger of slipping and falling Inability to transfer weight Reduced ability to maintain balance during movement or in response to external stimuli Difficulty in accessing needed services	**Note:** *Many of the solutions are identical with those detailed for functions of dexterity and grip; see earlier items in this Table* • avoid changes in levels, or provide alternate accessible routes • non-slip floors; low-pile carpet • building design: features and primary dimensions, door width for walkers, ramps, etc (see CSA Standard B651) • short ramps, elevators, and platform or chair lifts on stairs • overhead transfer lifts • clearance beside fixtures • handrails in walking areas and on both sides of corridors and stairways • controls and objects within functional reach • increased time for pedestrian crossings and entering and exiting elevators, vehicles, and buildings • modified transit vehicles and structures • footwear to provide stability and support • shock absorption • short walking distances (with resting areas if necessary) • appropriate seating at waiting/resting areas • covered pickup areas close to entrance • washroom accessibility through the provision of grab bars, raised toilet, raised toilet seats, open shower stall, seat in shower stall, seat for bathtub, etc • means of signalling for assistance • encourage physical mobility through appropriate exercise programs

Table 5 (Concluded)

Function/description	Examples of functional limitations	Examples of design solutions
Strength, endurance Force generated by the contraction of a muscle or muscle groups Power of specific muscles and muscle groups in feet and hands; power of muscles of limbs or part of body Stamina, endurance (also related to heart and lung function)	Inability to lift, push, or pull; may be combined with poor grip Weakness of muscles Inability to maintain continuing effort; lack of stamina and endurance Inability to pull or push doors with spring loading Inability to place or remove items on shelves	• accessible easier-to-open packaging • small, light packages • lighter packaging • choice of lighter objects and tools • shelves that are movable or located at accessible levels • variety of courtesy carts, scooters, etc • automatic or power-assisted door openers • handrails or grab bars • locate appropriate seating at frequent intervals • strength training

Table 6
Cognitive Functions, Limitations, and Design Solutions

(See Clauses 5.5, 6.2, and 6.3.)

Function/description	Examples of functional limitations	Examples of design solutions
Cognition, memory Higher-level cognition and intellect Understanding and integrating information Abstraction and organization of ideas; time management Control over motor functions Emotion Thought Registering, storing, and retrieving information Attention; ability to focus on external stimuli Judgement, decision making	Developmental disability, diminished intellectual growth and logical thought Alzheimer's and other dementias Psychomotor retardation and agitation Anxiety, loneliness, and depression Lack of insight, lack of judgment, lack of logical thinking Delusions, obsessions, and compulsions Short- and long-term memory loss; impaired registration, learning, and recalling Problem behaviours (eg, wandering and aggression) Confusion Sustaining, shifting, dividing, and sharing attention; concentration; distractibility	• understanding the difference between some slowing of mental functions (eg, reaction time and information processing) and Alzheimer's and other dementias • stimulate and maintain social interaction • avoid over- and under-stimulation • maintain a familiar environment • consistent placement and practices • appropriate communication strategies • clear, simple signage and instructions • audible signs: single message or structured and sequenced instructions • frequently repeated signage • colour coding • tactile marking of position, shape, or surface • barriers to prevent exiting (eg, visual cueing, keypads, security systems, etc) • wandering paths and loops for safe walking • secure all potential hazards (eg, stairs, tripping and falling hazards, scalding, electrocution, etc) • programs promoting intellectual activity • diet and appropriate medication • programmable operating limits, rate of change or movement, and timing intervals, allowing senior to respond more slowly • community education • support programs for caregivers

Table 6 (Concluded)

Function/description	Examples of functional limitations	Examples of design solutions
Language, literacy Mental processing of language Ability to read, write, and comprehend	Problems of recognition, expression, and use of signs and symbols of spoken, written, signed, or other language forms Diminished ability to express or understand thoughts or communicate verbally, non-verbally, or in writing Limited familiarity with and use of new technologies and communication devices Significant proportion of seniors perform at a very low literacy level Lack of ability in either official language	• plain language • alternative languages and formats (eg, large print, audio, sign language, Braille, etc) • consistency of terms and phrasing • pictograms, icons, and graphics • repetition and short sentences • speak slowly, clearly, concisely, and in an audible pitch • test for comprehension • communication training for service providers • translators and interpretation services available
Motivation Energy and drive Physiological and psychological mechanisms to seek satisfaction of needs	Energy level fluctuations, limited motivation Appetite, craving substances	• stimulating environment (eg, architectural and interior design features) • social activities, intergenerational stimulation, pets • exercise programs • appealing and nutritious food
Temperament, personality Disposition to react in a particular way Psychological characteristics that make the individual distinct from others	Inappropriate extraversion, introversion Inability to be agreeable, conscientious, emotionally stable, open to experience; seeking novelty Physically or verbally abusive behaviour Attitudinal resistance to new ideas, concepts, and things Inability to meet or express cultural, spiritual, and traditional needs	• deflect or counter inappropriate behaviour • behaviour modification programs • train staff to recognize reason for behaviour or understand what the client is trying to express • train staff to recognize those with different cultural needs and to communicate appropriately when providing services • cultural traditions and norms recognized and respected • culture-specific foods available • use of peers in the provision of services • personalization of space, aesthetics, environmental quality, etc

APPENDIX TWO:

