

Grand Village Therapeutic Garden

Nursing Home Healing with Nature



North Dakota State University

Department of Architecture and Landscape Architecture

Undergraduate Capstone Project

By Laura Oja

GRAND VILLAGE NURSING HOME THERAPEUTIC GARDEN

Healing Through Nature

A Undergraduate Capstone Project Submitted to the
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By

Laura Oja

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Primary Thesis Critic
Tim Kennedy

Secondary Thesis Critic
Don Faulkner

Blind Thesis Critic
Joshua Walter

Thesis Committee Chair
Don Faulkner

Program Director
Paul Gleye

Department Chair
Paul Gleye

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Abstract

The United States is aging. Baby boomers are getting older and the elderly population is on the rise. As people age many develop diseases and can no longer care for themselves. Lots of people joke about “sending mom and dad to live in a home,” but it is no joking matter. The move to a nursing home can be traumatic. Residents have a major lifestyle change when they move into a nursing home. They go from living successful independent lives to living in a small room possibly with a roommate, having their meals picked out for them, and frequently they are bored, depressed, and lonely. Even while living in a high quality nursing home with planned activities, many residents spend a large amount of time staring out windows, watching television, or simply doing nothing. This is not the kind of life they want or deserve.

Nursing homes provide care and housing for elderly people who can no longer care for themselves. But the nursing home environment can feel more like a hospital than home and life in one can be difficult. It is difficult for residents to live in a hospital-like environment where life can be mundane and lonely. It is difficult for staff to care for and watch residents as they live out their last few years. And it is difficult for family and friends to visit their loved ones and see them sick and lonely.

To make life in a nursing home healthier it has to be more like a home for residents. A home where people make their own decisions, work, and have fun. Healing gardens put these activities back into nursing home residents lives. Gardens have the ability to give residents back confidence, strength, and friends. And happier healthier residents result in happier staff and families.

Healing gardens are a fairly new concept, but their popularity is currently growing in the health care industry. More and more the benefits from involving nature in the lives of patients are being observed in hospitals and nursing homes. Patients with access to or views of natural outdoor spaces are less irritable, require less medication and supervision, and are all around happier than patients with no outdoor views or access to nature. Patients are not the only ones benefiting from healing gardens. Staff and visitors use the gardens as places to visit with loved ones, be by themselves and think, or simply grieve.

This capstone project investigates how properly designed outdoor spaces can affect the lives of patients, staff, and visitors at the Grand Village Nursing Home. And states what is needed in Grand Village’s gardens and outdoor spaces to make them the most beneficial to patients, staff, and visitors.



Introduction

Have you ever walked past a lilac tree in the spring? Do you remember its purple flowers? Do you remember their smell? Did the flower petals feel soft and smooth? Did you pick one? Do you remember the way the tree rustled and shook when you picked it? Did you bring the flower home? Why?

Nature has a powerful positive effect on humans. If you would have licked the tree, it would have triggered all five of your senses. If one tree has the power to calm, bring back memories, and bring joy to people, just think what a whole garden could do.

Gardens within health care facilities provide safe havens for users who may be in uncomfortable situations. Whether a person is visiting a loved one, enjoying a book on a sunny day, or feeling proud of the geraniums they planted; everyone can use and benefit from gardens.

Elderly people have lived their entire lives independently and successfully and the transition to a nursing home can be a traumatic one. The nursing home environment can be cold, lonely, degrading, and uncomfortable. Healing gardens can add to an environment that provides a happy, comfortable, and satisfying place for seniors to spend the remaining years of their lives.

This project's underlying premise is that nature positively affects the lives of people in a nursing home. I want to show how carefully designed gardens can contribute to an enhanced quality of life for nursing home residents, staff, and visitors.



Grand Village Nursing Home

History and Purpose

In 1896 the Itasca County Poor Farm opened in Grand Rapids, Minnesota. It housed the elderly, sick, and criminal. The facility was a self-sustaining farm and a care provider. In the 1930's it stopped housing criminals and only cared for the sick and elderly who could no longer care for themselves and was called the Itasca Nursing Home. In 1994 it changed its name again when a new building in a new location was constructed. The new facility was called Grand Village Nursing Home. The facility was built among 170 acres of woodland, fields, and a lake west of Grand Rapids. Today Grand Village is home to 118 residents. Resident's needs range from assisted living to full 24 hour care. In July 2004 a new addition was added to Grand Village called "The Lodge." The Lodge is for elderly patients who are recovering from a surgery or trauma of some kind. Restorative care, physical therapy, and re-teaching basic living skills are done at the Lodge. Patients stay here for as little as a few days or for as much as a few months, depending on how long they need to prepare for independent living again.



Figure 1: Itasca Nursing Home 1934 (Kersting & Carlson, 1996)



Figure 2: Grand Village and The Lodge 2004



Grand Village Nursing Home

Mission and Character

Grand Village is a wonderful nursing home. All of the staff are very caring, friendly, and are genuinely concerned with residents' well-being. The residents are well cared for physically and emotionally. There is a full-time activities director who plans hundreds of activities every year. The activities range from bingo every Saturday to Pub Night twice a month to a holiday play every December. The aim of these programs is to keep residents bodies and minds active. In 1996 the nursing home created a mission statement that sums up its high standards for health care, it reads: "The Itasca Nursing Home (INH) purpose and mission is to provide quality, long-term care services that will promote the individual's physical, emotional, social and spiritual well being and to deliver such care and serve in the most effective and economical manner possible." Although the nursing home tries very hard to keep patients happy, healthy, and active, the task is almost impossible and patients end up spending a lot of time just sitting around inside.



Grand Village Nursing Home

Location and Demographics

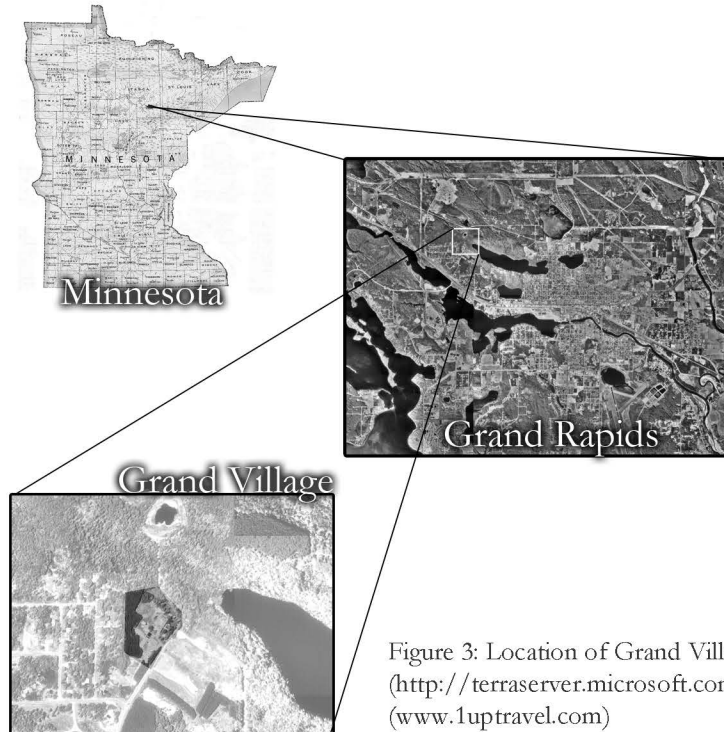


Figure 3: Location of Grand Village
(<http://teraserver.microsoft.com>)
(www.1uptravel.com)

Grand Rapids is located in the north-central Minnesota. The town has a population of around 8,000, but the surrounding area has a population of almost 20,000. The majority of the town's population is middle-aged couples with families, most of which are of German and Scandinavian decent. The average family income is \$46,960 a year. Seventeen percent of the population is above the age of 65 and that is expected to grow as the baby boomer generation ages. Grand Village is one of five nursing homes in the community and will definitely undergo another expansion in the next five to ten years.

The nursing home is positioned a beautiful rural location. It sits among a mature forest mix of pines, aspens, spruce, cedar, and tamarack. It has amazing views of the woodland and Hale Lake, which is about half a mile away through the woods. The site is located on County Home Road off of Minnesota Highway Two; it is at the end of the road and is secluded, except for a few houses and a curling club arena.



Definition of a Healing Garden

Healing is easy to define: it is the process of restoring health. A garden is easy to define: it is planted vegetation. Hence, a healing garden is planted green space that supports the restoration of patients' health and are usually at a health care facility. Gardens can help "restore health" in several ways. The most apparent way is the simple aesthetics of nature. Being outdoors (or at least in a semi-natural setting) is very calming, especially around an uninviting nursing home or hospital environment. Healing gardens exist for patients, visitors, and staff to use. They provide sanctuaries from stress, places to visit, and areas for physical activity.

In order for a healing garden to be successful more than planted green space must be present. Planning for the specific needs of gardens users must be detailed. Thoughts of who, what, where, when, and why must be considered or else a healing garden will be just a planted green space.

Healing gardens for the elderly must include some key elements/features in order for them to be successful. The following is a list of elements the Grand Village Nursing Home gardens should have:

Visibility/Signage

A healing garden at a health care facility is special. It is a place that everyone, staff, residents, and visitors should be able to take advantage of. Unfortunately many facilities have their gardens in locations that may be hard to find. Signs are a key element to a healing garden. A simple "This Way to Garden" sign will prevent the space from going unnoticed and unused. The purposes of healing gardens are to allow people to interact with nature in situations where they might not usually get the opportunity. The gardens should be easily visible for this reason.

Sense of Security or Enclosure

All users in a healing garden want to feel safe. People should be relaxed in healing gardens. The designer needs to take care of a variety of safety issues in the garden. The most important may be some sort of wall which prevents patients, especially those with Alzheimer's disease, from wandering off. The barrier should look like something you would find in a backyard, but still must be secure and vegetation should be planted on both sides of it to keep it from looking like a prison wall. Other safety issues include handrails, lighting, and non-slick paving which will help to prevent accidents or injuries. If garden users have to worry about any of these issues they will not enjoy the garden.



Definition of a Healing Garden

Physical Comfort

Elderly patients can be more sensitive to the outdoors than other garden users. Seating in both the shade and the sun must be provided. Benches should be movable to give people the control to sit wherever is most comfortable. Benches should have back and arm rests and be made out of a softer material, like wood, rather than metal. This is to protect the elderly with little muscle mass from being uncomfortable or in pain. Plants need to be selected very carefully. Plants that are too colorful may confuse Alzheimer patients and plants with excess pollen could harm some patients. Materials in the garden cannot be too reflective nor have too much glare for it could be uncomfortable for patients with sensitive vision. Smoking areas should be specified and located downwind and away from gardens.

Positive and Familiar Design Features

Positive thinking is important in an environment where patients may be lonely or depressed. All elements should be non-threatening. For example an abstract art piece may be seen as frightening and unfamiliar to the residents at Grand Village. Most grew up in the 1930's and 1940's in northern Minnesota and any bold art may be confusing and would not fit into this healing garden. Garden elements made by patients or family members or something found commonly in northern Minnesota would be more suitable.

Views

Views need to be incorporated into healing garden plans. Views to outside of the garden and views from inside buildings into the garden are important. Seniors who are confined indoors may want to experience the outdoors, even if they cannot go outside. Large windows with views to spaces outside should be provided. Views to gathering spaces outdoors, like areas around fountains or nodes, can make a person inside feel like part of the group outside. Views to main features also help the patients get familiar with them. If a patient sees a fountain from a window over and over again, when they finally decide to go out and see it, the new space won't be so intimidating.



Definition of a Healing Garden

Social Spaces

Some research suggests that large planned-out gathering spaces specifically for socializing often go unused. Garden users have said spaces that overlap and serve different purposes give the impression of spontaneity and are preferred. Overlapping spaces can be a problem when designing for different users. Alzheimer patients may get confused or frustrated by bright plants, while patients with failing eyesight may prefer them. Designers must find a way to accommodate both simultaneously. Many nursing homes have separate gardens for Alzheimer patients for this reason. It is common in many nursing homes to see residents gathering at the entrances. They like to see who is coming or going and be where the action is, making them natural social spaces. Entrance spaces should be designed to accommodate seniors and at least have seating and shade.

Private Spaces

People need spaces to socialize in and need spaces to be alone in. Spaces to contemplate, have a private conversation, and even grieve need to be provided in a healing garden. Many people say the reason they like gardens is they can get away from it all. "It all" are the stresses that accompany nursing home life. Private spaces allow people to be alone for a while and gather their thoughts.

Choices

Feeling a sense of control is important to the elderly. They have lived their entire lives independently and now are in a nursing home where everything from their meals to their clothes may be picked out for them. Choices like what flowers they'd like to plant and what area they'd like to sit in give them back some independency in their lives. Healing gardens should be designed to give users the opportunity to make these choices.

Vegetation/Interaction with Nature

The positive influence nature has on the well-being of people has been proven in many studies. Whether it is gaining strength or feeling a sense of happiness, nature affects almost everybody in a good way. Healing gardens should have a variety of plants with different textures, colors, and bloom periods. The plants should sway and rustle in the breeze. Patients should be able to see the sky, the sun, the moon, and the clouds. The designer's goal for the garden is to connect users with nature without them knowing everything around them has been planned. Different garden users need different vegetation. Alzheimer patients require soothing plants with light colors and scents. Anything too bold may confuse or upset them. Gardens for residents who are still relatively active and healthy should have brightly colored vegetation with a lot of texture and scent.



Definition of a Healing Garden

Water Feature

Water features are a good addition to all healing gardens. Water can stimulate three senses: touch, see, and hear. People like to touch water. Most people will dip their hand in water when given the chance. It just feels good. A fountain with running water is always an attractive addition to a garden. Even standing water, like in a pond, is nice to look at and it attracts wildlife. The sound of water is soothing to people. It can be used to cover unpleasant noises, like traffic, or just create the calming sounds of running water for garden users to listen to. Safety is an issue with water features. Precautions like signs and railings must be taken to ensure nobody gets hurt while using them.

Hill or Mound

Changes in elevation can create visual stimuli in a garden and can separate it into different spaces. Plantings can be added to a small hill to create private spaces without the use of a planter or other hard physical structure. Hills can also be landmarks that will help patients with poor memories navigate a garden.

Paths and Paving

All paving materials in a healing garden need to be chosen with great care and thought. Paths must be wide enough for two wheelchairs to pass each other comfortably. Paving must not have gaps in it big enough for canes or walkers to get stuck in. A variety of paving textures should be offered for mobility-impaired patients who are using the garden to help them prepare to live independently again. Paths should have handrails for patients who are at risk of falling. The sick and elderly have many mobility needs that must be addressed in order for them to enjoy the garden.

Planters

In healing gardens where patients work with plants it is necessary that plants are accessible to everyone. Some planters need to be at wheelchair height. This allows patients to work from wheelchairs or benches. Raised planters help to include wheelchair-bound patients and prevent back strain on other patients. Planters should also be various shapes and sizes to ensure patient comfort while working in them.

Access

There is always the chance that a resident using a healing garden may need emergency medical attention. The gardens must be designed so that if needed, medical professionals can easily get to a patient. This includes being able to get into the garden and being able to quickly get the patient out of the garden to care. Emergency exits need to be incorporated into enclosed gardens. In case of a fire a garden should be just like a room in a house; there should be more than one exit.



Definition of a Healing Garden

Programming

Programming may not be a physical element in a garden, but it is essential for garden success. Many people think that gardens follow the “if you build it, they will come,” philosophy, but that is not always true. Nursing home residents, who have never dealt with gardening or the outdoors, may need some help feeling comfortable outside. Activities like working with plants, playing games, and visitation sessions should be planned in the garden spaces to help patients learn how to use the spaces.



