

***Sherbrooke Community Centre:
A Restorative Garden***

**A Practicum In Partial Fulfillment of Requirements for
The Masters of Landscape Architecture (MLA)**

**University of Manitoba, Winnipeg, Manitoba.
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**Sherbrooke Community Centre:
A Restorative Garden**

BY

Jocelyn Young

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree
of
Master of Landscape Architecture**

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Dedicated to the memory of Grandma George.

Restorative - “Tending to restore health or strength.”
J.B.Sykes (ed.) 1976. *Concise Oxford Dictionary, 6th Edition*,
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Chapter 1. Introduction

1.1. Introduction

The idea of the landscape as a locus for healing is not new. The public parks designed by Frederick Law Olmsted, the great nineteenth century American Landscape Architect, were intended to help counteract the effects of urban life, which, for many at that time, included cramped living spaces, and unsafe work conditions. Central to Olmsted's design philosophy was a Romantic notion of nature as healer.(Kavanagh, 1994) He felt that an environment containing nature or vegetation

“employs the mind without fatigue and yet exercises it: tranquilizes it and yet enlivens it; and thus, through the influence of the mind over the body, gives the effect of refreshing rest and reinvigoration to the whole system”.(Ulrich, Parsons, 1992: 95)

Although Olmsted's Romantic notions may seem rather dated to some, recent empirical evidence supports what he believed, and what many of us may feel instinctively; that is, that contact with nature in the landscape is of great benefit to our health and quality of life.(Ulrich, 1981; Ulrich and Parsons,1992; Lewis, 1996; Moore, 1982; Kaplan and Kaplan, 1989) This evidence provides a great opportunity, especially in “health care” settings, to improve the general health of patients or residents through landscape design.

According to the *Report on the Demographic Situation in Canada 1997* (Belanger, Dumas, 1998), 11.6% of our current population is over

65, but by 2030, the baby boomer population bulge will increase the rate of this age group to 23% of the total population. Approximately 8% of the population over 65 lives in institutions, a percentage rate that has been constant since 1971, and which is predicted to remain the same in the future. Also, at present, 28% of all women and 17% of all men over 80 years old live in institutions, and if this remains constant, a considerable portion of our entire population will likely live in nursing homes in the future. As our population ages proportionally, good quality health care and positive nursing home environments become increasingly important.

The objective of this practicum is to design an outdoor garden adjacent to a nursing home in Saskatoon, Saskatchewan. The purpose of this garden is, in keeping with Olmsted's vision, to provide a site which is restorative and healing to the human psyche. The garden will be sensitive to the needs of residents, their families, and workers at the nursing home, and will be appropriate to regional prairie environmental conditions.

1.2. Case Study Site

Sherbrooke Community Centre is a residence located in West College Park, a southeast suburban area of Saskatoon, a city of population 230,000, in central Saskatchewan, and is sponsored by a multi-denominational organization, including the Anglican, Mennonite, Presbyterian, Roman Catholic and United Churches. Residents are comprised of individuals who, for cognitive or physical reasons, are unable to function independently. Of the 270 rooms, 80 have been set

aside for residents with cognitive disabilities such as Alzheimer's disease and dementia. For those in the early stages of Alzheimer's, where wandering is common, access outside the building is limited. For other residents, conditions such as arthritis, multiple sclerosis, spinal cord injuries, post-polio symptoms, and the frailty of old age can severely restrict mobility. Having said that, though, there are also some socially and physically active residents.

At Sherbrooke, there are two staff members who are advocates for the residents. The pastors and staff are also approached by individuals who have concerns and requests. Depending on the time of day, there are either one or two caregivers per nine residents.

Sherbrooke just completed renovations with an addition to the building. (See Appendix IV.i.A: Site Context) An older one story nursing home was dismantled last summer, and presently, residents are housed in one of two parts of the existing building. A four story building, housing 160 individuals, was built in the mid 1980's, and a new addition, just recently completed, includes two 'houses' which veterans have moved to from a nursing home which has closed, and six other 'houses' in which new residents will live. One of these houses has residents of First Nations descent, and is sponsored by the Saskatchewan Indian Gaming Association. while another house is for residents descended from Ukrainian Orthodox families, sponsored by the Ukrainian Orthodox Church. The other houses are partially funded by non-profit groups (e.g. Kinsmen). There are a total

of 103-110 residents in the new wing; the final number depending on the number of couples living together. Individuals living in the original (now demolished) building moved either into the multi-story building, or the new one story wings. Residents living in the multi-story building also were given the choice of staying in place, or moving to the new addition. Most have chosen to move to the new building.

The new single story addition mimics the suburban bungalow style of the residential area surrounding Sherbrooke. Families of residents have keys to their rooms, so they can visit anytime. A large common room is centrally located between the new addition and the older multi-story building. Adjacent to the room is a daycare, for children of employees and of the surrounding community. The daycare will be managed separately from the Community Centre, but presents the opportunity for intergenerational contact between residents and children in the daycare.

The recreational therapist for Sherbrooke runs programs where pets visit residents, and another where residents read to pre-schoolers. The occupational therapists, along with volunteers, have an "adopt a box" program, where eighty planter boxes placed outside around the building are planted and cared for by residents.

There has been some change in the philosophy surrounding nursing home management since the mid-seventies, and one innovative idea, "The Eden Alternative", has been developed by William Thomas, a nursing home doctor in the United States. (1996) To understand Thomas' idea, the

nursing home has to be seen from the perspective of an ecologist, who sees the home as a human habitat. Thomas' point of view is not of an ecological purist, i.e. that all species function together within the environment. Instead, his assertion is that a healthy human habitat should include a diverse variety of species, thereby addressing the human need for variety and visual reminders of cycles of change.

Thomas contends that what is lacking in conventional nursing homes is a focus on human needs, which are the need for companionship, the need to care for others, and a need for variety.(p.28) Surroundings with other living beings, such as plants and animals, provide residents with the opportunity to meet these needs. Sherbrooke has recently endorsed the Eden Alternative as its administrative guiding philosophy. Thomas' ideas closely parallel Olmsted's belief that humans need access to "nature", for the sake of interest, and for distraction. For this reason, The Sherbrooke Community Centre provides an ideal setting for a restorative garden.

Chapter 2. Literature Review

2.1. Historic Overview

The garden has been recognized through history as a place for healing and restoration. During the Middle Ages, monasteries contained a number of gardens within their walls, most which provided food and medicinal herbs, but the central cloistered gardens were intended for contemplation and for healing. They were often designed in the shape of a crucifix, the four branches of the cross symbolizing the Garden of Eden in the Judeo-Christian tradition, and the Persian Garden of Paradise. The centre of the cloister was planted to turf, and kept green to symbolize eternal life. (Tyson 1998) St. Bernard (1090-1153) described the role of the monastic garden in his monastery at Clairvaux, France as

“lightening with no little solace the infirmities of the brethren...The lovely green of herb and tree nourishes his eyes and, their immense delights hanging and growing before him, well might he say, “I sat down in his shadow with great delight, and his fruit was sweet to my taste.” The choir of painted birds caresses his ears with sweet modulation...while the air smiles with bright serenity, the earth breathes with fruitfulness, and the invalid himself with eyes, ears, and nostrils, drinks in the delights of colors, songs, and perfumes.” (Warner, 1994: 5)

This gives one the impression of a garden containing a diverse collection of plants with various attributes, all contributing to the healing process.

With the decline of monasticism, the courtyard garden was not as frequently incorporated into the design of hospitals. In the Thirteenth and Fourteenth Centuries, medical care in Europe was managed by either the Church or civic governments. The design of hospitals was similar to that of churches at that time, with high walls and high windows that encouraged patients to look towards heaven, but offered no view of the land outside. Hospitals designed with a courtyard garden were highly praised by John Howard, a British philanthropist who was responsible for prison and hospital reform in the 1700s.

“In all these hospitals he admired the flow of fresh air, the chance for patients to see gardens through their windows, and the opportunity for convalescent patients to walk in the gardens.” (Marcus, Barnes, 1995: pp.7-8)

With the 1800s, the rise of Romanticism led to a new appreciation for nature as healer. At this time Frederick Law Olmsted, along with other architects, was designing public parks (e.g. Central Park, New York City) with the intention of providing, for the public, a place where they could leave the stresses of poor working and living conditions behind.(Kavanagh, 1994) The idea of landscape as a place for rejuvenating the body and soul, then, has not been confined just to the hospital setting, but is, historically, one of the original bases for landscape architecture. In the hospital setting, the influence of Romanticism, along with germ theory, which called for fresh air, cleanliness, and plenty of sunshine, led to more hygienic settings, and the incorporation of gardens.

Hospital garden design recommendations made by Christian Cay Lorenz

Hirschfeld, a horticultural theorist from Germany, included the following:

“The garden should be directly connected to the hospital, or even more so, surround it. Because a view from the window into blooming and happy scenes will invigorate the patient, also a nearby garden encourages patients to take a walk. The plantings...should wind along dry paths, which offer benches and chairs...A hospital garden should have everything to enjoy nature and to promote a healthy life. It should...encourage a positive outlook. Noisy brooks could run through flowery fields, and happy waterfalls could reach your ear through shadowy bushes. Many plants with strengthening aromas could be grouped together. Many singing birds will be attracted...and their songs will rejoice many weak hearts. (Marcus, Barnes, 1995: p.8)

Florence Nightingale (1820-1910) also noted the importance, for patients, of sunlight and visual access to nature:

“the being able to see out of a window, instead of looking against a dead wall; the bright colors of flowers; the being able to read in bed by the light of the window...It is generally said the effect is upon the mind. Perhaps so, but it is not less so upon the body on that account...while we can generate warmth, we cannot generate daylight.” (Warner, 1994: p. 7)

The latter half of the 1800s also marked a change in attitudes towards psychiatric hospital design. European ideas were adopted by North American designers. In this scheme, the hospital was seen as a self-sustaining village. Near Toronto, Lakeshore Hospital held one acre of land per patient, to allow for food production. Gardening was incorporated as part of the patient’s therapy program. Patients learned skills through gardening and ground maintenance, as well as animal husbandry and construction.(Paine, 1997) The belief that gardening and

outdoor work were therapeutic was well-founded; e.g. the records from Worcester State Hospital in Massachusetts indicate that forty-five percent of discharged patients were able to live successfully in communities once they left the hospital.(Warner, 1994)

Near the beginning of the 1900s, and through this past century, multi-story hospitals have all but eliminated the garden as part of the design concept. The token foundation plantings around the base of buildings have also been carried over into nursing home design. Technology and budgets have both contributed to a focus on priorities which restrict the inclusion of gardens in design schemes. Within the last two decades, however, horticultural therapy, and the inclusion of greenhouses in nursing homes has become more common.(Warner, 1994)

There is now also some interest in the incorporation of garden areas near health care institutions, especially in geographical areas where climate allows for year round use. Some examples of health care centres where gardens have been installed are Alzheimer's facilities (Stevens, 1995), children's hospitals (Marcus, Barnes, 1995; Sutro, 1995), general hospitals (Marcus, Barnes, 1995), rehabilitation centres (Stevens, 1995; Lecesse, 1995), and AIDS hospices (McKormick, 1995).

The benefits of such places are many. Symbolically, the garden represents life, hope and change, and provides to individuals a setting for relaxation, and rejuvenation. Nature in the garden has innate qualities people find both interesting and attractive.

2.2. Biophilia¹

Given the great affinity humans seem to have to nature², it makes sense intuitively that gardens or natural spaces would be incorporated into landscape plans for hospitals and nursing homes. But from where does this attraction arise? Some theorists have hypothesized that cultural influences give an individual positive lessons about nature. In Western cultures, for example, nature is associated with holidays and time away from stressful urban environments. This theory alone, however, does not explain an attraction for nature that is similar for individuals of different cultural, economic and racial backgrounds.(Lewis, 1994)

Another theory asserts that through evolution, humans learned to assess the natural contents and features of the landscape for safety, and optimum food and water sources. Although, in most situations, our immediate survival in the landscape no longer depends on this knowledge, the innate responses to nature in the environment still exist. (Wilson, 1993) As an example, in aesthetic tests, individuals briefly shown pictures of landscapes, and asked for preferences, chose landscapes with vegetation over those without vegetation, and a mixture of trees and open spaces were preferred over tangled undergrowth which would block a clear view for the

¹ The term Biophilia is cited from *The Biophilia Hypothesis* (Wilson and Kellert, 1993). This refers to the innate attraction that nature holds for humans.

² By "nature", I am using the term as defined by the Kaplans (1989). For the purposes of their studies, "nature" is, simply, the presence of vegetation, even if controlled by a human hand.

observer.(Lewis, 1994) A highly preferred site, termed ‘prospect and refuge’ by Appleton, 1986, is one where an individual can remain concealed, but can still observe the landscape for approaching danger. Aesthetic preferences are shown for tree shapes that occur in African savanna where water and, often, food are present. Interestingly, this same tree profile is the preferred shape that is manipulated and miniaturized in Japanese gardens. (Orians, 1986)

2.3. Positive Effects From Views of Nature

Besides those studies which look at perceptions of aesthetics in nature by individuals, there is also evidence for effects of nature on humans at a more subtle level. In one study, brain wave activity of individuals watching slide presentations was measured. Alpha brain wave activity was higher for individuals watching vegetated scenes, indicating a more relaxed, wakeful response than for those watching non-vegetated urban scenes.(Ulrich, 1981) Stress recovery has been found to be more rapid when nature settings on video tapes are shown than when urban scenes are seen, as measured by skin conductance, muscle tension and blood pressure.(Ulrich and Parsons, 1992) Another study concluded that lowered blood pressure and heart rate occurred in individuals after they visited a botanical garden.(Lewis, 1995)

2.4. Health Benefits Through Exposure to Nature

Views of nature can also have a positive effect on health. In 1984, over a one year period, Ulrich studied the records of patients on the same

floor of a hospital, recovering from gall bladder surgery. He found that patients with a view of a park not only had a shorter hospital stay, but also needed fewer potent pain killers, and had fewer negative notes by staff in their records, than patients with a view of a wall. In another study, prisoners with views of farmland and forest visited the health clinic less frequently than those with a view of the prison courtyard.(Moore, 1982)

2.5. Gardening

Gardening is a unique way for individuals to become more directly involved and, sometimes, immersed, in nature and natural cycles. The pleasure of observing various shapes, textures, and scents is enhanced through direct contact with plants. In addition, watching a plant respond to nurturing is, potentially, a positive experience.

2.6. Environmental Psychology: theories

The empirical evidence pointing to benefits of contact with nature will probably be of no surprise for those who have spent time in natural settings away from the stresses of everyday living. But, besides our evolutionary coexistence with nature, and, possibly, because of this relationship, why do many of us find time away in a natural setting so revitalizing? Rachel and Stephen Kaplan (1989) feel that nature has intrinsic qualities that provide restoration to individuals suffering from mental fatigue. They theorize that natural settings have objects that are fascinating and interesting, and hold our mental attention involuntarily, i.e. without focused mental effort. Ordinarily, individuals must use

directed attention to solve problems, and complete tasks at work and home. Directed attention is also involved if one is chronically worried, or lonely. This requires higher mental processes, and a greater amount of effort than involuntary attention does. Mental fatigue occurs, since finite energy is required to focus voluntarily. (Kaplan, Kaplan, 1989: pp.178-182)

2.7. Places for Revitalization

Although nature may not be the only place where fatigue from directed attention can be alleviated, inherent elements in such a setting lend themselves to this end. The Kaplans have conducted extensive outdoor wilderness trips, in which they have collected data which focuses on the beneficial effects to individuals of immersion into nature. They have found that these positive effects have parallels in urban settings and also where the time spent in nature is of shorter duration. For example, time spent gardening is of great benefit to the health and sense of well-being for individuals. A stroll through a park at lunch time can help to rejuvenate energy for the afternoon. Through their studies, the Kaplans have theorized that there are four elements which are critical in order for a landscape to become a “healing” place: being away, extent, fascination, and compatibility.(1989: pp. 183-186) As discussed below, these four elements also have applications which will provide the basis for design in this project.

2.7.1. "Being Away". A feeling of being away from everyday surroundings is required in order for people to begin focusing on other things. Of course, the quality of this experience is dependent on surroundings, which can be quite variable. For example, one could "escape" from the everyday by locking oneself in a room with no telephone, or a prison term could, arguably, be denoted as "being away", although both these experiences could be far from restorative to the human psyche. Other factors, discussed below, interact with the feeling of "being away" to create a healing place.