INNER CITY POPULATION CHART

Population Demographic Review
Inner City Communities

Community Name	Total Population	Age Distribution In Community (2001 Census) 45 - 54	Percent	55 - 64	Percent	65 - 74	Percent	75+	Percent	Total (65-75+)	Percent	Total (55-75+)	Percent	Total (45-75+)	Percent	Seniors Living Alone Number	Percent
Albert Park / Raddison Heights	6,380	710	11.1%	495	7.8%	350	5.5%	220	3.4%	570	8.9%	1,065	16.7%	1,775	27.8%	180	31.6%
Altadore	6,005	730	12.2%	365	6.1%	290	4.8%	310	5.2%	600	10.0%	965	16.1%	1,695	28.2%	160	26.7%
Alyth / Bonnybrook/Manchester	490	55	11.2%	30	6.1%	20	4.1%	10	2.0%	30	6.1%	60	12.2%	115	23.5%	0	0.0%
Banff Trail	3,390	385	11.4%	180	5.3%	270	8.0%	280	8.3%	550	16.2%	730	21.5%	1,115	32.9%	140	25.5%
Bankview	5,110	500	9.8%	205	4.0%	135	2.6%	70	1.4%	205	4.0%	410	8.0%	910	17.8%	130	63.4%
Bel-Aire	370	65	17.6%	50	13.5%	10	2.7%	20	5.4%	30	8.1%	80	21.6%	145	39.2%	10	33.3%
Bridgeland / Riverside	4,175	465	11.1%	235	5.6%	245	5.9%	295	7.1%	540	12.9%	775	18.6%	1,240	29.7%	280	51.9%
Britannia	780	120	15.4%	80	10.3%	65	8.3%	90	11.5%	155	19.9%	235	30.1%	355	45.5%	25	16.1%
Capital Hill	3,545	345	9.7%	235	6.6%	245	6.9%	260	7.3%	505	14.2%	740	20.9%	1,085	30.6%	190	37.6%
Chinatown	1,210	85	7.0%	90	7.4%	215	17.8%	380	31.4%	595	49.2%	685	56.6%	770	63.6%	290	48.7%
Connaught	11,915	1,450	12.2%	765	6.4%	545	4.6%	540	4.5%	1,085	9.1%	1,850	15.5%	3,300	27.7%	615	56.7%
Crescent Heights	5,710	760	13.3%	430	7.5%	285	5.0%	205	3.6%	490	8.6%	920	16.1%	1,680	29.4%	210	42.9%
Dover	11,255	1,610	14.3%	1,015	9.0%	580	5.2%	315	2.8%	895	8.0%	1,910	17.0%	3,520	31.3%	315	35.2%
Downtown Commercial Core	6,320	810	12.8%	575	9.1%	420	6.6%	330	5.2%	750	11.9%	1,325	21.0%	2,135	33.8%	515	68.7%
Downtown East Village	1,025	90	8.8%	255	24.9%	320	31.2%	150	14.6%	470	45.9%	725	70.7%	815	79.5%	410	87.2%
Downtown West End	570	90	15.8%	75	13.2%	40	7.0%	20	3.5%	60	10.5%	135	23.7%	225	39.5%	0	0.0%
Eau Claire	1,360	295	21.7%	180	13.2%	155	11.4%	110	8.1%	265	19.5%	445	32.7%	740	54.4%	75	28.3%
Elbow Park	3,730	665	17.8%	310	8.3%	255	6.8%	200	5.4%	455	12.2%	765	20.5%	1,430	38.3%	120	26.4%
Elboya	1,630	300	18.4%	100	6.1%	70	4.3%	100	6.1%	170	10.4%	270	16.6%	570	35.0%	45	26.5%
Erlton	1,270	215	16.9%	85	6.7%	80	6.3%	40	3.1%	120	9.4%	205	16.1%	420	33.1%	30	25.0%
Hillhurst	4,700	750	16.0%	285	6.1%	150	3.2%	155	3.3%	305	6.5%	590	12.6%	1,340	28.5%	120	39.3%
Hounsfield Heights / Briar Hill	2,185	365	16.7%	185	8.5%	160	7.3%	275	12.6%	435	19.9%	620	28.4%	985	45.1%	180	41.4%
Inglewood	2,690	390	14.5%	200	7.4%	140	5.2%	125	4.6%	265	9.9%	465	17.3%	855	31.8%	65	24.5%
Lower Mount Royal	3,225	430	13.3%	175	5.4%	140	4.3%	85	2.6%	225	7.0%	400	12.4%	830	25.7%	115	51.1%
Mayfair	330	80	24.2%	10	3.0%	25	7.6%	10	3.0%	35	10.6%	45	13.6%	125	37.9%	15	42.9%
Mayland Heights	5,705	675	11.8%	545	9.6%	440	7.7%	210	3.7%	650	11.4%	1,195	20.9%	1,870	32.8%	185	28.5%
Meadowland Park	660	120	18.2%	70	10.6%	95	14.4%	95	14.4%	190	28.8%	260	39.4%	380	57.6%	50	26.3%
Mission	3,710	465	12.5%	295	8.0%	275	7.4%	275	7.4%	550	14.8%	845	22.8%	1,310	35.3%	310	56.4%
Mount Pleasant	4,740	580	12.2%	275	5.8%	255	5.4%	310	6.5%	565	11.9%	840	17.7%	1,420	30.0%	255	45.1%
North Glenmore Park	2,440	325	13.3%	255	10.5%	260	10.7%	115	4.7%	375	15.4%	630	25.8%	955	39.1%	90	24.0%
Parkhill / Stanley Park	1,260	225	17.9%	85	6.7%	25	2.0%	45	3.6%	70	5.6%	155	12.3%	380	30.2%	25	35.7%
Ramsay	2,121	275	13.0%	135	6.4%	100	4.7%	130	6.1%	230	10.8%	365	17.2%	640	30.2%	90	39.1%
Renfrew	5,680	740	13.0%	360	6.3%	305	5.4%	315	5.5%	620	10.9%	980	17.3%	1,720	30.3%	195	31.5%
Richmond	4,155	565	13.6%	200	4.8%	240	5.8%	350	8.4%	590	14.2%	790	19.0%	1,355	32.6%	220	37.3%
Rideau Park	520	110	21.2%	45	8.7%	65	12.5%	60	11.5%	125	24.0%	170	32.7%	280	53.8%	50	40.0%
Rosedale	1,840	355	19.3%	115	6.3%	25	1.4%	95	5.2%	120	6.5%	235	12.8%	590	32.1%	65	54.2%
Roxboro	405	105	25.9%	60	14.8%	30	7.4%	55	13.6%	85	21.0%	145	35.8%	250	61.7%	25	29.4%
Scarboro	1,070	175	16.4%	110	10.3%	50	4.7%	55	5.1%	105	9.8%	215	20.1%	390	36.4%	30	28.6%
Scarboro / Sunalta West	440	80	18.2%	35	8.0%	40	9.1%	55	12.5%	95	21.6%	130	29.5%	210	47.7%	25	26.3%
South Calgary	3,530	500	14.2%	165	4.7%	160	4.5%	115	3.3%	275	7.8%	440	12.5%	940	26.6%	100	36.4%
Southview	2,190	315	14.4%	160	7.3%	210	9.6%	115	5.3%	325	14.8%	485	22.1%	800	36.5%	35	10.8%
Sunalta	2,960	325	11.0%	95	3.2%	75	2.5%	50	1.7%	125	4.2%	220	7.4%	545	18.4%	55	44.0%
Sunnyside	3,605	465	12.9%	185	5.1%	145	4.0%	115	3.2%	260	7.2%	445	12.3%	910	25.2%	90	34.6%
Upper Mount Royal	2,055	385	18.7%	235	11.4%	130	6.3%	115	5.6%	245	11.9%	480	23.4%	865	42.1%	45	18.4%
Victoria Park	4,605	540	11.7%	290	6.3%	295	6.4%	285	6.2%	580	12.6%	870	18.9%	1,410	30.6%	420	72.4%
Vista Heights	2,310	265	11.5%	185	8.0%	80	3.5%	20	0.9%	100	4.3%	285	12.3%	550	23.8%	0	0.0%
West Hillhurst	5,205	765	14.7%	320	6.1%	250	4.8%	345	6.6%	595	11.4%	915	17.6%	1,680	32.3%	315	52.9%
Windsor Park	4,065	505	12.4%	305	7.5%	310	7.6%	380	9.3%	690	17.0%	995	24.5%	1,500	36.9%	285	41.3%
Winston Heights / Mountview	3,370	455	13.5%	245	7.3%	300	8.9%	380	11.3%	680	20.2%	925	27.4%	1,380	40.9%	275	40.4%
Community Totals	*143,061*	*19,085*	*13.3%*	*10,325*	*7.2%*	*8,430*	*5.9%*	*7,555*	*5.3%*	*15,985*	*11.2%*	*26,310*	*18.4%*	*45,395*	*31.7%*	*7,195*	*45.0%*
City of Calgary Average	*876,519*	*125,303*	*14.3%*	*62,367*	*7.1%*	*78,768*	*9.0%*	-		*78,768*	*9.0%*	*141,135*	*16.1%*	*266,438*	*30.4%*	*19,855*	*25.2%*

