

HEALING

LIFE

How can the design of an exterior garden be used to encourage healing in hospital settings?

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Final Thesis Presentation
LA 572
Spring Semester 2012
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Inventory & Analysis

JRMC (Jamestown, ND)



Picture taken by Bill Kennedy

Main Services:

Physical Therapy
Rehabilitation
Cardiac Rehab

Serves:

9 different counties affecting 55,000 people
Out Patient Care, Sending staff to smaller towns near by



Map from <http://wpp.greenwichmeantime.com/images/usa/north-dakota.jpg>

Inventory & Analysis

 Jamestown Regional Medical Center

MOB Revision Concepts



Proposed Expansion Perspective

BWBR Architects | 3.2011183.00 | 31 August 2011

The Expansion and Additions Will Include:

- Clinic
- Possible Cancer Center
- Addition of Parking Lots
- New Views to Address

Inventory & Analysis

research



Private Spaces:
This provides a place for patients to spend time with their visitors.



Inspiring Paths:
Paths inspire patients to walk and move around the site.



Water Features:
Are used to mute out unwanted noises and for aesthetic purposes.



Raised Planters:
These provide therapy for patients by keeping them active and getting them outside.



Public Places:
This space should be an area where a large amount of people can congregate.

Statistics:

A study in Sweden on postoperative heart patients found that those who look at a landscape during their healing process had lower anxiety, used less pain medication, and spent less time in the hospital compared to patients who didn't look at a landscape. Patients who looked at an abstract piece of art did worse than those who had no abstract art or landscape (Gardening for Health, 2000).

A survey was conducted which asked people what features were helpful in the healing process. The top two results included: flowers, colors, and seasonal changes (69%) and birds, water and fresh air (50%) (Copper Marcus & Barnes, 1999).

Image from: <http://horticulturaltherapiststudent.edublogs.org/category/healing-enabling-gardens/>

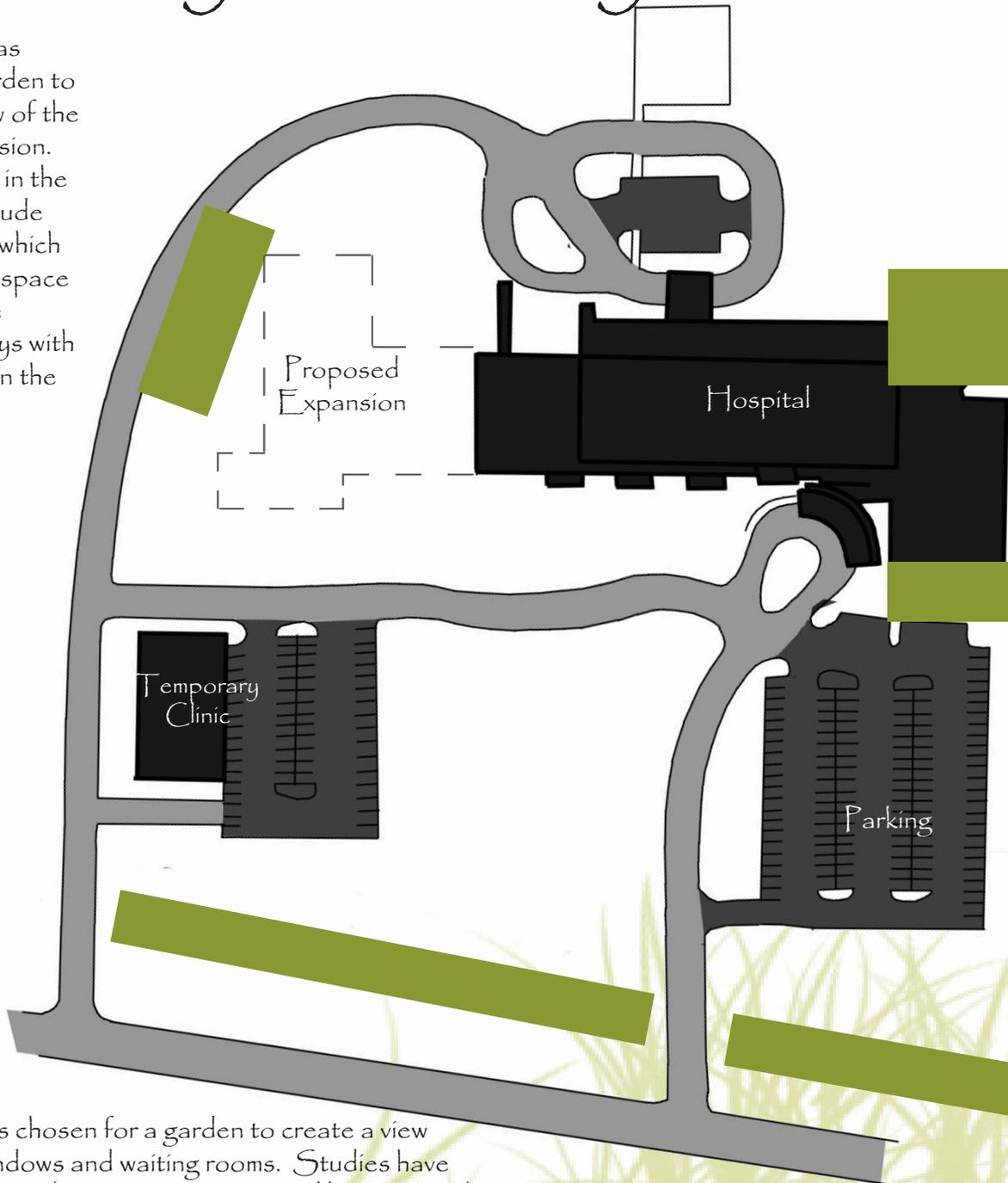
4th Picture from: http://www.banasstones.ca/images/Banas_Pathway_01.jpg