The illusion of "being away" can be accomplished through design with the inclusion of a threshold, or gateway, that emphasizes a transition to a separate space. Visual screens, such as hedges and trellises can also enhance the feeling of being away. The use of comfortable seating, protected from wind and sun in a pleasant setting will help prolong the time spent in the garden.

2.7.2. "Extent". This allows for the experience of being in "a different world", and is comprised of *scope*, which means that the environment is large enough that one feels away. A smaller space can be extended by designing to create a sense of "journey" by using focal points, changes in elevation, bridges, and by limiting views back along the path. (Barnes, 1996) The journey will not only be enhanced by breaking the site into public, semi-private, and private "rooms"; this will also offer flexibility to individuals and groups using the site. (Stoneham, Thody,

1994) Some moveable chairs and tables in public areas will help to further enhance site flexibility.(Eckerling, 1996)

•*Connectedness* provides a place that intuitively makes sense, thereby requiring a minimum amount of directed attention in order to maneuver around the site. This is an important design issue when the garden is to be used by individuals who are cognitively impaired. Circulation should be arranged so that paths loop back on themselves to avoid individuals becoming lost. The use of a landmark (e.g. central gazebo) will help orientation.

2.7.3. "Fascination". Vegetation, and hard landscaping features can provide a myriad of shapes and patterns which attract involuntary attention. The use of fragrances, colours and textures, shade, reflected heat, edible plants and running water all enhance sensory awareness.

Since residents do spend most time inside, the garden should be designed to be seen from viewpoints inside buildings. A conservatory or glazed area in the building can be used as a transitional place between the inside and the outside.(Stoneham, Thody, 1994) Shrubs and trees that provide shelter, and furnishings such as bird baths and bird feeders should be located near the building, to help attract wildlife to the site, and to give visual interest to residents and staff. Planning for plantings with a wide range of canopy heights will attract a greater diversity of species to the site. Plantings near the building should also have visual interest in winter time, when residents are less likely to venture outside. The selection of

plants with seeds or berries which are edible to birds will help attract more life to the garden, providing year round interest for both inside and outside viewing.

Plants are the focus of gardens, and planting decisions made in design can determine whether the site is a welcome area that is successfully utilized, or, indeed, if the garden is used at all. When determining which plants to use for a nursing home garden, the initial choices concern safety. Individuals with either Alzheimer's or dementia are known to often taste plants; for this reason all plants must be neither toxic nor injurious. (Kamp, 1996) Herbs and other edible plants should be included in the planting scheme, not only because they will not cause harm, but they also have interesting textures and scents. They are especially attractive to practical minded active gardeners who are rewarded with fresh vegetables and herbs at harvest time.

Plants with the most enduring interest are those which change seasonally. Smaller plants should be massed together for more impact. The use of a diverse textural palette, and dense plantings are both ways to attract involuntary attention. Focus group questionnaires conducted by Carpman and Grant (1993) have also revealed that turfgrass is an important priority for participants, and suggest that a patch of lawn be included in the plan. Heavily treed areas are also immensely popular, (Carpman, Grant, 1993) although often the size of the site will limit the number of trees which can be accommodated.

2.7.4. “Compatibility”. This refers to the ease by which one moves through a place, or how supportive the environmental conditions are. A compatible environment will allow the participant to maneuver through the site without having to focus on potential hazards, thereby giving directed attention a rest. A garden which successfully incorporates principles of universal design would be compatible for individuals of all levels of physical and cognitive capability.

2.8. Universal Design

In order for the garden space to be a positive healing place, the environment must enhance the independence of residents, and support all levels of ability. A number of sources summarize recommended standards which will allow for accessibility in the outdoors. *Design Guidelines for Accessible Outdoor Recreation Facilities* (Canadian Heritage Parks Canada, 1994), *Barrier - Free Site Design Manual* (The National Capital Commission), and *Design Guide: Universal Access to Outdoor Recreation* (Driskell, D.(ed.) 1994), have guidelines to consider when designing accessible outdoor sites. A publication by the United States Architectural and Transportation Barriers Compliance Board (1991) *Universal Design and the Outdoor Recreation Environment: Retrofit Manual designed to be used in conjunction with the Uniform Federal Accessibility Standards*, covers both indoor and outdoor details, and discusses ways in which buildings and outdoor sites can be altered to implement accessibility. A summary of accessibility codes relevant to this project is compiled in

Appendix I. These standards provide a guideline for accessible design, but, if devices for accessibility are retrofitted into the site to meet recommendations, they can stigmatize groups (e.g. a wheelchair ramp tacked onto a building), and can be clumsy or appear contrived.(Story, M. 1998)

Universal design involves the integration of accessible design, but carries the concept of “accessibility” further. The Center for Accessible Housing, North Carolina State University (1995) defines universal design as:

“The design of products and environments to be usable by all people to the greatest extent possible, without the need for adaptation or specialized design.”

The best universal design is virtually invisible, because enabling devices on site are moulded into the landscape, and used by everyone.(Martin, 1999) Primary to this approach is the consideration of site users, and their various levels of physical abilities. The aim of universal design, then, is for “social equity in the public realm”. (Martin. 1999) As a result, no one group is stigmatized since the design allows for equal, and easier access to all individuals. For example, level wide paths with gradual grade changes will not only benefit those who are wheelchair mobile, but will also enhance mobility for parents pushing baby strollers, ease machinery, and general maintenance access to the site, and simply make maneuverability easier to all who are in the garden.

There are a number of universal design concerns to consider for this particular site. Alzheimer's disease, and related disorders cause short-term memory loss. Pathways should loop back to the origin to avoid confusion, but to allow for wandering, which is also common with Alzheimer's. The floor should also be level throughout, since a shuffling walk is symptomatic of this disease.(Author's comment: Residents with Alzheimer's disease or dementia would not likely be left alone in the garden, but precautionary devices should still be in place in case anyone goes wandering.) Changes in paving patterns, or paving stone colours, can also be interpreted as a change in grade by individuals who are cognitively impaired. Therefore, floor patterns and colours should remain the same throughout the site to prevent falling accidents.(Randall, Burkhardt, Kutcher, 1990; Lovering, 1990)

Furnishings on the site are also important for the comfort and safety of all. Seating in the garden should be higher than usual, with arm rests which project out from the seat, to allow for easier rising from a seated position. Benches should be comfortable - as a guideline, individuals should be able to sit comfortably for at least one hour. Seating should also be arranged at angles which are conducive to conversation, especially for those with limited hearing.(Carpman, Grant, 1993) Raised beds can be utilized in the design both to define spaces, and to give residents the opportunity to garden.

Since residents are more likely to be sensitive to outdoor climatic conditions, the design must create a comfortable outdoor microclimate, to prolong the season, and protect residents from winds and extremes in temperature. There should be flexibility within the site so individuals can choose shady or sunny areas. Umbrellas, or buildings such as gazebos can be used to provide protection from the sun, (Carstens, 1998) since some medications increase the skin's sensitivity to the sun, and elderly residents tend to have more fragile skin.(Randall, Burkhardt, and Kutcher, 1990) Elderly residents will also have a slower visual response to changes in light levels. Trellises, arbors and trees can create a transitional area between bright and dark areas, to give eyes time to adjust properly.(Harris, Dines, 1998) Non-reflective paving should be used to reduce glare, and improve visibility of pathways.(Carstens, 1998)

Wind can dramatically effect the temperature and comfort of individuals using the garden. Besides shaping the site, and providing visual filters, overhangs, screens, walls and berms can be used to alleviate down-drafts and crosswinds.(Lovering, 1990)

A more detailed description of universal design, by The Center for Universal Design, involves seven principles, discussed in the following table. Design considerations are also summarized.

Seven Principles of Universal Design³

Name	Definition	Application in Design
1. Equitable Use.	The design is useful and marketable to people with diverse abilities.	-Should be provision for active gardening, playing, strolling, observing.
2. Flexibility in Use.	The design accommodates a wide range of individual preferences and abilities.	-Site should have separate areas for social interaction or privacy; active gardening or observation, sun or shade.
3. Simple and Intuitive Use.	Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.	-Paths should loop back on each other. -Central landmark serves as a visual orientation aid.
4. Perceptible Information.⁴	The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.	
5. Tolerance for Error.	The design minimizes hazards and the adverse consequences of accidental or unintended actions.	-Use non-toxic, non-injurious plant material. -Incorporate level, low-glare pathways.
6. Low Physical Effort.	The design can be used efficiently and comfortably and with a minimum of fatigue.	-Gradual and slight grade changes. -Use raised arm rests on benches to assist standing.
7. Size and Space for Approach and Use.	Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.	-Adequate path widths for wheelchair mobility, and space provided for parking, and maneuvering.

³ These seven principles are discussed by Molly Story in "Maximizing Usability: The Principles of Universal Design", *Assistive Technology* 1998; 10:4-12.

⁴ All principles of Universal Design are not necessarily applicable in all instances (as in this case). *Ibid.*

Universal design can be more naturally integrated into this practicum site, than for pre-existing landscaped sites, since this garden site presents a blank palette as a starting point. (ie there is no retrofitting necessary.)

All the ideas which are included within the framework of Universal Accessibility are synonymous with the Kaplan's notion of "compatibility". Instead of concentrating on how to maneuver through the site, any visitor can relax and enjoy their surroundings if the garden is designed for ease of movement, and intuitive use.

2.8.1. Design Considerations for Various Garden Users.

An important part of universal design involves addressing the needs of disparate groups of individuals that will be visiting the garden. Initially, these groups must be identified, so the design can be tailored to their needs (Tyson, 1998; Scarfone, 1996; Paine, Frances, Marcus, Barnes, 1998). The residents, families of the residents, and employees of the home may all have different "wish lists" in reference to the garden and its design. Focus groups are useful for determining the requirements of all groups concerned, and they were utilized for this practicum. (Discussed further in Chapter Three)

Martha Tyson (1998: 33-36) recommends the research involve "formulating therapeutic goals" for the three major groups. For residents, some of her suggestions include:

-“Support abilities, and compensate for losses”. Determine physical and cognitive capabilities of residents, and design to accommodate and support those abilities.

-“Instill a sense of belonging and usefulness”. Involve residents in the upkeep of the environment.

-“Establish connections to the familiar”. Integrate familiar objects, either furnishings or plants, into the garden, to develop connections. Include objects from home, such as statuary, or favourite perennials.

-“Maximize a sense of independence and freedom”. Create an open environment which allows movement and decision making opportunities.

If the garden space is to be successful, the staff must accept its design, and endorse its use by residents. Some considerations for staff mentioned by Tyson (1998: 33-36) include the following:

-“Create a pleasant work environment”.

-“Provide desired amount of space for activities”. Sufficient space can determine the success of activities within the garden.

-“Allow for complete surveillance of area”. This is of prime importance from the perspective of staff.

-“Designate places for staff breaks and respite”. Staff need time away from residents to rejuvenate.

The resident’s families should also be considered, and some concerns include the following:

-“Provide assurance that residents have quality care”.

-“Provide a familiar homelike living environment”.

-“Offer social opportunities for residents”. Family members will be concerned that their relative is being cared for with dignity, and in surroundings that reflect as normal a life as possible.

-“Create a sense of privacy and comfort for visiting”. There should be provision away from public areas for private discussions, or for time alone.(Tyson, 1998: 33-36)

2.9. Summary

Contact with nature is known to benefit the overall health of humans. (Lewis, 1995, Lewis, 1996, Moore, 1982, Ulrich, 1981, Ulrich, and Parsons,1992.)

However, a garden site which is beneficial to health involves more than an island planting of petunias embedded in a sea of concrete. The design must also incorporate elements, which, according to the Kaplans, are necessary for healing to begin: being away, extent, fascination and compatibility. (Kaplan, Kaplan, 1989) The needs of the disparate groups of individuals using the garden, the residents, the families of residents, and employees of Sherbrooke must also be respected, and included in the final plan.(Tyson, 1998) The ideas of the Kaplans, the principles of Universal Design (Story, 1998) and suggestions of experienced landscape designers (Carpman and Grant, 1993; Marcus and Barnes, 1995; Scarfone, 1996; Paine and Francis, 1998), as discussed in this chapter, will serve as guiding points in the design process.

Chapter 3. Methodology

3.1. Introduction.

This design process began with information gathering which included the following:

1. Literature Review.
2. Focus Group Meetings
3. Site Analysis.

These three parts were then synthesized to obtain final design recommendations for a restorative garden at The Sherbrooke Community Centre.

3.2. Focus Groups - Client Information Gathering

In order for a design to be successful, preliminary site analysis, and gathering of data must include the input of ideas from those groups which will, eventually, use the site. This is imperative for a number of reasons. First of all, through questioning, the designer obtains ideas which may not have occurred to her / him. Secondly, ideas about how the site may or may not be used may arise, and the design focus could be altered at an early stage of development in the project. Finally, the input of ideas by the client(s) would, hopefully, instill in those concerned a sense of involvement in the development of a garden, and help ensure its success.

3.2.1. Why Use Focus Groups?

Questionnaires and interviews are often used to obtain information from particular individuals, and are most useful when statistical analyses are involved. However, when in-depth information and, especially, ideas are needed, the focus group is most useful. Although facts and ideas can be gathered from individuals, in a group setting a synergy occurs which can result in a generation of information that is greater than the sum of the participants. (Krueger, 1994: 44-45)

3.2.2. Focus Group Participants

The participants in focus group studies should be broken down into different groups. This way, individuals in each group will enter into the discussion from as close a common perspective as is possible:

- i. Decision - making groups, advisory committee members.
- ii. Employees, volunteers, support staff.
- iii. Customers or clients.(Krueger, 1994: 46)

According to Krueger (1994) the focus group should, ideally, be comprised of between six and nine individuals. Group dynamics start to change in groups larger than this. Usually the most dominant member or members of the group talk the most, and less aggressive individuals will not speak up in a larger group. In smaller groups, there is a greater likelihood that all members will have a chance to talk, and will feel less inhibited in doing so.

The moderator of focus groups should make the final decisions as to who will participate in the meetings. There are a number of points to consider when choosing individuals. Participants who are hand picked by the administration may have views which vary considerably from the norm, and may have been picked to reflect a certain viewpoint. Individuals who have expressed a great deal of concern for the topic in the past may also not be the best candidates. They may simply have a gripe, and their ideas may deviate considerably from the norm. Another concern is that superior - subordinate working relationships within groups that already exist may inhibit honest discussion. For this reason, members of a group should be on the same level of supervision. (Krueger, 1994)

For the purposes of this study, the author initially felt that, in order to obtain as broad a spectrum of responses as possible, there should be four focus group meetings. The four groups would be residents, families of residents, staff at Sherbrooke, and administration at Sherbrooke.

3.2.3. Focus Group Participant Recruitment: Process and Personal Comments.

For many focus group situations, participants could be initially contacted in a variety of ways; through telephone solicitation, personal contact, mail, advertising, etc. However, recruiting participants within an institution such as Sherbrooke presented dilemmas that would not ordinarily be encountered. The administration was concerned that the recruiting process not be aggressive, and not to involve direct contact with

residents. They asked that the recruiting be done by letters, memos, and posters, which, according to Krueger (1994, p.76) was the most ineffective way to solicit volunteers. However, there needed to be a way of approaching residents and their families that was not intrusive.

After the proposal, and focus group questionnaire, were examined by an ethics committee at the University of Manitoba (Faculty of Architecture) and the Sherbrooke Centre, information was sent out in order to recruit volunteers. A message was run for three times in the "blue memo", a weekly newsletter sent out to residents and staff at Sherbrooke to inform them about upcoming events. (see Appendix I.i.A.) A batch letter was also mailed out with bills to 180 residents or their families.(see Appendix I.i.B.) In addition, with the exception of cognitively impaired individuals, all residents in the new houses and on the second and third floors of the tower also received letters. Posters were also placed on five bulletin boards on the main floor of Sherbrooke.

Krueger (1994) also feels that more volunteers attend meetings when offered an incentive to participate. 'Incentives' are most commonly cash, free tickets to events, snacks during the meeting, or gifts offered after the meeting is concluded. In this case, no gifts or incentives were offered, other than a desire on the part of the participants to improve their environment. Perhaps resident participation may have been higher if additional incentive would have been included. Since the topic for

discussion involved a garden, forced bulbs or potted plants given as a gift would have been appropriate.

