

**The [New] Age Home: How Architecture Can Provide New  
Solutions to the Challenges of Traditional Retirement Home  
Models that Approach Ageing as Disease**

by

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# CONTENTS

Abstract .....	iii
Acknowledgements .....	iv
Chapter 1: Introduction .....	1
Context and Intentions.....	1
Site .....	3
Human and Cultural Geography.....	13
The Community .....	22
The Program.....	32
Sambro Vernacular.....	38
Chapter 2: Design .....	40
Ageing-In-Place .....	40
Overarching Ideology .....	40
Guiding Principles for Design .....	41
Project Specifics .....	44
Design Parameters.....	46
Phases of Construction.....	48
Chapter 3: Key Drawings.....	49
Chapter 4: Model.....	69
Chapter 5: Conclusion .....	74
Appendix A - James McPhee Memorial Ball Field Schedule of Activities .....	76
Appendix B - Waste Water Management: Solar Aquatics .....	77
Appendix C - Climate.....	80
Appendix D - Literature Review.....	84
Appendix E - Precedent Review.....	95
Notes .....	108
Bibliography.....	109

## **ABSTRACT**

For the fishing village of Sambro, Nova Scotia, Canada, this project proposes affordable elderly housing, interactive and mixed use spaces where a self-supporting ethos is cultivated among independent and service living accommodations. It reveals the connectors within the project itself and the community at large that will build a healthy, healing, adaptable environment that will not only benefit its residents by actuating the paradigm of ageing as lifestyle, but will also contribute to the unification and physical manifestation of the community.

## **ACKNOWLEDGEMENTS**

First and foremost I would like to thank the people of Sambro, Nova Scotia for their time, dedication, good humour and willingness to share with me their memories and thoughts, past, present and future.

In addition, a special word of thanks to Richard Kroeker, my supervisor. I feel very fortunate to have learned from such a generous and talented man, who never failed to encourage and bolster my confidence when uncertain; Roger Mullin my advisor for his relevant advice as well as Holly Simon, Kevin Lo, Beth MacLeod, Olena Chorney and Imtiaz Ashraf, colleagues and friends whose support in the final days helped the overall vision take physical form.

And finally, I would like to thank two of the most wonderful and inspiring women, Rita Marie Beaudin and Donna Lee Lyons, for their continued support and encouragement over the years. I cannot say how often this journey benefited from their wisdom, words of encouragement and unrelenting faith.

## CHAPTER 1: INTRODUCTION

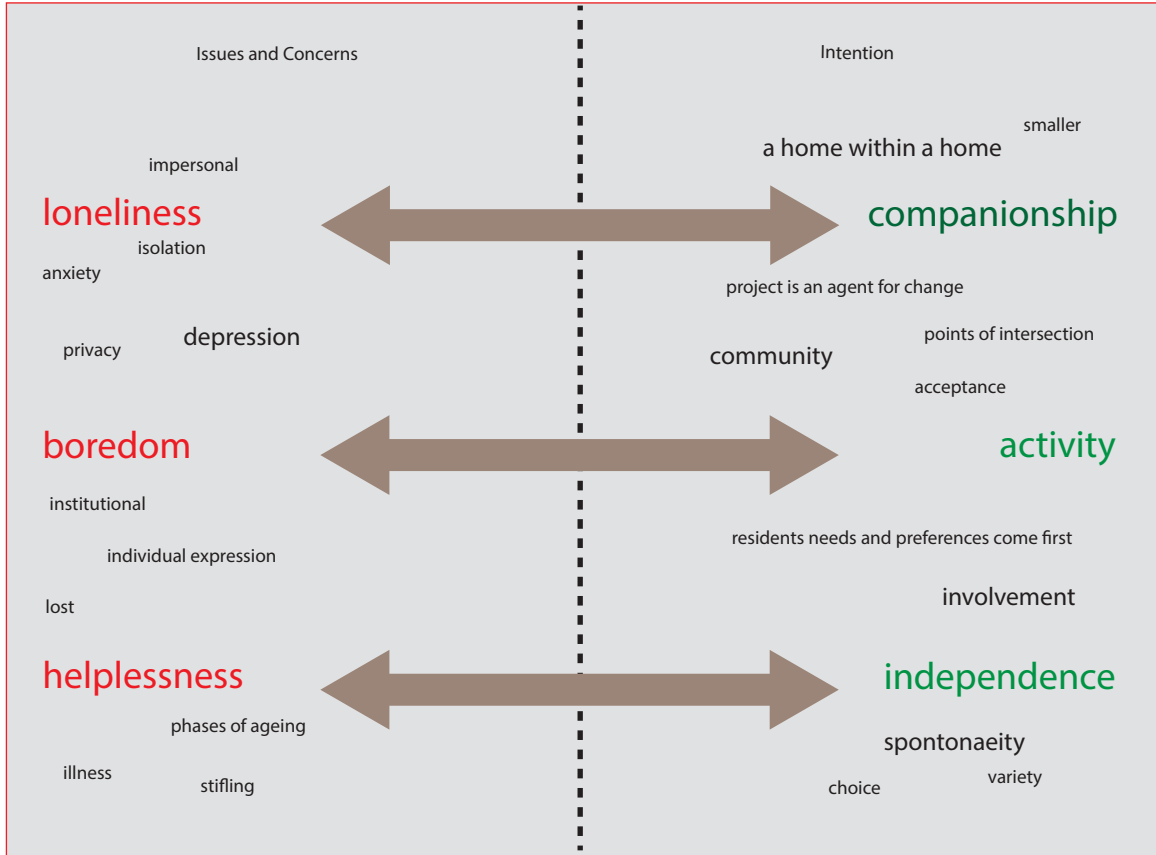
### Context and Intentions

Seniors make up the fastest-growing age group in today's population. By 2050 it is estimated that internationally, the increase of people over the age of 60 will rise to 2 billion. By 2031 one in five Canadians will be 65 or over, by 2051, one in four.<sup>1</sup>

Architectural models for elderly care outside the home, have traditionally been driven by a paradigm of ageing as disease, isolation, dependency, disability and death. This view has contributed to society's stigmatization of the aged and the architectural typologies associated with them. For many the thought of spending the final years of their lives in a nursing home is unnerving, despairing and unacceptable.

Governments are ill prepared for this "age wave". Few have planned for, or sufficiently implemented, the necessary housing provisions required to meet an exponentially increasing demand. Existing facilities to house and care for the ageing are limited in type and number, as long waiting lists attest, and usually as well intentioned as administrators and caregivers may be - antiquated in their approach. In large part, they, remain true to the traditional institutional models that originated from the health care system. A system responsible for the development, creation and running of hospitals, asylums and orphanages. Issues of loneliness, boredom and helplessness are the result and contribute to the early deterioration of residents both physically and mentally.<sup>2</sup> In their Disablement Model (1994) Professors of Gerontology, Lois Verbrugge and Alan Jette have noted, disability, health and ageing are not located in the body as much as in the relationship between the body and the environment. It is through good, thoughtful and informed design that architects are poised to make a difference.

This thesis challenges traditional architectural retirement home models that isolate and approach ageing as disease and looks to build a healthy, healing, growing environment that seeks to benefit its residents by actuating the paradigm of ageing as lifestyle.



Counterpoints to address issues and concerns identified in traditional nursing homes from William H. Thomas *What are Old People for?: How Elders Will Save the World*

## Site

### Sambro, Nova Scotia

Located on the Atlantic Ocean, Sambro is a rural community on the Chebucto Peninsula in Nova Scotia, Canada. It is 30 kms south west of Halifax.

Three years after the founding of Halifax in 1752, 26 families (including the Grays, Schnares and Henneberrys) settled and worked on Sambro Island after Governor Edward Cornwallis saw the need to populate the area with British settlers to prevent a French attack by sea. The community evolved into a fishing and tourist community over the centuries, although many residents currently commute into Halifax for employment.

Sambro Island is located within the community, a few kilometres, southeast of the harbour and is home to the Sambro Island Lighthouse, the oldest operational lighthouse in the Americas (constructed in 1758).<sup>3</sup>



Location of Sambro in Nova Scotia, geographical coordinate: 44°28'46"N, 63°36'32"W, base map from Wikipedia



Sambro Island photo of oldest operational lighthouse in North America (1758) from Take One Atlantic



## **Thesis Site**

The thesis site is three hectares (7.4 acres) of Crown land (Mi'kmaw in origin) located on West Pennant Road, 750 meters from Route 306 (Old Sambro Road). It is a peninsula bordered by Big Cairn Cove to the south west, Indian Harbour to the south east, Little Cairn Cove to the north and Long Cove to the north east. There is a ten metre rise between the shoreline and the property's highest point, an exposed outcropping of bedrock, on which sits a large boulder.

There are two existing structures on the property. An active fire station and an old fire station that is currently rented out as a storage facility. The site has a potable well and a septic tank that services the fire station.

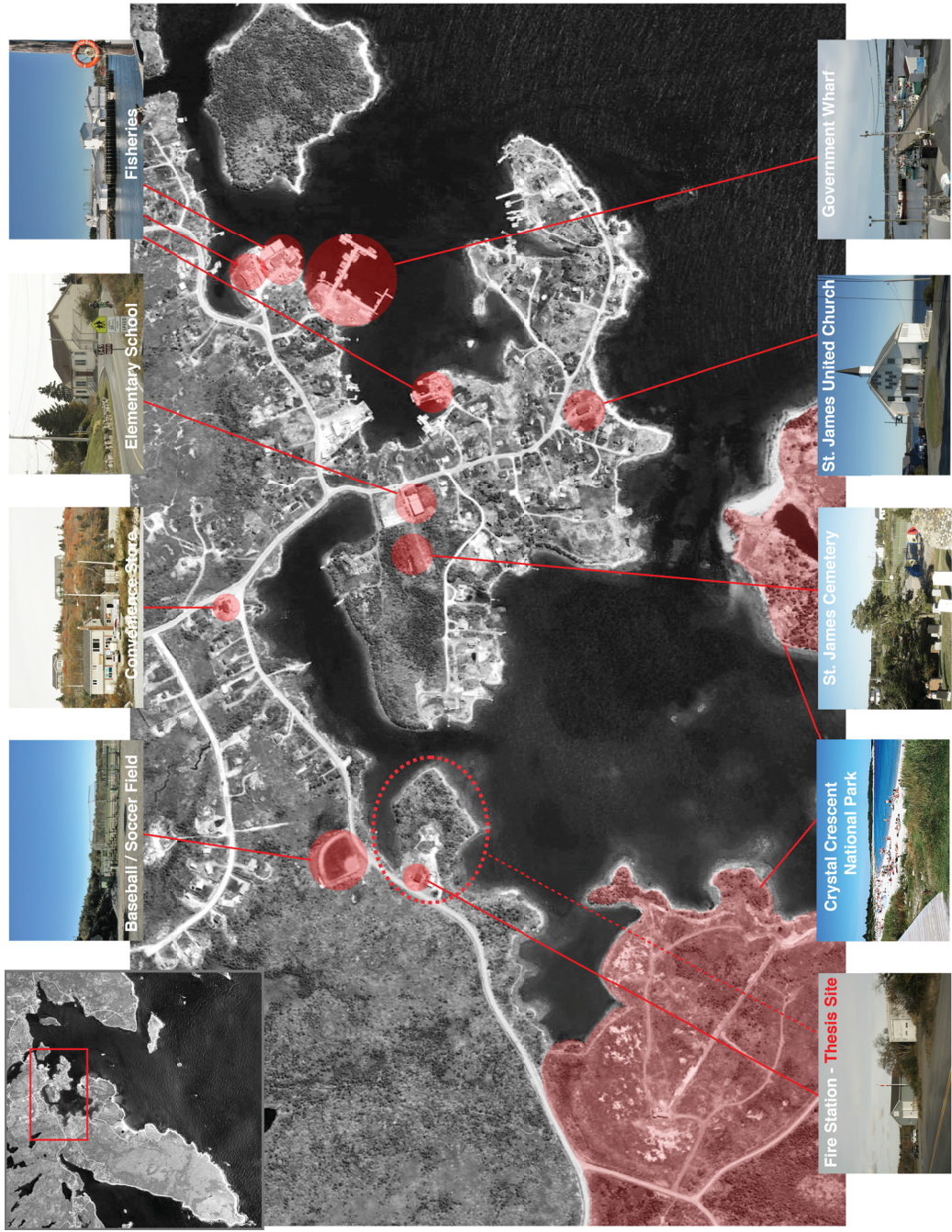
Although the larger peninsula on which most of Sambro currently exists, offers obvious advantages, the fire station site was selected following settlement patterns of coastal communities; as one cove becomes too densely populated and land is no longer available residents move along the shore the next cove and begin to establish themselves there. The fire station site is, in fact, the better choice because it is large enough to accommodate a project of this size and offers opportunity for future expansion. It is on a main road, within walking distance of Mishoo's, the area's only convenience store (and the busiest spot in the community), and is currently used for holiday gatherings where tents are erected and the fire station emptied of vehicles to accommodate dances. It is across the street from the James McPhee Memorial Ball Field which is used daily during the spring, summer and fall (see Appendix A for a schedule of events), and is on the way to Crystal Crescent Beach Provincial Park which welcomes thousands of visitors during the summer months and, most importantly, it is soon to become the site of the new Sambro and area Community Centre.



Map of Sambro area from Google Earth



Map of thesis site from Google Earth



Site map: the public realm, base map of Sambro area from Google Earth

## Site Selection: Determining Factors

### Sambro Peninsula

- As land on the peninsula is not available, in the tradition of the area, the need for expansion moves residents along the coast to the next cove; in this instance 750 metres to the west, Long Cairn Cove begins. It meets Little Cairn Cove and Indian Harbour.

### Thesis Site

- The land is owned by the Crown. The city is amenable to seeing a community centre and / or senior housing developed on the site and would sell the property for one dollar (\$1.00).
- The 7.4 acres are ideal for the development of a secondary public realm. The government wharf on the Sambro peninsula being the first, particularly for the men in the community. The women usually congregate at St. James United Church or in their homes.
- The size of the site offers opportunity for seniors' housing, a community centre and commercial ventures, crucial to the development and growth of Sambro as a community.
- The protected cove is ideal for water activities including swimming, kayaking and rowing.

### Transportation

- There is an existing roundabout ideal for minor extension of the Sambro regional bus route (see dashed line on Determining Factors map below).
- The bus would provide door-to-door pick up and drop off of residents and community centre patrons.

### Mishoo's Convenience Store

- Is at the intersection of Old Sambro Road (Highway 306 South) and West Pennant Road.
- Is the busiest spot in the community and as such serves as a kind of town square.
- Offers convenience store basics, liquor / beer as Nova Scotia Liquor Corporation (NSLC) agent, take-out (pizzas, burgers, donairs...), one ATM, deer hunting registration station.
- Is 750 metres east of the thesis site.

### James McPhee Memorial Ball Field

- Active recreational field from early spring to late fall (Appendix A).
- Regularly used for organized sports including baseball and soccer tournaments.
- Gathering space of public events as well - i.e. Sambro's Sou' Wester Days festivities.
- Is across the street and 25 metres west of the thesis site.

### Buildings on Site

- There are two existing buildings. One actively serves as the area's fire station, the other, the former fire station, is rented out as storage to a local fisherman.
- Along with large tents erected on site as needed, the active fire station also doubles as a community centre for several events including the popular and well attended Sou' Wester Parade.
- Note: Discussions are actively underway to move the fire station north to Williamswood and convert the existing building into a community centre. The location is deemed ideal by the residents. The use of the exiting buildings

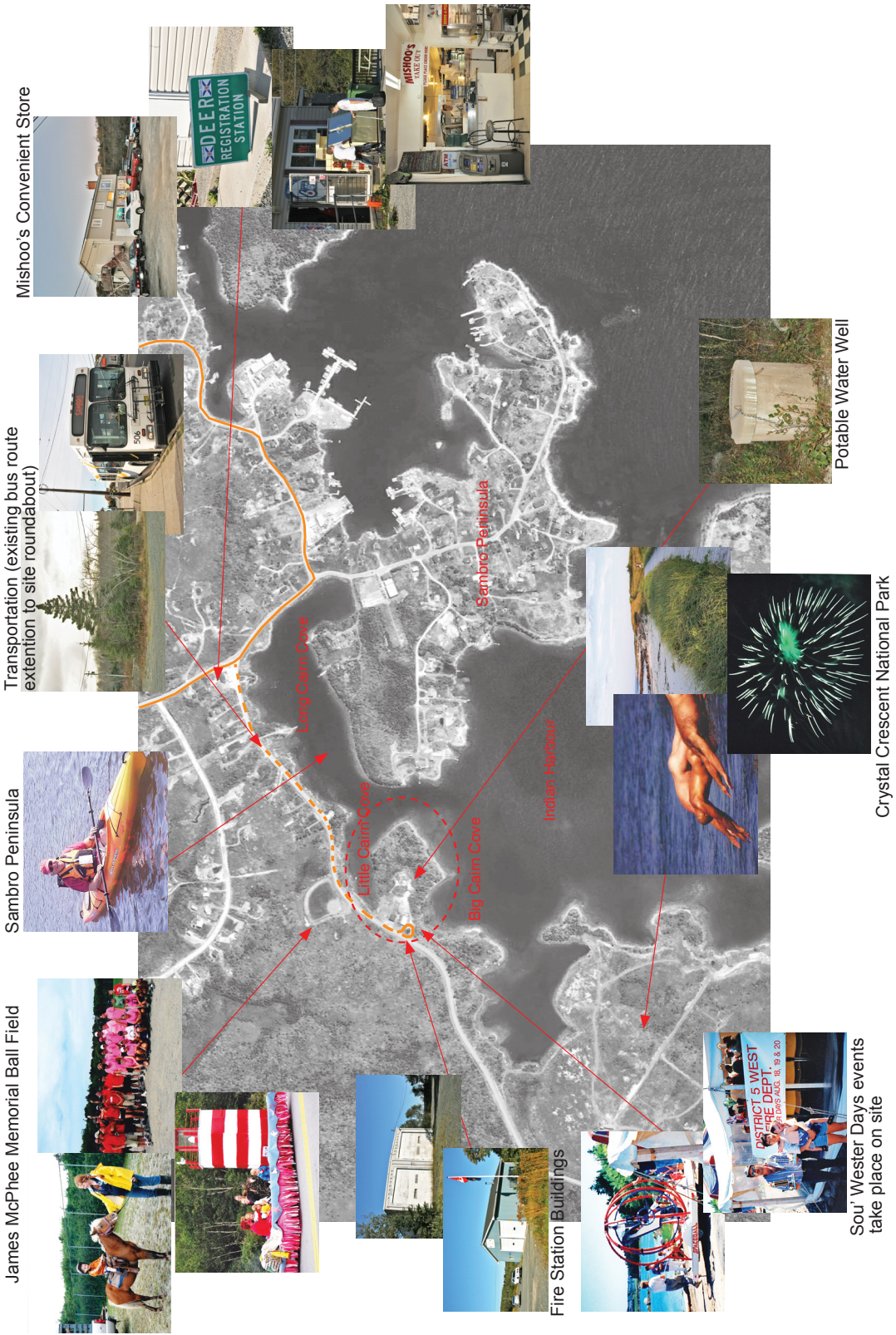
would require significant renovations or additions to meet the program needs.

### Crystal Crescent National Park

- A popular beach-park destination in the spring and summer months. It is frequented by neighbouring communities, Haligonians and tourists alike.
- It has three white-sand crescent beaches, two are accessible by boardwalk, one is clothing optional.
- It has several interesting and beautiful walking and hiking trails.
- Offers different types of wildlife and great birdwatching opportunities.
- Is the site of fireworks.
- Note: No café, canteen or restaurant exists in the area; people must bring their own or frequent Mishoo's Take-Out for fast food items.

### Water

- Water is a major determinant in the area.
- There is a potable well on-site. This is significant as it is difficult to come by in the area, particularly when in close proximity to the ocean.
- The treatment of waste water is generally handled with septic fields. The use of solar aquatics is being considered (see Appendix B).