Healing Garden Benefits

The Positive Effects of Nature

Healing gardens can be seen as an extra expense for a health care facility, but in the long run they are a major benefit. Gardens not only help their users, but work as good public relations for health care facilities. If patients have a good experience at a hospital, they will most likely choose that hospital again. The same principle works for nursing homes, if a resident likes the facility she is staying in, she will tell her friends that it is a good place to live. Gardens also help just by creating happier, and usually healthier, patients. These patients are easier to work with and require less time and money.

The following are testimonials and studies by landscape architects, hospital employees, behavioral scientists, and social workers on the benefits of nature and healing gardens in the lives of sick, elderly and their loved ones.

Healing gardens can give patients relief from physical symptoms, take their minds off of sickness for a while, improve their overall sense of wellbeing, improve hopefulness, and reduce stress. Gardens can benefit patients emotionally, physically, socially, and mentally. - Clare Cooper Marcus, professor emerita in the Department of Landscape Architecture at the University of California, Berkeley, principal in Healing Landscapes in Berkley, and co-editor and author of the book *Healing Gardens* (Marcus, 1999).

“A hospital can feel disorienting. [Gardens] give people who are deeply anxious permission to relax, feel a sense of life around them. They often go inside with a renewed sense of hope.” – Patrick Tomter, director of pastoral care at Good Samaritan Hospital in Portland, Oregon (Marcus, 2003)

Roger S. Ulrich, a behavioral scientist and leading researcher in horticultural healing and healing gardens, conducted a study examining two groups of hospital patients. Both groups were recovering from the same surgery and had hospital rooms with windows. One group’s window had a view of a brick wall and the other group’s window had a view of a natural setting. The group with the view of a natural setting had shorter postoperative hospital stays, received fewer negative evaluations in nurses’ notes, and took fewer pain killers than the group with views of the brick wall, (Dannenmaier, 1995).

Jack Carman a landscape architect and senior campus designer said this about the gardens at a housing facility for seniors: “It supports the residents. It gives purpose to their being, to their reason for being there” (Bennett, 1998).



Healing Garden Benefits

“The garden can be a centering experience. We had a cancer patient in her late forties. Her brother brought her out into the garden every day. It helped her get back in touch with who she was as a human being” – Vi Hansen, a clinical social worker at Good Samaritan Hospital in Portland, Oregon (Marcus, 2003).

Landscape architect Patrick Mooney studied the occurrence of violence in Alzheimer patients in facilities with and without gardens. He examined the garden’s effectiveness in reducing violent behavior in patients. Violent incidents for patients with access to a garden declined by 19 percent in one year. In the facilities without gardens the rate of violent incidents increased by 681 percent in one year (Dannenmaier, 1995).

“In general it seems that humans prefer quite ordinary views of everyday nature above and beyond even the most picturesque built urban environments” – Roger Ulrich (Dannenmaier, 1995).

It used to be required that poorer patients at hospitals had to work in the kitchen gardens to pay for their care. Doctors notices that the poor patients recovered faster than the wealthier patients that never worked with plants. (Chicago Horticultural Society Horticultural Therapy Department Staff, 1981).

“The garden has been received fantastically. It’s been a moral booster for both patients and staff. To see this raw rooftop turned into a lush green area...we see it having lots of therapeutic possibilities.” Peter Karow, Terence Cardinal Cooke Health Care Center vice president for operation and nursing facility administration on the Joel Schnaper Memorial Garden (McCormick, 1995)

“[The garden] has provided much more a sense of community that we’re otherwise able to provide. [Many of the patients] never had access to anything this beautiful. People have a chance to see the ebb and flow of nature, and that has a very calming effect” - Mimi Fierle the director of therapeutic recreation for the Joel Schnaper Memorial Garden.

The organization that accredits 85% of US acute-care hospitals now requires that for certain patient groups (pediatrics, long term care) and those experiencing long stays, the hospital provide “access to the outdoors through appropriate use of hospital grounds, nearby parks and playgrounds, and adjacent countryside” (Marcus, 1999).



The Aging Process

In 1997 there were 1.7 million people living in nursing homes in America. People over the age of 65 make up approximately 13 percent of the population and are projected to make up 20 percent by the year 2030. In most countries, the elderly are treated with the utmost respect. In America the elderly used to be thrown in government owned facilities with criminals, the poor, and the disabled. But that was in the 1820's, today if a senior can no longer take care of himself or herself they usually live in nursing home.

Most residents in a nursing home have lived happy, successful, independent lives. The transition into a nursing home can be very difficult for seniors. In a nursing home that looks more like a hospital, with no privacy, and everyday decisions are made for them, residents can feel embarrassed, useless, and depressed.

Abraham Maslow is famous for establishing the theory of a hierarchy of needs. He states that human beings are motivated by unsatisfied needs, and that needs have to be satisfied before a person is happy. The first needs are physiological needs, those basic for survival, like food, shelter, clothes, and water. The second are safety needs. The third are social needs. The fourth are self-esteem needs. The last needs are self-actualization needs.

Nursing homes provide physiological and safety needs for their residents, but social, self-esteem, and self-actualization needs often go unfulfilled.

Healing gardens fulfill nursing home resident's needs for socialization, self-esteem, and self-actualization. Residents like to go outside and talk, plant flowers and vegetables, and relax just like they did at their homes. Often times these activities aren't seen as necessary, but they are. Residents may find common interests with others while using gardens, creating effortless conversations and friendships. Gardens also allow for independent decision making. Residents can decide what flowers to plant, where to sit, where to go, and what to do. These small decisions can help boost self-esteem and make residents feel more confident, independent, and happy. Healing gardens can help to complete the lives of nursing home residents, without them even knowing it.

There are also physical changes people go through as they age. In the later years of life people are often afflicted with certain problems, such as arthritis, diabetes, mild deafness, or heart conditions. These conditions create limitations on what nursing home residents can physically do in a therapeutic garden. Activities should be kept to simple things like soil preparation, planting, flower arranging, and watering. Gardens users should always be comfortable with the activity they are participating, both physically and mentally. So instructions should be clearly given and of course planers should be raised.



Alzheimer's Disease

Alzheimer's disease is sometimes referred to as childhood in reverse. This is because throughout the stages of the disease patients can lose the ability to feed themselves, speak, walk, and so on, and eventually depend on others in order to survive.

Alzheimer's can be broken down into five stages:

Stage One: Memory problems begin and patients start to avoid situations that are uncomfortable for this reason. Many try to hide problems, become moody and depressed and blame others for their mistakes.

Stage Two: Memory problems start to become more apparent to others. Patients have trouble carrying on conversations and recalling current events. They have trouble handling new situations because reasoning and judgment is impaired. Depression is very common in this stage.

Stage Three: Patients may start to forget major events in their lives and are often unaware of the date, time, or year. They may experience feeling of paranoia or anger, resulting in violent behavior. Patients in this stage are not able survive without some kind of assistance. They may need help with using the toilet and eating because they forget all of the steps involved in the processes. Situations that require a lot of participation, such as dinner parties can be confusing and patients may act out with shouting, cursing, or hitting.

Stage Four: Memory problems become severe in this phase. Almost anything can seem unfamiliar and threatening. Patients may become more outgoing because they don't realize what they do or say wrong. They start to act out in negative ways. Understanding what others are saying is difficult and may result in delusions, talking to imaginary people, obsessive behavior, agitation, or asking the same thing repeatedly. Sleeping problems are very common and patients may wakeup confused or frightened and begin to wander around at night. Problems with movement and coordination start to develop. Patients may begin to shuffle, not walk, and lose weight because of difficulty chewing and swallowing.

Stage Five: All language skills are lost in this stage. Patients can no longer walk, sit-up, chew or swallow food, or control bowel or bladder functions. There is very little of the patient's old personality left. Patients may begin having seizures as the brain begins to shut down. Eventually the patient goes into a coma and dies.

Alzheimer patients can greatly benefit from healing gardens, but designing for them can be tricky. Spaces need to be simple and non-threatening. Above all, gardens for these patients must be safe. They must be child-proof, but not make users feel like a child.



Project Elements

There is not a main feature in this project. The project is made of many equally important elements. If any spaces or elements are treated with less importance than others, the plan will not be successful. A healing garden won't work unless it has a good program that helps residents learn how to use it and a single garden space will not work without supporting spaces around it. All of the outdoor spaces need to flow and connect in order to make an enriching environment for the residents and other users.

The final plan will include:

- A main healing garden for all garden uses and users
- Improvements to all other existing outdoor spaces
- A walking path that smoothly, safely, and attractively connects all outdoor spaces

The above are the major elements in the project. Each element has its own list of smaller elements it requires. The "Definition of a Healing Garden," section thoroughly describes the smaller individual elements that nursing home healing gardens should have.



Goals and Objectives

Goals and Objectives for Overall Plan

- Create a home-like environment for residents
- Create a safe environment designed specifically for the needs of the elderly
- Create a variety of spaces that meet the needs of residents, staff, and visitors
- Create spaces that improve the overall quality of life for all garden users
- Take advantage of beautiful surroundings, create views and nature trails
- Create a unified master plan

Goals and Objectives for Main Healing Garden

- Incorporate all essential healing garden elements/features for nursing home gardens into final design
- Find a way to bring nature indoors for winter/rainy-day use
- Create space for horticultural therapy program
- Design for a variety of activities



User/Client Description

Grand Village is owned by Itasca County and is operated by Ecumen, a management company that operates independent and assisted living care centers, home health care and a variety of community-based services around the United States. The staff and patients at Grand Village have expressed a desire for nicer outdoor facilities and a healing garden, but funding is short. The nursing home is used by residents, staff, and visitors. The resident user group can be divided into four subgroups: physical therapy patients, active residents, special care residents, and Alzheimer residents. Each user group has unique needs and uses for the nursing home's outdoor spaces:

Residents: Grand Village can support up to 153 residents and is usually full. The residents range from patients recovering from surgeries who will only stay for a week, to residents who live there permanently and require 24-hour care. There are four existing courtyards at the nursing home: one for watching birds and flowers, one for activities, one for special care patients, and one for Alzheimer patients. But all of the courtyards are almost identical. Gardens need to be designed with specific user groups in mind, or they will be unused and even dangerous.

Physical Therapy Patients: The new addition or "The Lodge" at Grand Village is specifically for physical therapy patients. It can support up to 35 patients at a time. These patients can use gardens for passive activities, like socializing or relaxing, but gardens can also be a great addition to physical therapy activities. They can practice walking on different paving surfaces and gain strength and motor skills by working with plants in the garden.

Active Residents: Residents who require very little assistance can get very bored at a nursing home. Planned events may take up some time, but many nursing home residents have said that a lot of their time is spent doing nothing. These residents would benefit greatly from a garden. A healing garden for active residents can provide endless opportunities for something to do: visit with friends or family, exercise, plant a garden, read, enjoy being outdoors, watch wildlife, or play games with other residents.

Special Care Residents: Special care residents need some supervision and are most likely in the early stages of Alzheimer's disease. These residents can use gardens for light physical activity, socializing, and relaxing. Residents may also use the garden as a memory enhancer. Plants from their old backyard (common plants like lilac shrubs), or elements like clothes lines tend to bring back memories and encourage residents to tell stories. This is sometimes called a "memory garden" and is perfect for special care patients.

Alzheimer Residents: These residents need 24-hour care. Gardens for them are spaces to relax and sometimes bring back old memories; basically the job of these gardens is to help residents stay happy and comfortable in their final days. Residents can touch, smell, and look at plants, observe birds and maybe take short walks. The garden is very passive.



User/Client Description

Staff: Grand Village employs 130 staff members and on an average day there are 50 employees working. Nursing staff will use the gardens and outdoor spaces when working with patients on physical or mental activities or when just sitting outside enjoying a nice day with patients. They would also use the spaces for coffee and lunch breaks and as a place to get away from the stress of working if needed.

Visitors: The activity programs at Grand Village encourage family members and friends of residents to visit and get involved in their loved ones lives. They will use the gardens and outdoor spaces as a place to visit and catch up with residents. They can talk, read, stroll along paths, play games, and watch improvements in strength or motor skills.



Figure 4: Grand Village Building Usage



User/Client Description

Grand Village Garden Users and Activities

Garden Users

		Residents				Staff	Visitors
		Therapy Patients	Active Residents	Special Care Residents	Alzheimer Residents		
Passive	Talking	X	X	X	X	X	X
	Reading	X	X	X		X	X
	Eating	X	X	X	X	X	X
	Observing	X	X	X	X	X	X
	Slow Walking	X	X	X	X	X	X
	Passive Games	X	X	X		X	X
Active	Active/Physical Games	X	X			X	X
	Physical Therapy	X	X	X		X	X
	Working with Plants	X	X	X		X	X

Figure 5: Garden Users and Activities Chart



Inventory and Analysis

Map #1: Site Context

Existing Structures

The existing built structures on the site include the nursing home facility (with eleven different outdoor spaces), a county storage shed, a road, and two parking lots. To the west of the nursing home are a few houses and to the east is a curling club arena. The curling arena and its parking lot are a little unsightly and views to them need to be blocked.

Existing Natural Features

The nursing home is on 170 acres of county owned land. The land consists of mature forest, open fields, swampland, and a lake. The site has naturally beautiful views and provides a peaceful environment for the nursing home. There is a possibility for nature trails and access to the lake, which would be great activities for the nursing home.

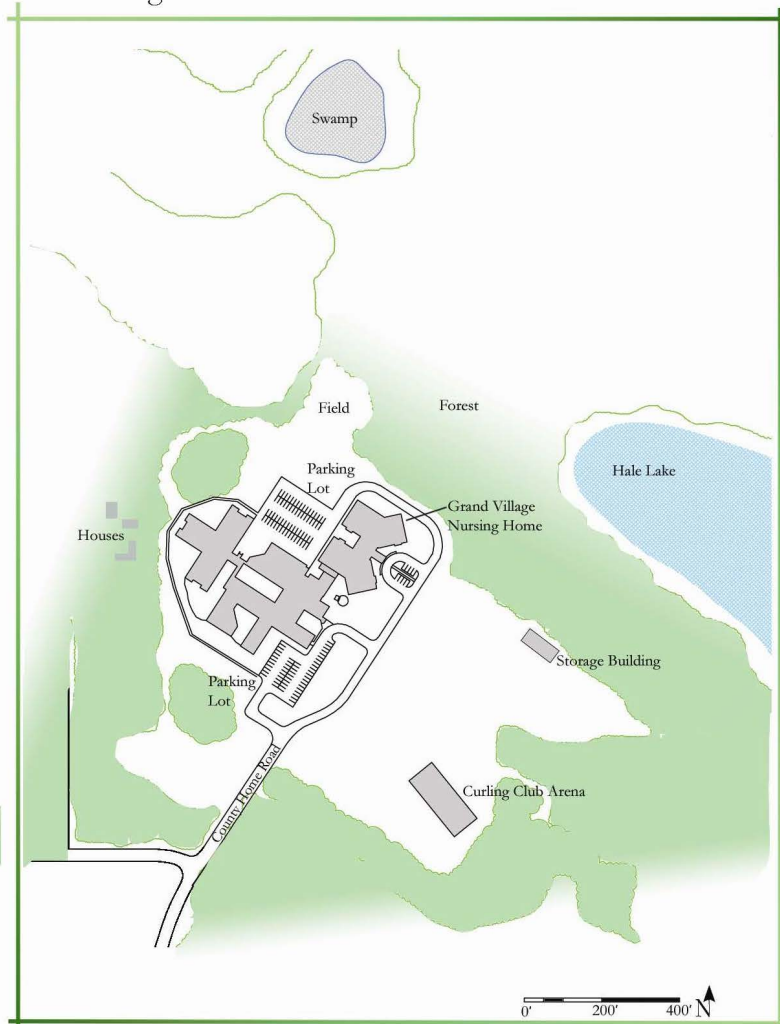


Figure 6: Site Context Map



Inventory and Analysis

Map #2: Topography

The land that the nursing home sits on is relatively flat. Hence all of the courtyards and paths are flat too. The existing walking path ranges in slope from 0% to around 5%. Beyond the actual building the land starts to slope down towards the lake and swamp, sometimes reaching slopes as steep as 40 percent. Creating wheelchair access down these slopes will be difficult.