Incentive on the part of residents may also have been stronger had funding been in place to build the garden that was designed. Participants would be more likely to approach focus group meetings with enthusiasm if the end result was a tangible outdoor garden site, instead of a proposal, which may or may not lead to the inception of a garden. Although fund raising was outside the scope of this practicum, the procuring of funds would certainly have made a difference through the entire design process, since the garden would then be closer to reality. As well, attempts to involve families of residents in focus groups would possibly have been more successful had this author been familiar to them (e.g. through volunteering at Sherbrooke). As mentioned previously, 180 letters were sent out to family members, inviting them to participate in a focus group, which resulted in only two responses, both which were not positive. They felt that their relative, as a resident of Sherbrooke, was vulnerable, and they were concerned that their family member could easily be 'used' for the completion of a thesis. Both these individuals stressed that they had no objections for the garden design *per se*, but were more concerned about protecting their relative.

After recruitment, it was determined that there were nine individuals who were interested in a focus group meeting; four residents, and five staff members. The focus group questionnaires, and subsequent

transcribed discussions for these two groups, residents, and employees, are included in Appendix I.

3.3. Focus Group Questions

According to Krueger (1994: 90-94) the group questions should proceed in such a way that individuals are given time to reflect, and focus on the main topic. Typically, there are about twelve questions in total, which comprise different categories. (Focus group questions for residents and staff can be found in Appendix I.ii.A.)

i. Opening Question. This is a quick answering question, which gives participants a chance to identify common characteristics. The question is factual, as opposed to being opinion based.

ii. Introductory Question. This is meant to allow participants to reflect on past experiences, and to link their thoughts with the overall topic. This question is not critical to the analysis, but is meant to foster conversation and interaction within the group.

iii. Transition Question. This question leads the focus group members to the key questions. At this point, the participants hopefully become aware of how others view the topic.

iv. Key Questions. The core of the focus group questions are typically comprised of two to five questions.

v. Ending Questions. The focus group can be summed up in one of two ways:

-The moderator sums up ideas and questions and asks if there are any additions, or changes to the summary.

-The participants are asked to clarify their own positions, and to reflect on the most important points.

3.4. Focus Group Meetings

Since the focus group members were from Sherbrooke, it was agreed that meetings should take place at Sherbrooke Centre. The meetings were audio taped with an Eiki® (model 5190) cassette tape recorder, and a Dictaphone® external microphone. The sound quality obtained from these machines was excellent, so this author felt it would not be necessary to include an assistant for note taking. After the focus group meetings, the audio tapes were transcribed using a Dictaphone® 'Expresswriter'™ model 2750 voice processor. The transcription of meetings in complete form is in Appendix I.iii. These meetings are summarized in the following section.

Findings

3.5. Focus Group Results: Transcription Summary

The following is a condensed summation of the focus group meeting transcriptions (Appendix I.iii) of (3.5.1) residents and (3.5.2) employees of Sherbrooke.

3.5.1. Resident's Responses

Four residents initially agreed to participate in the focus groups, and three attended the meeting. The three participants in the focus group meeting have lived at Sherbrooke for (1) five years, (2) ten and a half years, and (3) two years (with ten years of daytime care), and are both physically and socially active. One participant babysits during the day, and another works part time at a coffee shop run by residents. Two of the participants mentioned that they have always gardened, both in their own homes, and at Sherbrooke. All three have planter boxes which they garden in the summer, and they all make daily trips outside in the summer. These residents, throughout the discussion, viewed the garden primarily as a fruit and vegetable area, as opposed to a more 'passive gardening' area. They want bigger planter boxes, as the soil tends to dry out very quickly in the current 6"x8"x4' boxes. All three residents rely on wheelchairs for mobility, and no one mentioned any problems with the height of the boxes, which are raised on cinder blocks. Accessibility was stressed a number of times by the participants, especially in reference to the raised beds, e.g.

that there be enough room between beds to maneuver with a wheelchair, that there be access to both sides of the beds, and room to go around the ends of beds. The ground surface was mentioned as well, since there were limitations for wheelchair accessibility last year with construction around the building, and high rainfall levels on a clay base.

These focus group participants also felt that a water fountain, or “just water running down an object” would be a great attribute to the garden. They also mentioned benches for socializing and visiting with family members and friends, and lighting for night use.

Although vegetables and fruits were the primary focus for these residents, one participant mentioned Butchart Gardens, and the variety of plants and flowers as an ideal setting. Another resident talked about wanting a level stretch of grass “without potholes”. (Residents have access to a large public park behind Sherbrooke which has paved walkways, but the turf areas are not highly maintained, and are too rough for wheelchairs).

3.5.2. Sherbrooke Employee’s Responses

Five Sherbrooke employees participated in the focus group meeting. Two individuals work as ‘daily living assistants’, one in the Veteran’s Village, and the other in the new Sherbrooke village addition. One employee works in both occupational therapy and physiotherapy in the Veteran’s village as an assistant, another works as an occupational therapy

assistant in Sherbrooke, and one participant works as an occupational therapist for Sherbrooke.

The three participants that have worked at Sherbrooke for some time (three to five years) said that during summertime, prior to the new construction, they frequently used the benches in the courtyard and the summer house at lunchtime and during their breaks. The courtyard was lost with the demolition of the old residential building, and the summer house was removed during the construction phase. (author's note: The summer house was utilized as a smoking room; now there is a room used for smoking at the end of the garage across the road from the daycare centre. The two participants working in the Veteran's Village began working in Sherbrooke last fall when the veterans were moved here from another long term residence that was closed. At the veteran's previous home, the staff and residents used a deck, and screened-in gazebo for coffee breaks and lunch.

The participants described the gardening programs at both the previous Veteran's home, and Sherbrooke. The Veteran's home had an informal gardening club which met once every week and worked on a project. Gardening was done in both raised beds and ground level areas. The latter of these was usually maintained by staff or volunteers, since most of the residents could not reach the ground. Year round gardening was more restricted at the Veteran's home than at Sherbrooke, because there was no greenhouse structure.

Sherbrooke's gardening program is run through the Occupational Therapy department. They, too, described how, at one time, there was a ground level vegetable garden which was, for the most part, maintained by staff and volunteers. The 'adopt a box' program is popular with residents and staff, since the residents are able, with the raised boxes, to tend to the plants. A visit to the planter boxes sometimes serves as a focus for visits with family members. (Author's note: Contrary to the participants in the Resident's focus group, the staff members did not perceive the garden as being a place for vegetable production. Perhaps this reticence on their part was due to the past maintenance of ground level beds, or, alternatively, they did not see this as an important priority. One of the participants also mentioned that all the planter boxes were dragged into the elevator and taken to an upper floor balcony for storage during the winter during the recent construction. (The author feels that there should be a storage shed in the garden in which to store equipment and furnishings, to reduce the chance of them being misplaced.)

The participants in this group mentioned a number of elements that they would like included in the garden: a fountain with running water, wind chimes, hummingbird feeders, butterfly flowers, bird baths, and hanging potted plants. Of great concern is that there be adequate shade on the site - arbors that were erected around the perimeter of the high rise building have coverings with openings between slats, and so do not afford any shade at all - one can only assume that the original idea was for vines

such as grapes or Virginia creeper to be planted to fill in the openings, but this has not happened. These participants also mentioned that they would like wheelchair accessible picnic tables with umbrellas. Sunflowers and ferns were suggestions for preferred plants, as well as perennials and annuals. This group, in concurrence with the residents, stressed the importance of the site being fully accessible, especially in reference to the raised beds, and active gardening issues (e.g. turning radius around the beds, room between the beds, etc.) One participant mentioned that cedar should not be used as a building material for raised beds, because there can be allergic reactions to the splinters.

3.6. Site Analysis.

3.6.1. Climatic Concerns

The climate in Saskatoon is typical of the Canadian Prairie environs. The average temperature at 1:00 PM in January is -17.0°C , and in July at the same time of day, the average temperature is 23.2°C . During the entire year, shading from the sun for human comfort is necessary only 10% of the time.(Meewasin, unknown publication date) However, for a site that will be used primarily in the summertime, during the day, by some individuals that are more sensitive to ultraviolet rays, either because of age, or photosensitivity due to prescription medicine, access to shading from the sun is necessary.

Referring to Appendix IV.i.B (Site Conditions, Design Concerns) will help clarify the following summary. Although portions of the garden

site are shaded in the morning during the summer, by noon the area is no longer shaded by the adjacent building. The mature spruce trees existing on the site also provide shade to the north of the trees, and in different portions of the garden through the day. Some areas of the garden receive at least 6 hours of sunlight during the day. The great variability of sun and shade existing on the site provide flexibility with respect to choices for seating and activities in the garden.

The angle of the sun on a summer afternoon, combined with the angled building wings in the “high rise” part of the Sherbrooke Centre adjacent to the garden create an environment reminiscent of a solar oven used by Scouts to bake instant Betty Crocker™ cake mixes. Small wonder, then, that employees mentioned how unbearably hot this area can be. Plantings that will form a green canopy up against the building would help modify the climate somewhat by reducing reflected heat, but the author suspects that the area could still trap, and release a great deal of radiant heat from the hard surfaces on the site. However, during the summer the use of plantings against this wall could substantially reduce cooling costs inside the building, depending on the existing R value of the insulation. To further help modify the harsh environment outside, the author recommends that the gazebo structure present on site should be fitted with a canvas canopy, or have plantings of Engelmann’s Ivy (*Parthenocissus quinquefolia* var. *engelmannii*) planted at the base of the structure. Knowles, 1989, p.177) Tower Poplar, *Populus x canescens* ‘Tower’ which

grows to a height of around 12m, and is columnar in form, could also help modify the environment if planted in a line along the wall to fill in the areas between the windows with a canopy.

Throughout the entire year, protection from the wind in Saskatoon is required 90% of the time for human comfort.(Meewasin, publication date unknown) Wind direction is predominantly from the northwest, but this can vary along with changing weather patterns. An alleyway between the Sherbrooke Centre and an adjacent building (Zion nursing home) could be the source of a wind tunnel that would sweep across the garden site. There is also a large open parking lot north and west of the garden site which is exposed to the garden. By planting shrubs and trees with various canopy heights along the west and north sides of the site, the garden would be both visually screened from the parking lot, and buffered from the wind.

3.6.2. Significant Views and Recommendations.

Existing plantings on the site should remain, as they will contribute positively to the final plan. The south border of the site is partially planted with a cotoneaster hedge, which quite successfully screens out the apartments and alleyway south of the garden. The hedge plants are presently healthy, but should be monitored for fireblight and silverleaf. (Author's personal experience) There are also five mature spruce trees which lend to the site verticality, and natural walls which divide the site into "rooms". These trees are reasonably healthy and attractive, but the

author recommends that they be hosed down with cold water periodically in hot, dry periods of summer to keep the spider mite population in check.

In addition to their aesthetic value, anyone who has witnessed a mature spruce being chopped down will know that there will always be a number of songbird nests in that tree. The canopy on these trees is much denser than on most deciduous trees, and so helps protect smaller songbirds from predators such as magpies and crows. Spruce trees also attract winter bird inhabitants such as nuthatches and chickadees, which can be then be enticed to stay with bird feeders.

Some additional plantings are also necessary to enhance the final plan. By continuing more dense plantings which curve around both the southwest and southeast corners, screening from the outside would be more complete, the corner angles of the site would be softened, and the site would be more enclosed. The east side of the site is bordered by a chain link fence, which provides an opportunity for extensive vine plantings.

Many residents spend most of their time indoors, so the view of the garden from inside the building is important. In addition, over the winter, the greenhouse, with its large windows, provides an excellent bird watching opportunity, so bird feeders should be placed near the windows for viewing. To invite residents into the garden, a visual link between the site and the greenhouse is ideal, since the greenhouse is the only entrance to the building from which the garden is clearly visible. Unfortunately,

the greenhouse doors do not have an automatic door opener, and, when in a wheelchair, the author found it impossible to open these doors. If an automatic door opener is never installed, then the greenhouse can continue to provide a visual link between the residents and the garden, but probably not a physical link. On the other hand, the greenhouse design is reminiscent of many residential "sunrooms", ie it is very poorly designed to act as a functional greenhouse. There is no apparent passive or electrical ventilation of any sort, and the entire room is sealed in with windows that appear to be a type made of acrylic. Small wonder, then, that employees mention how unbearably hot the greenhouse becomes in the summer. They also said that, because of this, the greenhouse doors are often propped open in summer, and everyone minimizes their time in the greenhouse. It's a shame that such a well-equipped greenhouse can not be used in the summer, for residents that do not spend time outdoors. At this point, though, the greenhouse would need costly alterations to become functional year-round. Ideally, there should be either automatic temperature controlled, or manually opened vents near the base of the greenhouse, and at the top of the structure. In addition, the greenhouse should be covered with an opaque sun-block paint in summer (commonly used by greenhouse growers). Shade clothes inside the greenhouse will also partially block the sun, thereby further reducing the ambient temperature. As a last resort, forced air ventilation could be used, but in a

greenhouse of this size the fans would probably seem excessively noisy.(Author's personal experience)

3.6.3. Behavioural Patterns: Movement on the Site

Behavioural patterns are represented graphically in Appendix IV.i.B.(Site Conditions, Design Concerns). Referring to this drawing will help clarify the following summary.

The front road entrance to The Sherbrooke Community Centre is relatively close to the four-way stop at the junction of Acadia Drive and Fourteenth Street. The large, clear sign on site is important so drivers who are visiting Sherbrooke for the first time do not miss this entrance.

Since The Sherbrooke Centre is in a suburban area of Saskatoon, much of the traffic is vehicular, and the parking lot is more geared towards drivers than pedestrians leaving their parked cars, or for pedestrians who arrive to the Centre on foot. The author suspects that the wavy sidewalk that wends its way from Acadia Drive to the main building entrance, via the parking lot, is more heavily used in winter if the snow is too deep elsewhere, or by pedestrians that are entering The Sherbrooke Centre via Acadia Drive. Otherwise, people that are parking in the north part of the parking lot probably cut across directly to the front door, creating their own "desire lines".

For wheelchair users, the parking lot pavement offers a wider, more stable surface than the sidewalk on which to travel. (On one particularly beautiful day in late autumn, the author saw a resident in a motorized

wheelchair catching as much sun rays as he could before winter. He was in the south section of the parking lot, and was completely engrossed in his book. The author concluded that he was probably there, as opposed to somewhere more pleasant, either because there was nowhere else on site where the sun was more brilliant, or because the pavement offered a stable surface on which to park for an extended period, or because he was so involved with his book that he only wanted warmth and privacy.)

The vehicular access to the front entrance of the building seems good. There is an adequate turning radius for the 'handibuses', which are large vans designed for carrying individuals in wheelchairs. The main entrance also has an open portico outside, which provides overhead environmental protection.

Referring to the front 'site analysis' area, pedestrians can enter The Sherbrooke Community Centre through two doors. The author suspects most guests would choose the Main Entrance door, since it is most evident because of the portico. The Daycare entrance is also to the left inside this door, and the main reception area is to the right. This door is also the most wheelchair accessible of all doors, and 'handibus' drivers use this door to pick up and deliver wheelchair mobile individuals.

The greenhouse door is less accessible, (as mentioned in 3.6.2) and is locked in colder weather. This is probably to prevent people from entering from the outside, to avoid chilling the tender greenhouse-grown

and tropical plants. This door is not likely to be used as an entrance or exit to the building by wheelchair mobile people.

The next doorway from the building is accessible only by employees of Sherbrooke, since the bottom floor of the multi-level building is usually locked to prevent residents with Alzheimer's disease and dementia from wandering. This doorway leads into a narrow dead-end alley in which two trees have been planted. An occupational therapist mentioned that no one uses this area. The author perceives this space as presenting a hostile environment that is intimidating, or, at the least, not inviting, with tall walls enclosing a heavily-shaded space. Having said that, though, it is understandable that an attempt was made to utilize an otherwise 'dead' space. This might be a good place for ice sculptures in the winter to view both from above, and at eye level, or for a water fountain that has active water movement in summertime.

The next doorways to the south (moving to the right while facing the building) provide access to the multi-story building. These doorways are accessible only to employees, since the ground floor, and the floor above are accessible only by a coded exit system. The pathway that continues to the south (right) then proceeds, behind a locked gate, around the building, but the perimeter of the building is surrounded with a chain-link fence. The gate to this area was unlocked this summer, since the active garden program, 'adopt-a-box', was primarily situated in this area.

Another linear sidewalk leads from the alley at the southwest corner of the garden site to join up with a more substantial sidewalk near the entrance. This sidewalk is probably utilized either by drivers that have parked their cars immediately in front of the sidewalk, or by pedestrians that have arrived, or are leaving, by a Saskatoon Transit bus. (There is a sheltered bus stop on Acadia Drive in front of the apartment complex directly south of The Sherbrooke Community Centre.)

