constructing meaning -
a model for hospice design in rural manitoba

maria elizabeth baumgartner
CONSTRUCTING MEANING –
A MODEL FOR HOSPICE DESIGN IN RURAL MANITOBA

Maria Elizabeth Baumgartner

A practicum submitted to the Faculty of Graduate Studies
of the University of Manitoba
in partial fulfilment of the requirements of the degree of

MASTERS OF INTERIOR DESIGN –
GRADUATE SPECIALIZATION IN AGING

Department of Interior Design
University of Manitoba
Winnipeg, Manitoba
Copyright © 2010
Maria Elizabeth Baumgartner
CONSTRUCTING MEANING – A MODEL FOR HOSPICE DESIGN IN RURAL MANITOBA

by

Maria Elizabeth Baumgartner

A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of Manitoba in partial fulfillment of the requirement of the degree

MASTERS OF INTERIOR DESIGN
GRADUATE SPECIALIZATION IN AGING

Copyright © 2010 by María Elizabeth Baumgartner

Permission has been granted to the Library of the University of Manitoba to lend or sell copies of this thesis/practicum, to the National Library of Canada to microfilm this thesis and to lend or sell copies of the film, and to University Microfilms Inc. to publish an abstract of this thesis/practicum. This reproduction or copy of this thesis has been made available by authority of the copyright owner solely for the purpose of private study and research, and may only be reproduced and copied as permitted by copyright laws or with express written authorization from the copyright owner.
who has seen the wind? neither you nor I: but when the trees bow down their heads, the wind is passing by.

- christina rossetti
### TABLE OF CONTENTS

- **Abstract** i
- **Acknowledgements** ii
- **Preface** iii
- **List of Figures** iv
- **List of Tables** x

#### 1.0 Introduction
- **1.1 Project Overview** 1
- **1.2 Project Criteria** 3

#### 2.0 Methodology
- **2.1 Topic Overview** 6
- **2.2 Site Visits** 7
- **2.3 Design Criteria** 14

#### 3.0 Literature Review
- **3.1 Topic Overview** 16
- **3.2 History**
  - **3.2.1 Topic Overview** 17
  - **3.2.2 Design Criteria** 20
- **3.3 Issues of Dying + Death**
  - **3.3.1 Topic Overview** 21
  - **3.3.2 Statistics** 27
  - **3.3.3 Culture** 29
  - **3.3.4 Process** 31
  - **3.3.5 Taboo** 36
  - **3.3.6 Conclusion** 40
  - **3.3.7 Design Criteria** 41
- **3.4 Regionalism**
  - **3.4.1 Topic Overview** 44
  - **3.4.2 History** 48
  - **3.4.3 Design Criteria** 51
- **3.5 Sensory Experiences**
  - **3.5.1 Topic Overview** 54
  - **3.5.2 Senses** 60
  - **3.5.3 Design Criteria** 65
4.0 **Precedent Review**

4.1 Topic Overview 68
4.2 Counsel + Education Centre 70
4.3 Regional Care Facility 76
4.4 Vernacular Hospice 81
4.5 Mobile Care Facility 87
4.6 Pre-Fab Medical Centre 90
4.7 Multi-Sensory Spa 93
4.8 Design Criteria 97

5.0 **Program**

5.1 Topic Overview 100
5.2 Site Analysis
   5.2.1 Gimli, MB 103
   5.2.2 Niverville, MB 112
   5.2.3 Pinawa, MB 121
5.3 Building Analysis 130
5.4 Human Factors
   5.4.1 Client Profiles 132
   5.4.2 User Profiles 134
5.5 Spatial Requirements 137
5.6 Functional and Aesthetic Requirements 144
5.7 Technology Requirements
   5.7.1 Mechanical 145
   5.7.2 Electrical 146
   5.7.3 Other 148
5.8 Building Code and Life Safety Issues 150
5.9 Design Guidelines
   Issue One: Dignity, Respect, Care and Family, Love, Counsel 152
   Issue Two: Sensory Stimulation 153
   Issue Three: Educational Facility 154

6.0 **Conclusion** 155
7.0 References + Sources

8.0 Design Drawings
  8.1 Gimli, MB
  8.2 Niverville, MB
  8.3 Pinawa, MB

9.0 Appendices
  9.1 Copyright Information
  9.2 Ethics Information
  9.3 Construction Cost Estimates
Abstract

This practicum focuses on end-of-life care for older adults in rural Canada. Specifically, it addresses links between domesticity and terminal illness amongst adults within the building typology of hospice.

The objective of the practicum is the creation of a model for hospice design in rural Manitoba. The hospice will be supported in pre-fabricated housing. The practicum will address contemporary issues arising from publicly-funded healthcare, the aging Canadian population, and cultural issues surrounding dying, death, and grieving.

The main goals to be achieved with this project were the creation of care facilities that encourage dialogue, education, and wellbeing for all users. Additionally, the facilities will be designed as multi-sensory environments where all human senses can be stimulated, expanding beyond typical visual stimuli.
Acknowledgements

Thank you to:

my committee,

Tijen Roshko (Chair / Internal), Dr. Mary Anne Beecher (Internal), Dr. John Bond, Jr. (External), and Dr. Cynthia Karpan (Chair).

Thank you for the optimism, constructive criticism, and advice provided throughout the many stages of this process. Thank you for the patience as I worked to maintain a balance between school, life, and work.

my family, friends, classmates,

Thank you to my parents and brothers for the advice, proofreading, car rides, and so much more! To my extended family stretched across this country for providing support via long distance calls and messages passed on via other family members. To my friends, for still being my friends after all these years and deadlines! To my classmates, for impromptu crit sessions, coffee runs, and social breaks during all those late nights!

Sean Robert,

To my wonderful boyfriend and postmodern partner-in-crime, thank you for listening to my rants about gender inequalities and life in general! I would not have made it without you.

and George.

Without knowing it, you made my world a little bit brighter and made my clothes a little hairier.

A special thank you to the staff at LM Architectural Group who provided advice, opinions, and expertise while I worked at the office.

Thank you to the many individuals at Riverview Health Centre, Grace Hospice, Jocelyn House, and St Boniface General Hospital for allowing me to visit your facilities and learn more about hospice and palliative care than I could extract from the literature.
Preface

In the fall of 2005, I was one semester away from graduating with my first degree in Environmental Design from the University of Manitoba. I was torn between pursuing my academic career further or moving away to begin my working career in the field of Interior Design. I am fortunate to have strong familial connections that pursued me to advance into Graduate Studies and “make the most” out of, what I consider, an unusual degree. I realized that we, as Canadians, live in an aging society where people may be able to live longer chronologically, but additionally are living longer with serious diseases that restrict our quality of life in our advanced years. I believed that this acknowledgement would enable me to become a more desirable graduating interior designer, perhaps with the skillset required to pursue further research in the future, if possible. With this belief in hand, I began my studies in the MID program and watched as my practicum and research ideas expanded and evolved with an interest in gerontology, long-term care, and the impact of the built environment on a person’s quality of life. As such, I was introduced to the concept of palliative care and began my investigation into hospice design. These ideas have sewn themselves together and have become this practicum.
List of Figures

Refer to appendix for all copyright permission letters.

Figure 1: Concept image of “Connection to Nature”. Photograph taken by T.P. Baumgartner, 2008.

Figure 2: Concept image of “Degree of Residentialism”. Photograph by M. E. Baumgartner, 2009.

Figure 3: Concept image of “Provision of Dignity”. Photograph by M. E. Baumgartner, 2009.

Figure 4: Scale of degree of residential design in each visited facility. Image created by M. E. Baumgartner, 2009.

Figure 5: Elements of Literature Review. Image created by M. E. Baumgartner, 2009.

Figure 6: Scale indicating Dr. Kubler-Ross’ five stages of grieving. Image created by M. E. Baumgartner, 2009.

Figure 7: Death as a means of preventing individuals from reaching aspirations for self actualization. Adapted from A. H. Maslow (1943) A Theory of Human Motivation, Psychological Review, 50, 370-396. Image created by M. E. Baumgartner, 2009.

Figure 8: Inorganic and organic stages of life. Image created by M. E. Baumgartner, 2009.

Figure 9: Various “types” of regionalism. Image created by M. E. Baumgartner, 2009.

Figure 10: Frank Gehry’s Maggie’s Centre. Image courtesy of Maggie’s Centres, copyright 2009.

Figure 11: Frank Gehry’s Maggie’s Centre. Image courtesy of Maggie’s Centres, copyright 2009.

Figure 12: Frank Gehry’s Maggie’s Centre. Image courtesy of Maggie’s Centres, copyright 2009.
Figure 13: Frank Gehry’s Maggie’s Centre. Image courtesy of Maggie’s Centres, copyright 2009.

Figure 14: Zaha Hadid’s Maggie's Centre. Images of courtesy of Maggie’s Centres, copyright 2009.

Figure 15: Zaha Hadid’s Maggie's Centre. Images of courtesy of Maggie’s Centres, copyright 2009.

Figure 16: Zaha Hadid’s Maggie's Centre. Images of courtesy of Maggie’s Centres, copyright 2009.

Figure 17: Zaha Hadid’s Maggie's Centre. Images of courtesy of Maggie’s Centres, copyright 2009.

Figure 18: Rogers Stirk Harbour + Partners, Maggie’s Centre. Images courtesy of Maggie’s Centres, copyright 2009.

Figure 19: Rogers Stirk Harbour + Partners, Maggie’s Centre. Images courtesy of Maggie’s Centres, copyright 2009.

Figure 20: Rogers Stirk Harbour + Partners, Maggie’s Centre. Images courtesy of Maggie’s Centres, copyright 2009.

Figure 21: Rogers Stirk Harbour + Partners, Maggie’s Centre. Images courtesy of Maggie’s Centres, copyright 2009.

Figure 22: Exterior view of sanatorium. Image courtesy of Alvar Aalto Foundation. Photo: Alvar Aalto Museum.

Figure 23: Typical patient room with beds, sink and spittoons. Image courtesy of Alvar Aalto Foundation. Gustaf Welin, Alvar Aalto Museum.

Figure 24: Image of reading room, located above dining room. Image courtesy of Alvar Aalto Foundation, Alvar Aalto Museum.

Figure 25: Image of lecture hall adjacent to dining room. Image courtesy of Alvar Aalto Foundation, Gustaf Welin, Alvar Aalto Museum.

Figure 26: Image of staircase, located by main foyer. Image courtesy of Alvar Aalto Foundation. Martti Kapanen, Alvar Aalto Museum.

Figure 27: Image of contemporary dining hall. Image courtesy of Alvar Aalto Foundation. Martti Kapanen, Alvar Aalto Museum.
Figure 28: View of courtyard and restorative gardens. Image courtesy of R-2ARCH, from *Innovations in hospice architecture* (2006).

Figure 29: View of restorative gardens. Image courtesy of R-2ARCH, from *Innovations in hospice architecture* (2006).

Figure 30: View of separate chapel, located amongst surrounding landscape and pond. Note roof overhangs that shield patient rooms from solar glare and heat gain. Image courtesy of R-2ARCH, from *Innovations in hospice architecture* (2006).

Figure 31: Floor plan of Hospice Hawaii. Note strong correlation between nature and built environment. Image courtesy of R-2ARCH, from *Innovations in hospice architecture* (2006).

Figure 32: View of main arrival entrance to Hospice Hawaii, Maui, Hawaii. Image courtesy of R-2ARCH, from *Innovations in hospice architecture* (2006).

Figure 33: Mobile Medical Triage Unit. Image courtesy of Hybrid Seattle, 2009.

Figure 34: Floor plan of typical facility. Image courtesy of Hybrid Seattle, 2009.

Figure 35: Example of several units linked together. Image courtesy of Hybrid Seattle, 2009.

Figure 36: Floor plan. Image courtesy of Paul Ott, photographer. Image taken from *Prefab: Adaptable, modular, dismountable, light, mobile architecture*, 2002.

Figure 37: Image of interior, highlighting large windows. Image courtesy of Paul Ott, photographer. Image taken from *Prefab: Adaptable, modular, dismountable, light, mobile architecture*, 2002.

Figure 38: Image of clerestory windows. Image courtesy of Paul Ott, photographer. Image taken from *Prefab: Adaptable, modular, dismountable, light, mobile architecture*, 2002.

Figure 39: Image of lightweight wood panels used as dividers. Image courtesy of Paul Ott, photographer. Image taken from *Prefab: Adaptable, modular, dismountable, light, mobile architecture*, 2002.
Figure 40: Image of the interior stairs leading from the change rooms down to the various pools and other facilities. Image courtesy of Therme Vals, Switzerland, 2009.

Figure 41: Image of the interior stairs leading from the change rooms down to the various pools and other facilities. Image courtesy of Therme Vals, Switzerland, 2009.

Figure 42: Outdoor pool with view of the Alps beyond. Images courtesy of Therme Vals, Switzerland, 2009.

Figure 43: View into the indoor pool. Images courtesy of Therme Vals, Switzerland, 2009.

Figure 44: Lime traces accumulating on stone walls. Image courtesy of Therme Vals, Switzerland, 2009.

Figure 45: Lime traces accumulating on stone walls. Image courtesy of Therme Vals, Switzerland, 2009.

Figure 46: Map of Province of Manitoba, with coloured dots indicating three proposed hospice communities and capital city of Winnipeg. Reproduced with the permission of Natural Resources Canada 2009, courtesy of the Atlas of Canada.

Figure 47: Map of Rural Municipality of Gimli, with arrows indicating townsite (green) and hospice location in Siglavik Development (gold). Image courtesy of Government of Manitoba; Culture, Heritage, Tourism, and Sport; Community Profiles, 2009. Permission to reproduce this map is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.


Figure 49: Photograph collage of site circulation by wind, birds, and water. Photographs by created by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 50: Photographs of site context. Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 51: Photographs of details from site. 
Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 52: "Atworth" Ready-to-Move House, 1424 square feet. 
Image courtesy of Star Packages Sales, Copyright 2008.

Figure 53: Map of Town of Niverville, with arrows indicating townsite (green) and hospice location within Fifth Avenue Residential Development (gold). 
Image courtesy of Government of Manitoba; Culture, Heritage, Tourism, and Sport; Community Profiles, 2009. Permission to reproduce this map is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.

Figure 54: Fifth Avenue Estates development, with hospice lot indicated by gold mark. 

Figure 55: Photograph collage of site circulation by wind, birds, and water. 
Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 56: Photograph of site context. 
Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 57: Photographs of details from site. 
Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 58: "Foxgrove" Ready-to-Move House, 1440 square feet. 
Image courtesy of Star Package Sales, Copyright 2008.

Figure 59: Map of L.G.D. of Pinawa, with arrows indicating townsite (green) and hospice location within Pinawa Landing (gold). 
Image courtesy of Government of Manitoba; Culture, Heritage, Tourism, and Sport; Community Profiles, 2009. Permission to reproduce this map is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.

Figure 60: Location of Pinawa Hospice, adjacent to Marina and community downtown. 
Image courtesy of Pinawa Community Development Corporation, 2009.
Figure 61: Photograph collage of site circulation by wind, birds, and water. Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 62: Photographs of site context. Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 63: Photographs of details from site. Photographs by M. E. Baumgartner, 2009. Aerial image obtained from Google Earth, Copyright 2009.

Figure 64: "New Evening Calm" Ready-to-Move house, 1358 square feet. Image courtesy of Star Package Sales, Copyright 2008.

Figure 65: Organizational chart of healthcare providers. Image by M. E. Baumgartner, 2008.

Figure 66: Facility users. Image by M. E. Baumgartner, 2008.

Figure 67: Spatial Adjacency Matrix Image by M. E. Baumgartner, 2008.

Figure 68: Zone analysis bubble diagram. Image by M. E. Baumgartner, 2008.

Figure 69: Design concept of a multi-sensory environment. Photograph courtesy of Thomas P. Baumgartner, Copyright 2009.

Figure 70: Design concept of a caring, compassionate environment. Photography courtesy of Thomas P. Baumgartner, Copyright 2009.

Figure 71: Design concept of educational and interactive facility. Photography by author, 2009.
List of Tables

Table 1: Design concepts extracted from Methodology chapter and site visits.

Table 2: Concepts extracted from the history of hospice.

Table 3: The changing nature of death in different societies. Adapted from Tony Walter’s *Facing death without tradition* in G. Howarth and P. Jupps (eds), *Contemporary issues in death, dying and disposal*, Bakingstoke: Macmillan. Table format sourced from Glennys Howarth’s *Death and dying: A sociological introduction*.

Table 4: Issue One - Elements to achieve a "good death."

Table 5: Issue Two - Dignity in the built environment.

Table 6: Issue Three - Life and death strengthened by environmental design.

Table 7: Issue Four - Use of environmental design to express meaning in life.

Table 8: Issue Five - Promotion of individual and group discussion.

Table 9: Issue One - Integrating critical regionalism into the built environment.

Table 10: Issue Two - Critical regionalism and RTM use.

Table 11: Issue Six - Local context integrated into built environment.

Table 12: Senses and associations with the surrounding environment. Adapted from J.J. Gibson’s *The senses considered as perceptual systems* (1966).

Table 13: Old vs. new design methods. Adapted from David Pearson’s *Spectrum of old and new paradigms of architecture*, 1991.

Table 14: Issue One - Integrating hapticity into built environment.

Table 15: Issue Two – Integrating sense of hearing into built environment.

Table 16: Issue Three - Integrating sense of taste into built environment.

Table 17: Issue Four - Integrating sense of smell into built environment.
Table 18: Issue Five - Integrating other sensory elements into the built environment.

Table 19: Comparison of precedent buildings over key topics of study.

Table 20: Existing and proposed Maggie’s Centres in the U.K.

Table 21: Precedent One - Counsel and Education Centres

Table 22: Precedent Two - Regional Care Facility

Table 23: Precedent Three - Vernacular Hospice

Table 24: Precedent Four - Mobile Care Facility

Table 25: Precedent Five - Pre-Fab Medical Centre

Table 26: Precedent Six - Multi-Sensory Spa

Table 27: Social structure of facility.

Table 28: Furniture/Fixtures/Equipment for entrance and staff areas.

Table 29: Furniture/Fixtures/Equipment for cleaning, eating, and dining activities.

Table 30: Furniture/Fixtures/Equipment for entertainment and reflection spaces.

Table 31: Furniture/Fixtures/Equipment for patient and guest suites.

Table 32: Furniture/Fixtures/Equipment for outdoor spaces.
1.0 - Introduction

"All that lives lives forever. Only the shell, the perishable, passes away. The spirit is without end, eternal, deathless." Bhagavad Gita

1.1 Project Overview

This practicum focuses on end-of-life care for older adults in rural Canada. Specifically, it addresses links between domesticity and terminal illness amongst adults within the building typology of hospice.

Hospices are end-of-life care facilities that emphasize a "good death," where terminally-ill people die in honourable and natural ways with a minimum of medical assistance. A hospice is a distinct typology that reflects Western society, by emphasizing individual autonomy and personal freedom (Mor et. al., 1988; Seale, 1998).

The building typology for the proposed practicum is a combination of institutional, healthcare and residential design because the main user group will be terminally-ill people. This project will address the expected increase of older adults (especially the Baby-boomer cohort) requiring institutional care, as well as younger adults facing similar situations. The result of this project will be the creation of a model for hospice design in rural Manitoba.

In a 2008 Winnipeg Free Press article, a report from Hospice and Palliative Care Manitoba (HPCM) stated it is bracing itself against the expected “flood” of aging baby boomers requiring palliative care and
desiring to die at home. Additionally, HPCM recognizes the lack of resources and staff in rural Manitoba providing care, where the highest percentage of people would prefer to die at home. Instead patients are often admitted into hospital during their last 48 hours or are transported to cities to die, away from family and friends.

This proposal has been motivated by the existing programs and lack of appropriate facilities available for aging Canadians dealing with end-of-life issues. In rural communities funding for homecare and space in hospitals for long-term care is available, but palliative care has not been implemented successfully (Winnipeg Free Press, 2008). Furthermore, young people often leave rural communities for advanced education or better employment in larger centres, leaving behind parents and older relatives. The people who remain often have to visit urban communities in order to see specialists and receive advanced care.

Personal experiences in Manitoba hospitals, hospices, and personal care homes have further motivated this practicum. A recent visit to a home for people with Amyotrophic Lateral Sclerosis (ALS), a terminal motor neuron disease, introduced me to design issues that need to be addressed; these included accessibility elements, creating psychologically healing environments, and integrating the provision of care into the built form. As well, the visit emphasized the philosophy of
palliative care, the importance of dying in dignity, and a wide variety of socioeconomic and political issues related to hospice care environments.

The philosophy behind hospice centres on humanity, care, and devotion reflecting a building type that suits a broader, more diverse society. Specifically, a hospice is an alternative form of health where the emphasis is not on exaggerating the length of someone’s life with medical intervention (i.e., medication, surgery), but on improving the person’s last stage of life with quality of care and pain relief.

1.2 Project Criteria

The objective of this practicum is the creation of a model for hospice design in rural Manitoba. The hospice will be supported in prefabricated housing. The practicum will address contemporary issues arising from publicly-funded healthcare, the aging Canadian population, and cultural issues surrounding dying, death, and grieving.

The main goals to be achieved with this project will be the creation of care facilities that encourage dialogue, education, and wellbeing for all users. Additionally, the facilities will be designed as multi-sensory environments where all human senses can be stimulated, expanding beyond typical visual stimuli. The final solution will be an alternative design model that bridges diverse demographics, culture, and users in a heterogeneous compilation.

This practicum will answer several research questions as noted below:
1. How effective is the use of pre-manufacturer houses for non-residential use?
2. Will these pre-manufactured houses be more cost effective than built-on site medical facilities?
3. How effective is the use of interior design in creating settings for a dignified death?
4. Can elements of the vernacular be successfully integrated into the interior environment?

Three central ideas have continuously appeared throughout the process of the research. They are: 1) connection to nature, 2) degree of residentialism, and 3) provision of dignity for all involved parties. As such, I have introduced ideograms into the body of each chapter, as seen in Figures One through Three. Additionally, at the end of each chapter is a table identifying how the literature, precedent, or concept relates to the design of the three proposed hospices.

Figure 1
Concept images of “Connection to Nature”, “Degree of Residentialism”, and “Provision of Dignity”. All images created by author.

The concept of “Nature” includes visual links to the outdoors, proximity of the hospice to water and other geographical forms, access to natural light in the facility, and using natural building materials where possible. The concept of “Residentialism” includes an atmosphere that has scale relatable to humans; uses appropriate, understandable
materials; and has varying degrees of privacy. This will be achieved through patient suites that are more like an apartment than a hospital room and feature ample seating, private washroom with bathing feature, and a kitchenette – amongst other criteria. The concept of “Dignity” is more abstract; it emphasizes independence, choice, and freedom for patients, users, volunteers, and staff. An example is that all patient suites will be designated as “single-occupant” as a double-occupant room would decrease a patient’s quality of life and degree of privacy.

The information in this document is presented in several different manners. The first section addresses information gathered from site visits and meetings with experts at palliative care units and hospices. The second section describes relevant theoretical issues related to the topic of hospice. Explained in the third section are precedents that support the design ideas. The fourth section includes programming which explains the requirements for the three proposed hospice design. The final section is the post-design analysis. As mentioned previously, each chapter will conclude with a table that illustrates key points extracted from the body of text that can be used in the design of the proposed hospices.
2.0 - Methodology

2.1 Topic Overview

The research for this practicum began by investigating key multidisciplinary texts, articles, and statistical information in the areas of long-term, palliative, and hospice care.

A critical factor to my practicum could not be retrieved through a literature review or precedent study; this was the actual experience of visiting a hospice or palliative care unit. I found information about existing facilities via the Winnipeg Regional Health Authority (WRHA) and Hospice and Palliative Care Manitoba’s (HPCM) websites. Initially I was not sure about the differences between the two typologies; however, upon meeting several doctors, nurses, and social workers during my site visits, I realized that the most significant difference is length of stay. According to statistical data from the WRHA, length of stay in a palliative care ward is 13 days, whereas for a hospice it is 21 days (St. Boniface General Hospital site visit, personal communication, January 23, 2009). Other significant differences included size of patient rooms, location in a healthcare facility or free-standing building, and degree of “residentialist” design.
2.2 Site Visits

In Winnipeg, the WRHA currently oversees three free-standing hospices (two of which are renovated houses) and two palliative care units (located in healthcare facilities). I was able to visit all of the facilities in Winnipeg; however, only four of them pertain to this practicum.

My first visit was to the Grace Hospice, situated adjacent to the Grace Hospital, in a mixed commercial and residential neighbourhood in west Winnipeg. The hospice is a fairly new facility, having first opened its doors in January 2004. The hospice features 12 patient suites, an on-site kitchen, flexible chapel space, and several comfortable seating areas. Dedicated space is provided for staff offices, a conference room, a central nursing desk, and a future daytime retreat area for people with terminal illness who remain in the community. Typical interior finishes range from vinyl wallcovering, wooden handrails, and broadloom carpet in the main corridors and public areas to wood-look vinyl sheet flooring, wood veneer millwork, and tackable linoleum wallcovering in typical patient suites. Each patient suite overlooks the adjacent Sturgeon Creek and the surrounding landscaping of the Grace Hospital. The public spaces, staff rooms, and auxiliary rooms typically faces Portage Avenue and the surrounding landscaping. During the visit, the tour guide mentioned that radiant heat panels were installed into the gypsum board
ceiling over the window so patients sitting at the window feel heat to compensate against any cold drafts coming from the glazing.

At the Grace Hospice, a patient’s stay on average is 50 days, but may vary from two weeks to a year. If a patient recovers or lives longer than six months, he or she is moved to another long-term care facility.

My second visit was to the Palliative Care Unit (PCU) at Riverview Health Centre (RVHC), which is healthcare facility located not far from downtown Winnipeg. This facility opened its doors in 1997 and features 388 patient rooms, mainly devoted to rehabilitation and long-term care (Riverview Health Centre. (n.d.) retrieved January 23, 2009 from www.riverviewhealthcentre.com). The Palliative Care Unit is situated on the third floor and has 30 patient suites over two wings, making it the largest palliative care unit in Western Canada (RVHC site visit, personal communication, December 15, 2008). Patient rooms appear quite similar to a typical hospital patient room, with a large window, millwork storage wall and feature a small adjacent washroom with toilet and lavatory. In addition to the patient suites, the unit offers several rooms for visitors and families, including lounges, a three-season sunroom, small kitchen, and an overnight room. Staff support areas complete the floor, including a centrally located nurse desk, medical storage, tub and shower rooms, housekeeping and storage rooms and a conference/staff room. The
kitchen, laundry facilities, and most offices are located on other floors of the Riverview Health Centre.

Perhaps because this facility is older than the others I visited, the quality of interior finish materials is inferior and they are showing their age. For example, the millwork in typical patient suites is plastic laminate clad, without any interesting texture or patterning. The resilient sheet flooring introduces some texture and colour to the Palliative Care Unit; however, it is a pattern typical to most healthcare facilities and does not contribute significantly to the quality of the interior. The overall colour scheme of the unit is typical for when the facility was constructed – mid-1990s peaches, teals, pink-toned neutrals, and dark cherry wood laminate millwork. The combination of light toned glossy resilient flooring and overhead downlight fluorescent lighting creates a stark environment that is only alleviated by large windows overlooking the Red River at the end of most corridors. Patient suites and washroom ensuites are small and lack significant architectural details and volumes, except for large windows overlooking the rest of the facility and the surrounding landscapes.

The third facility I visited was Jocelyn House Inc., a free-standing hospice located in a renovated bi-level house in suburban Winnipeg. This facility features four patient rooms, located on two floors of a bi-level home. These rooms were once bedrooms, but unlike the other facilities visited, do not have private washrooms and are undersized for their
purpose. As the facility is a converted house, it features a typical living room, dining room, kitchen, and laundry and utility room. The open living room, dining room, and kitchen all share a double-height vaulted ceiling with clerestory windows and mid-tone stained wood beams that add a sophisticated architectural detail to the space.

The interior finishes are fairly simple and straightforward—wood plank floors on the upper level with vinyl sheet floor in the kitchen, washroom, and patient suites, painted gypsum board walls with wooden handrails, and painted walls with wallcovering below a chair rail in the patient suites. Patient rooms feature a small window and are simply decorated with quilts hung on the walls, personal photographs, clocks, and tackboards.

The final visit was to the St. Boniface General Hospital’s Palliative Care Unit on the eighth floor of the facility.¹ This PCU has 15 patient beds—13 single rooms and 1 double suite, each with an adjacent washroom and closet. The patient rooms were designed with a more “residential” feel than typical hospital rooms and the design of the double-loaded corridors also features residential detailing, such as vinyl wallcovering, wood handrails, and a sophisticated ceiling tile and lighting layout. The PCU features WRHA and staff offices, a central nursing desk, family rooms,

¹ St. Boniface General Hospital provided the first palliative care unit in Canada—it was established in 1974 (The Canadian Hospice Palliative Care Association, 2009).
kitchenette, conference rooms, and a solarium viewing the Red River below.

The scheme of the interior finishes features mid-toned stained cherry wood veneer and wood-look plastic laminate on handrails, doors, wall panels, and millwork.

There were several common features that may or may not have been intentionally integrated into the design when each of the facilities was created. The most significant is each facility's proximity to water. The Grace Hospice is located along Sturgeon Creek, Riverview and St. Boniface PCUs along the Red River, and Jocelyn House next to the Seine River. Perhaps this water relationship is reflective of Winnipeg (and arguably Manitoba and Canada's) link to water, as a source of transportation, entertainment, trade, and history. Perhaps this relationship was unintentional and reflects the floodplain of southern Manitoba, crossed by a plethora of river, streams, and creeks.

Other similar features among the four facilities include varying links between residential and healthcare design. For example, Riverview appeared most like a standard hospital – double-loaded corridors, small patient rooms, and incessant sounds of paging, machinery, and people talking or crying. Alternately, Jocelyn House is a former residence and has not easily met the needs of staff and patients in the facility. The patient rooms are undersized with small windows that prevent much natural light
from entering and universal access of patients is limited by the stairs connecting the two levels of the home. However, the facility as a whole boasts impressive architectural volumes, especially on the main floor where the dining room windows overlook the surrounding forest. The remaining two facilities were “somewhere in the middle” of institutional and residential design. Grace Hospice calls its patient rooms “apartments,” which reflects the integrated seating areas, small dining table, kitchenette, and en-suite washrooms equipped with showers in each suite. St. Boniface PCU, despite being located in a major city hospital, features a depth of architectural and interior design detail that creates a more intimate, welcoming environment than does a typical hospital ward.