Public Place image from: Images from <http://www.asla.org/ppn/Article.aspx?id32239>

Inventory & Analysis

location selections

This location was chosen for a garden to address the view of the new clinic expansion. The expansion in the future could include a cancer center which would make this space usable for those spending long days with family members in the cancer unit.



This location was chosen as a healing garden because this area serves patients, visitors, and staff. From a window in the hospital a view can be framed by also encouraging visitors, patients, and staff to go outside and use the garden for rejuvenation.

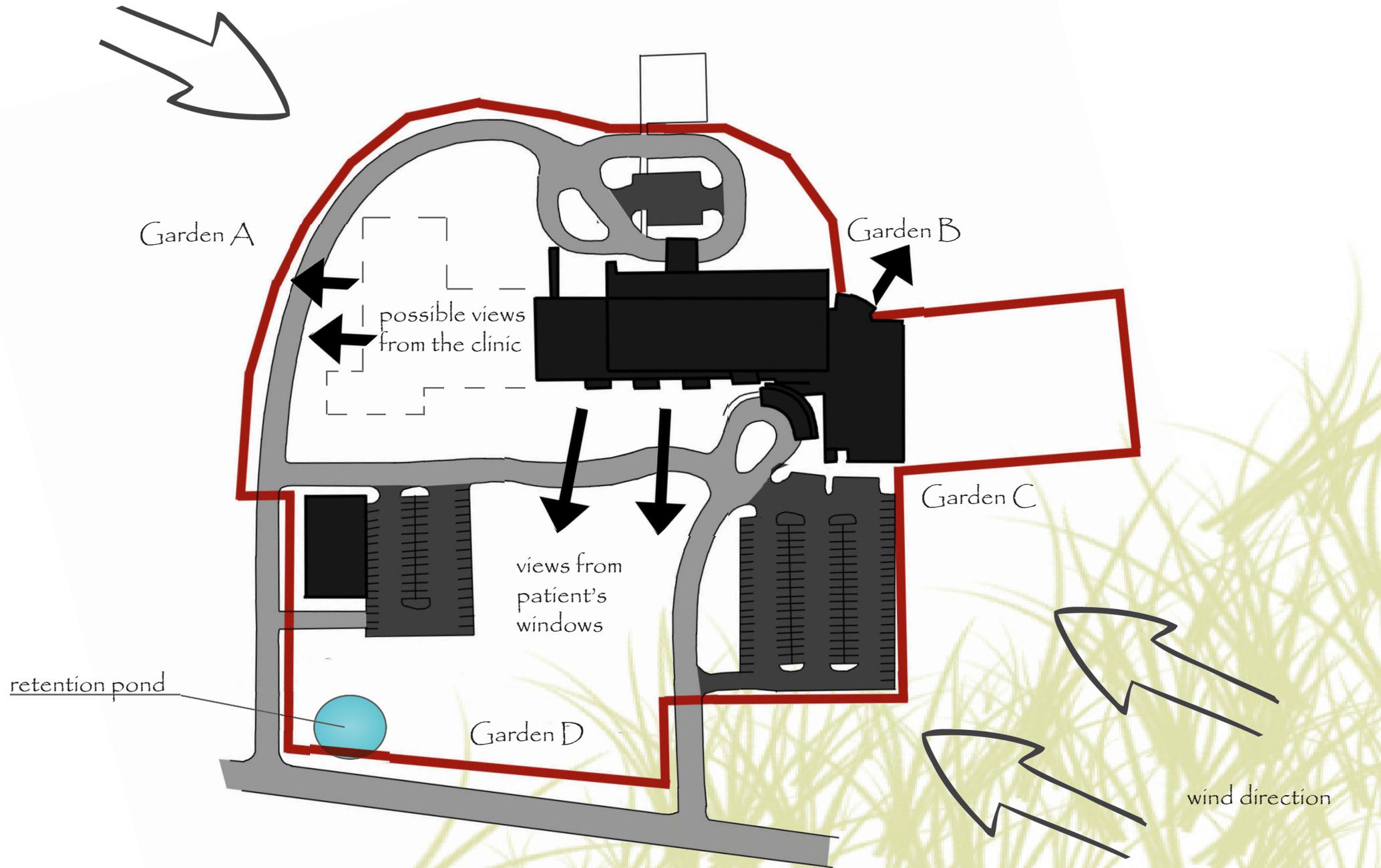
This location was chosen for a healing garden because of its close location to a the cardiac rehab department and physical therapy department. Both of these departments can benefit from a healing garden containing specific equipment.