Community Social Statistics,
City of Calgary Community Services -
Policy Planning Division, 2004

APPENDIX THREE:

SUMMARY OF CARE LEVEL ANALYSIS

***Care Level*:** **Independent Living**

Typical Age Range: 70's – 90's years old

Reason for Relocation: Locating in facility due to:

- Looking for aging-in-place facility upon relocation from long-time residence and not wanting to relocate as health needs change
- Looking for facility that can provide for varying health needs to both husband and wife while still co-habitating.
- Looking for something near existing neighbourhood & close to amenities
- One spouse possibly requiring additional daily medical assistance

***Physical Capabilities*:**

- Mobility / Restriction:
  - At least one spouse will be mobile and active
  - Typically either semi-retired or retired
  - Active outside of the home – possibly traveling

- Dexterity:
  - Still manage to operate independently with minimal assistance type devices.
  - Assistance devices typically include proper door hardware, grab bars in washrooms, etc.

- Strength / Stamina:
  - Strength is slowly diminishing – will require assistance with personal service devices (power can openers, devices to open jars, etc.)

- Visual Acuity:
  - Eyesight is potentially slowly deteriorating but still good enough to typically drive with glasses.
  - Sensitivity to bright glare increases.
  - Night driving occurs less due to glare sensitivity

- Hearing:
  - Typically has decreased in sensitivity but not necessarily to level of a hearing aid requirement.
  - Louder volume on television / stereo not uncommon

Psychological Changes:

- Speed of processing information reduced as one ages
- Cognitive ability to cope with environmental changes reduced
- Typical feeling of insecurity variably related to reduction in cognitive ability to understand environment.

- Remains independent with regards to grooming, feeding, and bathing oneself

Social Status:

- Retired and potentially traveling on weekly or monthly excursions or holiday trips
- Due to age and insurance issues, typically not relocating to warmer climates for winter season

- Vehicular Use:
    - Still driving – typically in city only but could be taking short country excursions
    - Would start to rely on transit for inner-city transportation needs
    - Would walk to most amenities if within reasonable distance along proper walking surface

- Community Activity:
    - Potentially socially active in clubs / organizations (socially connected with community) depending on mobility
    - Still active / in contact with friends and acquaintances
    - Most eagerly want to remain active in multiple ways with local and civic community through various avenues:
        - Service club participation
        - Community associations
        - Artistic clubs / endeavours

Financial Status:

- Typically semi-retired or retired
- Lowest income levels on government fixed income level only while others are compensated with personal retirement savings plan incomes.
- Could be compensating financial resources with artistic / crafts sales

Facility Notes:

- 70% of older people will transition into more intensive health care environments (Out of 100 people – 70 transition on to additional health care levels)
- Relocations split evenly between congregate care and assisted living
- 20% pass-on from this level.
- 10% would move to facility to be closer to family
- Length of stay could be for multiple years

***Care Level*:** **Congregate Living**

Typical Age Range: late 70's – 90's years old

Reason for Relocation: Locating in facility due to:

- Looking for aging-in-place facility upon relocation from long-time residence and not wanting to relocate as health needs change
- Looking for facility that can provide for varying health needs to both husband and wife while still co-habitating.
- Looking for residence that can provide minor assistance
- Looking for facility that can protective oversight which provides a greater feeling of security

***Physical Capabilities*:**

- Mobility / Restriction:
  - Resident requiring minor assistance
    - Getting in / out of tub
    - Buttoning shirts
  - Active inside and sometimes outside of the home depending on location within community
  - Still independently active
  - Possibly taking holidays / trips usually in groups

- Dexterity:
  - Still manage to operate independently with minimal assistance type devices.
  - Assistance devices typically include proper door hardware, grab bars in washrooms, etc.
  - Possibly using mobility assistance device
    - Cane / walker
    - Wheelchair / scooter

- Strength / Stamina:
  - Strength is slowly diminishing – will require assistance with personal service devices (power can openers, devices to open jars, etc.)