Figure 7: Topography Map



Inventory and Analysis

Map #3: Geology and Soils

Grand Rapids bedrock consists of the sedimentary rocks mudstone, siltstone, and sandstone. These rocks are found in areas that were under water in the early Paleozoic era. The soil on the site is a silty loam. It is moderately permeable and well drained, but has poor filtering capabilities making it bad for septic drainage. Surface runoff is medium and in areas with steep slopes the soil erodes easily. The soil is well suited for most upland tree species, like pine, aspen, and most hardwoods. When constructing roads or paths on the soil, a well compacted coarse textures base material should be put down to prevent frost damage. The areas with steep slopes are very susceptible to erosion, creating a problem for trails and ramps for wheelchair access.



Figure 8: Soil Erosion Map.

The pink areas on the map have a steep slope and are very susceptible to erosion



Inventory and Analysis

Map #4: Hydrology

Grand Rapids is in the Upper Mississippi River Basin and part of the Prairie Willow Watershed. The nursing home is about 400 feet from Hale Lake. The land around the lake is very saturated in spots and there is a swamp around 1000 feet from the nursing home. The nursing home sits on top of a hill and all water runoff flows to the swampland and lake located at the bottom of the hill. The lake provides endless activities like fishing, boat rides, and bird watching. An access way to the lake needs to be created first though, either by nature trails or a road. The swamp could be used for wildlife viewing.



Figure 9: Grand Rapids Watershed (<http://cfpub.epa.gov>)

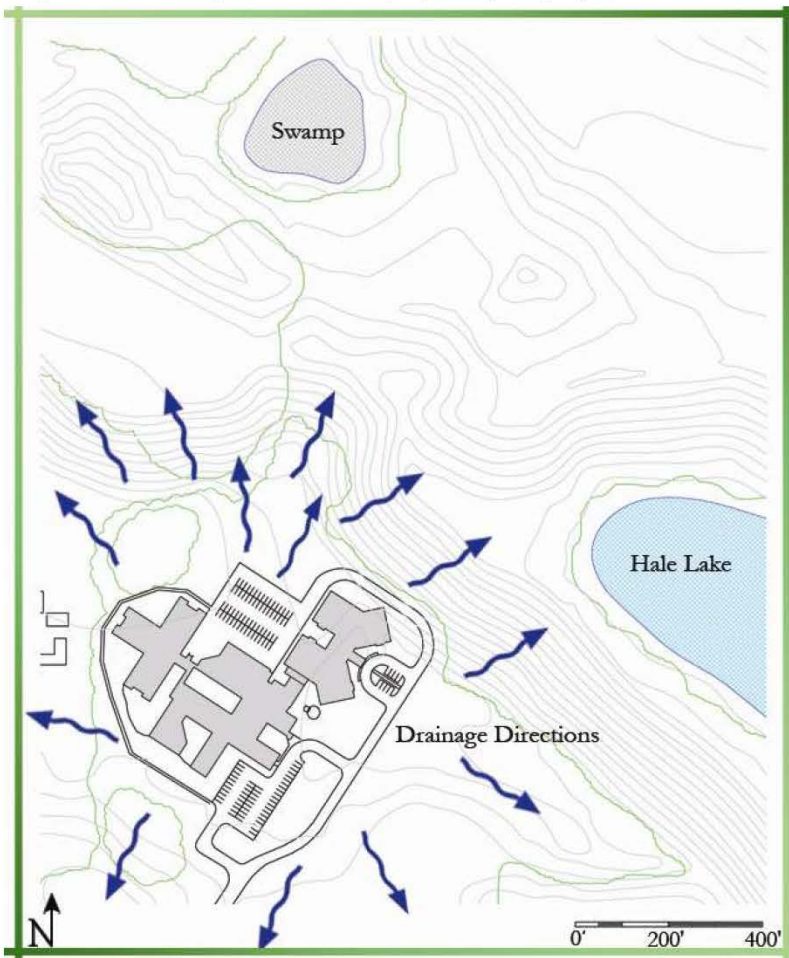


Figure 10: Hydrology Map



Inventory and Analysis

Map # 5: Circulation

Vehicular Circulation

Grand Village is located at the end of County Home Road, which is just off of US HWY 2. Once on the site a car can either turn into the first parking lot or drive around the building to a back parking lot.

Pedestrian Circulation

There aren't many places for the elderly to safely walk on the site. There is a walking path around the west side of the nursing home, but other than that there are no other designated spaces to walk outside. There are several outdoor patios and gardens, but either they are not connected to each other at all or are connected by a road with no pedestrian walkway. There needs to be more paths for pedestrian circulation and they must be safer. Handrails and clearly marked directional signs should be added to new paths.

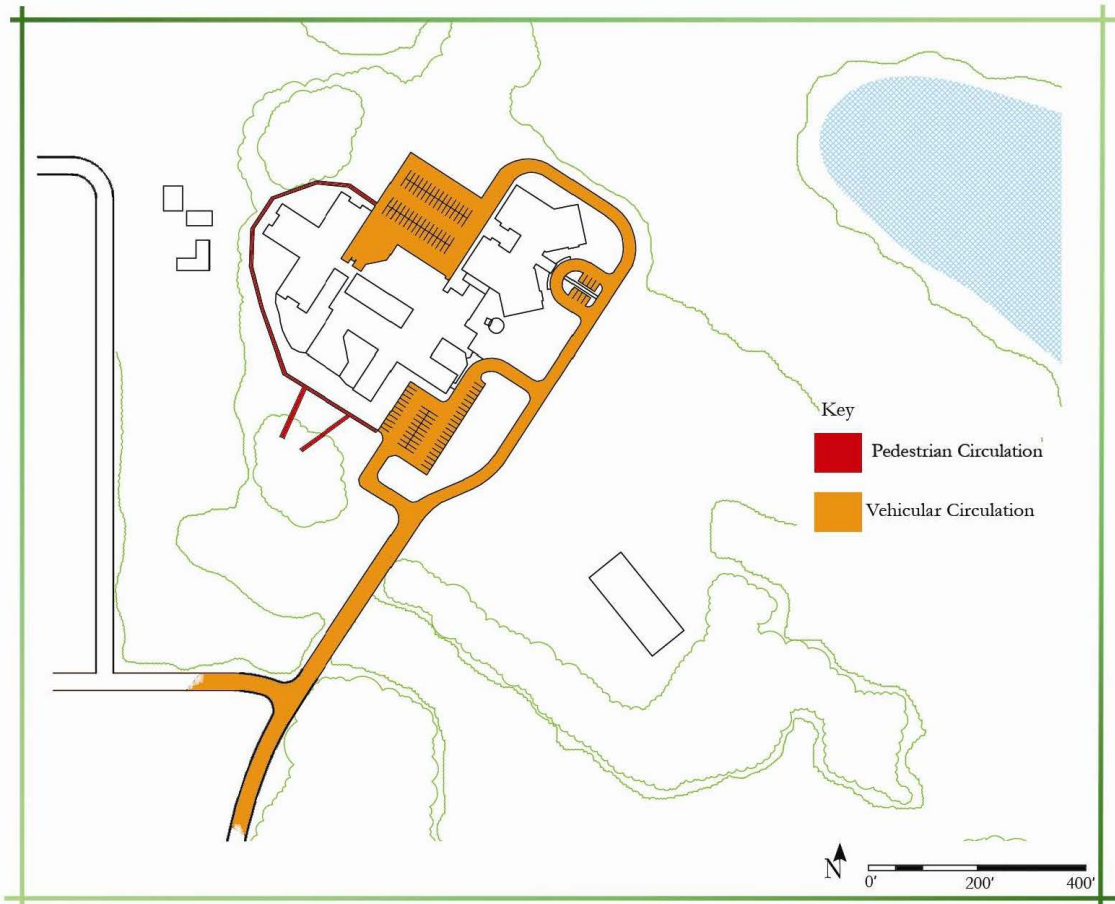


Figure 11: Circulation Map



Inventory and Analysis

Map # 6: Site Attractions and Comfort

Noises

The site is filled with nice natural sounds. There are birds chirping, trees rustling, and wind-chimes jingling. Sounds from the nearby curling arena and houses would be the only from off-site. They may create traffic and human noises, but nothing very bothersome.

Natural Vegetation

The mature forest surrounding the site consists mostly of aspen, white pines and northern hardwoods. There are also some balsam fir, white spruce, and red pines. Grasses are also a part of the site. An open area leading into the woodland on the north side of the nursing home consists of natural grasses. The vegetation is all nice pleasant looking and should be taken advantage of by focusing views towards it.

Wildlife

Grand Village has added a lot of bird houses to its gardens, so there are always small birds in the area for residents to watch in all seasons. Larger birds like bald eagles and hawks can also be seen on certain summer days. The woods are home to white-tailed deer that show themselves once in a while. Butterflies are present in the summer when hanging baskets and potted plants are out. More bird houses and feeders could be added to attract more birds. Deer feeders could be added for something to watch in the winter.



Inventory and Analysis

Map # 6: Site Attractions and Comfort

Climate

The climate in Grand Rapids is very diverse. The area has four very distinct seasons which must be considered when designing outdoor spaces.

Solar orientation and Microclimates

Grand Rapids is in the northern hemisphere of the earth. Its latitude is 47° 12' N and its longitude is 093° 30' W. This means that the sun is much further away in the winter than it is in the summer, creating fairly large temperature differences and day lengths. Several of the sites courtyards and patios are next to the building, creating shade spots. These spots must be considered in garden designs because the elderly can be very sensitive to temperatures.

Temperature

Grand Rapids is located in northern Minnesota, so it can get pretty cold. Average temperatures can vary quite a bit from season to season. The average temperatures in the winter months can range from 6° F to 20° F, but it can drop below -50° F on rare occasions. The average temperatures in the summer months are usually between 60° F and 70° F, but it has reached 104° F in the past.

Precipitation

Grand Rapids has an average annual precipitation of 24.7 inches. Most of the rainfall occurs during the months of June, July, and August. The average annual snowfall is 48.7 inches. Most of the snowfall occurs during the months of December, January, February, and March. Generally no snow falls in June through September.

Average Temperature												Years on Record: 45															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
°F	39	6	11	23	39	52	62	67	65	55	44	27	12	°F	39	6	11	23	39	52	62	67	65	55	44	27	12
Average High Temperature												Years on Record: 45															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
°F	51	18	24	36	52	66	75	81	78	68	56	36	22	°F	51	18	24	36	52	66	75	81	78	68	56	36	22
Average Low Temperature												Years on Record: 46															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
°F	27	-5	-2	11	27	39	49	54	52	43	33	19	3	°F	27	-5	-2	11	27	39	49	54	52	43	33	19	3
Highest Recorded Temperature												Years on Record: 45															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
°F	104	51	60	80	89	101	100	104	99	99	84	69	58	°F	104	51	60	80	89	101	100	104	99	99	84	69	58
Lowest Recorded Temperature												Years on Record: 46															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
°F	-51	-51	-45	-38	-10	11	24	33	27	15	-10	-25	-45	°F	-51	-51	-45	-38	-10	11	24	33	27	15	-10	-25	-45
Average Precipitation												Years on Record: 45															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
in.	24.7	0.8	0.8	1	1.9	2.9	3.6	3.5	3.3	2.7	1.9	1.5	0.8	in.	24.7	0.8	0.8	1	1.9	2.9	3.6	3.5	3.3	2.7	1.9	1.5	0.8
Average Snowfall												Years on Record: 44															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
in.	48.7	9.7	8.9	8.1	3.4	0.6	---	---	---	---	1.8	6.7	9.5	in.	48.7	9.7	8.9	8.1	3.4	0.6	---	---	---	---	1.8	6.7	9.5
Average Number of Rainy Days												Years on Record: 45															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Days	150.1	2.2	2.4	2.9	4.6	6	6.4	6.2	6	4.6	3.5	2.9	2.4	Days	150.1	2.2	2.4	2.9	4.6	6	6.4	6.2	6	4.6	3.5	2.9	2.4
Average Number of Days Above 90F/32C												Years on Record: 10															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Days	2.3	---	---	---	---	---	0.3	1	1	---	---	---	---	Days	2.3	---	---	---	---	---	0.3	1	1	---	---	---	---
Average Number of Days Below 32F/0C												Years on Record: 10															
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Days	195	31	28	30	21	8	1	---	---	4	14	27	31	Days	195	31	28	30	21	8	1	---	---	4	14	27	31

Figure 12: Minnesota Climate Chart
 (<http://www.weatherbase.com/weather/weather.php?s=051457>)



Inventory and Analysis

Map # 6: Site Attractions and Comfort

Wind

Average wind speeds in Grand Rapids range from eight to eleven miles per hour. Winter winds come from the northwest and summer winds come from the southeast. The site is semi-protected from the wind because it is surrounded by trees, but certain spaces are vulnerable and need to be protected in the final design.

Views

The site is surrounded by natural forests and most of the views are beautiful. The site is pretty secluded and has only a few poor views. Sadly many of the poor views are from patients rooms. In the winter views from windows are the only links residents have to the outdoors and views need to be pleasant. The poor views include: 1-The view of neighboring curling arena and parking lot. 2-The views of the back parking lot. 3-The views of the road leading to the back parking lot. 4-The views of the front parking lot. 5-The views of the back fence. The back parking lot can be relocated, eliminating those poor views of the parking lot. Poor views of the curling arena can be blocked by adding more vegetation.