 Green areas show proposed gardens

This location was chosen for a garden to create a view from patient's windows and waiting rooms. Studies have shown that patients who view greenery spend less time in the hospital and recover faster.

Healing Gardens

concept map



Master Planning

healing gardens



Garden A
Clinic & Privacy Garden

Garden B
Public & Mixed
Season Garden

Garden C
Physical Therapy
Garden

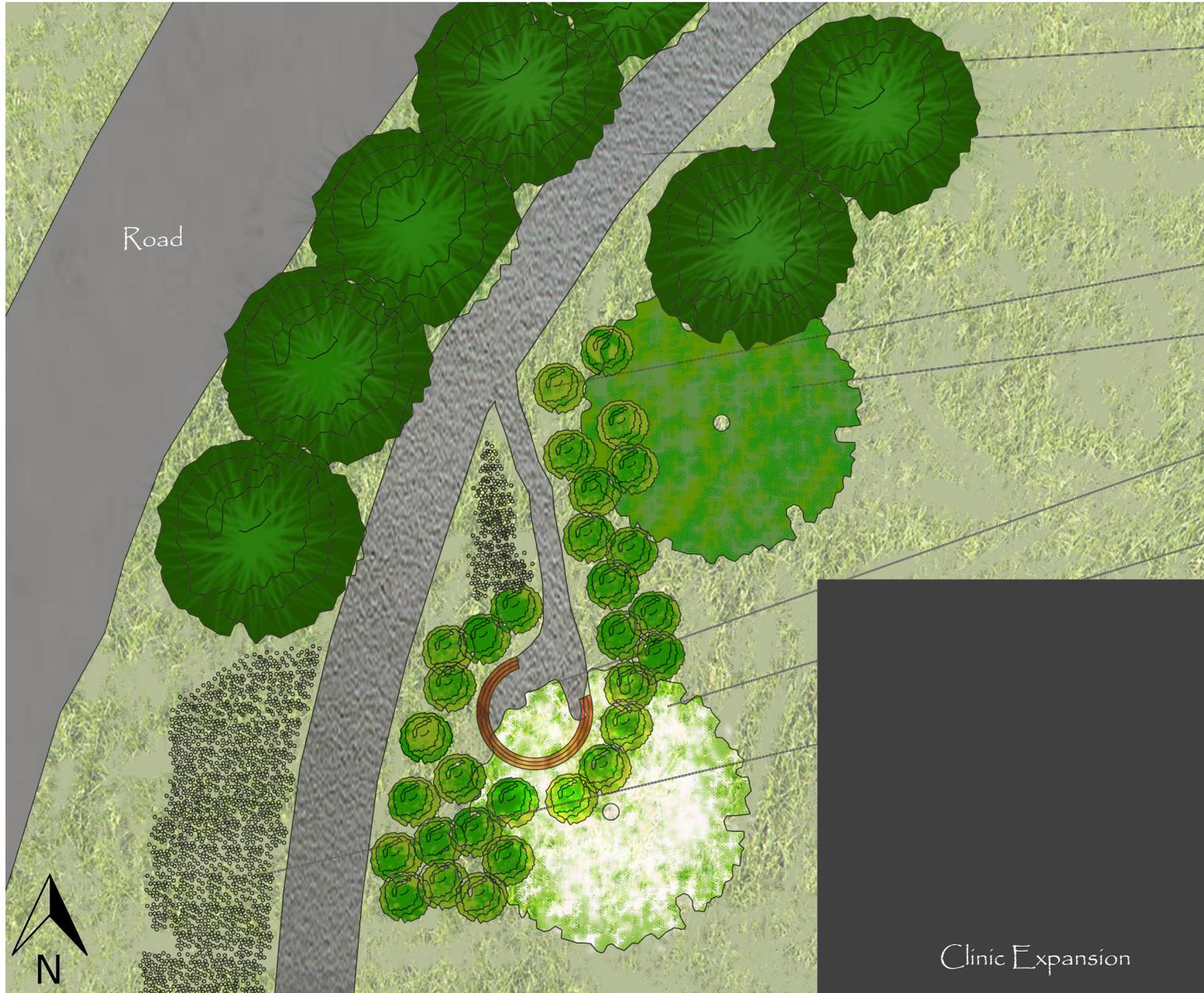
Garden D
Patient Viewing Garden

Walking Path

Healing Garden A

Clinic and Privacy Garden

master plan



evergreen trees

walking path

shrubs

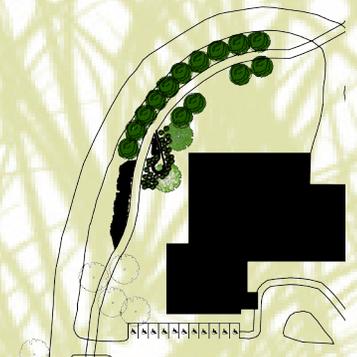
bur oak

private sitting area

spring snow crab-apple

karl forester grass

Clinic Expansion

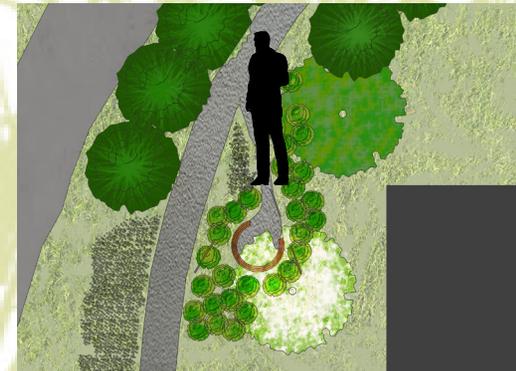


Healing Garden A

privacy area perspective



Privacy areas are made for a maximum of six people. These areas are for small groups or family members to have spend time with one another. These areas can also be used by those who would like relaxing time alone and need an escape from the business of the hospital and clinic. Privacy areas are located in gardens A, B, and D. This perspective is from a privacy area in garden A.



Healing Garden A

plant material

Spring Snow Crab-apple (*Malus x 'Spring Snow'*). This tree will provide shade with white flowers in the spring. <http://www.ci.sl.c.ut.us/Publicservices/Forestry/images/trees2/SpringSnowCrabflower.jpg>



Sugar Plum Lilac (*Syringa "Sugar Plum Fairy"*) is a fragrant soft lilac pink flowers, its a great flowering hedge and accent in the garden. Height is around four feet and with a width of four feet. (<http://plants.oaklandnursery.com/12130001/Plant/3305>)



Black Hills Spruce (*Picea glauca var. densata*) This trees is a medium size spruce tree very hardy and good for wind blocks. A variety developed by North Dakota State University. Image from: http://www.sharplessauctions.com/05_08_10/BlackHillsSpruce.jpg



Bur Oak (*Quercus macrocarpa*), is a large shade tree, with yellow leaves in the fall. <http://www.coopext.colostate.edu/4dmg/Trees/buroak.htm>