- Visual Acuity:
  - Eyesight is continuing to slowly deteriorate
  - Sensitivity to bright glare
  - Only 1 – 2% continue to drive but only locally within close proximity to residence

- Hearing:
  - Typically has decreased in sensitivity
  - May require hearing aid requirement.
  - Louder volume on television / stereo becoming typical

Psychological Changes:

- Speed of processing information reduced as one ages
- Cognitive ability to cope with environmental changes reduced
- Security of facility assists in easing feeling of insecurity related to reduction in cognitive ability to understand environment.
- Remains predominantly independent with regards to grooming, feeding, and bathing oneself with some minor assistance
- Assistance level ranges from ½ – 2 ½ hours per day

Social Status:

- Retired and potentially traveling on weekly or monthly excursions or holiday trips
- Due to age and insurance issues, typically not relocating to warmer climates for winter season

- Vehicular Use:
    - Predominantly relying on public transit or transit supplied by facility
    - Would walk to most amenities if within reasonable distance along proper walking surface

- Community Activity:
    - Potentially socially active in clubs / organizations within facility and sometimes within local community depending on mobility
    - Still active / in contact with friends and acquaintances
    - Most eagerly want to remain active in multiple ways but sphere of influence begins to diminish to focusing around facility. Could still be involved in local organizations with immediate neighbourhood.
        - Service club participation
        - Community associations
        - Artistic clubs / endeavours

Financial Status:

- Retired
- Lowest income levels on government fixed income level only while others are compensated with personal retirement savings plan incomes.
- Could be compensating financial resources with artistic / crafts sales

Facility Notes:

- Tenant turn over from this facility is approximately 30%
    - Residents relocate to assisted living or dementia care levels – approximately 70% / 30 % split
- Remaining tenants pass on at this level
- Length of stay could be multiple years
- Residents gender breakdown:
    - 5% men
    - 20 – 30% couples
    - 65 –75% women

***Care Level*:**
Assisted Living Facility

Typical Age Range: late 70's – 90's years old

Reason for Relocation: Locating in facility due to:

- Need for daily assistance with physical or cognitive impairments
- Looking for something near existing neighbourhood & close to amenities
- Needs facility for meal preparation, medication monitoring grooming and hygiene cueing and assistance.

***Physical Capabilities*:**

- Mobility / Restriction:
  - Resident requiring assistance that ranges from
    - Food preparation
    - Incontinence
    - Mobility
    - Sensory modalities
  - Active inside of the residence and possibly outside of residence depending on location within community and ease of transportation to location
  - Still active but with additional mobility requirements
  - Excursions typically occur with other residents or family members

- Dexterity:
  - Limited depending on mobility impairment but may still manage to operate independently with minimal assistance type devices.
  - Assistance devices typically include proper door hardware, grab bars in washrooms, etc.
  - Possibly using mobility assistance device
    - Cane / walker
    - Wheelchair / scooter

- Strength / Stamina:
  - Strength is slowly diminishing – will require assistance with personal service devices depending on mobility impairment (power can openers, devices to open jars, etc.)

- Visual Acuity:
  - Eyesight is continuing to slowly deteriorate
  - Sensitivity to bright glare

- Hearing:
  - Typically has decreased in sensitivity
  - May require hearing aid requirement.
  - Louder volume on television / stereo becoming typical

Psychological Changes:

- Speed of processing information reduced as one ages
- Cognitive ability to cope with environmental changes reduced
- Requires some assistance with grooming, feeding, and / or bathing oneself Assistance level ranges from 3 – 4½ hour per day

Social Status:

- Due to mobility impairments do not leave facility without transportation assistance from residence or family members
- Predominantly relying on public transit or transit supplied by facility
- Would walk to some amenities if within reasonable distance along proper walking surface during proper weather conditions

- Community Activity:
    - Potentially socially active in clubs / organizations within facility and sometimes within local community depending on mobility impairments
    - Still active / in contact with friends and acquaintances

Financial Status:

- Retired
- Lowest income levels on government fixed income level only while others are compensated with personal retirement savings plan incomes.
- Could be compensating financial resources with artistic / crafts sales

Facility Notes:

- 50% of residents who reach congregate or assisted living care levels do not transition to long-term care but end up passing on at that level of care.
- Resident breakdown:
    - 70 – 75% women
    - 10 – 15% men
    - 10 – 15% couples
- Approximately 20% of residents move to long-term care or dementia care facilities – remaining pass on at this level.
    - 70% transition to long-term care
    - 30% transition to dementia care
- Average length of stay is 3 - 4 years.
- Average age of resident entering this facility is 83 years old.