All of the participants in the Resident's Focus Group mentioned that they enjoy wheeling around outside, and especially in the large public park behind The Centre, which has long paved pathways. One participant has a manual wheelchair, so she requires considerable strength for this trip. (Something the author discovered when trying out a wheelchair) This access is excellent for both manual and electric wheelchairs, since the trip is long enough to provide more interest, and outdoor exercise. (See Appendix I.iii.A for resident's comments)

3.6.4. Soils

The soil in West College Park, where the site is located, forms part of the Sutherland clay base. This soil is a heavy clay, rich in nutrients, but very difficult to work, and subject to heaving and cracking with alternate freezing and thawing. The gummy nature of clay can create anaerobic, slow drying conditions when the soil is wet, which results in a difficult environment for plant roots. (Williams, 1997; author's personal experience)

Chapter 4. Design Recommendations

4.1. Conclusions: Synthesis of Kaplan's Theory, Literature Review, Focus Group Results and Site Analysis Observations

The synthesis of the focus group results, literature review findings, and site analysis form the basis for design in this project. The table on the following page summarizes the ideas from each of these key studies, and their specific application to design.

Key Elements	Literature Review Ideas	Focus Group Ideas	Site Analysis Observations
Being Away	<ul style="list-style-type: none"> - a threshold emphasizes transition. - visual screens: hedges or trellises. - comfortable seating, protection from wind and sun. 	<ul style="list-style-type: none"> - comfortable benches for socializing with families. - provide adequate shading. 	<ul style="list-style-type: none"> - visually screen surroundings. - use trellises to entice, and to announce" entrance to garden. - screened gazebo (insect protection)
Extent	<ul style="list-style-type: none"> - sense of "journey": focal points, a sequence of outdoor rooms, changes in elevation, and limiting views back along the path. 	<ul style="list-style-type: none"> - night lighting to extend usable time frame in the garden. 	<ul style="list-style-type: none"> - see the site as a series of rooms: including a public gathering space, an active gardening area, a private space.
Fascination	<ul style="list-style-type: none"> Vegetation: fragrances, colours, textures, edible plants, plants with seasonal visual interest. - provision for active gardening. - a range of canopy heights offer shelter for wildlife: include bird baths and feeders. - sun and shade, shadow and light - sound and sight of running water. - hard landscaping: e.g. rocks with varying colours and textures. 	<ul style="list-style-type: none"> - provision for active gardening. (water source, storage shed, etc.) - larger planting boxes. - hanging planter pots. - a patch of grass to run the wheelchair through. - hummingbird feeders, butterfly flowers. - the sound of running water. - wind chimes. 	<ul style="list-style-type: none"> - mature spruce on site offer verticality (walls), variations in sun and shade. - plantings, hard landscaping, and some grading is necessary.
Compatibility	<ul style="list-style-type: none"> Principles of Universal Design: - provision for a wide range of activities. - paths that loop back on each other for orientation. - central gazebo acts as visual orientation aid. - non-toxic, non-injurious plant material. - level, low-glare pathways. - gradual and slight grade changes. - raised arms on benches. - path widths accommodate wheelchairs; adequate space to maneuver around planter boxes. 	<ul style="list-style-type: none"> - ensure that space around planter beds is adequate for ease of movement. - access to both sides of the planter boxes. - wheelchair accessible picnic tables, with umbrellas (shade protection). - level ground surface. 	<ul style="list-style-type: none"> - no "retrofitting" necessary: Universal Design can form an integral part of the garden.

4.2. Conclusions: Specific Site Program Requirements Based on Findings

4.2.1. General Overview: Places and Spaces. (Something for Everyone).

- i. Public Areas:** Open area for planter boxes, gatherings, and play area for children.
- ii. Private Areas:** Enclosed seating area for privacy and quiet.
- iii. Active Gardening Area.**

4.2.2. Environmental Comfort

- i. Benches** in sun and shade for variety and choice.
- ii. Screened gazebo** for protection from environment and insects.
- iii. Little grade change** for ease of movement.
- iv. Additional plantings** will help to screen the site from noise, wind, and extremes in temperature.

4.2.3. Landscaping.

- i. Interest** - rocks, running water, various plant textures, scents, structures.
- ii. Comfort, Safety** - raised benches with armrests, raised planter boxes, Lighting for night use.
- iii. Practical Considerations** - Drinking fountains, storage shed.
- iv. Architectural definition and statement** - Arbors and trellises.

4.3. Design Development

The initial design concept was developed with input from the results of the site analysis, focus groups and literature review. The existing spruce trees on site provide walls which divide the site into rooms, as seen in the initial conceptual design sketch. (Appendix IV.i.D) The final design plan, as represented graphically in Appendix IV.ii.A, was

developed from this initial concept. The following is a summary of recommendations for components of the design.

4.4. Plant Care and Selection.

The focus group meeting with residents revealed that edible plants were preferred over plants that would be considered primarily ornamental. For this reason, many of the plants chosen for this site (Appendix III.i.) have either fruit or vegetative parts that can be consumed by individuals visiting the site. To a great extent, shrubs and trees have been chosen because of their durability in the landscape, and greater year round interest than perennials, which die down in the fall. Additionally, once in place, shrubs seldom need moving, if initially placed carefully, and never need lifting and dividing, as do perennials. They generally require nothing more than an annual pruning in the way of "maintenance", and, of course, the right environmental conditions (adequate nutrients, water, sunlight). (Author's personal experience)

Once the shrub beds are planted, the ground around the plants should be mulched with 4"-6" of post peelings. This will help conserve moisture, and will retard weed growth. Watering the plants more deeply, and less frequently, will not only encourage deeper root growth, which will result in more drought-tolerant plants less likely to be damaged over winter, but will also reduce excessive succulent growth, which would otherwise require more pruning time. (Williams, 1997)

Having said all this, some perennials have also been included in this garden plan because, in spite of their relatively high maintenance levels, (when compared to maintenance needs of shrubs), they provide short seasonal splashes of colour, and their flowers are usually more spectacular than those provided from shrubs. (Author's personal experience) In addition, perennial flowers can be lifted, divided, and used to densely fill in plantings in the landscape, and so are of great architectural value, lending to the landscape structure and texture.

Herbs for this prairie growing area are exclusively herbaceous (annuals and perennials). They provide wonderful textures, beautiful leaves, and structures, and, of course, fragrance, and taste. (Author's personal experience) They are invaluable for all these reasons in any garden, but especially in this garden where the intention behind the design is to provide a place for healing.

4.5. Plants to Avoid.

In the literature review, a reference was made about safety concerns in the garden site, with respect to plant material. People with dementia and Alzheimer's will often ingest plant material, so, from this perspective, plantings have to be carefully considered. Also, there will likely be children in the garden, who could be harmed by inadvertently picking leaves off plants. In keeping with Universal Design principles, these plants should really be excluded from all public places to avoid potential

injury to anyone. A summary of plants which are toxic, and, or contain sap which will be irritating to the skin are included in Appendix III.ii.

4.6. Soil Improvement.

As mentioned previously, (3.6.4.), the soil in West College Park is comprised of heavy clay. This soil should be amended in an attempt to alter its composition, otherwise there will be problems with heaving, which can result in irregularities in the flooring. For the plants, root damage through anaerobic conditions and frost heaving can occur.

Although the addition of organic matter, such as peat moss, or well-rotted manure will improve the porosity and friability of the soil somewhat, clay is difficult to amend, ie it takes a great deal of material to improve the soil. Ideally, a minimum of 4"-6" of good topsoil is required for lawn areas, and 8"-10" of good soil for planting shrub and perennial beds. To prepare the soil for planting, then, either a combination of topsoil and organic matter should be imported onto the site, or organic matter should be worked into the existing soil.(author's personal experience)

4.7. Grading

All pathways, and paved areas are designed with a cross-slope of no more than one percent. The steepest portion of the pathway has a five percent grade, which is on the west side of the gazebo. (Refer to the grading plan, Appendix IV.ii.A.c.)

The garden site is, presently, quite level. Soil cut from the pond area could be used to form contours, as indicated on the grading plan.

Berming some of the areas would give the illusion of greater depth to the site, and variety in the topography would enhance the sense of journey through the garden.

4.8. Hard Landscape Materials

4.8.1. Flooring Material

As mentioned previously (2.8), changes in flooring patterns can cause tripping due to grade change perceptions by individuals with Alzheimer's Disease. For this reason, the flooring on site should be reasonably consistent. Concrete paving stones could be used in bench areas, but the rest of the site should be paved with a low glare material which will be resilient and easy to maintain. Flooring must be firm, stable and slip-resistant. (Canadian Heritage, 1994)

Materials for flooring, in decreasing order of accessibility, include the following: (Canadian Heritage, pp.12-13, 1994)

Concrete: Concrete should be broom finished to provide a surface that is not slippery when wet. The path should drain water off the surface so it does not stand or freeze.

Asphalt: Asphalt can be finished with an epoxy coated with sand to give a more natural appearance, and to reduce softening problems in sunny locations.

Crushed Aggregate: Screenings of 6mm or finer in size can be used on a well-compacted base. This material could be used on this site in the planter box area, to reduce the cost of flooring.

Wood Decking: This material is present on site where the path crosses water. (See detail IV.iii) Joints between planks must be less than 13 mm wide, and the planks must be perpendicular to the direction of travel.

Wood Chips: Wood chips are used as mulching around shrubs and trees on site. Small gauge, well compacted chips laid around the apple and plum trees will provide a stable surface for electric wheelchairs.

4.8.2. Rocks.

Large field stones have been included in this design to provide textural interest, and a children's play area. A water feature is formed in the pond, with water cascading down the surface of the rocks.

4.9. Detail Drawing Notes

Refer to Appendix IV.iii.

IV.iii.A. Sectional Detail of Gazebo/Water Area.

The gazebo is screened to keep mosquitoes out. The water pond is a consistent 0.6 m depth, measured from the pond liner at the bottom, to the base of the capstone at the top. The flooring is graded at a consistent one percent, with the high point in the centre of the gazebo.

IV.iii.B. Special Gazebo Details.

a. Spaghetti Western Saloon Door. This gazebo door is designed to be opened by a wheelchair pushing against the wide kick plate. The "double-action" springs return the door to a closed position, whether an

individual is leaving, or entering, the gazebo. Rubber weather stripping seals the door edge to maintain an insect free zone in the gazebo.

b. Pond Edge Detail. The pond is laid with pond liner padding, and pond liner, then fieldstones, or quarried limestone are dry wall stacked. The liner is held in place with a capstone, which forms the curb. The base of the pond is covered with river-washed rock.

c. Pump Area Detail. The pond pump is concealed underneath the pathway on the east side of the gazebo. Wooden decking is used in this portion of the pathway, to allow easy access to the pump. The water is circulated back to the origin, where it cascades down rocks to enter the pond.

iii.C. Construction Detail: Arbor. Aviation cable forms trellising in a sunburst pattern arbor. More cable can be added, or taken away, depending on the robust nature of the plants using the trellis for support. Eye bolts are used to tighten the cables, and turnbuckles can be added to provide additional tension.

iii.E. Construction Detail: Planter Boxes. The boxes on site can be moved to optimum growing areas, ie into the shade or the sun. They hold 0.6 cubic metres of growing media. As an alternative to this, a wheeled cart could be used to move planter boxes without wheels. This, however, would make the residents more dependent on staff for box placement.

4.10. Post - Occupancy Notes: The Importance of Maintenance

Although the careful design and installation of a garden are important, the presence or absence of a maintenance program will also determine whether the site is used and appreciated, or, in worst cases, vandalized and eventually abandoned. (author's experience) Benches, water fountains, and all built structures should be thoroughly inspected often to minimize the risk of injury to all who use the site. This site has a heavy clay base, so wherever wheelchairs are being used (all pathways and open areas) the "flooring" should be inspected in the spring in order to repair damage incurred through frost heaving. Paving should also be watched through the summer for wear, tear, and irregularities. The area around the water is especially important. Here the curbs must be maintained to avoid treacherous conditions. A level surface is extremely important for the safety of all, but especially so for those who depend on wheelchairs for mobility. (The author witnessed a resident in a wheelchair tipping over sideways onto the sidewalk while going across one of the ramps that eases the sidewalk to the pavement level. The author wonders if this happened because of a visual "white-out", with the resident unable to discern a grade change on the light coloured concrete. The employees also mentioned that the sidewalks around the building are "just awful" in terms of wheelchair maneuverability.)

A vigilant maintenance program is also important when plantings are involved, as nasty and persistent exotic perennial weeds can eventually choke out all but the most aggressive horticultural plants. Native plants have even less chance of survival, since they never did have a chance to adapt to these recent arrivals. Trees and shrubs need an annual pruning, both to remove damaged and diseased branches, which protects the tree from further damage and infection, and to gently coax the plant into an aesthetic and interesting form.

Chapter 5. Conclusions

As the population in Canada⁵ ages, the importance of good quality care and good quality in the environment of nursing homes becomes ever more critical. Many improvements have been made in the architectural statements that nursing homes project. The buildings of the 1950's and 1960's were stark and lacked any sense that the residents were even thought of in the original plan. Many nursing homes being built now (including The Sherbrooke Community Centre) offer a much more positive outlook. There has been a dramatic change in the philosophy of administrators and workers in some nursing homes which is, in this author's opinion, being picked up too slowly by architects and landscape architects. (The evidence, from personal observation and listening to comments by residents and employees is, in part, discussed in the text)

Though fund raising and volunteer recruitment were beyond the scope of this practicum, and could, indeed, form the basis for another practicum, the author feels that they are important for the implementation and installation of a "Restorative Garden" at The Sherbrooke Community Centre. The final plan for this practicum is extravagant in respect to hard landscaping materials (eg. The large water pond area, and recommended paving surfaces). The author sees this as the "best - case scenario", ie what the garden could potentially be, if the funding were available. This, of course, is not written in stone. Some of the flooring, for example,

could be replaced, if installed properly, with crusher dust, instead of the more expensive paving stones, concrete, or asphalt. The extensive water pond could also be replaced instead with a small bird-bath fountain, especially since The Sherbrooke Community Centre is presently installing a large water fountain near the front entrance.

The “Eden Alternative” is the guiding philosophy behind the administration of The Sherbrooke Community Centre. This tenet, which views the nursing home environment as a human habitat, is perfectly in sync with the Kaplan’s theories about nature. The site offers potential for the garden, both with respect to size, and great variability for different “rooms”, and many activities. This serendipity makes Sherbrooke a perfect site in which a restorative garden could be built.

⁵ This is true of many other countries as well, but the focus of this practicum is for a site in Canada.

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Appendices

Appendix I. Focus Groups

I.i. Recruitment.

I.i.A. Blue Memo Message

Garden Proposal. What would you like to see in a garden at Sherbrooke if it were to be built? If you would like to discuss your ideas, I am looking for volunteers to participate in focus group meetings, which will last approximately one hour, and will be held in January. Separate groups will include residents, family members of residents, staff, and administration. If you are interested, please call Jocelyn at 975-9669, or sign the poster on one of the bulletin boards.

I.i.B. Batch Letter.**Garden Proposal**

Would you be interested in participating in a meeting to discuss ideas for a garden at Sherbrooke? I am a graduate student in Landscape Architecture, and am preparing a proposal for a garden at Sherbrooke as part of my thesis. I am interested in your ideas, so I can prepare a plan for a garden at Sherbrooke that involves your input, and is relevant to you.

I am planning to have separate group meetings with 6-12 individuals, lasting approximately one hour, and taking place in January. Each group would include either staff and volunteers, residents, family members of residents, or administration. If you are interested in participating, or have further questions about the meetings, please phone:

Jocelyn Young: 975-9669. Thank-you for your interest.

I.i.C. Informant Letter.

I.i.C.a. Informant Letter to focus group participants (Residents)

Thank-you for agreeing to participate in a focus group to discuss ideas for a garden for Sherbrooke. The meeting you will attend will be held in the **Cafeteria side room, Tuesday, January 18, at 4:00 p.m.** The following summary is for your information. If you have any questions or concerns, please call me at 374-8392.

I am a student working on my thesis in Landscape Architecture through the University of Manitoba. Sherbrooke has kindly provided me with a site which I am using to design a garden. Once my design proposal is completed, Sherbrooke can decide whether or not the design will be used to build a garden.