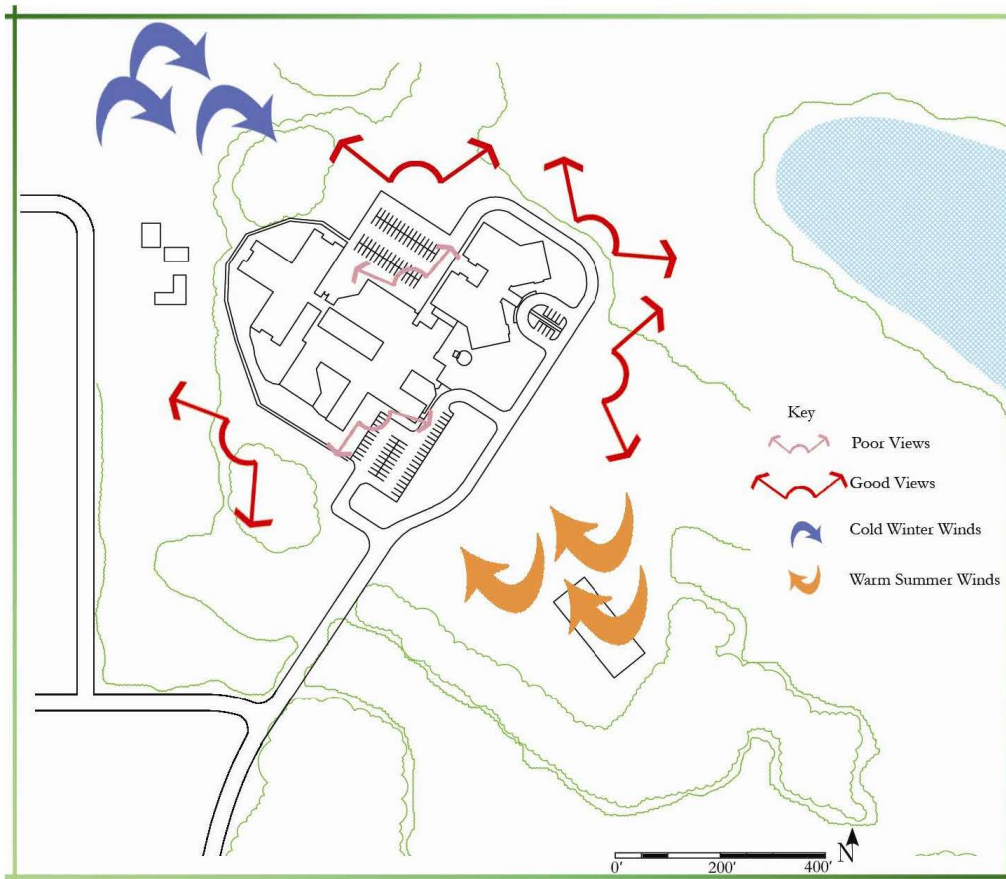


Figure 13: Views and Winds Map



Inventory and Analysis

Existing Outdoor Spaces Inventory and Analysis

Center Courtyard

This courtyard is enclosed by building walls and is 5053 square feet. The building walls are grey and unappealing. The courtyard is not used very often, but residents love to look at it from sitting room windows. It has several moveable metal tables and chairs, two shade awnings, a grill, bird houses, and a concrete path. The path leads from door to door, but is not used, except by staff. The vegetation consists of a few trees, flower baskets, and shrubs.

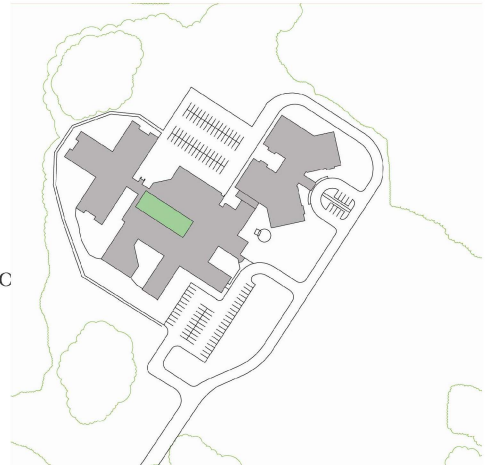


Figure 14: Center Courtyard Location

Suggestions: This courtyard is used a lot just for looking at, so there should be more to look at. There should be more vegetation, perhaps a water feature, and the unattractive walls of the building should be covered up. More seating should be provide by doorways and the grill and they should be made of wood, not metal.



Figure 15: View of Center Courtyard from east end



Figure 16: View of Center Courtyard from west end



Inventory and Analysis

Alzheimer Courtyard

This courtyard is on the south side of the building and is for patients in the later stages of Alzheimer's disease. It is enclosed by three building walls and a fence and is 3891 square feet in size. There is one medium-sized tree and shrubs lining the building. Currently the courtyard has a wooden post fence around the building, which adds a homelike feel, a shade structure, a small ground-level planter, a circular concrete path, a few plastic tables and chairs, and a few bird houses.



Figure 17: Alzheimer's Courtyard Location

Suggestions: The site has no visual interest. Lush fragrant plantings, some type of elevation change, a fountain, and more seating would greatly improve this space. The path should have a handrail and could be wider. The simple canvas shade structure looks like a tent; a wooden arbor would look better. The space should have some similar design features, like plants, as the special care courtyard. This may make the transition from one area to the next easier for patients with memory problems.

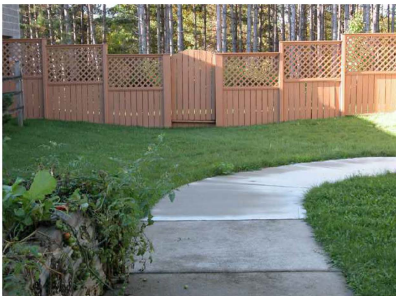


Figure 18: Alzheimer's Courtyard Fence



Figure 19: Alzheimer's Courtyard Decorative Fence and Birdhouse



Inventory and Analysis

Special Care Courtyard

This courtyard is on the south side of the building. It is for patients who may be developing Alzheimer's and need some supervision. It is 8422 square feet in size and is enclosed by three building walls and a fence. The fence is nice and looks like it could be in a backyard, which is good. The courtyard is an awkward shape, but has a lot of room. Currently it has a small shade structure, a concrete path that leads from one door to another, a concrete patio space, a small ground-level planter, a spruce tree, and a few potted plants.

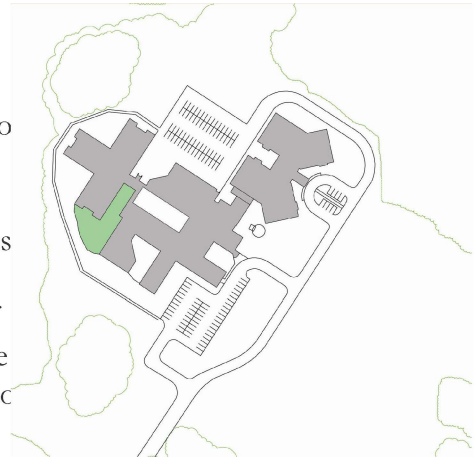


Figure 20: Special Care Unit Courtyard Location

Suggestions: This space is far too boring for its users. Memory enhancing elements, like lilac shrubs, clotheslines, or some kind of activity should be incorporated here. There should be more seating and vegetation, the space looks too cold and sterile. Vegetation should be more accessible to residents and they should be encouraged to work with it.



Figure 21: Special Care Unit Courtyard Fence and Planter



Figure 22: Special Care Unit Courtyard Seating



Figure 23: Special Care Unit Courtyard Entrance



Inventory and Analysis

Unit One Patio

This patio is on the south side of the building. It is not enclosed by any walls because it is open to active patients in good mental health. It has a swinging chair, bench, planter, and a few trees. It is a rather small space with a view of a parking lot.

Suggestions: Make the space bigger and focus views to the southern pine trees, not the parking lot. Shield the view of the parking lot. Add more seating, a shade structure, and vegetation. Provide opportunities for residents to work with vegetation and give them something to do.



Figure 24: Unit One Patio Location



Figure 25: Unit One Patio



Inventory and Analysis

Main Entrance

The main entrance is on the east side of the building. It has a simple awning and is overshadowed by the new Lodge entrance. This entrance has a small corner of green space and is basically unused, it is more aesthetic landscaping. There is a flagpole, a planter, and a few shrubs and trees.

Suggestions: Make the entrance more visible. Make this space more usable. Patients like to watch people enter and leave the nursing home and this is a good place for that.

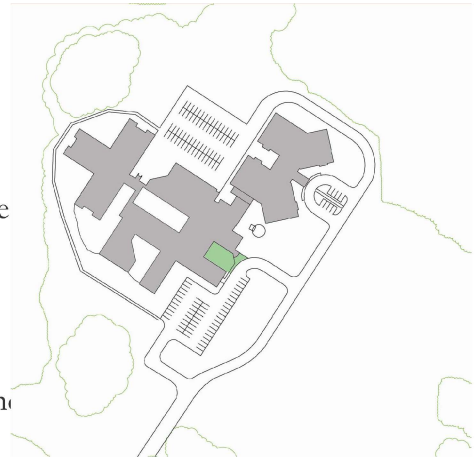


Figure 26: Main Entrance Location



Figure 27: Main Entrance



Figure 28: Main Entrance Green Space



Inventory and Analysis

Lodge Entrance

The entrance to the new addition called “The Lodge” is a place where residents like to sit and watch who is coming and leaving the nursing home. It is on the east side of the building. It has a large entrance awning for shade and a few plastic tables, and chairs.

Suggestions: Add more vegetation and seating to the area.



Figure 29: The Lodge Entrance Location



Figure 30: The Lodge Entrance from the south



Figure 31: The Lodge Entrance from the parking lot



Figure 32: The Lodge Entrance from the north



Inventory and Analysis

Walking Path

The walking path takes users around the west half of the building. It begins in a parking lot and ends in a parking lot. It takes about five minutes to walk along and has three metal benches along the way. The path is made of asphalt and is about six feet wide.

Suggestions: The path could be longer and have a more defined beginning and ending point. It also could be made out of a more attractive material and be a few feet wider. Handrails should be added and benches should be made of a softer material, like wood.



Figure 33: Walking Path Location

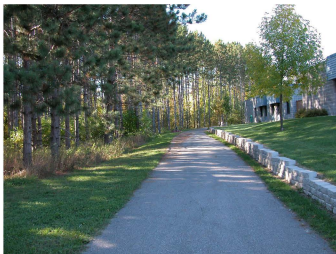


Figure 34: Beginning of Walking Path



Figure 35: Looking Towards the Alzheimer's Courtyard from the Walking Path



Figure 36: Fence Behind Walking Path



Figure 37: Walking Path Seating



Figure 38: Walking Path Behind Resident Rooms



Inventory and Analysis

Activity Patio

The activity patio is on the north side of the building. It is not enclosed by any fences or walls. It is used for group activities and is in front of a back entrance, so residents like to site and watch visitors come and go. It connects to the walking path and has a raised planter that is in poor shape, potted plants, a shade structure, and movable iron tables and chairs. The patio has a great view of the forest, but in order to see the trees, one must look past a large staff and volunteer parking lot. This patio is not living up to its name; few to no activities are done here.



Figure 39: Activity Patio Location

Suggestions: The metal seating should be replaced with a softer material. Views should be taken advantage of and the parking lot should be moved to a better location. More vegetation should be incorporated into the site and residents should be able to work with it. The entire space needs to be bigger in order to give residents the opportunity to be active in the space.



Figure 40: Looking at the Activity Patio from the end of the Path.



Figure 41: Activity Patio and View of Parking Lot



Inventory and Analysis

Park in the Pines

This area is to the south of the building in a grove of mature pine trees. There are several picnic tables and a fire pit. Staff members use this area a lot to each lunch, take breaks, and smoke. Sometimes for an evening activity, staff and the more mobile patients will come here to roast marshmallows around a campfire.

Suggestions: Create a safe and accessible path to the space. Provide more seating.



Figure 42: Park in the Pines Location



Figure 43: Park in the Pines Picnic Table

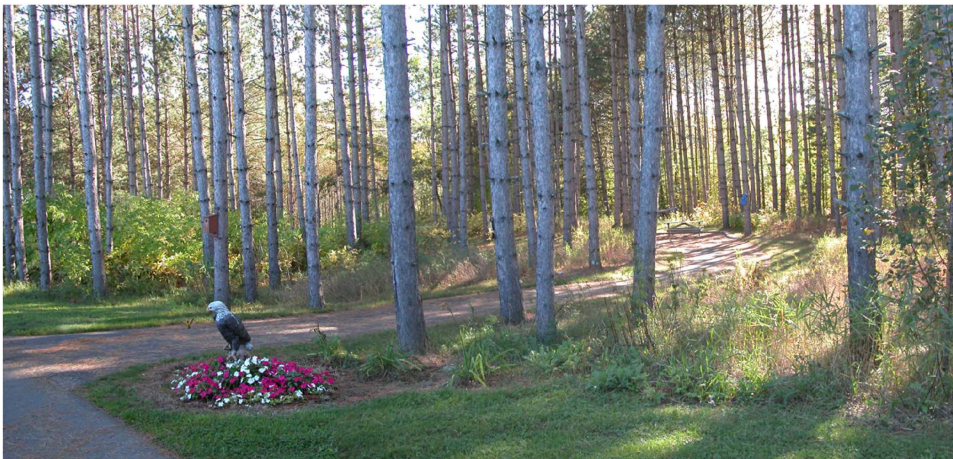


Figure 44: Park in the Pines Path



Inventory and Analysis

Memorial Hill

Memorial Hill is a small grassy hill with several apple trees planted on it. The trees have been donated by family members of residents that have passed away and have small plaques. It is a special space to the nursing home's residents and staff. The walking path passes by the space

Suggestions: Provide seating and more awareness to what the space is. This area would be a great addition to a healing garden. It would add a personal touch to the garden.

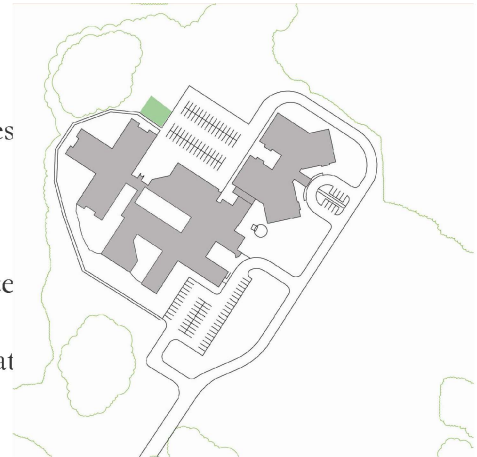


Figure 45: Memorial Hill Location



Figure 46: Memorial Hill Apple Trees and View of Parking Lot



Inventory and Analysis

Lodge Back Lawn

This is a new space. It is on the east side of the new addition and is for residents of the lodge to use. There is small patio and a large grass lot with five trees. The lawn and all of the rooms surrounding it have a view of the back parking lot.

Suggestions: Move the parking lot and focus views to the natural landscape. Add seating and vegetation. Anything added for residents to do or look at would be an improvement.



Figure 47: Lodge Back Lawn Location



Figure 48: Lodge Back Lawn



Figure 49: Lodge Back Lawn View of Parking Lot



Inventory and Analysis

Overall garden and outdoor spaces suggestions:

- Replace iron tables and chairs with a softer material like wood, but keep movable
- Take advantage of natural views; don't build parking lots in front of them
- Make paths wider and longer (connect different spaces with it) and add handrails
- Screen harsh fence around Alzheimer and special care courtyards
- Add more visually interesting design elements, like sculptures or water features
- Create private spaces, where one person or a small group could be alone
- Add more of a variety of vegetation
- Add elevation changes, a small hill or mound in a garden
- Provide more of an opportunity for residents to work with plants



Opportunities and Constraints

Opportunities:

- Desire from nursing home to expand and improve outdoor spaces
- Site has great views as it is surrounded by beautiful natural landscape
- Future connection to nearby lake and forest
- The site has existing mature vegetation
- Site is rural, so there are no urban noises or pollution to deal with
- The nursing home is a well-run facility that really cares about patients and will use new outdoor spaces to their fullest extent
- The facility will be expanding in five to ten years with the growing elderly population

Constraints:

- Chilly winter climate prevents garden usage in winter months
- Naturally steep hills make creating wheelchair access difficult



Case Studies

Good Samaritan Hospital Healing Garden

Location: Portland, Oregon

Designers: Landscape Architect Ron Mah, Horticultural Therapist Teresa Hazen, and Johnson Design Studio Architecture

Date Built: 1996

This healing garden serves many different users and is very diverse. It is used by patients, visitors, and staff. It is a connecting point between two hospital buildings and is open to the public. To ensure that all users needs were met the garden was designed by landscape architects, architects, horticultural therapists, patients, former patients, and community members.

The garden is visible from the main foyer and café. Banners and plants near the hospital entrance guide people to the garden as well.