***Care Level*:**
Long Term Care Facility

Typical Age Range: late 80's – 90's years old

Reason for Relocation: Relocating in facility due to:

- Need for daily assistance with physical and /or cognitive impairments

***Physical Capabilities*:**

- Mobility / Restriction:
  - Resident requiring assistance for multiple items that ranges from
    - Food preparation
    - Incontinence
    - Mobility
    - Sensory modalities
  - Staff provide multiple avenues to keep residents active inside of the residence
  - Residents attempt to remain active depending on personal impairments
  - Excursions typically occur with other residents or family members

- Dexterity:
  - Potentially extremely limited depending on personal impairments
  - Typically requiring mobility assistance device
    - Sometimes cane / walker
    - Usually wheelchair / scooter

- Strength / Stamina:
  - Strength is slowly diminishing – will require greater assistance with personal devices and daily activities depending on mobility impairment
- Visual Acuity:
  - Eyesight is continuing to slowly deteriorate
  - Sensitivity to bright glare

- Hearing:
  - Typically has decreased in sensitivity
  - May require hearing aid requirement.
  - Louder volume on television / stereo becoming typical

Psychological Changes:

- Speed of processing information reduced as one ages
- Cognitive ability to cope with environmental changes reduced
- Requires some assistance with grooming, feeding, and / or bathing oneself Assistance level ranges from 4 ½ – 6½ hour per day

Social Status:

- Due to mobility impairments do not leave facility without transportation assistance from residence or family members
- Predominantly relying on facility transit or family members
- Would navigate to some external amenities with assistance if within reasonable distance along proper walking surface during proper weather conditions

Financial Status:

- Retired
- Lowest income levels on government fixed income level only while others are compensated with personal retirement savings plan incomes.
- Could be compensating financial resources with artistic / crafts sales

Facility Notes:

- 90% of residents who reach long-term care levels end up passing on at this level of care.
- 10% transition to dementia care
- Resident breakdown:
    - 70 – 75% women
    - 10 – 15% men
    - 10 – 15% couples
- Average length of stay is 3 - 4 years.
- Average age of resident entering this facility is 87 years old.

APPENDIX FOUR:

CARE LEVEL TRANSITION ANALYSIS CHART

Proposed Schematic Unit Transition Chart

Care Level	Independent					Congegate Care				
Transition	10%					30%				
Attrition	10%					10%				
Years	Unit Count Start	New Units	Transitions	Mortality	End Units	Unit Count Start	New Units	Transitions	Mortality	End Units
1	100	0	20	10	70					
2	70	30	20	10	70	10	0	3	1	6
3	70	30	20	10	70	6	10	5	2	10
4	70	30	20	10	70	10	10	6	2	12
5	70	30	20	10	70	12	10	7	2	13
6	70	30	20	10	70	13	10	7	2	14
7	70	30	20	10	70	14	10	7	2	14
8	70	30	20	10	70	14	10	7	2	15
9	70	30	20	10	70	15	10	7	2	15
10	70	30	20	10	70	15	10	7	2	15

* - 50% Congegate
- 50% Assisted

* Mortality = 10%

* - 70% Assisted Lvg.
- 30% Dementia

* Mortality = 10%

Proposed Units **100** **25**

Assisted Living					Long Term Care					Dementia			
20%					30%					0%			
20%					20%					30%			
Unit Count Start	New Units	Transitions	Mortality	End Units	Unit Count Start	New Units	Transitions	Mortality	End Units	Unit Count Start	New Units	Mortality	End Units
10	0	3	1	6									
6	12	5	2	11	0	4	0	1	3	0	2	1	1
11	13	7	2	15	3	6	1	2	6	1	3	1	3
15	14	9	3	17	6	8	1	3	10	3	4	2	5
17	15	10	3	19	10	9	2	4	13	5	5	3	7
19	15	10	3	20	13	10	2	5	17	7	5	4	8
20	15	11	4	21	17	11	3	5	19	8	5	4	10
21	15	11	4	22	19	11	3	6	21	10	6	5	11
22	15	11	4	22	21	12	3	7	23	11	6	5	12

* - 70% Long Term
- 30% Dementia

* Mortality = 10%

* - 10% Dementia

* Mortality = 20%

* Mortality = 30%

40 **30** **15**

APPENDIX FIVE:

SITE SELECTION ANALYSIS

Site Selection Criteria:

The selection of a site for this type of project is focused upon the ability to have the residents remain connected to the community. To achieve this primary goal, a proper site for this type of project would achieve the following criteria:

- Location within an urban inner-city neighbourhood
    - walkable neighbourhoods with all housing adjacent to the street
    - porches instead of garages
    - pedestrian oriented / walkable streets

- Access to community / neighbourhood services
    - grocery
    - medical / dental / optometry
    - financial

- Ability to provide services that are meaningful to the neighbourhood
    - easily accessible by residents and neighbourhood
    - services complimentary to those existing in the neighbourhood

- Adjacent / within a residential neighbourhood where it could integrate into

- Easy access to Calgary Transit systems

4th Street Site Option

4th Street Aerial View

View southeast through site at corner of 24th Ave. / Cliff St. SW

View east along 24th Avenue from Cliff St. SW

View north along Cliff St. SW

View northeast along 24th Avenue SW

Site #1 / 4th Street SW

Positives:

- Quiet residential street on dead-end road
- Adjacent to 5th Street
- Near Safeway and amenities on 4th Street
- Near Elbow River
- Adjacent to large treed hillside creating feeling of envelopment

Negatives:

- One block from bus routes (4th Street)
- One block from all amenities (4th Street)
- Must cross 5th Street (Collector road status – south route from downtown core)
- Difficult to provide amenities for neighbourhood on site due to secluded location
- Minimal quantity of neighbourhood adjacent to building

Beltline (9th Street SW) Site Option

Beltline (9th Street SW) Aerial View


View northeast from site along 9th Street


View southwest from site through corner of 9th St. / 16th Ave. SW


View northeast through site


View east along 16th Avenue from south side of site

Site #2 / Beltline (9th St. / 16th Ave SW)