In order for me to prepare a design proposal for a garden that would be used and appreciated, I want to know what you would like to see in the garden. I have set up meetings with separate groups of individuals at Sherbrooke. Each group will include people with similar backgrounds, comprised of the following:

- (1). staff and volunteers
- (2). Residents

The focus group meetings should last approximately one hour. I have prepared a series of questions, which will help direct the conversation. The results of the discussion will be summarized in my thesis, which will be published by the University of Manitoba. The ideas which arise will be used to help me design a garden which you would like to visit.

The meetings will be audio taped. My thesis committee and I will be the only ones who will listen to the tapes. Once the thesis is published, the tapes will be destroyed. In the thesis, your name will not appear, only the length of time you have resided at Sherbrooke.

This may sound rather serious, but once we begin the meeting, I think we will have a fun and lively conversation. Thank-you again for offering to participate.

Sincerely

Jocelyn Young

**I.i.C.b. Informant Letter to focus group participants
(Employees)**

Thank-you for agreeing to participate in a focus group to discuss ideas for a garden for Sherbrooke. The meeting you will attend will be held in the **Cafeteria side room, Thursday, January 20, at 11:00 a.m.** The following summary is for your information. If you have any questions or concerns, please call me at 374-8392.

I am a student working on my thesis in Landscape Architecture through the University of Manitoba. Sherbrooke has kindly provided me with a site which I am using to design a garden. Once my design proposal is completed, Sherbrooke can decide whether or not the design will be used to build a garden.

In order for me to prepare a design proposal for a garden that would be used and appreciated, I want to know what you would like to see in the garden. I have set up meetings with separate groups of individuals at Sherbrooke. Each group will include people with similar backgrounds, comprised of the following:

- (1). Staff and Volunteers
- (2). Residents

The focus group meetings should last approximately one hour. I have prepared a series of questions, which will help direct the conversation. The results of the discussion will be summarized in my thesis, which will be published by the University of Manitoba. The ideas which arise will be used to help me design a garden which you would like to visit.

The meetings will be audio taped. My thesis committee and I will be the only ones who will listen to the tapes. Once the thesis is published, the tapes will be destroyed. In the thesis, your name will not appear, only what you do, and how long you have worked at Sherbrooke.

This may sound rather serious, but once we begin the meeting, I think we will have a fun and lively conversation. Thank-you again for offering to participate.

Sincerely

Jocelyn Young

I.ii. Focus Group Meetings

I.ii.A. Focus Group Questions.

I.ii.A.a. Questions for Residents.

Focus Group Meeting For Residents - Garden Proposal.

1. Please tell us how long you have lived at Sherbrooke.
2. Do you presently use the outdoors near Sherbrooke in the summer? If so, how often, where do you go, and what do you do?
3. If you can think of anything you would like to see changed, or added to, in the outdoor areas, what are they?
4. If you think back to gardens that you have been to in the past, what are some of the things that you enjoyed most about them?
5. Tell us about anything you would like to see included in a garden at Sherbrooke that you feel would make it an enjoyable place.
6. What activities would you like to see happening in the garden?
7. What furnishings would you like to see in the garden? "Furnishings" includes everything in the garden that is not growing; for example, lamps and benches.
8. What plants would you like to see included in the garden? Would you like grass, shrubs, trees, vegetables, flowers? Can you think of any plants that especially appeal to you?
9. Of all the things we have discussed, which do you consider to be the most important for making the garden a place you would want to visit?
10. Do you have any final thoughts or comments?

I.ii.A.b. Questions for Employees.

Focus Group Meeting For Sherbrooke Employees - Garden Proposal.

1. Please tell us how long you have worked at Sherbrooke, and what your work involves.
2. Do you presently use the outdoors near Sherbrooke in the summer? If so, how often, where do you go, and what do you do?
3. If you can think of anything you would like to see changed, or added to, in the outdoor areas, what are they?
4. If you think back to gardens that you have been to in the past, what are some of the things that you enjoyed most about them?
5. Tell us about anything you would like to see included in a garden at Sherbrooke that you feel would make it an enjoyable place.
6. What activities would you like to see happening in the garden?
7. What furnishings would you like to see in the garden? “Furnishings” includes everything in the garden that is not growing; for example, lamps and benches.
8. What plants would you like to see included in the garden? Would you like grass, shrubs, trees, vegetables, flowers? Can you think of any plants that especially appeal to you?
9. Of all the things we have discussed, which do you consider to be the most important for making the garden a place you would want to visit?
10. Do you have any final thoughts or comments?

I.iii. Results: Audio - Tape Transcriptions.

I.iii.A. Focus Group Meeting, transcribed from audio-tape: Residents

1. Please tell us how long you have lived at Sherbrooke.

1. I've been here 10 years on 'day care', and 2 years permanently. I used to have a garden every year where I lived.

Was it a vegetable garden?

Yes, a vegetable garden. Corn, peas, carrots, onions.

How long have you been here?

2. I've been here since April of '95, so that would be 5 years in April.

Do you garden here?

Yes, in the raised boxes. They are too small.

Yes, I noticed that. They must dry out quickly.

Yes, they do.

And how long have you lived here?

3. 10 and a half years.

Have you lived in the tower during that time?

Yes.

2. So you have all lived here long enough to have a good idea of what there is to do outside in the summer. Do you presently use the outdoors near Sherbrooke in the summer? If so, how often, where do you go, and what do you do?

1. Every day I go around outside, I check on my boxes, and go out to the park.

Is it easy to get into the park with a wheelchair?

Yes.

Is the whole park paved, or just the first enclosed area?

2. The whole path is paved, all the way to College Park School.

Holy Smokes. That's a large park, too.

I am outside every day too, starting in spring.

Last summer was quite cool. Were you out every day then, too?

Yes, every day.

3. I am out every day too.

1. I have to go outside to check my flower boxes, and weed the beds.

Are the beds raised?

3. Yes, the boxes are put up on cinder bricks.

3. If you can think of anything you would like to see changed, or added to, in the outdoor areas, what are they?

1. I would like more garden than last year.

2. Bigger planter boxes, and wider.

3. If there is going to be a vegetable garden, I was thinking I would like to see a fountain

2. Yes, I agree

So do you mean a water fountain, or a pond, or

3. Just water running down an object.

Yes, water is nice to have, just the sound of it is

2. -soothing for residents that have mental challenge, like first floor for an example.

4. If you think back to gardens that you have been to in the past, what are some of the things that you enjoyed most about them?

3. - Have you ever been to Butchart Gardens?

Oh yeah, I was there a long time ago when I was a kid.

3. - gorgeous.

So is it the flowers or the way the place is designed that you like?

3. - the variety, the flowers, they keep it up every season. Ernie said that he wanted a vegetable garden, so I asked him if he would go with me to this meeting, but he said no.

2. I just love the fresh vegetables.

So its the vegetables you would want to have, or...

2. I would rather the vegetables because people eat them.

So rather that than the flowers, and other plants

2. yes.

3. I was told that they have roses planted outside. Have you seen this place in summer?

I have seen the plan, and I saw hardy Morden roses near the parking lot this fall.

1. You can't eat roses. Corn, peas, blueberries, raspberry bushes.

So you would like a backyard fruit and vegetable garden.

1. I would like fresh fruits.

2. Just that you couldn't put them along the parking lot, because if you put them along the parking lot, they will be gone. Maybe they should be near the patios, the fenced in green grass areas, where kids can't see it.

5. Tell us about anything you would like to see included in a garden at Sherbrooke that you feel would make it an enjoyable place.

3. Usually in a vegetable garden there is no fountain.

But this garden doesn't just have to be one thing. I think there's enough room there that there could be a vegetable garden and there could be an area there for a water feature and some flowers and things like that.

2. The water fountain, like _ said.

1. Raspberries, and water fountain, if we could get them, and not too deep - might fall in them with the wheelchairs.

3. Is this garden wheelchair accessible?

Oh yes, definitely.

2. You would have to make it wheelchair accessible.
3. Yes, I know it has to be, but it doesn't happen, you know?
1. Last year I got stuck in the dirt, because it was so muddy.

If you had vegetable gardens, you would have to have raised beds, and the ground would have to be paved or concrete or something like that, so you could easily get to it.

6. What activities would you like to see happening in the garden?

1. Weeding.

That would be happening for sure - they have a way of coming up.

Can you think of anything besides gardening?

2. gardening
3. Yes, that's it.

7. What furnishings would you like to see in the garden?

"Furnishings" includes everything in the garden that is not growing; for example, lamps and benches.

2. You put exactly what I was going to say - lamps and benches. Cause if we have family in the summertime, it's nice to sit outside and enjoy the fresh air, instead of being stuck in the house, and in the building all night, and all the time. Except for the winter time - that's a different story.

Is that park lit at night?

2. Yes.

8. What plants would you like to see included in the garden? Would you like grass, shrubs, trees, vegetables, flowers? Can you think of any plants that especially appeal to you?

2. I think definitely grass without the potholes.

1. The girl working in the house 10 brought flowers and had them growing everywhere.

9. Of all the things we have discussed, which do you consider to be the most important for making the garden a place you would want to visit?

2. Number seven.

The furnishings?

2. Yes.

So, lamps and benches?

2. Yes.

Okay

1. So I can get in there with my wheelchair.

3. Water fountains.

10. Do you have any final thoughts or comments?

1. So why is this garden not being built?

Once the garden is designed I'll present the design to you.

3. Garden candles. They look beautiful and keep the mosquitoes away.

When you think of a park, do you like wide open spaces, or do you like enclosed spaces as well.

3. Our wheelchairs take a lot of room.

2. Electric ones especially.

But do you prefer it a little...for there to be enclosed areas?

1. There has to be room to go down one side of the box, then around the box, and plant up the other side.

3. That's very important. So no matter what the shape of the planter, you can drive down both sides and reach into the planter.

**I.iii.B. Focus Group Meeting, Transcribed from audio-tape:
Employees.**

1. Please tell us your position, and how long you have been associated with Sherbrooke.

1. I've worked at Sherbrooke six years, I started in housekeeping, went to caretaking, and am now a special care worker in the village.
2. I work in the Veteran's village, and have been employed at Sherbrooke a little over two years as a daily living assistant.
3. I work with the Veteran's village as well. I have been with them for nine years now, and I have three jobs, sort of...I work in recreation, and also support staff and occupational therapy, and physiotherapy.
4. I have been with Sherbrooke for three years, and I work in the O.T. department as an assistant.
5. I am an Occupational Therapist here, and I've been here for about five years.

2. Do you presently use the outdoors near Sherbrooke in the summer? If so, how often, where do you go, and what do you do?

1. I used to go out to the gazebo, but it's not there anymore. I would use it for coffeekbreaks. Also the benches out by the golf green - I go there for coffee and lunch.
2. I haven't had the opportunity to use the outdoors at Sherbrooke, because we just moved over from the other site in October, so ask me next summer.
3. The same goes for me. We just moved over, but at our other facility we certainly did outdoor resident gardening, and used the yard for activities for residents. Our residents like to spend lots of time outside, just sitting and enjoying the fresh air, watching traffic - they go outside a lot. The staff did too - We had a deck there; a patio and we ate our lunches out there a lot in the gazebo.
4. We have raised flower beds and raised beds where people planted flowers, vegetables, that sort of thing, and that was basically run through the O.T. department, and we would match a resident with a staff person, and the staff person would help that resident plant and hopefully maintain. And we also had a field in the fenced area, and we planted wheat and oats

and corn...things like that. We also had a bed in the front with carrots, cucumbers and sunflowers.

Were all those planted in raised beds?

No, the beds just outside the greenhouse, and the area between the greenhouse and the tower, we dug all that up and that was planted with crops or with vegetables, and we had a perennial bed there as well. That's all gone now with the new construction. There were also plantings around the greenhouse - bushes and strawberries -

Part of that was that was a resident's garden - that the resident's families were looking after their plot or...The field at the back was planted by the O.T. department under the supervision of some of the residents, and that's quite a large square of land.

Are the families very much involved with the gardening?

Some families. Some - It was a nice time, you know... it would give a purpose to the visit. They would sit by their box, and have a visit there and water. We would have garbage pails with water and watering cans so that they could water as they felt it needed.

3. Okay, I know two of you haven't been here that long, but if you can think of anything you would like to see changed, or added to, in the outdoor areas, what are they?

3. Well I did the gardening program through occupational services at our old facility as well , and we had raised beds as well as ground gardening, and we certainly found for the last couple of years that the ground gardening...the work was done by staff and volunteers, 'cause the residents couldn't and they certainly enjoyed the raised beds. We did our program a little bit different. Our gardeners met every Thursday morning and we had a group and we would go out and garden together - the volunteers and one or two staff and the residents were involved. So it was also social, because it was a group together, and then we had coffee on the deck afterwards. And we gardened all year long as well - Now we certainly are enjoying having a greenhouse to utilize - before we just had to use a room where we had a couple of carts with grow lights. We would bring our geranium slips in and keep them over the winter, and multiply them and things like that - Sometimes a herb garden indoors in winter as well, but for outdoors I really don't think our area - like our clients do want to garden and outside their houses they would like raised boxes on each patio area, so that they have that there, and they could watch it and mind it, etc. and we also have a lot of residents and families that didn't participate in the gardening, but certainly enjoyed to go out and visit our garden. They really liked that, and

the staff liked to go and just wander just to see what was growing, and how they had changed from year to year - that's what I used to like too.

Different things they would try, and would sit down and organize as a group - what should we try this year for climbing plants or whatever on trellises - Started our own bedding plants etc., But they do some of that in their area , but a bigger garden is the type of thing you would visit more, too. So I think both are still required.

Yes, I agree with that too - cause there are so many areas around the houses now, little nooks and crannies, and it doesn't add up to a huge amount of space, I mean altogether it does, but just little pockets here and there...

And that's what they would like to have some ownership as well in their own little areas of land, and I guess the difference is that you guys sort of individualize that this is your space and this is who is helping you, and we did it as a group.

5. Yes, you had smaller numbers, that you could do that.

Yes, and then it becomes social as well.

Do you think there would be room, or enough interest for boxes, raised beds both around the houses and out in a garden like this?

5. Well, one of the questions we had, we were talking about it yesterday and perhaps Brenda could answer, because you had a very nice garden last year - For the houses and their decks do you think one box per resident, or a big long, all the way around the outside, and people would have a spot, or did you find it was just more of a communal garden and everybody went out and watched, or...

1. Yes, most of the people liked the flowers, and would keep an eye on the pots, and let me know when they needed watering. It was a garden for ten people - they all loved the flowers that I brought in. I think four boxes, with one thing in each box. If they wanted tomatoes, for example.

4. Yes, and some people, like we find in the tower, with one of our residents I know for sure, she doesn't like her box to be on the balcony in the tower. She wants it to be out because she likes to go out rather than...and she likes to get off her floor, and she is very mobile and I think because of sunlight as well some of the...like the third floor and the fourth floor on that side don't - she doesn't feel they get enough sunlight, so she always liked to have her's out where the golf green was in the courtyard area., and the same as one fellow on the third floor- he likes his to be out

too. And we had a raised bed for him in front of the old building, and it was quite large, and that worked really well for him - he had to have help.

4. If you think back to gardens that you have been to in the past, what are some of the things that you enjoyed most about them?

1. I like flowers, lots of flowers, perennials, annuals all kinds clumped together - I like flowers - colour, everything.

2. -Different heights, lots of colour.

4. I think benches, too - for sitting in shade if possible - it will be nice out there for shade because otherwise the courtyard was just...you bake out there, it was so hot.

Yeah, it will be sheltered from the wind and the sun with the spruce trees.

2. What is the sidewalk or the wheelchair accessibility to this area?

Well it will be designed for wheelchair accessibility - that will be one of the primary design issues - it has to be totally accessible. So there will be paving, or recommended paving anyway, and it is going to be as accessible as possible.

2. So will there be strips of four or five feet wide, and some paving or sidewalk in between?

Oh you mean for the garden area itself?

Yes.

Oh I see. Well I haven't started the design yet, but I would - one of the things I am thinking of is having the raised beds on wheels, so that you could have an area where you could have a social gathering, and you could push the plants to the side and have a social gathering, and then move the planter boxes back, in place. And also areas where you could have more permanent raised beds, but they would have to have paving in between them, or a hard surface anyway for wheelchairs, and they wouldn't be able to be all that wide either - 3 feet maybe, and also have access to both sides - and actually that's an issue that the residents brought up too, that you should have access to both sides.

3. Watch the corners between them, too..

Yes, I have all the codes for that. I've never been in a wheelchair myself so I don't know.

4. We'll lend you one..

It's probably a good idea, I was thinking about that, you know, because, I mean how am I to know the codes...