The image below conceptually illustrates the degree of residential design in each of the four facilities visited. Because of the perceived connotations of comfort and independence attained in a “home-like” environment, my design intervention will be even more residential than these four facilities.
Another common feature between the four facilities was the promotion of independence, dignity, choice, and freedom for patients, visitors, volunteers, and staff. For example, in the Grace Hospice, a multi-purpose space was created to act as a religious or spiritual worship space. When a new patient is entering the facility, he or she is asked about their faith and how the facility and its staff can honour it (Grace Hospice site visit, personal communication, December 12, 2008). At Riverview, a spiritual/pastoral care person can visit the patients and families, providing comfort and company. At all of the facilities I visited, the interviewee mentioned how dignity is preserved by having staff knock on the patient’s suite door prior to entering. Other provisions for dignity included quiet/comfort rooms for grieving families and staff, pull-out beds and cots for overnight guests, and kitchenettes or access to kitchens for families wishing to prepare their own food.
### 2.3 Design Criteria

From these visits, I was able to create a general list of key ideas and items that would be desirable to integrate into my conceptual hospice designs. These are arranged in the table below and vary in scale from the macro to the micro environment.

<table>
<thead>
<tr>
<th>Nature</th>
<th>Residential</th>
<th>Dignity</th>
</tr>
</thead>
</table>
| • Close proximity to water  
• Strong relationship with natural environment  
• Gardens and other outdoor spaces that are accessible for users  
• Accessible interior and exterior environments  
• Provision of a year-round sun room  
• Flower and vegetable gardens for enjoyment  
• Ample supply of natural light in interior  
• Using truthful, durable, natural interior finishes as possible (linoleum, wood veneer, stone, cork) | • Establishment in residential zoned development  
• Provision of a year-round sun room  
• Quiet rooms with large windows, exterior door, and comfortable furniture  
• Ample open and closed storage throughout facility  
• Kitchenette with seating area in patient rooms  
• Ensuite washrooms with shower facilities  
• High quality of food with space for guests to prepare their own meals or a cook to prepare meals  
• Allowing patients to come and go as they please  
• Unrestricted visiting hours  
• Computer with internet and wireless internet access  
• Provide sleep accommodation for overnight guests  
• Dimmable and indirect light fixtures  
• Using truthful, durable, natural interior finishes as possible (linoleum, wood veneer, stone, cork)  
• Using interior finish materials that will not harbor harmful micro-organisms, yet have a residential quality | • Establishment in residential zoned development  
• Accessible interior and exterior environments  
• Emphasis on freedom, choice, and independence for all users |
Table 1: Design criteria extracted from Methodology chapter and site visits.

<table>
<thead>
<tr>
<th>Design Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provision of spiritual space</td>
</tr>
<tr>
<td>• Privacy for staff and volunteers from patients and visitors</td>
</tr>
<tr>
<td>• Appropriate acoustical design</td>
</tr>
<tr>
<td>• Separate doorway(s) for delivery of goods and removal of bodies</td>
</tr>
<tr>
<td>• Large doorways for ease of moving wheelchairs or stretchers</td>
</tr>
<tr>
<td>• Provision of a year-round sun room</td>
</tr>
<tr>
<td>• Necessity of having a centrally located nursing desk</td>
</tr>
<tr>
<td>• Dedicated smoking room or area</td>
</tr>
<tr>
<td>• Quiet rooms with large windows, exterior door, and comfortable furniture</td>
</tr>
<tr>
<td>• Kitchenette with seating area in patient rooms</td>
</tr>
<tr>
<td>• Accessible ensuite washrooms with shower facilities in patient rooms</td>
</tr>
<tr>
<td>• High quality of food with space for guests to prepare their own meals or a cook to prepare meals</td>
</tr>
<tr>
<td>• Allowing patients to come and go as they please</td>
</tr>
<tr>
<td>• Unrestricted visiting hours</td>
</tr>
<tr>
<td>• Computer with internet and wireless internet access</td>
</tr>
<tr>
<td>• Provide sleep accommodation for overnight guests</td>
</tr>
<tr>
<td>• Light fixtures that are dimmable and indirect</td>
</tr>
<tr>
<td>• Using truthful, durable, natural interior finishes as possible (linoleum, wood veneer, stone, cork)</td>
</tr>
</tbody>
</table>

Table 1: Design criteria extracted from Methodology chapter and site visits.
3.0 - Literature Review

3.1 Topic Overview

The literature review provides the theoretical background to support the design decisions necessary in the creation of a model for hospice design. The most commonly discussed theories I came across during my literature search were (social) postmodernism and phenomenology, though others undoubtedly prevail. I have divided this chapter into four categories: 1) History, 2) Issues of Dying and Death, 3) Regionalism, and 4) Sensory Experiences; each chapter is further sub-divided and concludes with extracted elements that could be interpreted in to the design of hospices in rural Manitoba. Entwined in each of these sub-chapters are the project’s key concepts of “Connection to Nature”, “Degree of Residentialism”, and “Provision of Dignity”.

Figure 5: Elements of Literature Review. Image by author, 2009.
3.2 History

In the book *Innovations in Hospice Architecture*, Steven Verderber and Ben Refuerzo (2006) state that the modern hospice movement is a concept that evolved as a backlash against modernist hospitals. These modernist hospitals were thought of as “machines for living”, wherein the length of a person’s life was extended as long as feasible, even if the person’s quality of life was in decline. However, the roots of hospice trace back to the beginnings of time – people caring for others who were ill – in caves, monasteries, or almshouses.

3.2.1 Topic Overview

In Ancient Greece, temples for healing were designed to soothe and ease ill people, often by integrating music, massage, bathing, and conversation (Kastenbaum, 2001). In Medieval Europe, hospices tended to be Christian-based houses where people could find food, shelter, and comfort while on pilgrimages or other journeys. However, with the rise of science, the Reformation, and increased bureaucracy, this concept of care was forgotten (Kastenbaum, 2001; Verderber & Refuerzo, 2006).

The re-emergence of hospice in the late nineteenth century occurred with the opening of Our Lady’s Hospice in Dublin, Ireland and soon after, St. Joseph’s Hospice opened in London. The concept of palliative care and pain management emerged with Dr. Cicely Saunders, who had to leave her nursing career due to back problems, first
becoming a social worker and eventually a doctor. She established St. Christopher’s Hospice in London in 1967, a “house” where people could find relief from pain and engage with others with the goals of socialization and self-awareness. St. Christopher’s has since come to be a model for other hospices worldwide (Kastenbaum, 2001).

It was in the 1960s that the alternative philosophy of care for people who are dying began to become more recognized. Consequently, programs were created to improve a terminal patient’s quality of life with provision to therapists, visitors, social workers, physicians, and other professionals. This philosophy, combined with the problems arising from “megahospitals”, is said to have established the foundation for the contemporary hospice movement (Verderber & Refuerzo, 2006; Carey, 1986). The underlying philosophy of hospice is to provide care for the patient through minimal medicalisation and optimal therapy, pain relief, and counseling. This example of alternative thought is a glimpse into the pluralist, humanist sensibilities associated with postmodern sociology.

Hospice architecture characteristically has both historical and residential design elements. This derives from hospice architecture’s origins in postmodernism and the suitability of human-scale architectural elements appropriate to the sensitive conditions of its users. In fact, some of the first hospices in the U.K. were in former private residences, as required hospital equipment is minimal and few architectural renovations
were needed (Verderber & Refuerzo, 2006). As hospice architecture became more accepted, further imagery associated with the home became prevalent – such as the integration of hearths, multi-functional spaces, opportunities to personalize a space, and use of domestic furniture. Verderber argues that these are postmodern elements because of the degree of residential detail and the incorporation of an "anti-hospital" design aesthetic that is more related to hotel or retreat centres design (2006). Consequently, this residential design affinity also aided the patients, families, and staff to live and work in a comfortable, home-like environment, as opposed to the institutional environment associated with large hospitals.

Other elements associated with contemporary hospice design and architecture include a strong nature connection, lack of healthcare technology, restorative gardens, and meditative areas within the facility. Contemporary trends include the use of art as therapy, incorporating elements of remembrance for people who have passed on, multi-sensory rooms, and hospitality-style design.
### 3.2.2 Design Criteria

The following is a list of ideas and concepts extracted from the history of hospice and palliative care that would be desirable to integrate into my conceptual hospice designs.

| Nature          | • restorative gardens  
|                 | • views and access to outdoors |
| Residential     | • Limit use of medical equipment, imagery, and design features  
|                 |   o Follow residential design strategy  
|                 |   o Create solutions for storing medical equipment in closets or integrated into millwork or furniture  
|                 |   o Limit sounds and smells associated with hospitals |
| Dignity         | • Maintain quality of life  
|                 |   o Provide means of comfort (food, hygiene, pain control, alternative health treatments)  
|                 | • Provide opportunities for social interaction  
|                 | • Provide access to therapists, social workers, religious/spiritual advisors  
|                 | • Universal accessibility  
|                 |   • Handrails for people able to walk  
|                 |   • Large doorways and washrooms to accommodate wheelchairs |

Table 2: Concepts extracted from the history of hospice.
3.3 - Issues of Dying and Death

“As for man, his days are as grass: as a flower of the field, so he flourish. For the wind passeth over it, and it is gone; and the place shall know it no more.” Psalm 103: 15

3.3.1 Topic Overview

According to some, Western societies in our current era participate in a death-denying culture (Becker, 1973). If we think about what key features have affected our cultures since the dawn of the Industrial Revolution and advent of the “Modern Age,” we see a string of similarities linked to improved quality of life, improved working standards, and the evolution of the public health system (Northcott & Wilson, 2001). Concurrent with these changes was the rise of improved science and medicine, along with the healthcare profession implementing methods of treatment rather than prevention (Fulton & Bendiksen, 1994; Kubler-Ross, 1969; Levy, 1989; Northcott & Wilson, 2001). Consequently, hospitals became to be thought of as “centres of death” where people were admitted in their final stages of life to die after all possible attempts were made to save their lives.
In the late twentieth-century, our culture began to change to address how our lifestyles could be amended to improve and elongate a person’s life. Some of these changes included: (a) being more active, (b) cessation of smoking, (c) healthy eating, and (d) wearing a seatbelt in a vehicle. These changes have helped to reduce accidents and increase the quality of health amongst younger generations, simultaneous with longer life spans and higher obesity rates.

As well, as society modernized in the early 20th century, our grandparents and older generations moved from family farms and rural communities to larger cities, for advanced education and better paying employment. People moved away from lifestyles in-tune with nature, where farm animals were born, raised, and then slaughtered for food; where nature determined the success of a crop or birth of a calf. Birth, illness, dying, and death surrounded people; it was prevalent, quick, and authentic (Fulton and Owen, 1994).

Superseding this group of people was the baby-boomer generation. Born after World War II, this generation boasted a life expectancy of 67 years old when they were born. These individuals were born in hospitals, less likely to be exposed to infectious diseases, and experienced a modernized, urbanized society (Fulton and Owen, 1994, Levy, 1989). The rise of hospitals has shielded this generation and its successors from the experiences of birth, illness, and the dying process.
Dying and death were exposed by means of the media – news reports, TV shows, cartoons, and movies indicating violent deaths as a result of gangs, wars, famine and disasters. As well, the prevalence of colour television helped spur this further. Recent trends have seen the rise of dying and death being exposed in music, popular fiction novels, and in trends, such as Emo and Goth sub-cultures.

However, death in the real world is entirely different than the drama we see in the media. For most people, death is tragic, emotional, and painful; it can cause incredible grief and emotional trauma; the period of mourning is a major psychological and social readjustment (Fulton and Owen, 1994). The emotional attributes of dying, death, mourning, and loss have spurred some of the greatest pieces art, music, and plays – The Death of Marat by Jacques Louis David, Mozart’s Requiem and The Death of Ivan Ilych by Leo Tolstoy.

As well, the increased percentage of older adults has aided in the increased prevalence of terminal illness in films – where we are now seeing a change from just death on the screen to dying. Popular Hollywood movies, such as Stranger than Fiction, Sweet November, The Guitar, and Steel Magnolias, have all raised issue with the dying period and how to make the “most” of your life before it is too late. However, these movies are not entirely affective at providing audiences with the
honest, raw emotions and consequences of illness, the dying period, and
the effect of the disease of the patient, family, and friends.

The nature of death has evolved as a result of scientific, cultural,
and industrialization in Western society. We have evolved from turning to
religion for meaning in our lives to entrusting professionals for advice, and,
now, have turned to searches within the individual. This is explained in the
table below.

Traditional societies are defined as those that have not undergone
industrialization – they are hunter-gathers, nomads, and agrarian societies,
as well as societies from antiquity (Walter in Howarth, 2007). Modern
societies have undergone industrialization and note progress in politics,
economics, communication systems, science, and technology (Walter in
Howarth, 2007). Postmodern societies typically exhibit values that have
become fragmented from modernity. These societies have seen
increasingly more emphasis placed on mass communications, media,
and popular culture.
Regardless, the reality of dying and death will always be prevalent and despite the medical progresses of the past few decades, the process and the event will happen to 100% of people. We see various responses to death in our culture: from fascination arising from thriller movies and celebrity deaths to people’s fear of illness. It is custom that has distanced us from death.

The definition of death varies between different disciplines – the literature speaks of biomedical, social, and phenomenological death (Kastenbaum, 2001). Biomedical death is typically defined by the absence of breathing, heart beat, pulse, and response to stimuli, such as light and pain (Kastenbaum, 2001). Social death is when someone is excluded and dismissed from the social activities performed by the people around the individual. Phenomenological death occurs within the

Table 3: The changing nature of death in different societies.
Adapted from Tony Walter’s Facing death without tradition in G. Howarth and P. Jupps (eds), Contemporary issues in death, dying and disposal, Bakingstoke: Macmillan. Table format sourced from Glennys Howarth’s Death and dying: A sociological introduction.
individual's mind – either one part of themselves becomes dead or their entire being becomes deadened (Kastenbaum, 2001).

In Western culture, death is seen as acceptable when it comes at the end of a long, successful life, ending a period of deterioration (Northcott & Wilson, 2001). Deaths occurring amongst younger cohorts, by accident or suicide, are seen as tragic, preventable, and premature (Northcott & Wilson, 2001). Additionally, as people are living longer lives, we also see people living longer with terminal illnesses, such as cancer and heart disease (Seale in Malcolm, 2005). Although people are living longer than ever before, they are often living with extended periods of time spent in poor health. As a result of our healthcare systems, dying and death have typically become mechanical, dehumanized events, occurring in cold hospital patient rooms or in desolate emergency rooms, away from the comforts of home and family. In fact, two-thirds of all deaths occur in healthcare facilities, nursing homes, and other places that are not the dying person's home (Fulton and Owen, 1994).
3.3.2 Statistics

Cancer and heart disease are the two most common illnesses leading to death in Canada; however, in the past twenty-five years, cancer has quickly outpaced heart disease (Statistics Canada, 2008). According to much of the literature, the primary illness affecting patients in palliative care and hospice is cancer (The Canadian Hospice Palliative Care Association, 2009).

Cancer is an illness that tends to affect people in later life; 72% of all new cancer cases were diagnosed in individuals over the age of sixty (Gaudette et al., 1998 in Northcott & Wilson, 2001). Additionally, cancer is the leading cause of death for individuals between forty and seventy-nine, with heart and respiratory diseases following respectively (Statistics Canada, 2004). The most common lethal cancers are lung, breast, colon, and pancreas; however, the length of time leading to death varies from one patient to the next, the availability and types of treatment, and a person’s strength, will, and age (Northcott & Wilson, 2001). Often times, the treatments used have side effects that decrease the patient’s health and comfort; chemotherapy tends to induce nausea and vomiting; surgery causes physical pain; and pain medications cause constipation and other unpleasant side effects (Bruera et al., 1994 in Northcott & Wilson, 2001). Symptoms often increase as the patient nears death (Ibid., 2001).
Other common ailments and diseases found in hospice patients include AIDS/HIV, ALS (Lou Gehrig’s disease), and other heart disorders.

According to the author V.W. Marshall (1986), we are constantly constructing meanings to understand our surrounding environments and to facilitate functioning of the world. When the time comes that a loved one is facing his/her own mortality, we continue to search for meaning – the solutions for which often arising from our personal cultural backgrounds (Northcott and Wilson, 2001).
3.3.3 Culture

In Canadian society, we are becoming increasingly heterogeneous; thus, death will continue to have different meanings for different cultures, and reactions to death will vary as greatly as does our nation. We are experiencing a more open discussion and acceptance of death than ever before. This is occurring with the increased use of written advance directives, palliative care versus hospitalization, and the right to obtain a dignified death (McPherson and Wister, 2008).

As well, family structures have changed tremendously in the past 100 years; we have moved towards more mobile, democratic, and individualized family structures than ever before. Older adults are retired from the daily lives of families, often living in specialized housing, isolated from their offspring and grandchildren. Thus, young people are disassociated from their aging grandparents and other relatives.

Additionally, women in developed countries live longer than men, though this difference is decreasing. Statistically, however, women marry older men, so as they age and live longer than their male counterparts, they are left widows in their later years. As a woman’s health decreases and living alone ceases to be possible, she ends up in institutions, as she lacks the care providers to live in private households (Seale, 1998).

Our culture typically does not express a great deal of emotion at funerals. This is very different from studies of other cultures where crying,
fear, and anger are observed at funeral rites and mourning periods after bereavement (Parkes, Laungani, and Young, 1997). Perhaps this lack of expression is beneficial if it helps us to recover from the loss of a loved one and continue on with our own lives; perhaps not.
3.3.4 Process

Isaac Asimov once wrote that “Life is pleasant. Death is peaceful. It’s the transition that’s troublesome” (original source and year unknown). In previous generations, people feared death because it was often quick and sudden, such as dying from infectious diseases like tuberculosis (TB), diphtheria, and typhoid. In the current era, death is delayed to older age because of healthcare practices that elongate a person’s life with tests and treatments, such as chemotherapy for cancer and pacemakers for people with coronary diseases (Northcott & Wilson, 2001; Levy, 1989).

Once a person has been diagnosed with a terminal illness, the trajectory period can vary from several weeks to several years. Despite this sometimes long transitional period, the individual’s life will radically change, as he or she confronts his/her mortality for, perhaps, the first time ever. The time arises when the individual begins to look for meaning in his or her remaining days, weeks, and months. A dying person will likely leave his/her job, which is a source of social and personal identity, and pursue stronger, more meaningful relationships with family and friends. However, these families and friends may shun the dying person out of fear, anticipated grief, and to avoid the provision of caregiving (Levy, 1989). However, the two key elements that make hospice successful are the provision of pain-modifying medications and the strong psychological, social, and spiritual care provided by family and friends (Parkes, 1989).
The concept of pain is unique as no one, but the sufferer, can experience anyone else’s pain. We often know that someone is in pain because of the bodily expressions he or she makes and by noises, grunts, and other non-lingual sounds made. The pain associated with cancer is culturally shaped in the Western society because cancer is seen as evil, loathful, and fearful (Seale, 1998). Compare the pain of cancer with the pain of childbirth, which is seen in most cases as empowering and an indicator of growth and strength. We often see pregnant women scoff at the idea of anesthesia and other pain modifiers as these would lead to an “inauthentic” birthing experience (Seale, 1998).

Cancer and/or its treatments cause pain that makes a person unable to focus, potentially leading nausea, stress, weight loss, fatigue, and sleeping disorders. As well, the patient may begin to antagonize over whether the pain will increase or even return (Kastenbaum, 2001). Hospice doctors and nurses have become experts at treating pain – in hospice efforts are made to make the patient as “pain-free” as possible, enabling patients to finish projects, engage in life, and find meaning while awaiting death (Kastenbaum, 2001). In lieu or in addition to providing medication for pain management, alternative treatments such as massage, hot or cold applications to the skin, exercising, hypnosis, and electrical nerve stimulation can be used and integrated into daily regimes (Kastenbaum, 1998).
When a person is approaching death, he or she may lose consciousness, lack strength, and lose interest in their surroundings. For people with terminal illnesses, such as cancer, the body begins to “come apart at the seams” as a patient begins to suffer from incontinence, vomiting, bleeding, and tumours that leak and smell (Seale, 1998). Comparatively, our culture is fastidious with maintaining our personal hygiene; for people suffering from these aforementioned conditions, his or her quality of life and comfort is negatively affected. Patients may prefer to spend their final days and hours withdrawn from family, refusing to eat or drink, and ask to be anaesthetized or have their lives ended early (Seale, 1998). The necessity to provide dignity during these final, painful, disturbing hours and days becomes increasingly more important.

If we consider death to be the end of mental and physical functioning, a typical death takes place between one and three days. The patient will often lose consciousness and have irregular, laboured breathing along with decline of cardiac, brain, and respiratory functions (Kerr and Kurtz, 1999 in Northcott & Wilson, 2001). In hospice, a noble effort is made to gather family and close friends around the patient’s bed, to provide comfort to one another and experience a natural death, removed from the machinery associated with hospitals.

It is important to understand the difference between dying and the process leading to death. According to the literature, there is a general
preference for a quick death as the process of dying, linked with fear of exaggerated, ongoing physical and emotional pain, is more feared than death itself (Frank, 1991, Aiken, 1991, Northcott and Wilson, 2001). However, the experience of a person undergoing palliative care is focused on the process of dying and acceptance of the ultimate result. An emphasis to come to terms with one’s imminent death is propounded in palliative care. This subject was first written on by Elisabeth Kubler-Ross in the text *On Death and Dying* (1969). In this book, she introduces the concept of the stages of dying: Denial, Anger, Bargaining, Depression, and Acceptance, as illustrated in the figure below.

![Figure 6: Scale indicating Dr. Kubler-Ross' five stages of grieving. Image by author, 2009.](image)

Although her research focused on dying and death and argued for alternative methods to think about death, her work helped spur the hospice movement in its infancy (1969). Since a major component of palliative care is focused on awareness of the dying process, it differs from common reaction to dying and death. In western culture, we do not speak of death – it is a taboo subject and we tend to avoid unpleasant topics and issues. However, in palliative care, open discussion of
emotions, thoughts, and reactions to the process are encouraged. These conversations help to educate all people involved in the situation—patient, family, friends, volunteers, and staff members.
3.3.5 Taboo

One reason for researching dying and death is the negative attitude towards death in our culture. We understand death to be repulsive, unpleasant, and threatening – issues that might arise from the smell of rotting flesh, spread of contagious disease, and fear of the unknown (Northcott and Wilson, 2001). This avoidance is addressed in Kubler-Ross’ (1969) book where she attempts to help people come to terms with his/her own mortality.

The Sociology professor, Clive Seale (1998), has written extensively on the taboo of death. He helps to explain how our culture denies death and radically separates it from our mainstream lives. Seale dissects how our modern society is death denying into two categories: sociological and psychological. He suggests that our society is very aware of and active in acknowledging death and problems arise within the individual as he or she tries to reach aspirations for self-awareness and self-identity, identified through Maslow’s Hierarchy of Needs; as illustrated in the figure below. Death becomes a problem when it prevents this self-actualization from occurring.
Seale (1998) suggests that awareness of death can either encourage the idea of life being meaningless or become a motivation for greater social and cultural activity. This awareness and promotion for activity is intertwined with the hospice movement and the encouragement for self-motivation and dignity throughout the stages of illness and dying.

Seale (1998) extrudes the aforementioned ideas further when he discusses different types of terminal disease affecting how a dying person participates in a social atmosphere. For example, cancer versus Acquired Immune Deficiency Syndrome (AIDS) or extreme old age versus Alzheimer’s Disease, the latter of which may prohibit activity and
participation in palliative care environments. Typically, people with cancer and AIDS are found in hospice programs as these illnesses are more easily controlled with pain medication, as well as being more common in younger people. People with Alzheimer’s disease and the very old are found in personal care homes and elderly residential units where they can receive more care provision and treatments to suit their illnesses.

Seale (1998) draws many of his points about modern society from the work of Anthony Giddens. In Giddens’ (1991) book, *Modernity and Self-Identity: Self and Society in the Late Modern Age*, he discusses child birth and death as being two of the main transition points in a person’s life, as illustrated in the figure below. These two stages are when relationships between inorganic and organic life are most obvious and when existential meaning becomes most prominent. For example, in our culture both events typically occur in institutions and are treated as commonplace and controllable. However, in a pre-modern culture, these events would have a more direct connection with the surrounding natural environment and the involvement of family. In modern society, the phenomenon of death is even more segregated because it is the absolute loss of control and the return to the inorganic.

believed that the sacrifices they experienced here on Earth would be rewarded in Heaven. As such, the pain and discomfort experienced with childbirth was considered just one of the many ways that people (women) would suffer, with the idea that when she died, she would receive reward. Because of the advancements in the medical field, women do not often experience the same relationship with their bodies and surroundings when giving birth with the use of pain medication and sedation. As such, suffering and future rewards in Heaven have lost their meanings for the majority of people.

Figure 8: Inorganic and organic stages of life.
Image by author, 2009.

Thus, the philosophy of hospice, which encourages addressing one’s mortality and bringing the issue of death into general view, clashes with this previously mentioned concept.
3.3.6 Conclusion

Addressing death as a taboo subject in our culture is a necessity for this practicum. The end result of this Masters degree will be a design for hospice in various rural Manitoba communities. This will require provision of the appropriate environment required for adults to make the final transitions with the best provisions for quality of life and the opportunity to achieve self-fulfillment.

Additionally, focusing on Giddens’ argument about the relationships between inorganic and organic life and correlations between the stages of one’s life will be informative. Relationships could be strengthened creatively and conceptually with intentional design elements that link the built environment with the surrounding natural landscape. This could be done with appropriate accessibility to the exterior landscape, enhancing sensory experiences in the interior and provision for meditative spaces for personal contemplation.
3.3.7 Design Criteria

The following is a list of ideas and concepts extracted from issues on dying and death that will aid in the design development of the proposed hospices.

<table>
<thead>
<tr>
<th>Issue One</th>
<th>What considerations can be made to create an environment that would support a terminally-ill person trying to achieve a &quot;good death&quot;?</th>
</tr>
</thead>
</table>
| Objectives | • minimum of medical assistance, except pain medication  
• environment that reminds people of "home"  
• opportunity to invite family members and friends to surround loved one throughout the dying process  
• provide environment that allows patients to have high quality of life with dignity in death |
| Solutions  | • provide closets and locked storage to hide away any necessary medical equipment  
• interior that has elements of home (hearth, windows, intimate scale, communal dining areas)  
• provide guest sleeping, resting, and eating areas to encourage their stay throughout loved one’s time in hospice  
• allow large patient rooms - access to patient’s bed on both sides, comfortable seating for guests, access to outdoors and rest of facility, private washrooms |

Table 4: Issue One - Elements to achieve a "good death."

<table>
<thead>
<tr>
<th>Issue Two</th>
<th>How can an environment support the concepts of autonomy, independence, and dignity for terminally-ill patients?</th>
</tr>
</thead>
</table>
| Objectives | • allow space that can be changed and adapted as the person’s illness progresses  
• provide physical environment that is universally accessible to all users  
• ability of dying patients to receive care and support from staff and families  
• provide pain management to dying patients |
| Solutions  | • provide large bedroom - with access to bed on two sides, comfortable, mobile furniture for guests, |
Table 5: Issue Two - Dignity in the built environment.

| Constructing Meaning – A Model for Hospice Design in Rural Manitoba |
| --- | --- |
|  | access to outdoors, private washroom  
  • provide handrails for mobile patients; wide corridors for those in wheelchairs; automatic light sensors; wayfinding strategies  
  • provide staff and volunteer support areas that are separate from rest of facility to prevent burn-out  
  • arrange to have alternative pain management available |

Table 6: Issue Three - Life and death strengthened by environmental design.

<table>
<thead>
<tr>
<th>Issue Three</th>
<th>Anthony Giddens discusses how the events of life and death are strongly intertwined with family and nature, especially in the pre-modern era. How can these links be strengthened through environmental design in the post-modern era?</th>
</tr>
</thead>
</table>
| Objectives | • create welcoming spaces for personal reflection and group discussion  
  • integrate natural light penetration and views to outdoors in all patient, guest, and staff areas  
  • provide accessibility to outdoors |
| Solutions | • create areas that are quiet and separate from main living areas for private conversations  
  • provide large windows in patient rooms with direct access to outdoors, where appropriate  
  • provide covered, screened, and heated outdoor structures for increased opportunities to remain outdoors in inclement weather |
Issue Four  | If we, as a Western society, participate in a "death-denying" culture as Becker argues, how can we find meaning in life and death, as Marshall asks? How can this be expressed in Environmental Design?
---|---
**Objectives** | • necessity for conversation and self-reflection during period of illness  
• encourage therapists and religious and spiritual leaders to visit patients and families at facility
**Solutions** | • provide spaces and opportunities for discussion and education of patients, families, friends, volunteers, and staff  
• provide multi-functional areas for large groups to gather for presentations and group discussions  
• create memory walls or displays of previous patients, volunteers, and other supporters

Table 7: Issue Four - Use of environmental design to express meaning in life.

Issue Five  | In palliative care, open discussion of emotions, thoughts, and questions is highly encouraged. How might the built environment further promote these individual and group interactions?
---|---
**Objectives** | • necessity for conversation and discussion to occur, as part of the palliative care process
**Solutions** | • provide quiet areas for small group discussion  
• provide multi-purpose spaces for celebrations, memorials, and large gatherings  
• provide mobile furniture that can be easily moved for small groups to gather  
• provide small nooks along corridors for people to rest and talk

Table 8: Issue Five - Promotion of individual and group discussion.
3.4 - Regionalism

“There is a paradox: how to become modern and to return to sources; how to revive an old dormant civilization and take part in universal civilization.” Paul Ricoeur, “History and Truth” (1960).  

3.4.1 Topic Overview

Region is defined as a large area with boundaries set by cultural and natural elements such as religious, socioeconomic, and political policies or rivers, lakes, and streams. Other elements include climate, dialect, land use, and styles of architecture (Bissett, 2000). In terms of design and architecture, the theorist Kenneth Frampton defines region as being “defined by a culture’s unique identity, manner of place-making, architectonic strategies, qualities of the environment in dialogue with local means for coping with that environment, and possible tactile experiences that may enrich one’s life there” (Canizaro, 2007, p.19). Tzonis and Lefaivre define critical regionalism as the cognizant implementation of significant and local design elements as opposed to standard and universal norms associated with Modern architecture (Canizaro, 2007). The definitions of regionalism and critical regionalism have some similar elements, but vary in the degree and manner of the use of local traditions and cultures being explored in built form. Regionalism refers to the local building traditions of an area – the vernacular building forms that may have responded unintentionally, by

---

necessity, not by choice. An example of this could include sod houses that early prairie pioneers constructed with the resources that were readily available. It also includes sentimental use of elements extracted from previous generations – nostalgic elements of a bygone era. Critical regionalism strives to create designs that respond to the local environment, often using indigenous building methods and materials in addition to Modern ones (Frampton, 1983).