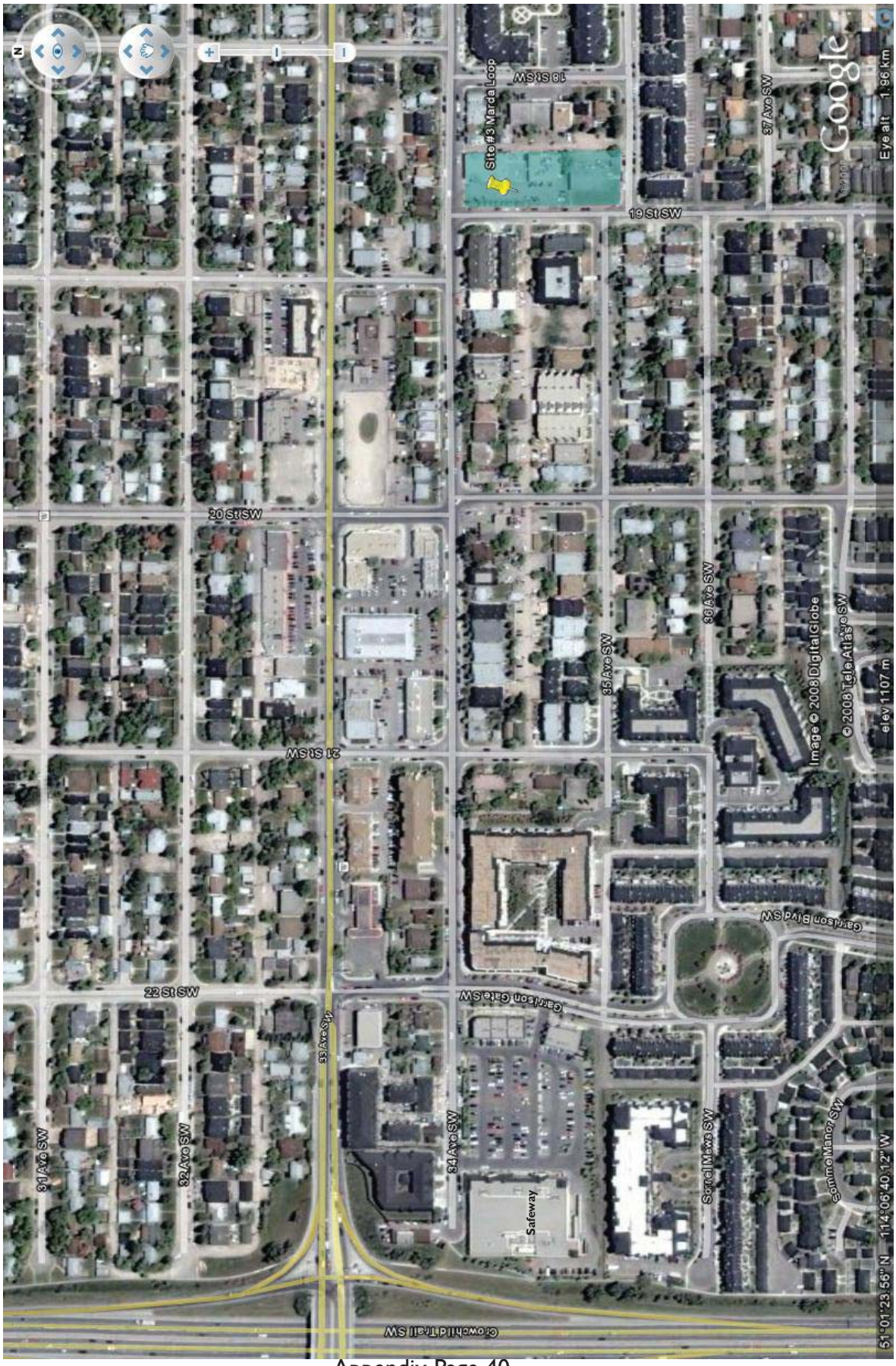
Positives:

- Adjacent to prominent pedestrian movement on 9th Street from 17th Ave. to beltline residences
- Near 17th Avenue SW amenities – wide variety
- Near residential development
- Feasible location for neighbourhood amenities
- Bus routes nearby on 17th Ave SW (only 2 available routes)

Negatives:

- Located within a redeveloping neighbourhood
- Greater probability of transient population in area
- Feeling of security may be of concern for residents
- Limited transit options; east/west – fair – north/south – requires transfers