5. Come down to O.T. and we will lend you a wheelchair and you can toodle around.

Do you find that the codes are very good, or are they...

4. I don't think they were written by someone who is in a wheelchair, and has to actually use one...

2. Look at the sidewalks around the place.

3. Yeah, they are horrible.

5. And the door to the chapel, and some of the doors into the houses even.

4. Chapel's a really bad one.

5. And there are different sized chairs as well. Some people have raised footrests that extend longer, and take up more space.

3. Yes, and this chair will fit through a minimum door space, but only at a 90° angle, yeah, so you also have to have room to...yeah, think of the tub rooms.

2. That is a nightmare. You can't get a wheelchair in there with the tub chair sitting there, because the door is in the way, there is no space for the door to open. It's just like I say - It's a nightmare.

Accessibility is a major issue, you know, in my mind it will have to be, it has to be fully accessible. Well that will be interesting to wheel around in a wheelchair - it will be quite an enlightening experience.

5. Yeah, I think if you tried going into the chapel to see how much turning room you need, and you could even measure out what the codes are and mark it on the floor, like if you went into the rec. centre, and used chairs to mark the areas, and see if you could maneuver through with the codes as they are.

Yeah, that's a good idea - I'll do that then.

5. Yeah, you are welcome to - we usually have a few wheelchairs sitting around that you could borrow...

5. Different sizes.

4. Yes, different sizes too - Reclining wheelchairs with raised footrests - a Broda - push a Broda through.

Okay, that's a good idea. .

5. Tell us about anything you would like to see included in a garden at Sherbrooke that you feel would make it an enjoyable place.

3. -Running water in a little fountain, or something., that would really make it a nice place for the residents. And it would be easier for us to maintain than a garden pond with little fishes or something.

2. -Hummingbird feeders would be nice.

1. -Yes, bird feeders would be a good idea.

2. -Or butterfly flowers.

-Yes, that's what Colleen was mentioning earlier, in fact she lent me a book on butterfly gardens.

3. -Somewhere we saw a fountain that didn't actually have a pool of water in it, the water just kept circulating through it, and it ran over rocks - it gives you that running water sound.

Yes, then you would have the sound of water, which is what you want.

Yes, and hopefully with running water, you could attract birds.

5. -Yes and you could have bird baths too.

4. We have an arbor out there, but it doesn't give enough shade. Because of the construction last year we had to move all of our beds out into the area in front of first floor in front of the tower, and that's a locked unit, and it's fenced in and locked, and residents found it very, very hot out there. There was no shade to kind of get away -

5. Yeah, it got the afternoon sun.

2. -too bad we couldn't use something portable - I saw something at Costco last year - they are like a tent, only just the top part, and then they have the posts to hold it up.

3. Yes, some type of shelter where they could be fully protected from the sun. Anything, but not so open as what they have out there now.

Is it open slats?

4. No, it is 4" by 4" posts, but way too open.

Yeah, the environmental protection...

5. -adds to the appeal if they could enjoy the fresh air, and to have shade at the same time.

4. -The spruce trees could provide some shade, but even so, that isn't overhead shade.

2. -How about a wheelchair port, with room to park under shady protection for wheelchairs.

3. -Wheel in there, with benches, and...

4. -another thing that residents really like are the hanging pots - we had quite a few hanging pots last year - the only problem was getting them watered - they have to be at a level that people could water them.

2. -so inside the port, you could have hanging plants at a nice low level.

-Okay, that sounds good - like you say they would dry out quickly, so you would have to have quick and easy access to water.

1. -windchimes.

3. -Sometimes they can be overwhelming, just little ones would be better, because that will be open to the northwest, won't it?

4. -You could make it into a grape arbor, with grapes growing up the trellis.

5. -Oh, yeah, great idea - we could make wine.

1. -I know a few residents that would like that.

-Yeah, you could have a grape harvest

6. What activities would you like to see happening in the garden?

4. -there was a golf green, but I don't think it was really used.

3. -outdoor shuffleboard, or horseshoes? Although that would be a little more difficult from a wheelchair.

5. -For some people, like those in the bowling league it would be okay if they were interested in that kind of thing but...

4. -yeah, but for shuffleboard, you would need a very level surface of certain measurements.

5. -something that would integrate different departments and age groups.

2. -I was going to suggest croquet, but that is even harder

3. -Yeah, but that might be good for the kids.

2. -Maybe for the visiting kids, if they were 10 or 11 - for the daycare kids, that would be too much for them.

1. -Unless they could do lawn bowling - or boccé

3. -that would be a lot harder to maintain - the greens need a lot of work.

1. -We just play on the grass at home, it's okay.

7. What furnishings would you like to see in the garden?

"Furnishings" includes everything in the garden that is not growing; for example, lamps and benches.

1. -tables , picnic tables with umbrellas would be nice, and it would give a bit of shade, too.

5. -That could walk, though.

4. -Like the table at the ice cream shop, it would have to be anchored well.

2. -We could have the wooden ones.

3. -Ones that are wheelchair accessible.

2. -Just have the table without the benches on them.

3. -and make sure that the wheelchairs could fit underneath.

4. -we mentioned a fountain before.

8. What plants would you like to see included in the garden? Would you like grass, shrubs, trees, vegetables, flowers? Can you think of any plants that especially appeal to you?

5. -We got a lot of positives about the sunflowers. People really enjoyed them.

4. -I like roses.

3. -Are we getting mostly perennials here, or...

2. -a variety of everything would be good.

1. -perennials, and a few annuals, so that some keep coming back, but the annuals would give you change every year. If it were just annuals, that would be a big planting job every year., and it depends who is maintaining it every year too.

3. -Take some of the shrubs from around the building - there are too many - they are really packed in.

4. -You could have a rose bed.

5. -A few years and it's going to be a jungle out there.

3. -Yes, it looks really packed to me.

2. -Ferns are always nice but I don't know how they would do.

3. -you would have to be careful with toxic plants.

9. Of all the things we have discussed, which do you consider to be the most important for making the garden a place you would want to visit?

5. -benches.

4. -accessible.

10. Do you have any final thoughts or comments?

-I wish the snow would go away.

-For your raised beds, what are you making them of - you were talking about making them on wheels, or some of them anyway. What is your construction of those, or any ideas...

I have to work on that, yet - you mean the materials for it?

Yes, like we are looking at getting some made for patios on the houses and etc. as well, so I was curious about that.

-The workshop I went to - they discouraged you from using cedar, even though cedar is very durable, but if a person gets a sliver from it they are sometimes very allergic, so that is the one big thing I learned from that workshop.

-so you use pine instead, or something like that, or what would you use?

I think she mentioned pine and I can't remember what else, but you have to be careful of treated lumber as well because there's creosote or ...what's the other thing that's in it? I can't remember.

So what are yours made of here, so far - are they 2x2's?

-I think they are just 2x2's, yeah..

-We were talking about that this morning, and 2 feet seemed a little too short, and 2 feet wide sounded good, and about 5 feet long.

-Depends on where they were going to be put.

-But height wise we were looking 2 feet was too short - 2 and a half even seemed too much., so we thought 2 feet four inches and that's about where you are, because you drop into the soil yet, and have to be able to reach it. so 2 x 2's?

-I think so.

-How about concrete blocks?

Well , they work pretty good.

-We used those to raise things.

-And you wouldn't have to fill the boxes with soil.

-you wouldn't fill the beds all the way to the bottom anyway.

-of course you could build a false bottom.

-I think it also depends on how many you were making on the mobility you want on them too. We used the concrete blocks because we had to take the beds from outside to bring them in, and move them up to the tower, so we used the concrete blocks in order to have them at that half - decent height.

-An interesting job. Full of soil.

-And you are in a house in the village, and you had raised boxes built last year already?

-No, I just brought some containers from home that were planted.

-How would you like that - if they built a nice five foot long by two feet wide raised bed.

-Yeah, they probably wouldn't dry out as fast as the plastic, and smaller planter boxes.

-Your garden was the envy of ...

-It was?

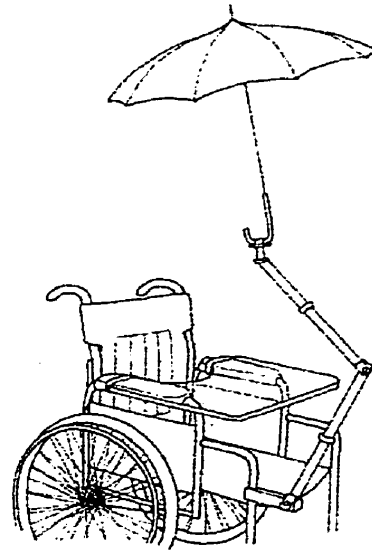
Yeah - "How come they have it and we don't?" We heard about it.

-My mom has a greenhouse - I get flowers from her.

The meeting is concluded.

Appendix II. Universal Design

II.i. Environmental Comfort (Special Features Found in the Literature)



▲ A wheelchair support arm can hold an umbrella to protect you from strong sun.

a. Wheelchair Umbrella (Yeomans, 1992: 19)

Figure 240-11. Handrailing cross sections. The cross section of a handrailing should be designed to allow a firm, prehensile grasp.

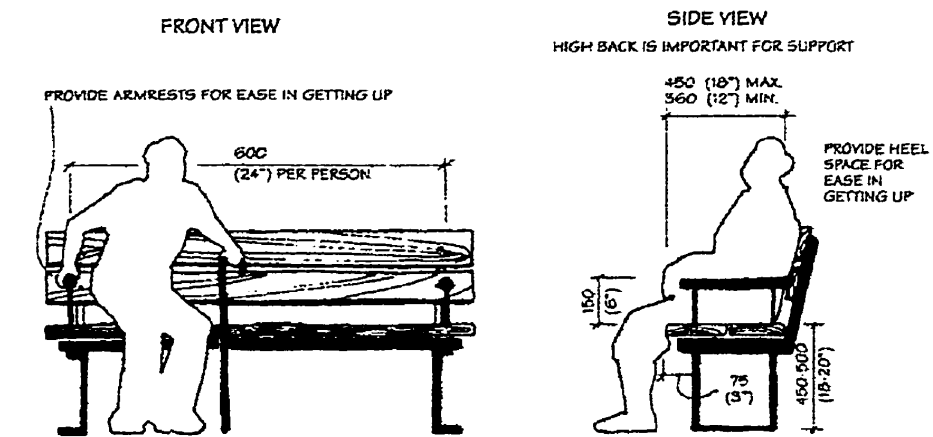
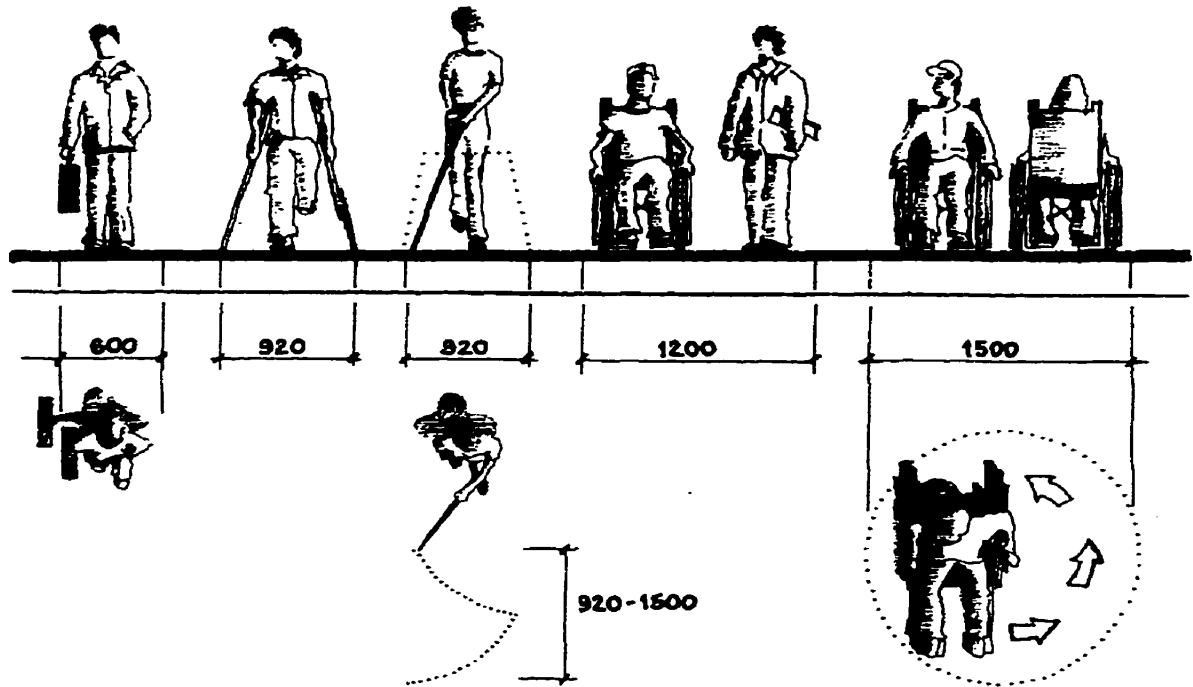


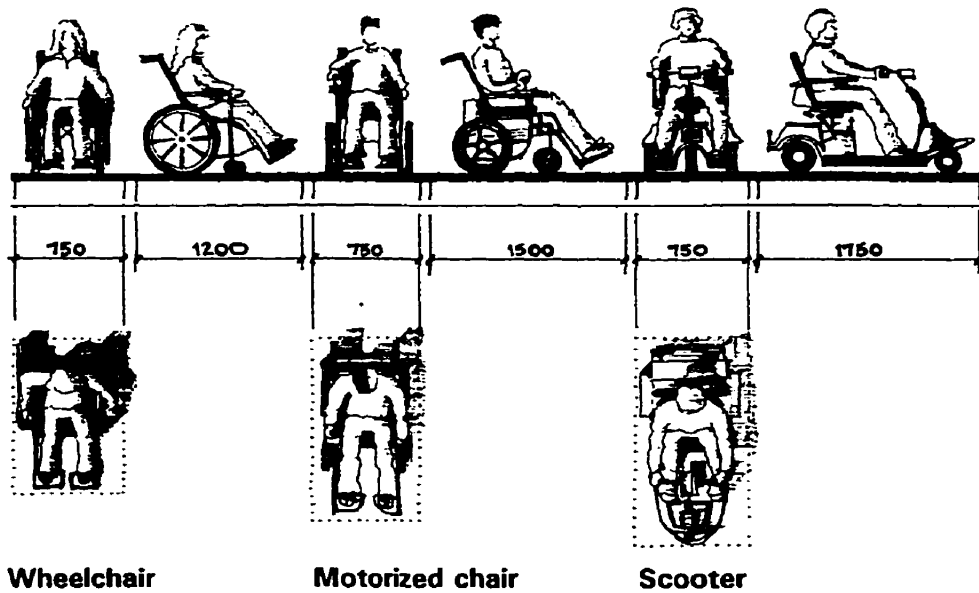
Figure 240-12. Typical bench requirements. Benches should be designed to facilitate individuals with limited strength. Armrests and adequate heelspace are especially important details.

b. Bench Design Requirements (Harris, Dines, 1998: 240-7)

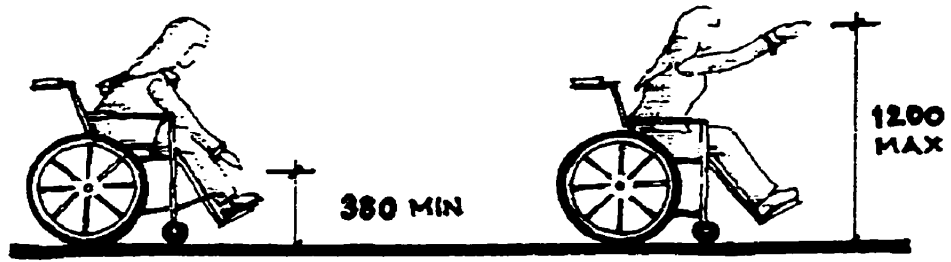
Appendix II.ii. Guidelines for Physical Site Features



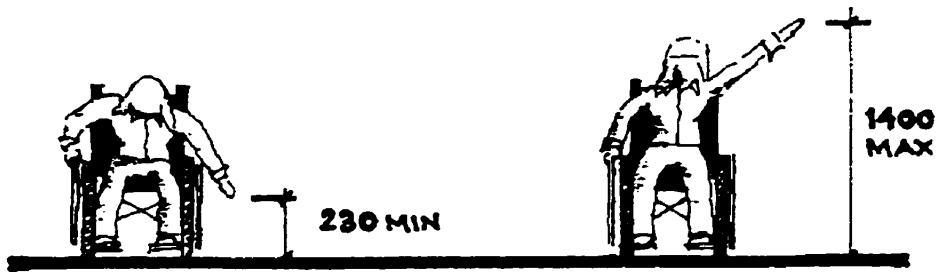
A. Pathway space allowances
 (Canadian Heritage: Parks Canada, 1994: 9)