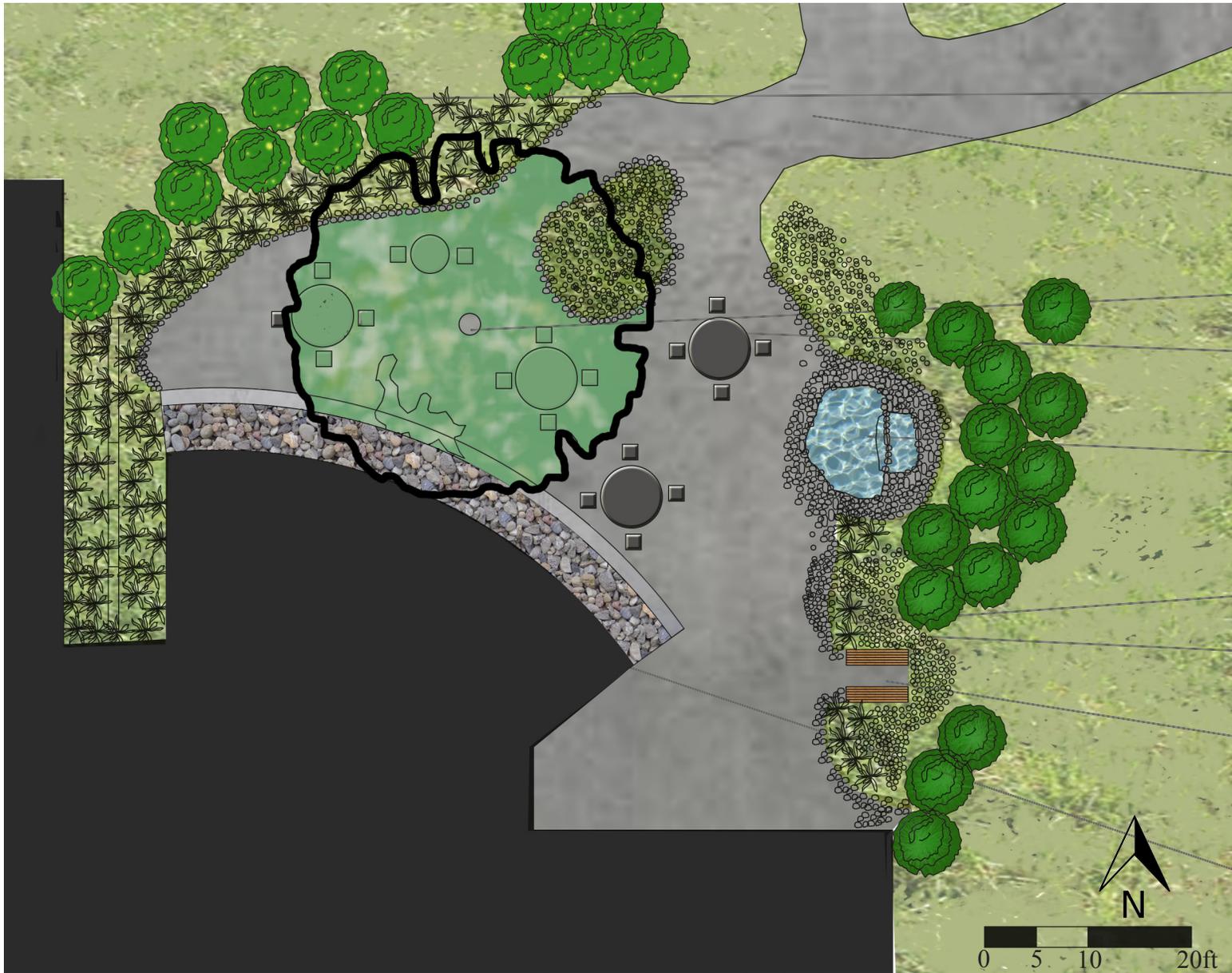
'Karl Forester' - Feather Reed Grass. (*Calamagrostis acutiflora*) This grass grows 4' tall and does well in dry and wet areas. Some grasses reach 7' tall. <http://pics.davesgarden.com/pics/2006/07/29/dwarfconifer/68c605.jpg>



Healing Garden B

Public & Mixed Season Garden

master plan



yellow roses

entrance to walking path

shade tree

public seating

water feature

phlox

karl forester grasses

private seating

window view from the
apple basket cafe

Healing Garden B

public space perspective



This spring/ summer perspective shows the large public space. This garden will be used for all seasons. A window view from the cafe inside is addressed along with seating for out door dining, scented plans, privacy for offices by the use of a trellis and vines, and a water feature for tranquil sounds, muting cars and louder voices. The Spring Snow Crab-apple will provide shade and good spring color to the garden.



Healing Garden B

water feature perspective



The water feature found is next to a privacy area (located to the right of the water feature) to muffle the sound of people and traffic. Evergreens block the wind from affecting the flow of water. Draining tiles are also located under the rocks to gather excess water that wind may blow. Grass and phlox are both used around the water feature. During the winter months the water feature will be turned off and empty due to cold temperatures.



Healing Garden B

plant material

Spring Snow Crabapple (*Malus x 'Spring Snow'*). This tree will provide shade with white flowers in the spring. Image from: <http://www.ci.slc.ut.us/Publicservices/Forestry/images/trees2/SpringSnowCrabflower.jpg>



Harrison's Yellow Rose (*Rosa harisonii*). These roses are known for their scent and will compliment the dark purples and pinks in the rest of the garden. Height can be up to 5' to 6' tall. These shrubs are used where there is minimal interaction of people and can be used as an edge to keep people from specific areas such as near office windows. http://members.fortunecity.com/cnetter/rose_tour/images/d2i23.jpg



These perennials are used in front of roses and as a border in the front area of the privacy area. These plants do best when moist which is important that they are on the north side of the hospital. Phlox in this garden is also used for its very strong scent.

'Franz Schubert' (*Phlox paniculata 'Franz Schubert'*) has a lilac flower color and will grow 30 inches tall

'Russian Violet' (*Phlox subulata*) has a violet purple flower.