The gardens main feature is two concrete planters, one large and one small. They create walls of vegetation separating the garden into different spaces and create curving pathways which slow people's movement through the space. The pathways are made of a variety of materials like gravel, rubberized material, and scored concrete. This allows mobility impaired patients to practice walking on a variety of surfaces. The planters are at wheelchair level and the edges were left unplanted, so that patients could plant them when the garden opened. The plants serve many different purposes in the garden. Some are for patients to work with, some act as walls or barriers between spaces, and some are for topics of conversation. Plants were picked out with great detail; they come in different shapes, colors, sizes and textures and are always clearly labeled. The detailed plantings exist to provide a distraction for patients and visitors. They give them something to talk about besides the hospital. The benches are wooden because wood has a more domestic look and is gentler than steel on patients that have lost muscle tone. The one element the garden is missing is a water feature, which the hospital originally planned to install, but ran out of funding.

Application: This healing garden is a great example of attention to detail. The Grand Village gardens will also need to have attention to detail. Both have a variety of users with different needs. Active and passive spaces need to be created in a way that allows different users to coexist peacefully.

The materials are really important. The needs of the elderly are really taken into account here. Benches must not be too hard. Walking surfaces must not be too slick. Materials must not be too reflective. Every material needs to be picked with the special needs of the elderly in mind.

The gardens overall feel is pretty modern and is in the middle of a city. The Grand Village is located in the forest and its gardens should have more of a natural feel.



Case Studies

Good Samaritan Hospital Healing Garden Pictures



Figure 50: Good Samaritan Healing Garden



Figure 51



Figure 52



Figure 53



Figure 54: (All of the above) People using the Good Samaritan Healing Garden



Figure 55: Good Samaritan Healing Garden Plan
(All pictures on this page were taken from the August 2003 issue of Landscape Architecture Magazine)



Case Studies

Mount Zion Clinical Cancer Center Healing Garden

Location: University of California-San Francisco

Designers: Artist Ann Chamberlain and Garden Designer Katsy Swan

Date Built: 1995

The Mount Zion healing garden is a calm and relaxing space with lush plantings and curving paths. The garden is used by staff, visitors and patients. It is more a place to sit, talk, or contemplate than a place for activities. The reason the space is more passive than active is because the new garden inspired the hospital to change its layout. When the hospital saw the energy the garden created it added a library, rooms for exercise and yoga, a resource center, offices for spiritual and nutritional counseling, and a small café. All were added in hopes to create a more comforting environment for patients. The new spaces held physical therapy and other activities leaving the garden for more passive uses.

The garden is full of plants that bloom all year long. The benches and tables are moveable to promote conversation and so patients that are light sensitive can move into the shade when necessary. A fountain pool creates a soothing sound and attempts to cover the noises of traffic. The spaces are lit, so they can be used at night as well.

Tiles made by cancer patients, cancer survivors, family members, and friends make up a wall in the hospital. The wall is visible from the garden and creates a very peaceful space. The tiles are 12 inches by 16 inches. They have plants and personal messages printed into them. The tiles let patients know that their story matters. Adding such a personal element to the garden really bonded it to all visitors.

Application: This garden has a very natural feel. The Grand Village needs a natural garden as well. The plantings are very lush and are at ground level. The garden is not for patients to work in, but just a place to relax in. The grand village has four courtyard spaces and one should definitely be for only relaxing in.

The tiles used in the cancer center give the garden a very personal feel. Adding something to the Grand Village gardens done by patients would help to achieve a personal feel.

This garden has very practical elements in it too. The round tables and benches that are moveable would be great at Grand Village. It would promote conversations and allow patients to feel a sense of control.



Case Studies

Mount Zion Clinical Cancer Center Healing Garden Pictures



Figure 56: The entrance into Mount Zion Healing Garden



Figure 59: Examples of tiles made by cancer patients at Mount Zion Clinical Cancer Center



Figure 57: Seating at Mount Zion Healing Garden



Figure 58: Private seating area with view of tile wall at Mount Zion Healing Garden

(All pictures on this page were taken from the October 2001 issue of Landscape Architecture Magazine)



Case Studies

Sedgewood Commons Alzheimer Gardens

Location: Falmouth, Maine

Designer: Landscape Architect Robert C. Hoover

Date Built: 1994

Sedgewood Commons has three gardens, one geared toward each stage of Alzheimer's disease. The gardens are designed to help residents with their memories. Hoover calls the treatment "remembrance therapy."

The first garden, called Hawthorn garden, is for residents with mild symptoms of Alzheimer's. The garden has white picket fences, clothesline, basketball hoop, gazebo, and aromatic plantings. Hawthorn garden offers residents a sense of exploration and control. The garden provides a home-like environment for residents. The garden is exclusively theirs and it has elements that they might have had at their old house. One woman planted her old wooden tulips from home outside of her window. Another woman went outside every day to hang her laundry on the clothesline. Residents are always playing basketball and telling stories of their glory days on a team. These garden elements help residents recall earlier times.

The second garden, called Longfellow garden, is for residents who are in the second stage of Alzheimer's disease. The second stage is the emotional equivalent of adolescence. The garden is very passive and both Hoover and the Sedgewood staff wish more active elements would have been included. Longfellow garden has a large pergola that covers the majority of the space, a center sculpture, and large amount of green plants.

The third garden, called Millay garden, is for residents in the disease's later stages. The garden is peaceful and offers emotional and physical security. Millay garden is full of fragrant plants, but Hoover made sure that all were non-toxic. Some of the plantings resemble a river and have stones among the plantings. The plants are set up to help residents with orientation, which is very important in this last stage.

Application: The idea of designing gardens based upon particular resident's special needs would work great with Grand Village's setup. The special care garden should be designed to enhance memory and have some activities for residents to participate in. It should have bold colors and fragrances. The garden for residents with Alzheimer's should be more passive and special attention is needs to be paid to plant selection and safety. Colors should be more muted in plants, but fragrances can still be strong to help with patient orientation.

Gardens at Grand Village that are open to residents who are pretty self sufficient and can go outside unsupervised should also have some memory enhancing elements too. Loss of memory happens to all people aging, not just those with Alzheimer's disease. Elements like basketball hoops and clothes lines would be a good addition to all nursing home gardens



Case Studies

Sedgewood Commons Alzheimer Gardens Pictures



Figure 60: Elements in Sedgewood's Hawthorn Garden



Figure 63: Vegetation in Sedgewood's Millay Garden



Figure 61: Fence in Sedgewood's Millay Garden



Figure 64: Plan for Hawthorn Garden at Sedgewood



Figure 62: Pergola in Sedgewood's Longfellow Garden.

(All pictures on this page were taken from the January 1995 issue of Landscape Architecture Magazine)



Case Studies

St. Michael Hospital

Location: Texarkana, Arkansas

Designer: Landscape Architects James Burnett and Taffie Behringer

Date Built: 1994

St. Michael was originally located in the middle of the city. When plans were made for the hospital to move to a rural setting the design team had a plan. They wanted to create a hospital with a compassionate setting for healing as well as a dignified place to die. They thought a lot of hospitals were like prisons and when they heard of Robert Ulrich's research of the healing powers of the landscape they knew the move was the right choice.

The idea of views was taken into great consideration and all of the hospital rooms have either a view of natural woodland or of the facilities courtyards. The courtyards have mature vegetation, pathways, a greenhouse, fountains, and plenty of moveable seating. There is also a courtyard at the entrance drop-off point, for people to sit and watch who is coming and going. It is also a nice welcome sign for the hospital. This portion of the hospital is successful.

The projects architect and landscape architect have taken Ulrich's plan a step further. They have created a "courtyard room" where patients' beds can be rolled into. Once in there, patients are supposed to look at the plant and automatically heal quicker. They are looking into ways to provide green spaces anywhere they will fit.

Application: St. Michael is an excellent facility and has wonderful outdoor spaces. Its courtyard and woodland surroundings are much better than the original urban setting. It is a good example of how to mix designed courtyards with a natural setting. The courtyard by the entrance could work great at Grand Village because residents love to hang out by the entrances. But the hospital has taken the idea that nature helps patients to heal quicker a step too far. They are trying to squeeze green spaces into the hospital wherever they will fit. Healing through nature isn't just about patients being surrounded by plants. It is about patients having a place to go outside of the hospital setting. It is about comforting patients with something they are familiar with and giving them some control in an uncomfortable setting where everything is decided for them.

The Grand Village would not benefit from a room overcrowded with plants for residents to sit in. Design that focused on a safe home-like environment would be more beneficial to residents.



Case Studies

St. Michael Hospital Pictures



Figure 65: Large open room with views to the forest at St. Michael

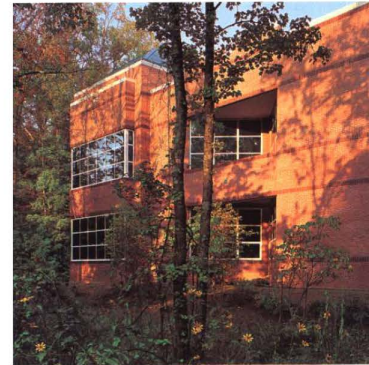


Figure 66: St. Michael's Natural Setting



Figure 67: Courtyard at St. Michael



Figure 68: Drop-off courtyard at St. Michael

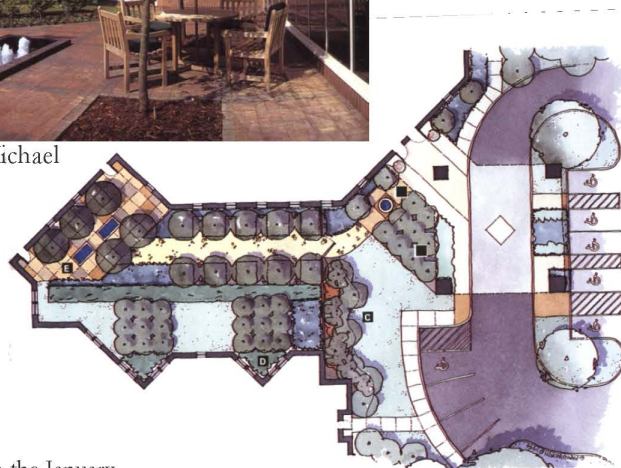


Figure 69: Plan of drop-off courtyard at St. Michael

(All pictures on this page were taken from the January 1995 issue of Landscape Architecture Magazine)



Case Studies

Alois Alzheimer Center Healing Garden

Location: Cincinnati, Ohio

Date Built: 1987

The healing garden at Alois is based on a “Paradise Garden” model. The garden model includes five essential elements: enclosing wall, water, canopy, hill, and paving. The garden is surrounded by the buildings walls, forming a courtyard. The walls are mostly windows, allowing patients to look at the garden in the winter when it is too cold to go outdoors. The garden has a looped path with no dead ends to confuse or frustrate Alzheimer patients. Along the path are benches which allow patients to sit and view the garden. There is a small mound on the otherwise flat garden which adds visual interest to the site. There is a patio at the entrance to the garden and a long trellis provides shade along the wall. A small pool is also on the patio providing a quiet comforting murmur. A raised planter is available for patients to use. Staff encourage patients to plant what they have used in the past. This will help with memory loss.

Application: The five elements of a “paradise garden” work well for patients with memory loss. They all work together to provide a comforting and nurturing space. One courtyard at Grand Village is exclusively for patients with Alzheimer’s disease. The courtyard is small and the Alois garden is a great example of what to do with limited space and patients with a lot of needs.

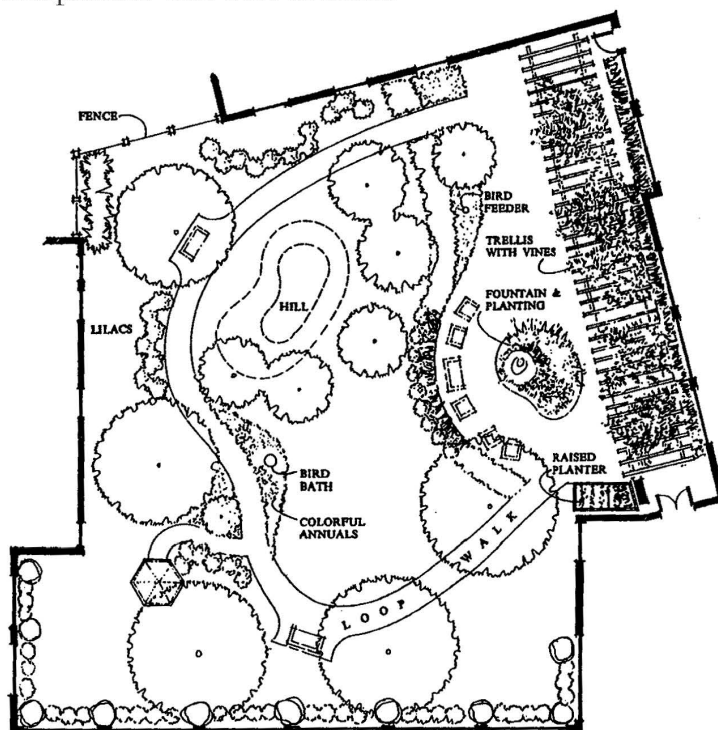


Figure 70: Alois Healing Garden Plan (Wells, 1997)



Description of Research

To ensure that I fully understand the design needs for nursing home healing gardens I have researched a variety of topics.

I have studied the healing gardens at nursing homes, homes for Alzheimer's patients, hospitals, children's hospitals, cancer treatment centers, and AIDS treatment centers. These different varieties of gardens have helped me with necessary elements in healing gardens and creative design ideas. Many books I have read have listed the special needs that nursing home patients have and what need to be incorporated into gardens for them.

I have also researched the human aging process and the stages of Alzheimer's disease. It is important to know what the residents in a nursing home are going through in order to design comfortable and safe places for them. I have volunteered at Grand Village and spoken with the residents. I became attached to the residents after spending time with them. I want to design great gardens for them. It gave my project more purpose and that will make my design for the project better.

I have found all of this information in books, magazines, journals, websites, and by talking with residents and staff at Grand Village.



Programmatic Requirements

Size

All of the outdoor spaces together are approximately 35,000 square feet. This includes four healing gardens and all the other smaller outdoor spaces like patios and entrances. The entire site, not including the 170 acres of woodland, is 475,000 square feet. The nursing home building is 94,000 square feet. The gardens take up approximately 7.4% of the site.

Usage

The gardens will be used by residents, staff, and visitors. They will probably be using the gardens from April through October, depending on the weather. Most of the garden use will occur during daylight, but some outdoor spaces will be used at night for activities and will have lighting.

Elements and Materials

Gardens designed for the elderly need specific materials to ensure safety and comfort. The following is a list of senior-specific design elements:

- **Vegetation:** Vegetation is a key element in healing gardens. Plants should have a variety of colors and textures and flowers should be vibrant and bright. Since the nursing home is in Minnesota it is important that some plants have interesting winter foliage. Evergreen shrubs with berries will be attractive in the winter and attract wildlife. Vegetation in the special care unit courtyard and Alzheimer's courtyard should be memory enhancing. Residents should be asked what their favorite flowers are and what they used to plant in their gardens and yard. Their favorites can then be planted in their courtyards. These familiar plants can bring back memories and are soothing to residents.
- **Seating:** Benches and chairs need to be made of a soft material, like wood or plastic because hard materials like metal can be uncomfortable. Seniors who have recently undergone surgery or have little physical activity may have less muscle and metal benches will be painful to sit on. Seating should also be movable. Garden users should be given the ability to choose where they sit. Making their own choices is important to residents because many are made for them in a nursing home. Seating should be able to move for safety reasons too. Some residents may be sensitive to the sun, but could handle it for a short amount of time before moving into the shade. Benches and chairs need to be movable for construction purposes and medical emergencies too.
- **Planters:** Planters serve several purposes in a healing garden. They can form walls that separate spaces and provide privacy and they can provide residents with something to do. Raised planters can have vegetables and flowers for residents to care for, but the planters must be raised 40 inches, so that residents in wheelchairs can easily use them. Planters with seating built in are nice for those who have a hard time bending over for a long time. The planters should be made of a strong material that will last a long time, but also fits in with the design.