The concept of Critical Regionalism was used famously by Kenneth Frampton with his work *Towards a Critical Regionalism: Six Points for an Architecture of Resistance* (1983). However, it did not strive to emulate local building traditions or other elements into new built forms – it combined modern building technology with local elements abstracted into alternative forms. It also arose in opposition to Postmodernism, which had failed to re-capture elements of historicism, cultural issues, and tradition in the built environment. Postmodernism instead created a thin façade of these elements into otherwise Modern architectural form (Lefaivre and Tzonis, 2003). It also arose as a reaction against the namelessness of Modern architecture.

Frampton’s work helped to give a theoretical background to regionalist building techniques and use of materials that had been in use for decades, supporting its legitimacy with the integration of Modern architecture’s tectonic building methods and theoretical background.
Additionally, critical regionalism confronts the polar opposites exhibited when working between demands for globalization with international intervention and local identity with cultural security (Lefaivre and Tzonis, 2003). Critical regionalism aims to resist changes thought to limit the quality of modern life and architecture and design. It strives to create dialogue between traditional practices and globalization issues, without the use of nostalgia, unthoughtful use of symbols, and standardized building methods (Canizaro, 2007). It draws on Phenomenology theory in that both the visual sense and the tactile sense should be stimulated in the architecture and design of a space and through the materials used.

Because Frampton’s famous essay was published over 25 years ago, more contemporary work has evolved beyond the “hot” topic of postmodernism vs. modernism of the late 1970s and into the 1990s. In our current era, there are theorists and practitioners who want to carry on the use of regional building methods and theory and integrate even more into the framework of architecture and design. This “new regionalism” supports a strong connection to place, where building forms respond to local conditions (climate, vegetation, politics, global location) and where the design of a space is not made “local” just by a thin application of stone veneer (Canizaro, 1997).3 A comparison of the three variations is

---

3 The terms *Vernacular*, *Local*, and *Traditional* have appeared in the various references used in this section to indicate Regionalism. I have chosen to use the *Regionalism* to refer to local building techniques, *Critical*
illustrated in the below figure.

Use of Local Elements = REGIONALISM

Regionalism + Modern Building Techniques = CRITICAL REGIONALISM

Critical Regionalism + Strong Connectedness to Place = NEW REGIONALISM

Figure 9: Various "types" of regionalism. Image by author, 2009.

Regionalism to refer to Frampton’s theory and its application, and New Regionalism to refer to contemporary regional building and theory.
3.4.2 History

These findings have led me to investigate common links between different rural communities in Manitoba, despite location, climate, and proximity to the main city of Winnipeg. One major characteristic has been the use of Ready-to-Move houses (RTMs), which are typically pre-fabricated houses constructed in one central location (Winnipeg) and shipped to site via large semi-trucks. In the case of this practicum, I make the argument that RTMs have become a vernacular element in the rural Canadian environment – seen from such sites as remote Aboriginal reserves, to frontier communities on the Canadian Shield to Prairie farming communities.

The history of pre-fabricated architecture traces back to the making of animal-skin tents that provided shelter to nomadic tribes in the prehistoric era. Even still, these similar types of tents are used by the Bedouin in northern Africa and parts of the Middle East and by the Mongolians, where these tents are referred to as yurts (Bahamón, 2002). In more recent history, the Manning Portable Colonial Cottage provided shelter for British colonists located in the far outreaches of the formerly enormous British Commonwealth. Companies such as Sears, Roebuck, and Company (Sears); T. Eaton Company Limited (Eatons); and the Hudson’s Bay Company sold complete house packages to eager families across North America in the early 20th century via popular shopping
catalogues. These houses were not Ready-to-Move houses, but instead consisted of all the pieces to be assembled on site. Everything from the lathe on the walls to the wallpaper in the dining room was included with the package; also integrated was the cost of freight of lumber from Vancouver and millwork from Winnipeg (www.civilization.ca/cmc/exhibitions/cpm/catalog/cat2104e.shtml, 2009).

After World War II, a severe housing crisis in the US and Canada arose as new families grew and demanded traditional houses. The American developer, William Levitt responded by creating Levittown – a housing development based on the efficiency of Henry Ford’s vehicular assembly line and precursor to most suburban developments in North America.

In Canada, the popularity of RTM houses still reigns in communities where building on site is too expensive or too difficult for any variety of reasons. RTM houses are brought to site, lifted onto pre-made foundations or piles, and are then ready for use. They typically come pre-finished, including exterior cladding, windows, roof, kitchen, walls, flooring, and other finishes. What makes these houses different is a very sturdy support system in the roof and building base for stability during transport. Additionally, RTMs are built to national and provincial building codes, are often cheaper than building a new home in a rural setting, and have various base plans and additional options.
(www.readytomovehomes.com, 2008). Because RTMs must travel quite a distance from building location to new residential lot, they must remain at a smaller footprint size so they fit on the transport equipment.

It is important to realize that most RTMs are mass-produced models that lack a lot of finishing details and unique characteristics. These elements are often overlooked for the sake of affordability and transportability. I propose that the exterior walls and windows will be the basic envelope holding my conceptual interior design intervention inside. From here, the opportunity to integrate more meaning and personalization into the building will help to make it more suitable as a respectful, calm, and dignified setting for terminally ill people to pass away and for their friends and family to be comforted.

For an RTM to be used as a hospice, it is necessary to understand the function of the hospice and the culture of the people existing in its space. Depending on the amount of services provided and the number of residents, floor plans can vary greatly. I have chosen three different communities that vary based on population, geography, and history.

The communities are Gimli, Niverville, and Pinawa, Manitoba. Each of the communities boasts histories and cultures that make them more unique to most comparatively sized communities in the province.

---

4 A more detailed explanation, including site analysis, is described in the chapter on programming.
### 3.4.3 Design Criteria

The following is a list of ideas and concepts extracted from ideas relating to the various types of regionalism, the use of ready-to-move houses, and the three communities used for my proposed hospice designs.

<table>
<thead>
<tr>
<th>Issue One</th>
<th>If region is defined by ... “qualities of the environment in dialogue with local means for coping with that environment”, how might the three communities’ histories be integrated in the built environment?</th>
</tr>
</thead>
</table>
| Objectives | • apply critical regionalism theory into built form  
• integrate history and culture of each community into its hospice |
| Solutions  | Gimli  
• community centred on agriculture and fishing  
• importance of a successful crop and catch was dependent on the forces of nature  
• Icelandic people trace their heritage to Vikings  
• Icelandic culture has strong literary and lingual connections  
• Iceland is geographically extreme because of its northern location, combined with presence of glaciers and volcanic activity  
• incorporate theme of “fire” and “ice”  

Niverville  
• community established by Mennonite people fleeing persecution in eastern Europe  
• culture is entwined with its church  
• church is both a place for spiritual worship and community gatherings and events  
• strong connection has been maintained over the past century and more with culture, language, and religion  
• culture was centred on agriculture and determined perseverance to succeed  
• community was located in the flood plain of the Red River and features dykes and berms  
• incorporate theme of “water” and prairie |
Table 9: Issue One - Integrating critical regionalism into the built environment.

<table>
<thead>
<tr>
<th>Pinawa</th>
</tr>
</thead>
<tbody>
<tr>
<td>• community established to house researchers and support staff from a nearby research laboratory</td>
</tr>
<tr>
<td>• community is located on the fringes of the Canadian Shield and Boreal Forest</td>
</tr>
<tr>
<td>• architecture in community is distinctively late Modernist (mid- to late-1960s)</td>
</tr>
<tr>
<td>• incorporate theme of “trees” and “stone”</td>
</tr>
<tr>
<td>Design Solutions</td>
</tr>
<tr>
<td>• Integrate concepts from each community into built form with hydrotherapy, radiant heat, and imagery in light fixtures, wallcoverings, and furniture</td>
</tr>
<tr>
<td>• Encourage discussion and conversation by providing comfortable seating and nooks throughout building</td>
</tr>
<tr>
<td>• Provide separate areas for overnight guests, including bathing space</td>
</tr>
<tr>
<td>• Provide kitchen and private dining that is useable by all groups</td>
</tr>
</tbody>
</table>

Table 10: Issue Two - Critical regionalism and RTM use.

<table>
<thead>
<tr>
<th>Issue Two</th>
<th>How could critical regionalism be further integrated with the use of Ready-to-Move houses?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>• apply critical regionalism theory into built form</td>
</tr>
<tr>
<td></td>
<td>• justify use of pre-fab housing for hospice use</td>
</tr>
<tr>
<td>Solutions</td>
<td>• select RTM plans that feature architectural styles that are similar to the neighbouring houses in the development</td>
</tr>
<tr>
<td></td>
<td>• incorporate roof overhands and covered entries that suit the climate of southern Manitoba</td>
</tr>
<tr>
<td></td>
<td>• incorporate building materials that are similar to neighbouring houses and can be sourced locally, such as wooden siding, vinyl triple pane windows, and limestone exterior stone veneer</td>
</tr>
</tbody>
</table>

Table 9: Issue One - Integrating critical regionalism into the built environment.

Table 10: Issue Two - Critical regionalism and RTM use.
### Issue Three

How can the culture, history, and surrounding environment of each rural community be extrapolated and interpreted into the built environment of the hospices?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| • integrate hospice into social and cultural fabric of each community  
• through integration, volunteers may begin to participate in providing care and maintenance in facility  
• find elements of community that could be integrated into architecture and interior design, such as use of regional natural resources and work from local artists | • aspects of Gimli’s history of being an Icelandic settlement with a strong fishing and agricultural industry could be integrated  
• Niverville was created by French settlers, but is associated as a Mennonite community, with strong agricultural focus  
• Pinawa is on the border where Prairie meets Boreal forest and Canadian Shield  
• use of local building materials, such as trees for lumber, local stone (limestone, granite)  
• use of locally manufactured goods, such as Loewen Windows and Doors (Steinbach, MB) |

**Table 11: Issue Six - Local context integrated into built environment.**
3.5 **Sensory Experiences**

Every significant experience of architecture is multi-sensory; qualities of matter, space, and scale are measured by the eye, ear, nose, skin, tongue, skeleton, and muscle (Pallasmaa, 2000).

### 3.5.1 Topic Overview

Mainstream architecture and design is primarily a visual experience, which prohibits people with sensory disabilities to fully appreciate a built environment. One of the main goals of this practicum is to create environments that promote dignity and independence amongst all users; thus, it is desirable to design an environment where all the human senses are stimulated.

The Finnish architect Juhani Pallasmaa describes this situation in his texts *An Architecture of the Seven Senses* and *The Eyes of the Skin*. Pallasmaa states how contemporary architecture is becoming increasingly stimulated mainly by vision, with a loss of tactility, loss of the use of authentic materials, and loss of human-scaled details and elements (*The Eyes of the Skin*, 2005). He argues that contemporary architects (and designers) need to return to the use of seven senses in architecture – eye, ear, nose, skin, tongue, skeleton, and muscle.

In *The Eyes of the Skin* (2005), Pallasmaa references the psychologist James J. Gibson who thought of the senses as mechanisms that function to constantly seek information. Gibson believes that our five traditional senses ought to be re-formatted into the visual system, auditory system,
taste-smell system, basic-orienting system, and the haptic system (Malnar and Vodvarka, 2004, 42). The visual and auditory systems are fairly straightforward, albeit more complex than traditionally thought as they are constantly seeking stimuli and function quite autonomously from the other senses. Understandably, taste and smell are interlinked and function in tandem and are alternative ways of experiencing phenomena. The haptic system is an extension of our traditional definition of touch and includes the sense of temperature, pain, pressure, and kinesthesia (movement of the body and its muscles). The basic orienting system is based on the relationship between the horizontal plane and the vertical axis of human posture. Gibson believes that humans are constantly seeking to maintain our posture and balance, and that our senses follow a similar pattern of action. Thus, we see how all of our five senses are in touch with our surroundings, as illustrated in the table below.

I believe that this revival of multi-sensory design is essential for the success of my hospice design. The variety of users in this space – ranging from people with cardiac failure to those suffering from the effects of chemotherapy treatment – will have an impact on the function of the interior. Additional attention on fine details will help to preserve a patient’s dignity and ease the nurses’ workload.
Basic orienting system Auditory system

Listening

Skin, joints,
muscles

Mechanoreceptors +
thermoreceptors

Touching

Haptic system

Oral Cavity

Nasal Cavity

Chemo- +
mechanoreceptors

Chemoreceptors

Tasting

Smelling

Taste-smell
system

Everything that can be
specified by variables of optical
structure

Variables of structures in
ambient light

Adaptation, papillary
adjustment, fixation,
convergence, exploration

Ocular mechanism

Photo-receptors

Looking

Visual system

constructing meaning - a model for hospice design in rural manitoba

Name

General Orientation

Mechanoreceptors

Mode of
Attention

Receptive
Units
Mechano-receptors

Cochlear organs

Savouring

Sniffing
Exploration of
many kinds

Composition
of ingested
objects

Nutritive +
biochemical
values

Nature of
volatile
sources

Composition
of the
substance
Deformation of
tissues,
configuration of
joints, stretching
of muscle fibres
Contact with
earth,
mechanical
encounters,
Nature + location object shapes,
of vibratory
solidity or
events
viscosity

Vibrations in air

Orienting to
sounds

Anatomy
of Organ Vestibular organs

Activity of
Organ
Body equilibrium

Stimuli
Forces of gravity +
Available acceleration

External
Info
Direction of gravity,
Obtained being pushed

Table 12: Senses and associations with the surrounding environment.
Adapted from J.J. Gibson’s The senses considered as perceptual systems (1966).

56


Sensory stimulation is both a biological and a cultural experience. We typically think of how bodily organs relate to physical experiences – ears for hearing, eyes for vision, skin for touching, nose for smelling, and mouth for tasting. However, we also experience our surrounding environment in much more complex manners. For example, the sense of touch can sense vibration, texture, heat and cold, and movement (Blesser & Salter, 2007). As humans, we are constantly scanning our environments with the use of our senses. Often enough, we encounter negative sensory interactions, such as a person speaking loudly on the bus or the dull bass coming from someone’s car stereo. We try to block out the offensive stimulator by moving away, focusing on something else, or attempting to stop the stimulus. However, environments exist where people are unable to move away from the negative interaction – such as an ill patient confined to his bed in a hospital.

Once designers realize the significance of sensory stimulation on a patient’s stress levels, we can help to design environments that limit negative stimuli and promote positive sensory stimuli (Marberry, 1997). Examples of beneficial sensory design currently being used in healthcare facilities include the following:

- Windows in patient rooms that have an attractive view
- A taped recording of a women’s voice singing lullabies in a nursery
• Application of aromochology\textsuperscript{5} research, resulting in the distribution of \textit{heliotropin}, a vanilla-like scent, in MRI rooms
• Use of massage therapy to reduce stress levels in patients, families, and staff

Fortunately (or not), humans have been able to adapt to all these negative stimuli in our lives during our evolution. We have increasingly moved towards inorganic lives with the result that we spend 90\% of our time indoors – be that inside our residences, in our offices or classrooms, and inside our vehicles. Technology has enabled us to manipulate our built environments to block out the negative aspects of the natural environment and mimic the preferred aspects (Pearson, 1991). As interior designers we need to move away from the artificial mimicry and manipulation. I do not call for stopping the use of technology in our buildings, but rather re-visiting the benefits synonymous with naturally occurring environments. From traditional Oriental philosophies, the polar opposites of the \textit{yin} and \textit{yang} theory could be applied to Modernism’s typical characteristics. If the \textit{yin} and \textit{yang} could be brought back into harmony, designers may find the solution for the severity, imposing design that has predominated for decades. The table below explains how previous design methods could be altered to provide design methods more harmonious with the natural environment.

\textsuperscript{5} Aromochology is the study of the psychological impact of fragrance, not to be confused with aromatherapy, the diffusion of therapeutic essential oils (Marberry, 1997, 222).
<table>
<thead>
<tr>
<th><strong>Old Standard</strong></th>
<th><strong>New Standard</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-scale design</td>
<td>Human-scale design</td>
</tr>
<tr>
<td>Male-dominated design</td>
<td>Balance of male and female design</td>
</tr>
<tr>
<td>Dominant, aggressive, phallic</td>
<td>Harmonious relationship with nature</td>
</tr>
<tr>
<td>Predictable and uniform</td>
<td>Diverse and unexpected</td>
</tr>
<tr>
<td>Lack of relationship with vernacular</td>
<td>Vernacular style</td>
</tr>
<tr>
<td>Spectacles requiring substantial monetary investment</td>
<td>Community projects for localized needs</td>
</tr>
<tr>
<td>Visual aesthetic</td>
<td>Balance of sensory stimulation</td>
</tr>
<tr>
<td>Straight and hard edges</td>
<td>Soft and curving edges</td>
</tr>
<tr>
<td>Inherently high-energy materials</td>
<td>Low-energy materials</td>
</tr>
<tr>
<td>Damaging to health and environment</td>
<td>Healthy and healing design</td>
</tr>
<tr>
<td>Imposing and foreign</td>
<td>Cohesive with surrounding environment</td>
</tr>
</tbody>
</table>

Table 13: Old vs. new design methods.
Adapted from David Pearson’s *Spectrum of old and new paradigms of architecture*, 1991.
3.5.2 - Senses

Touching

Pallasmaa encourages designers to begin incorporating the theory of hapticity – how humans understand their surrounding environment through the sense of touch – he argues that we actually “see” through our “skin tissue” (Pallasmaa, 2005). He looks to artists such as James Turrell and James Carpenter, whose works break the boundaries of visual art and the manipulation of light.

Additionally, it is critical to research environmental psychology analysis of how sensory stimulation slows and even degrades amongst older adults and terminally ill people. Often, changes in the eyes cause depth perception, colour vibrancy, and light entering the retina to decrease (Webb and Weber, 2003). Hearing tends to decrease amongst older adults, especially men, and the ability to decipher different voices in a crowd does as well.

I have already mentioned the beneficial aspects of massage therapy on reducing stress levels of patients, families, and staff in healthcare facilities. In terms of design elements, the integration of varied textured surfaces, such as wallcovering and flooring, can provide wayfinding clues for the visually impaired. Another sensory experience would pay heed to textures of surfaces throughout an environment – ranging from highly textured stucco and exterior cladding on the outside
of the building to smoother surfaces in the public areas of the space and to the smoothest surfaces in private areas (Malnar and Vodvarka, 2004, 145).

A hydrotherapy room will be incorporated into each facility that will be equipped with in floor-heat, radiant lamps in the ceiling, and a large Arjo-style tub for being bathed in and relaxing in. In addition to a central bathing space, each patient suite will be equipped with an accessible shower, so the patient can experience the sensation of warm water and radiant heat from the floor and ceiling if he or she is too ill to be transferred comfortably into an Arjo tub.

**Hearing**

Additional meaning can be integrated into interior design beyond the usual visual sense. In this case, aural architecture can cause people to change the way they act or perform in a space. A person walking into a hall with a marble floor and high ceiling may feel small and unimportant, he or she might change to a softer walking tread and speak in whispers to anyone around. Conversely, in a carpeted space with dropped acoustic tile ceiling, such as a call centre, the steady hum of keyboard typing and people speaking could make the same person want to speak louder to be heard above the din. Aural architecture is defined as the combination of complex surfaces, objects, and geometries (Blesser & Salter, 2007).
Aural architecture has the same elements as visual architecture; however, these are expressed in a different manner, which are not always consciously addressed by the designer. Historically, cathedrals are impressively beautiful – complex arching surfaces, expanses of stained glass windows, and incredible reverberation of the bishop’s sermons and choir’s singing. Conversely, an upscale restaurant might boast impressive furniture and interior detailing, but the lack of consideration for acoustics might result in unwanted sounds, causing stress for the space’s inhabitants (Blesser & Salter, 2007).

Large projects may include hiring acoustical consultants, but the beauty of the acoustical design found in medieval cathedrals and Baroque opera houses is long gone. Instead, technology has given us the ability to integrate acoustical-fabric wrapped panels, acoustic ceiling tiles, and machines to provide ambient white noise to mask the sounds of HVAC and computer equipment.

**Tasting**

The relationship between touch and taste is very strong, a fact that is often forgotten in multi-sensory discussion. Just think, when we eat, we experience the temperature, texture, and taste of our food as it enters our mouth and is processed by our tongue, jaws, and teeth. Our tongue is just as helpful as distinguishing flavours as our fingertips are; even better, our tongue has the ability to decipher textures, even if to a lesser degree. For
example, anyone who has been gullible enough to stick their tongue to cold metal in winter has witnessed the combined experience of tasting metal and experiencing the texture of metal. We also have the ability to experience five key tastes on our tongues – sweet, sour, bitter, savoury, and salty.

**Smelling**

The human nose only needs 8 molecules of a substance to trigger it to smell and we have the ability to detect more than 10,000 different odours (Pallasmaa, 2005). Often, the most persistent memory we have of a space is its smell – we can re-enter a space that our visual memory has completely forgotten just by being introduced to its smell. This awareness of smell can help trigger our visual sense to recall how that space looked or other sensory details of that environment. For example, when I smell nutmeg I am immediately drawn to my maternal grandparents’ home, where cooked, savory red cabbage accompanied any major celebratory meal. From exposure to that scent, I can immediately recall the kitchen with its quirky pantry where my brothers and I used to play hide and seek with Papa.

The power of our prehistoric olfactory sense has been pushed aside with the Western supremacy of the senses of vision and hearing. By providing a kitchen that can be used by both staff and families, patients and their loved ones can enjoy a hot cup of tea or nibble on their
favourite foods. Conversely, the kitchen should be located to reduce the spread of cooking smells that may make nauseous patients feel worse.

In order to incorporate multi-sensory design elements into my hospice designs, a high degree of detailing will occur. This will vary from incorporating tactile perforations into handrails to dictate the end of a corridor and LED strip lighting in the underside of the bar to ease in wayfinding. It is essential to provide well-insulated wall, floor, and ceiling cavities to mask the sound of one patient’s cries or the sounds arising from the kitchen or nearby streets.
### 3.5.3 Design Criteria

#### Issue One

How could the sense of touch, or hapticity, be integrated into the built environment in an appropriate manner?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• incorporate variety of materials and design solutions that will integrate texture and temperature variation into building</td>
<td>• use textured surfaces for wayfinding, such as textured wallcovering and flooring</td>
</tr>
<tr>
<td>• providing pain modification</td>
<td>• incorporate wayfinding tools, such as signage and handrails, that provide tactile clues to movement patterns</td>
</tr>
<tr>
<td>• providing kinesthetic activity</td>
<td>• use heat and water as pain modifiers</td>
</tr>
<tr>
<td></td>
<td>• provide space for physical activity for patients and guests, as appropriate</td>
</tr>
<tr>
<td></td>
<td>• allow space for massage therapists, physiotherapists, and chiropractics to provide service to patients</td>
</tr>
<tr>
<td></td>
<td>• use materials with matte or textured finish to prevent hands or feet from slipping</td>
</tr>
</tbody>
</table>

Table 14: Issue One - Integrating hapticity into built environment.

#### Issue Two

How could changes to acoustic control and development be introduced into the built environment?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• prevent unnecessary outside noise from disturbing quality of life of patients, guests, and staff</td>
<td>• provide acoustic control measures, such as acoustic ceiling tiles, wall panels, and acoustic padding under flooring</td>
</tr>
<tr>
<td>• limit sound transmission of speaking, crying, and sounds of pain and aggression from travelling outside of rooms in hospice</td>
<td>• incorporate acoustic batt insulation in all walls, especially around patient rooms</td>
</tr>
<tr>
<td>• find solutions to modify people’s behaviour to suit activities in hospice</td>
<td>• limit the use of hard surface materials, such as stone floors, in areas close to patient rooms</td>
</tr>
<tr>
<td></td>
<td>• provide operable windows, with screens, to allow</td>
</tr>
</tbody>
</table>

...
patients to open the window to hear nature
• provide space for patients, visitors, and staff to use musical instruments and equipment, such as guitars and stereos

<table>
<thead>
<tr>
<th>Issue Three</th>
<th>How could the sense of hearing be incorporated into the built environment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>• encourage the experience of food’s temperature, texture, and taste</td>
</tr>
<tr>
<td></td>
<td>• encourage eating of healthy meals and drinks</td>
</tr>
<tr>
<td></td>
<td>• integrate the tastes our tongue is able to distinguish</td>
</tr>
<tr>
<td>Solutions</td>
<td>• provide kitchenettes in patient rooms to microwave food or boil water for beverages</td>
</tr>
<tr>
<td></td>
<td>• provide seating and a table in patient rooms for eating</td>
</tr>
<tr>
<td></td>
<td>• provide mobile over-bed tables for patients to eat or drink in bed</td>
</tr>
<tr>
<td></td>
<td>• allow everyone full access to use of the kitchen</td>
</tr>
<tr>
<td></td>
<td>• provide kitchen and private dining space for everyone to use</td>
</tr>
</tbody>
</table>

Table 15: Issue Two – Integrating sense of hearing into built environment.

<table>
<thead>
<tr>
<th>Issue Three</th>
<th>How could the sense of taste be incorporated into the built environment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>• encourage the experience of food’s temperature, texture, and taste</td>
</tr>
<tr>
<td></td>
<td>• encourage eating of healthy meals and drinks</td>
</tr>
<tr>
<td></td>
<td>• integrate the tastes our tongue is able to distinguish</td>
</tr>
<tr>
<td>Solutions</td>
<td>• provide kitchenettes in patient rooms to microwave food or boil water for beverages</td>
</tr>
<tr>
<td></td>
<td>• provide seating and a table in patient rooms for eating</td>
</tr>
<tr>
<td></td>
<td>• provide mobile over-bed tables for patients to eat or drink in bed</td>
</tr>
<tr>
<td></td>
<td>• allow everyone full access to use of the kitchen</td>
</tr>
<tr>
<td></td>
<td>• provide kitchen and private dining space for everyone to use</td>
</tr>
</tbody>
</table>

Table 16: Issue Three - Integrating sense of taste into built environment.

<table>
<thead>
<tr>
<th>Issue Four</th>
<th>How could the sense of smell be incorporated into the built environment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>• trigger basic olfactory sense</td>
</tr>
<tr>
<td></td>
<td>• limit spread of smells around nauseous patients</td>
</tr>
<tr>
<td></td>
<td>• integrate use of aromatherapy</td>
</tr>
<tr>
<td>Solutions</td>
<td>• distance location of kitchen from patient rooms</td>
</tr>
<tr>
<td></td>
<td>• provide strong ventilation system to remove cooking smells</td>
</tr>
<tr>
<td></td>
<td>• provide scented candles, lotions, and bathing oils for patient use, as appropriate</td>
</tr>
</tbody>
</table>

Table 17: Issue Four - Integrating sense of smell into built environment.
What other measures could be undertaken to create a multi-sensory environment?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• trigger visual experience</td>
<td>• create visual connection to outdoors and nature with doors and windows</td>
</tr>
<tr>
<td>• create residential-scaled environment</td>
<td>• create intimate spaces and avoid overly complicated architectural volumes</td>
</tr>
<tr>
<td>• orient placement of hospice to cardinal directions</td>
<td>• use local building traditions and materials</td>
</tr>
<tr>
<td>• vernacular elements</td>
<td>• use soft, flowing curves and forms for flooring patterns and other design considerations</td>
</tr>
<tr>
<td></td>
<td>• integrate control devices for distribution of natural light, such as window coverings and awnings</td>
</tr>
</tbody>
</table>

Table 18: Issue Five - Integrating other sensory elements into the built environment.
4.0 - Precedent Review

4.1 Topic Overview

The combination of health and care facilities located in portable or pre-fabricated buildings are located all over the world. Additionally, hospices are often located in converted former residences. These concepts are not unique to this practicum; however, what is unique is in the intentional integration of multi-sensory experiences that would allow all users greater participation in the interior and exterior space. As well, attempting to understand the temporary, transient nature of hospice – where a patient knows the only way he is leaving will be through death – is a unique characteristic that desperately requires more qualitative and design research. My practicum only begins to skim the surface of several of the segments that make the idea of dignified dying and death. The following precedents and case studies are examples of how other designers have endeavored to address the construction of care facilities, multi-sensory spaces, pre-fabricated and portable buildings, and vernacular building methods. The table below illustrates how these various projects overlap one another.
<table>
<thead>
<tr>
<th></th>
<th>Pre-fabricated</th>
<th>Healthcare</th>
<th>Multi-Sensory</th>
<th>Regional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Triage Unit</td>
<td>Green</td>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maggie’s Centres</td>
<td></td>
<td>Red</td>
<td></td>
<td>Yellow</td>
</tr>
<tr>
<td>Paimio Sanatorium</td>
<td></td>
<td>Blue</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>Hospice Hawaii</td>
<td></td>
<td>Blue</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>Doppelhofer</td>
<td>Green</td>
<td>Red</td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>Therme Vals</td>
<td></td>
<td></td>
<td>Red</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

Table 19: Comparison of precedent buildings over key topics of study.
4.12 Counsel + Education Centre

Maggie’s Centres, United Kingdom

<table>
<thead>
<tr>
<th>Open Centres</th>
<th>Interim Centres</th>
<th>Planned Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edinburgh</td>
<td>Oxford</td>
<td>Nottingham</td>
</tr>
<tr>
<td>Glasgow</td>
<td>South West Wales</td>
<td>North East</td>
</tr>
<tr>
<td>Dundee</td>
<td>Lanarkshire</td>
<td>Cotswold</td>
</tr>
<tr>
<td>Highlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fife</td>
<td></td>
<td></td>
</tr>
<tr>
<td>London</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 20: Existing and proposed Maggie’s Centres in the U.K.

A Maggie’s Centre is a place to turn to for help with any of the problems, small or large, associated with cancer (www.maggiescentres.org, 2009).

Maggie’s Centres were created in 1995 when Maggie Keswick Jencks wrote a manifesto about her experience in hospitals during her ill-fated battle with breast cancer. After her death, her husband, architectural critic Charles Jencks, created a foundation that aimed to donate the fees for architectural services to create environments with a high quality of life for people affected by cancer (Verderber, 2006).

Every centre is located beside a National Health Service (NHS)\(^6\) cancer hospital for ease of access to treatment. Every centre is an architecturally unique building; as well, it stands out from the adjacent hospital. All the centres have an open concept plan, centred on a kitchen, which boasts a communal dining table. They typically feature interesting artwork on the walls, comfortable furniture, beautiful views of

---

\(^6\) The National Health Service is England’s publicly funded healthcare service, though the name often refers to the four national health services in the United Kingdom – England, Northern Ireland, Wales, and Scotland (www.nhs.uk/aboutnhs/Pages/About.aspx, 2009).
the outdoors, and no double-loaded corridors of closed doors
(www.maggiescentres.org, 2009).