James McPhee Memorial Ball Field

Sambro Peninsula

Transportation (existing bus route extension to site roundabout)

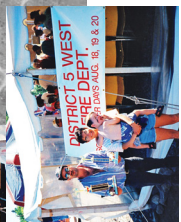
Mishoo's Convenient Store



Fire Station Buildings



Sou' Wester Days events take place on site



Indian Harbour

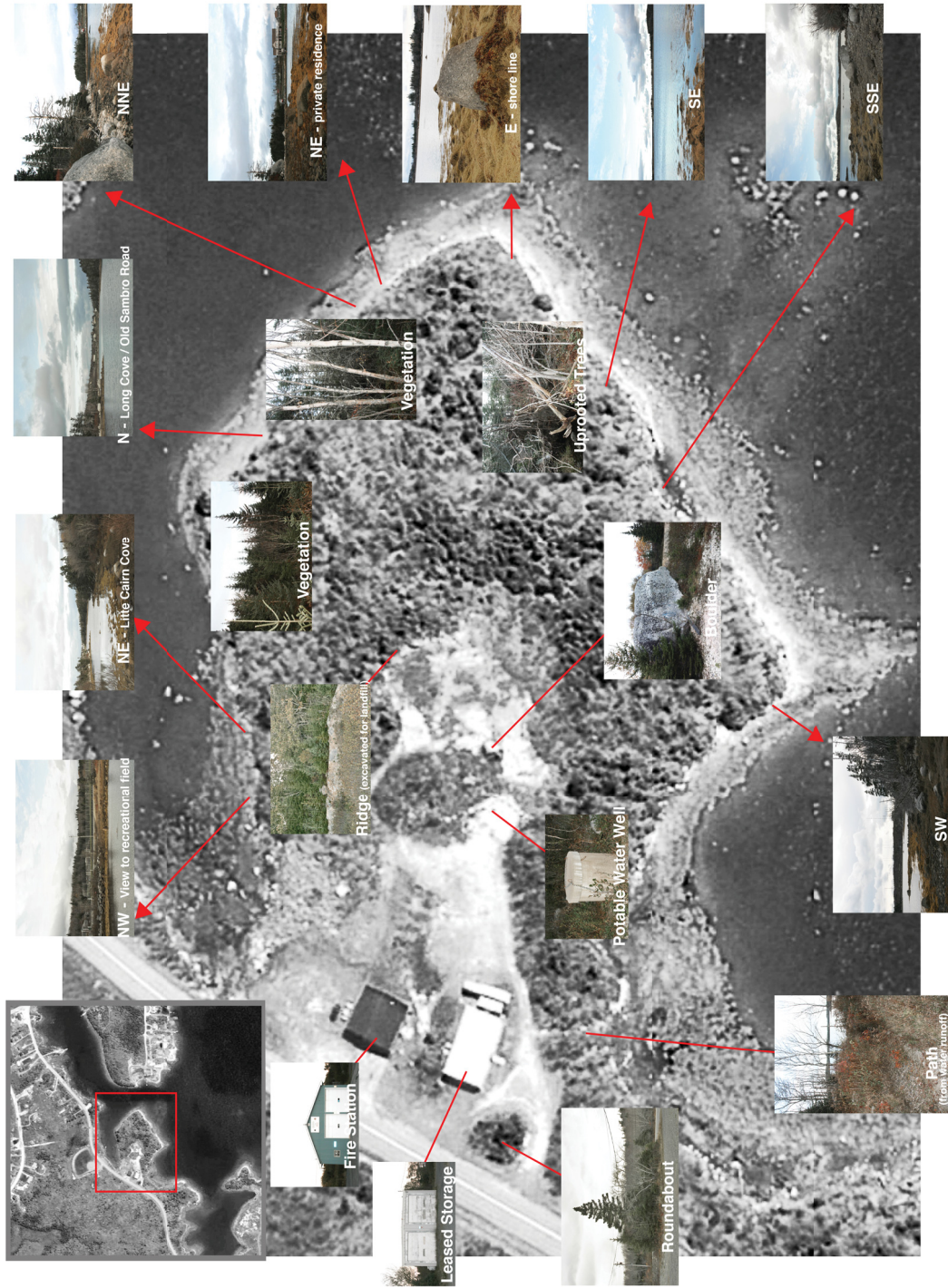


Crystal Crescent National Park



Potable Water Well

This site determining factors, base map of Sambro area from Google Earth



Existing features and vistas on thesis site, base map of Sembro area from Google Earth

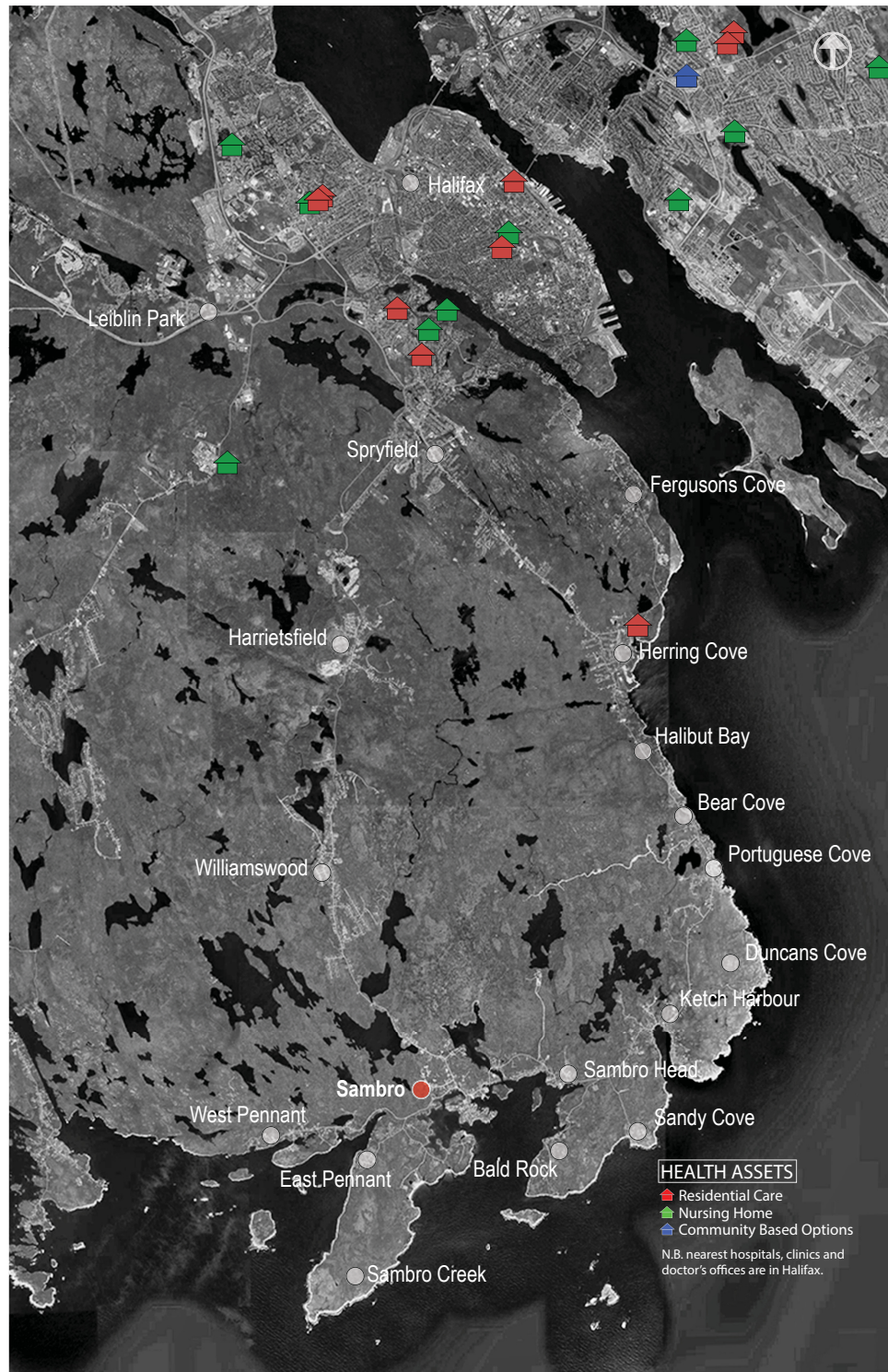


## Human and Cultural Geography



Chebucto Peninsula, population by age groups, data from Statistics Canada, 2012, base map of Chebucto Peninsula from Google Earth

10% of the Sambro population is over the age of 65 (380). Spryfield's over 65 population is 12% (1283) and Herring Cove 14% (388). Atlantic Canada (Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland), have a higher percentage of seniors than the rest of the country. According to Statistics Canada, averages of the over 65 population in these provinces are expected to rise, approaching the 30% mark, by 2036, 28.6% in Nova Scotia.<sup>4</sup> There is an urgent need for elderly housing today and that need will only increase in the future.

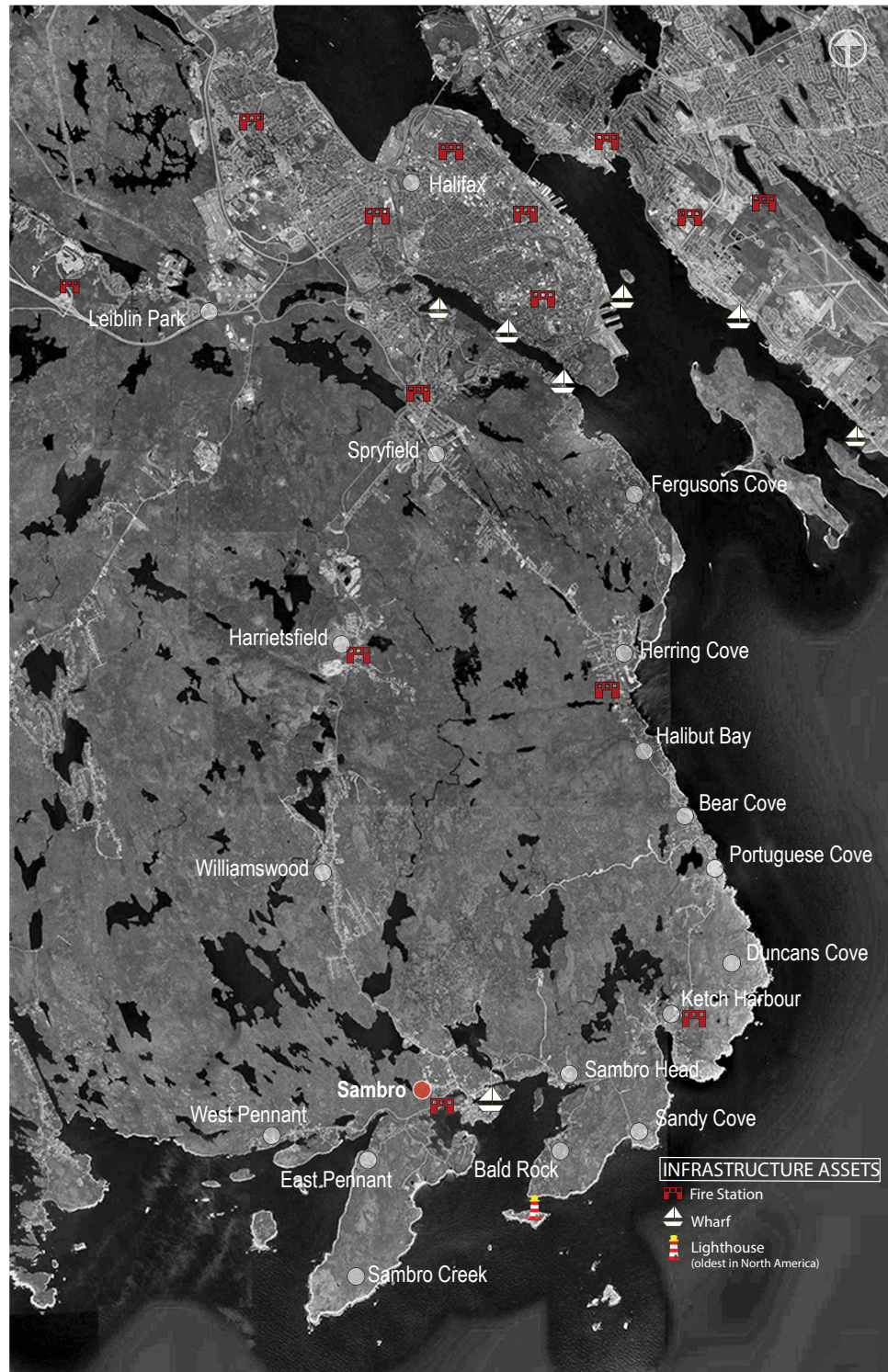


Health assets, base map of Chebucto Peninsula, Halifax and Dartmouth from Google Earth

Existing facilities for the elderly are either in Spryfield, Halifax or Dartmouth. The closest home for elder care is an independent living facility consisting of 14 units in Herring Cove, 25 kms north east of Sambro. By resident account, it is a successful project, however, there are currently no vacant units and the waiting list is long.

Sambronians, like most, are reluctant to leave their homes for the unfamiliar even when there is a need. Consequently, they frequently experience a tragic incident or illness that forces family or state involvement. The move becomes an immediate necessity, choices are rushed and satisfaction more often than not low.

The Journal of Aging and Health reported that whether in rural residences or not, “nearly 1 in 10 seniors identified as an involuntary stayer. Seniors with few socioeconomic resources, poor health, greater need for assistance, and low social involvement were more likely to identify as involuntary stayer. Furthermore, seniors who were involuntary stayers report significantly more distress and greater odds of low self-rated health than other seniors.”<sup>5</sup> With failing health and issues of mobility, it is expected that the number of involuntary stayers would increase with age.

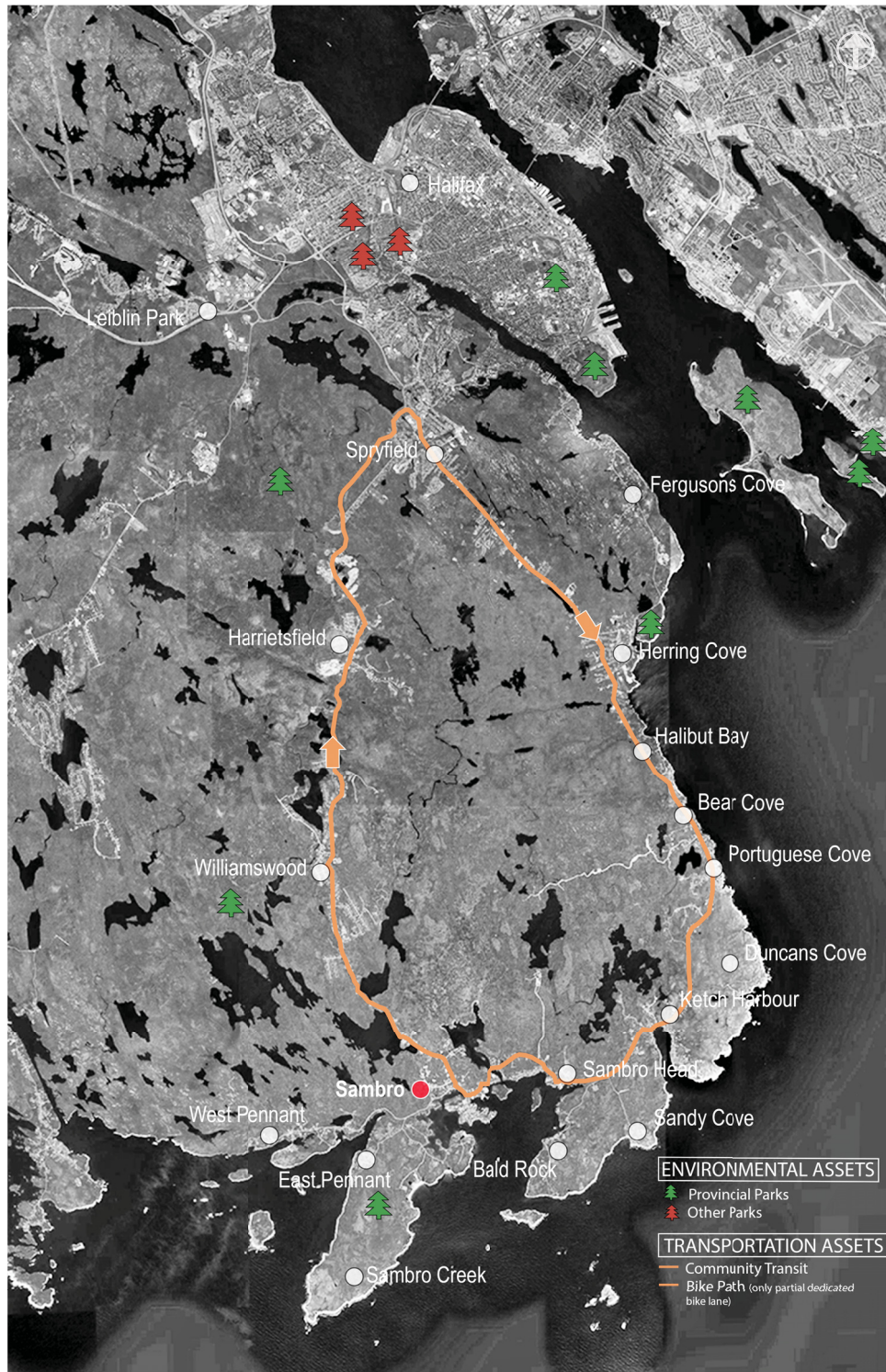


Infrastructure, base map of Chebucto Peninsula, Halifax and Dartmouth from Google Earth

There is a fire station in Sambro on the thesis site. Discussions are being held by city officials about closing the station in Sambro as well as the one in Harrietsfield and relocating them as one, in Williamswood. If this occurs, the existing fire station would become available and could be converted into a community centre.

Sambro is a fishing community and wharves are significant as places of business and social gathering. The main wharf on the Sambro peninsula is the Government Wharf.

The oldest surviving and operational lighthouse in North America (1758) is on an island near the community of Sambro. However, it is not on the tourist issued lighthouse tours. Lack of easy access is cited as the reason. Further, as time passes it is falling into a state of disrepair. This should be addressed as the community would benefit from the boost in tourism this could generate.



Environment and transportation assets, base map of Chebucto Peninsula, Halifax and Dartmouth from Google Earth

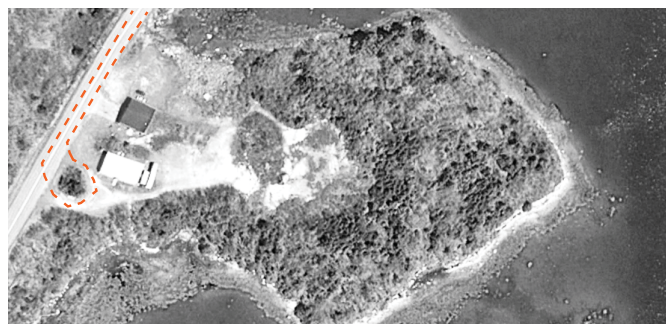
## Environmental and Transportation Assets

During rush hour periods (5:00 to 9:24 am and 2:52 to 7:59 pm), a regional bus service loops the Chebucto Peninsula hourly from Monday to Friday. There is no weekend service. An extension of the bus route to the project site along West Pennant Road would be requested from city officials. The additional distance would be 750 metres (1500 metres both ways) and would serve the Community Centre and the Seniors' Complex. A naturally occurring roundabout exists on the site that would accommodate the bus route perfectly.

Bike paths follow the main road but are non-existent in many areas. There are many cyclists. They must use the main road which is paved, but narrow and winding with a gravel shoulder.

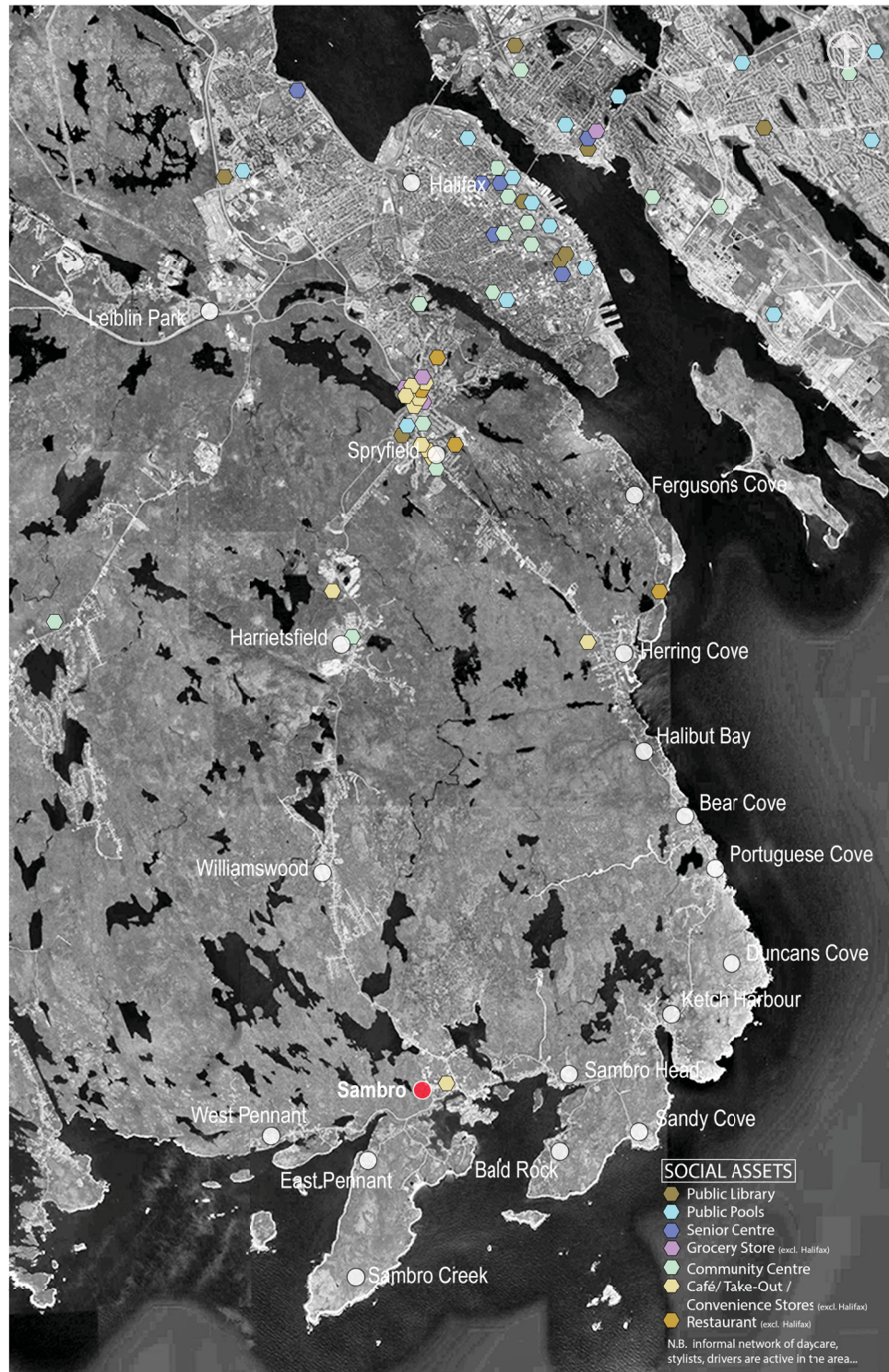
There are no sidewalks, consequently, pedestrians must share the road with vehicular traffic and bicycles.

Crystal Crescent National Park brings thousands of visitors during the spring, summer and fall months for swimming, hiking, wilderness and bird watching. It is also the location where holiday fireworks are held.



Extension of regional bus route along West Pennant Road and on site, base maps of Sambro area and thesis site from Google Earth





Social assets, base map of Chebucto Peninsula, Halifax and Dartmouth from Google Earth

With the exception of Mishoo's Convenience Store and Take-Out, there are no social / food establishments in Sambro. The closest café on the Chebucto Peninsula is Pavia Gallery, a successful mixed-use espresso bar and art gallery in Herring Cove (16 kms from Sambro). Otherwise, on the peninsula, restaurants are pizzeria style enterprises offering mostly fast foods. The closest gym, public pool and public library as well as grocery store are in Spryfield (20 kms from Sambro). The nearest community centre is in Harrietsfield (13 kms from Sambro).

Seniors' centres can be found in Halifax and Dartmouth (25 - 30 kms from Sambro).