Programmatic Requirements

- **Paths:** Paths need to be wide enough to allow for two wheelchairs or two walkers, or a wheelchair and a walker, to pass each other comfortably. This means that paths need to be at least nine feet wide.
- **Paving:** The paving must be easy to walk on, not be slippery or have too much glare. It cannot have cracks or gaps bigger than half an inch because canes and walkers could get caught in them. Paving can have many different textures, like concrete, rubber, or gravel for physical therapy patients to practice walking on.
 - **Handrails:** To ensure the safety of residents who are unstable on their feet, hand railings should be added along all pathways. Railings should be smooth and not made of wood because it could cause a lot of splinter injuries.
 - **Fences:** Healing gardens for residents with Alzheimer's disease or other memory problems need a fence to prevent them from wandering off and getting hurt. The fence needs to look homey and natural and not like a prison fence. Wood is a good choice, but even a tall planter would work.
 - **Shade Structures:** Shade structures could be awnings, tents, or mature trees, but there must be some sort of shade provided in each outdoor space.
 - **Lights:** Some of the outdoor spaces will be lit because for night use and some will not be. The Alzheimer's garden and special care unit garden are examples of spaces that would not be lit for safety purposes. Lighting should be small and subtle and look more like a backyard or park rather than an over lit stadium.

Psychological Impact

The new gardens and outdoor spaces at Grand Village will have a huge positive psychological impact on all who use it. They will provide spaces for more activities, passive and active, which improves residents' physical, social, and emotional well-being. Grand Village staff and visitors will also benefit from the gardens. They can benefit from simply using the gardens and by seeing improvements in residents from the gardens. The gardens provide all users with some privacy and access to nature which can be hard to come by in a nursing home.

Preliminary Budget

Normally a healing garden would be funded by a money donor and/or fundraising. This limits the budget and the design of the garden. An undergraduate capstone project is supposed to allow students to design the best possible space, with an unlimited budget. Considering the fact that this project consists of four healing gardens and several other outdoor spaces and its total cost will could range anywhere from \$1 million to \$10 million. Grand Village is on a very limited budget, so the final design will be done in stages. This will provide the nursing home directors with a price estimate of individual gardens and see what, in my opinion, are the most important outdoor spaces at Grand Village.



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Capstone Documents

Grand Village Therapeutic Garden Nursing Home Healing with Nature

What is a therapeutic garden?

Why would a nursing home benefit from a therapeutic garden?

What is the project going to do?

Introduction

Location

Working Conditions

History and Purpose

Mission and Character

Site Information

Observation

Analysis

Opportunities and Constraints

Goals and Objectives

Site Analysis

Design Process

Master Site Plan

Design Development

Master Site Plan Design Development

Design Process

Therapeutic Garden

Design Development

Therapeutic Garden Design Development

Water Plan

Water Plan Rules and Aides

Water Feature Perspective

Master Site Plan

Garden Plan

Garden Concept

Section Access Matrix and Activities Matrix

Activity	1	2	3	4	5	6	7	8	9	10
1. Quiet contemplation										
2. Active participation										
3. Social interaction										
4. Physical activity										
5. Sensory stimulation										
6. Cognitive challenge										
7. Emotional expression										
8. Learning										
9. Relaxation										
10. Escapism										

Scale: 1" = 10'

Therapeutic Garden Master Plan

Design Development

Memorial of Plan

Memorial Apple Grove

Memorial Apple Grove

Grand Villages

Perspective of active garden space

Foundation Detail

Perspective of park space

Water, Gate, and Bench Detail

Suggested Plant List

Plant Name	Quantity	Notes
Apple Trees	10	Various varieties for fruit and shade
Maple Trees	5	For fall color and shade
Flowering Shrubs	20	Various species for color and texture
Perennials	50	Various species for year-round interest
Annuals	100	For seasonal color and low maintenance
Grasses	30	For texture and movement in the garden
Water Features	1	Central water feature for sound and movement
Benches	5	For seating and contemplation
Pathways	1	Main path and smaller paths for circulation
Structures	1	Gazebo for shade and seating

Memorial Garden Planting Plan

Main Garden Planting Plan

Planting Plans

Perspective of park space

Perspective of back yard space

Asphalt Parking Detail

Concrete Parking Detail

Asphalt Parking Detail

Section Elevations through entire garden

Therapeutic Garden Design



Grand Village Therapeutic Garden

Nursing Home Healing with Nature



What is a therapeutic garden?

Therapeutic means having or exhibiting healing powers. A garden is planted green space. So a therapeutic garden is just vegetation with healing powers, right? There's actually more to it than that. Therapeutic or healing gardens are generally found at health care facilities and need to be carefully designed in order to be successful and have therapeutic value. They exist for patients, visitors, and staff to use. Gardens can provide sanctuaries from stress, places to socialize, and areas for physical activity. They improve the physical, emotional, and social state of patients. Planning for the specific needs of garden users must be very detailed. Thoughts of who, what, where, when, and why must be considered or else a healing garden will not heal and turn out to be just a planted green space.

Why would a nursing home benefit from a therapeutic garden?

Most residents in a nursing home have lived happy, successful, independent lives. The transition into a nursing home can be very difficult for seniors. In a nursing home that looks like a hospital, with no privacy, and everyday decisions are made for them, residents can feel embarrassed, useless, and depressed. To make life in a nursing home healthier it has to be more like a home for residents. A home where people make their own decisions, work, and have fun. Therapeutic gardens put these activities back into nursing home residents' lives. Residents like to go outside and talk, plant flowers and vegetables, and relax just like they did at their homes. Therapeutic gardens give them a place to do those things. Often times these activities aren't seen as necessary, but they are. Residents may find common interests with others while using gardens, creating effortless conversations and friendships. Gardens also allow for independent decision making. Residents can decide what flowers to plant, where to sit, where to go, and what to do. These small decisions can help boost self-esteem and make residents feel more confident, independent, and happy. Healing gardens can help to complete the lives of nursing home residents, without them even knowing it. Gardens have the ability to give residents back confidence, strength, and friends. And happier healthier residents result in happier staff and families.

What is this project going to do?

The purpose of this project is to design a therapeutic garden that contributes to an enhanced quality of life for nursing home residents, staff, and visitors. The final product is a unified master plan of outdoor spaces that compliment the nursing homes surroundings and includes a memorial space, forest trail with lake access, a walking path around the site, and a design emphasis on a therapeutic garden that includes all of the key garden elements and access the needs of all Grand Village's users.

Introduction

What is in a nursing home therapeutic garden?

Gardens for the elderly must include some key elements/features in order for them to be successful. The following is a list of elements the Grand Village Nursing Home garden should have:

Sense of Security or Enclosure: All users in a healing garden want to feel safe. People should be relaxed in healing gardens and not worried about safety. The designer needs to take care of a variety of safety issues in the garden. The most important may be some sort of wall which prevents patients, especially those with Alzheimer's disease, from wandering off. The barrier should look like something you would find in a backyard, but still must be secure and safe.



Physical Comfort: Elderly patients can be more sensitive to the outdoors than other garden users. Seating in both the shade and the sun must be provided. Benches should be movable to give people the control to sit wherever is most comfortable. Benches should have back and arm rests and be made out of a softer material, like wood, rather than metal. This is to protect the elderly with little muscle mass from being uncomfortable or in pain. Plants need to be selected very carefully. Plants that are too colorful may confuse Alzheimer patients and plants with excess pollen could harm some patients. Materials in the garden cannot be too reflective nor have too much glare for it could be uncomfortable for patients with sensitive vision. Smoking areas should be specified and located downwind and away from gardens.



Social Spaces: Gardens should have spaces designed for gatherings, activities, and events. A space meant for socializing should have tables and benches and promote conversation and participation in group activities.

Views: Views need to be incorporated into healing garden plans. Views to outside of the garden and views from inside buildings into the garden are important. Seniors who are confined indoors may want to experience the outdoors, even if they cannot go outside. Large windows with views to spaces outside should be provided. Views to gathering spaces outdoors, like areas around fountains or nodes, can make a person inside feel like part of the group outside. Views to main features also help the patients get familiar with them. If a patient sees a fountain from a window over and over again, when they finally decide to go out and see it, the new space won't be so intimidating.

Choices: Feeling a sense of control is important to the elderly. They have lived their entire lives independently and now live in a place where everything from their meals to their clothes may be chosen for them. Seating should not be bolted down in a garden to allow residents to sit wherever they choose. Simple choices like what flowers they'd like to plant and what area they'd like to sit in give them back some power in their lives.

Private Spaces: Therapeutic gardens also need private spaces that allow people to have personal conversations, be alone, or even grieve. Many Grand Village residents have roommates and nurses constantly in and out of their rooms.



A short amount of time alone outside is very valuable to both residents and staff.

Water Feature: Water can stimulate three senses: touch, see, and hear, so it is a great addition to any therapeutic garden. People like to touch the water; it provides white noise that has a calming effect, and can attract wildlife.



Hill or Mound: Changes in elevation can create visual stimuli in a garden and can separate it into different spaces. Plantings can be added to a small hill to create private spaces without the use of a planter or other hard physical structure. Hills can also be landmarks that will help patients with poor memories navigate a garden.

Paths and Paving: All paving materials in a healing garden need to be chosen with great care and thought. Paths must be wide enough for two wheelchairs to pass each other comfortably. Paving must not have gaps in it big enough for canes or walkers to get stuck in. A variety of paving textures should be offered for mobility-impaired patients who are using the garden to help them prepare to live independently again. The entire garden must be wheelchair accessible.

Planters: Plants must be accessible to everyone in the garden. Some planters need to be at wheelchair height. This allows patients to work from wheelchairs or benches. Raised planters help to include wheelchair bound patients in gardening activities and prevent back strain on other patients. Planters should also be various shapes and sizes to ensure patient comfort while working in them.



Access: There is always the chance that a resident using a healing garden may need emergency medical attention. Gardens must be designed so that if needed, medical professionals can easily get to a patient. This includes being able to get into the garden and being able to quickly get the patient out of the garden to care. Exits need to be incorporated into enclosed gardens. In case of a fire a garden should be just like a room in a house; there should be more than one exit.

Vegetation/Interaction with Nature: The positive influence nature has on well-being of people has been proven in many studies. Whether it is gaining strength or feeling a sense of happiness, nature affects almost everybody in a good way. Healing gardens should have a variety of plants with different textures, colors, scents, and bloom periods. The plants should sway and rustle in the breeze. Patients should be able to see the sky, the sun, the moon, and the clouds. The garden is there to connect users with nature, so designers should take advantage of surroundings.



Programming: Programming may not be a physical element in a garden, but it is essential for garden success. Many people think that gardens follow the "if you build it, they will come," philosophy, but that is not always true. Nursing home residents, who have never dealt with gardening or the outdoors, may need some help feeling comfortable outside. Activities like working with plants, playing games, and visitation sessions should be planned in the garden spaces to help patients learn how to use the new spaces.

Location



Minnesota



Itasca County



Grand Rapids

Grand Village is located in a beautiful rural location. It sits among a mature forest mix of pines, aspens, spruce, cedar, and tamarack. It has amazing views of the woodland and Hale Lake, which is about half a mile away through the woods. The site is located on County Home Road off of Minnesota Highway Two, it is at the end of the road and is almost entirely secluded, except for a neighboring curling club area.

Grand Rapids is located in the north-central Minnesota. The town has a population of around 8,000, but the surrounding area has a population of almost 20,000. The majority of the town's population is middle-aged couples with families, most of which are of German and Scandinavian descent. The average family income is \$46,960 a year. Seventeen percent of the population is above the age of 65 and that is expected to grow as the baby boomer generation ages. Grand Village is one of five nursing homes in the community and will definitely undergo another expansion in the next five to ten years.



Grand Village Nursing Home



North

Existing Conditions

The following pictures show typical design problems at Grand Village. Things such as parking lot placement, entrance congestion, and views are the main site troubles.



To the left in this picture is the main entrance to Grand Village and to the right is the new physical therapy addition called the Lodge. The Lodge has a very large prominent portico over its entrance, leading new visitors to believe that it is the main entrance. Meanwhile the main entrance has a very small canvas canopy that often gets overlooked. The main entrance should be more prominent, to ensure that visitors see it and check in at the front desk. This will create a safer environment for residents and staff.



This is the activity patio. It is one of the most used spaces at Grand Village. It has a great view of the surrounding forest, but also looks over a parking lot. This space can only accommodate a maximum of 15 residents and is relatively boring with a shade structure, some metal tables, and a small unused raised planter. Residents like to gather here because this is the most used parking lot and people are always coming and going through the space. This is problematic because when people enter the building from here, they are often unnoticed by staff. Visitors should be entering the building at the main entrance and the activity area needs to be larger.



This is the back of the Lodge building. The windows are all resident rooms and they are all looking out at a parking lot. Views from inside of the building are just as important as views from within the final garden design. Rooms should face out to some green space, or at least be buffered from unpleasant views.

History and Purpose

In 1896 the Itasca County Poor Farm opened in Grand Rapids, Minnesota. It housed the elderly, sick, and criminal. The facility was a self-sustaining farm and a care provider. In the 1930s it stopped housing criminals and only cared for the sick and elderly who could no longer care for themselves and was called the Itasca Nursing Home. In 1994 it changed its name again when a new building in a new location was constructed. The new facility was called Grand Village Nursing Home. The facility was built among 170 acres of woodland, fields, and a lake, just west of Grand Rapids. Today Grand Village is home to 118 residents. Residents needs range from assisted living to full 24-hour care. In July 2004 a new addition was added to Grand Village called "The Lodge." The Lodge is for elderly patients who are recovering from a surgery or trauma of some kind. Restorative care, physical therapy, and re-teaching basic living skills are done at the Lodge. Patients stay here for as little as a few days or for as much as a few months, depending on how long they need to prepare for independent living again.

Mission and Character

Grand Village is a wonderful nursing home. All of the staff are very caring, friendly, and are genuinely concerned with residents' well-being. The residents are well cared for physically and emotionally. There is a full-time activities director who plans hundreds of activities every year. The activities range from bingo every Saturday to Pub Night twice a month to a holiday play every December. The aim of these programs is to keep residents bodies and minds active. In 1996 the nursing home created a mission statement that sums up its high standards for health care, it reads "The Itasca Nursing Home (INH) purpose and mission is to provide quality, long-term care services that will promote the individual's physical, emotional, social and spiritual well being and to deliver such care and serve in the most effective and economical manner possible." Although the nursing home tries very hard to keep patients happy, healthy, and active, the task is almost impossible and patients end up spending a lot of time just sitting around indoors. The addition of a therapeutic garden would provide residents, staff, and volunteers with more opportunities to be active both physically and mentally.



User/Client Description

Grand Village is owned by Itasca County and is operated by Ecumen, a management company that operates independent and assisted living care centers, home health care and a variety of community-based services around the United States. The staff and patients at Grand Village have expressed a desire for nicer outdoor facilities and a therapeutic garden, but funding is short. The nursing home is used by residents, staff, and visitors. The resident user group can be divided into four subgroups: physical therapy patients, active residents, special care residents, and Alzheimer residents. Each user group has unique needs and uses for the nursing home's outdoor spaces.