Marda Loop Site Option



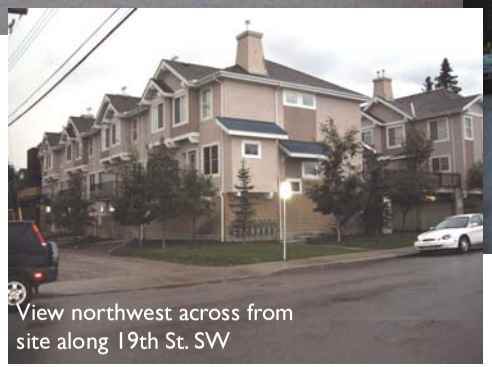
Marda Loop Site Aerial View


View northeast into proposed site


View north along 19th St. adjacent to site


View east along 36th Ave. SW
south of proposed site


View southeast along 19th St. SW


View northwest across from
site along 19th St. SW

Site #3 / Marda Loop

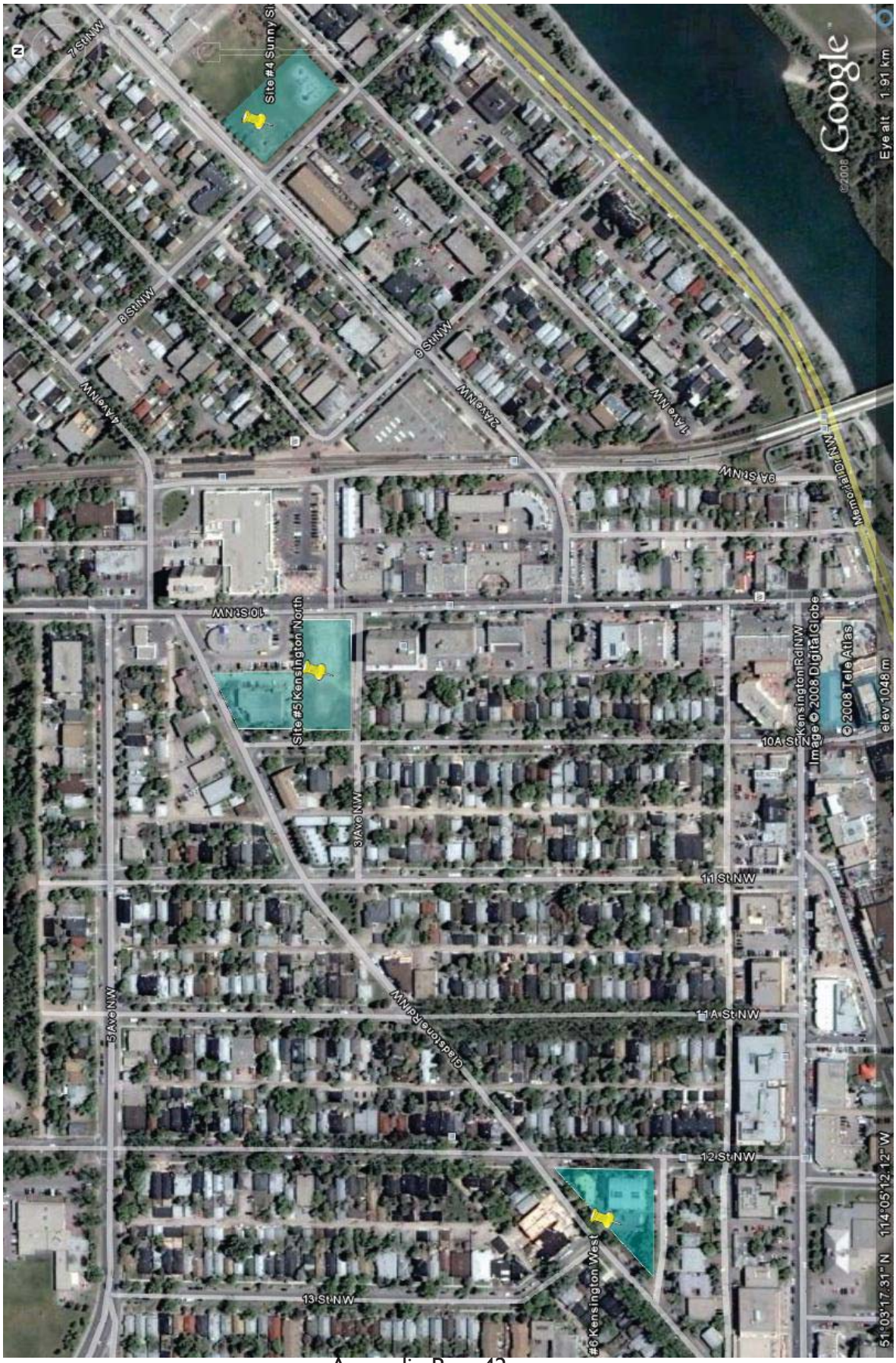
Positives:

- Near Marda Loop amenities
- Near Safeway at Garrison Woods
- Adjacent to redeveloping residential community
- Adjacent to popular vehicular routes (19th Street & 34th Ave. SW)
- minimal transit routes
- Feasible location for neighbourhood amenities
- Pedestrian oriented street network

Negatives:

- On more vehicular oriented street (minimal pedestrians noted on visits)
- 2 block walk to amenities / Marda Loop corridor
- Multiple block walk to Safeway

Sunnyside / Kensington Site Options



Sunnyside / Kensington Site Options - Aerial View


View through site looking northeast towards existing school building


View southeast through site towards 1st Ave. NW


View west through site


View northwest through site


View south through site towards downtown


View west along 2nd Ave NW from 8th St. NW - south side of street


View west along 2nd Ave NW from 8th St. NW - north side of street


View north along 8th St. NW


View south along 8th St. NW

Site #4 / Sunny Side

Positives:

- In residential district near Kensington
- Variable development adjacent (single – 3 storeys)
- Large residents range (children to seniors adjacent)
- Amenities within building would make it the focal point of the immediate neighbourhood
- Near Memorial Drive / pathway system

Negatives:

- Transit system min. 2 blocks away (Memorial Dr. / C-Train)
- 3 blocks away from amenities (Kensington)


View north from site


View northeast through site towards 10th St. NW


View northeast along Gladstone Rd. NW


View southwest along GLadstone Rd. NW


View south along 10A St. NW


View southeast through site towads 10th St. NW


View southeast along 3rd Ave NW towards apartment building


View south along 3rd Ave. NW from site


View southwest through site

Site #5 / Kensington North

Positives:

- Sides onto major street w/ easy transit connection & multiple amenities (10th Street)
- C-Train 1 block away
- Fronts onto pedestrian oriented street
- Is part of residential district with minimal vehicular movement due to street closures at Kensington Road
- Part of redeveloping area – multiple redevelopment projects completed
- Scale of adjacent site ranges from 8 storeys to single storey
- 2 blocks from Kensington Road & its amenities
- Easy access to downtown via transit
- Adjacent to Safeway

Negatives:

- Has 8 storey building blocking sun path for part of day
- Probable 'L' shaped lot – without demolishing Royal Bank site
- Loading and parking restriction due to narrow perimeter road network


View of northern portion of site from Gladstone Road NW


View southeast through site from Gladstone Road NW


View of southern portion of site from Gladstone Road NW


View east along 1st Ave NW at edge of proposed site


View east along 1st Ave. NW at adjacent properties to site


View north along 12th St. edge of site


View east along 12th St. across from site


View south from corner of 1st Ave. / 12th St. NW towards Kensington Road NW.