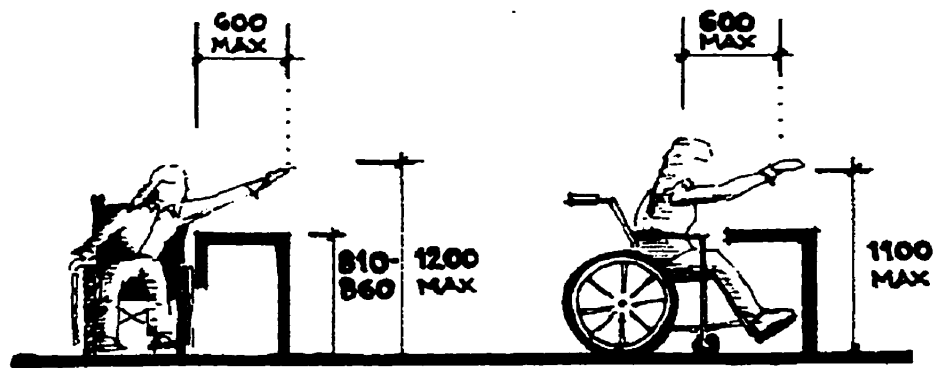
B. Minimum ground area required for wheelchairs.
 (Canadian Heritage: Parks Canada, 1994: 10)



Forward reach without obstruction



Side reach without obstruction



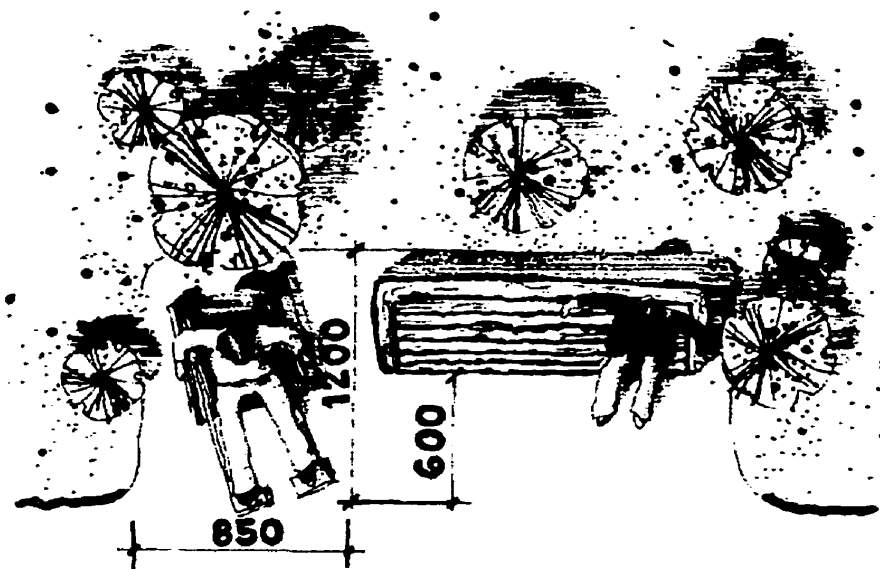
Side reach over obstruction

Forward reach over obstruction

C. Reach ranges of a person in a wheelchair
(Canadian Heritage: Parks Canada, 1994: 11)



D. Recommended running slopes and cross slopes for pathways. (Canadian Heritage: Parks Canada, 1994: 17)



E. Recommended set-backs for benches and wheelchair parking spaces.
(Canadian Heritage: Parks Canada, 1994: 21)

Appendix III. Plant Material

III.i. Plants Recommended For This Site. (See Planting Plan, Appendix IV.ii.A.b.)

Common Name	Botanical Name
Trees	
Apple	<i>Malus x.</i>
Norland	
Collet	
Parkland	
Goodland	
Crabapple	<i>Malus x 'Kerr'</i>
Plum	<i>Prunus nigra x.</i>
Bounty	
Dandy	
Rosybloom Crab	<i>Malus x 'Thunderchild'</i>
Scots Pine	<i>Pinus sylvestris</i>
Shrubs	
Arcadia Juniper	<i>Juniperus sabina 'Arcadia'</i>
Compact Cranberry	<i>Viburnum trilobum 'Baileys'</i>
Chokecherry	<i>Prunus virginiana var. Melanocarpa</i>
Siberian Dogwood	<i>Cornus alba 'Sibirica'</i>
Highbush Cranberry	<i>Viburnum trilobum 'Andrews'</i>
French Lilac	<i>Syringa vulgaris</i>
Mockorange	<i>Philadelphus lewisii 'Waterton'</i>
Mongolian Cherry	<i>Prunus fruticosa</i>
Nannyberry	<i>Viburnum lentago</i>
Nanking Cherry	<i>Prunus tomentosa</i>
Rose	<i>Rosa x.</i>
Morden Pink	
Morden Centennial	
Morden Blush	
Adelaide Hoodless	
Winnipeg Parks	
Hope For Humanity	
Raspberry	<i>Rubus x 'Boyne'</i>
Saskatoon	<i>Amelanchier alnifolia</i>
Snowball Viburnum	<i>Viburnum opulus 'Sterile'</i>
Skandia Juniper	<i>Juniperus sabina 'Skandia'</i>
Wayfaring Tree	<i>Viburnum lantana</i>

Common Name	Botanical Name
Vines	
Clematis	<i>Clematis macropetala</i> 'Blue Boy'
Hops	<i>Humulus lupulus</i>
Riverbank Grapes	<i>Vitis riparia</i> x. 'Valiant'
Ground Covers	
Bergenia	<i>Bergenia cordifolia</i>
Bigfoot Geranium	<i>Geranium macrorrhizum</i>
Catmint	<i>Nepeta x ucranica</i> 'Dropmore'
Herbaceous Perennials	
Asparagus	
Daylily	<i>Hemerocallis</i> spp.
Plume Poppy	<i>Macleaya cordata</i>
Perennial Herbs	
Wetland Species	
Flowering Rush	<i>Butomus umbellatus</i>
Marsh Marigold	<i>Caltha palustris</i>
Yellow Flag Iris	<i>Iris pseudocorus</i>
Primrose	<i>Primula</i> spp

III.ii. Plants to Avoid.

The following contains a summary of those plants which are either toxic, or will cause a dermal reaction. This list was compiled from two sources: *American Handbook of Poisonous and Injurious Plants*, (Lampe, K., M. McCann. 1985) and *Poisonous Plants* (Starý, F., 1983). Although there are a number of tropical plants containing extremely toxic chemicals, only plants that are either hardy on the Canadian Prairies, or that are grown in the outdoors as annuals are included in this list. Also, the aforementioned sources list moderately toxic plants, which would require fistfuls of leaves to be ingested before any effect would be seen. These have been excluded.

All plants are classified hierarchically by family, genus and species, which is how the following list is arranged. Species within a genus are more closely 'related' than genera within a family. If a particular species is known to contain toxic substances, (e.g. *Nicotiana tabacum* contains alkaloids, among them nicotine) then other species of the same genus (e.g. *Nicotiana glauca*) can be assumed to contain similar levels of alkaloids. Members of their family (Solanaceae) will likely contain the same toxin, but those levels *may* be more highly variable between genera. (Lampe, 1985)

III.ii.A. Poisonous Plants

Liliaceae

Convallaria majalis: Lily of the Valley.

Toxic Parts: Berries

Toxin: Glycosides, which dramatically affect the heart muscle.

-grown as a hardy, aggressive, but attractive ground cover.

Ranunculaceae

Aconitum napellus: Monkshood.

Toxic Parts: All, although more concentrated in the tubers.

Toxin: Alkaloids (aconite), affects heart rhythm.

Note: Many members of this family have high levels of alkaloids, but were not included since the toxin is concentrated in the underground plant parts.

-commonly grown as a shade tolerant garden perennial.

Scrophulariaceae

Digitalis purpurea L.: Foxglove.

Toxic Parts: All the plant.

Toxin: Glycosides (digitalis), which dramatically affect the heart muscle.

-commonly grown here as an attractive biennial, or short-lived perennial.

Solanaceae

Brugmansia species (also known as *Datura* sp.): Angels' Trumpets.
(*Brugmansia arborea*, *B. aurea*, *B. x candida*, *B. sanguinea*)

Toxic Parts: All.

Toxin: Belladonna alkaloids, which affect the parasympathetic nerves. (drugs are used as antiasthmatics and antispasmodics.)
-grown here as a long-season tender annual with attractive tubular flowers.

Note: In Canada, *Atropa bella-donna*, or deadly nightshade, has 'escaped' from gardens and grows as an annual weed. The fruit looks like little tomatoes (which, along with potatoes, are in the same family), and is extremely toxic.

(The occupational therapists in charge of the gardening program are likely aware that tomatoes and potatoes also contain toxins in the leaves and, in the case of potatoes, the small green fruit that appears on the above-ground parts after flowering.)

Nicotiana species: includes numerous species which are grown here as tender ornamental annuals; *N. tabacum* is the primary commercial source of smoking tobacco.

Toxic Parts: All parts.

Toxin: Alkaloids (nicotine being in the highest concentration), which affect the parasympathetic nerves.

III.ii.B. Plants Which Cause Dermal Reactions.

Euphorbiaceae

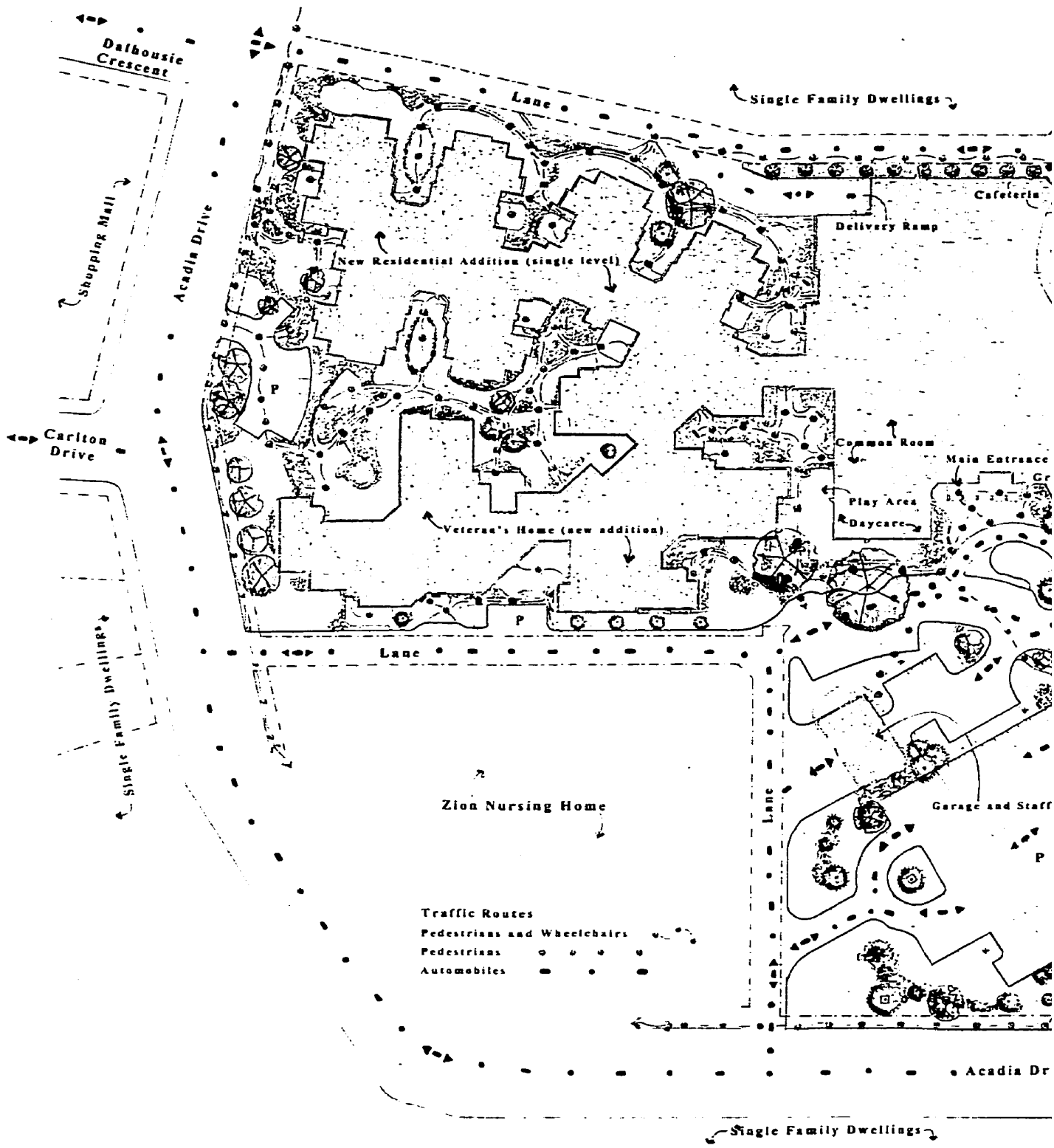
Members of this family exude a milky latex if a leaf or branch are broken away. The latex, on contact with the skin, can cause an uncomfortable hot, itchy rash to erupt. (Author's personal experience!). Contact with the face can cause corneal ulcers.

Euphorbia cyparissias, or cypress spurge, and *E. polychroma* syn. *E. epithymoides*, cushion spurge, are, consecutively, hardy, and not so reliably hardy for the prairies. (Williams, 1997)

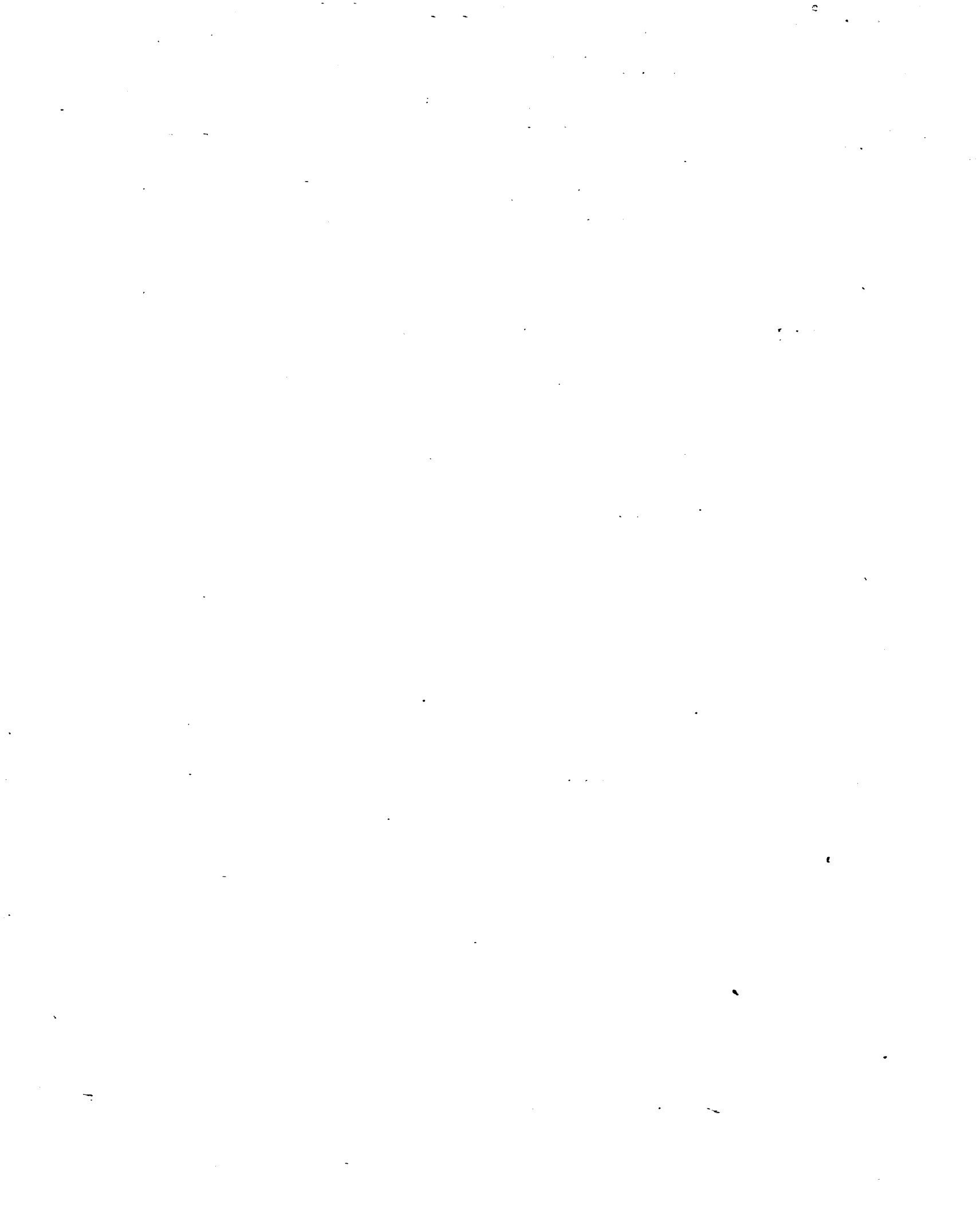
Note: *Euphorbia pulcherrima*, or poinsettia, does not have the same level of irritants in the latex as other members of this family.