Residents: Grand Village can support up to 153 residents and is usually full. The residents range from patients recovering from surgeries who will only stay for a week, to residents who live there permanently and require 24-hour care. There are four existing courtyards at the nursing home: one for watching birds and flowers, one for activities, one for special care patients, and one for Alzheimer patients. But all of the courtyards are almost identical. Gardens need to be designed with specific user groups in mind, or they will be unused and even dangerous.

Physical Therapy Patients: The new addition or "The Lodge" at Grand Village is specifically for physical therapy patients. It can support up to 35 patients at a time. These patients can use gardens for passive activities, like socializing or relaxing, but gardens can also be a great addition to physical therapy activities. They can practice walking on different paving surfaces and gain strength and motor skills by working with plants in the garden.

Active Residents: Residents who require very little assistance can get very bored at a nursing home. Planned events may take up some time, but many nursing home residents have said that a lot of their time is spent doing nothing. These residents would benefit greatly from a garden. A healing garden for active residents can provide endless opportunities for something to do: visit with friends or family, exercise, plant a garden, read, enjoy being outdoors, watch wildlife, or play games with other residents.

Special Care Residents: Special care residents need some supervision and are most likely in the early stages of Alzheimer's disease. These residents can use gardens for light physical activity, socializing, and relaxing. Residents may also use the garden as a memory enhancer. Plants from their old backyard (common plants like lilac shrubs), or elements like clothes lines tend to bring back memories and encourage residents to tell stories. This is sometimes called a "memory garden" and is perfect for special care patients.

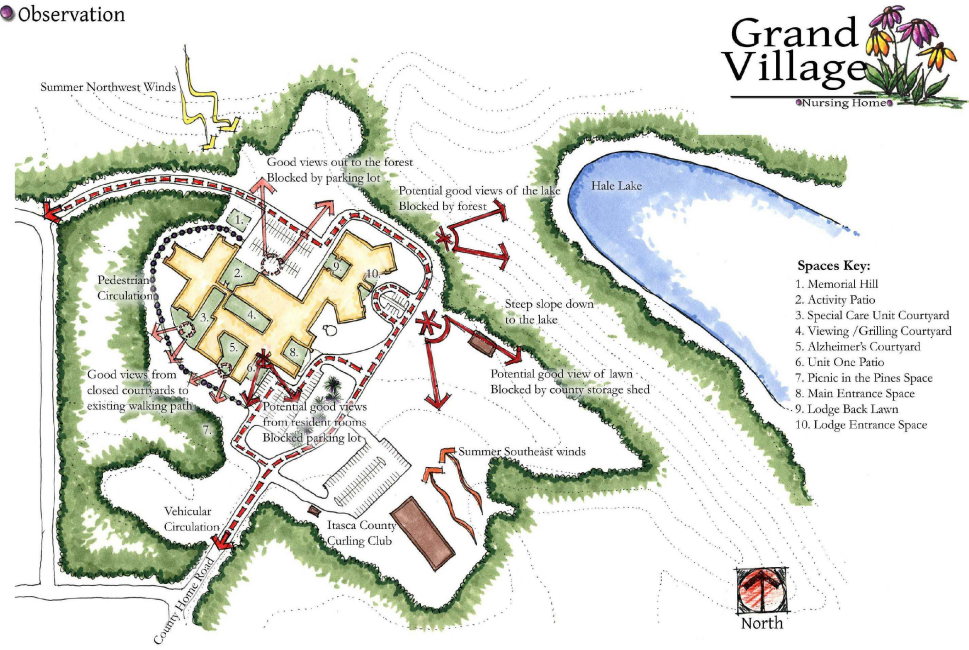
Alzheimer Residents: These residents need 24-hour care. Gardens for them are spaces to relax and sometimes bring back old memories; basically the job of these gardens is to help residents stay happy and comfortable in their final days. Residents can touch, smell, and look at plants, observe birds and maybe take short walks. The garden is very passive.

Staff: Grand Village employs 130 staff members and on an average day there are 30 employees working. Nursing staff will use the gardens and outdoor spaces when working with patients on physical or mental activities or when just sitting outside enjoying a nice day with patients. They would also use the spaces for coffee and lunch breaks and as a place to get away from the stress of working if needed.

Visitors: The activity programs at Grand Village encourage family members and friends of residents to visit and get involved in their loved ones lives. They will use the gardens and outdoor spaces as a place to visit and catch up with residents. They can talk, read, stroll along paths, play games, and watch improvements in strength or motor skills.

Site Information

● Observation



● Analysis

- Parking lots should have more specific usages, for example different lots for staff and visitors
- There needs to be more emphasis on the main entrance, currently it is overshadowed by the lodge entrance
- Views to the curling arena should be blocked, or the building should be moved
- All poor views can be easily fixed, by either moving storage sheds or parking lots
- There is a need for more pedestrian circulation, more paths should be added
- More emphasis should be placed on the memorial space, it should be bigger
- Lake access should be somehow provided
- One large garden is needed to pull together all of the smaller green spaces

● Opportunities and Constraints

- Opportunities:**
- Desire from nursing home to expand and improve outdoor spaces
 - Site has great views as it is surrounded by beautiful natural landscape
 - Future connection to nearby lake and forest
 - The site has existing mature vegetation that create natural good views
 - Site is rural, so there are no urban noises or pollution to deal with
 - The nursing home is a well-run facility that cares about patients and will use new outdoor spaces to their fullest extent
- Constraints:**
- Chilly winter climate prevents garden usage in winter months
 - Naturally steep hills make creating wheelchair access difficult in spots

● Goals and Objectives

- Goals and Objectives for Overall Plan**
- Create a home-like environment for residents
 - Create a safe environment designed specifically for the needs of the elderly
 - Create a variety of spaces that meet the needs of residents, staff, and visitors
 - Create spaces that improve the overall quality of life for residents
 - Take advantage of beautiful surroundings, create views and nature trails
 - Create a unified master plan
- Goals and Objectives for Main Therapeutic Garden**
- Incorporate all essential healing garden elements/features for nursing home gardens into final design
 - Design for a variety of activities

Site Analysis

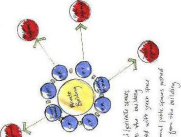


Capstone Documents



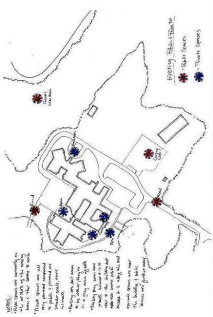
Final Concept

The final concept for the master plan is to keep the existing building and use it as a central hub for residents and staff. This will allow for a more cohesive and integrated design. The plan also includes a new public recreation area on the west side of the building, a new parking garage, and a new entrance to the building.



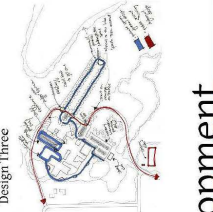
Existing Private and Public Spaces

The existing private and public spaces are shown in the plan. The private spaces include the existing building, the parking garage, and the new entrance. The public spaces include the new public recreation area, the new parking garage, and the new entrance. The plan also shows the existing parking spaces and the new parking spaces.



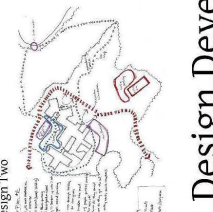
Design Process

The design process involved several stages of planning and design. Each stage had a different focus, such as site analysis, conceptual design, and final design. The process was iterative, with each stage building on the previous one. The final design was a result of the collaborative effort of the design team and the client.



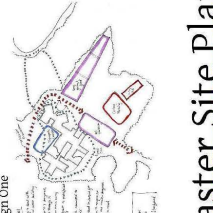
Design One

The first design concept was a simple rectangular building with a central courtyard. This design was based on the existing building and the surrounding site. It was a starting point for the design process and was refined through subsequent stages.



Design Two

The second design concept was a more complex building with multiple wings and a central courtyard. This design was based on the existing building and the surrounding site. It was a refinement of the first design and was refined through subsequent stages.



Master Site Plan Design Development

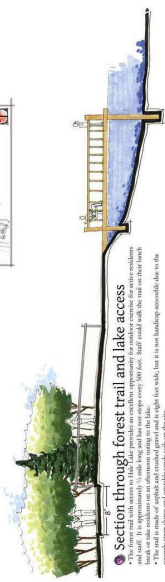
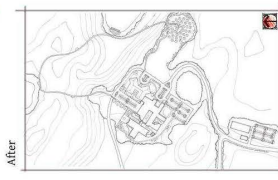
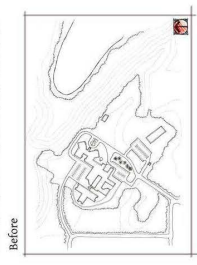


Capstone Documents



Master Plan Before and After

The forest trail and lake access to the Lodge provides an excellent opportunity for residents to enjoy the outdoors. The trail and lake access have been designed to provide a natural and scenic experience. The trail is designed to be a natural and scenic experience. The trail is designed to be a natural and scenic experience. The trail is designed to be a natural and scenic experience.



Section through forest trail and lake access

The forest trail and lake access to the Lodge provides an excellent opportunity for residents to enjoy the outdoors. The trail and lake access have been designed to provide a natural and scenic experience. The trail is designed to be a natural and scenic experience. The trail is designed to be a natural and scenic experience.



Main Entrance Perspective

The perspective view of the building has been updated with a warm yellow tone to match the Lodge. The perspective view of the building has been updated with a warm yellow tone to match the Lodge. The perspective view of the building has been updated with a warm yellow tone to match the Lodge.



Master Plan

- Spaces Key
- 1. Forest trail for staff and active residents
 - 2. Lake access
 - 3. Staff parking lot
 - 4. Vegetative buffer (viewing gardens) for Lodge residents from parking lot
 - 5. Therapeutic garden
 - 6. Alzheimer's courtyard
 - 7-4-Seasons viewing garden
 - 8. Memorial apple grove
 - 9. New road entrance
 - 10. Walking path that leads from therapeutic garden to memorial space and forest trail
 - 11. Unit one garden and buffer from parking lot
 - 12. Directional parking sign
 - 13. Memorial apple grove
 - 14. New road entrance
 - 15. New road entrance
 - 16. New road entrance
 - 17. Existing club area and storage shed

Master Site Plan



Grand Village

Attracting Commerce

Site Analysis

There were only a few problems with the new garden site that views to the building were not as good as they had been. Views from inside the building had to be planned around the building into resident rooms. The thick concrete walls of the building would not allow the "U" shape subject to create some sunny spaces.

Views from garden from the building

Views from resident rooms

Views from the activity building

Views from the service entrance

Summer Northwesterly Winds

New Views out to the Street

Attracting Commerce

Design Process

After three weeks the design process had to be revised to be on the north side of the building in a good arrangement between the two buildings. The building had to have 40 rooms and could not block views from the garden to the Lodge resident rooms. Ideas such as lowering the parking lot and creating two gardens, one for the Lodge physical therapy and one for the main building. A long narrow parking lot for the main building, a long narrow parking lot for the Lodge, and a small buffer zone between the two buildings.

Design One

Design One

Design Two

Design Two

Design Three

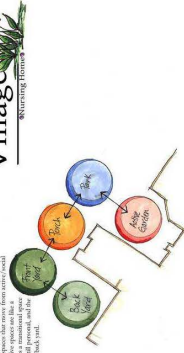
Design Three

Therapeutic Garden Design Development



Garden Concept

The concept for the garden is based on the idea of a shared space where people can enjoy the outdoors. The garden is designed to be a place where people can relax, socialize, and enjoy the outdoors. The garden is designed to be a place where people can enjoy the outdoors.

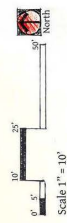


Garden Plan

The plan shows the layout of the garden, including the building, parking lot, and various garden spaces. The plan is designed to be a place where people can enjoy the outdoors.

Spaces Key

- 1. Building
- 2. Parking lot
- 3. Mechanical/electrical shed
- 4. Waiting area
- 5. Waiting area
- 6. Fountain
- 7. Rubber ramp
- 8. Seating area
- 9. Shade awning and rocking chairs
- 10. Grill
- 11. Butterfly garden
- 12. Rocking chairs
- 13. Grassy lawn
- 14. Shade garden
- 15. Entrance from walking path



Garden Activities Matrix

This matrix shows how most of the activities can be done in the garden.

Garden Users	Activities															
	Therapeutic Garden Activities	Planting	Water Features	Seating	Shade	Grassy Lawn	Rocking Chairs	Butterfly Garden	Grill	Waiting Area	Mechanical/Electrical Shed	Parking Lot	Building	Seating Area	Shade Awning	
Developmental																
Physical																
Social																
Cognitive																
Emotional																
Staff																
Visitors																
Volunteers																

Therapeutic Garden Master Plan



Capstone Documents



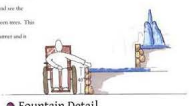
1. Perspective of active garden space

- The active space at Grand Village looks out to the parking lot, full grass and raised planter area of the garden. This is the main active portion of the garden. Close to the building are a large open area for sitting, walking, and socializing. People can sit on the benches, walk, and use the garden space.
- The main portion of the garden is made of raised planters that are built on a raised base to the ground. This allows for physical therapy patients. The path would be made of rubber tiles and be a mix of low to the ground. This allows for physical therapy patients. The path would be made of rubber tiles and be a mix of low to the ground. This allows for physical therapy patients.
- The raised planter is designed to be used as a barrier between the garden. This allows visitors to look out of their rooms and see the garden. The raised planter is designed to be used as a barrier between the garden. This allows visitors to look out of their rooms and see the garden.
- To the right of the perspective you can see the mechanical deck surrounded by a fence and flanked by entrance canopy trees. This was the main deck area that was used as a feature in the garden.
- The raised planter is designed to be used as a barrier between the garden. This allows visitors to look out of their rooms and see the garden.



Raised Planter Detail

The raised planter is designed to be used as a barrier between the garden. This allows visitors to look out of their rooms and see the garden. The raised planter is designed to be used as a barrier between the garden. This allows visitors to look out of their rooms and see the garden.



Fountain Detail

The fountain is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The fountain is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.



2. Perspective of park space

- The park space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The park space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.
- The park space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The park space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.



3. Perspective of porch space

- The porch can be used as a variety of things. It can be used for sitting, walking, and socializing. People can sit on the benches, walk, and use the porch space.
- The porch is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The porch is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.
- The porch is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The porch is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.



Fence, Gate, and Bench Detail

The fence, gate, and bench are designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The fence, gate, and bench are designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.



5. Perspective of back yard space

- The back yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The back yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.
- The back yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The back yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.



4. Perspective of front yard space

- The front yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The front yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.
- The front yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden. The front yard space is designed to be used as a feature in the garden. This allows visitors to look out of their rooms and see the garden.

Rubber Paving Detail



Concrete Paving Detail



Asphalt Paving Detail



There are three different types of paving on the site, asphalt, concrete, and rubber. All paths are eight feet wide to allow wheelchair users to pass each other comfortably. Each section of the garden has a different paving pattern to distinguish the different spaces. The paving on the path is a rubber paving, the other area in the therapeutic garden and the walking path around the existing fence are a variety of colors and textures of compact concrete, and the fence is asphalt. The different textures of the paving are good for physical therapy patients who are learning to walk and use on their own. Physical therapy patients can also practice walking on the wooden paths and the grass areas.