Perhaps, one of the most unique features of Maggie’s Centres is the
fact that several centres have been designed by famous architects.
Maggie Keswick Jencks believed that architecture (design) and
environment affect how people feel. As such, each building interacts
with its surrounding environment in different ways – the philosophy behind
the design of Maggie’s Centres is that no two can be the same and each
facility is unique. However, each centre does follow some similar design
criteria – open planning, central kitchen, plenty of natural daylight, views
to the outdoors, and the overall connotation of a residential environment
(Verderber, 2006).

After the first Maggie’s Centre was built in Edinburgh in 1996, the
centres became very popular with overworked NHS doctors wanting their
patients to be better informed and to have a higher quality of life, in
addition to freeing up space in hospitals. At Maggie’s Centres, patients
are able to participate in alternative methods of treatment, find more
information about cancer, and speak with practitioners, families, and
other cancer patients. Although these facilities do not provide the
treatments for cancer, they act as necessary centres for information, stress
coping, psychological comfort, and meals. People with cancer can visit
the facility for free, as the centres receive funding from the NHS.
Several of the facilities are new construction and feature some remarkable design considerations. The following sections describe several of the centres.

**Maggie’s Centre – Dundee, Scotland**

This centre was designed by the American architect Frank Gehry in 2003. Gehry designed it from the “inside out” by taking into consideration the activities occurring within the space prior to his typical sculptural forms overtaking the exterior. He based this design on traditional Scottish Highland dwellings called Brochs, which were cylindrical towers created from stacked stones during the Iron Age (www.orkneyjar.com/history/brochs/, 2009). The cylindrical shape was introduced in a library tower on the main level, with a sitting room above it. The rest of the building remains an open space with a central kitchen and dining area, larger sitting room, and smaller spaces for personal conversations and therapy sessions. The roof is comprised of folded metal that mimics folded cloth. A walkway leads from the kitchen area outdoors to the side of a valley, for guests to view the surrounding landscape (www.maggiescentres.org, 2009).
Maggie’s Centre – Fife, Scotland

This centre was designed by the Iraqi-British architect Zaha Hadid in 2006 and is an example of deconstructive architecture. From the exterior, the building appears foreboding and dark with its angular, polygonal form; however, on the interior it appears light, curvaceous, with a plethora of natural light. A physician at the nearby Fife Acute Hospital equates the building’s form to cancer, “Cancer when it looms in your life looks pretty black and forbidding but it looks different from the inside. The building in a
sense has a parallel with the cancer journey" (www.maggiescentres.org, 2009).

Maggie’s Centre – London, England

This centre was designed by the English architecture firm Rogers Stirk Harbour + Partners, opened in April 2008, and is the first of many Maggie’s Centres in England and Wales. The building’s form is a metaphor for an embrace, where guests are drawn towards the centre or heart of the facility - the kitchen.
The interior moves people through a series of sequences or spaces that isolate guests from the outdoors and still provides glimpses to the neighbourhood and streets. The key architectural feature of the centre is a “floating roof”, which sits above the exterior walls on glass panels; the roof is also accented by several openings viewable from the street. These openings allow sunlight, precipitation, and wind into exposed interior courtyards while still providing shade around the building.

The main level, with in-floor radiant heat, is for guests and, as previously mentioned, has a sequence of spaces for guests in which they can find their own niche. The upper floor contains offices and outdoor terraces with seating.

Figure 18

Figure 19
Collection of images of Rogers Stirk Harbour + Partners, Maggie's Centre. All images courtesy of Maggie’s Centres, copyright 2009.
4.3 Regional Care Facility

Paimio Sanatorium, Finland
January 1929

During the inter-war period in the 20th century, tuberculosis infections were on the rise and required treatment situated in free-standing care facilities, referred to as sanatoria. In the late 1920s, a competition in Finland was held for the design of a new facility, the jury included two architects entrenched in the new direction occurring in architecture. The Finnish architect Alvar Aalto was the successful winner of the competition and created a facility that was integrated with its surrounding environment. The buildings were grouped together in a typical Neo-Classical manner, though with balconies off of the south façade exterior being one of the few Modernist touches on the exterior of the building complex. The purpose of the balconies was to provide the crucial treatment method for patients to be exposed to an abundance of natural light and fresh air. The facility was located in a wooded area, far removed from any major cities.
The buildings were broken down into four wings:
• A-wing, the largest, contains the two-bed patient rooms, with balconies oriented to the south;
• B-wing contains the communal spaces – treatment rooms, dining room, library, and other common spaces;
• C-wing contains the support services, such as laundry, kitchens, and staff rooms;
• And D-wing is the utility room, with the boilers and heating plant.
• Circulation corridors link the A-wing and B-wing on the main level, with a staircase providing access to the other wings of the facility.

The design of the facility, and especially patient areas, paid close attention to how sunlight entered the rooms. Control of sunlight was critical in Paimio because the city straddles the Arctic Circle; as well, sunlight was important in treating TB for its healing powers (Nasatir, 1993).
Sunlight entered the patient rooms via an asymmetrical composition of windows, which permitted more morning light than afternoon light.
Venetian blinds located on the exterior of the windows could be adjusted to suit patient needs; heating elements were also located in between window panes so air would be heated prior to entering the interior. The
ceilings had radiant heat panels, so patients would experience heat in its mid-strength property (Nasatir, 1993, [www.alvaraalto.fi](http://www.alvaraalto.fi), 2009).

Patient rooms were glazed on the exterior wall, painted concrete on the side walls, and concrete with insulated acoustic panels on the head wall (behind patient bed headboards). These panels were clad in a wallpaper material and help to control acoustics in the otherwise hard surfaced space. The colour scheme of patient rooms was rather conservative – done in blues and grays with a ceiling painted to mimic the sky. Lighting was placed directly over the patient bed, where the ceiling colour was lightened to improve artificial light distribution ([www.alvaraalto.fi](http://www.alvaraalto.fi), 2009). All sanitary pipes were integrated into the interior of the walls, which was a unique characteristic for the time. As well, the hand-wash sink was designed for minimal splash back and minimal sound from pouring water. A spittoon placed near the patient was designed for ease of cleaning. Along the window wall, a full-length desk was created, with views to the woods and surrounding environment ([www.alvaraalto.fi](http://www.alvaraalto.fi), 2009, Williams Goldhagen, 2007).
The public areas in B-wing had the same relationship with sunlight and featured a more vibrant colour palette – typical of the plasticity of 1920s and 1930s design, grey, black, white, yellow, and blue. Above the dining room, located on the main level, was an open-plan space featuring a foyer and reading area. Adjacent to the dining room was a lecture hall, equipped with Aalto’s iconic wooden frame chair, later called the Paimio chair.
The main entrance to the facility was filled with natural light and quite cheerful with its palette of yellow linoleum flooring with grey directional stripes. The central staircase opened adjacent to the lobby, had a metal banister with wood handrail, which Aalto believed was softer and warmer than metal. When a new visitor came to the facility, experientially it was similar to leaving modernity aside and embracing natural light and the surrounding woods. Everything about the facility – from its orientation on site to the wooden details of the purpose-built furniture – was linked to the surrounding environment and user needs for a sanatorium.

Image of staircase, located by main foyer and contemporary image of dining hall.
4.4  Vernacular Hospice  
Hospice Hawaii, Maui, Hawaii – R-2ARCH  
2000s (case study – never built)

This hospice was to be constructed on a five-acre wooded lot on the island of Maui for Hospice Hawaii. The unique culture of Hawaii has a strong connection with the surrounding exterior environment, which was one of the crucial elements of this case study. The building needed to be multi-sensory so all the senses could be stimulated – this happens through operable windows, views to the outdoors, use of colour and texture, and ability of natural light to penetrate deep into the interior (Verderber & Refuerzo, 2006).

The building and its site had to follow criteria relating to critical regionalism because of the Hawaiian culture’s unique relationship with the surrounding exterior environment. It was to feature a low-pitched roof structure that provides deep overhangs and a playful interaction with the landscape, especially the mountains in the distance. The arrival point at the facility occurs in a series, punctuated at the end with a protective cupola. The building was laid out on one level, with two linked buildings forming a semi-circle, rather like an embrace.
Figure 28: View of courtyard and restorative gardens. Image courtesy of R-2ARCH, from Innovations in hospice architecture (2006).

The first building is the administrative wing and contains offices, reception, and overnight accommodations for families. The other wing contains the main living/dayrooms, kitchen and dining facilities, and transitional corridors to the outdoors. The remainder of the facility contains the patient rooms, clustered into individual groups; more family accommodation space; dayroom overlooking a chapel; a central nurse station; and treatment rooms.
Figure 29

Figure 31: Floor plan of Hospice Hawaii. Note strong correlation between nature and built environment. Image courtesy of R-2ARCH, from *Innovations in hospice architecture* (2006).
The interior of the hospice can house a minimum of 15 patients in private rooms or, by moving flexible partitions and mobile furniture, house 30 patients in shared rooms. The necessity for flexibility was an element extracted from Hawaiian culture and traditions for socialization and caring for ill loved ones. Patient bedrooms feature private washroom facilities equipped with a shower/tub unit. Additionally, all resident rooms open to a semi-private restorative garden – access to which is available throughout the year because of the climate.

Throughout the facility small niches equipped with window seats or furniture provide opportunities for impromptu conversation and counseling, for patients, families, volunteers, and staff. As well, access to the outdoors is provided adjacent to these niches (Verderber & Refuerzo, 2006).

Figure 32: View of main arrival entrance to Hospice Hawaii, Maui, Hawaii. Image courtesy of R-2ARCH, from Innovations in hospice architecture (2006).

Anthony Giddens’ work on the relationships between the inorganic and organic and the stages of life are evident in this case study. The
strong details linking the exterior and interior environments help to bring these two normally segregated concepts together into unity. This correlation will be helpful in my practicum design as hospice architecture needs to have a strong sense of place and meaning in order for it to be successful. Elements of this hospice that would be appropriate for my practicum include the interior-exterior nature connection, flexibility of patient rooms and provision of space for large, extended families, and the meditative garden space for individual and group retreat.
4.5 Mobile Care Facility

Mobile Medical Triage Unit (c160mm) – HyBrid Seattle
2000s (not yet constructed)

This project was for the groups Doctors of the World and Doctors
without Borders as an emergency clinic for use in developing nations in
Africa and Asia. This project consists of a pre-constructed cargo
container that can be transported by train, ship, or truck to any region
requiring a clinic. It is a self-contained building and can be fully stocked
with supplies during shipping to add to its effectiveness and provides some
cost-savings during transport.

Figure 33: Mobile Medical Triage Unit.
Each unit would be 160 sq ft, with an 8' x 20' footprint. Figure 28 illustrates energy generation for refrigeration, a lab table and desk for samples testing, and a private place for multiple bunks. A larger unit would be available for refugee camps and urban locations, or as in-patient clinics. Several containers could be grouped together, as illustrated in Figure 29, to function as an orphanage or educational space.
Patients would be interviewed in the front part of the container before moving towards the back for treatment. Space is provided for a kitchenette, washroom facilities, and a generator – allowing these containers to be “off-the-grid” (Clark, 2005).

The concept of a mobile structure serving as a healthcare facility has been widely exploited for the ease of transportation and delivery to remote areas that would otherwise not be able to receive healthcare services. In the case of the hospice model, these temporary facilities illustrate one extreme of the use of pre-fabricated architecture being located in rural areas.
4.6 Pre-Fab Medical Centre

Doppelhofer – Neudau, Austria
1995

This project was created with the idea that one building could serve two medical purposes – for general and alternative practice. Communal spaces would be shared by the two services and each would retain its own individual space. The structure is composed of a steel skeleton clad in wood, glass, and acrylic panels – inside and out (Bahamon, 2002).

The structure is made of a concrete foundation into which a series of 13'-0" wide steel frames were inserted; these frames support the walls which are made of prefabricated wood panels. The roof is made of waterproof wood shingles attached to wooden beams, sitting atop the steel frames. Although the steel frame initially dictated the proportions of the building, later additions were added to increase the facility’s footprint.
This project strove to provide high quality interiors by creating a strong correlation between the indoors and outdoors, and visual links to the surrounding dense vegetation via large windows and skylights. The treatment and consulting rooms are grouped around a central communal administrative area and each features sliding doors to a balcony and an open-air atrium. These treatment rooms are used for alternative therapies, such as acupuncture and Chinese medicine. The remainder of the facility includes a waiting area, washrooms, pharmacy, receptionist, and laboratory, which are shared between the two practices.
Light-weight wooden panels act as room dividers and are either clad in wood, glass, or wood with shelving. Natural interior and exterior materials create a harmonious link with the surrounding landscape and create a more tactile environment. Natural light permeating via the skylights and large expanses of windows can be supplemented with artificial lighting when needed.

Images of interior, highlighting large windows, clerestory windows, and light weight wood panels used as dividers.
4.7 Multi-Sensory Spa

Therme Vals – Vals, Switzerland
1993-1996

The scope of this project was to re-build an existing thermal bath at the location of the community’s 1960s hotel to attract new people to the community-owned resort. Peter Zumthor, the project architect, wanted to create a spa that would not date itself. He wanted the building to appear as if “it had always been there”, nestled into the side of a hill, incorporating local stone, not entrenched in the then-popular Postmodern design trend, nor too tightly connected to Modern design.

A thermal bath is typically located at a health resort and is fed by naturally or artificially accessing a spring, with a water temperature greater than 20°C. These springs may be warm or cold, with low- or high-mineral counts. The use of these thermal baths also has a variety of health related benefits – ranging from rheumatism, regulatory disorders, neuropathic disorders, and even personal injuries (Zumthor, 2007).

Zumthor incorporated the local building stone, vals gneiss, a fire-proof, weather-proof metamorphic stone that had been used locally for centuries for buildings. He planned the spa building to be immersed in shadow, adding light to appear as if it was seeping in, much like water seeping in through a crack in a cave. The space is arranged as a large field scattered with stone blocks – the blocks are hollow and are to be used as rooms – the spaces in between are to become the transitional,
corridor spaces. Zumthor thought of the building as composed of stacked masonry blocks topped off with slab roofs – similar to the idea of a table.

The "stones" or rooms within the main floor of the facility include change rooms, shower rooms, sweat chambers, rest spaces, and a massage area. Included in the mix are the various baths or pools – an indoor bath, outdoor bath, the fire (hot), cold, and sound baths. The upper floor contains physiotherapy and massage rooms, washrooms, kitchen, and various cleaning and storage rooms.

The significance of this project is the incorporation of local building materials, a multi-sensory architectural experience, and a healing built-environment. As mentioned previously, local metamorphic rock was used in combination with concrete and sand to create the masonry inner and outer walls of the facility. The water for the baths and pools is sourced locally, without the use of pumps to bring it to surface. Light enters the facility through cracks/expansion joints carefully composed in between
the concrete and stone walls, as well as intentionally placed skylights piercing through the stone/concrete roof, over the interior pool. A grass roof was planted atop of the building to further help it blend in with the mountain and create the eternal quality for which the architect was striving.

The space becomes a multi-sensory experience in a complex variety of ways. Zumthor intentionally created a space that played on the mimicry of darkness, shadow, and light. He introduced a tactile environment by incorporating the rough texture of the gneiss stone with the smooth, serene quality of water, in varying degrees of temperature and presentation. He influences the visitors’ aural sense via the sound of
water splashing on stone and concrete, the echoes of people’s voices and actions in the cavernous quality of the open areas, and the more delicate sounds arising from people moving through the spaces. As well, the Sound Bath has its own unique transmission of sound, where sounds layer over one another in the cavernous to result in a unique resonance that appears to come from an entirely different space. Therapists believe that this unique sound can be perceived by the entire body, resulting in an experience similar to a deep-tissue massage. Other senses, such as orientation and equilibrium, are played on with the procession through the various pools, baths, saunas, and relaxing areas. Ozone is used predominantly to keep the various baths and pools clean, yet, because of its enclosed cave, the Sound Bath is treated with chlorine, the scent of which is unfortunately not easily forgettable.

Figure 44
Lime traces accumulating on stone walls.
Images courtesy of Therme Vals, Switzerland, 2009.

Figure 45
### 4.8 Design Criteria

The following tables are lists of ideas and concepts extracted from the precedents.

<table>
<thead>
<tr>
<th>Precedent One</th>
<th>Maggie’s Centres – Various locations, United Kingdom</th>
</tr>
</thead>
</table>
| **Objectives** | • centres for information gathering, stress coping, psychological comfort  
• provide meals and beverages  
• architecturally distinct buildings |
| **Solutions**  | • provide artwork, perhaps by local artisans  
• comfortable and mobile furniture  
• establish views and access to outdoors  
• incorporate elements from the site location into building form  
• provide private conversation nooks  
• make the kitchen the centre of the building and the centre of activity |

Table 21: Precedent One - Counsel and Education Centres

<table>
<thead>
<tr>
<th>Precedent Two</th>
<th>Paimio Sanatorium – Paimio, Finland</th>
</tr>
</thead>
</table>
| **Objectives** | • create a treatment space where nature aids in much of the healing process  
• create a building that is extremely site specific  
• location that is removed from modernity and urban life and is a retreat in the woods |
| **Solutions** | • site building in forested area or plant trees to provide shelter, a micro-climate, and habitat for local animals and plants  
• provide access to outdoors for all users  
• orient building so patient rooms have optimal sunshine  
• keep support services separate from patient rooms  
• provide heating elements along exterior walls and windows  
• integrate acoustic control in design of patient rooms  
• provide furniture close to the windows so patients can look out from a wheelchair or side chair  
• use honest, natural materials for interior detailing |

Table 22: Precedent Two - Regional Care Facility
<table>
<thead>
<tr>
<th>Precedent Three</th>
<th>Hospice Hawaii – Maui, Hawaii</th>
</tr>
</thead>
</table>
| **Objectives** | • culture has strong connection to surrounding environment → integrate critical regionalism theory  
• create a multi-sensory building  
• incorporate Hawaiian traditions |
| **Solutions**  | • patient rooms open onto semi-private restorative garden  
• flexible interiors to support local cultural traditions of socialization and caring  
• built-in window seats in small niches provide spaces for conversation and counseling |

Table 23: Precedent Three - Vernacular Hospice

<table>
<thead>
<tr>
<th>Precedent Four</th>
<th>Mobile Medical Triage Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objectives</strong></td>
<td>• provide cost effective care facilities in remote locations</td>
</tr>
</tbody>
</table>
| **Solutions**  | • multiple pre-fab units grouped together  
• patient areas segregated from support areas  
• ease of transport to site  
• economic efficiency of using modular building units |

Table 24: Precedent Four - Mobile Care Facility

<table>
<thead>
<tr>
<th>Precedent Five</th>
<th>Doppelhofer – Neudeu, Austria</th>
</tr>
</thead>
</table>
| **Objectives** | • create a pre-fab building that serves two different medical purposes  
• create high quality interiors with strong connection to outdoor environment |
| **Solutions**  | • modular building techniques that allow for future additions to be easily added  
• large expanses of glazing to add natural light into interior and views to outdoor  
• skylights introduce natural light from overhead  
• use of light weight wooden panels as operable partition and room dividers  
• use of natural materials to create a more tactile environment |

Table 25: Precedent Five - Pre-Fab Medical Centre
### Precedent Six

<table>
<thead>
<tr>
<th>Therme Vals – Vals, Switzerland</th>
</tr>
</thead>
</table>

#### Objectives
- re-build an existing spa into a timeless spa
- create a building that blends into the surrounding environment
- create a multi-sensory space

#### Solutions
- use local building materials
- create a space where natural light, artificial light, and shadow can create a more dynamic environment
- integrate water as an alternative method of pain control and healing
- use building materials to create a more tactile environment
- integrate radiant heating systems to provide controlled heat to patient suites, separate from main furnace of each hospice
- provide light control in all areas of hospice for various activities occurring
- control distribution of natural light into space with window treatments and exterior awnings

Table 26: Precedent Six - Multi-Sensory Spa
5.0 - Program

5.1 Topic Overview

My practicum focuses on end-of-life care for older adults in rural Canada. Specifically, the proposal links domesticity and terminal illness in older adults with the building typology of hospice in three rural Manitoban settings. The building typology is a combination of institutional, healthcare and residential design because the main user group will be terminally-ill people who desire or need a comforting, home-like environment. This project will address the expected increase of older adults, especially the baby-boomer cohort requiring institutional care.

FACILITY + PATIENT SERVICES:
The three hospices will provide a variety of services to patients, families, friends, volunteers, and associated staff.

These will include:

- universally-accessible facilities and surrounding grounds
- on-site facility managers/administrators
- covered parking for visitors and staff
- various entertainment venues (library, television, music, art, games, meditation)
- on-site food services (prepared in facility)
- multi-purpose room for celebrations, grieving, gatherings, etc.
- guest suites (close to patient rooms)
- computer and internet access
- laundry services
- skilled expertise from nurses and nursing aids
- physician visits as needed
- physical, sociological, psychological, and spiritual care and symptom control
- care provided by social workers, clergy, physiotherapists, occupational therapists, music/art therapists, chiropractors
5.2 Site Analysis

This project is a suggestion for a model for hospice design in rural Manitoba. To exemplify the points researched in the project, three sites have been chosen as ideal communities requiring specialized palliative care facilities. They were chosen according to information gathered from Hospice and Palliative Care Manitoba, Provincial Palliative Care Network, and various regional health authorities. These three communities were chosen to vary in population, geographic location, and history because three differently sized hospices could be envisioned to suit each site's needs. As well, existing healthcare services, such as a hospital, and existing personal care homes in the communities were factored into the quantity of patient suites for each hospice.

The communities are as follows:
1. Rural Municipality - Gimli, Manitoba - population ~ 5800
2. Town - Niverville, Manitoba - population ~ 2500
3. Local Government District Pinawa, Manitoba - population ~ 1600

Based on the following site analysis and spatial requirements category, I was able to extract the appropriate square footages required to support the activities and number of users in each facility.

These square footages are as follows:
1. Gimli, Manitoba - 3 patient suites plus 1 guest suite ~ 2000 sq ft without garage or basement
2. Niverville, Manitoba - 5 patient suites plus 2 guest suites ~ 2800 sq ft without garage or basement
3. Pinawa, Manitoba - 2 patient suites plus 1 guest suite - 1700 sq ft without garage
Figure 46: Map of Province of Manitoba, with coloured dots indicating three proposed hospice communities and capital city of Winnipeg. Reproduced with the permission of Natural Resources Canada 2009, courtesy of the Atlas of Canada.
5.2.1 Gimli, Manitoba

Figure 47: Map of Rural Municipality of Gimli, with arrows indicating townsite (green) and hospice location in Siglavik Development (gold).

Image courtesy of Government of Manitoba; Culture, Heritage, Tourism, and Sport; Community Profiles, 2009. Permission to reproduce this map is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.
RM of Gimli:

Gimli’s economy is mainly based on commercial fishing, agriculture, tourism, and private industry. The community was originally founded in the 1870s by Icelandic immigrants who turned to commercial fishing to support themselves. By the early 20th century, Polish and Ukrainian immigrants came to the area to begin farming the rich soil for crops. By 2003, the town of Gimli had become amalgamated with the surrounding RM, contributing a population of 1700 to the demographics.

According to the 2006 Canadian census, the RM population of 3800 is about half male and half female.

The Gimli and Canadian population are broken down as follows:

<table>
<thead>
<tr>
<th></th>
<th>Gimli</th>
<th>Canada</th>
<th>Gimli (2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>12.16%</td>
<td>17.7%</td>
<td>16.16%</td>
</tr>
<tr>
<td>15-64</td>
<td>59.22%</td>
<td>68.6%</td>
<td>62.86%</td>
</tr>
<tr>
<td>65+</td>
<td>28.36%</td>
<td>13.7%</td>
<td>23.7%</td>
</tr>
</tbody>
</table>

Realizing these demographics, we see a substantial part of the population is 65+ in Gimli; a statistic that is around 15% higher than the Canadian average. If we look to the previous 2001 Canadian census, we see that the overall population of Gimli has aged, in addition to growing from around 3500 people. My practicum will address this growing, yet aging, population in Gimli with an appropriately designed facility (Statistics Canada, 2008; Manitoba Community Profiles, 2008).
**BENEFITS:**

**Climate**
- oriented along Lake Winnipeg, with cooling breezes in summer

**Social Context**
- located in established (20 year old) development off main highway
- close proximity to shopping, medical, and recreational facilities
- located away from main townscape of Gimli

**Zoning and Land Use**
- no development on site currently
- land previously used for agriculture, redeveloped into residential

**Topography**
- flat lake bottom landscape
- lots are separated from Lake Winnipeg by elevated roads/dykes

**Sensory Impacts**
- lot fronts calm water
- ample waterfowl in water and nearby wetlands
- quiet, tranquil neighbourhood
- pleasant views of development, surrounding houses, mature vegetation, activities occurring on water

**Access**
- close proximity to shopping, medical and recreational facilities
- one-hour drive to Winnipeg via highways 8 and 9
- accessible by boat or vehicle (opportunity for dock and boat at site)

**Accessibility**
- wide roadways provide ample space for pedestrians and cyclists
- safe area with minimal amount of vehicular traffic
- flat topography for ease of mobility devices, especially with addition of paved surfaces

**Adjacent Buildings**
- neighbouring houses to right and left of lot and across water way
- mature trees provide some privacy from neighbours

**Shadow Studies**
- little development indicates that daylighting can be optimized to best suit new hospice
CONSTRAINTS:

Climate
- affected by strong winds off of Lake Winnipeg
- few trees on lot to provide shade

Social Context
- potential noise from nearby highway
- located outside of main town site of Gimli

Zoning and Land Use
- currently not zoned for more than single family dwelling
- not zoned for more than one dwelling on site

Topography
- site will require planted vegetation to protect from strong winds and undesirable views
- existing site requires some site work for improved drainage of lot

Sensory Impacts
- potential for noise from migratory birds visiting water
- potential for noise from nearby highway
- potential for noise and dust from gravel roads
- overhead hydro cables and hydro poles

Access
- roads in development are gravel, not paved
- not in walking distance to town site of Gimli
- located away from main pedestrian and tourist areas

Accessibility
- no sidewalks
- limited ability for access to site besides vehicles and able-bodied pedestrians

Adjacent Buildings
- visible from site

Shadow Studies
- potential for excess amounts of daylight to affect site; will require tall vegetation to compensate against
Figure 49: Photograph collage of site circulation by wind, birds, and water. Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 50: Photographs of site context. Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 51: Photographs of details from site. Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 52: "Atworth" Ready-to-Move House, 1424 square feet. Three RTMs will be used for the hospice facility. Image courtesy of Star Packages Sales, Copyright 2008.
5.2.2 Niverville, Manitoba

Figure 53: Map of Town of Niverville, with arrows indicating townsite (green) and hospice location within Fifth Avenue Residential Development (gold).

Image courtesy of Government of Manitoba; Culture, Heritage, Tourism, and Sport; Community Profiles, 2009. Permission to reproduce this map is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.
Figure 54: Fifth Avenue Estates development, with hospice lot indicated by gold mark. Image courtesy of DOWALT Custom Homes, www.dowalt.com, 2008.
TOWN of NIVERVILLE:

Niverville’s history is routed with the arrival of the first Mennonite families to Canada, though the community is named for a French officer. The town’s economy is based on agriculture and livestock- in fact, the community boasts a modern elevator that provides seeds, chemicals, and other agricultural products. The town also has several small businesses and a growing professional sector with doctors, lawyers, accountants, and other specialized medical staff.

According to the 2006 Canadian census, the town population of approximately 2500 is about half male and half female.

The Niverville and Canadian population are broken down as follows:

<table>
<thead>
<tr>
<th>Niverville</th>
<th>Canada</th>
<th>Niverville (2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14 - 25.4%</td>
<td>0-14 - 17.7%</td>
<td>0-14 - 27.1%</td>
</tr>
<tr>
<td>15-64 - 65.5%</td>
<td>15-64 - 68.6%</td>
<td>15-64 - 63.3%</td>
</tr>
<tr>
<td>65+ - 9.1%</td>
<td>65+ - 13.7%</td>
<td>65+ - 9.9%</td>
</tr>
</tbody>
</table>

From this statistical information, we see that Niverville has a younger population than the Canadian average. Though its population has grown significantly in the five years between the two censuses, the demographic structure has not changed. For this reason, amongst others, the programme for the Niverville hospice will be more geared to a younger cohort - more middle-aged and young adults - than the RM of Gimli or LGD of Pinawa (Statistics Canada, 2008; Manitoba Community Profiles, 2008).
BENEFITS

Climate
- located along man-made lake, with cooling breezes in summer

Social Context
- established in growing, young community
- close proximity to shopping, medical, and recreational facilities
- located away from local highway

Zoning and Land Use
- no development on site currently
- lot is already cleared and ready for development
- land previously used for agriculture, redeveloped into residential

Topography
- flat prairie landscape
- lots are elevated above surrounding farm lands

Sensory Impacts
- lot fronts calm water with ample waterfowl in water
- quiet, tranquil neighbourhood
- community follows regulated architectural guidelines

Access
- close proximity to shopping, medical, and recreational facilities
- located about 20 minutes south of Winnipeg
- within walking distance of main part of the town
- development boasts paved roads and sidewalks

Accessibility
- wide roadways provide ample space for pedestrians and cyclists
- safe area with minimal amount of vehicular traffic
- flat topography for ease of mobility devices

Adjacent Buildings
- neighbouring houses to right and left of lot and across water way

Shadow Studies
- little development indicates that daylighting can be optimized to best suit new hospice
CONSTRAINTS

Climate
- limited vegetation in area to protect from strong winds

Social Context
- potential noise from nearby highway
- located outside of main town site of Niverville

Zoning and Land Use
- currently not zoned for any development on site
- development only zoned for single-family dwellings

Topography
- site will require considerable amount of planted vegetation to protect from strong winds and undesirable views
- community located along flood plain of Red River

Sensory Impacts
- smells of nearby pig farms
- potential for noise from nearby highway and high level of construction in community and development
- lack of architectural and design character in development

Access
- situated a distance that may too far for residents to travel into town

Accessibility
- sidewalks have high curbs that limit access for people with mobility problems

Adjacent Buildings
- visible from site

Shadow Studies
- potential for excess amounts of daylight to affect site; will require tall vegetation to compensate against
Figure 55: Photograph collage of site circulation by wind, birds, and water. Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Site Context

Figure 56: Photograph of site context.
Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Site Details

Figure 57: Photographs of details from site. Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 58: "Foxgrove" Ready-to-Move House, 1440 square feet.
Two RTMs will be used for the proposed Gimli hospice.
Image courtesy of Star Package Sales, Copyright 2008.
5.2.3 Pinawa, Manitoba

Figure 59: Map of L.G.D. of Pinawa, with arrows indicating townsite (green) and hospice location within Pinawa Landing (gold).
Image courtesy of Government of Manitoba; Culture, Heritage, Tourism, and Sport; Community Profiles, 2009. Permission to reproduce this map is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.
Figure 60: Location of Pinawa Hospice, adjacent to Marina and community downtown. Image courtesy of Pinawa Community Development Corporation, 2009.
LOCAL GOVERNMENT DISTRICT of PINAWA:

Pinawa’s history traces back to French voyageurs in the nineteenth century, but most people recognize it as one of Manitoba’s first planned communities. Pinawa was built in the 1960s to house workers at a nearby nuclear research facility. Currently, its inhabitants range from remaining researchers, other government employees, teachers, and hospital workers.