An informal home based network of daycares, hair stylists and drivers is active in the area.

## **The Community**

Many hours were spent in Sambro getting to know the people that make up the community. Introductions occurred at events including seasonal Fish Dinners, the sold-out Dinner Theatre performance, the Sambro & Area Community Association (SACA) meetings and Monday Craft Nights to name a few. The eight montages that follow represent some of the seniors in the community. A little of their stories are represented in each image; where they live (often the same home they have lived in their entire adult lives), their jobs, their hobbies and passions and the volunteer work some remain actively involved with.

From casual encounters and brief exchanges it quickly becomes apparent that the need for a nursing home in the area is a serious concern. A large number of the residents are in their 80s and 90s and have not made any provisions for the future. Although most would prefer to stay in their homes they realize and appreciate the upkeep of a private residence is expensive and physically demanding and beyond their capabilities, if not currently, soon to become. In Atlantic Canada, "many were in older housing stock that was in poor repair and were spending more than 30% of their income on housing. People who were single, women and renters were particularly vulnerable. Seniors noted that there were very few low-cost housing alternatives in most communities."<sup>6</sup>

Because of their attachment to the area and its proximity to the ocean (many of the men still take their boats out daily) they refuse to leave. In the words of 90 year old Lila, “The only way I’m leaving my home is feet first!”. Although she might consider a seniors’ home if it was affordable, in the area and done “right”.



Photo montage of Lila (90) and Ariel (93). Have lived in Sambro their entire lives. Interest in senior housing: Yes, a good idea but the only way Lila's leaving her home is feet first.



Photo montage of Jeanne (86). Has lived in Sambro 66 years but still considers herself an outsider. Interest in senior housing: Yes. There is a definite need. Would make use of when the time came.



Photo montage of Bill (76) and Fran (72). Have lived in Sambro 43 years. Interest in senior housing: Yes, very much open to the idea in the not so distant future. Home taxes, insurance and upkeep are almost as expensive.



Photo montage of Royce (88) and Irene (86). Have lived in Sambro their entire lives. Interest in senior housing: Yes. Personally tried to make it happen in 2004 but were unsuccessful.



Photo montage of Vivian (69) and Skip (72). Vivian has lived in Sambro 68 years. Skip has lived in Sambro 57 years but would spend his summers here with the family when younger. Interest in senior housing: A definite need, many older people in the area require attention. Personally, would make use when the time came.





Photo montage of Eva Mae Gray (72). Lived in Sambro 51 years but was required to leave to find a retirement community in 2011 when her husband passed. Interest in senior housing: Yes, would have moved back, but now that she has settled into Melville Heights in Halifax not sure if she would anymore.



Photo montage of Gail (69) and Jimmy (75). Gail has lived in Sambro 53 years. Jimmy has lived in Sambro all of his life. Interest in senior housing: Yes. A very good idea. Needed in the area.



Photo montage of Muriel (84) and Stewart (88). Have lived in Sambro their entire lives. Interest in senior housing: Yes, immediately. More and more difficult to live independently.

## The Program

In the context of seniors' housing, it is not possible to separate program considerations from the design of the physical structure of the building. They are strongly interdependent and consideration for both is how a successful project is created. Based on conversations with the residents of Sambro, both young (to get the perspective of those to come in the future) and old (those in immediate need), and research on the topic of elder care, it has been deemed optimal for the project to be broken down into three major inter-related components. The first is concerned with seniors' housing (independent and service living households), the second with a community centre and the third with the other facilities offered on the site.

The households are single family homes connected by a common core in which shared services are located. The community centre is an adaptive re-use undertaking which makes use of the two existing buildings on the property: an operational fire station and an old fire station currently being leased as a storage area.

Every programmatic move places the senior resident at the centre by asking a series of questions:

How can "this" work best for them?

How can "this" benefit their lives, healthfully and productively?

How can "this" keep them connected with the day to day activities of the residence, the site, the community.

How can this address the principle issues of concern: loneliness, boredom and helplessness?

In November of 2012, a group of dedicated locals formed the Sambro & Area Community Association (SACA) to, among other things, raise funds to build a community centre. The merging of a community centre with the seniors' complex is fundamental to the successful realization of both projects and the fortification of the site as an important public / gathering node for Sambro and the surrounding areas. Although Sambro is a vibrant community with many social activities, an architectural representation of the community and its vibrancy is

currently non-existent and desperately required.

A community centre is of particular interest to the project as it will bring with it, various points of intersection including the possibility of a café / restaurant and fish market. As well, working co-operatively, the centre and the seniors' housing project will seek to eliminate redundant spaces that would otherwise be required if constructed independently. Under consideration are dining facilities, meeting rooms, recreational facilities, workshops, gym and spa.

It is the intention of the project to accommodate public access to the water, as such, a free public boat launch (for smaller crafts) will be made accessible on the property. As well, a competitive rowing club has expressed interest in a new club house and are interested in relocating to the site. A wharf, also available to the public, would accompany the club.

As the management of waste water is a major determinant in the area, a solar aquatic system is under consideration (see Appendix B). It offers a eco-friendly greenhouse environment capable of producing horticultural opportunities by way of plant and food harvesting, as well as creating architectural spaces for use by the residents.

## **Programmatic Requirements**

### **Units**

- 10 - 30 units are deemed optimal.
- To connect the units to each other via a pathway (preferably covered).
- Each residence is to have access to the exterior and make use of front porches.
- To be equipped with a smaller but functional kitchen.
- To maximize layout options, units are to be designed as flexible spaces. Cabinetry is used to separate the living room from the bedroom thereby maximizing opportunities for universal design considerations should those be required in the future.

- A large, universally designed bathroom.

## **Communal Elements**

### **Amenities**

- Offer circulation paths with destinations and numerous places for resting and chatting.
- Underground parking is preferred or as close to residence as possible. In addition, extending the local bus route to reach the site is required along with car sharing, motorized carts for local transportation or shuttle buses for weekly trips to grocery stores and shopping would be required.
- Guest suites for caregivers and / or visiting family for short or longer term stays.
- Suites for student of gerontology or holistic health practitioners (yoga, meditation, nutrition).
- An area for exercising, to be physically active.
- A spa (large whirlpool, wet sauna, massage room) for recreational and therapeutic purposes.
- Provide running, walking and biking trails.

## **Community Centre**

- Two or three meeting / classrooms are required. Should accommodate 15 to 40 people. The Nova Scotia College of Art and Design (NSCAD) and the Maritime Museum continuing education programs have expressed interest.
- An event / performance area that could double as a gymnasium, workout space.
- A large craft / workshop area. Special facility is required for boat building courses.

- A pool and / or spa.
- Although of interest a daycare and / or kennel are subject to further discussion and exploration.

### **Wharf**

- A public boat launch for small crafts.
- Rowing club house and storage space. A local rowing club has expressed interest in moving the club house to this location. The protected cove is ideal for rowing and kayaking activities.

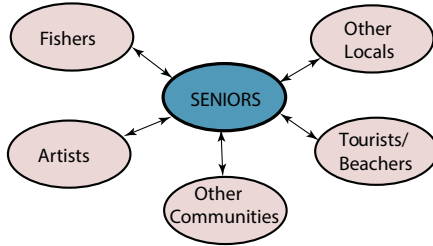
### **Waste Water Management System** (optional, would be phased in)

- Solar aquatics is being considered for it's environmental impact and the green house environment it would provide; conducive to plant and food harvesting.
- Creation of third spaces within the green house space for residents and community at large (i.e. reading, card and board games, lectures, sunning).

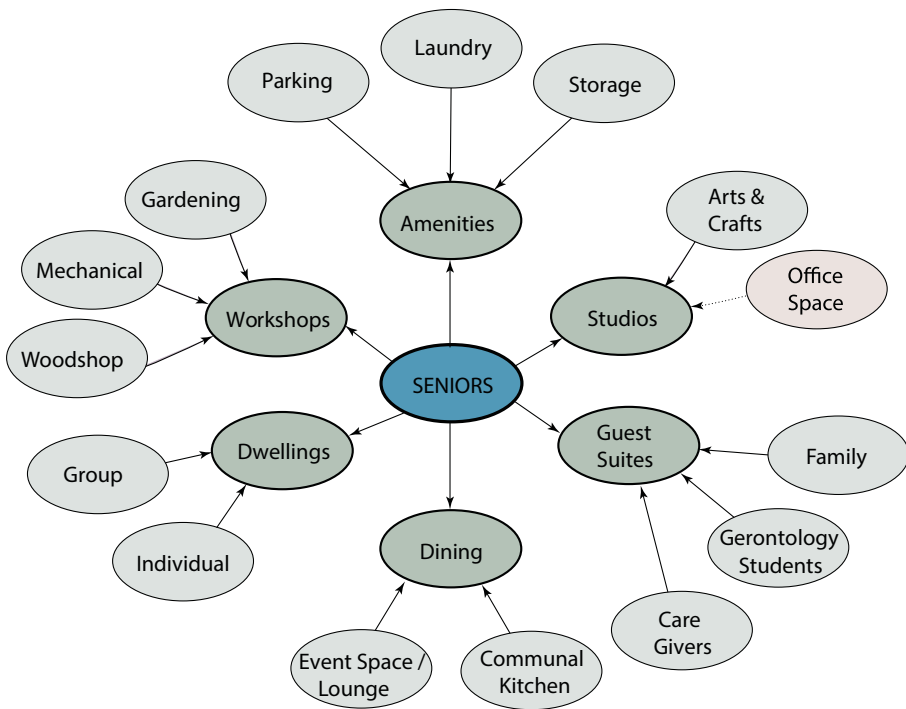
### **Activities**

- Growing food and plants for personal use and sale at market.
- Managing / working at the café / restaurant and or fish market on site.
- Managing / working at the community centre.
- Arts and crafts.
- As part of continuing education, attending or teaching classes.
- Providing child and / or animal care.

### Program Grouping

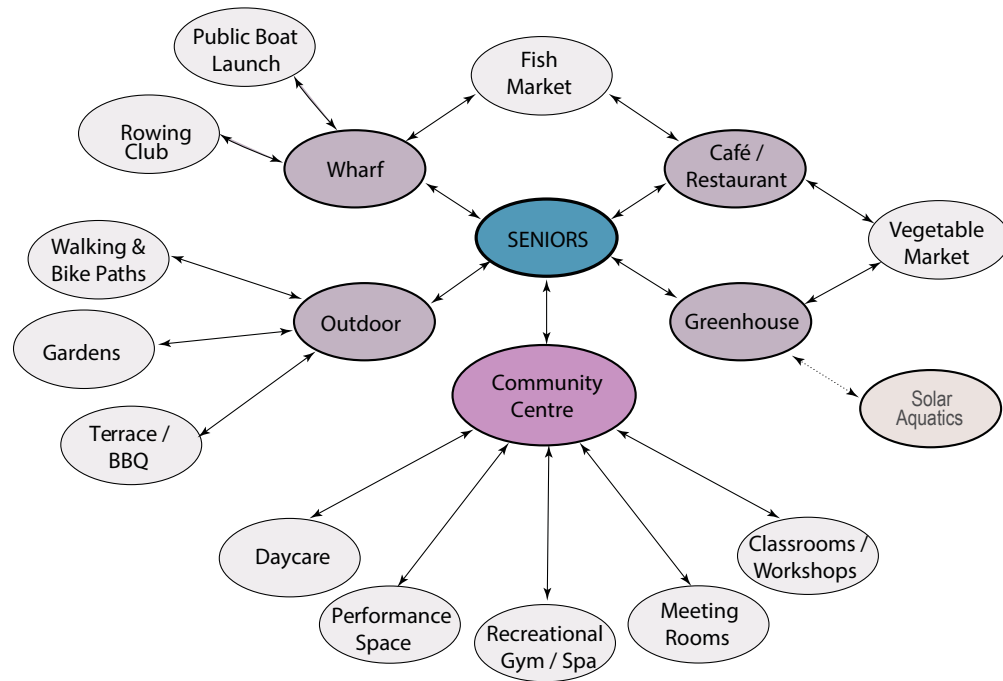


Community at large and Sambro seniors



Diagrammatic representation of the housing project program; the senior is always placed at the centre of every programmatic decision.





Places of gathering

## Sambro Vernacular

### Housing Typology

Houses typically fit into the landscape. They are low to the ground, usually are two storeys made of wood shingles painted white with a colour trim, but frequently painted brightly in hues of green, yellow or blue. There are no basements (unless the natural topography provides the opportunity for one) as the foundations rest on bedrock which is the reason homes appear to be laid out randomly without any apparent forethought. However, this is not the case. The siting of a new building is a considered affair.

Builders seek a solid, large and preferably flat rock surface upon which to build. The location of the bedrock trumps other considerations, including, on occasion, property lines. The walls are wood shingles and the roofs are gabled. Small rectangular windows perforate each side with regularity - two on the bottom, one or two on top. The houses are not large, but efficient and compact and seen occasionally with porches. Lots are spacious, typically between 1 to 3 acres.



Photos of houses and fisheries in Sambro from Richard Kroeker\* and Open File\*\*



Photo collage of a typical Sambro fisherman boat building. Some of the wonderful things the elderly have acquired throughout their life are wisdom, knowledge and experience. The “new” retirement home offers the opportunity for others to share and benefit through courses offered by Sambro’s seniors themselves. In this photo collage, a boat-building workshop is offered through the Maritime Museum of Atlantic Canada Outreach program. NSCAD’s Continuing Education program has also expressed interest in other courses including fishing, quilt-making and local cooking. Skills identified in the area.

## **CHAPTER 2: DESIGN**

The Literature and Precedent Review (see Appendix E and F respectively), readings, research, discussions and personal experiences have been distilled into the following design principles which can be applied universally to seniors' housing projects. It begins with a refined understanding of what it is to age-in-place.

### **Ageing-In-Place**

Many think of ageing-in-place as ageing at home and although that is the preference of most, ageing-in-place is also about ageing in community and is not limited by the physical confines of one's residence.

To understand the broader meaning of the term is to delve into the intangible, the human environment that exists beyond the brick and mortar of the household and consider the familiarity generated by one's neighbourhood, one's community, one's city. This geographical expansion, along with its related sensory offerings, contribute to a description of ageing-in-place that is more encompassing. Being subject to an individual's preferences and experiences what constitutes the boundaries of familiarity can include more or less. It is also important to consider, however, that former memories, in this instance those of retirement homes as institutions, can be blinding and off putting and may generate resistance. A period of adapting to any new space is normal and is to be expected.

In addition, the attributes of single family housing are, generally speaking, obstacles to ageing-in-place; consider the physical barriers, the maintenance and financial considerations of a home as well as the issues of isolation and safety. These and other factors frequently lead, naturally, to changes in housing situations.

### **Overarching Ideology**

#### **The Medieval City Revival - A Village Approach**

As a model of accessibility, medieval cities and their many architectural barriers (cobblestone, steep grades, narrow passages, irregular steps, heavy doors...) are brilliant failures but at the urban scale offer valuable ways of thinking about integrated accessibility:

- Buildings have types and look to establish social hierarchies.
- Light, sound and breeze define the location and placement of buildings.
- Tight massing around passages define spaces and provide sensory cues for haptic orientation (the smell from a neighbourhood restaurant's kitchen, a familiar tune being played on the music teacher's piano).
- Necessity of grouping program in compact spaces .
- Conceived along a human scale, are walkable, have both public and private spaces.<sup>8</sup>



Photo of the medieval city of Flavigny-sur-Ozerain, France from Découvrir Flavigny Sur Ozerain

## Guiding Principles for Design

Architecture can provide new solutions to the challenges of traditional retirement home models that approach ageing as disease by breaking away from the institutional inspired approach from which it spawn and to this day continues to permeate it's very existence. It is necessary to move away from the medical care and shelter models of old and replace it with a more healing, living, growing approach. The difficulties of many undertakings lie in creating a simulacrum, a band aid solution that can be as equally harmful.

## Connectors

### At the Vernacular Level

- Concerned with doing things efficiently based on availability of materials processes and skills typical of the area.
- Sambro vernacular revolves around:
  - fishing
  - settlement patterns (along the coast, from cove to cove)
  - apparent random placement of homes (based on the availability of bedrock)
  - wood slat construction
  - gable roofs (houses and fishing stages)

### At the Project Level

- Maximize opportunities for contact between residents and staff both formally and casually.
- Visual and physical (as well as the other senses) connections between buildings, rooms (paths, corridors).
- Intergenerational housing.
- Access to third places, create opportunities to gather.

### At the Community Level

- Evolve seniors' housing by maximizing opportunities for contact between the residents and the community at large; integration.
- Public participation / involvement in decision making, ideas, contributions.
- Generate wider community support by hiring local trades.
- Public access to third places, commercial and other amenities on site, convivial spaces, atmosphere, landscaping.

## Environmental Considerations

- Connection with nature both visually and physically.
- Whenever possible, minimize topographical displacement; work with

existing site.

- Environmentally smart systems: solar panels, geothermal heating, passive cooling.
- Innovative building systems: structural insulated panels, cross laminated timber, etc.

### **Universal Design**

- Accessibility for all, at all ages, for multiple shortcomings long or short term.
- Design without stigma / transparency whenever and wherever possible.
- Smaller highly functional units.
- Space and furnishings to meet the needs of individual present and future (flex spaces, lifetime homes).
- Lifetime homes, design decisions that offer greater independence and the option of ageing in one's home

### **Multiple housing options**

- Housing types
  - independent living – seniors, singles, couples, families
  - service living – seniors, physically challenged of any age
  - long term care – seniors, terminally ill of any age
- Affordable pricing (construct based on the kit-of-parts model).

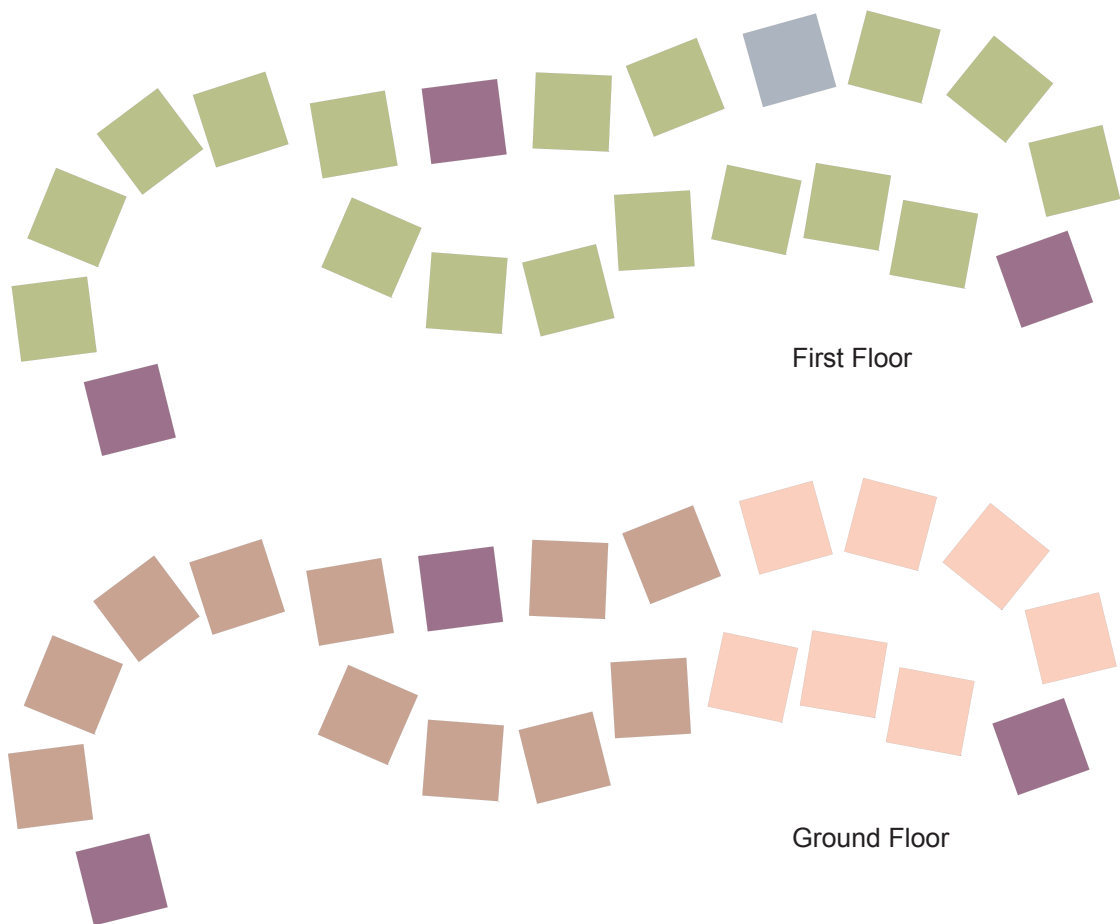
### **Active Living**

- Shift from protective to leisure oriented values.
- Opportunities for walking and other types of exercise.
- Access to local transportation, car share (travel boards / internet), shuttle services.
- Community involvement.
- Continuing education (as students, as teachers).

**Sense of place**

- Thoughtful consideration for the creation of intangibles: memory making, beauty, creative spaces.

**Project Specifics**



**Category of care by level of service, descriptions from Nova Scotia Department of Health**

- L1 - residents are ambulatory and highly functioning requiring mostly room, board and / or lodging services.
- L2 - residents are relatively independent with some functional or mental impairment; require limited or minimal supervision or assistance with activities of daily living or behaviours of daily living
- L3 - residents have more extensive functional or mental impairments; require more extensive assistance with activities of daily living and behaviours of daily living
- Guest / Care Giver Suites (2 units, can accommodate up to 4 people)
- Non-residential; includes greenhouse, spa and circulation / elevator / mailbox spaces



## **Occupancy**

L1 - 17 households, up to 34 residents (based on double occupancy)

L2 - 11 households, up to 22 residents (based on double occupancy)

L3 - 7 units divided in half to create 14 smaller households (based on single occupancy)

Resident population can range from 42 to 70 residents.

Charles Durrett, architect and author of multiple books on co-housing and the evolution of retirement communities in the United States concludes that smaller is better. In his experience, a project ranging between 15 to 30 households is optimal. In Sambro, for the seniors' housing project and the community centre to be financially viable the number of households had to be increased 20 to 42. They are, however, grouped according to the level of care and although connected through the underground parking, circulation paths and shared amenities they are physically organized in separate, smaller and needs based groups. The largest number of units in a grouping is the independent Level 1 (L1) residents. At 17 households it remains intimate.