Section Elevation through entire garden

Therapeutic Garden Design



Grand Village

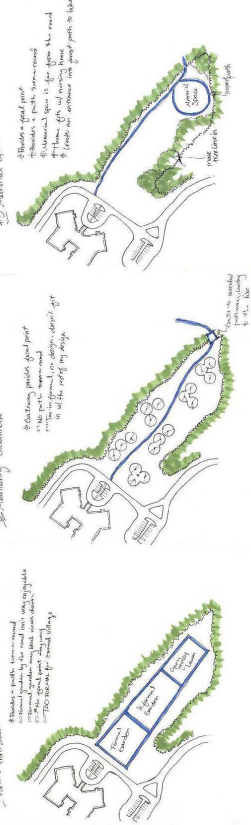
STRUTTING HOMES

Memorial Plan
The memorial plan is a site plan for the memorial. It features the following elements:
• A central area for the memorial, which is a large open space with a large tree in the center.
• A surrounding area for the memorial, which is a large open space with a large tree in the center.
• A surrounding area for the memorial, which is a large open space with a large tree in the center.



Memorial Circle Paving Detail
The memorial circle paving detail is a circular area with a large tree in the center. The paving is made of large, square tiles. The detail shows the paving around the tree and the surrounding area.

Design Development
The design development phase is a site plan for the memorial. It features the following elements:
• A central area for the memorial, which is a large open space with a large tree in the center.
• A surrounding area for the memorial, which is a large open space with a large tree in the center.
• A surrounding area for the memorial, which is a large open space with a large tree in the center.



Perspective looking towards the memorial
The perspective rendering shows a view of the memorial area from a distance. It features a large tree in the center, a path, and surrounding landscaping. The rendering shows the overall appearance of the memorial area.

Memorial Apple Grove



It's been fun!!!

2nd Year



3rd Year



4th Year



5th Year

Thanks to everyone who ever helped me out when I had troubles! Good luck to all the young kids in the program, just when you think you might die, it's over, so enjoy it. Thanks to the LA class of 2005, it's been GGGRRREAT!



Statement of Intent

Grand Village Nursing Home
Grand Rapids, MN

Grand Village Nursing Home is located on the west side of Grand Rapids, Minnesota. It is owned by Itasca County and is on a secluded 170 acres filled with forest, meadow, and a lake. The nursing home has around 100 residents and provides full time care and assisted living programs for them.

The nursing home is excellent, but its landscape is not. The building complex forms several courtyards that patients can look into from inside or walk through, but the design is not adequate: the paths are very narrow and only lead from one locked door to another, there are no hand rails, there is no focal point, there are few benches, and there is nothing to look at in the winter. The nursing home has one path going around one building for visitors to take patients on walks. Along the path are two benches and the entire walk takes less than three minutes, if you are walking slowly. The building has no clear entrance and the parking lots are the main view from patient's windows. The grounds have sufficient space for improvement.

The directors of Grand Village are currently looking into redesigning a garden and turning it into a healing garden that would be used as part of patient physical therapy. Healing gardens are very diverse; they range from a simple garden to look at to a garden that patients work in as a part of physical therapy. The nursing home has recently added onto their facility, doubling in size. There are plans for more additions in the future. The future development of the site will allow me to divide the project into different stages, starting with the redesign and addition to the existing gardens and courtyards and ending with an entire interconnected campus focused on the healing powers of nature.

I propose having the Grand Village serve as my client. I will research their needs, wants, and goals for future landscape and building development and put them together in several stages. I want to improve existing courtyards and add a physical therapy garden. I want to redesign the grounds around the nursing home and add more spaces for visitors and outdoor activities. Finally I want to propose future developments and connect the entire campus together.

My grandparents volunteer at Grand Village and I have toured the facility and its grounds and met with the executive director. He is excited about my interest in Grand Village and is very willing to help me. All building plans, aerial maps and topographic maps are easily accessible. I became interested in healing gardens and horticultural therapy programs when I researched them for a short paper and a small project last year. The underlying premise is how exterior landscaped places can contribute to the rehabilitation of patients while providing enhanced quality of life for patients and medical professionals. I could then develop a plan that encompasses all that I have learned, making a nursing home that is more effective and enjoyable for patients, visitors and staff.



A . Title

Grand Village Nursing Home: Improving life with nature.

B . Type of Project

My project is the re-design and addition to Grand Village Nursing Home's courtyards and outdoor spaces; and also the design of future expansions onto the nursing home's facilities. The nursing home provides excellent health care, but its outdoor spaces are inadequate, therefore are not used as often as they could be. The reason for the inadequacy is due mostly to lack of funding. My project is what the Grand Villages landscape would be if they had everything they needed, desired, and ever imagined.

C . Underlying Premise or Unifying Idea

Using plants and gardens in the health care industry is often referred to as "horticultural healing," or "healing gardens." Healing gardens come in many different shapes and sizes and serve many different purposes and people. Healing gardens are places to be active, visit, watch, listen, or grieve. They are designed specifically for many different people with different types of needs. Some different types of healing gardens include: nursing home gardens, Alzheimer's treatment gardens, children's hospital gardens, psychiatric hospital gardens, gardens for the hearing impaired, gardens for the visually impaired, meditation gardens, enabling gardens, sensory gardens, and gardens for horticultural therapy.

These gardens are becoming more and more popular because studies are showing more and more of their benefits. Patients with a view of a garden have fewer complications, less pain and shorter hospital stays than their fellow patients that have a view of a brick wall (Roser, 2003). The benefits that gardens have on people are endless, from sitting in one and having a sense of calm to working in one to build strength and self-esteem.

The underlying premise or unifying idea that I would like to explore is the way in which gardens affects the lives of the elderly and sick. I want to show how exterior landscaped places can contribute to the rehabilitation of patients while providing enhanced quality of life for patients and medical professionals.

D . Project Justification

Nursing homes provide the elderly and disabled with necessary health care. Many facilities don't consider things such as the views from a room or a place outside of the health care setting for visiting or even grieving family members as something significant to a patient's health. But more and more nursing homes and hospitals are adding gardens to their facilities because studies show that patients benefit intellectually, socially, emotionally, and physically from them.

The Grand Village has patient rooms facing roads and parking lots, when they easily could have a view of a beautiful wooded area. The courtyards are empty and often not used. There is not much to do or look at in the courtyards and they do not have hand rails, paths wide enough for wheel chairs, non-slip paths, or other basics that gardens for the elderly

should have in order to be safe, useful, and fun. The nursing home has two spaces outdoors for people to use, one is several primitive picnic tables in the woods and the other is a short path around a section of the building. These spaces can be greatly improved upon to make outdoor activities more frequent, enjoyable and beneficial for users of the spaces. Grand Village has recently expanded. The new addition has formed a courtyard of parking lot that all patients have a view of. The nursing home will expand its facilities again in the next ten years and I will design a site layout that does not destroy views and unites with the same healing garden theme as the re-designed landscape and courtyards.

The current Grand Village landscape has problems, but has the potential to be a place that patients, staff, visitors, and volunteers can use and enjoy. The re-designed spaces would benefit patients physically, emotionally, intellectually, and socially. The improvement of courtyards and other outdoor spaces will affect the lives of patients and all users in a great way.

E . User/Client Description

Grand Village is owned by Itasca County and is operated by Ecumen, a management company that operates independent and assisted living care centers, home health care and a variety of community-bases services around the United States. The nursing home is used by patients, staff, visitors, and volunteers. Each user group has unique needs and uses for the nursing home's outdoor spaces:

Patients: Grand Village has 153 patients, all of which are usually full. The patients will use gardens and outdoor spaces for working with plants, relaxing, playing games, and visiting. In order to use the spaces for these activities, certain ADA standards have to be met and better designs need to be implemented.

Staff: On an average day there are 50 employees working at the nursing home, but there are 130 total. Nursing staff will use the gardens and outdoor spaces when working with patients on physical or mental health or when just sitting outside enjoying a nice day with patients. They would also use the spaces for coffee and lunch breaks and as a place to get away from the stress of working if needed.

Visitors: The activity programs at Grand Village encourage family members and friends of patients to visit and get involved in their loved ones lives. They will use the gardens and outdoor spaces as a place to visit and catch up.

Volunteers: There are over 300 volunteers at Grand Village. They range from people who come to help every day to people that come once a month. They will use the gardens and outdoor spaces to play games, chat, and do other activates with patients.

On an average day 60 people will be using the Grand Village parking lot, but when special events occur as many as 125 spaces may be needed. Currently there are enough spaces to hold over the peak usage, but the parking lot is in an undesirable location.

F . Major Project Elements

- Three interior courtyards for patients with special needs
- One open outdoor garden space for more independent patients
- Path around buildings with visiting areas and garden spaces
- Relocating parking lots and driveways for better patient room views
- Connection to nearby Hale Lake and forests
- The future expansion of the Grand Village facility

G . Site Information

Itasca Nursing Home opened in 1896 in Grand Rapids, Minnesota. In 1994 it changed its name when a new building in a new location was constructed. The new facility was called Grand Village Nursing Home. The facility was built among 170 acres of woodland, fields, and a lake west of the town of Grand Rapids. Grand Rapids is in the north-central part of the state. The city has a population of around 8000, but the surrounding area has a population of almost 20,000. The majority of the city is middle-aged, middle-income, Scandinavian people. There are lots of families and 17% of the population is above the age of 65.

The nursing is in a beautiful location. It is located a road off of Minnesota Highway Two; it is at the end of the road and is secluded, except for its curling club arena neighbor. The nursing home building sits on silty loam soils. The buildings sit on a high point and the surrounding land slopes down to the lake. Most of the 170 acres surrounding the site are silty loam soil too, but the slope is steeper in areas and has some erosion problems with steep sandy areas. This may be a problem with when constructing paths for connecting the nursing home building to the surrounding land. Because the nursing home is surrounded by trees, the wind is very mild on site.

The location of the site is ideal for a nursing home. It is quiet, peaceful, and is in a beautiful natural environment. This is important to the project because it allows areas that are not enclosed, like courtyards, to be used as outdoor spaces and I don't have to worry about designing for privacy, noise, or other hassles that exist in more public urban environments.

H . Project Emphasis

The emphasis of this project will be placed on how gardens and outdoor spaces affect the well being and rehabilitation of patients, staff, visitors, and volunteers in a nursing home. I will want to focus on the affects and importance of views, horticultural healing programs, and just having a quality outdoor space to be in on people in a nursing home.

I . Plan for Proceeding

In order to accomplish this project to the best of my ability I will need to research: healing garden design and effects, horticultural therapy programs, the effects of plants on people, health care building and grounds design, garden design for the elderly, garden design for Alzheimer patients, and handicap accessibility standards.

I plan on researching all of the above topics on a one by one basis. I plan to find information in books, periodicals, websites, and in case studies. I will document what I need, saving information and summarizing it after reading.

I will then use the information to help me with bubble diagrams, concept drawings and a final design plan. I will document each step of the design process with notes, diagrams, sketches, and drawings.

J. Work Plan

Fall Semester 2004 :

Week #1: (Oct. 4 - 8)

7 October Programming Proposal Due
7 October Students/Faculty Preference Slips Available
Research

Week #2: (Oct. 11 - 15)

14 October Return Preference Slips to Main Office
Site Visit and Volunteer Time
Research

Week #3: (Oct. 18 - 22)

21 October Primary and Secondary Critics Announced
Research articles and case studies

Week #4: (Oct. 25 - 29)

28 October Last Day of LA 561 Programming Class
Outline Program
Research articles and case studies

Week #5: (Nov. 1 - 5)

Work on Program
Site Analysis Work

Week #6: (Nov. 8 - 12)

11 November Veterans' Day Holiday – No School
Work on Program
Site Analysis Work

Week #7: (Nov. 15 - 19)

All Week Final Studio Presentations
Work on Draft of Program

Week #8: (Nov. 22 - 26)

24 November Draft Thesis Program due to Primary Critic

25-26 November *Thanksgiving Holiday – No Class*
Gather other needed information, organize data

Week #9: (Nov. 29 - Dec.3)

Work on Final Thesis Program

Week #10: (Dec. 6 - 10)

9 December *Final Thesis Program due to Primary Critic*

10 December *Last Day of Fall Classes*

Work on Final Thesis Program

Week #11: (Dec. 13 - 17)

All Week Finals Week

16 December *Program grade due to Mark Barnhouse*

Research

Week #12: (Dec. 20 - 24)

Semester Break

Research

Week #13: (Dec. 27 - 31)

Semester Break

Research

Week #14: (Jan. 3 - 7)

Semester Break

Research

Spring Semester 2005 :

Week #15: (Jan. 10 - 14)

11 January *Classes Begin*

Conceptual and schematic design work

Week #16: (Jan. 17 - 21)

17 January *Martin Luther King Jr. Holiday – No School*

Conceptual and schematic design work

Week #17: (Jan. 24 - 28)

Conceptual and schematic design work

Week #18: (Jan. 31 – Feb. 4)

Conceptual and schematic design work

Week #19: (Feb. 7 - 11)

Design Development

Week #20: (Feb. 14 - 18)

Design Development

Week #21: (Feb. 21 - 25)

21 February Presidents Day Holiday – No School

Design Development

Week #22: (Feb. 28 – Mar. 4)

Design Development

Week #23: (Mar. 7 - 11)

All Week Mid-semester Thesis Reviews

Presentation Drawings

Week #24: (Mar. 14 - 18)

All Week Spring Break

Presentation Drawings

Week #25: (Mar. 21 - 25)

25 March Easter Holiday – No School

Presentation Drawings

Week #26: (Mar. 28 – Apr. 1)

28 March Easter Holiday – No School

Presentation Drawings

Week #27: (Apr. 4- 8)

Board Layout

Week #28: (Apr. 11 - 15)

Board Layout

Week #29: (Apr. 18 - 22)

Board Layout

Week #30: (Apr. 25 - 29)

25 April Thesis Projects Due at 4:30pm in the Memorial Union

26 – 27 April Annual Thesis Exhibit in the Memorial Union Ballroom

28 April – 5 May Final Thesis Reviews

29 April Draft of Thesis Document due to Primary Critics

Week #31: (May. 2 - 6)

2 – 5 May Final Thesis Reviews

6 May Last Day of Classes

Week #32: (May. 9 - 13)

<i>All Week</i>	<i>Finals Week</i>
12 May	Final Thesis Document Due at 4:30pm in Department Office
13 May	Commencement at 4:00pm in the Fargodome

K. Previous Studio Experience :

Second Year Fall (Kennedy)

Ideal Landscape
Three Planting Designs Study
Five Conceptual Landscapes
Plains Art Museum Outdoor Café

Second Year Spring (Colliton)

NDSU Fountain Plaza
Devils Lake Roundhouse Park
Boy Scout Camp Amphitheater
All School Footbridge Design Charette

Third Year Fall (Walter)

Multi-use Car Park
Sheyenne National Grasslands
Campground
Discovery Tour of Winnipeg

Third Year Spring (Kennedy)

Perspective Drawing
Camp Cormorant
Masonry Competition

Fourth Year Fall (Barnhouse, Urness, Walter)

Downtown Fargo Urban Design

Fourth Year Spring (Hansen)

Broadway Square Design Competition
City of Edgely Park
Historic Fort Totten Sign and Entry
Design
Mine Reclamation - Stone Completion

Fifth Year Fall (Walter)

Fergus Falls River Walk

L. Reference List / Resources

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<http://www.sustland.umn.edu/design/healinggardens.html> (3 Oct. 2004).

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<http://www.mssrf.org/touchandsmell/touchandsmell.html> (3 Oct. 2004).

Other:

Griese, Wendy. Personal Interview. (27 September 2004).

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