According to the 2006 Canadian census, the town population of approximately 1450 is about half male and half female.

The Pinawa and Canadian population are broken down as follows:

<table>
<thead>
<tr>
<th></th>
<th>Pinawa</th>
<th>Canada</th>
<th>Pinawa (2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>13.1%</td>
<td>17.7%</td>
<td>16%</td>
</tr>
<tr>
<td>15-64</td>
<td>62.1%</td>
<td>68.6%</td>
<td>68.3%</td>
</tr>
<tr>
<td>65+</td>
<td>24.8%</td>
<td>13.7%</td>
<td>15.7%</td>
</tr>
</tbody>
</table>

These statistics indicate that not only has the population decreased from 1500 in 2001, but also that it has aged significantly. The middle age group - chronological ages 15-64 - is smaller than the Canadian average, as is the youngest age group, but this is made up in the large percentage of older adults.

Because of the aging population in the community, the hospice will be programmed and designed to suit the needs and desires of this cohort (Statistics Canada, 2008; Manitoba Community Profiles, 2008).
BENEFITS

Climate
- located amongst thick Boreal forest, with minimum of exposure from wind

Social Context
- established, planned community
- full medical facilities, including hospital, doctor’s clinic, dentist, physiotherapy, pharmacy
- located away from major community highway and roads

Zoning and Land Use
- no development on site currently

Topography
- mixed Boreal forest and Canadian Shield outcrops
- Winnipeg River in close proximity

Sensory Impacts
- lot surrounded by forest, the Winnipeg River, and the Trans-Canada Trail
- ample amounts of wildlife in area, especially deer and birds
- extremely quiet and restful

Access
- close proximity to shopping, medical facilities, and recreational needs in community
- located about 60 minutes north-east of Winnipeg
- within walking distance of river and undeveloped river edge
- several parks and forests in close proximity

Accessibility
- minimum of vehicles on roads
- very safe and quiet area
- mainly flat topography for ease of use of mobility devices

Adjacent Buildings
- water treatment plant is located nearby

Shadow Studies
- little development indicates that daylighting can be optimized to best suit new hospice
CONSTRAINTS

Climate
• once lot is cleared, effect of winds may increase
Social Context
• potential noise from unpaved roads
Zoning and Land Use
• currently not zoned for such a facility on site
Topography
• site will require extensive removal of vegetation
• land survey must occur to determine extent of Canadian Shield outcrop
Sensory Impacts
• potential for noise from water treatment plant
Access
• situated a distance that may too far for residents to travel into town
Accessibility
• roads are not paved
• no sidewalks in development
Adjacent Buildings
• none at current time
Shadow Studies
• potential for excess amounts of daylight to affect site; will require tall vegetation to compensate against
Figure 61: Photograph collage of site circulation by wind, birds, and water. Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 62: Photographs of site context.
Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Site Details

Figure 63: Photographs of details from site.
Photographs by author, 2009. Aerial image obtained from Google Earth, Copyright 2009.
Figure 64: "New Evening Calm" Ready-to-Move house, 1358 square feet. Two RTMs will be used for the proposed Pinawa hospice. Image courtesy of Star Package Sales, Copyright 2008.
### 5.3 Building Analysis

**READY-TO-MOVE HOUSES:**

- transportable houses constructed at one location and then shipped to site
- come pre-finished, including exterior cladding, windows, roof, kitchen, walls, flooring
- either directly placed onto concrete foundation walls or piles
- strong inner support system in roof and building base for stability in transport
- tend to have smaller square footages than custom-made houses because of necessity to transport long distances
- built to federal and provincial building, fire, and plumbing codes
- wood frame construction
- tend to be mass-produced models lacking finishing details and unique characteristics

- for the practicum, only the exterior walls and front facade will remain
  - conceptual design intervention to occur within these frameworks
  - opportunity to integrate more meaning and personalization into house
  - more suitable as respectful, calm, and dignified setting for terminally ill people to spend their final days

- Star Package Sales to provide RTM base house designs
- Star Package Sales is a division of Star Builders Materials (Winnipeg-based house manufacturer and building supplies distributor)
  - house design selection will be based on analysis of requirements arising from each community and its perceived need for hospice and palliative care
  - where necessary, two or more RTMs may be placed adjacent to each other on a lot and linked with common building structure, such as an atrium, for sufficient square footage
  - additional structures, such as garages, decks, and storage sheds, will be selected through Star Package Sales
SURROUNDING LANDSCAPE:

- lots will be developed into outdoor environments that can be used year-round
- will feature raised flower beds so patients have opportunity to garden in summer while remaining in sitting position
- yard will be accessible via safe ramps and paved pathways
- garage will be recessed from street view to not be first viewpoint for visitors
- accessible screen porch or patio for use in summer
- ample trees to create scenic environment that helps to block wind in cooler months and provide shade in warmer months
- gardens with perennials, annuals, shrubs, and water features
  - where possible, implementing local vegetation in some gardens that will enhance the winter snowy landscape by adding texture, colour, and shadow
- space to be included for vegetable and fruit garden to supplement hospice’s food supply
5.4 Human Factors Analysis

CLIENT PROFILES:

• client will be the supervising regional health authority associated with each hospice community

• funding will be received through fundraising, donations, grants, and patient room and board; staff will be financed through RHA

Interlake Regional Health Authority - including RM of Gimli, Manitoba

• Vision: Healthy People in Healthy Communities

• Mission Statement: To achieve the highest degree of physical, mental and social well-being of all Interlake residents and communities, through publicly funded and delivered sustainable, accessible, integrated health services.

South Eastman Health Authority - including town of Niverville, Manitoba

• Vision: To achieve wellness and the best possible health by partnering with individuals, families and communities.

• Mission Statement: To pursue our Vision by providing quality health services supported by evidence-based decision making.

North-Eastman Health Authority - including LGD of Pinawa, Manitoba

• Vision: Working together to empower individuals, families and communities to pursue optimum health through healthy lifestyles.

• Mission Statement: The North Eastman Health Association strives to promote effective, equitable, accessible, integrated, responsive and cost efficient health programs and services to meet the needs of our population.
Figure 65: Organizational chart of healthcare providers. Image by author, 2008.

Figure 66: Facility users. Image by author, 2008.
USER PROFILES:

Main Users

- hospice patients will be the main users
  - will have been diagnosed with a terminal illness or other fatal malady
  - generally will not have more than 6 months to live
  - will be supported with medical help to ease pain, but not to extend life
  - may be bed ridden upon entering facility and health will continue to degrade

- hospice patients’ ages will vary depending on each community
  - Gimli has aging, yet growing, population
  - Niverville has rapidly growing population of young families
  - Pinawa has aging, decreasing population

- behavioural needs will vary depending on each patient’s degree of illness and ability to take care of himself/herself
  - it is likely that each patient will require high level of support, assistance and care, provided in dignified manner
  - personal activities will include ample sleeping and resting, entertainment via listening to music, watching TV and movies, using computer, reading, reflection, prayer
  - group activities will include dining, entertainment via listening to music, watching TV and movies, playing games
  - activities with staff will include assistance in eating, bathing, cleaning, playing games, reading, talking, resting

- psychological needs will vary between the individual and facility
  - aesthetic preferences will likely depend on average age of patients in facility
  - sensory needs of patients will likely be for areas of quiet for opportunity to sleep, relax, rest
- importance of providing attractive views to outdoors for patients who will spend most of time in suites
- require areas for privacy to deal with pain, self-awareness, meet with family and friends
- will require areas for interacting with others and socializing
- it is likely that patients will grow less cognizant of surrounding environment as their illnesses progress

- special needs of patients will vary between individual patients and degree of illness
  - will require visual cues, such as manipulated light, as wayfinding indicators, especially as their vision decreases
  - will require tactile cues for room changes, wayfinding, furniture
  - necessity for handrails, emergency lighting, call system, back-up generator, mobility devices, such as walkers

Secondary + Tertiary Users

- strong support group will be actively involved with facility and patients
  - families, friends, community volunteers
  - medical professionals - nurses, nursing aidses, doctors, visiting specialists (chiropractor, dentist, physiotherapist)
  - mental and spiritual health supporters - psychologist, ministers, counselors
  - other personnel will include janitorial staff, hair dressers, estheticians, delivery people, fitness people

- users will require washroom facilities, change rooms, office space, food preparation and eating space
- guests, such as families and friends, may require sleeping quarters
- medical professionals will require lockable medication cupboards and medical file storage
- all visitors and staff will require parking space for vehicles
<table>
<thead>
<tr>
<th>GROUP TITLE / POSITION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>• to provide daily care, comfort, support</td>
</tr>
<tr>
<td>Nursing Aides</td>
<td>• to support nurses in their roles as care givers</td>
</tr>
<tr>
<td>Physician</td>
<td>• to provide weekly medical/pain management support</td>
</tr>
<tr>
<td>Therapists/Counselors</td>
<td>• to provide variety of support methodologies</td>
</tr>
<tr>
<td>Patients</td>
<td></td>
</tr>
<tr>
<td>Patients</td>
<td>• typically, cancer or heart-disease patients</td>
</tr>
<tr>
<td></td>
<td>• confronting pain, loss of control and loved ones</td>
</tr>
<tr>
<td></td>
<td>• fearful of unknown, unexpected pain, finances, lack of meaning in lives</td>
</tr>
<tr>
<td></td>
<td>• average stay of 17 - 45 days</td>
</tr>
<tr>
<td>Visitors</td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>• visiting and helping loved ones</td>
</tr>
<tr>
<td>Spiritual</td>
<td>• providing spiritual/religious care on visits</td>
</tr>
<tr>
<td>Friends</td>
<td>• visiting and helping loved ones</td>
</tr>
<tr>
<td>(Paid) Volunteers w/ Patients</td>
<td>• typically family members of hospice patients</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>• support patients, families, and friends</td>
</tr>
<tr>
<td>Maintenance / Repairs / Carpentry</td>
<td>• trained and skilled to provide help to staff/facility</td>
</tr>
<tr>
<td></td>
<td>• on going repairs and maintenance of facility</td>
</tr>
<tr>
<td>Other Personnel</td>
<td></td>
</tr>
<tr>
<td>IT specialist</td>
<td>• infrequent visits to set-up, repair network systems</td>
</tr>
<tr>
<td>Cleaners</td>
<td>• maintenance, cleaning, laundry</td>
</tr>
<tr>
<td>Delivery People</td>
<td>• provide food, medication, and other goods</td>
</tr>
<tr>
<td>Fitness/ Exercise</td>
<td>• provide exercise for those able to participate</td>
</tr>
<tr>
<td>Personal Grooming</td>
<td>• provide hair styling and esthetician services</td>
</tr>
<tr>
<td>Social Workers</td>
<td>• maintain dignity levels of all users</td>
</tr>
<tr>
<td>Administrator</td>
<td>• oversee everyday running of facility and its users</td>
</tr>
<tr>
<td>Off-Site</td>
<td></td>
</tr>
<tr>
<td>Community Advocates</td>
<td>• publicize for community education and fundraising</td>
</tr>
<tr>
<td>Financial Consultants</td>
<td>• ensure facility is run efficiently and on budget</td>
</tr>
<tr>
<td>Homecare Hospice Staff</td>
<td>• provide outreach for very ill people in community</td>
</tr>
</tbody>
</table>

Table 27: Social structure of facility.
5.5 Spatial Requirements


Figure 67: Spatial Adjacency Matrix
Image by author, 2008.
Figure 68: Zone analysis bubble diagram. Image by author, 2008.

<table>
<thead>
<tr>
<th>Entrance</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foyer</td>
<td>Multi-Sensory Room</td>
</tr>
<tr>
<td>Coat Closet</td>
<td>Prayer Space</td>
</tr>
<tr>
<td>Reception</td>
<td>Grieving Space</td>
</tr>
<tr>
<td></td>
<td>Hydrotherapy</td>
</tr>
<tr>
<td>Staff Area</td>
<td>Resident Rooms</td>
</tr>
<tr>
<td>Office</td>
<td>Bedrooms</td>
</tr>
<tr>
<td>Washroom</td>
<td>Closet</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Washroom</td>
</tr>
<tr>
<td>Laundry</td>
<td>Guestrooms</td>
</tr>
<tr>
<td>Janitor’s Closet</td>
<td>Bedrooms</td>
</tr>
<tr>
<td>Meals</td>
<td>Closet</td>
</tr>
<tr>
<td>Kitchen</td>
<td>Washroom</td>
</tr>
<tr>
<td>Dining</td>
<td>Outdoors</td>
</tr>
<tr>
<td>Entertainment</td>
<td>Garage</td>
</tr>
<tr>
<td>Living Room</td>
<td>Shed</td>
</tr>
<tr>
<td>Library</td>
<td>Patio</td>
</tr>
<tr>
<td>Media Centre</td>
<td></td>
</tr>
<tr>
<td>Activity/Space</td>
<td>SIZE (sq ft)</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Entrance</td>
<td></td>
</tr>
<tr>
<td>Foyer</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat Closet</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Reception</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Area</td>
<td></td>
</tr>
<tr>
<td>Office (integrated w/ reception)</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Washroom</td>
<td>55</td>
</tr>
<tr>
<td>(staff/guests)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 28: Furniture/Fixtures/Equipment for entrance and staff areas.
<table>
<thead>
<tr>
<th>Activity/Space</th>
<th>SIZE (sq ft)</th>
<th>Furniture/Fixtures/Equipment</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cleaning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry</td>
<td>100</td>
<td>Washing Machine</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dryer</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ironing Board</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Iron</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Horizontal Work Surface</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linen + Supply Storage</td>
<td>72 cu ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laundry Sinks</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clothes Line</td>
<td>1-2</td>
</tr>
<tr>
<td>Janitor's Closet</td>
<td>30</td>
<td>Janitor's Sink</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overhead Shelving</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Kitchen              | 150-200     | Horizontal Work Surface               | 15'-0"
|                      |             | Double Sink                           | 1    |
|                      |             | Refrigerator                          | 1    |
|                      |             | Freezer                               | 1    |
|                      |             | Dishwasher                            | 1    |
|                      |             | Cooktop                               | 1    |
|                      |             | Ovens                                 | 1    |
|                      |             | Upper and Lower Cabinetry             | varies|
|                      |             | Pantry Storage                        | varies|
|                      |             | Microwave                             | 1    |
|                      |             | Toaster                               | 1    |
|                      |             | Mixer                                 | 1    |
|                      |             | Blender                               | 1    |
|                      |             | Food Processor                        | 1    |
| Dining Room          | 225 - 250   | Large Group Table (Adjustable)        | 1    |
|                      |             | Individual Table (Folding/Collapsing) | 1    |
|                      |             | Chairs                                | varies|
|                      |             | Side Buffet/Built-In Storage          | varies|

Table 29: Furniture/Fixtures/Equipment for cleaning, eating, and dining activities.
<table>
<thead>
<tr>
<th>Activity/Space</th>
<th>SIZE (sq ft)</th>
<th>Furniture/Fixtures/Equipment</th>
<th>Qty.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entertainment</strong></td>
<td></td>
<td></td>
<td></td>
<td>---</td>
</tr>
<tr>
<td>Lounge</td>
<td>200 - 225</td>
<td>Upholstered Sofa</td>
<td>1-2</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upholstered Side Chairs</td>
<td>3-4</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coffee Tables</td>
<td>1-2</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Side Tables</td>
<td>3-4</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reclining Chairs</td>
<td>3-4</td>
<td>---</td>
</tr>
<tr>
<td>Library</td>
<td>150</td>
<td>Bookshelves/Built-In Storage</td>
<td>6'-0&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Horizontal Work Surface</td>
<td>3'-0&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upholstered Side Chairs</td>
<td>3-4</td>
<td>---</td>
</tr>
<tr>
<td>Media Centre</td>
<td>200</td>
<td>Computer Desk</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Chair</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer + Accessories</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stereo w/ Radio, CD player, Tape Player, Recording</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media Storage (CDs, DVDs, Sheet Music)</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Piano/Guitars/Other Instruments</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LCD Projector/TV/DVD Player/VCR</td>
<td>1 ea.</td>
<td>---</td>
</tr>
<tr>
<td><strong>Reflection</strong></td>
<td></td>
<td></td>
<td></td>
<td>---</td>
</tr>
<tr>
<td>Multi-Sensory Room (optional)</td>
<td>150</td>
<td>Snoezelen Machine</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Built-In Upholstered Seating</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floor Cushions</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td>Prayer Space</td>
<td>150</td>
<td>Built-In Upholstered Seating</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Side Tables</td>
<td>2-3</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Book Shelves</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td>Grieving Room</td>
<td>150</td>
<td>Seating (folding/moveable)</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tables</td>
<td>2-3</td>
<td>---</td>
</tr>
<tr>
<td>Solarium</td>
<td>200</td>
<td>Seating</td>
<td>6-7</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tables</td>
<td>2-3</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Book Shelving</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td>Hydrotherapy</td>
<td>125</td>
<td>Accessible Whirlpool Tub</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assistant’s Stool</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Towel + Linen Storage</td>
<td>n/a</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessible Shower</td>
<td>1</td>
<td>---</td>
</tr>
</tbody>
</table>

Table 30: Furniture/Fixtures/Equipment for entertainment and reflection spaces.
<table>
<thead>
<tr>
<th>Activity/Space</th>
<th>SIZE (sq ft)</th>
<th>Furniture/Fixtures/Equipment</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Suites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedrooms</td>
<td>250</td>
<td>Moveable Beds/Stretchers</td>
<td>1/rm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bedside Tables</td>
<td>1-2/rm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guest Chair</td>
<td>1-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pull-out Sofa</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Television</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stereo</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Control Unit</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oxygen Unit</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Café Table</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Café Chairs</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling Lift</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Millwork - Upper and Lower Cabinets with Storage</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bar Fridge</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Microwave</td>
<td>1</td>
</tr>
<tr>
<td>Washroom</td>
<td>60-70</td>
<td>Toilet</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sink/Vanity</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storage for Personal Goods</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Guest Suites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedroom</td>
<td>160</td>
<td>Double Sized Bed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night Table</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guest Chair</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pull-out Sofa</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Millwork – Upper and Lower Cabinets with Storage</td>
<td>1</td>
</tr>
<tr>
<td>Washroom</td>
<td>40</td>
<td>Toilet</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sink/Vanity</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storage for Personal Goods</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tub/Shower Combination</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 31: Furniture/Fixtures/Equipment for patient and guest suites.
<table>
<thead>
<tr>
<th>Activity/Space</th>
<th>SIZE (sq ft)</th>
<th>Furniture/Fixtures/Equipment</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garage</td>
<td>1000</td>
<td>Space for Hospice, Staff, and Guest Parking</td>
<td>n/a</td>
</tr>
<tr>
<td>Shed</td>
<td>300</td>
<td>Storage for Gardening/Yard Work Equipment</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheelbarrow</td>
<td>1-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lawn Mower</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weed Trimmer</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Various Gardening Tools</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work Table w/ Storage</td>
<td>1</td>
</tr>
<tr>
<td>Patio</td>
<td>200</td>
<td>Outdoor Chair</td>
<td>6-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outdoor Tables</td>
<td>1-2</td>
</tr>
<tr>
<td></td>
<td>~3593 sq ft</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 32: Furniture/Fixtures/Equipment for outdoor spaces.
5.6 Functional and Aesthetic Requirements

Sensory Requirements

Light
- optimal use of daylighting to reduce over-all energy consumption and to provide views for residents
- use of appropriate artificial lighting that will flatter skin tones, especially of residents, yet remain sustainable, affordable, efficient

Colour
- colour palette of interior reflective of surrounding landscapes, local building materials, and cost-effective, environmentally manageable resources
  - limestone, red brick, terracotta, concrete, glass, steel, wood
  - warm tones that flatter skin tones and work with artificial and natural lighting
  - appropriate to different users of space and their ages, cultures, ailments, and other such factors

Visual
- aesthetics of hospice to indicate dignified, residential environment that is appropriate to each user group and their age groups

Tactile
- integrate extensive textured surfaces for identification of objects, wayfinding, rooms, etc.
- surfaces integrated into furniture, handrails, walls, flooring, knobs
- textured surfaces to be easy to clean, not spread viruses and bacteria

Sound
- house design to function as a quiet, relaxing, calm facility
  - insulated walls in bathrooms, patient bedrooms, guest suites, kitchen, and other potentially noisy areas
  - appropriate choice of interior finish materials to limit amount of unnecessary sound transmission and reflectance

Smell
- limit unpleasant smells from main resident areas
  - improve quality of life for residents with nausea and poor dietary habits by limiting unwanted smells
  - use commercial-grade ventilation systems in washrooms, shower rooms, and kitchen
5.7 **Technology Requirements**

5.7.1 **MECHANICAL:**

Heating & Cooling

- hydronic radiant panels, encased in lightweight concrete slab, provide heat to feet or overhead
  - in washrooms, shower rooms, kitchen, and entrances
  - floor covering would have to be ceramic or porcelain tile

- infrared heat lamps to be installed in shower room ceilings to provide heat while patient is using space

- opportunity for patient and guest rooms to have individually controlled thermostats

- electric warm air furnace and ducting system to act as main heating and cooling system for each facility
  - forced-air heating to include filters, humidifiers, and dehumidifiers as required in each facility
  - cooling provided with air conditioner units located outside of house
  - fresh air supplied by fresh-air intake attachment to furnace and by natural ventilation via windows and doors
  - separate exhaust ductwork to be integrated in kitchen, washrooms, shower room, and laundry facility
  - additional use of portable space heaters

- building efficiency gained through high-quality and extensive use of insulation
  - triple-glazed, vinyl clad windows
  - insulated steel exterior doors with weather-stripping
  - insulation in attic, walls, and floor to exceed federal and provincial building code minimum
5.7.2 ELECTRICAL:

Electricity

- mechanical system supported by electric furnace, located in utility room, and air conditioner unit, located outdoors

- electrical hot water tank to be large enough to support facility’s needs and be insulated for increased efficiency

- electrical panel to be large enough to support future growth and electrical requirements
  - located in utility room
  - be surge protected for computer and other systems

- Ground Fault Circuit Interrupters (GFI) to be located in washrooms, shower rooms, laundry rooms, basement, garage

- kitchen and laundry appliances and water heaters to have specific electrical outlets, as per building and fire codes

Lighting

- Incandescent, warm light used in areas mostly frequently used by patients
  - patient rooms, shower rooms, dining areas, entertainment rooms
  - accent lighting in desk lamps and reading lamps
  - use dimmers to suit “mood” for desired areas where incandescent lights to be used

- integrate warm coloured compact fluorescent light bulbs where appropriate
  - are more efficient, yet lack warm colour rendering of more traditional incandescent
  - appropriate in washrooms, kitchen, hallways, entrances, utility rooms
  - can be incorporated into dimming system, however, cost is quite significant
  - outdoor grade CFLs to be used as exterior lighting

- halogen lights to be used as display lighting of art work
  - art work might be in hallways, living/dining rooms, entrances, guest and patient rooms
- multi-level and dimmable switching to be provided in most rooms
  - ambient and task lighting in all rooms, especially patient, shower, and washrooms and kitchen
  - kitchen task lighting to be incorporated into underside of overhead cabinets and stove exhaust fan hood
  - staff office to have task lighting in form of desk lamps
  - dining area to have variety of light depending on time of year and type of event occurring

- occupancy sensors to be used in kitchen, dining/living rooms, entertainment rooms, offices, utility rooms
  - emergency lighting to be provided
  - each connected to its own battery pack and circuit
  - located in hallways, washrooms, shower room, kitchen, entrances, dining/living rooms, entertainment areas, patient and guest rooms
5.7.3 OTHER

- additional building power provided by gas-powered generators in case of emergencies

- wiring for telephone, cable, fax, internet, security, and emergency call system required

- exit signs required in facility, as indicated by building and fire code

- fire extinguishers, carbon monoxide detector, smoke detector, and sprinkler system all required as per building and fire codes

- wireless internet signal

- Electric-motor ceiling mounted lift system to lift patients from bed to washroom and window area

ACOUSTICS

- limit sound transmission between rooms in facility
  - place acoustic insulation in between gypsum board interior partitions, ceilings, and floors
  - use carpeting where appropriate to limit sound transmission from people walking and moving carts
  - use of acoustic gypsum board materials and sound insulation in walls cavities in patient rooms and shower rooms
  - where resilient flooring is used (vinyl, rubber, linoleum), specify product with acoustic foam back to limit sound reflection

- integrate sound and heat insulation into water piping and air ducting
  - limit sounds from mechanical system with its fans, ductwork, diffusers
  - limit heat escaping in warm air ducts and hot water pipes

- use weatherstripping on windows and doors
  - limit sound and effect of wind blowing against structure

- design facility to promote proper acoustics
  - group noisy zones away from quiet zones - STC of 30 for group areas
  - insulate quiet zones for improved acoustics - STC of 60 for patient rooms
• consider wall structure to be staggered studs with batt insulation between studs
• limit number of doors placed directly across from each other

SUSTAINABILITY

• specify efficient windows, doors, appliances, and mechanical/electrical systems
• build and design facility with well-insulated doors, windows, walls, roof, and basement
• limit use of off-gassing materials or, specify products with Green Guard certification (flooring, paint, wall covering)
• purchase goods that limit amount of packaging material or can be recycled through community depot
• capture rain water and snow melt for watering gardens and irrigating vegetable garden, if applicable
• create a compost bin in yard for organic kitchen waste
• install low-flush toilets and low-flow shower heads as appropriate
5.8 Building Code and Life Safety Issues

National Building Code of Canada, 2005 (NBC)

- NBC applies similarly to both site-built and factory-built houses
  - CSA standard CAN/CSA-1277 was created to certify factory-built houses

- NBC A-3.3.3.5.(1) Hospitals and Nursing Homes
  - nursing home occupancy is intended to include nursing and convalescent homes, skilled nursing facilities, intermediate care facilities and some homes for the aged
  - hospice facilities included under same occupancy type
  - requires that staff to be in attendance at all times on same storey of facility
  - occupants are assumed to be non-ambulatory and use of tranquilizing drugs may render occupants immobile

Gimli community - 3 patient suites w/ 1 guest suite
Building Area: 2000 sq ft (w/o garage)
Building Height: 1 storey (plus basement)
Building Facing: 1 street
Building is Sprinklered: Yes
Building has Emergency Lighting: Yes
Design Occupant Load: 10.0/m²

Niverville Community - 5 patient suites w/ 2 guest suites
Building Area: 2800 sq ft (w/o garage)
Building Height: 1 storey (plus basement)
Building Facing: 1 street
Building is Sprinklered: Yes
Building has Emergency Lighting: Yes
Design Occupant Load: 10.0/m²

Pinawa Community - 2 patient rooms w/ 1 guest suite
Building Area: 1700 sq ft (w/o garage)
Building Height: 1 storey (without basement)
Building Facing: 1 street
Building is Sprinklered: Yes
Building has Emergency Lighting: Yes
Design Occupant Load: 10.0/m²
Building Code and Life Safety Issues

Section 3.1 - General
Major occupancy classification (3:1:2): C - Residential Occupancy

Section 3.2 - Building Fire Safety
Construction Article – 3.2.2.44
Group C, up to 3 stories, sprinklered
Sprinklered
Combustible &/or Non-combustible Construction
Building area is not more than 5400 m²
Building height is not more than 3 stories
Floor assemblies shall be fire separations with a fire-resistance rating not less than 3/4 hr
Roof assemblies shall have a fire-resistance rating not less than 1 hr
Loadbearing walls, columns, and arches shall have a fire-resistance rating not less than that required for the supportive assembly.

3.2.5 Provisions for Fire Fighting
Access routes provided for Fire Dept. vehicles, including turnaround: Yes
Sprinkler and/or standpipe system connections: Yes

3.2.7 Emergency Lighting
Emergency lighting is required: Yes

Section 3.3 - Safety within Floor Areas
Major occupancy separation: Not less than 1 hr
Public corridor: Not less than 1 (hr) fire separation

Section 3.4 - Exits
Minimum two exits are required.
Distance between exits: 150 m distance between exits with corridor not less than 9 m wide with height not less than 4 m high.

Section 3.7 - Health Requirements
Male & Female: number of w.c. and lavatory: 1 required
One w/c and lavatory for each patient room
One w/c, lavatory, tub-shower unit for each guest suite
One w/c and lavatory for staff & others to use
One jetted tub for hydrotherapy room

Section 3.8 - Barrier-Free Design
Barrier-free access provided to all main floor tenants: Yes
Public entrance doors equipped with power door operators: Yes
Barrier-free washrooms are provided: Yes

Main entrances accessible directly from grade via ramps and smooth concrete surfacing.
5.9 Design Guidelines

Figure 69: Design concept of a multi-sensory environment.
Photograph courtesy of Thomas P. Baumgartner, Copyright 2009.

**Issue One:** Create an environment that not only stimulates the visual sense, but activates the other senses.

**Objective:** Design the interior and interior details to explore the human senses of taste, touch, sight, smell, and hearing.

**Concept:** Consider integration of textured surfaces on interior details like handrails and door knobs, manipulating light into being visual cues, and alter smells in different areas to suit illness-related nausea.

By linking these topics together into a built form, a more suitable design will occur that expands upon the overuse of visually stimulating interiors. By stimulating the other senses, patients with one or more reduced senses, such as poor vision and hearing, will have a greater satisfaction with his or her surrounding environment.
Issue Two: Dignity, Respect, Care

Objective: The patients in these hospices should receive the utmost care and compassion from the staff, families, friends and volunteers.

Concept: Integrate the above concepts into environments that promote dependence, comfort, and care for patients, staff, and visitors.

Issue Three: Family, Love, Counsel

Objective: To promote strong family and friend relationships during the patient’s final days and hours.

Concept: Provide spaces for multi-sensory communication between patients, families, friends, and staff.

These two issues are inter-connected in palliative care - provision of therapy, discussion groups, and a loving environment for the variety of users. Although a hospice is a healthcare facility, emphasizing a home-like atmosphere with residential-scale qualities and atmosphere will provide this vision. Use subtle elements to add visual interest and character into space. Include details such as soothing wall colours, upholstered furniture, and natural elements, such as wood trim, natural light, and house plants.
**Issue Four:** Assist in educating patients, family, friends, volunteers, and staff of palliative care, pain management, and process of dying.