View southwest along Gladstone Rd NW


View south along 12th St. NW along east edge of site

Site #6 / Kensington West

Positives:

- Low scale residential neighbourhood (1-3 storeys)
- 1 block from Kensington Road and 14th Street & amenities
- Existing 3 – 4 storey buildings facing 12th Street NW (scale reference for potential development)

Negatives:

- Smaller, triangular site
- Difficult deliveries due to residential neighbourhood
- Restricted parking – mainly street parking around site
- Limited site access due to street network configuration around site (road closures, restricted road access, etc.)

Bridgeland Site Options

Bridgeland Site Options - Aerial View


Panorama view west from within site


View of street edge along Centre Ave. NW


Panoramic view north / northeast from within site


View of retail amenities along 1st Ave NE


View of 1st Ave NE looking west from 9th St NE


Panoramic view northwest from within site

Site #7 / Bridgeland East

Positives:

- Site adjacent to Bridgeland park
- Near 1st Avenue NE amenities within new developments
- Near C-train station (1 block)
- Bus service on 1st Avenue NE
- Part of redevelopment neighbourhood
- Full site development potential
- Easier site access for deliveries off Memorial Drive
- East / south / west view with west / east views guaranteed over time
- Surface parking potential on site
- Close to downtown

Negatives:

- 1 block from amenities / transit (harder for those with mobility challenges)
- Amenities in building would be primarily for residents with limited potential to draw neighbourhood in
- Somewhat isolated site from heart of neighbourhood
- Site area may be reduced due to large site (possibly 2 sites)


View southeast along McDougall Rd. NE into site


View south into site

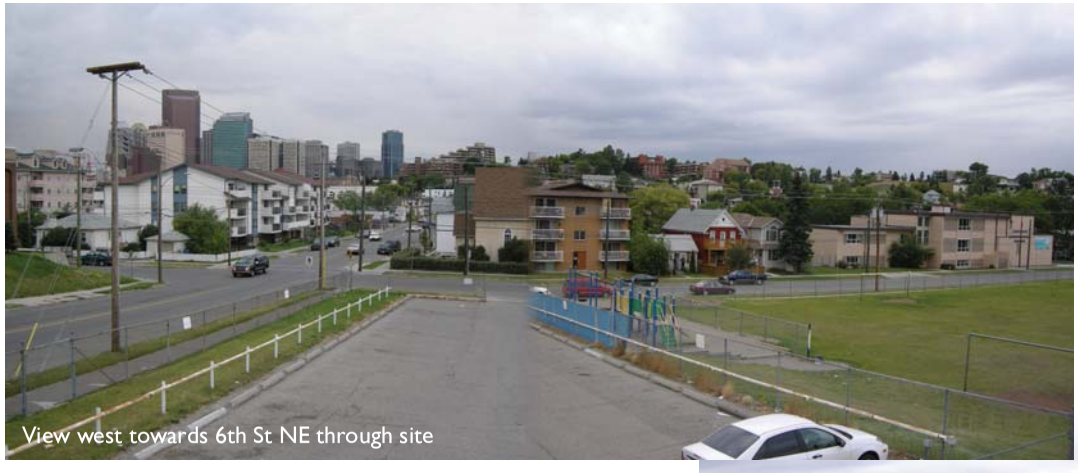

View southeast along McDougall Rd. NE through site


View north to Bridgeland Park across from site

Site #8 / Bridgeland South

Positives:
- full circle views / vistas from site
- Close to downtown
- Adjacent to Bridgeland Park
- Community amenities adjacent (tennis courts)
- Near commercial / service amenities (1st Ave NE).
- Near transit (C-Train south / transit north)

Negatives:
- Too far from transit for mobility impared or in winter
- Too far from existing neighbourhood amenities
- Potential building amenities too far away from heart of neighbourhood
- Minimal pedestrian movement occurring past site except from C-train station into Bridgeland


View west towards 6th St NE through site


View north through site


View northeast along 6A St. NE through site


View east along 1st Ave NE from site


Panoramic view of 6A St / 1st Ave NE looking southwest

Site #9 / Bridgeland West

Positives:

- Along 1st Avenue NE near Edmonton Trail
- Transit along 1st Street NE and near Edmonton Trail
- Near 1st Avenue amenities (1 block east)
- Ease of delivery access

Negatives:

- Along vehicular oriented road
- Transit difficult to access, especially in winter
- Adjacent to “rougher” part of neighbourhood
- Potential building amenities too far away from heart of neighbourhood
- Minimal pedestrian movement occurring on adjacent road network

Site Selection Criteria Matrix September 2008	Proposed Site Locations								
	Cliff Bungalow	Beltline	Marda Loop	Sunnyside / Kensington			Bridgeland		
	4th Street & 24th Avenue SW.	16th Avenue & 9th Street SW	34th Avenue & 19th Street SW	8th Street & 1st Ave. NW	3rd Avenue 10th Street NW.	Gladstone Road & 1st Avenue NW	9th Street & Centre Ave. NE	McDougall Road & 9th St. NE	6th Street & 1st Avenue NE
Located within Urban Neighbourhood									
Walkable neighbourhood / pedestrian oriented	1	3	3	4	4	4	3	3	4
Housing adjacent to street	2	1	3	4	3	4	2	3	4
Housing relationship to street	2	2	3	3	3	4	3	4	4
Access to Community / Services									
Grocery	2	1	1	1	4	0	0	0	0
Medical / Dental Optometry	2	2	1	0	2	2	2	2	1
Financial	1	2	2	0	4	2	1	1	0
Site's ability to house services for community	2	3	2	3	3	3	3	2	4
Easily accessible to all residents	2	4	3	4	4	3	3	2	3
Creation of complimentary services	1	3	3	4	3	3	3	2	4
Integration into Neighbourhood	2	3	3	3	3	3	3	2	3
Access to Calgary Transit	2	2	1	3	3	1	3	3	3
Total Points Awarded	19	26	25	29	36	29	26	24	30

Selection Criteria:		
4	Adjacent to	/ Excellent
3	Close to	/ Good
2	Reasonable	/ Fair
1	Distance Limitations	/ Poor
0	Not Walkable	/ Unacceptable