'Karl Forester' - Feather Reed Grass (*Calamagrostis acutiflora*). Grasses are used for the sense of touch as a person walks by on a path, one can reach out their hand and touch the grasses. This grass grows 4' tall and does well in dry and wet areas. Some grasses have reach 7' tall. <http://pics.davesgarden.com/pics/2006/07/29/dwarfconifer/68c605.jpg>

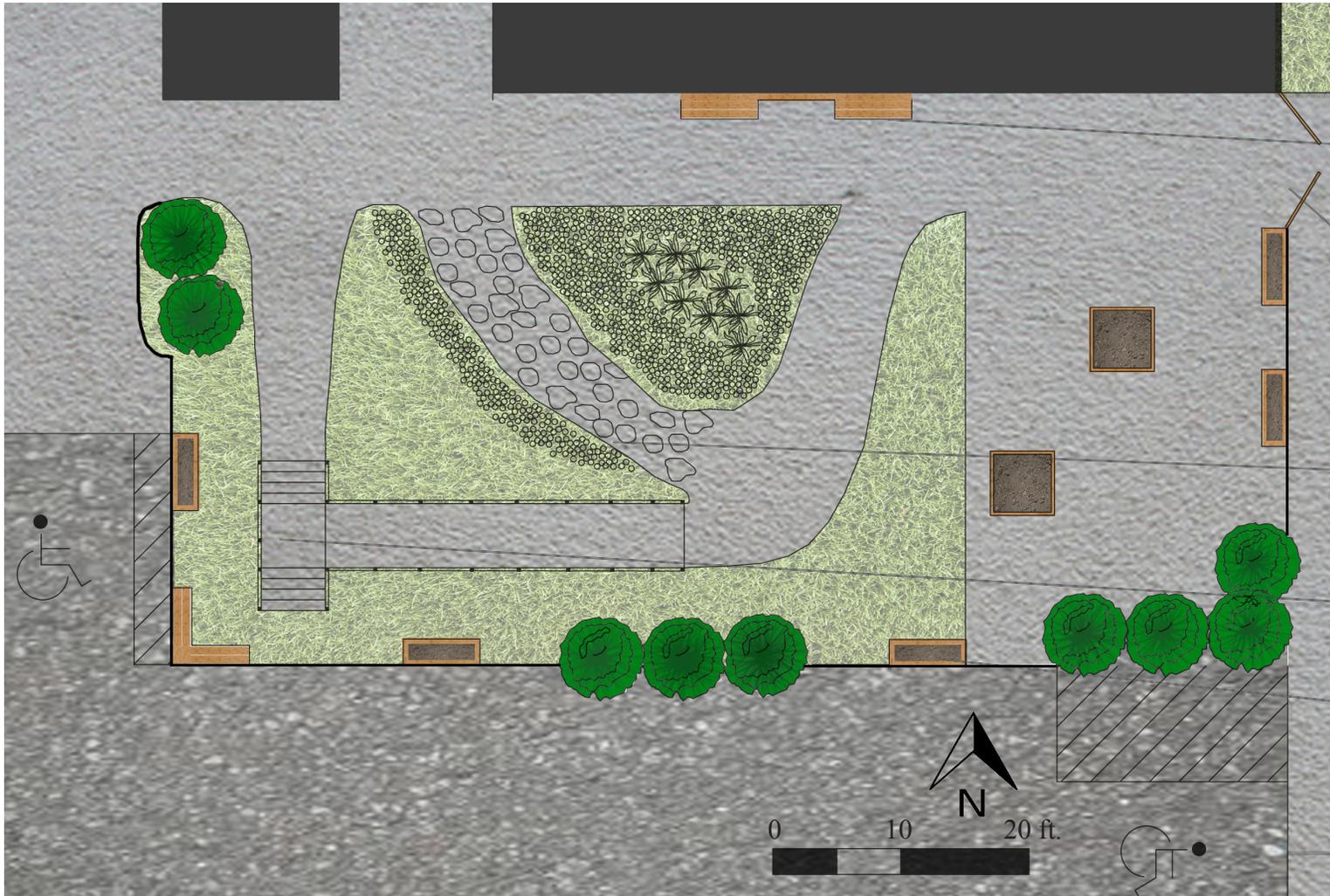


Healing Garden C

Physical Therapy Garden

master plan

Hospital - Physical Therapy Department



seating

entrance to walking path

rough textured path

ramp and stairs

raised planters

Healing Garden C

summer perspective



Elements that are used in this garden for physical therapy include a ramp, stairway, and raised planters. Raised planters are set at different heights for those with physical disabilities and for those that need to stand for physical therapy. All these elements are to prepare and imitate day to day activities.

Plants in the planters include annuals such as vegetables (tomatoes and beans) and flowers (petunias, impatiens, and geraniums).



Healing Garden C

winter perspective



This perspective is facing the southeast from the hospital. Heated pavers will be used on the sidewalk, textured path and ramp to provide safety to patients and staff. The corner where the raised planters are located will serve as an area to store excess amounts of snow since planters will not be used during the winter months. On the left side of the image is where the sidewalk will connect with the walking path that surrounds the whole campus.