**Objective:** Promote social interaction between all users with an environment conducive to discussion and contemplation.

**Concept:** Provide nooks with comfortable seating to allow users to sit by themselves or gather in groups, promoting discussion of emotions, concerns, and other thoughts.

By giving people the opportunity to engage in meaningful discussion, the goals of education and understanding will be met. These spaces could have mobile furniture that can be arranged to suit the number of users or built-in furniture if space is limited. Additionally, by locating these areas close to windows, the therapeutic qualities associated with a view outdoors, natural light, and the night sky could be exploited.
Conclusion

The goal of this practicum is to extract theory and put it in practice to create built environments. The written research is supported by the design interventions in the various communities identified previously in this report.

This practicum strove to answer several questions – the practicality of using pre-fabricated buildings for a hybrid typology, design for older adults, and incorporating key conceptual and design-related themes, all in the context of understanding the philosophy of palliative and hospice care.

The idea of hospice is a utopian ideal that has benefits and constraints. According to several people interviewed at the various facilities I visited, the largest constraint is financial. The Winnipeg Regional Health Authority and the Community Palliative Care Program provide the funds for staff salaries and medications; as well, patients typically pay a $30/day per diem. However, a significant portion of funds are raised through donations and fundraisers; this money is spent on furniture, specialized equipment, and art for the facilities.

The most foreseeable issue associated with hospices will be the increased demand for rooms as the baby-boomer generation continues to age and demand more from healthcare services, than previous generations. However, it was mentioned at several different facilities I
visited that there is no existing healthcare typology that bridges between the short-term use of palliative care units and hospices and long-term care facilities, typically associated with older adults. For example, at St. Boniface PCU, the average length of stay has increased from 6 days to 13 days, and in some cases, people are living even longer than originally prescribed by the doctor (Anonymous, St. Boniface General Hospital Site Visit, January 17, 2009). At the same time, the waiting list for these facilities continues to grow, while terminally ill people require healthcare services and homecare in their residence, putting increased burden on family and caretakers.

The general concept of hospice is that people are aware of the fact that they are dying. Not all illnesses allow this awareness; people with cancer and AIDS/HIV comprise the “ideal” patient for a hospice setting as their trajectory period is long enough for the self-awareness role. Someone who has been in an accident, for example, may not have the opportunity to participate in this trajectory period.

In hospice, we assume that the dying person is cognizant, alert, and surrounded by his or her loving family and friends. Medical staff, volunteers, and nurses pay homage to the person and the general environment is quiet, relaxing, and tranquil. Someone who might have a mental disorder or dementia would not be an ideal candidate as he or she would require more support and care.
From its reemergence in the mid-twentieth century, hospice care has been an alternative to mainstream provisions of care for dying people. As such, the place of hospice is also an alternative and is not necessarily for all people facing death; it is reserved for people dying of terminal illnesses with neither too long nor too short of a dying trajectory period. As well, if patients are admitted after too long a period in hospital, at home, or in long-term care, they may be deprived of the quality of life and care they would have experienced with a longer stay.

Although hospice and palliative care is available in Canada, a continuing lack of understanding or fear of death prohibits dying people and their families from being able to participate in it and understand its philosophy. Despite these setbacks, the demand for palliative care and hospice will increase as the result of increased awareness, promotion of dignity in death, and aging population.

The idea of using pre-fabricated buildings for the hospices emerged as a result of recent trends in design, perceived affordability, regional characteristics, and more sustainable building practices. Although the proposed hospices are composed of pre-fabricated units, the degree of design intervention and custom requirements for a hospice in residential construction limited the ability for mass production of one single typical unit. As the project evolved, the unique technological, aesthetic, and design elements required for this hybrid typology resulted in a design
solution that would no longer be as cost effective as initially thought. If a greater number of pre-fabricated units could be used in each community, the base cost would decrease and feasibility of the concept might be more effective. However, it should be noted that budget was not a major component of this research project. The practicality of pre-fabricated buildings did end up being more expensive than initially thought, but all the issues of building on site would be eliminated. The units are still manufactured and finished at one location, preventing problems of bringing trades and supplies to rural communities. The design would cost less in the long term and use less resources and labour hours, since everything could be done in a central, urban location. The essence of the work was to create a model for a built environment that focused on healing, quality of life, pre-fabricated architecture, and a rural community. This was in contradiction to the existing design typology of hospice, palliative care, and hospitals in urban settings. The act of using a pre-fabricated module as the starting point of the design was made more practical for the end users by the knowledge and skill set of the designer. Without alterations to the original RTM houses, the practicality would not have been feasible.

A remaining issue resulting from this project is that these buildings are conceptual. The selection for the three communities was based on exploration of existing facilities and demographics in each community. It
was not based via consultation with local regional and provincial health authorities. The small footprint and relatively high staffing requirements for the three publically-funded facilities would probably not be affordable for most rural communities. As well, consultation with various community groups would be essential for the introduction of the hospices into each community. I believe that initial meetings would need to be held with people from the regional health authorities, key community players, and potential families, patients, and volunteers. Since one of my concepts was to encourage dialogue, education, and wellbeing, sessions could be organized for community members to ensure the necessity of the hospices, as well as provide fundamental information to people. As well, to continue incorporating the community and its surroundings into the hospices, fundraiser events, such as bake sales, and community plays and choirs could occur at the facilities.

All of the issues that emerged as this project ended did not limit its necessity to be incorporated into rural communities nor the feasibility of groups to raise funds to cover construction and implementation, as well as to influence decision makers. The reality remains that we live in an era with a unprecedented higher proportion of older adults, living longer life spans often in poorer health. Cancer rates and heart disease will continue to be major causes of death and illness and people will continue to demand a high quality of life throughout all periods of their lives. The
choice and opportunities associated with hospice care and facilities will undoubtedly continue to grow and thrive for all users.
References and Sources


Zimmerman S, Sloane P., Williams C., Reed P., Preisser J., Eckert J., Boustani

**Websites**


2009.


Design Drawings

Gimli, MB

- Site Plan
- Floor Plan
- Reflected Ceiling Plan
- Exterior Elevations
- Rendered Floor Plan
- Building Sections
- Millwork Details
- Rendered Furniture Plan
- Circulation Pattern Plan
- Perspectives
- Furniture
- Lighting

Niverville, MB

- Site Plan
- Floor Plan
- Reflected Ceiling Plan
- Exterior Elevations
- Rendered Floor Plan
- Building Sections
- Millwork Details
- Rendered Furniture Plan
- Circulation Pattern Plan
- Perspectives
- Furniture
- Lighting

Pinawa, MB

- Site Plan
- Floor Plan
- Reflected Ceiling Plan
- Exterior Elevations
- Rendered Floor Plan
- Building Sections
- Millwork Details
- Rendered Furniture Plan
- Circulation Pattern Plan
- Perspectives
- Furniture
- Lighting
Appendix One - Copyright Information
To Thomas P. Baumgartner:

I am writing to request permission to include the following material from your collection of photographs of your recent trip to New Zealand, in a graduate thesis. The thesis, entitled *A Model for Hospice Design in Rural Manitoba* is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**

“Waterfall” image
“Nesting birds” image
“Pink flower” image

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Here is a higher quality photo and another one of the same thing.

Tom

Get a great deal on Windows 7 and see how it works the way you want. See the Windows 7 offers now.

Can I have these pictures as well? The bird one will represent "caring" and the waterfall will represent "multi-sensory". Your photos are cheaper than actually having to buy them or taking a trip somewhere interesting. :)

Don't worry - you'll get full cred for copyright permission. Can you provide me with the file name and date taken of these photos? Then I will send you the revised copyright permission sheet in a new email so I can put it in the addendum of my written document, like I did for all the other copyright permission letters I've done?

You don't need to sign it; your response in the new email will be...
fine. I will just PDF that email and add it next to the permission letter (with your info blacked out of course).

Thanks

Ra

[Quoted text hidden]
Tom

> Date: Mon, 7 Dec 2009 20:51:14 -0600
> Subject: Re: pictures
> From: mariabumgartner@gmail.com

[Quoted text hidden]

Windows Live: Keep your friends up to date with what you do online.

3 attachments

P1190149.JPG
1287K

P2060241.JPG
1290K

P2140623.JPG
1265K
To Whom It May Concern:

I am writing to request permission to include the following material from the website of the **Maggie’s Cancer Caring Centres**, in a graduate thesis. The thesis, entitled **A Model for Hospice Design in Rural Manitoba** is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**
Images from the following buildings:
Maggie's Edinburgh, Dundee, Highlands, and London.

www.maggiescentres.org/maggies/maggiescentres/home/centres/ukmap.html

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, Manitoba, Canada
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Hi there,

I am a Masters of Interior Design student in the Faculty of Architecture at the University of Manitoba, in Winnipeg, Manitoba, Canada.

I am conducting my graduate research in palliative care and hospice design for rural communities in the province of Manitoba.

I came across Maggie Centres when they were referenced to in a book by Stephen Verderber called *Innovations in Hospice Architecture* (2006). I came to your website and was pleased to see a building typology where the concepts of care were being successfully integrated with design significant buildings.

As such, I would like to know if I could use some of the images of the building's from your website in my written thesis. Please note, that neither me, my faculty, nor the university will profit from these images being reproduced in my thesis. This is solely an educational publication.

Please see the attached Copyright Permission form from my faculty, providing more information on my thesis work, as well as, contact information.

I would like permission to use some of the images from the:
- Maggie's Edinburgh
- Maggie's Dundee
- Maggie's Highlands
- Maggie's London

Thank you, I hope to hear back from you soon.

Maria Baumgartner
Masters of Interior Design candidate
University of Manitoba
Winnipeg, Manitoba, Canada

---

Hi Maria

Thank you for your email. As the images will only be reproduced in your thesis we would be happy for you to use them.

Kind regards
From: Maria Baumgartner [mailto:mariabaumgartner@gmail.com]
Sent: 24 March 2009 03:16
To: Enquiries
Subject: Copyright Permission

[Quoted text hidden]
To Whom It May Concern:

I am writing to request permission to include the following material from the website of the Alvar Aalto - Paimio Sanatorium, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

Material requested:
Digital Images/Flash of the Paimio Sanatorium, Finland
Accessed from:
http://www.alvaraalto.fi/alvar/buildings/paimio/paimio.html

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Hi Maria,

Please, find enclosed the photo credits. Kindly send us the ready thesis when ready, please.

Photo 1 Photo: Alvar Aalto Museum
Photo 2 Photo: Gustaf Welin, Alvar Aalto Museum
Photo 3 Photo: Alvar Aalto Museum
Photo 4 Photo: Gusraf Welin, Alvar Aalto Museum
Photo 5 Photo: Martti Kapanen, Alvar Aalto Museum
Photo 6 Photo: Martti Kapanen, Alvar Aalto Museum

Best regards,

marjo Holma
these images for free, they will just appear as blank spots in that chapter and will include directions on
how to find the original images (to your website).

As well, this is the first iteration of this chapter for my thesis. I still need to proofread it and will probably
remove some of the images, after my thesis adviser has read over it in about two months.

I hope this provides you with enough information.

Thanks again,

Maria Baumgartner

On Tue, Mar 31, 2009 at 2:31 AM, Holma Marjo <Marjo.Holma@alvaraalto.fi> wrote:

Dear Maria Baumgartner,

Thank you for your email. Could you kindly let me know which images you want to use in your thesis, please.
Unfortunately I can’t give you the permission to use the images before that. Concerning the fees, kindly notice the
following. You can also see the charges in www.alvaraalto.fi/charges.htm.

Nowadays we require the invoice to be paid beforehand. We will send the image files after we received the
payment. You can pay with credit card (Visa or Mastercard). Our accounts department, Pia Vainio
(pia.vainio@alvaraalto.fi) will contact you concerning the details.

For screen images (low resolution, not suitable for printing) there will always be a supply charge as follows:
1-15 images 20€
16-35 images 35€
More than 35 images by agreement

In addition to the supply charge described above, there will be a charge of 10€ per image for every image ordered
of publishing quality (processed, high-resolution electronic file of printing quality). For each image published, there
will also be an Alvar Aalto Foundation copyright and use charge of:
20€ per image for scientific publications
100€ per image for commercial use associated with architecture or design

For reuse of the same image, the charge will be 50% of the original charge. In addition, the user will hand over to
the Alvar Aalto Foundation two examples of the product in or on which the material is used.

Best regards,

Marjo Holma
tutkija/ Curator
Alvar Aalto -museo/Museum
PL 461, 40101 Jyväskylä
tel +40-3559 160

www.alvaraalto.fi

Appendix One: Copyright Documents
To Whom It May Concern:

I am writing to request permission to include the following material from the book *Innovations in Hospice Architecture*, in a graduate thesis. The thesis, entitled *A Model for Hospice Design in Rural Manitoba* is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**
Digitally scanned images from *Innovations in Hospice Architecture* by Stephen Verderber and Ben J. Refuerzo, pp. 82-87.

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Hi there,

I am a graduate student in the Masters of Interior Design program at the University of Manitoba in Winnipeg, Canada.

I am conducting my research on hospice design in rural environments, implemented in pre-fabricated houses. I have read several of your books and articles and am in the midst of composing several case studies/precedent designs for my thesis. I would like to gain permission to use the images of the conceptual Hospice Hawaii from the book *Innovations in Hospice Architecture*.

I am not sure if I would do this through the book publisher or contact the original architecture firm, so I have decided to do both. However, I have not come across any webpages or other contact information for R-2Arch firm, but I did come across your email from the Clemson School of Architecture.

As you undoubtedly know, neither me nor the University of Manitoba will receive any profit from my thesis being published nor the images published in it. I have attached a permission form from my Faculty demonstrating the images I wish to use for my thesis.

Thank you,

Maria Baumgartner

---

sverder@clemson.edu <sverder@clemson.edu> 
To: Maria Baumgartner <mariabaumgartner@gmail.com> 
Tue, Apr 14, 2009 at 7:27 AM

Dear Maria:

This is fine--just carefully cite R-2ARCH and the book in your thesis. I am glad to be able to have helped you in your work. Above all-good luck---

Sincerely:

Stephen Verderber, Professor and Architect
Clemson University USA

[Quoted text hidden]
To Whom It May Concern:

I am writing to request permission to include the following material from the website of Hybrid Seattle, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**
Images from the following cargo container:
Mobile Medical Triage Unit.
http://www.hybridseattle.com/

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, Manitoba, Canada
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Hi there,

I am a graduate student at the University of Manitoba in Winnipeg, Manitoba, Canada. I am conducting my thesis research on palliative care design in rural communities, implementing pre-fabricated houses as my base building.

I came across your website via a reference in an academic journal. I am interested in the Mobile Medical Triage Unit (c160mm) from your website - where could I find out a little more information on it? Are there any images of it in actual use? Would I be able to get copyright permission to include the images from the website in my thesis? Please note, that neither me nor the university will receive any profit from this information being published. I have attached a copyright permission letter form from my faculty explaining this request further.

Thanks, I hope you consider this educational request.

Maria Baumgartner
Masters of Interior Design candidate
To: Robert Humble <robert@hybridseattle.com>
Cc: Joel <joel@hybridseattle.com>

Hi Robert,

Thanks for letting me use the images. I am re-attaching the permission letter as a PDF, though the confirmation email is sufficient for permission.

Thanks again,

Maria
[Quoted text hidden]
To Whom It May Concern:

I am writing to request permission to include the following material from the book PreFab: Adaptable, Modular, Dismountable, Light, Mobile Architecture by Alejandro Bahamon, in a graduate thesis. The images would be from the essay on the Doppelhofer by Wolfgang Feyferlik. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

Material requested:
Images (to be digitally scanned) from pp.54-59 of PreFab: Adaptable, Modular, Dismountable, Light, Mobile Architecture by Alejandro Bahamon

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Re: [Fwd: Doppelhofer Building]

1 message

fritzer <fritzer@inode.cc> Mon, Apr 20, 2009 at 8:01 AM

To: mariabaumgartner@gmail.com
Cc: office@paul-ott.at

dear mrs. baumgartner,

I contacted our photographer paul ott, (www.paul-ott.at, office@paul-ott.at) concerning your request (he has the copyright for all the pictures) and it is OK for him, if you use the images for your thesis.

it would be great if you could send him a copy of your thesis, when finished, respectively the chapter with the doppelhofer-project and the title/cover of your thesis - the adress you can find at his homepage.

thanks a lot and good luck for your work,
susi fritzer

architekturbüro
Feyferlik / Fritzer

Glacisstraße 7 – 8010 graz
tel 0316 347656
fax 0316 386029 / 0316 347656-15
mail@feyferlikfritzer.at

Betreff: Doppelhofer Building
Von: Maria Baumgartner <mariabaumgartner@gmail.com>
Datum: Mon, 13 Apr 2009 20:44:57 -0500
An: feyferlik@inode.at
An: feyferlik@inode.at

Hello,

My name is Maria Baumgartner and I am an architecture/design student in the Masters of Interior Design program at the University of Manitoba, in Winnipeg, Manitoba, Canada.

I am researching into healthcare design and pre-fabricated buildings. I came across the Doppelhofer project by Wolfgang Feyferlik in the book Prefab: Adaptable, Modular, Dismountable, Light, Mobile Architecture by Alejandro Bahamon.

I am interested in learning more about this project and whether I would have your permission to use the images from the aforementioned book for use in my thesis. Please note, that neither me nor the university will earn any profit from the publication of the thesis or the images in it. The use of these images is only for educational purposes. I have attached a consent form from my faculty to this email.

Please consider this educational request.

Appendix One: Copyright Documents
Thank you,

Maria Baumgartner
Masters of Interior Design candidate
Dear Maria,

This is Aitana Lleonart, assistant to editor in chief at Loft Publications. First of all we would like to thank you for your interest in our book PreFab.

Concerning the copyright permission there is a point we need to clarify. If you use the images in the book context, I'm referring to the layout (like you have scanned the complete pages), that will not be a problem and we can give you our permission to include them in your thesis. But if you just want to take the images with no layout context, then you have to contact the photographer, who owns the rights to these photos. The only reason is that we cannot take the risk that the thesis could be published in the future, as we just pay a fee to the photographer to include the photos in this particular book.

If you need the photographer's contact, I will be pleased to help you.

Thank you and best regards,

Aitana Lleonart

Aitana Lleonart
Assistant to Editor in Chief
LOFT Publications
Via Laietana 32, 4º piso, oficina 92
08003 Barcelona. Spain

De: Maria Baumgartner <mariabaumgartner@gmail.com>
Fecha: 14 de abril de 2009 03:46:02 GMT+02:00
Para: loft@loftpublications.com
Asunto: Copyright Permission

Hello,

My name is Maria Baumgartner and I am an architecture/design student in the Masters of Interior Design program at the University of Manitoba, in Winnipeg, Manitoba, Canada.

I am researching into healthcare design and pre-fabricated buildings. I came across the Doppelhofer project by Wolfgang Feyferlik in the book Prefab: Adaptable, Modular, Dismountable, Light, Mobile Architecture by Alejandro Bahamon.

I am interested in learning more about this project and whether I would have your permission to use the images from the aforementioned book for use in my thesis. Please note, that neither me nor the university will earn any profit from the publication of the thesis or the images in it. The use of these images is only for educational
purposes. I have attached a consent form from my faculty to this email.

Please consider this educational request.

Thank you,

Maria Baumgartner
Masters of Interior Design candidate

Hi there,

Could you please pass this onto the photographer for those images then? I have received permission from the architect, but ideally the photographer would have to agree as well.

Regards,

Maria Baumgartner

[Quoted text hidden]
Dear Ms Baumgartner,

Thanks for your mail. I'll send you some photos of Therme Vals in different mails. If you need more, please let me know.

Best regards,
Therme Vals
Eveline Camathias

-----Ursprüngliche Nachricht-----

Von: mariabaumgartner@gmail.com [mailto:mariabaumgartner@gmail.com]
Gesendet: Mittwoch, 29. April 2009 04:04
An: Therme
Betreff: Anfrage für Contact

Contact
To: Spa
First Name: Maria
Surname: Baumgartner
Address: 20-395 River Ave
Zip code: R3L0C3
City: Winnipeg, Manitoba, Canada
e-mail: mariabaumgartner@gmail.com

Hello,

I would like to know where I can find more images of the spa? I am a graduate student at the University of Manitoba in Winnipeg, Canada and my research is on palliative care and multi-sensory design. I would like to publish some images of the Therme Vals Spa in my thesis.

Please send me a brochure.
Hello Camathias,

Thank you for responding to my email so quickly. I look forward to receiving more photos of the spa. From what I have seen, it appears to be a beautiful space that has design elements that will be beneficial to address in my thesis.

Kindest regards,

Maria Baumgartner
Masters of Interior Design candidate

2009/4/29 Camathias Eveline <evelinecamathias@therme-vals.ch>:

[Quoted text hidden]
Thank you, sorry for any misunderstanding.

Maria Baumgartner

2009/4/30 Camathias Eveline <evelinecamathias@therme-vals.ch>:

Camathias Eveline <evelinecamathias@therme-vals.ch> Mon, May 4, 2009 at 5:47 AM

To: Maria Baumgartner <mariabaumgartner@gmail.com>

Dear Maria
Do you have an ftp address? Than I can save the photos there.
Regards
Eveline

-----Ursprüngliche Nachricht-----
Von: Maria Baumgartner [mailto:mariabaumgartner@gmail.com]
Gesendet: Donnerstag, 30. April 2009 20:03

Maria Baumgartner <mariabaumgartner@gmail.com> Wed, May 6, 2009 at 6:58 PM

To: Camathias Eveline <evelinecamathias@therme-vals.ch>

Hi Eveline,

Unfortunately, I do not have an FTP address, I am not familiar with this method of storage as of yet. Is it possible to send a few images in several emails? This email account I am sending from has a lot of storage space - as long as the email is less than 10 megabytes, they should be received successfully.

I hope this works.

Thanks,

Maria

2009/5/4 Camathias Eveline <evelinecamathias@therme-vals.ch>:

Maria Baumgartner <mariabaumgartner@gmail.com> Wed, May 6, 2009 at 10:09 PM

To: Camathias Eveline <evelinecamathias@therme-vals.ch>

Hi Eveline,

I have done a little research and have created a FTP site for myself. This is the address: 
http://dropbox.yousendit.com/MBaumgartner939491. Please use this address if email does not work.

Thanks again,

Maria

Appendix One: Copyright Documents
2009/5/6 Maria Baumgartner <mariabaumgartner@gmail.com>:
[Quoted text hidden]

Camathias Eveline <evelinacamathias@therme-vals.ch>
To: Maria Baumgartner <mariabaumgartner@gmail.com>

Dear Maria
That's perfect, thank you! Please have a look on your ftp: address
if it's done successfully.
Regards
Eveline

-----Ursprüngliche Nachricht-----
Von: Maria Baumgartner [mailto:mariabaumgartner@gmail.com]
Gesendet: Donnerstag, 7. Mai 2009 05:09
[Quoted text hidden]

Maria Baumgartner <mariabaumgartner@gmail.com>
To: Camathias Eveline <evelinacamathias@therme-vals.ch>

Eveline,

Thank you so much for providing me with these amazing images. They
are so much more than what is on the webpage or in Peter Zumthor's
book on the spa.

Take care,

Maria Baumgartner

2009/5/7 Camathias Eveline <evelinacamathias@therme-vals.ch>:
[Quoted text hidden]

Camathias Eveline <evelinacamathias@therme-vals.ch>
To: Maria Baumgartner <mariabaumgartner@gmail.com>

Dear Maria
That's perfect, thanks! Could you please
send me a copy of your article, when is finished?
Thank you very much and best regards
Therme Vals
Eveline

-----Ursprüngliche Nachricht-----
Von: Maria Baumgartner [mailto:mariabaumgartner@gmail.com]
Gesendet: Freitag, 8. Mai 2009 04:54
[Quoted text hidden]
To Whom It May Concern:

I am writing to request permission to include the following material from Natural Resources Canada, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

Material requested:
Reference Maps » Provincial and Territorial Outline » Manitoba

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
March 24, 2009

Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Department of Interior Design
201 Russell Bldg.
Winnipeg, MB   R3T 2N2

Ms. Baumgartner,

Formal permission is granted to use on a one time basis (for this purpose only) the following material. The map will be reproduced in your thesis entitled “A Model for Hospice Design in Rural Manitoba”.

Permission is also granted to the University of Manitoba for circulating, archiving copies and permitting photocopying of the material for personal use, including a non-exclusive license to the Library & Archives Canada and its agents to reproduce, loan, distribute, or sell copies of the thesis by any means and in any form or format.

Reference Maps - Provincial and Territorial Outline - Manitoba


The material should appear with an appropriate acknowledgement, for example “Reproduced with the permission of Natural Resources Canada 2009, courtesy of the Atlas of Canada.”

Sincerely,

Joanne Tremblay
Copyright Office
Data Dissemination Division
Earth Sciences Sector
From: Maria Baumgartner [mailto:mariabaumgartner@gmail.com]
Sent: March 23, 2009 21:45
To: Atlas, Info
Subject: Copyright Permission

Hi there,

Can I get permission to use the Province of Manitoba territorial outline for my thesis?
I am a Masters of Interior Design student in the Faculty of Architecture at the University of Manitoba in Winnipeg, Manitoba. I am conducting research on palliative care in rural Manitoba and have conducted a great deal of information on a site analysis of several rural communities and need to highlight their general location on a clear, simple map, as is the one provided on The Atlas of Canada site.

I have attached a Word Document with all necessary information for copyright permission to allow this image to be published in my thesis, upon its completion, sometime later this year.

Thank you and please consider this request.

Maria Baumgartner
Masters of Interior Design candidate
University of Manitoba


Copyright Forms -NRC.doc

34K
To Whom It May Concern:

I am writing to request permission to include the following material from the website of the Government of Manitoba - Community Profiles, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

Material requested:
Community Profiles – Municipality Maps
Accessed from:
http://communityprofiles.mb.ca/cgi-bin/csd/map_mun.cgi?id=4618031
http://communityprofiles.mb.ca/cgi-bin/csd/map_mun.cgi?id=4602046
http://communityprofiles.mb.ca/cgi-bin/csd/map_mun.cgi?id=4601051

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
March 26, 2009

Maria Baumgartner
20-395 River Avenue
Winnipeg MB  R3L 0C3

Dear Maria Baumgartner:

In response to your request, which was sent to us by email on March 23, 2009, I am pleased to grant you one-time permission to reproduce the maps of the RM of Gimli, Town of Niverville and LGD of Pinawa found in Community Profiles located on the Government of Manitoba website for inclusion in your thesis to identify possible locations of future, conceptual palliative care hospices. The maps we grant permission to reproduce are found at:

http://communityprofiles.mb.ca/cgi-bin/csd/map_mun.cgi?id=4618031;
http://communityprofiles.mb.ca/cgi-bin/csd/map_mun.cgi?id=4602046; and
http://communityprofiles.mb.ca/cgi-bin/csd/map_mun.cgi?id=4601051

The permission to reproduce this material is granted on the condition that any charge related to its publication is for the recovery of direct costs only and is not for profit.

As a condition of granting this permission, we ask that in the distribution of your materials you indicate in writing: “Permission to reproduce these maps is provided by the Queen’s Printer for Manitoba. The Queen’s Printer does not warrant the accuracy or currency of the reproduction of this information.”

Please feel free to contact me if there are any questions or problems.

Yours truly,

Original signed by

Cindy Stevens
Queen’s Printer for Manitoba
To Whom It May Concern:

I am writing to request permission to include the following material from the website of the Gimli Community Web, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**
Community of Siglavik Map
Accessed from:

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Hi there,
I was wondering if it would be possible to get copyright permission from you to use the map of Siglavik from http://www.gimlicommunityweb.com/maps/siglavik_development.php. I am a Masters of Interior Design student at the University of Manitoba in Winnipeg, conducting research on palliative care in rural Manitoba. I am proposing a "conceptual" hospice to be built in the Siglavik community and require a map to locate the lot it will be located on. Please note, that neither me, my faculty, nor the university will profit from this image being used in my thesis.

I have attached a Word document that states the above information and provides contact information for myself and my faculty at the University of Manitoba.

Thank you and please consider this educational request.

Maria Baumgartner
Masters of Interior Design student
University of Manitoba
Winnipeg, Manitoba

Copyright Forms - Gimli Community Web.doc

--- Original Message ----

Hi Maria,

I know its only a research project but that would be a great asset to our community.
For something as important as this, it would be my pleasure to let you use the map of Siglavik.
I have also included a map of Miklavik which is another development on the south side of Siglavik.

Keep up the great work, keep me posted :)
Good luck!!
Norman

No virus found in this incoming message.
Checked by AVG - www.avg.com
To Whom It May Concern:

I am writing to request permission to include the following material from the website of the DOWALT Custom Homes, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**
Fifth Avenue Estates Development Lot Plan
Accessed originally from:
http://www.dowalt.ca/pdf/development_fifthave.pdf

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
umbaumg0@cc.umanitoba.ca
Hi there,

I am a Masters of Interior Design student in the Faculty of Architecture at the University of Manitoba, in Winnipeg.

I am conducting my graduate research on palliative care and hospice in rural Manitoba and have selected the Fifth Avenue Estates Development in Niverville as one site for a potential, conceptual hospice to be implemented. Please note, the design of the hospice will NOT lead to a hospice being constructed here - this project is entirely conceptual. However, my work will be published, as noted in the attached Copyright Permission form, and I require a release to allow any visual information to be published.

I have a plan of the development that was posted on your website until very recently; I have attached it to this email. Your website has been updated since and new, coloured lot plan has replaced the old black and white one. I would permission to use the older lot plan in my thesis as I need to illustrate how the development is laid out and where my "hospice" would fit into the scenario.

Please review the attached Copyright form and consider this educational request.

Thank you very much,

Maria Baumgartner
Masters of Interior Design candidate
University of Manitoba

Hi Maria,

Yes you have our permission.

Have a good day

Rachel
To Whom It May Concern:

I am writing to request permission to include the following material from the website of www.pinawa.com, in a graduate thesis. The thesis, entitled A Model for Hospice Design in Rural Manitoba is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfiched by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC’s agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC’s Theses Canada (www.collectionscanada.ca/thesescanada).

Material requested:
Pinawa Map – Street Map

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
(204) 795-9305
Mariabaumgartner@gmail.com
Hi there,

I am currently finishing my Masters of Interior Design degree at the University of Manitoba. I am researching models for healthcare design in rural Manitoba, including the LGD of Pinawa (my hometown).