## **Level of Service**

L1 - Access to care is on an optional service by service basis.

L2 - Top level care requires 1.5 to 2.0 hours of personal care per day.

L3 - Top level care requires 1.5 to 3.5 hours of nursing and personal care per day.

## **Resident to Staff Ratio**

Top level care requirements:

7.00 hours Personal Care Workers (PCW) per day.

2.75 hours Registered Nurses / Licensed Practical Nurse (RN / LPN) per day.

## **Design Parameters**

### **A Step by Step Approach**

In order of priority, the following are the over-riding parameters driving the design of the project. All are important but some offer more flexibility than others and for that reason are placed later in the sequence. Although linear, the sequence of design was created like a loop. When a conflict occurred it was necessary to return to an earlier step. The needs and comfort of the residents remains the ultimate priority.

#### **1. Prevailing Winds**

Prevailing winds in Sambro, NS are from the south, south west. The building would be oriented accordingly, should no other consideration be of consequence. (Refer to Appendix C for more detailed information on prevailing winds.)

#### **2. Topography**

Looking to minimize grade change resulted in the building being oriented along an east / west axis. In addition, an existing horseshoe shaped hollow 60 m by 30 m in length and two to three metres in depth allowed for underground parking with little excavation. Underground parking is a big selling feature for Sambronians who usually park outdoors or when available in a detached garage.

To allow for vehicular circulation, including fire routes and bike paths the topography dictated that the building should be sited on the highest point of the site and to the north east.

#### **3. Solar Energy / Photovoltaics**

To minimize the environmental impact and, in the long run, be as energy and cost efficient as possible, a photovoltaic approach to generating electricity was selected. Energy requirement calculations confirm the need for 462 1m<sup>2</sup> panels installed at 45° facing south with a 15° margin of play either north or south. Nine roof tops offer the opportunity for 486 panels, however, resulting household placement allow for 11 households or 594

Community Feed-in Tariff program. Note: As a result, the gable roofs are at 45° angles.

#### 4. Sightlines / Vistas

The site is on a peninsula and the north, west and south sides offer spectacular views of the coves. The east view looks to the community centre and the hills behind it. Homes were oriented to maximize sightline views all the while respecting solar panels restrictions.

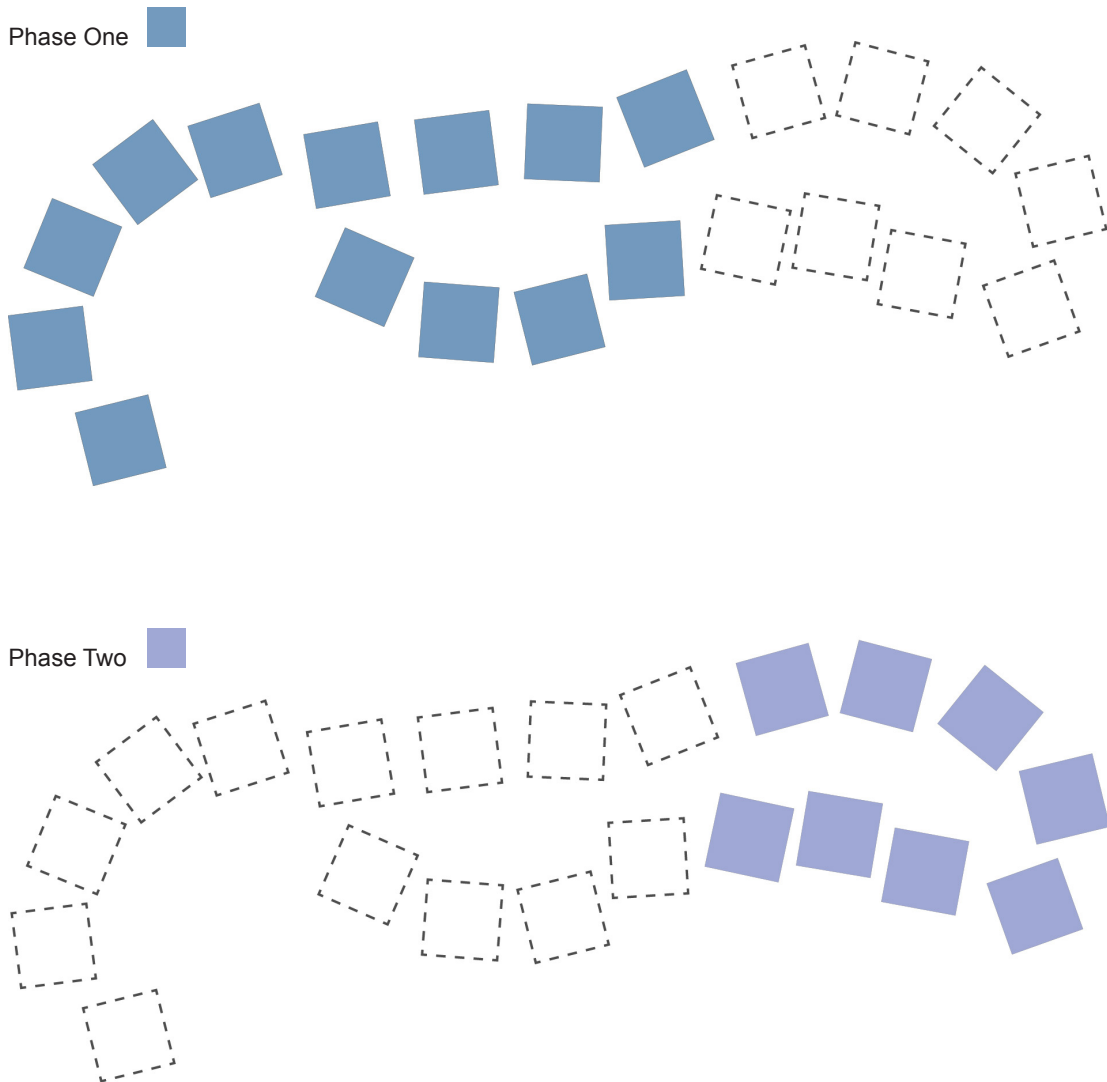
#### 5. Connectors

Maximize the opportunities for connecting seniors with each other, the intergenerational residents, staff (personal care workers and nurses), family members, external groups and the community at large. This is accomplished by positioning the shared amenities: a spa, a greenhouse, parking and mailboxes at different ends / levels of the home thereby intentionally creating opportunities for neighbours to cross paths. Placing doors, windows and stairs to create visual and physical links. Eliminating segregated nursing stations and incorporating administrative facilities within the open; public / semi-public spaces. Offer guest suites for overnight visits and longer term stays for family and friends. Populate the peninsula with facilities that bring people to the site, that generate life and create activity i.e. a community centre and café / restaurant, a fish market, a boat club, a public boat launch as well as an epitaph for fishermen lost at sea (this does not exist currently). A bike path circling the perimeter is an excellent opportunity for connecting (if only visually) with other Sambronians and neighbouring communities.

#### 6. Nature

Although also a connector, it's importance is sufficiently significant to be considered independently. The positive impact of nature on general health and healing both mentally and physically has been well documented in Dr. Esther M. Sternberg's *Healing Spaces: The Science of Place and Well-Being*. Visual (indoors) and physical (outdoors) access to nature is facilitated by the use of windows, or glazed doors in every room in the house (including the kitchen and the bathroom). The individual design of each home offers three and sometimes four sides to the exterior and although building code limiting distances are to be considered further, maximizes the opportunities to connect with nature.

## Phases of Construction



Diagrammatic representation of proposed phases of construction. The construction of the community centre and the senior's housing project is interlinked both programmatically and financially. For that reason it is necessary for the construction of both projects to be undertaken simultaneously, however, should this not be financially feasible, the project can be divided into two phases in which a portion of the senior's housing would be postponed. Phase 1 encompasses the construction of the community centre as well as Level 1 and Level 2 care units. Phase 2 would follow with the portion of the building that houses Level 3 care units. Should all residential units be sold the project would proceed in its entirety along with the community centre.

## **CHAPTER 3: KEY DRAWINGS**

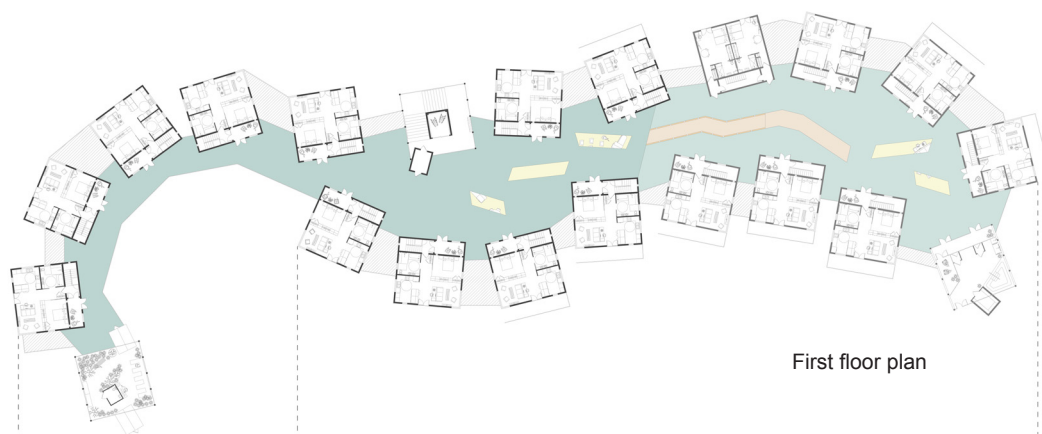
What follows are a series of images that graphically represent the project. Included are an overall site map, site plans, unit plans (residential and non-residential), a site section as well as a series of experiential drawings.



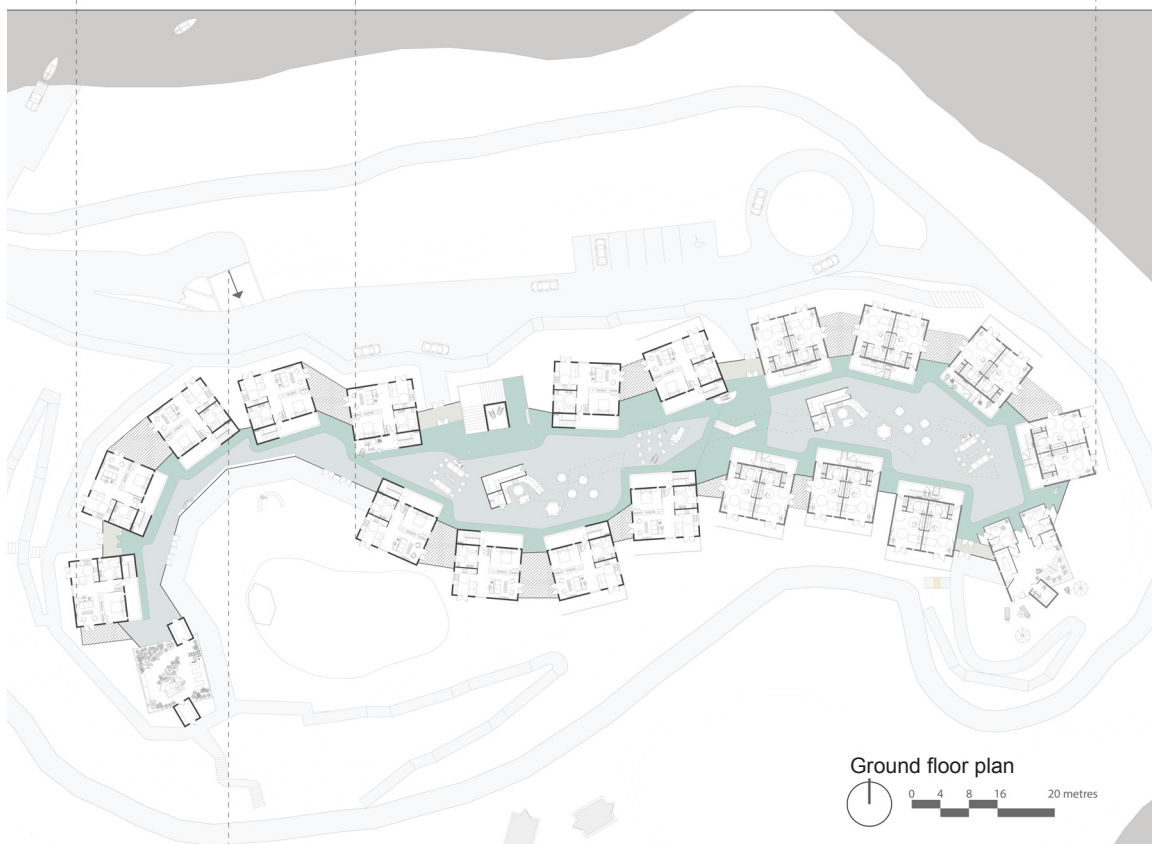
Site map

Description of items represented on the site map above

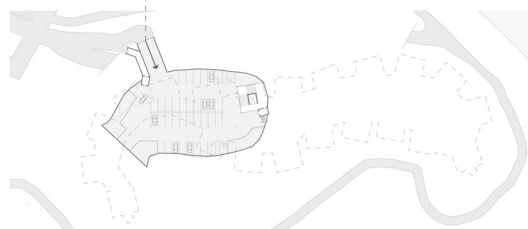
- a. bus stop (bus route extended to accommodate seniors' housing and other facilities on site)
- b. epitaph (to commemorate fishers lost at sea, none currently exists)
- c. community centre (although adaptive re-use constructed in the same style and manner as the senior's residence)
- d. public boat launch (free, only one in the area other than the coast guard boat launch which is locked and consequently not always available)
- e. public wharf
- f. rowing club (interest by a local club has been expressed in situating on the site)
- g. bike path (allows residents and public to circulate the site)
- h. greenhouse (may eventually be converted to solar aquatic system for water treatment; see Appendix B)
- j. hearth
- k. primarily circulation unit; glazed. holds the elevator, large open staircase that travels from the parking level to the first floor (the garden roof top) and mailboxes
- m. hen house (connect residents with animal life, produce eggs for consumption, restaurant use and sale)
- n. pygmy goat (a hardy breed of miniature domestic goat, highly social, more dependent than cats, less dependent than dogs)
- o. workshop (boat building, wood working and mechanical project space)
- p. spa (change room facilities, massage room, large 12 person whirlpool, wet sauna)
- q. residences (18 two storey units, with one household on each floor)
- r. underground parking entrance (provides 32 parking spots, 4 handicap spots, storage lockers, car wash and accommodates building mechanical and electrical)