Healing Garden C

materials

wood fence and planters:



The wood fence will be used to block views and create privacy. The planters within the fence will serve as an area for standing therapy at the planters and also selected views making sure the place doesn't feel trapped or too enclosed.

textured path:



The textured path is made up of a river rock imprinted concrete. This path is to help patients adjust to uneven surfaces that they will come across out of therapy. Patients will include those in wheel chairs and those with walkers. In winter months this path will be heated. Due to the textured being stamped will allow for a heated pavor underneath. Image from http://www.dowdconstructionsupply.com/images/SmallRiverRock_2_.jpg

metal hand railing:



This hand railing was chosen because of its durability compared to wood and plastics. The round railing makes for an easy grab in any direction. The railing will be coated in rubber to help with the coldness that comes with touching metal in the winter. Image from <http://nameesco.info/> and infro from plastidip.net

push gate:



This gate will be between the main walking path and healing garden C. This will keep walkers from entering this garden, to keep the usage to patients and staff. Located on the east side of the garden.

Healing Garden C

plant material

helianthus, lemon queen:

Helianthus annuus. This type of sunflower can grow up to 8 feet high. The area it is located in the garden is between the grass along the path. This flower with in the grass will give the garden a natural feel that goes along with the surrounding area. Image from <http://www.burpee.com/perennials/perennial-plants/helianthus-lemon-queen-prod002470>.



karl foerster grass:

Calamagrostis acutiflora. This grass grows 4' tall and does well in dry and wet areas. This plant was selected in-between paths because of its touch. Passer-bys are able to touch the plant without getting hurt. Image from <http://anastasilandscaping.com/wp-content/uploads/2011/02/Ornamental-Grass-Karl-Foerster.jpg>



holmstrup arborvitae:

Thuja occidentalis 'Holmstrup'. This evergreen shrub can get 8-10 feet tall and around 5 feet wide. The shrub will be used as a boarder around the edge of the healing garden giving privacy and greenery. Image from <http://www.affordabletrees.com/trees?type=&keywords=arborvitae>

* Other plants will include those for the raised planters. Annuals will include vegetables such as beans and tomatoes and flowers such as petunias and inpatients.

Healing Garden

master plan

Patient Viewing Garden



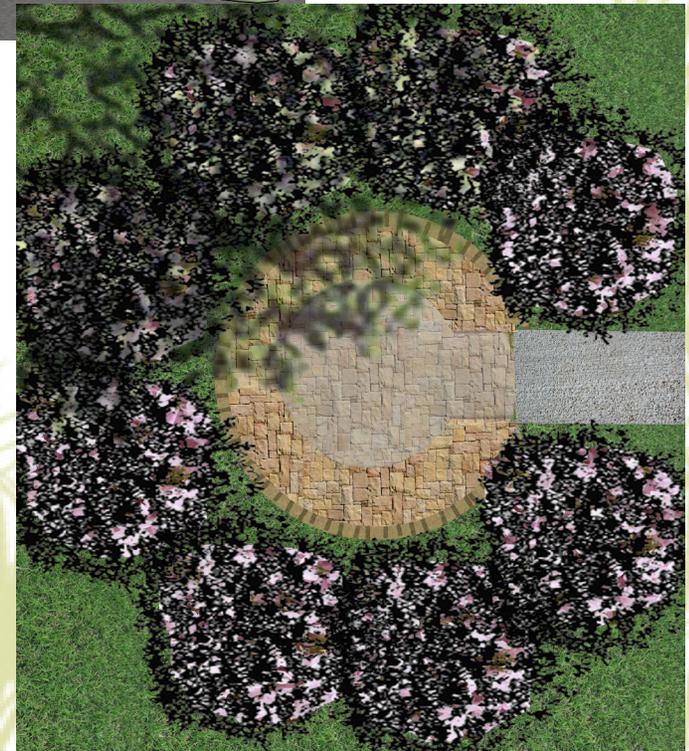
sugar plum lilac

autumn blaze maple

black hills spruce

privacy area

The enlarged plan to the right shows the privacy area. A circled bench area will be surrounded by shrubs to give a sense of seclusion with the addition of a tree to provide shade. The privacy area will be a path off of the main walking path to provide for privacy.



Healing Garden D

patient's window perspective



This perspective is from one of the patient's room up on the second floor. The view faces the viewing garden which is near the road entrance. Large trees such as maples and evergreens can be seen from this view. Patients can also see the walking path and be encouraged to venture outside if able to.