I am requesting permission to re-print the "Pinawa Street Map" from the www.pinawa.com website for use in my thesis work. It was obtained from this address: www.pinawa.com/documents/PinawaWebPrint-Map_gray_000.pdf. I am receiving no funding or payment for my written, graphic, and design work - the image will be used only for clarification in the document. To this email, I have attached a typical University of Manitoba copyright form further highlighting this information.

Please consider this educational request; it would mean a lot to me and the quality of the document that I will eventually produce.

Thank you,

Maria Baumgartner
Masters of Interior Design candidate
University of Manitoba

---

Dear Maria:

You certainly may use our map. It is on our website for people to print and use.

Good luck with your thesis,

Nancy Bremner
Community Development Officer
Pinawa Community Development Corporation
Box 234, Information Centre Pinawa Mall
Pinawa, MB CANADA R0E 1L0
1-800-806-0412, 204-753-5172
Fax 204-753-5180
bremnern@pinawa.com
www.pinawa.com

[Quoted text hidden]
To Whom It May Concern:

I am writing to request permission to include the following material from **Star Package Sales**, in a graduate thesis. The thesis, entitled **A Model for Hospice Design in Rural Manitoba** is part of my requirements as a student in the Department of Interior Design, Faculty of Architecture.

My practicum will be microfilmed by Library and Archives Canada (LAC). A microfiche copy of the practicum will be available for loan from LAC, and will be reproduced and sold in various formats through LAC's agent, University Microfilms International (UMI). My practicum will also be posted electronically in the University of Manitoba digital repository (https://mspace.lib.umanitoba.ca/dspace/index.jsp), and be accessible to a worldwide audience from LAC's Theses Canada (www.collectionscanada.ca/thesescanada).

**Material requested:**
Architectural Floor Plans, Sections, Elevations, Perspectives, and other applicable presentation images and drawings of the following Ready-to-Move (RTM) House Designs:
  1. Foxgrove
  2. New Evening Calm
  3. Atworth

Access to the thesis in digital format is free of charge and therefore, no profit will be realized from the work. Please respond in writing to confirm whether or not you will grant permission for the above-mentioned work to be included in my thesis, as well as any stipulations that you request.

Please note that each RTM house design, including any provided floor plans, elevations, section, elevations, and other drawings, is copyrighted by the owner, Star Package Sales. Copying is strictly prohibited. This clause will appear on the final practicum document beneath each image and drawing provided by Star
Package Sales. This clause will appear in the Acknowledgements page (at beginning of book) and in Appendices inserted in back of book.

Additionally, all graphically presented design images of the designed hospices are copyrighted. Copying is strictly prohibited.

Thank you very much for your consideration of this request.

Principal Researcher:
Maria E. Baumgartner
Masters of Interior Design
University of Manitoba
Winnipeg, MB
umbaumg0@cc.umanitoba.ca
Hi Jeff,

I have made those revisions, as discussed previously on the phone. I have attached all the forms with this email - two copies of each. If you could get your boss to sign them all, and mail them to me at the following address, I can then sign them and submit them to the university. At that point, I hope to get in contact with your designer and start to proceed with the architectural aspect of this project (at long last)!

Thanks so much for your time and patience,

Maria Baumgartner

Apartment:

or

Work:

Star Building Supply - Forms to Sign.pdf

106K

Hi Maria

The cover letter still reads Star Building Supply. Please change as we discussed to Star Package Sales.

Thank you

Jeff

From: Maria Baumgartner [mailto:mariabaumgartner@gmail.com]
Sent: November 6, 2008 4:11 PM
To: Jeff Meseman
Subject: Permission and Copyright Forms
Hi Jeff,

Sorry about that, I have revised the document.

Thanks,

Maria

Hi Jeff,

Here is the revised copyright permission letter, with information discussed in our phone meeting last week.

Thanks,

Maria Baumgartner

Thank you Maria-you should receive these in mail shortly.

Kind regards

Jeff Meseman
Sales Manager
Star Package Sales a Division of Star Building Materials
e-mail: jeffmeseman@starbuilding.mb.ca
Direct: 204-654-7925
Fax: 204-669-9494
Appendix Two - Ethics Information
1. Summary of Project: “A Model for Hospice Design in Rural Manitoba”

This Ethics Submission Form is part of my research for my Masters of Interior Design (MID) graduate practicum. The MID graduate practicum is broken into two parts:

1. Literature-based investigation into chosen area of interest
2. Practical solution derived from aforementioned investigation

My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness. For the investigation part of my practicum, I believe that visiting local Winnipeg hospices and palliative care wards would be helpful to gain insight into appropriate design choices. For the practical solution of my practicum, I need to obtain information from a local Ready-to-Move house developer on existing house designs that suit my design purposes.

Investigation Focus

At this time, I believe that gathering information from the professionals in the hospice and palliative care facilities would be ample enough for my practicum. As such, interviews with patients and visiting families and friends would not be required. I believe that it would be inappropriate to interfere with these grieving people at this time.

To be clear, the working professionals I hope to interview would mainly be palliative care nurses (registered nurses and licensed practical nurses), doctors, and social workers.

The centres I would like to visit are as follows:

- Riverview Health Centre – Palliative Care Unit (“3-East”)
  Patient Care Manager 478-6137 or Social Worker 478-6174
- St Boniface General Hospital Palliative Care Service
  Clinical Nurse Specialist 235-2236, Medical Director 25-3929, Social Worker 237-2344
- Grace Hospital – Hospice
  Contact: Salvation Army Grace Hospice 837-0763
- Jocelyn House (converted house to hospice)
  Contact: Jocelyn House 255-1781

Individuals at each facility will be contacted via a cold phone call, using the contact information identified above, which was retrieved via the internet.

These four facilities are examples of how palliative care and hospice facilities can be integrated into different building typologies. These range from research hospitals, converted houses, specialized long-term care centres, and
freestanding buildings in a hospital complex. Additionally, it would be desirable to view these places and talk with working professionals in the centres that may provide helpful information and advice when considering these types of healthcare facilities.

**Practical Solution**

I hope to visit a local Ready-to-Move house development company to identify potential house designs that could function in a new role as hospices. The company is called Star Package Sales, which are a division of Star Building Materials.

My practicum will address three hypothetical sites in three different communities in rural Manitoba. From Star Package Sales, I will need to obtain a floor plan and any photographs and available architectural perspective, section, and elevation drawings that might be available. Because I will be designing for three different sites, I will need three different house plans to work with. Once I have obtained these sets of information, I will be completely renovating the interiors so they can function as hypothetical hospices. Only the exterior walls, windows, roof, and other elements will remain as per the original RTM design. Everything else will be my design.

These altered building plans will appear in my final practicum document. I will be confirming with my contact at Star Package Sales whether he and the company wish to have their buildings information appear in the document or remain anonymous. As well, the company will be asked if they desire a copy of my design solution and/or an executive summary of the written component of my practicum.

My contact at Star Package Sales is Jeff Meseman, Sales Manager of Star Package Sales; his phone number is 654-7925.
2. Research Instruments

i.) Initial Contact Scripts

The initial contact with the subjects of my research has been made. The following is the script of the cold phone calls created for contacting the four palliative care/hospice facilities.

“Hi there, my name is Maria Baumgartner. I am a Masters of Interior Design student from the University of Manitoba. I am currently completing my Masters of Interior Design and working on my thesis research and design work. My research has been focused on addressing the need for palliative care in rural Manitoba with the provision of hospice facilities in various communities. My thesis is comprised of two parts - a written document outlining various theories, programming issues, and philosophical issues. The second half part is a design scheme for hospice design in rural Manitoba.

As part of my research, I would like to schedule a time to visit the facility to learn about design, function, and other insightful information about palliative care, its users, and the care providers. As such, a scheduled visit and question and answer period with a manager/director/nurse would be extremely beneficial.

Is it possible to schedule a time for this tour and conversation to happen? Depending on the size and availability of services in your facility, this could range from 1-3 hours, including time for a walking tour.”

The initial contact with the RTM company was made via email and is as follows:

Hi there,

I am a student at the University of Manitoba. I am currently completing my Masters of Interior Design and working on my thesis research and design work. My research has been focused on addressing the need for palliative care in rural Manitoba with the provision of hospice facilities in various communities. My thesis is comprised of two parts - a written document outlining various theories, programming issues, and philosophical issues. The second half part is a design scheme for hospice design in rural Manitoba.

Because the geography of Manitoba varies greatly, I believe that the hospices that I am conceptually designing would be housed in Ready-to-Move houses. These would be constructed in a central location (i.e. Winnipeg) and then moved to the various communities. I have begun to look at the various house plans on your website and found that some tweaking would be required to suit the unique requirements of a hospice.
At this time, I am wondering if your company would be interested in allowing me to use several of your RTMs as the basis for my project. I do not have the funds to pay for design services, but would include the company name and information within my published thesis document. I would require house plans for three different sized conceptual hospices - small, medium, and large square footages - probably ranging from 1700 sq ft to 2800 sq ft, not including double or triple car garage and a basement. Because of the ill health of the patients residing in the hospices, bungalows would be preferable for ease of mobility of stretchers and wheelchairs.

If you would like any more information or are interested in my work, feel free to contact me by email at: mariab Baumgartner@gmail.com or by phone at 795-9305.

Thank you and I look forward to hearing from you,

Maria Baumgartner

2. Research Instruments

ii.) Interview Questions

Interviews with palliative care nurses, doctors, and social workers will start with the following questions, but will undoubtedly be supplemented by spontaneous prompts and questions based on the new information being brought forward.

i.) Investigation Focus

Function
Personal Relations
- death of a resident
  - nurses, doctors, volunteers coping methods
  - final days/hours of patient
  - remain in facility?
  - moved to hospital?
- preservation of dignity
  - social activities
  - facility and bedroom personalization
  - mobility issues (handrails, universal accessibility, washrooms, provision of wheelchairs and walkers)
  - consideration for bedridden patients

Appendix Two - Ethics Documents
• medical issues
  - what are most common illnesses in facility?
  - equipment (storage issues)
  - medication (pain, vitamins) (storage + delivery)
  - treatment (pain modification, oxygen supply)
  - alternative treatment (chiropractic, multi-sensory stimulation)
  - maintenance of diets, activity, fluid levels as illness progresses

• staff
  - types of employees (nurses, doctors, social workers, specialists)
  - quantity of employees and volunteers
  - quantity of suites for patients
  - staff only areas for rest, eating, paperwork, changing, showering?
  - culture/organization of staff support concept of palliative care?

• other
  - certain illnesses/disabilities that cannot be dealt with? (advanced dementia, infectious disease, immobility?)
  - applicants turned away?
  - typical duration of patient’s stay until death

Design
Successful Elements
  - organization of rooms
  - proximity to hospitals
  - seclusion from city traffic
  - ramp access to outdoors
  - size of patient rooms

Unsuccessful elements
  - poor acoustics
  - undesirable views
  - parking
  - lack of storage
  - inoperable windows
  - lack of accessible features

Personalization
  - photographs on door
  - residents bring own bedding, furniture, books

Shared Areas/Public Spaces
  - living rooms, dining areas, outdoor gardens, multi-purpose spaces
Guest Suites
- how many?
- what features?
- how close to patient rooms?
- what provisions for those staying overnight/several days
- who are typical users? families, visitors, volunteers?

Hygiene
- bathing spaces (individual patient washrooms, separate shower rooms for those requiring assistance, tub rooms?)
- cleaning schedule and requirements
- laundry in facility or out? If so, how often does this happen?

Other
- cooking in facility or elsewhere?
- call system or alarm system? Internal system or does it connect with another facility?
- zone for transportation vehicles to load and unload goods?
- facility’s evolution and growth in future
- facility funding (Winnipeg Regional Health Authority, donations, volunteer efforts, other)

ii.) Practical Solution

These questions will be asked of my contact at Star Package Sales.

Design
- RTMs and building code
  - meet provincial and federal codes?
  - electrical, HVAC, fire, CMHC codes and regulations

- accessibility issues
  - existing “accessible” RTM designs?
  - enlarged exterior doors for stretchers, wheelchairs, deliveries
  - concrete board vs. gypsum board for additional wall protection

- possibility of converting interior to new use
  - moving plumbing, sewer, structural, mechanical components
  - converting attached garage into bedrooms
  - ability to renovate in future

- positioning 2-4 RTMs together/back-to-back
  - get required square footage for quantity of bedrooms
  - creating atrium/common space between each “wing”
• energy-efficiency and green building techniques
  - types of insulation used
  - possible upgrades to increase efficiency

• foundation vs. crawlspace
  - requirements prior to placement of RTM
  - insulation between RTM floor joists and basement/crawlspace

• acoustics
  - possibility for insulation in interior walls
  - different ceiling materials types (sound absorption/reflection)
3. Study Subjects

Investigation Focus Subjects

The subjects will be four professionals employed at each of the four facilities – Riverview Health Centre, St Boniface General Hospital, Grace Hospital, and Jocelyn House. These people are educated and trained in the areas of social work, medicine, and nursing, with emphasis on palliative care.

Practical Solution Subjects

The subject will be the Sales Manager at Star Package Sales, plus any on-site designers who may help to answer my questions.

On page two, question two asks about obtaining information about subjects from other sources. In this case, all subjects have been recruited from information provided on the five sites’ websites – either by name, title, or as general contact information. I will ask participants to identify themselves by name and title during the interview.

Also on page two, question five asks how subjects will identify themselves. Yes, subjects will personally identify themselves to me during the interview, with both their name and their job title. Confidentiality will be maintained via the consent letter with a clause that asks the individual if they wish to remain anonymous in my practicum. As well, I will be using pseudonyms for the interviewees in the practicum to ensure confidentiality is maintained.

It is not desirable at this time to interview facility residents, families, volunteers, or friends at the palliative care and hospice facilities.

Requirements of potential palliative care subjects include:

- willingness to participate
- understanding of facility and how it functions
- signed consent form from each individual
- signed consent forms from each facility
- having no vulnerability that would require extra measures
- ability to tour me around facility
- ability to dedicate 1-3 hours to answer my questions and ask me questions (depending on size and complexity of facility)

4. Consent

Written consent forms will be required when interacting with participants. In some circumstances, consent forms from each facility may be provided.

5. Deception

No deception will occur with my research.
6. Feedback
Feedback to each participant will be sent out if the participant or facility asks for it. A statement asking the participant and/or facility for feedback will be included with each consent form. Feedback will occur after practicum is approved.

7. Risks/Benefits
There are no risks associated with this project. Benefits from this project will be for my research work.

8. Anonymity/Confidentiality
Information gathered from the visits will be recorded in a journal for future reference will working on my practicum. Any information that arises during the interviews that might have an effect upon residents’ dignity, health, or other circumstances will not be recorded. As well, any information that might identify residents, volunteers, family, friends, or workers at facilities will not be recorded. Only those people being interviewed and who have signed the consent forms will have their names recorded. Recorded information will remain property of researcher, Maria Baumgartner, and will not be passed onto other individuals. Any electronic information received from Star Package Sales, such as drawings and photos, will be kept on my password-secured computer and deleted when finished with. All documentation will be kept in a locked drawer at the home of Maria Baumgartner until the practicum has been successfully defended; at that point, it will be destroyed.

A statement asking the participant and/or facility if he/she wishes to remain anonymous in practicum document will be included with each consent form.

9. Compensation
No compensation will occur between researchers and participants.
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I wish to visit Star Package Sales to learn more about Ready-to-Move houses and to acquire building plan information and drawings. As such, a visit with the subject and permission to obtain building information will be required. This information may happen all in one day or could be broken up over several days, depending on the subject’s schedule. A series of interview questions have been created for the visit and about 3 hours would be sufficient time to answer questions and tour the manufacturing area.

There is no harm that will arise from the investigation. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. The journal will be kept in a locked drawer when it is not needed and will be destroyed once the practicum has been successfully defended. Other information, such as drawings and images, will remain in my possession, locked in a drawer or saved on my computer-protected personal computer, and destroyed once the practicum has been successfully defended or will be returned to Star Package Sales if need be.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbau0g0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

-------------------------------------------------------------------------------Provide for Signatures as Required-------------------------------------------------------------------------------

Participant’s Signature                                                  Date

Researcher and/or Delegate’s Signature                      Date

If you wish the facility to receive feedback after the investigation has occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐  
Facility Name: ________________________________________________________________
Street Address: ________________________________________________________________
City/Province: ________________________________________________________________
Postal Code: __________________
Phone Number: __________________
Email: __________________

If you wish to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I wish to visit Star Package Sales to learn more about Ready-to-Move houses and to acquire building plan information and drawings. As such, a visit with the subject and permission to obtain building information will be required. This information may happen all in one day or could be broken up over several days, depending on the subject’s schedule. This form is a consent letter allowing me, the researcher, to visit the facility and obtain information from the facility.

There is no harm that will arise from the investigation. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. The journal will be kept in a locked drawer when it is not needed and will be destroyed once the practicum has been successfully defended. Other information, such as drawings and images, will remain in my possession, locked in a drawer or saved on my computer-protected personal computer, and destroyed once the practicum has been successfully defended or will be returned to Star Package Sales if need be.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor: Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

-------------------------------------------------------------------Provide for Signatures as Required-------------------------------------------------------------------

Participant’s Signature  Date

Researcher and/or Delegate’s Signature  Date

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: ________________________________
Street Address: ___________________________________________________________
City/Province: ________________________________
Postal Code: ___________________________
Phone Number: ___________________________
Email: ________________________________________________________________

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. As such, a visit to these facilities involving a tour and discussion with an employee would be required. This form is a consent letter allowing me, the researcher, to visit the facility and learn about its design, function, and other issues.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents' and staff members' dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work. All electronic data will be saved on my password-protected personal computer.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor: Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

---------------------------------------------------Provide for Signatures as Required---------------------------------------------------

Participant’s Signature                                                  Date

Researcher and/or Delegate’s Signature                      Date

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐
Facility Name:__________________________________________________________
Street Address: ________________________________________________________
City/Province: __________________________________________________________
Postal Code: __________________
Phone Number: ________________
Email: ________________________________________________________________

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. Additionally, it will be desirable to view these places and talk with working professionals in the centres that may provide helpful information and advice when considering these types of healthcare facilities. As such, a visit with the subject involving a guided tour of the facility will be required. No more than three (3) hours will be required for the guided tour and interview question and answer period. It is preferred that this tour and interview period occur in only one (1) visit to the facility.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents’ and staff members’ dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner

Advisor: Dr. Cynthia Karpan

(204) 795-9305       (204) 474-6075
umbaumg0@cc.umanitoba.ca

(204) 474-9458
Fax: (204) 474-7532
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

-------------------------------------------------------------------------------------------------------------------Provide for Signatures as Required-------------------------------------------------------------------------------------------------------------------

Participant’s Signature Date

Researcher and/or Delegate’s Signature Date

If you wish to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐ Facility Name: ____________________________________________________________
Street Address: ____________________________________________________________
City/Province: ____________________________________________________________
Postal Code: __________________
Phone Number: ________________
Email: __________________________

If you wish to remain anonymous in the final practicum document, please check or circle the box below.

☐
23 October 2008

TO: Maria Baumgartner  
Principal Investigator

FROM: Wayne Taylor, Chair  
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2008:137  
“A Model for Hospice Design in Rural Manitoba”

Your above-noted protocol was reviewed by members of the Joint-Faculty Research Ethics Board. A few concerns were noted and are listed below:

1. Please clarify how permission to observe in the palliative care will be obtained.

   Permission to observe in the palliative care units will be obtained with an initial conversation on the phone, supplemented by the signing of the consent forms. The phone conversation will be similar to the following:

   “Hi there, my name is Maria Baumgartner. I am a Masters of Interior Design student from the University of Manitoba. I am currently completing my Masters of Interior Design and working on my thesis research and design work. My research has been focused on addressing the need for palliative care in rural Manitoba with the provision of hospice facilities in various communities. My thesis is comprised of two parts - a written document outlining various theories, programming issues, and philosophical issues. The second half part is a design scheme for hospice design in rural Manitoba.

   As part of my research, I would like to schedule a time to visit the facility to learn about design, function, and other insightful information about palliative care, its users, and the care providers. As such, a scheduled visit and question and answer period with a manager/director/nurse would be extremely beneficial.

   Is it possible to schedule a time for this tour and conversation to happen? Depending on the size and availability of services in your facility, this could range from 1-3 hours, including time for a walking tour.”

2. Please clarify how many interviews will take place with staff in the four palliative care facilities?

   Only one interview will take place with the staff at each of the four palliative care facilities; thus, four interviews in all will occur. This is because of the sensitive nature of the facilities, in addition to possible time, weather and transportation constraints for the investigator, Maria Baumgartner.

3. Please clarify how long the interviews will be. (Please add 2. and 3. To your consent form.)

   The interviews will be no longer than three hours, including tours. The amount of time for a tour of the facility plus an interview period will vary upon size of facility and amount of available time of staff.
4. Please clarify how you will handle a confidentiality/anonymity request from staff in a hospital/facility that has opted to be named.

   If a staff member wishes to remain anonymous in a facility that does not, he or she will be given a pseudonym instead.

5. Please correct the typos on p. 14, p. 16, p. 18, p. 20 “provnice”, and syntactical error p. 14, p. 18 (“if you wish for to remain anonymous”).

6. If you have made contact with possible respondents before this application was approved, please contact Maggie Bowman.

Approval is pending your response to the above items. Your written response, including a cover letter which addresses each of the above items, and includes any revised forms (with revisions highlighted, if possible), should be forwarded to Margaret (Maggie) Bowman, Human Ethics Coordinator, 208 - 194 Dafoe Road (CTC Building), or by e-mail to margaret_bowman@umanitoba.ca, or by fax to 269-7173. (Please note that there is no need to re-submit the entire submission, just those pertinent sections.) If you have questions, please contact the Chair at 474-8877.
APPROVAL CERTIFICATE

14 November 2008

TO: Maria Baumgartner (Advisor C. Karpan)
Principal Investigator

FROM: Wayne Taylor, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2008:137
“A Model for Hospice Design in Rural Manitoba”

Please be advised that your above-referenced protocol has received human ethics approval by the Joint-Faculty Research Ethics Board, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- if you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to Kathryn Bartmanovich, Research Grants & Contract Services (fax 261-0325), including the Sponsor name, before your account can be opened.

- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I wish to visit Star Package Sales to learn more about Ready-to-Move houses and to acquire building plan information and drawings. As such, a visit with the subject and permission to obtain building information will be required. This information may happen all in one day or could be broken up over several days, depending on the subject's schedule. This form is a consent letter allowing me, the researcher, to visit the facility and obtain information from the facility.

There is no harm that will arise from the investigation. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. The journal will be kept in a locked drawer when it is not needed and will be destroyed once the practicum has been successfully defended. Other information, such as drawings and images, will remain in my possession, locked in a drawer or saved on my computer-protected personal computer, and destroyed once the practicum has been successfully defended or will be returned to Star Package Sales if need be.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba's Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpman
(204) 474-8075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

[Signature]

Participant’s Signature Date

Researcher and/or Delegate’s Signature Date

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: ____________________________
Street Address: ____________________________
City/Province: ____________________________
Postal Code: ____________________________
Phone Number: ____________________________
Email: ____________________________

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I wish to visit Star Package Sales to learn more about Ready-to-Move houses and to acquire building plan information and drawings. As such, a visit with the subject and permission to obtain building information will be required. This information may happen all in one day or be broken up over several days, depending on the subject’s schedule. A series of interview questions have been created for the visit and about 3 hours would be sufficient time to answer questions and tour the manufacturing area.

There is no harm that will arise from the investigation. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. The journal will be kept in a locked drawer when it is not needed and will be destroyed once the practicum has been successfully defended. Other information, such as drawings and images, will remain in my possession, locked in a drawer or saved on my computer-protected personal computer, and destroyed once the practicum has been successfully defended or will be returned to Star Package Sales if need be.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbaug0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

Participant’s Signature Date

Researcher and/or Delegate’s Signature Date

If you wish the facility to receive feedback after the investigation has occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

□

Facility Name: __________________________
Street Address: __________________________
City/Province: __________________________
Postal Code: __________________________
Phone Number: __________________________
Email: __________________________

If you wish for to remain anonymous in the final practicum document, please check or circle the box below.

□
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. Additionally, it will be desirable to view these places and talk with working professionals in the centres that may provide helpful information and advice when considering these types of healthcare facilities. As such, a visit with the subject involving a guided tour of the facility will be required. No more than three (3) hours will be required for the guided tour and interview question and answer period. It is preferred that this tour and interview period occur in only one (1) visit to the facility.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents' and staff members' dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba's Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpan
(204) 474-8075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

__________________________  ____________________________
Participant’s Signature       Date

__________________________  ____________________________
Researcher and/or Delegate’s Signature Date

If you wish to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: ____________________________________________
Street Address: __________________________________________
City/Province: ____________________________________________
Postal Code: ______________________
Phone Number: ______________________
Email: _____________________________

If you wish to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. As such, a visit to these facilities involving a tour and discussion with an employee would be required. This form is a consent letter allowing me, the researcher, to visit the facility and learn about its design, function, and other issues.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents’ and staff members’ dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work. All electronic data will be saved on my password-protected personal computer.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor: Dr. Cynthia Karpan
(204) 474-6075

This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human
Appendix Two - Ethics Documents

Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

-----------------------------------Provide for Signatures as Required-----------------------------------

[Signature]
Participant's Signature

[Date]
Dec. 11/08

[Signature]
Researcher and/or Delegate's Signature

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name:

Street Address:

City/Province:

Postal Code:

Phone Number:

Email:

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. Additionally, it will be desirable to view these places and talk with working professionals in the centres that may provide helpful information and advice when considering these types of healthcare facilities. As such, a visit with the subject involving a guided tour of the facility will be required. No more than three (3) hours will be required for the guided tour and interview question and answer period. It is preferred that this tour and interview period occur in only one (1) visit to the facility.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents' and staff members' dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba's Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor: Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

Participant’s Signature: [Signature] Date: Dec. 15/08

Researcher and/or Delegate’s Signature: [Signature] Date: December 14/08

If you wish to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: RITC
Street Address: 
City/Province: Winnipeg
Postal Code: 
Phone Number: 
Email: 

If you wish to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. As such, a visit to these facilities involving a tour and discussion with an employee would be required. This form is a consent letter allowing me, the researcher, to visit the facility and learn about its design, function, and other issues.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents' and staff members' dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba's Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work. All electronic data will be saved on my password-protected personal computer.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and for refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner

Advisor: Dr. Cynthia Karpan
(204) 474-6075

umbaumg0@cc.umanitoba.ca

This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human
Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

____________________________________________________________________________________

Provide for Signatures as Required

[Signature]
Participant's Signature
Date

[Signature]
Researcher and/or Delegate's Signature
Date

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: ________________________________
Street Address: _______________________________
City/Province: ________________________________
Postal Code: _________________________________
Phone Number: _______________________________
Email: _______________________________________

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Faculty of Architecture

Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. Additionally, it will be desirable to view these places and talk with working professionals in the centres that may provide helpful information and advice when considering these types of healthcare facilities. As such, a visit with the subject involving a guided tour of the facility will be required. No more than three (3) hours will be required for the guided tour and interview question and answer period. It is preferred that this tour and interview period occur in only one (1) visit to the facility.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents' and staff members' dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba's Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

Participant's Signature

Date

Researcher and/or Delegate's Signature

Date

If you wish to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐ Facility Name: DYN HOSPITAL
Street Address: 177 CLERKENWELL ROAD
City/Province: WINNIPEG
Postal Code: R3M 4W7
Phone Number:
Email:

If you wish to remain anonymous in the final practicum document, please check or circle the box below.

☐
Appendix Two - Ethics Documents

Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. As such, a visit to these facilities involving a tour and discussion with an employee would be required. This form is a consent letter allowing me, the researcher, to visit the facility and learn about its design, function, and other issues.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents' and staff members' dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba's Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work. All electronic data will be saved on my password-protected personal computer.

Your signature on this form indicates that you have understood the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Maria E. Baumgartner
Advisor: Dr. Cynthia Karpan
umbause00@cc.umanitoba.ca

(204) 474-8075

This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human

Appendix Two - Ethics Documents

255
Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required:

[Signature]
Date: 08/17/08

Participant's Signature

[Signature]
Date

Researcher and/or Delegate's Signature

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: JOCELYN HOUSE
Street Address: 177 ELEKTON ROAD.
City/Province: WINNIPEG, MANITOBA.
Postal Code: R3M 3W7
Phone Number: 055-1781 - EXT 235
Email: jtvand@ymcasp.ca

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. Additionally, it will be desirable to view these places and talk with working professionals in the centers that may provide helpful information and advice when considering these types of healthcare facilities. As such, a visit with the subject involving a guided tour of the facility will be required. No more than three (3) hours will be required for the guided tour and interview question and answer period. It is preferred that this tour and interview period occur in only one (1) visit to the facility.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents’ and staff members’ dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

Subjects will be able to receive feedback from the researcher via email or post, if he/she so desires. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpan
(204) 474-6075
This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

Signed
Participant’s Signature

Date

Researcher and/or Delegate’s Signature

Date

If you wish to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐ Facility Name:
☐ Street Address:
☐ City/Province:
☐ Postal Code:
☐ Phone Number:
☐ Email:

If you wish to remain anonymous in the final practicum document, please check or circle the box below.

☐
Appendix Two - Ethics Documents

Research Project Title: A Model for Hospice Design in Rural Manitoba

Researcher: Maria E. Baumgartner

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This form is part of my research for my Masters of Interior Design graduate practicum. My practicum is focusing on the need for hospice and palliative care programs in rural Manitoba, with the main users intended to be older adults suffering from terminal illness.

As part of my research, I believe that visiting local Winnipeg hospices and palliative care wards will be helpful to gain insight into appropriate design choices. As such, a visit to these facilities involving a tour and discussion with an employee would be required. This form is a consent letter allowing me, the researcher, to visit the facility and learn about its design, function, and other issues.

There is no harm that will arise from the tour and interview. All information gained from this meeting visit will be recorded in a bound journal, which will remain in possession of me for the remainder of my graduate program. Any information that contradicts residents’ and staff members’ dignity, health, or other circumstances will not be recorded. The journal will be kept in a locked drawer when it is not needed and will be destroyed once finished with.

The facility will be able to receive feedback from the researcher via email or post, if desired. Additionally, the practicum will be published online via the University of Manitoba’s Electronic Theses and Dissertation program. No remuneration or compensation to the subject and related facility will occur with this work. All electronic data will be saved on my password-protected personal computer.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher:
Maria E. Baumgartner
umbaumg0@cc.umanitoba.ca

Advisor:
Dr. Cynthia Karpan
(204) 474-6075

This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human
Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Provide for Signatures as Required

[Signature]
Participant's Signature

[Signature]
Researcher and/or Delegate's Signature

Jan. 23/09
Date

Jan. 3, 2009
Date

If you wish the facility to receive feedback after the tour and interviews have occurred, please check or circle the box below and fill out the mailing information. This feedback will occur once the practicum is approved.