First floor plan



Ground floor plan

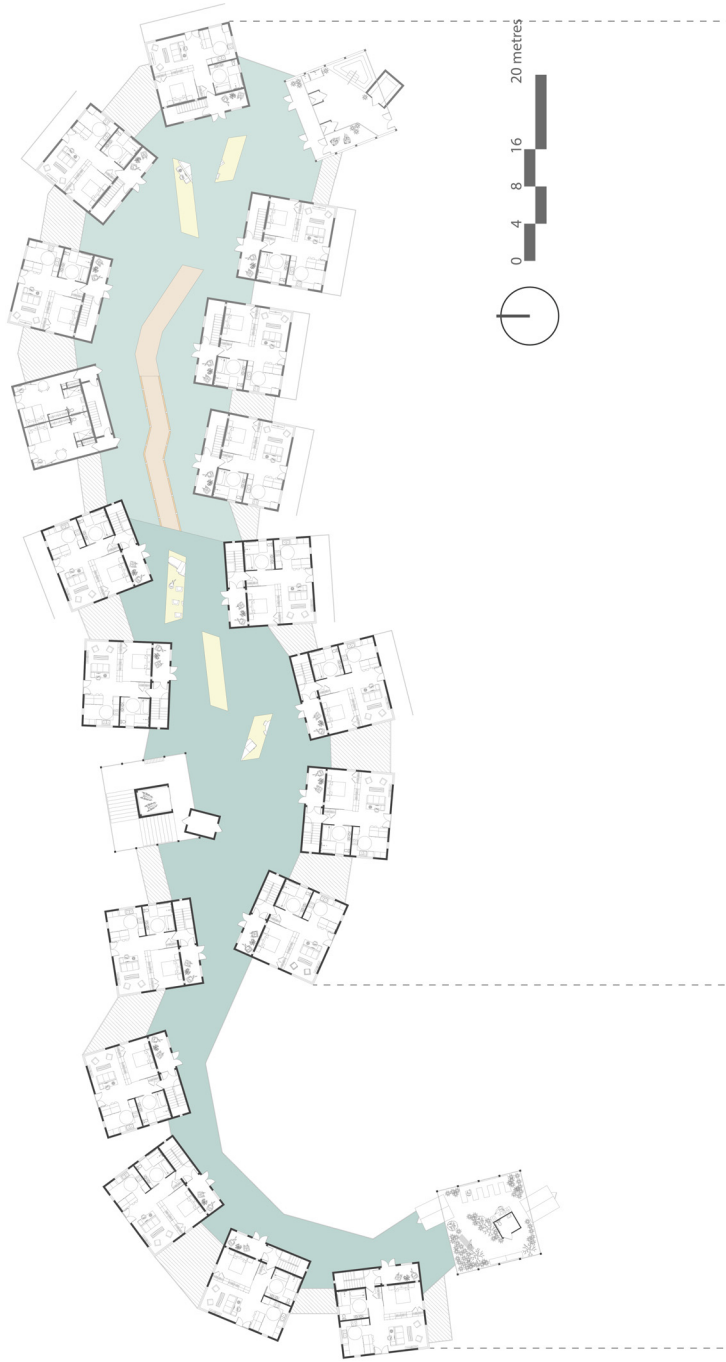


Site plans overview

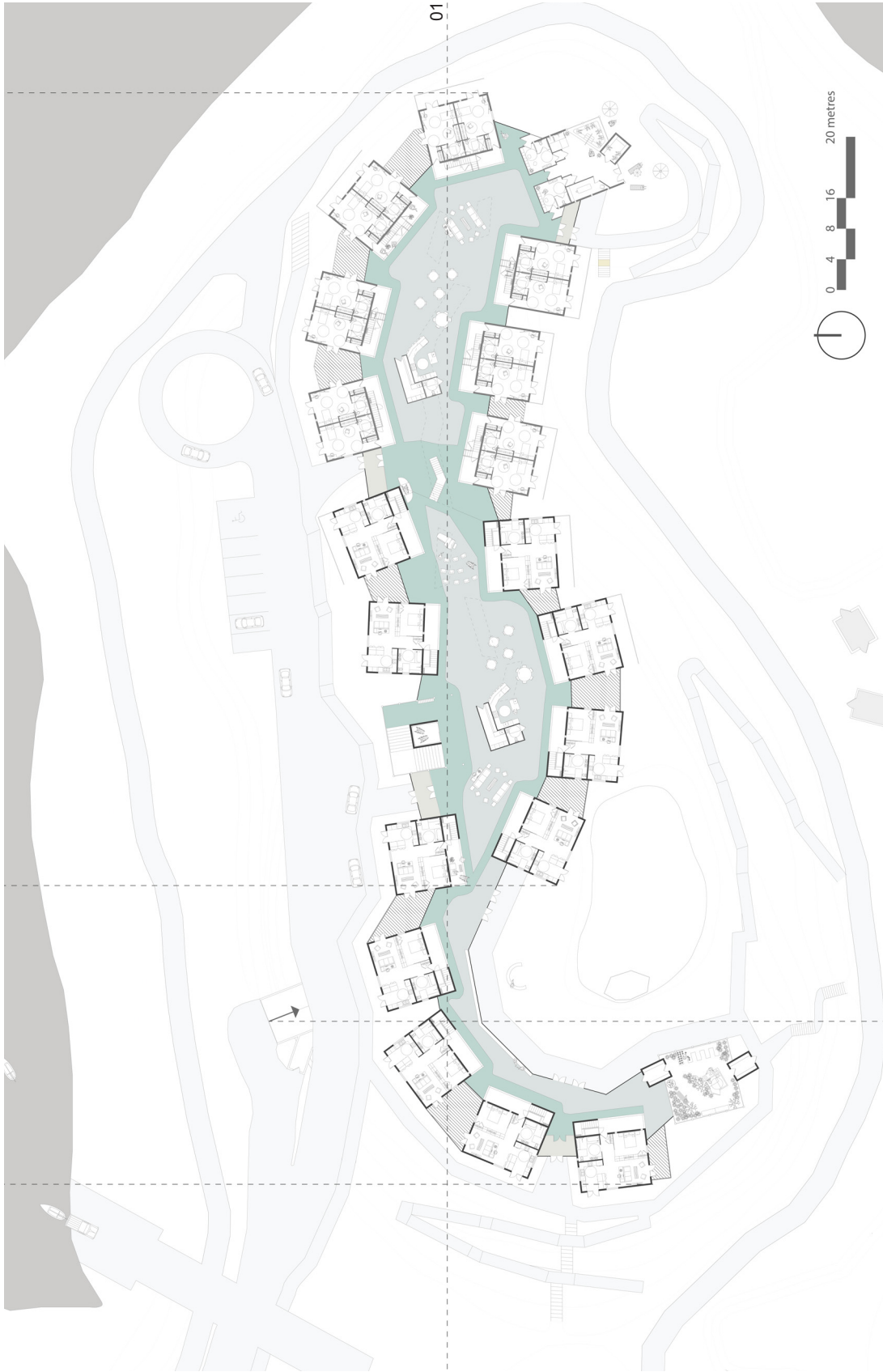
Parkade floor plan



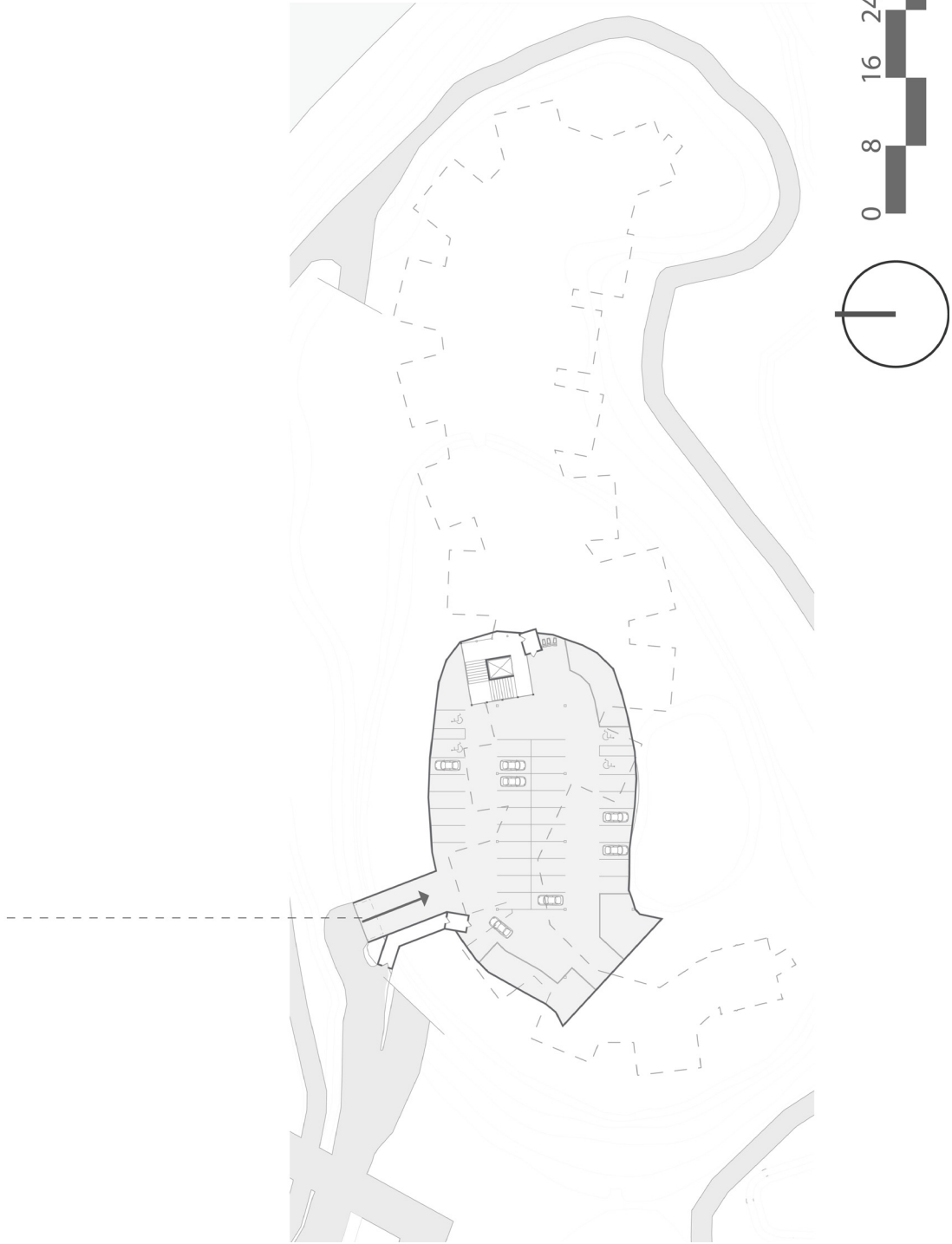




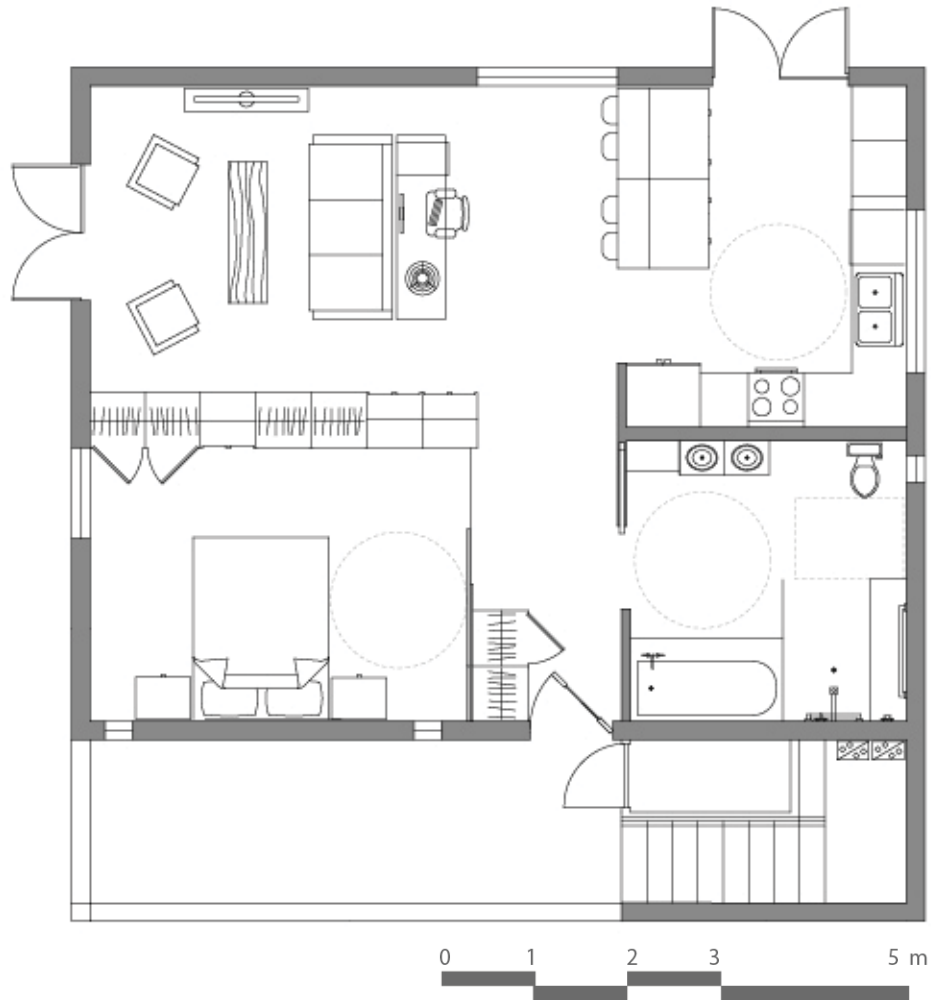
First floor plan (the roof garden)



Ground floor plan (the interior street)

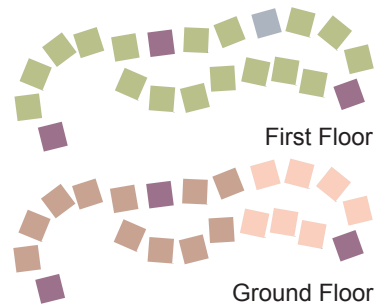


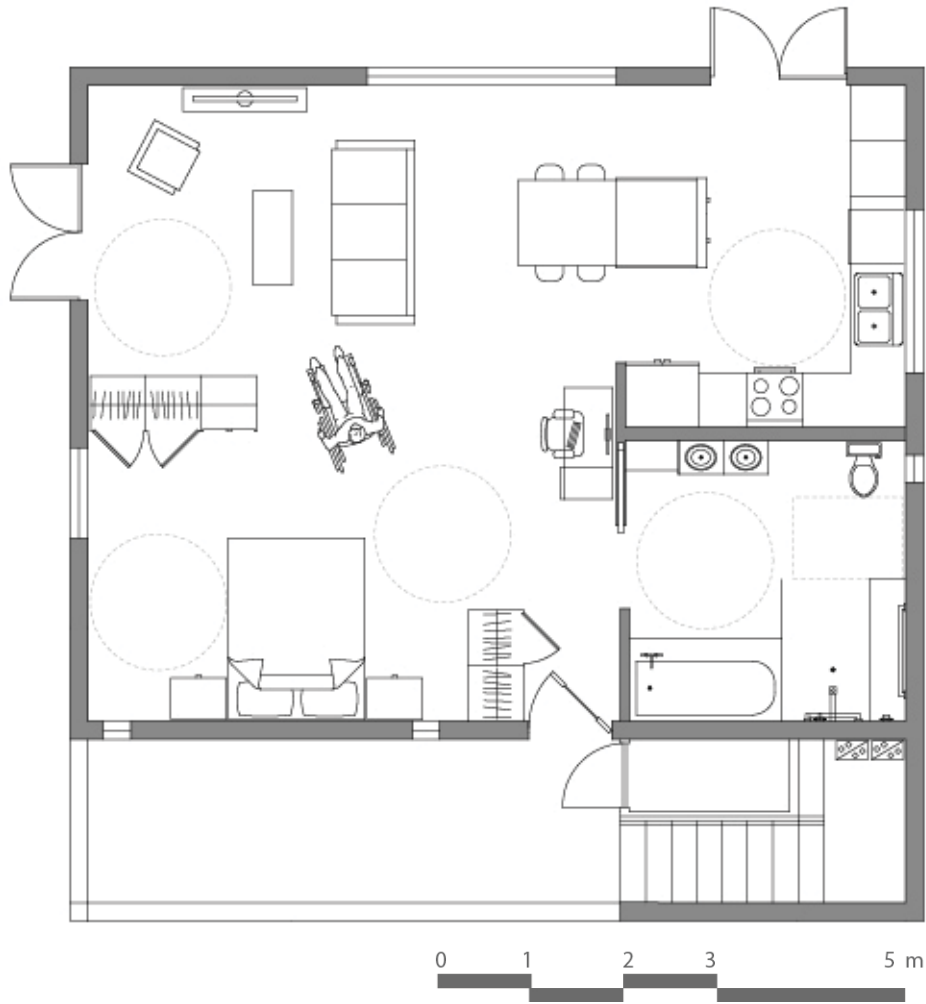
Parkade floor plan



Unit plan: residential

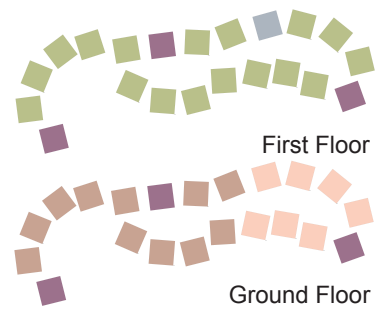
Independent Living Unit Plan for Care Levels 1 and 2 ■ ■

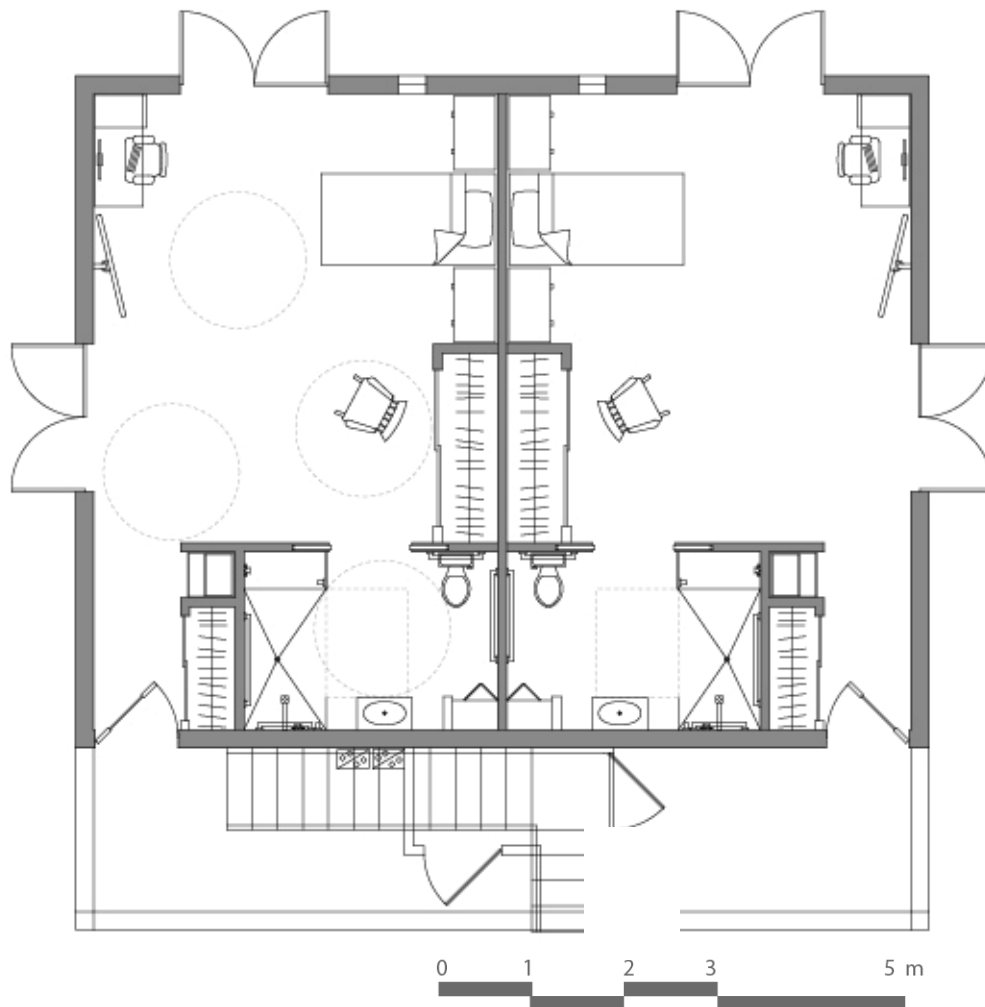




Unit plan: residential

Flexible Living Unit Plan for Care Levels 1 and 2 ■ ■

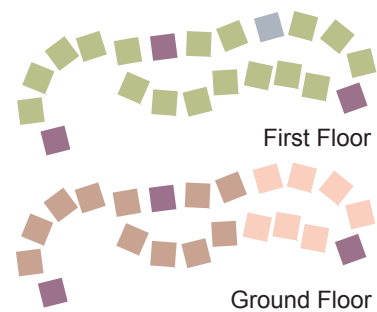


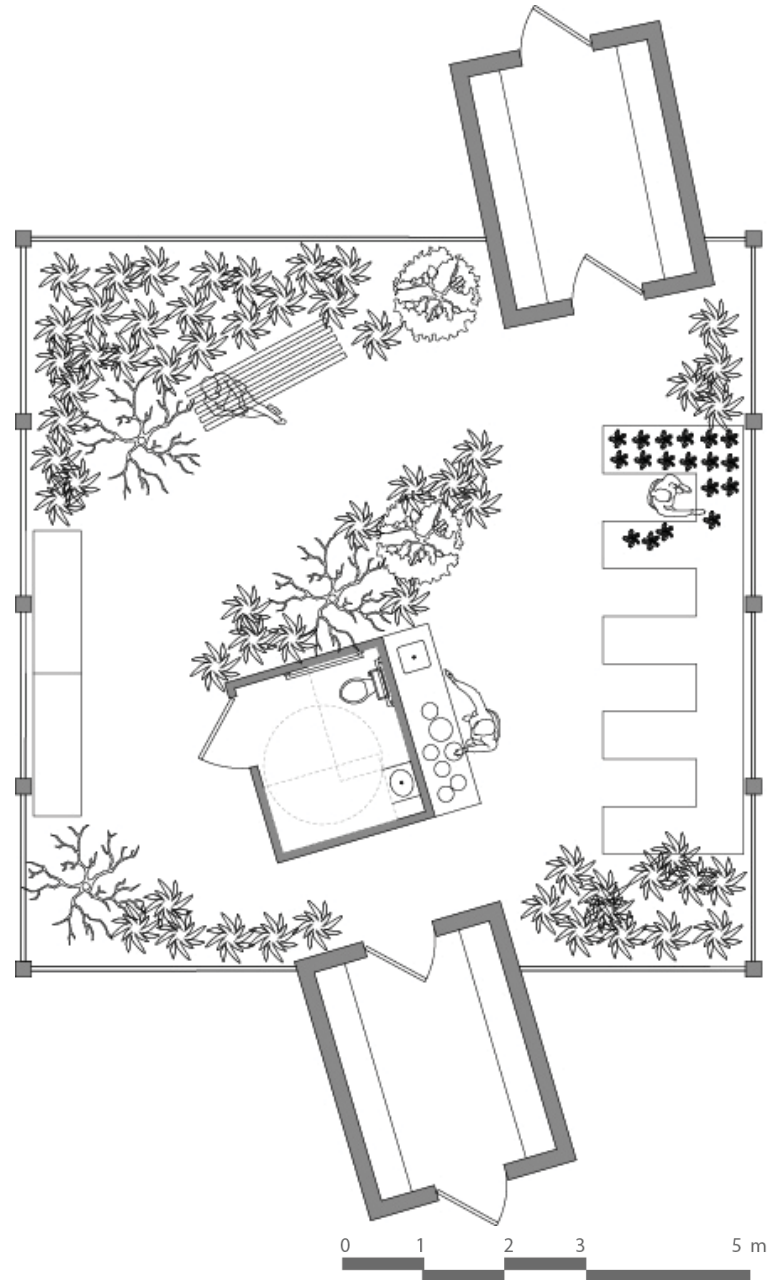


Unit plan: residential

Assisted Living Unit for Care Level 3 and Guest Suites ■ ■

Glazed double doors provide immediate connection with nature both visually and physically (exterior space), passive cross-ventilation as well as increased sense of security as can visually connect with neighbours on either side. Large door also create a greater sense of space.





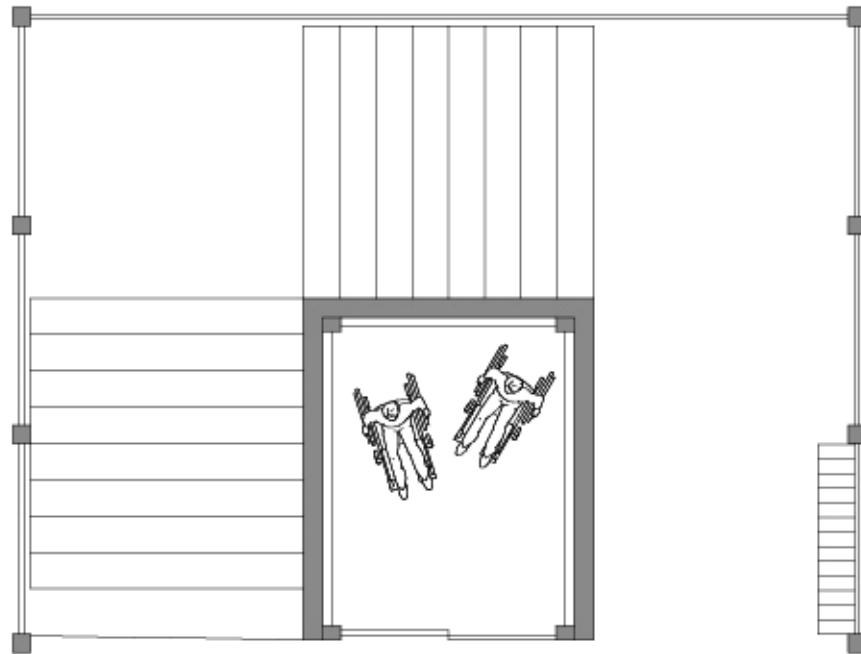
Unit plans: non-residential

Greenhouse / secondary entrance ■

Glazed façade, exposed steel structure typical of greenhouse construction. Opportunity for residents to actively contribute to the growing of vegetables for use by the kitchens and the café / restaurant in the Community Centre. Air locks designed to resemble fishing stages.



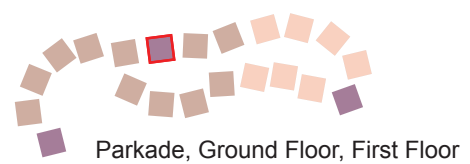
Ground Floor



Unit plans: non-residential

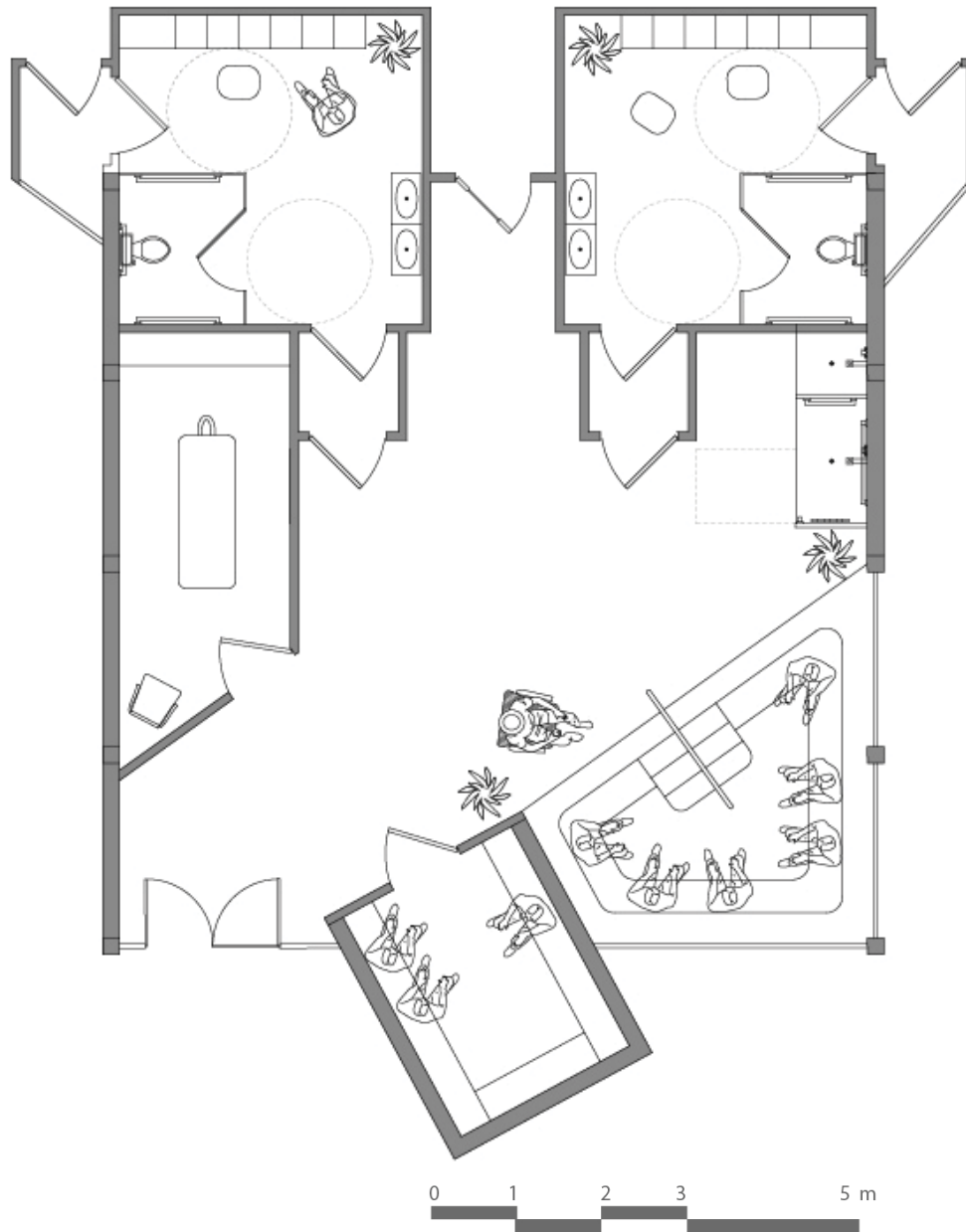
Circulation Tower ■

Glazed façade, exposed steel structure. Connects parkade, ground floor and first floor via glass elevator and oversized easy to travel staircase. Air locks at the parkade level and the first floor (roof garden) levels resemble a fishing stage (see floor plans above). As a major traffic point, mailboxes can be found on the ground floor - this to also increase opportunities for crossing paths with neighbours.