Healing Garden D

plant material

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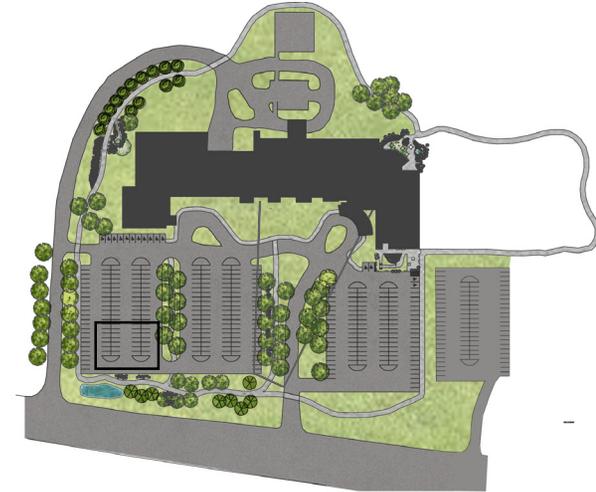
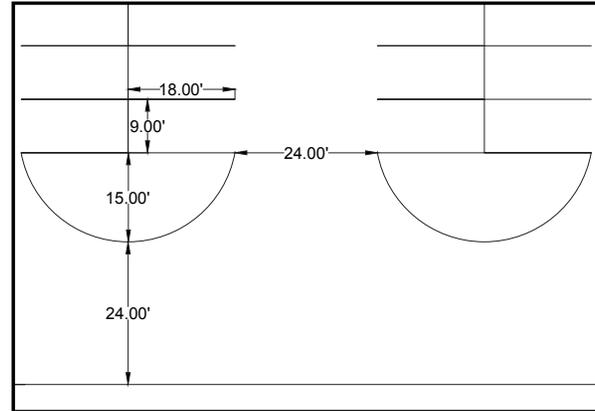
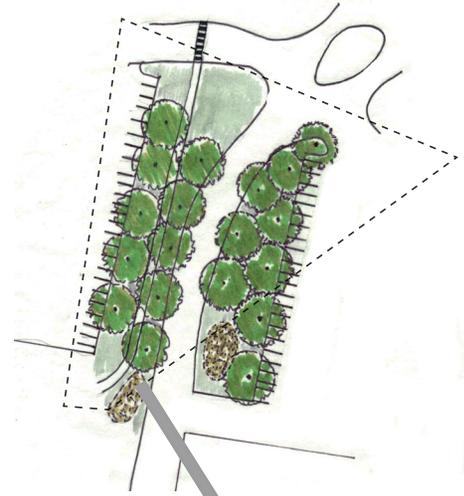
Autumn Blaze Maple (*Acer x freemanii*) This tree is added to the garden because of its brilliant fall color that will be seen from patient's windows. The tree will also provide shade along the walking path. Image from: http://www.aboutmapletrees.com/autumn_blaze_maple_tree.shtml



Parking Lot

parking redesign

hospital entrance



Existing parking currently holds about 130 cars with the addition of the new parking lot it will hold 240 additional cars



Bur Oaks will line the walking path between the parking lots. Oak signify strength is needed to get through life's obstacles and is an important symbol for the hospital.

Walking Path

time paths



WALKING SPEEDS

full walking path
~1/2 mile
~11 minutes

starting at clinic
entrance - ending
at garden B.
2262 ft.
~9 minutes

starting at garden C -
ending at garden B.
2530 ft.
~10 minutes

starting at hospital -
ending at clinic
1015 ft.
~5 minutes

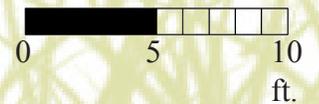
Walking times are all
based on an average
speed of 3.5 mph.
Information from
eatrunplay.com

Walking Path

day & night



Typical Section of the walking path



The walking path material will be concrete with a heated pavor underneath for winter time use.



Bur Oak (*Quercus macrocarpa*), is a large shade tree, with yellow leaves in the fall. <http://www.coopext.colostate.edu/4dmg/Trees/buroak.htm>

Priorities of Healing Gardens

Jamestown Regional Medical Center



Private Spaces:
This provides a place for patients to spend time with their visitors.



Inspiring Paths:
Paths inspire patients to walk and move around the site.



Water Features:
Are used to mute out unwanted noises and aesthetic purposes.



Raised Planters:
These provide therapy for patients by keeping them active and getting them outside.



Public Places:
This space should be an area where a large amount of people can congregate.

Healing Life



How can the design of an exterior garden be used to encourage healing in hospital settings?



Within a hospital setting plant material, inspiring paths, private spaces, public spaces, and physical therapy equipment can all encourage the healing process, both emotionally and physically. At the Jamestown Regional Medical Center, “Healing Life” uses these elements to meet the needs of a Midwest culture and climate in a design which improves the well being of patients, staff and visitors.