☐

Facility Name: St. Boniface Hosp. Palliative Care Unit SA
Street Address: 409 Tache Ave.
City/Province: Winnipeg, MB
Postal Code: R3H 2A6
Phone Number: 234-2344
Email: LMCKELLA@SHBGH.MB.CA

If you wish for the facility to remain anonymous in the final practicum document, please check or circle the box below.

☐
Appendix Three - Construction Cost Estimates
Construction Costs

During the question period after my Intermediate Presentation, one of the requirements for this practicum, I was asked just how feasible this project would actually be, if it were to be constructed. Because of the main restrictions with more hospice and palliative care programs is a lack of funding, I was asked to compare construction and design costs between a typical built-on-site building and a Ready-to-Move building.

I was able to obtain pricing on typical RTM units through the website of the builders I had been working with; this is typically around $100,000, not including freight, land, taxes, additional labour, design fees, and concrete foundation. I then looked to RS Means, a standard reference guide for construction costs, and discovered their online trial pricing program, www.MeansCostWorks.com. I concluded that the typology of an Assisted Senior Living building complete with brick veneer on a wood frame structure would be the most similar to hospice.
## Square Foot Cost Estimate Report

**Estimate Name:** Untitled  
**Building Type:** Nursing Home with Face Brick with Concrete Block Back-up / Steel Joists  
**Location:** BRANDON, MB  
**Story Count:** 2  
**Story Height (L.F.):** 10  
**Floor Area (S.F.):** 8500  
**Labor Type:** Union  
**Basement Included:** No  
**Data Release:** Year 2009  
**Cost Per Square Foot:** $206.06  
**Building Cost:** $1,751,500

Costs are derived from a building model with basic components. Scope differences and market conditions can cause costs to vary significantly.

<table>
<thead>
<tr>
<th>Substructure</th>
<th>% of Total</th>
<th>Cost Per S.F.</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Substructure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1010 Standard Foundations</td>
<td>4.80%</td>
<td>$7.12</td>
<td>$60,500</td>
</tr>
<tr>
<td>A1030 Slab on Grade</td>
<td></td>
<td>$2.53</td>
<td>$21,500</td>
</tr>
<tr>
<td>A2010 Basement Excavation storage</td>
<td></td>
<td>$0.12</td>
<td>$1,000</td>
</tr>
<tr>
<td>A2020 Basement Walls</td>
<td></td>
<td>$3.00</td>
<td>$25,500</td>
</tr>
<tr>
<td>B Shell</td>
<td>30.10%</td>
<td>$44.76</td>
<td>$380,500</td>
</tr>
<tr>
<td>B1010 Floor Construction</td>
<td></td>
<td>$14.06</td>
<td>$119,500</td>
</tr>
<tr>
<td>B1020 Roof Construction</td>
<td></td>
<td>$6.35</td>
<td>$54,000</td>
</tr>
<tr>
<td>B2010 Exterior Walls perlite core fill</td>
<td></td>
<td>$16.41</td>
<td>$139,500</td>
</tr>
<tr>
<td>B2020 Exterior Windows Windows, aluminum, sliding, insulated glass, 5' x 3'</td>
<td></td>
<td>$4.07</td>
<td>$35,000</td>
</tr>
<tr>
<td>B2030 Exterior Doors hardware, 6'-0&quot; x 10'-0&quot; opening Door, birch, solid core, single door, hinged, 3'-0&quot; x 7'-0&quot; opening</td>
<td></td>
<td>$0.47</td>
<td>$4,000</td>
</tr>
<tr>
<td>B3010 Roof Coverings Insulation, rigid, roof deck, composite with 2&quot; EPS, 1&quot; perlite Roof edges, aluminum, duranodic, .050&quot; thick, 6&quot; face Gutters, box, aluminum, .027&quot; thick, 5&quot;, enameled finish thick Gravel stop, aluminum, extruded, 4&quot;, mill finish, .050&quot; thick</td>
<td></td>
<td>$3.24</td>
<td>$27,500</td>
</tr>
<tr>
<td>B3020 Roof Openings</td>
<td></td>
<td>$0.12</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

Appendix Three - Construction Cost Estimates
<table>
<thead>
<tr>
<th>C Interiors</th>
<th>16.30%</th>
<th>$24.18</th>
<th>$205,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1010 Partitions</td>
<td>$6.41</td>
<td>$54,500</td>
<td></td>
</tr>
<tr>
<td>board base, 3-5/8&quot; @ 24&quot;, same opposite face, no insulation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2&quot; fire rated gypsum board, taped &amp; finished, painted on metal furring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1020 Interior Doors</td>
<td>$6.53</td>
<td>$55,500</td>
<td></td>
</tr>
<tr>
<td>Door, single leaf, wood frame, 3'-0&quot; x 7'-0&quot; x 1-3/8&quot;, birch, solid core</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2010 Stair Construction</td>
<td>$2.53</td>
<td>$21,500</td>
<td></td>
</tr>
<tr>
<td>Stairs, steel, cement filled metal pan &amp; picket rail, 16 risers, with landing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3010 Wall Finishes</td>
<td>$2.59</td>
<td>$22,000</td>
<td></td>
</tr>
<tr>
<td>Vinyl wall covering, fabric back, medium weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceramic tile, thin set, 4-1/4&quot; x 4-1/4&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3020 Floor Finishes</td>
<td>$3.29</td>
<td>$28,000</td>
<td></td>
</tr>
<tr>
<td>Vinyl, composition tile, maximum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tile, ceramic natural clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3030 Ceiling Finishes</td>
<td>$2.82</td>
<td>$24,000</td>
<td></td>
</tr>
<tr>
<td>finish, 7/8&quot;resilient channel furring, 24&quot; OC support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Services</td>
<td>44.10%</td>
<td>$65.53</td>
<td>$557,000</td>
</tr>
<tr>
<td>D1010 Elevators and Lifts</td>
<td>$14.35</td>
<td>$122,000</td>
<td></td>
</tr>
<tr>
<td>1 - Hydraulic, passenger elevator, 1500 lb, 2 floors, 100 FPM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic hospital elevator, 4000 lb., 125 FPM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2010 Plumbing Fixtures</td>
<td>$11.59</td>
<td>$98,500</td>
<td></td>
</tr>
<tr>
<td>Water closet, vitreous china, tank type, 1 piece low profile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal, vitreous china, stall type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lavatory w/trim, wall hung, PE on CI, 19&quot; x 17&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen sink w/trim, countertop, stainless steel, 44&quot; x 22&quot; triple bowl compartment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service sink w/trim, PE on CI, corner floor, wall hung w/rim guard, 22&quot; x 18&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathtub, recessed, PE on CI, mat bottom, 5'-6&quot; long</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shower, stall, baked enamel, terrazzo receptor, 36&quot; square</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water cooler, electric, wall hung, wheelchair type, 7.5 GPH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2020 Domestic Water Distribution</td>
<td>$3.76</td>
<td>$32,000</td>
<td></td>
</tr>
<tr>
<td>247 GPH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2040 Rain Water Drainage</td>
<td>$0.82</td>
<td>$7,000</td>
<td></td>
</tr>
<tr>
<td>Roof drain, CI, soil, single hub, 5&quot; diam, 10' high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof drain, CI, soil, single hub, 5&quot; diam, for each additional foot add</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D3010 Energy Supply</td>
<td>$7.00</td>
<td>$59,500</td>
<td></td>
</tr>
<tr>
<td>20,000 SF area, 200,000 CF vol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D3050 Terminal &amp; Package Units</td>
<td>$7.06</td>
<td>$60,000</td>
<td></td>
</tr>
<tr>
<td>D4010 Sprinklers</td>
<td>$4.47</td>
<td>$38,000</td>
<td></td>
</tr>
<tr>
<td>Wet pipe sprinkler systems, steel, light hazard, 1 floor, 10,000 SF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5010 Electrical Service/Distribution</td>
<td>$6.71</td>
<td>$57,000</td>
<td></td>
</tr>
<tr>
<td>phase, 4 wire, 120/208 V, 800 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeder installation 600 V, including RGS conduit and XHHW wire, 800 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switchgear installation, incl switchboard, panels &amp; circuit breaker, 800 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5020 Lighting and Branch Wiring</td>
<td>$8.53</td>
<td>$72,500</td>
<td></td>
</tr>
</tbody>
</table>

Appendix Three - Construction Cost Estimates

303
Receptacles incl plate, box, conduit, wire, 10 per 1000 SF, 1.2 watts per SF
Wall switches, 2.0 per 1000 SF
Miscellaneous power, 1 watt
Central air conditioning power, 4 watts
Motor installation, three phase, 200 V, 15 HP motor size fixtures per 1000 SF

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5030</td>
<td>Communications and Security</td>
<td>$0.65</td>
<td>$5,500</td>
</tr>
<tr>
<td></td>
<td>detectors, includes outlets, boxes, conduit and wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5090</td>
<td>Other Electrical Systems</td>
<td>$0.59</td>
<td>$5,000</td>
</tr>
<tr>
<td></td>
<td>gas/gasoline operated, 3 phase, 4 wire, 277/480 V, 15 kW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**E Equipment & Furnishings**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1090</td>
<td>Other Equipment</td>
<td>4.70%</td>
<td>$6.94</td>
</tr>
</tbody>
</table>

60"
1 - T.V. SYSTEMS, VHF reception & distribution, 100 outlets
6" h, incl. doors & floors, excl. partitions or refrigeration
6 - Nurse call systems, single bedside call station
1 - Laundry equipment, washer, commercial, coin operated, average
30 lb capacity
standard oven, 36" wide
1 - Ice cube maker, commercial kitchen equipment, 50 lbs per day
1 - Freezers, commercial kitchen equipment, reach-in, 44 C.F.
1 - Food warmer, commercial kitchen equipment, counter, 1.2KW
1 - Dishwasher, commercial kitchen equipment, 10 to 12 racks per hour
1 - Cooler, commercial kitchen equipment, reach-in, beverage, 6' long
1 - Coffee urn, commercial kitchen equipment, twin, 6 gallon
1 - Broiler, commercial kitchen equipment, without oven, standard
6 - Intercommunication outlet
1 - Intercommunication master station, 25 station capacity
25 W, 6 V each
6 - Hospital furniture, beds, manual, minimum

**F Special Construction**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>F0000</td>
<td>0.00%</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**G Building Sitework**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>G0000</td>
<td>0.00%</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**SubTotal**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>SubTotal</td>
<td>100%</td>
<td>$148.53</td>
</tr>
</tbody>
</table>

**Contractor Fees (General Conditions, Overhead, Profit)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Fees</td>
<td>25.00%</td>
<td>$37.12</td>
</tr>
</tbody>
</table>

**Architectural Fees**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architectural Fees</td>
<td>11.00%</td>
<td>$20.41</td>
</tr>
</tbody>
</table>

**User Fees**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Fees</td>
<td>0.00%</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Total Building Cost**

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Building Cost</td>
<td></td>
<td>$206.06</td>
</tr>
</tbody>
</table>
### Square Foot Cost Estimate Report

<table>
<thead>
<tr>
<th>Estimate Name</th>
<th>Untitled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Type</td>
<td>Hospital, 2-3 Story with Face Brick with Concrete Block Back-up / Steel Frame</td>
</tr>
<tr>
<td>Location</td>
<td>BRANDON, MB</td>
</tr>
<tr>
<td>Story Count</td>
<td>3</td>
</tr>
<tr>
<td>Story Height (L.F.)</td>
<td>12</td>
</tr>
<tr>
<td>Floor Area (S.F.)</td>
<td>55000</td>
</tr>
<tr>
<td>Labor Type</td>
<td>Union</td>
</tr>
<tr>
<td>Basement Included</td>
<td>No</td>
</tr>
<tr>
<td>Data Release</td>
<td>Year 2009</td>
</tr>
<tr>
<td>Cost Per Square Foot</td>
<td>$277.50</td>
</tr>
<tr>
<td>Building Cost</td>
<td>$15,262,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% of Total</th>
<th>Cost Per S.F.</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Substructure</td>
<td>2.30%</td>
<td>$4.65</td>
</tr>
<tr>
<td>A1010 Standard Foundations</td>
<td></td>
<td>$2.08</td>
</tr>
<tr>
<td>A1030 Slab on Grade</td>
<td></td>
<td>$1.70</td>
</tr>
<tr>
<td>A2010 Basement Excavation</td>
<td></td>
<td>$0.05</td>
</tr>
<tr>
<td>A2020 Basement Walls</td>
<td></td>
<td>$0.83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% of Total</th>
<th>Cost Per S.F.</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>B Shell</td>
<td>15.90%</td>
<td>$32.30</td>
</tr>
<tr>
<td>B1010 Floor Construction</td>
<td></td>
<td>$16.63</td>
</tr>
<tr>
<td>B1020 Roof Construction</td>
<td></td>
<td>$3.34</td>
</tr>
<tr>
<td>B2010 Exterior Walls</td>
<td></td>
<td>$8.52</td>
</tr>
<tr>
<td>B2020 Exterior Windows</td>
<td></td>
<td>$1.85</td>
</tr>
<tr>
<td>B2030 Exterior Doors</td>
<td></td>
<td>$0.33</td>
</tr>
<tr>
<td>B3010 Roof Coverings</td>
<td></td>
<td>$1.62</td>
</tr>
<tr>
<td>B3020 Roof Openings</td>
<td></td>
<td>$0.02</td>
</tr>
</tbody>
</table>

Costs are derived from a building model with basic components. Scope differences and market conditions can cause costs to vary significantly.
### C Interiors

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1010 Partitions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete block (CMU) partition, light weight,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hollow, 6&quot; thick, no finish gypsum board base,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5/8&quot; @ 24&quot; @ 24&quot;, same opposite face, no</td>
<td></td>
<td>$7.83</td>
<td>$430,500</td>
</tr>
<tr>
<td>insulation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gypsum board, 1 face only, 5/8&quot; with 1/16&quot; lead</td>
<td></td>
<td>$7.83</td>
<td>$430,500</td>
</tr>
<tr>
<td>C1020 Interior Doors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'-0&quot; x 7'-0&quot; x 1-3/8&quot;</td>
<td></td>
<td>$9.65</td>
<td>$531,000</td>
</tr>
<tr>
<td>0' x 1-3/8&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1030 Fittings</td>
<td></td>
<td>$0.85</td>
<td>$46,500</td>
</tr>
<tr>
<td>Partitions, hospital curtain, ceiling hung,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>poly oxford cloth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2010 Stair Construction</td>
<td></td>
<td>$1.15</td>
<td>$63,000</td>
</tr>
<tr>
<td>Stairs, CIP concrete, w/landing, 20 risers, w/o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nosing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3010 Wall Finishes</td>
<td></td>
<td>$6.20</td>
<td>$341,000</td>
</tr>
<tr>
<td>Glazed coating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>primer &amp; 2 coats</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl wall covering, fabric back, medium weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceramic tile, thin set, 4-1/4&quot; x 4-1/4&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3020 Floor Finishes</td>
<td></td>
<td>$7.89</td>
<td>$434,000</td>
</tr>
<tr>
<td>Composition flooring, epoxy terrazzo, maximum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terrazzo, maximum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl, composition tile, maximum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tile, ceramic natural clay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3030 Ceiling Finishes</td>
<td></td>
<td>$5.32</td>
<td>$292,500</td>
</tr>
<tr>
<td>channel grid, suspended support</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### D Services

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1010 Elevators and Lifts</td>
<td></td>
<td>$5.60</td>
<td>$308,000</td>
</tr>
<tr>
<td>Hydraulic hospital elevator, 4000 lb., 3 floors,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 FT story height, 125 FPM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2010 Plumbing Fixtures</td>
<td></td>
<td>$24.01</td>
<td>$1,320,500</td>
</tr>
<tr>
<td>Water closet, vitreous china, bowl only with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>flush valve, wall hung</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal, vitreous china, wall hung</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lavatory w/trim, wall hung, PE on Cl, 19&quot; x 17&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen sink w/trim, raised deck, PE on Cl,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42&quot; x 21&quot; dual level, triple bowl compartment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathtub, recessed, PE on Cl, mat bottom, 5'-6&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>long</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shower, stall, baked enamel, terrazzo receptor,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36&quot; square</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water cooler, electric, wall hung, wheelchair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2020 Domestic Water Distribution</td>
<td></td>
<td>$11.28</td>
<td>$620,500</td>
</tr>
<tr>
<td>Electric water heater, commercial, 100&lt; F rise,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>350 gal, 180 KW 738 GPH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2040 Rain Water Drainage</td>
<td></td>
<td>$0.43</td>
<td>$23,500</td>
</tr>
<tr>
<td>Roof drain, Cl, soil, single hub, 5&quot; diam, 10'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof drain, Cl, soil, single hub, 5&quot; diam, for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>each additional foot add</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D3010 Energy Supply</td>
<td></td>
<td>$4.41</td>
<td>$242,500</td>
</tr>
<tr>
<td>Hot water reheat system for 55,000 SF hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D3020 Heat Generating Systems</td>
<td></td>
<td>$2.42</td>
<td>$133,000</td>
</tr>
<tr>
<td>Boiler, cast iron, gas, hot water, 200 MBH</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix Three - Construction Cost Estimates

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity/Unit</th>
<th>Description</th>
<th>Quantity/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3030</td>
<td><strong>Cooling Generating Systems</strong></td>
<td>$5.64</td>
<td>Chiller, reciprocating, water cooled, standard controls, 60 ton</td>
<td>$310,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chiller, reciprocating, water cooled, standard controls, 150 ton</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cooling tower, galvanized steel, packaged unit, draw thru, 60 ton</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cooling tower, galvanized steel, packaged unit, draw thru, 110 ton</td>
<td></td>
</tr>
<tr>
<td>D3090</td>
<td><strong>Other HVAC Systems/Equip</strong></td>
<td>$25.15</td>
<td>Ductwork for 55,000 SF Surgery center</td>
<td>$1,383,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AHU, rooftop, cool/heat coils, VAV, filters, 5,000 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AHU, rooftop, cool/heat coils, VAV, filters, 10,000 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AHU, rooftop, cool/heat coils, VAV, filters, 20,000 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Damper, 500 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Draft damper, 1500 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Draft damper, 2750 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Commercial kitchen exhaust/make-up air system, rooftop, gas, 5000 CFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plate heat exchanger, 400 GPM</td>
<td></td>
</tr>
<tr>
<td>D4010</td>
<td><strong>Sprinklers</strong></td>
<td>$2.22</td>
<td>Wet pipe sprinkler systems, steel, light hazard, 1 floor, 10,000 SF</td>
<td>$122,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Standard High Rise Accessory Package 3 story</td>
<td></td>
</tr>
<tr>
<td>D4020</td>
<td><strong>Standpipes</strong></td>
<td>$0.60</td>
<td>Wet standpipe risers, class III, steel, black, sch 40, 4&quot; diam pipe, 1 floor floors</td>
<td>$33,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Steel door &amp; frame</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Alarm, electric pressure switch (circuit closer)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Escutcheon plate, for angle valves, polished brass, 2-1/2&quot; 1/2&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Valves, angle, wheel handle, 300 lb, 2-1/2&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cabinet assembly, includes. adapter, rack, hose, and nozzle</td>
<td></td>
</tr>
<tr>
<td>D5010</td>
<td><strong>Electrical Service/Distribution</strong></td>
<td>$2.03</td>
<td>Phase, 4 wire, 120/208 V, 1200 A</td>
<td>$111,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Feeder installation 600 V, including RGS conduit and XHHW wire, 1200 A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Switchgear installation, incl switchboard, panels &amp; circuit breaker, 1200 A</td>
<td></td>
</tr>
<tr>
<td>D5020</td>
<td><strong>Lighting and Branch Wiring</strong></td>
<td>$13.86</td>
<td>Wall switches, 5.0 per 1000 SF</td>
<td>$762,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous power, 1.2 watts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Central air conditioning power, 4 watts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Motor installation, three phase, 460 V, 15 HP motor size</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>V 15 HP, 575 V 20 HP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fixtures @32 watt per 1000 SF</td>
<td></td>
</tr>
<tr>
<td>D5030</td>
<td><strong>Communications and Security</strong></td>
<td>$4.63</td>
<td>Detectors, includes outlets, boxes, conduit and wire</td>
<td>$254,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fire alarm command center, addressable with voice wire, intercom systems, 50 stations</td>
<td></td>
</tr>
</tbody>
</table>
wire, master TV antenna systems, 30 outlets
Internet wiring, 8 data/voice outlets per 1000 S.F.

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5090</td>
<td>Other Electrical Systems</td>
<td>10.30%</td>
<td>$4.68</td>
<td>$257,500</td>
</tr>
<tr>
<td></td>
<td>engine with fuel tank, 200 kW</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**E Equipment & Furnishings**

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1020</td>
<td>Institutional Equipment</td>
<td>100%</td>
<td>$12.86</td>
<td>$707,500</td>
</tr>
<tr>
<td></td>
<td>distilled water, economy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Architectural equipment, sink, epoxy resin, 25&quot; x 16&quot; x 10&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Architectural equipment, laboratory equipment eye wash, hand held</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fume hood, complex, including fixtures and ductwork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>small hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>semiautomatic, 50 racks/hr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>gallons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>burners, 2 ovens &amp; 24&quot; griddle system, economy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>sinks, washers &amp; dry tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1090</td>
<td>Other Equipment</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
<tr>
<td>E2020</td>
<td>Moveable Furnishings</td>
<td>0.00%</td>
<td>$8.02</td>
<td>$441,000</td>
</tr>
<tr>
<td></td>
<td>per room</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Construction**

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td></td>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
<tr>
<td>G</td>
<td>Building Sitework</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
</tbody>
</table>

**SubTotal**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Fees (General Conditions, Overhead, Profit)</td>
<td>100%</td>
<td>$203.67</td>
<td>$11,202,000</td>
</tr>
<tr>
<td>Architectural Fees</td>
<td>25.00%</td>
<td>$50.92</td>
<td>$2,800,500</td>
</tr>
<tr>
<td>User Fees</td>
<td>9.00%</td>
<td>$22.91</td>
<td>$1,260,000</td>
</tr>
<tr>
<td>Total Building Cost</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Building Cost**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>$277.50</td>
<td>$15,262,500</td>
</tr>
</tbody>
</table>
## Square Foot Cost Estimate Report

<table>
<thead>
<tr>
<th>Estimate Name:</th>
<th>Untitled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Type:</td>
<td>Assisted - Senior Living with Brick Veneer / Wood Frame</td>
</tr>
<tr>
<td>Location:</td>
<td>BRANDON, MB</td>
</tr>
<tr>
<td>Story Count:</td>
<td>1</td>
</tr>
<tr>
<td>Story Height (L.F.):</td>
<td>10</td>
</tr>
<tr>
<td>Floor Area (S.F.):</td>
<td>2500</td>
</tr>
<tr>
<td>Labor Type:</td>
<td>Union</td>
</tr>
<tr>
<td>Basement Included:</td>
<td>Yes</td>
</tr>
<tr>
<td>Data Release:</td>
<td>Year 2009</td>
</tr>
<tr>
<td>Cost Per Square Foot:</td>
<td>$273.80</td>
</tr>
<tr>
<td>Building Cost:</td>
<td>$684,500</td>
</tr>
</tbody>
</table>

Costs are derived from a building model with basic components.
Scope differences and market conditions can cause costs to vary significantly.

### A Substructure

<table>
<thead>
<tr>
<th>Description</th>
<th>% of Total</th>
<th>Cost Per S.F.</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1010 Standard Foundations</td>
<td>18.80%</td>
<td>$7.40</td>
<td>$18,500</td>
</tr>
<tr>
<td>A1030 Slab on Grade</td>
<td></td>
<td>$5.00</td>
<td>$12,500</td>
</tr>
<tr>
<td>A2010 Basement Excavation</td>
<td>26.50%</td>
<td>$2.40</td>
<td>$6,000</td>
</tr>
<tr>
<td>A2020 Basement Walls</td>
<td></td>
<td>$22.20</td>
<td>$55,500</td>
</tr>
</tbody>
</table>

### B Shell

<table>
<thead>
<tr>
<th>Description</th>
<th>% of Total</th>
<th>Cost Per S.F.</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1010 Floor Construction</td>
<td></td>
<td>$18.80</td>
<td>$47,000</td>
</tr>
<tr>
<td>B1020 Roof Construction</td>
<td></td>
<td>$7.40</td>
<td>$18,500</td>
</tr>
<tr>
<td>B2010 Exterior Walls</td>
<td></td>
<td>$15.40</td>
<td>$38,500</td>
</tr>
<tr>
<td>B2020 Exterior Windows</td>
<td></td>
<td>$6.60</td>
<td>$16,500</td>
</tr>
<tr>
<td>B2030 Exterior Doors</td>
<td></td>
<td>$1.40</td>
<td>$3,500</td>
</tr>
<tr>
<td>B3010 Roof Coverings</td>
<td></td>
<td>$2.60</td>
<td>$6,500</td>
</tr>
</tbody>
</table>

Appendix Three - Construction Cost Estimates
### C Interiors

<table>
<thead>
<tr>
<th>Partitions</th>
<th>14.50%</th>
<th>$28.60</th>
<th>$71,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5.60</td>
<td>$14,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior Doors</td>
<td>14.50%</td>
<td>$28.60</td>
<td>$71,500</td>
</tr>
<tr>
<td>Door, single leaf, wood frame, 3'-0&quot; x 7'-0&quot; x 1-3/8&quot;, birch, solid core</td>
<td>$6.20</td>
<td>$15,500</td>
<td></td>
</tr>
<tr>
<td>Wall Finishes</td>
<td>14.50%</td>
<td>$28.60</td>
<td>$71,500</td>
</tr>
<tr>
<td>$1.40</td>
<td>$3,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor Finishes</td>
<td>14.50%</td>
<td>$28.60</td>
<td>$71,500</td>
</tr>
<tr>
<td>Carpet, tufted, nylon, roll goods, 12' wide, 36 oz</td>
<td>$9.20</td>
<td>$23,000</td>
<td></td>
</tr>
<tr>
<td>Ceiling Finishes</td>
<td>14.50%</td>
<td>$28.60</td>
<td>$71,500</td>
</tr>
<tr>
<td>$6.20</td>
<td>$15,500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### D Services

<table>
<thead>
<tr>
<th>Plumbing Fixtures</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water closet, vitreous china, tank type, 2 piece close coupled</td>
<td>$7.60</td>
<td>$19,000</td>
<td></td>
</tr>
<tr>
<td>Lavatory w/trim, wall hung, PE on CI, 19&quot; x 17&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen sink w/trim, countertop, PE on CI, 42&quot; x 21&quot; double bowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry sink w/trim, molded stone, on wall, 22&quot; x 21&quot; single compartment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service sink w/trim, PE on CI, corner floor, wall hung w/rim guard, 24&quot; x 20&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathtub, recessed, PE on CI, mat bottom, 5' long</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water cooler, electric, wall hung, dual height, 14.3 GPH</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminal &amp; Package Units</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/C packaged, DX, air cooled, hot water heat, constant volume, 15 ton</td>
<td>$2.80</td>
<td>$7,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sprinklers</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet pipe sprinkler systems, steel, light hazard, 1 floor, 10,000 SF</td>
<td>$2.60</td>
<td>$6,500</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Service/Distribution</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>phase, 4 wire, 120/208 V, 600 A</td>
<td>$30.80</td>
<td>$77,000</td>
<td></td>
</tr>
<tr>
<td>Feeder installation 600 V, including RGS conduit and XHHW wire, 600 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Branch installation 600 V, including EMT conduit and THW wire, 65 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switchgear installation, incl switchboard, panels &amp; circuit breaker, 600 A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting and Branch Wiring</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptacles incl plate, box, conduit, wire, 20 per 1000 SF, 2.4 watts per SF</td>
<td>$11.40</td>
<td>$28,500</td>
<td></td>
</tr>
<tr>
<td>Wall switches, 2.5 per 1000 SF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous power, to .5 watts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central air conditioning power, 4 watts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor installation, three phase, 200 V, 15 HP motor size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 HP, 575 V 50 HP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety switch, 200 A fused, 3 phase, 50 HP 200 V or 60 HP 230 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fixtures @40 watts per 1000 SF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 1000 SF</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communications and Security</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>detectors, includes outlets, boxes, conduit and wire</td>
<td>$14.40</td>
<td>$36,000</td>
<td></td>
</tr>
<tr>
<td>wire, intercom systems, 25 stations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wire, master TV antenna systems, 12 outlets</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Electrical Systems</th>
<th>35.40%</th>
<th>$69.80</th>
<th>$174,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>gas/gasoline operated, 3 phase, 4 wire, 277/480 V, 7.5 kW</td>
<td>$0.20</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>Equipment &amp; Furnishings</td>
<td>Interest Rate</td>
<td>Amount</td>
<td>Value</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>E1010 Commercial Equipment</td>
<td>4.90%</td>
<td>$9.60</td>
<td>$24,000</td>
</tr>
<tr>
<td>E1090 Other Equipment</td>
<td>4.90%</td>
<td>$9.20</td>
<td>$23,000</td>
</tr>
</tbody>
</table>

Architectural equipment, laundry equipment, washers, residential, 4 cycle

### E1090 Other Equipment

- 1 - Sound system, trumpet
- 1 - Sound system, speaker, ceiling or wall
- 1 - Sound system, amplifier, 250 W
- 1 - Laundry equipment, washer, commercial, coin operated, average 30 lb capacity
- 1 - Refrigerator, residential appliances, with ice maker, 18 C.F., maximum
- 1 - Range hood, residential appliances, vented, 2 speed, 30" wide, maximum
- 1 - Dishwasher, residential appliances, built-in, 2 cycles, maximum
- 1 - Microwave ovens, residential appliances, 1.5 C.F., maximum
- 1 - Oven, residential appliances, single, self cleaning, maximum economy

### F Special Construction

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
</tbody>
</table>

### G Building Sitework

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
</tbody>
</table>

### SubTotal

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>$197.20</td>
<td>$493,000</td>
</tr>
</tbody>
</table>

### Contractor Fees (General Conditions, Overhead, Profit)

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.00%</td>
<td>$49.40</td>
<td>$123,500</td>
</tr>
</tbody>
</table>

### Architectural Fees

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00%</td>
<td>$27.20</td>
<td>$68,000</td>
</tr>
</tbody>
</table>

### User Fees

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00%</td>
<td>$0.00</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Total Building Cost

<table>
<thead>
<tr>
<th>Amount</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$273.80</td>
<td>$684,500</td>
</tr>
</tbody>
</table>