Parkade, Ground Floor, First Floor



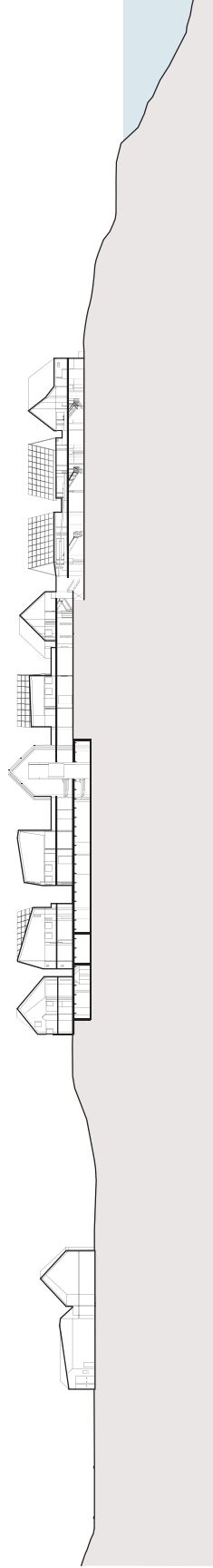


Unit plans: non-residential

Spa ■

South façade is glazed from the ground floor up; the north façade is glazed from the first floor slab up. First floor access provides deck overlooking the jacuzzi tub. The wet sauna is designed to resemble a fishing stage.





Site section, section 01



Experiential drawing, aerial view of site: evening winter scene



Experiential drawing, section through a level 3 unit and the interior street below, a level 1 unit and the roof garden above



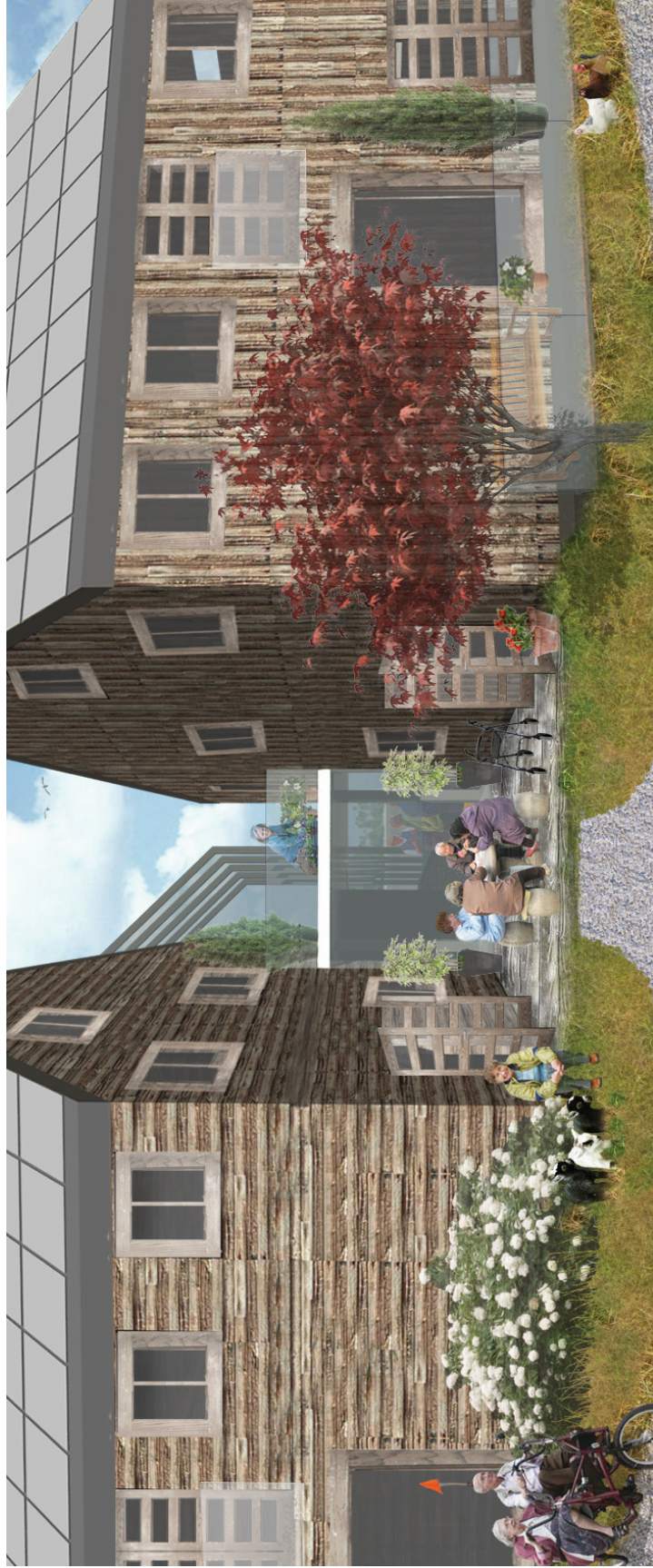
Experiential drawing close-up, section through a level 3 unit and the interior street below, a level 1 unit and the roof garden above



Experiential drawing, section through level 2 units hallway to greenhouse



Experiential drawing, section through level 2 units dining area / interior street



Experiential drawing, exterior view of shared deck: typical. Circulation tower is visible in the background, the bike path in the foreground along with pygmy goats and hens cared for onsite.



## CHAPTER 4: MODEL



East view of seniors' housing project



Overview of peninsula and coves, the thesis site



South façade view of seniors' housing; hen house, pigmy goat shelter and workshop in foreground



View from West Pennant Road with the community centre and epitaph (boulder) in the foreground



View of third space enclosed by the community centre to the left, the rowing club on the bottom, the seniors' housing on the right and the public boat launch on the top



East view of exterior rooftop garden ramp and clerestory.



Exterior view of courtyard, secondary entrance facing the community centre and the greenhouse which also serves as entrance to the seniors' housing



Interior view of interior courtyard, greenhouse (secondary entrance) and totemic boulder

## CHAPTER 5: CONCLUSION

Every society in every country has its own special considerations and will seek its own appropriate solutions to improve and maintain the quality of life for its older citizens. Every culture has its very special nuances. Every individual has a personal set of values and expectations. But people everywhere are seeking a quality of life that transcends just the need for medical care and shelter. There is no best or correct model, but rather a multiplicity of appropriate responses which, when thoughtfully combined, will make the most appropriate model for that specific time, in that specific place.<sup>7</sup>

Finding the perfect architectural solution for retirement living is possible but only if it meets the needs of those that will occupy the space. No blanket solution exists. Although moving away from the institutional model that to this day continues to consider ageing as disease is progress. On all levels, working on a smaller scale appears to work best (a return to the concept of the village being a formidable example). However, as was experienced on this project (a jump was made from 20 to 42 units) there is considerable pressure both on both the public and private sides to create larger scale projects. This is preferred in order to minimize costs / maximize revenue and seek to accommodate the pressures of an ageing population (one in four Canadians will be seniors by 2051).

Significant deficiencies in the traditional models of care and service for older people are being noted by a new consumer that has different demands and expectations as well as new technologies with innovative applications and seamless universal design that were only briefly mentioned in this report but are significant and worthy of greater exploration.

Building “lifetime” homes that can satisfy the many stages of one’s life is basic common sense. The UK recently passed a bill requiring that all new homes meet “lifetime” standards. The same should be done here in Canada. The initial expense is a few thousand dollars but future savings are significant.

As important as the architectural considerations (integration, connectors, universal design) of the building are, retirement homes and senior living are strongly tied to their programming. Much about fighting the idea of ageing as disease boils down to the art of living, fighting isolation and remaining active.

There is no denying that on certain levels old age can be one of the more difficult periods

in a person's life. However, adulthood and the lionization of youth keeps us away from the richness ageing can offer. We should focus on looking past the fear and reintegrating the aged as productive, members of society. We must establish, among others, the architectural connectors that make a difference so that we will be able to see the "silver tsunami" not as a grave threat that will have dire consequences globally, but as a vast untapped resource capable of providing enormous contributions to our communities.



1958 photo of Three Fathom Harbour, NS from the Vintage Nova Scotia section of *The Chronicle Herald Metro* of July 26, 2013; discovered at the end of this thesis report

## **APPENDIX A - JAMES MCPHEE MEMORIAL BALL FIELD SCHEDULE OF ACTIVITIES**

### **Spring, Summer and Fall Schedule 2013**

Monday evenings: Sambro Little League (softball) ages 5-8 years, 30 children plus coaches and parent volunteers and spectators

Tuesday evenings: Community Softball, ages: youth to seniors, 25-30 players and related spectators

Wednesday evenings: Sambro Soccer League, ages 5-12 years, 125-145 children plus coaches and parent volunteers and related spectators

Thursday evenings: Sambro Little League, ages 9-12 years, 40 children plus coaches and parent volunteers and related spectators

Friday evenings: Sambro Little League, ages 9-12 years, 40 children plus coaches and parent volunteers and related spectators

Also, the field is used during the Spring, Summer and Fall during weekends for various community events such as Family Softball tournaments, Washer Toss tournaments, Sambro Sou' Wester Days, and informal family get-togethers. As well, during the daytime hours, a number of people use the field for various other purposes (e.g. playing with dogs, as a walking track to avoid walking on the shoulder of the road as the area does not have sidewalks).

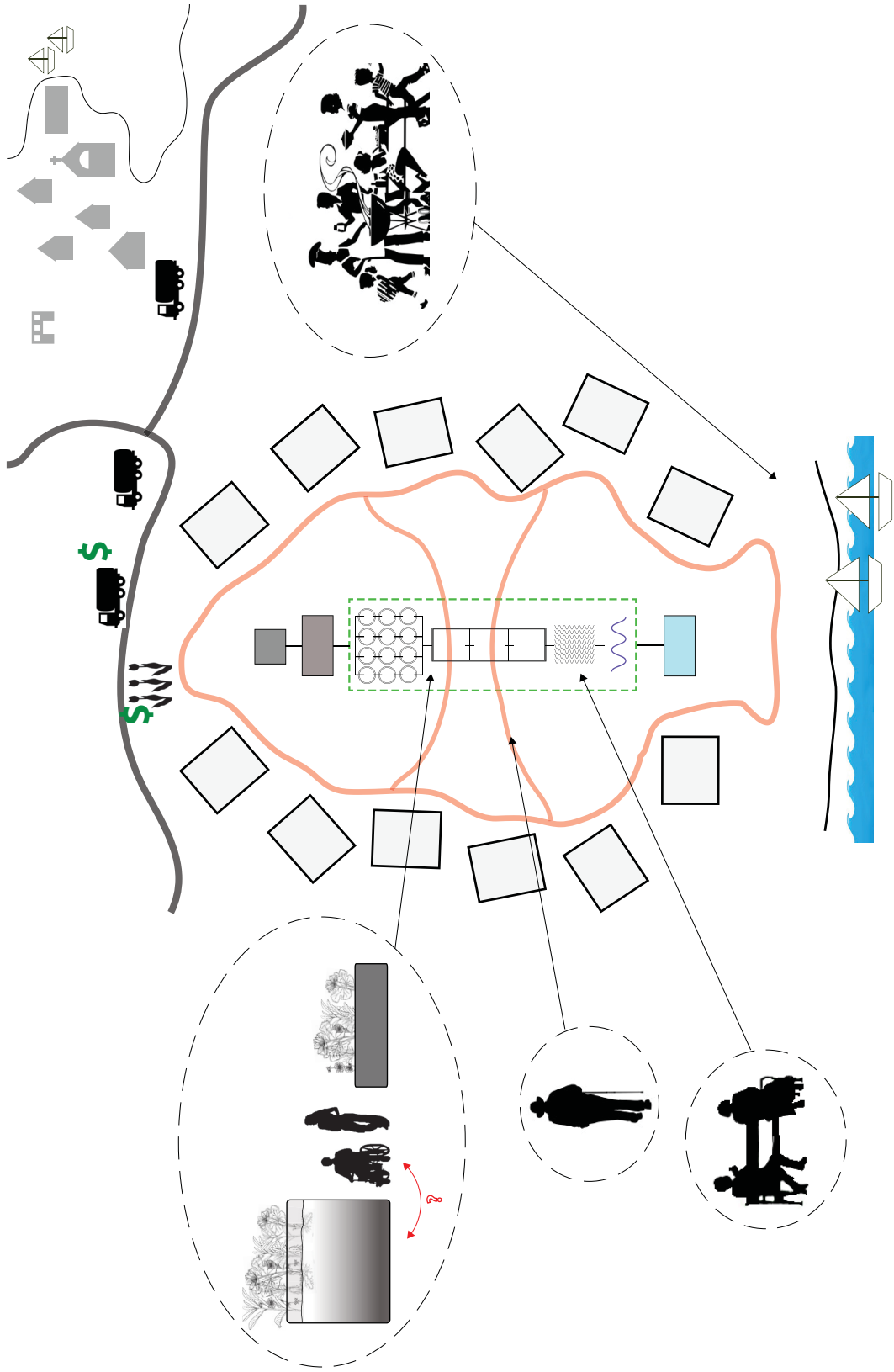


## APPENDIX B - WASTE WATER MANAGEMENT: SOLAR AQUATICS

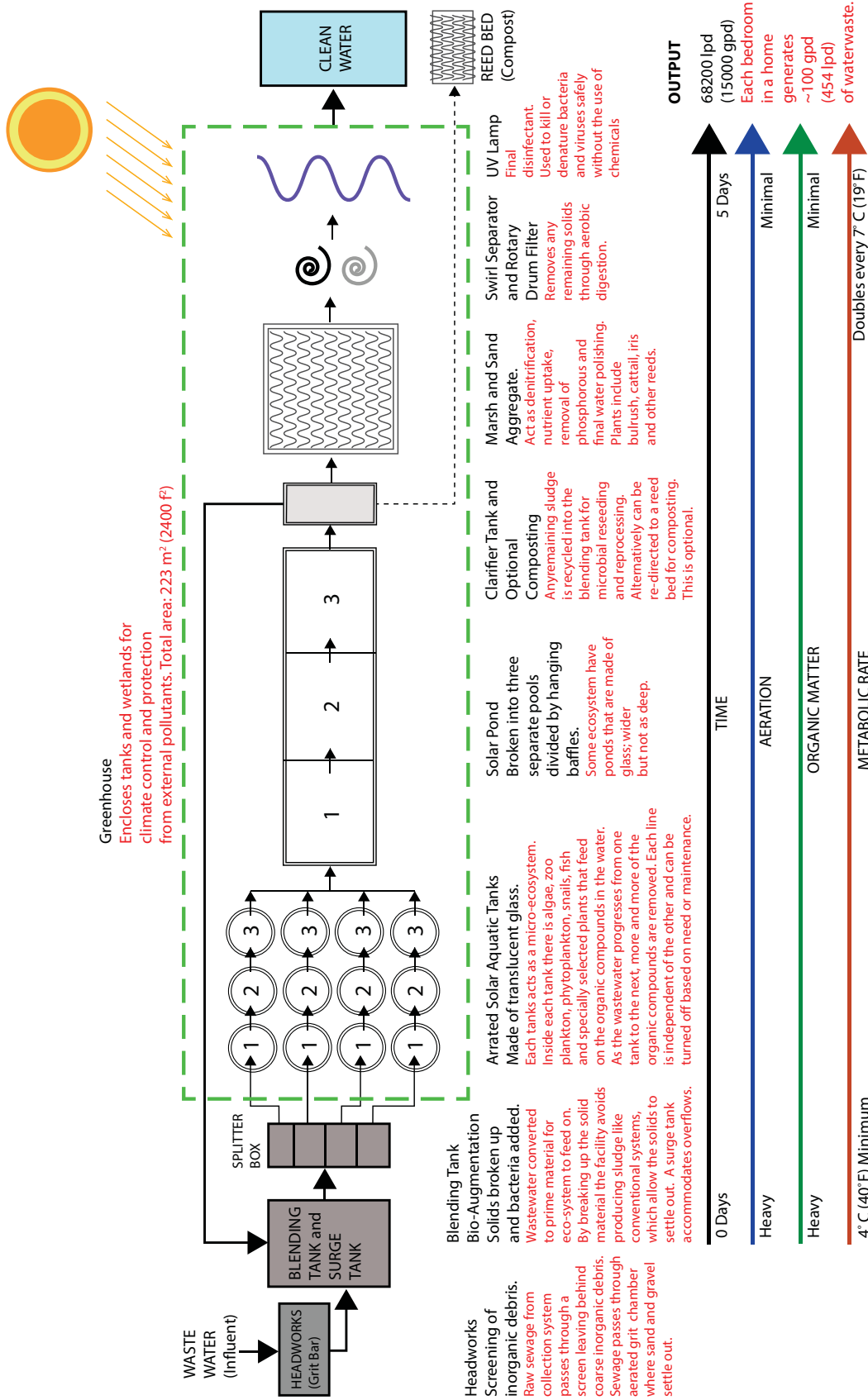
The management of waste water is a major determinant in the area. Municipal sewage is non-existent, septic tanks difficult to work with because of the bedrock and septic fields lack appeal. Solar aquatics offers an eco-friendly alternative with many additional benefits including third spaces and growing / harvesting plants and food within the greenhouse.



Images of a solar aquatic greenhouse (right) integrated with senior activities and third spaces (left).



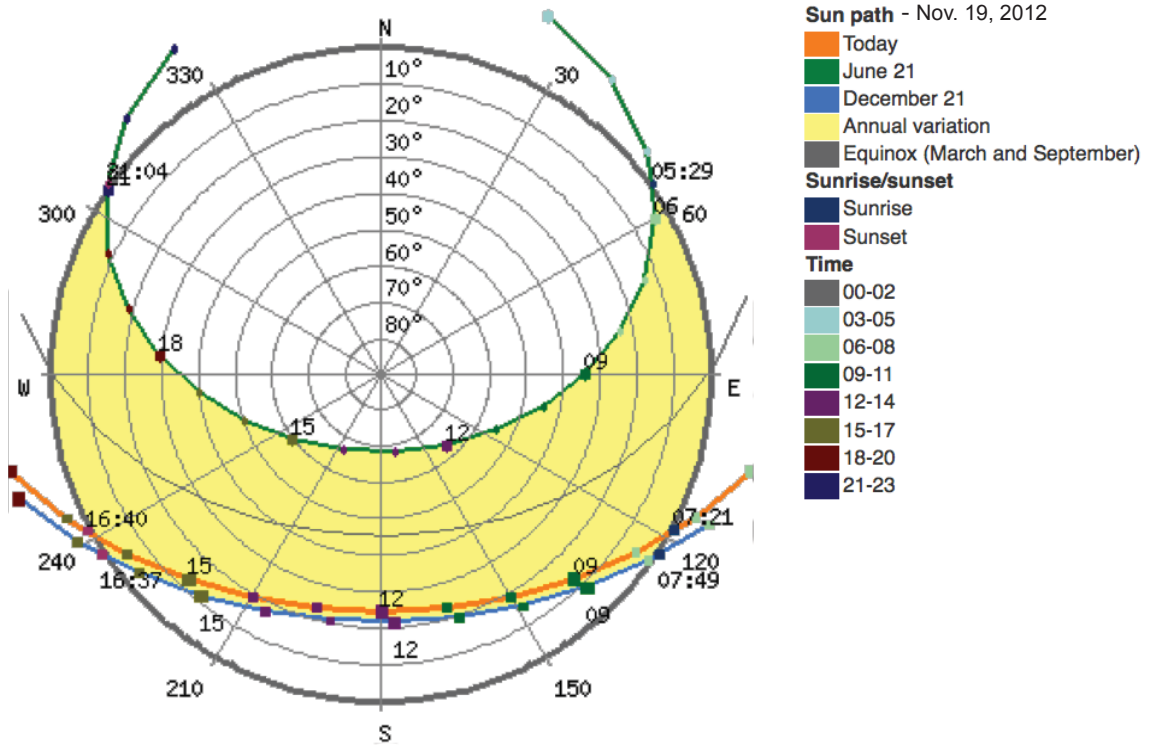
Integration of a solar aquatic facility with seniors' housing and the community at large



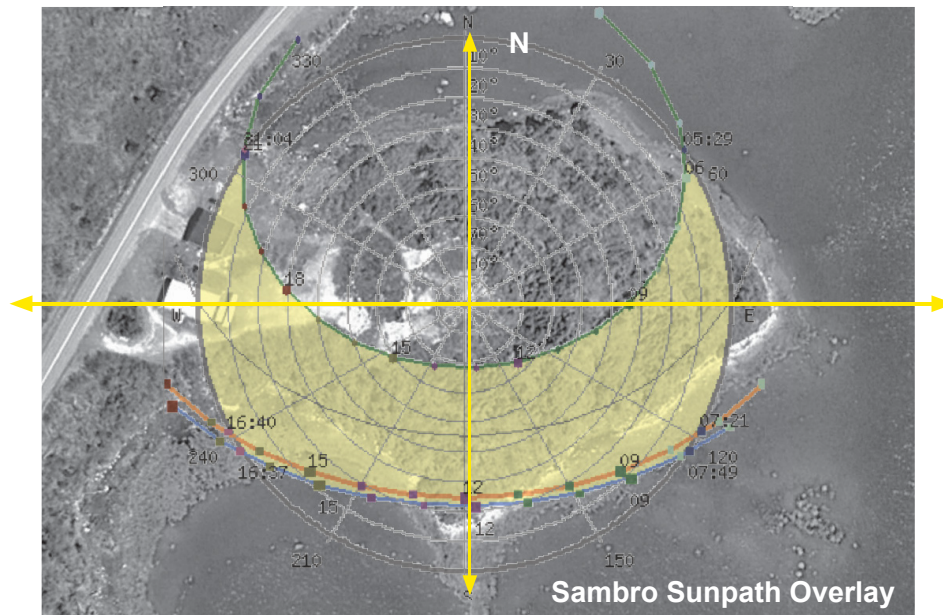
Solar aquatic system as an ecological wastewater plant: process

## APPENDIX C - CLIMATE

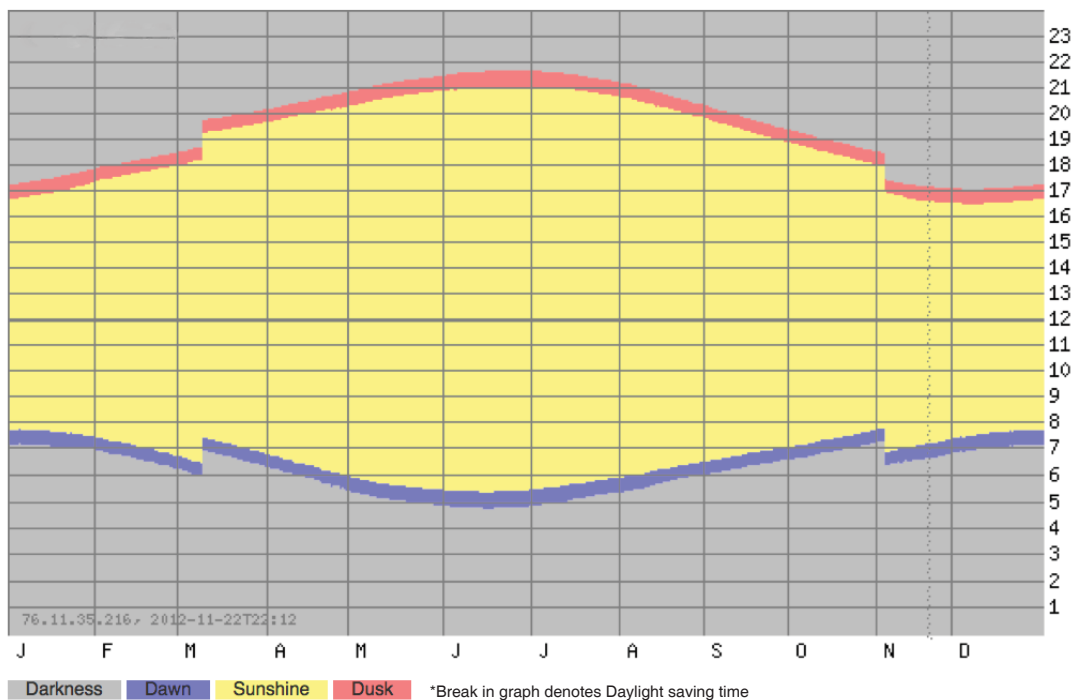
### Sun



Halifax sun path diagram and data from Gaisma



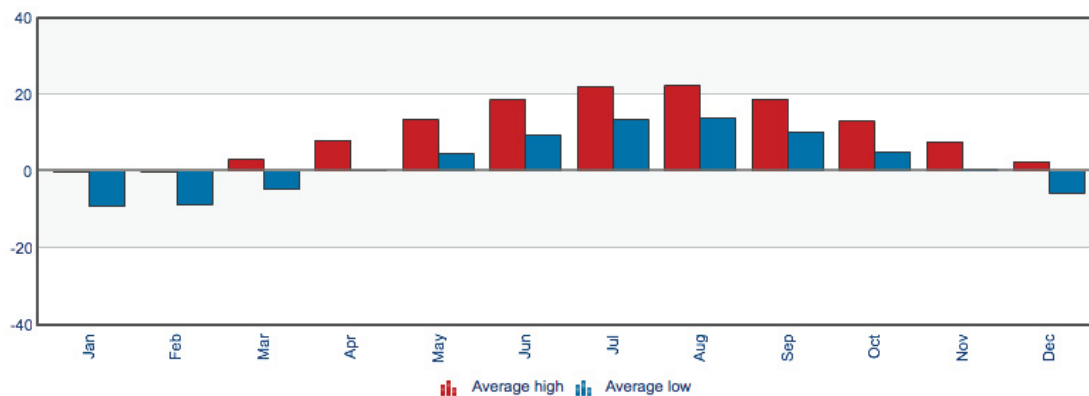
Halifax sun path diagram overlaid on thesis site from Gaisma, base map from Google Earth. Sun data specific to Sambro is not available, however, Halifax data can be considered sufficiently accurate.



Graph of Halifax sunrise, sunset, dawn, dusk data. Sun data specific to Sambro is not available, however, Halifax data can be considered sufficiently accurate.

## Temperature

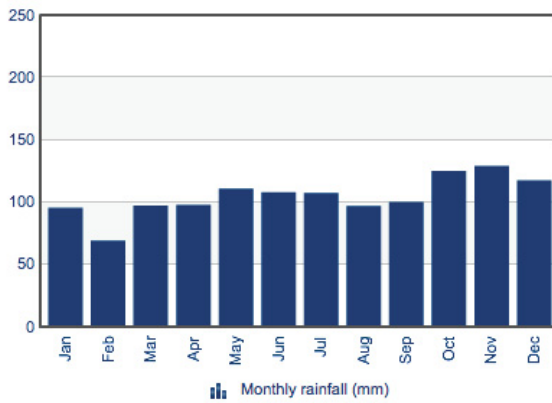
### Overview: Temperature (°C)



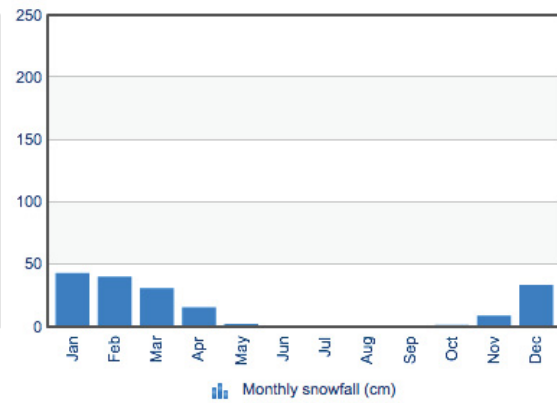
Halifax temperature averages from The Weather Network. Peak temperatures are in July and August with averages in the low 20s; Low temperatures are in January and February with averages in the -10 degree area.

## Precipitation

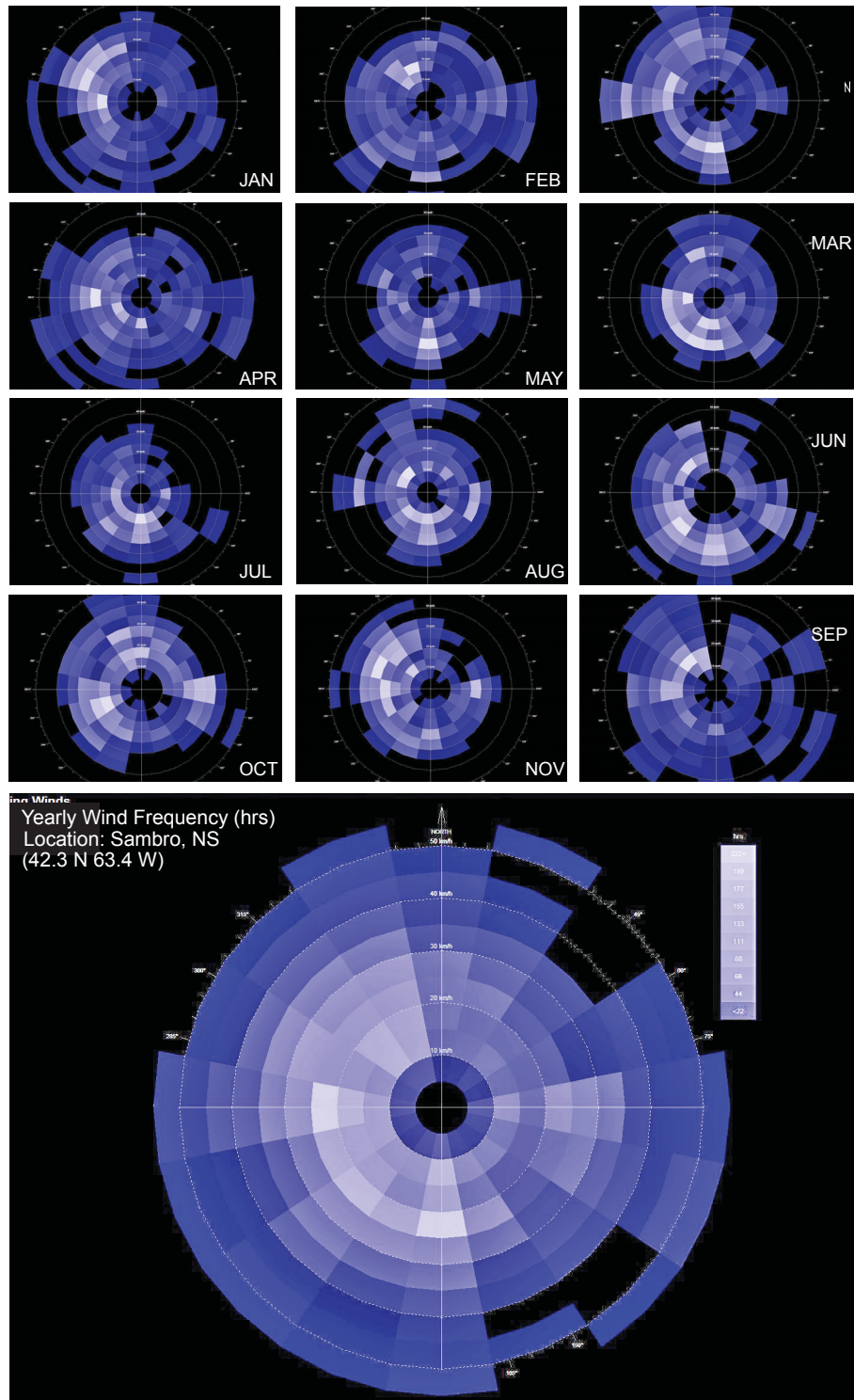
Overview: Monthly Rainfall



Overview: Monthly Snowfall



Halifax precipitation data from The Weather Network. Rainfall is fairly regular throughout the year with the months of October and November having the greatest amounts at the 125 mm mark. Snowfall is highest in January and February around the 45 mm mark. Temperature and Precipitation information specific to Sambro is not available, however, Halifax data can be considered sufficiently accurate.



Monthly and yearly prevailing winds Sambro, NS from Autodesk Ecotect Analysis 2011 software. Sambro's strongest winds come from the west, south west and south south west. The strongest winds are in March, October and December with maximum gusts of 59.5 km/h. The average wind speed/year is 8.2 km/h; the top wind speed/year is 19.8 km/h. To minimize the impact of prevailing winds, a south west orientation of the building would be preferred.

## APPENDIX D - LITERATURE REVIEW

### Early Readings

From concentration camp survivor and psychiatrist, Viktor Frankl's book, *Man's Search for Meaning* comes the ideology that life is not about the search for pleasure (Freud) or power (Adler), but meaning. That idea carries a great deal of weight, particularly when considering the aged. Although Frankl intended his approach to be applied to people of all ages, in the final years of ones' life this would appear to ring most true. He saw three possible sources for meaning: meaning in work (doing something significant), in love (caring for another person), and in courage during difficult times (turning a personal tragedy into a triumph). In Nietzsche's words, "He who has a why to live for can bear with almost any how."<sup>8</sup> All very applicable to the ageing whose lives are frequently subject to significant change and turmoil.

In *Small is Beautiful: Economics as if People Mattered*, published 29 years ago, E.F. Schumacher's call to arms predicted how greed and envy would be our demise. How the economies of nations needed to shift their emphasis from the production of goods (without regard for nature or the environment) to what is good for people now and in the long run. His ideology may not be easily implemented and would require creative and innovative shifts but without question it makes sense and is the right thing to do. The same premise applies to approaches in housing our elderly. To date, little has been done by way of new typologies for housing the old. Existing, institutionally minded state run models are antiquated and detrimental to the people that live and work there. We can erect walls and roofs and unburden ourselves of the responsibility of caring for our seniors, but at what cost?

### Demographics

Statistically speaking we are about to experience a "silver tsunami", a term coined, arguably, by Prof. Mary Finn Maples, from the University of Nevada, while conducting research on the transitions of the Baby-Boomer generation. The phenomenon is worldwide and the same holds true for Canada and Nova Scotia. Human Resources and Skills Development



Canada (HRSDC) based on 2011 Statistics Canada population numbers predicts that by 2030 approximately 1 in 5 (22.7%, over 10.4 million by 2036) Canadians will be over 65 and by 2051 perhaps as many as 1 in 4 (24.7%). In context, 2011 totals show that 14.4% of Canada 34,476,688 people were over 65 (4.9 million). In an article published February 4, 2010, The Economist warns, "Most people understand about the ageing of society in the abstract. But few have grasped either the size of the tsunami or the extent of its consequences."

Aside from their staggering numbers and the implications that ensue, it is important to consider the differences between the baby-boomers as retirees and the retirees of prior generations as these will influence the design of the project and its program.

In general terms, most Baby-Boomers are unlike their parents and grandparents in the following ways:

- Are in greater physical health than the generations preceding them (Zaposky, 2003).
- Are more highly educated with different quality of life expectations that come with exposure to higher education.
- Hold world views vastly different because they were raised in a country at relative peace and have not been exposed to a global war. Moreover, these world views have encouraged them to expand their attention to views of their own spirituality, allowing them to focus as well on their physical, emotional, mental and financial health.
- Mass media, technological advances and extensive personal and professional travel have had a broadening impact upon them. Combined with the fastest growing segment of the U.S. population being those over 85, and those in between it is no wonder that the mass media are appealing to older persons.
- In general, have not experienced the same struggles and deprivations wrought by the Second World War and the Great Depression as their parents and grandparents did.

- Technology has allowed this well-educated generation to see the world as it can be rather than it is currently.
- They are the highest percentage of investors in the stock market.
- Fifty-one percent are women and the highest percentage of unmarried in history.

Further discussion of differences between Baby-Boomers and other generations was introduced by Booth and Brockway (2006) who suggested that

- They are living longer.
- They have lower rates of disability.
- They are achieving higher levels of education.
- They are living less in poverty.
- They have and are experiencing more change in family structures than their predecessors.
- They are taking better care of themselves, physically and financially.<sup>9</sup>

Although the baby-boomer generation is approaching the age of retirement the Sambro community is in immediate need of housing as it is made up of an older generation. However, it stands to reason that effective design would encourage discussion between seniors currently living in retirement facilities, those about to enter and those who will enter in later years (i.e. baby-boomers and those to come after). A dialogue between these groups would cover most contingencies, the good and the bad, preferences and desires and, in turn, provide ideas for a sound, thoughtful and innovative project.

### **The Ageing Process**

Designing for an ageing population means understanding not only the aged but the ageing process. Getting old is something we all think we know and understand because, as humans, we all experience it. However, it is only when considering the research on the

topic, as a whole, that the true physical and emotional significances come to light.

A report released by the North Carolina Department of Health and Human Services entitled *The Aging Process* provides a detailed comprehensive breakdown. It clearly defines the biological aspects of ageing, the psychological aspects of ageing, age related sensory changes that can occur as well as the more frequently encountered ailment, arthritis, and the ravaging brain disorder Alzheimer's Disease. Where appropriate the report also provides best practices for assisting those in need.

Although initially the reading can come across as depressing and demoralizing, the article is in fact positive in its analysis. For example, following the biological aspects of aging it promises that, "An active lifestyle is still possible, particularly if a older person adjusts creatively to the changes and losses that have occurred."<sup>10</sup> It explains how older people's learning ability does not usually decline especially if it is exercised regularly and although short-term memory may decrease long-term memory can remain quite sharp. There is some comfort in the knowledge that "mental illness is not a requisite to aging and that only a minute percentage of the population can expect to be institutionalized for mental illness later in life - medications, poor nutrition and hydration can result in behaviors that are misconstrued as mental illness."<sup>11</sup> Of particular interest, and an area for concern, was discovering that although mental illness may not be a requisite of aging, depression and anxiety are areas where the elderly are often vulnerable. "The increased change to their life that include the physical, emotional and social, combined with often acute periods of isolation, leave a considerable number of our elderly in a state of depression... which is frequently misdiagnosed as "senility."<sup>12</sup>

The article goes on to shed further insight into the attitude of older people towards death and dying. In short, they have discovered that younger persons are more likely to be concerned with death. Older persons are seemingly more concerned with finances.

Overall, the report is particularly insightful and makes clear the point that as an architect, the ageing process must be considered at every step, with particular attention paid to issues of depression and isolation. In the words of Bette Davis, it is true that "Old age ain't no place for sissies" but with proven capacity for growth, the elderly are still a far cry from the cemetery.

## Memory / The Body and the Environment

The primary interest of seniors is to continue to live in their own homes. Initially, this could be construed to mean the homes they built, lived in the longest, raised children. However, “home” is about community not the brick and mortar of a physical space. It is deeper than that and involves memories and possessions one has accumulated over time.

Although the idea of phenomenology and architecture is not new, as it is so eloquently explained in Juhani Pallasmaa book *The Eyes of the Skin: Architecture and the Senses*, Philip Stafford's *Elderburbia: Aging With a Sense of Place in America* is specific to seniors. In it, he dedicates an entire chapter to the idea of memory and the creation of place. In that chapter, he refers to Verbrugge and Jette (1994) who note how spaces are experienced by the entire body and how disability, health and aging are not located in the body as much as in the relationship between the body and the environment. This information is critical to design and program choices and brings to light the shortcomings of institutions like the nursing home.

It is because of the things nursing homes do not provide that they fall short (what is not seen, or heard or smelled) and in so doing erase memories and do not provide an environment conducive to creating new ones.

Professionals are well-intentioned in their efforts to make institutions homelike, yet, not understanding the bodily experience of memory, nor the role of cultural processes, the professional intervention is often misplaced. As kind of semiotic strategy, it tries to recreate home through its symbolic representation. It uses wingback chairs, the charade of a library with books purchased by the pound, the false fireplace hearth to create a simulacrum of home. As such, it trivializes the notion of home and, indeed, may have the opposite effect on the resident.<sup>13</sup>

“If we truly listen to the authentic voices of the residents, we can learn a great deal about the notion of home, and the role of memory in helping to sustain and create a sense of place. We can learn that home and self are intertwined”<sup>14</sup>

## Typologies

Traditionally three approaches to housing have been followed to address the needs of the aged: aging-in-place otherwise known as independent living or in-home care, assisted living and nursing homes. Architectural models for elderly care, outside the home, have been driven by a paradigm of aging as disease. This has contributed to society's views and stigmatization of the aged and the architectural typologies associated with them.

For many the thought of spending the final years of their lives in a nursing home is unnerving and unacceptable. Nursing homes, in large part, remain true to the traditional models where issues of loneliness, boredom and helplessness are the result and contribute to the early deterioration of residents both physically and mentally.

Canada's National Advisory Council on Aging (NACA) 1992 report *Housing an Aging Population* (2nd edition), found that the primary interest of seniors is to continue to live independently in the community and preferably in their own homes. Twenty years later the literature on the subject continues to reaffirm that finding. The difficulties lie in the ability for the elderly to look after themselves. As children move away and spouses die, homes become too large. The maintenance and upkeep are demanding and expensive and even when affordable, there are issues of boredom, isolation and loneliness. Unsupervised, the possibility of discovering the occurrence of accidents and physical harm is limited. In the past, the responsibility of looking after elders fell to the family. Today however, traditional patterns of family life are in flux; there are fewer children, marriages break-up, careers take children and siblings across continents, the extended family is spread wide and is fragmented and the informal support structure of family, friends and neighbours that would have enabled seniors to live in their homes is stressed or gone.

If seniors are to live independently, in the communities they are familiar with it stands to reason that a wider range of appropriate housing choices – dwelling types and living arrangements – must be made available.

To date, some promise has been found in the cohousing for seniors model. Architect Charles Durrett provides a detailed description of the type, what is required to make it work as well as a step-by-step approach to getting it built in his 2009 book *The Senior*

*Cohousing Handbook: A Community Approach to Independent Living.* Involved with delivering over 20 cohousing projects and six senior cohousing projects, he and his wife Kathryn McCamant have been credited with bringing the concept to the US, which now boasts hundreds of examples. In Canada, the model is only now beginning to gather momentum with a couple of projects in British Columbia, one in Ontario and another in Quebec.

The cohousing model was created, in the 1960s, by the Danes. A group of like-minded individuals/families come together for the purpose of living as a self-supporting community. Cohousing is independent living with the added benefit of communal components. Participation in group activities, although not mandatory, is expected and usually welcomed by the residents as it is part of the community building experience. There is usually always a communal kitchen and a living area where people gather to eat (as little as once a month to three times / week) and socialize (watch movies, play games, have meetings), a laundry facility, some workshops (garage / wood shop), a gardening shed / greenhouse, a few offices... the program differs with every project as it is created by the residents for the residents (along with an architect and a developer who are part of the team). Each household is responsible for the maintenance and upkeep of the complex as a whole. A predetermined number of monthly hours is established by the group. Senior co-housing is very much the same but residents are usually over 50 years of age. The residents look after themselves but when required the need for a caregiver can be accommodated. Each resident owns his or her unit. Communal facilities help keep costs down and make the need for smaller individual units realistic, comfortable and affordable.

In its pure form, cohousing does not appear to be, at this time and with these seniors, applicable to the Sambro situation. Cohousing requires a core group of interested, dedicated seniors with a certain sense of vision who are willing to lead, take charge, recruit and invest up front. Meetings to this end were, in the past years, held without success. A more multifaceted, build-it-and-they-will-come approach with relevant ties to the community is required.

The Green House Project is community-based care that offers a high quality alternative to traditional institutional skilled nursing facilities. It is an assisted living facility that exists

in the US and is underwritten by the Robert Wood Johnson Foundation whose focus is exclusively on health and health care and whose mandate is to bring a proven model of housing care to low income seniors. Regardless of the funding opportunities, which at this time are not extended to Canadians, the approach to care is worthy of consideration as the approach is innovative and highly successful. “The Green House model is a de-institutionalization effort designed to restore individuals to a home in the community by combining small homes (of usually 10 seniors) with the full range of personal care and clinical services. [They] envision homes in every community where elders and others enjoy excellent quality of life and quality of care; where they, their families, and the staff engage in meaningful relationships built on equality, empowerment, and mutual respect; where people want to live and work; and where all are protected, sustained, and nurtured without regard to the ability to pay.”<sup>15</sup>

The philosophy of The Green House long-term care model is to enhance elders’ quality of life by:

- Creating small homes that offer intentional communities and high levels of care
- Recognizing and valuing individuality of elders and staff
- Supporting elders’ dignity
- Honoring autonomy and choice
- Providing privacy
- Creating an atmosphere of security
- Promoting maximum functional abilities
- Facilitating physical comfort
- Offering opportunities for reciprocal relationships between elders and staff
- Fostering enjoyment by offering meaningful activities

- Fostering emotional and spiritual well-being
- Offering comprehensive care<sup>16</sup>

### **Built Environment / Design**

Issues of privacy, control, security, freedom of choice, independence and self-sufficiency are of vital importance to housing design for the elderly. Of equal importance are accommodating physical and sensory changes associated with ageing as well as shifting social patterns and needs and altered economic circumstances.

The ability to actively participate in community life is essential to a healthy ageing experience and whenever possible this includes proximity to the action - shopping, recreation, services and other people.

Questions that must be answered, as they will be major determinants about the direction of the project, include:

1. The type of dwelling, its size and kind (single or multiple)
2. The type of tenure that will be involved (form of ownership or rental)
3. The kind of living arrangements required (with spouse, adult children, non-relatives, alone)
4. The nature of the support services (medical and non-medical)

In *Design for Aging, International Case Studies of Building and Program* a team of five professionals identify the seniors housing challenge as “expressing the competing needs of “home” and “care delivery” in both the physical and social environment, so that the residents feel they belong while at the same time delivering as effective and efficient care as possible.”<sup>17</sup> They evaluate 26 schemes from Australia, Japan, Sweden, Denmark, the Netherlands, the United Kingdom and the United States. The criteria they used is insightful and a good indicator of things to consider. These include:



**Vernacular Design:** Will the physical elements of the project reflect the existing architecture? If so, to what degree? Will new elements be introduced? Does the project wish to make a statement (i.e. differ from existing convention)? If a statement is to be made, why and will the residents welcome it?

**Care:** Ability to provide quality care requires spaces for that care to occur. Does the project provide flexibility, opportunity for expansion, future needs? Can staff carry out their responsibilities effectively and efficiently? What physical and psychological impact does the building, rooms, corridors, common spaces... have on the residents?

**Neighbourhood Integration / Community Involvement:** Does the project connect, physically, with the community? Does it include the neighbourhood, perhaps facilitate a need in the community? Is it open and inviting or gated and private?

**Staff and Volunteers:** What physical and psychological impact does the building have on the staff that work there? Does it facilitate, encourage, aid with establishing strong and healthy relationships with the residents?

**Environmental Sustainability:** Is the building environmentally sustainable? What can financially and realistically be undertaken? Is this transparent to the comfort of the residents? Is there an opportunity for resident involvement, contribution?

**Outdoor Living / Gardens:** What access to the outdoors does the building offer (rooftops, balconies, gardens, courtyards)? What options exist year-round? Are social spaces, areas for walking, resting available?

### **Literature Review Concluding Statement**

The literature on ageing and specifically housing for the ageing is vast and plentiful, especially of late. The number of theses alone has increased exponentially in the past five years. The debate is plentiful and opinionated. Many feel we are seriously unprepared and the “age wave” poses a grave threat that will have dire consequences on a global scale. Others, fortunately do not see what is coming in such bleak terms, but as an

enormous opportunity, an untapped resource.

A clever metaphor on the subject can be found in Dr. William Thomas' book *What are Old People For? How Elders Will Save the World*. Thomas equates the massive scale "graying" of society to a plague of locusts. Where ravaging and taking without giving is, understandably, negative. However, he goes on to say, "when we set aside our customary preference for youth, we can see that old age is growing and developing in new and different ways. It is succeeding on an immense, history-making scale. We are in fact the beneficiaries of staggering good fortune. What name, other than success, could be applied to the modern ability to bring forth a generation imbued with the health, wealth and wisdom not only to survive into old age, but to thrive there? Far from a plague of locusts, the coming age boom represents one of the greatest windfalls of all time."

Whether the interpretation is catastrophic or positive, the imperative to prepare is obvious. We need to work together to create desirable places to grow old.

## APPENDIX E - PRECEDENT REVIEW

Today, the traditional nursing home has negative connotations because it originates from the health care system. A system responsible for the development, creation and running of hospitals, asylums and orphanages. As the traditional family structure, and its associated values, began to breakdown the responsibility of elder care fell to, or perhaps more accurately was pushed onto, the state. It should, consequently, not be surprising that a system specialized in large, formal institutions who's mandate was efficiency on a budget, was not proactive in its approach to care for the elderly. Ageing became about disease and the physical environment responded accordingly.



Exterior photo of St. Joseph's Hospital, St. John, NB from Catholic Health Partners



Exterior photo of Loch Lomond Villa / Nursing Home, St. John, NB from Cavare Home Care Ratings

Although there have been many changes and attempts to better the accommodations and care of its residents, the inability of the system to provide a quality orientated approach continues today both at the private and public levels. A *Toronto Star* article by undercover journalist Dale Brazao published January 27, 2012, discusses as just a first step, the implementation of new regulations by the government for surprise inspections of retirement homes. “Stories of understaffed retirement homes with unsanitary and unsafe conditions are legion in Ontario.”

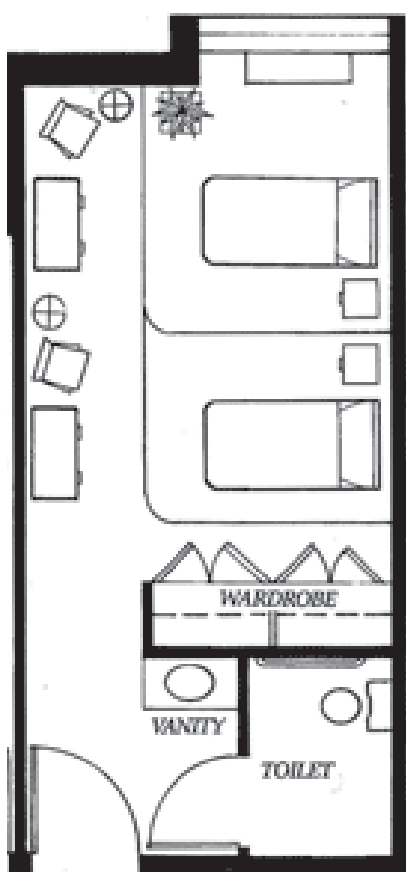


1940s rooms for the aged, Hammond Care Nursing Home, Sydney NSW from Hammond Care Nursing Home

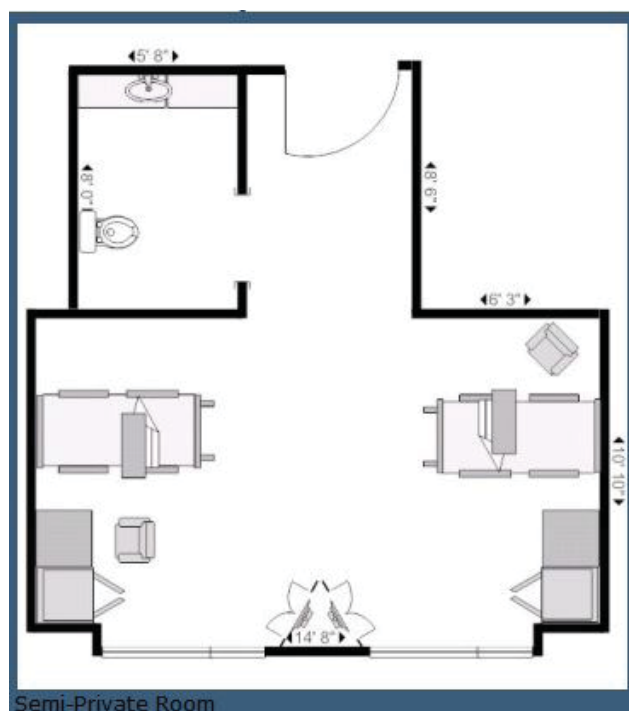


Typical room In Touch Retirement Home, Toronto, ON from The Toronto Star

Rooms, consisting of the smallest footprint possible, are usually shared (by 2 or more) and offer little by way of privacy. If available, a curtain, as might be found in a hospital setting, offers the only opportunity for a visual break from your roommate. Sounds cannot be muffled or controlled. Often only one person has access to a window, otherwise lighting is typically fluorescent. The washroom is shared and closets are small and furnishings kept to a minimum. The beds are mechanical style hospital beds and reinforce the idea of sick and diseased quite clearly.



Typical semi-private room, Our Lady of Peace Retirement Centre, Charlottesville, VA from Our Lady of Peace Retirement Centre



Typical semi-private room, St. Joseph's Continuing Care Centre, Cornwall, ON 2009 from St. Joseph's Continuing Care Centre

**Rocmaura Nursing Home - St. John, New Brunswick**

Year of completion: 1972

Units: 150 beds

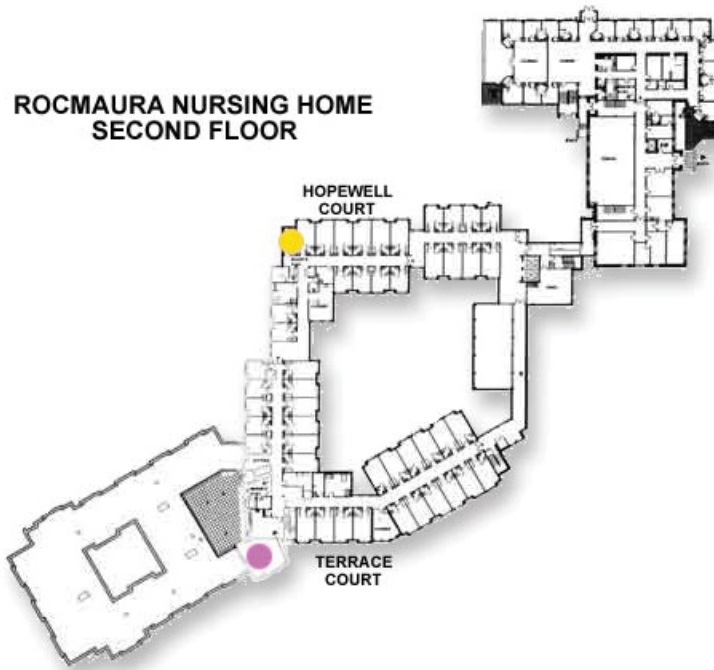
Objective: provide quality care guided by Christian values

Program focus: modular care program consists of a systematic alignment of residents into their own autonomous units where care, assessment, programming, supports and environmental design are specifically geared to the needs of the residents they serve: cognitively-well, dementia, physical care and chronically-ill.

Cost to resident: government owned and operated. Entry is based on Single Point of Entry system (process used to screen applications based on need assessment)

Notes of interest: concerted effort has gone into introducing decorations and furnishings to create a homelike environment.

Decorations and furnishings appear to be superficial. One could question their actual impact on the health and psychological welfare of the residents. The award winning Rocmaura Nursing Home, remains, despite its improvements in general care and attempts at introducing the idea of "home" into its environment, steeped in the ideology of nursing home as institution, where ageing is seen as disease. This is easily observed architecturally. The facility remains sterile and unwelcoming.



Rocmaura Nursing Home floor plans, St. John, NB from Rocmaura Nursing Home



Entrance - access in and out is secured



Kitchen - attempt at merging home and institution



Sitting area in corridor thruway



Corridor - identical and long, there is no differentiation between residents' rooms



Eating area / lounge



Eating area / lounge

Interior photos of Rocmaura Nursing Home from Rocmaura Nursing Home



**Silver Sage Community Housing – Boulder, CO, USA**

Year of completion: 2007

Units: 16 units, each 800 sf, on two levels

Architect: McCamant & Durrett Architects (designed with active resident participation)

Co-Architect: Brian Bowen

Site size: 1.0 acres

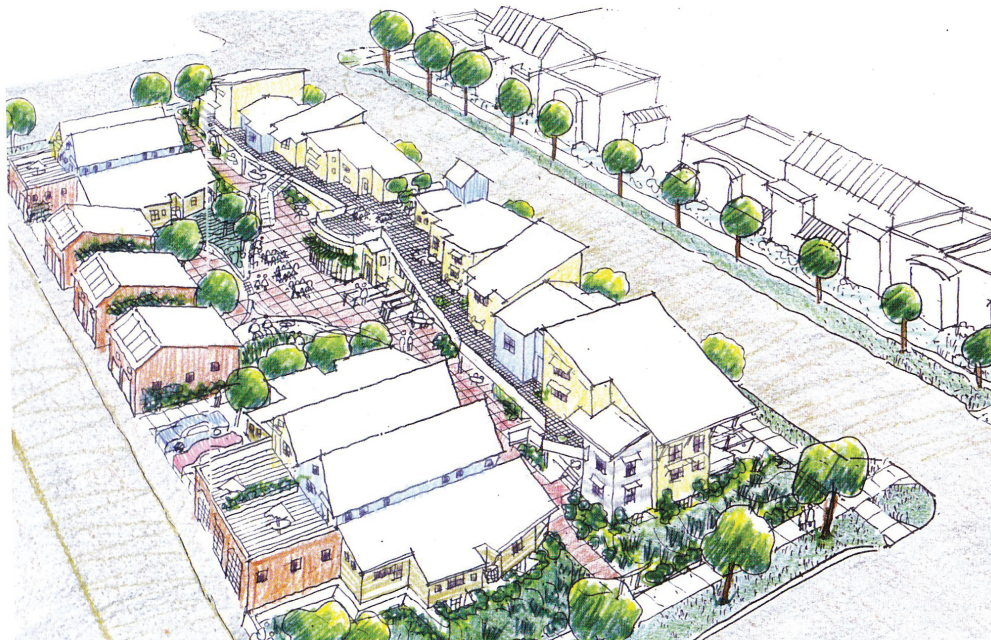
Objective: helping ageing adults stay in their homes longer; provide both private, individual dwellings and common facilities, the cohousing community enables adults to find support within rather than outside thereby allowing adults to age independent of institutions or assisted living facilities.

Program focus: self-managed co-housing; small scale participatory seniors community; shared facilities and resources facilitate relationships and cooperation; seniors support of each other not with institutional care, but by cooperative, caring neighbours, more like a traditional village/family; continued growth, learning and participation; multiple sustainability measures; pedestrian oriented environment.

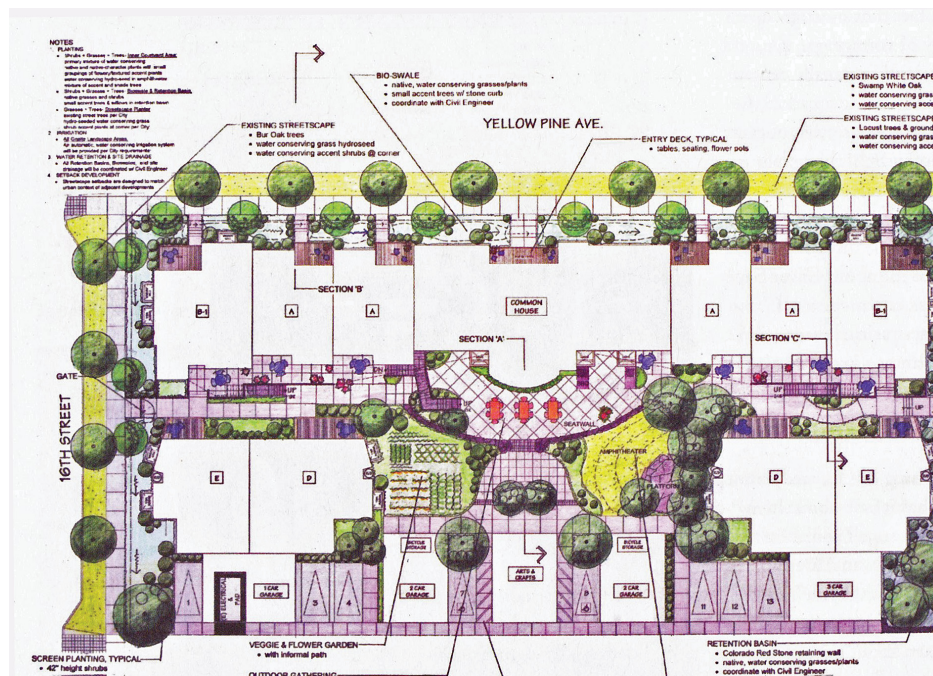
Design: individual units include porches; site has a clear point of entry marked by visible architectural forms discernible from the street to engage community with surrounding neighbourhood

Cost to resident: ownership / condominium association; lower income

Notes of interest: third senior cohousing project in the U.S., seniors only policy, supportive/participatory village environment. Large common house with kitchen and living / gathering room, two guest rooms and other shared amenities on the property allow for the construction of smaller inexpensive individual units without sacrificing comfort. Access to facilities/services including crafts and performance areas, exercise and meditation rooms are available to all residents. A caretaker unit is also available when needed.



Silver Sage site plan, from Charles Durrett *The Senior Cohousing Handbook, A Community Approach to Independent Living*



Silver Sage site plan from Charles Durrett *The Senior Cohousing Handbook, A Community Approach to Independent Living*



Silver Sage terrace view / communal supper from Cohousing



Silver Sage courtyard view from Bryan Bowen Architects



Silver Sage courtyard view from Michelle Kaufmann

**San Juan Bautista Senior Housing – San Juan Bautista, CA, USA**

Year of completion: project started 2006 (investor-seeking phase)

Units: 24

Architect: McCamant & Durrett Architects

Site size: 4.25 acres

Objective: revive a historic but dying town by building a seniors cohousing project with a strong commercial component.

Program focus: a large arts-oriented, mixed-use project / art plaza that would use the cohousing approach to help the elderly stay in the town they know and generate several other benefits for the area.

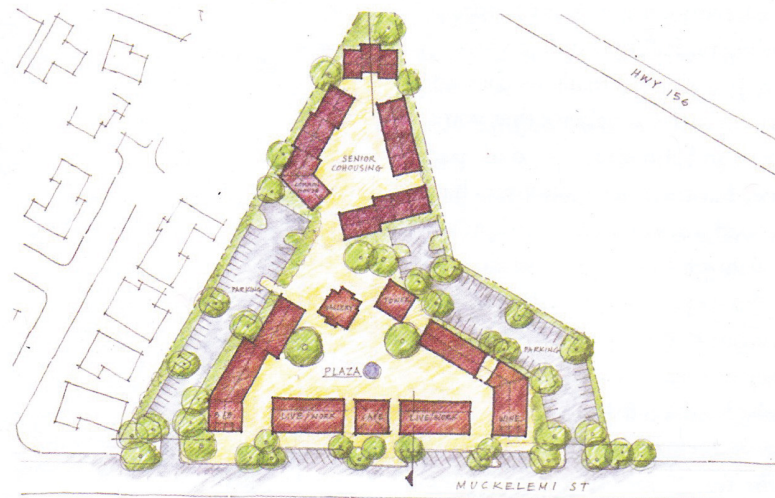
Design: rehabilitation of historic area settled by the Spaniards in the early 1700s.

Cost to residents / tenure: ownership

Notes of interest: project is mixed-use offering artists' studios, live-work housing, commercial facilities, a small inn, city's information centre, a wine tasting room including the conversion of a historic building into a café/art gallery and museum.



San Juan Bautista perspective sketch from Charles Durrett *The Senior Cohousing Handbook, A Community Approach to Independent Living*



San Juan Bautista Seniors' Cohousing and Artisan Plaza from Charles Durrett *The Senior Cohousing Handbook, A Community Approach to Independent Living*

**Jackson Meadow – Marine on St. Croix, Minnesota, USA**

Year of completion: multiple phases, on-going, started in 1998

Units: 63 units as of 2010

Architect: David Salmela

Landscape Architect: Shane Coen / Jon Stumpf

Site size: 300 acres of which 50 are used for residences, the remaining 250 are protected.

Objective: community based subdivision in which residences are similar in appearance but are of fundamentally different types.

Program focus: standard family no longer exists, provide an aesthetic commonality with a great deal of individual variety; look to accommodate single people, unmarried couples, multi-generational families and empty nesters.

Design: kit-of-parts - overall uniformity: white-coloured wood siding, same standing-seam metal roof, same forty-five degree angle to every gable roof, same white windows and doors, all garages must be detached, all fences picket, no visible TV antennas or dishes greater than 24"; streets are paved but 25% narrower than average suburban streets;

interior plans: open living, dining and kitchen areas, single-loaded rows of bedrooms on upper levels, same hardware, handrails, porches and stairs, fireplaces and finishes;

Cost to residents / tenure: ownership, \$410k (2100 sf) to \$700k (2254 sf)

Notes of interest: kit-of-parts and landscaping fundamental contributors to the success of the overall aesthetic. Project is based on spirit of co-operation not competition; put longer-term interest of the community ahead of individual family's short-term interests



Seasonal photos of the community of Jackson Meadow, Marine On St. Croix, MN from Thomas Fisher *The Invisible Element of Place the Architecture of David Salmela*

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