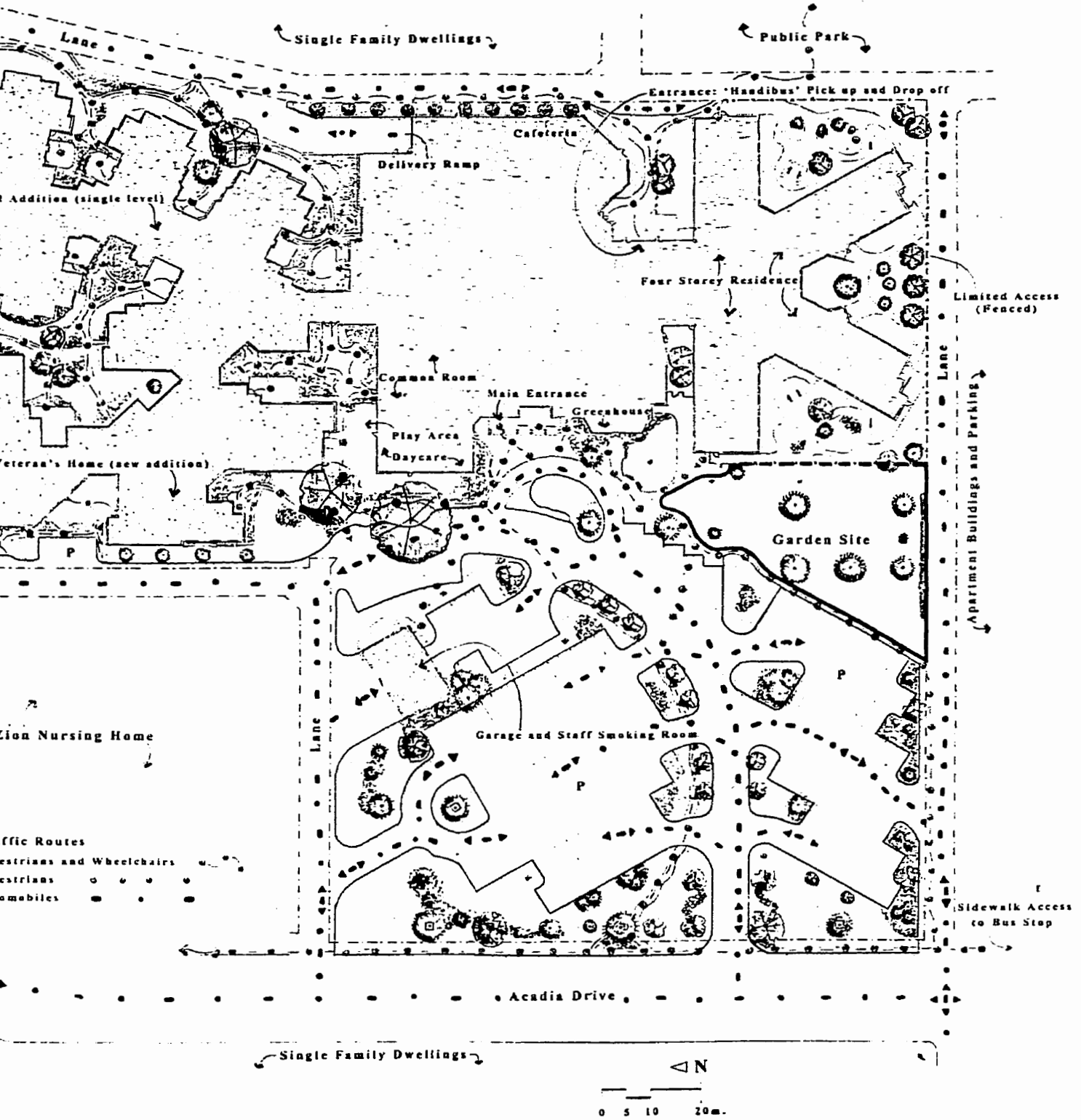
Appendix IV:

Case Study

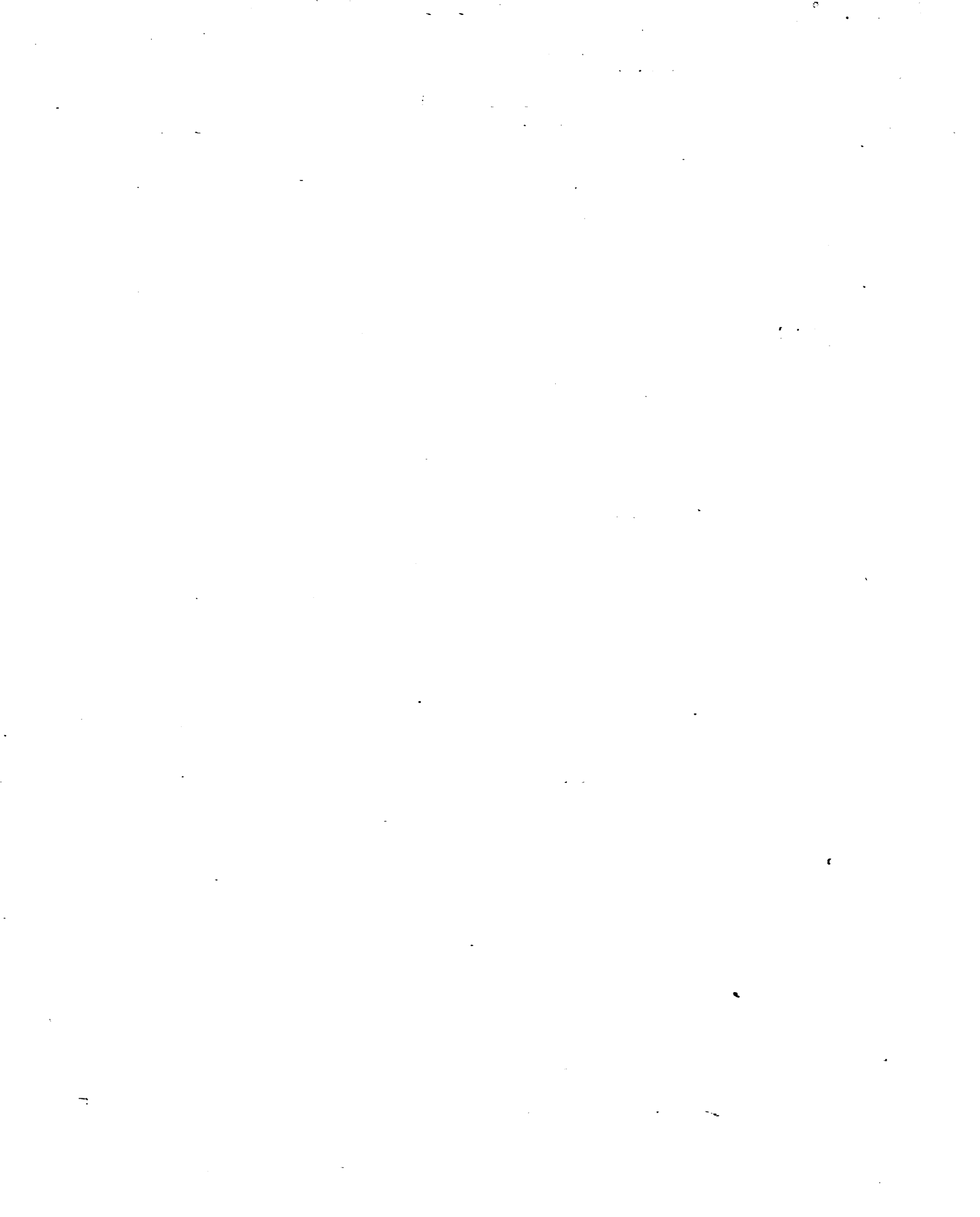


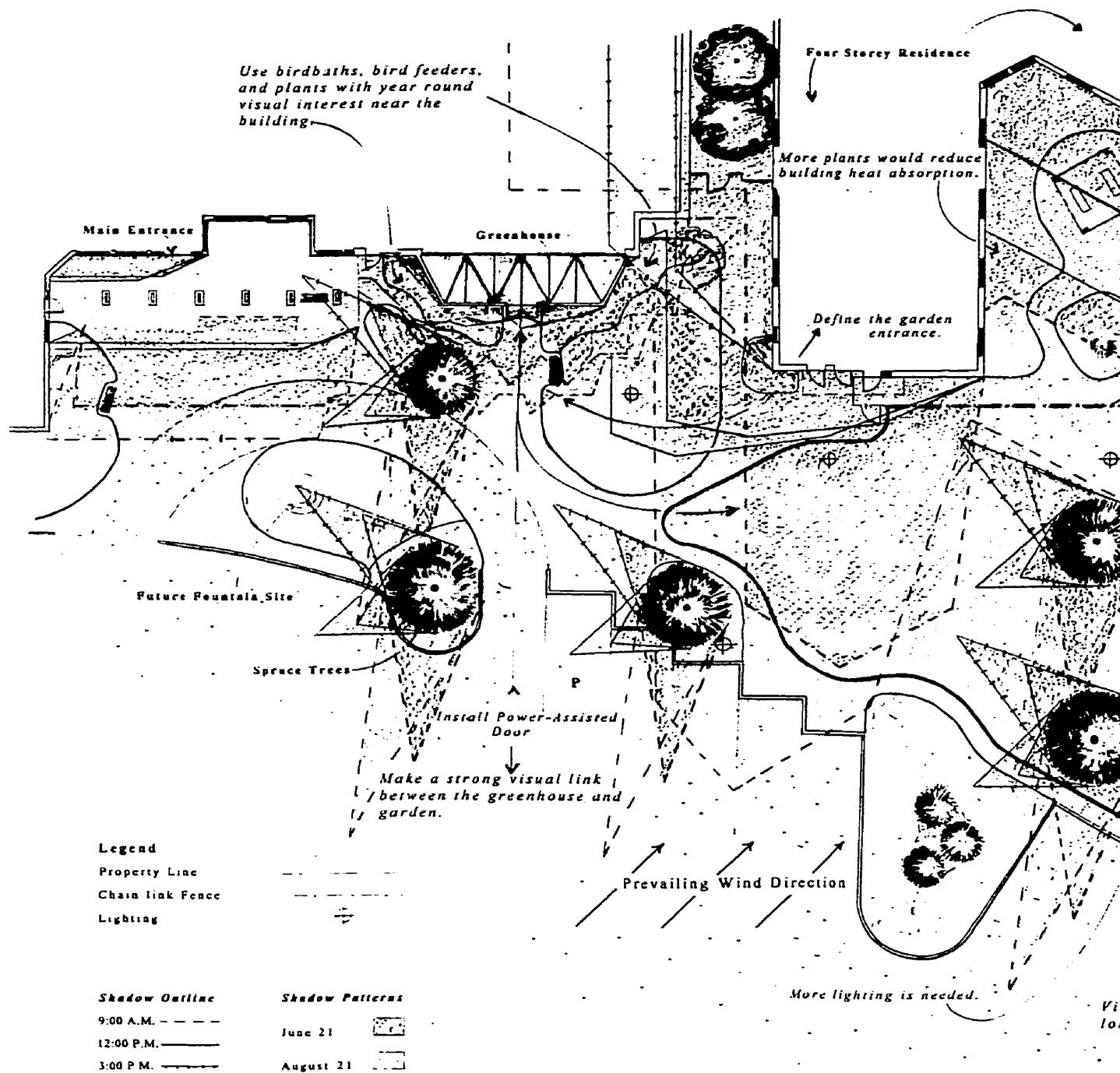
Sherbrooke Community Centre Garden: Site Context ; Area 1



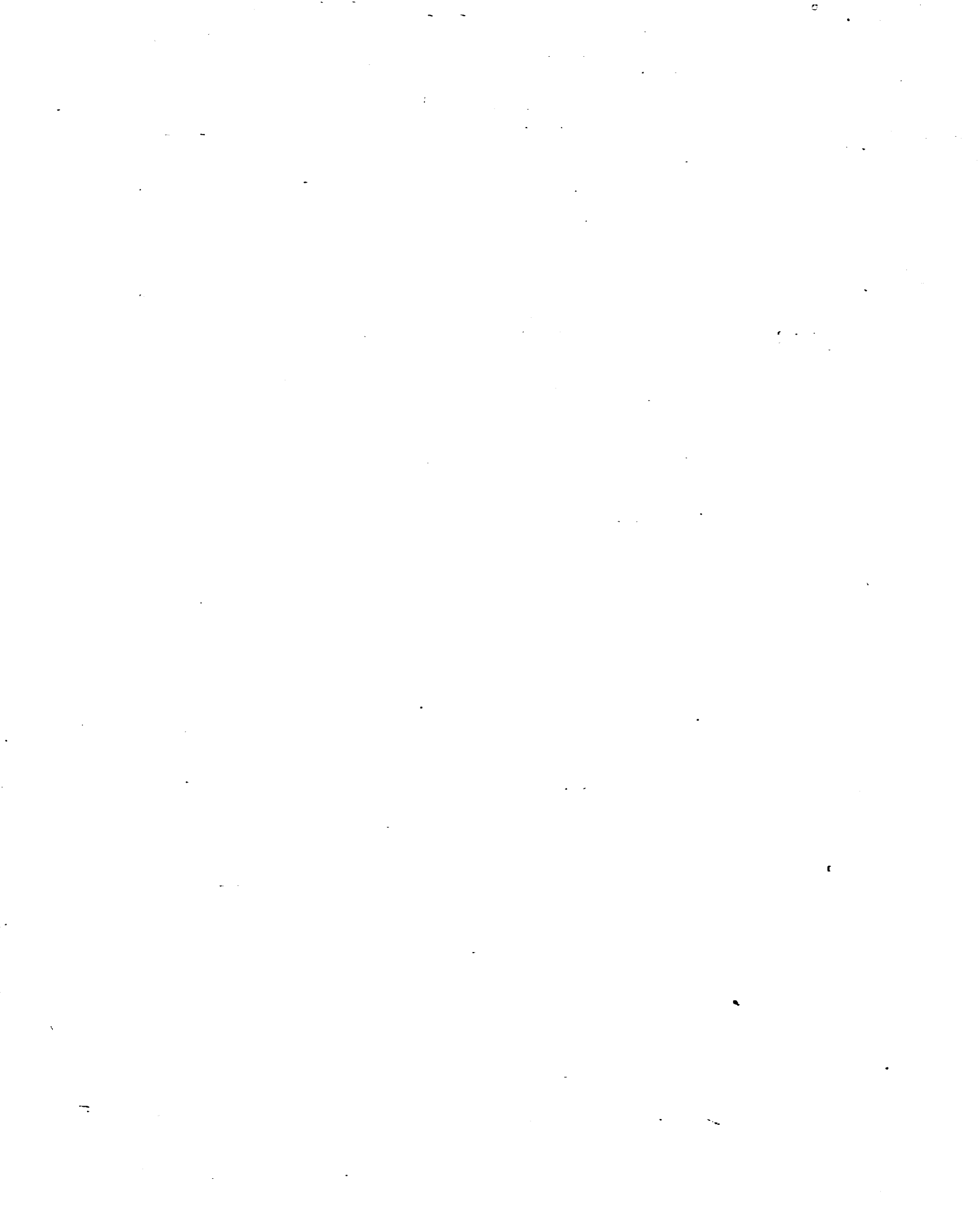


Centre Garden: Site Context ; Area Traffic Movement

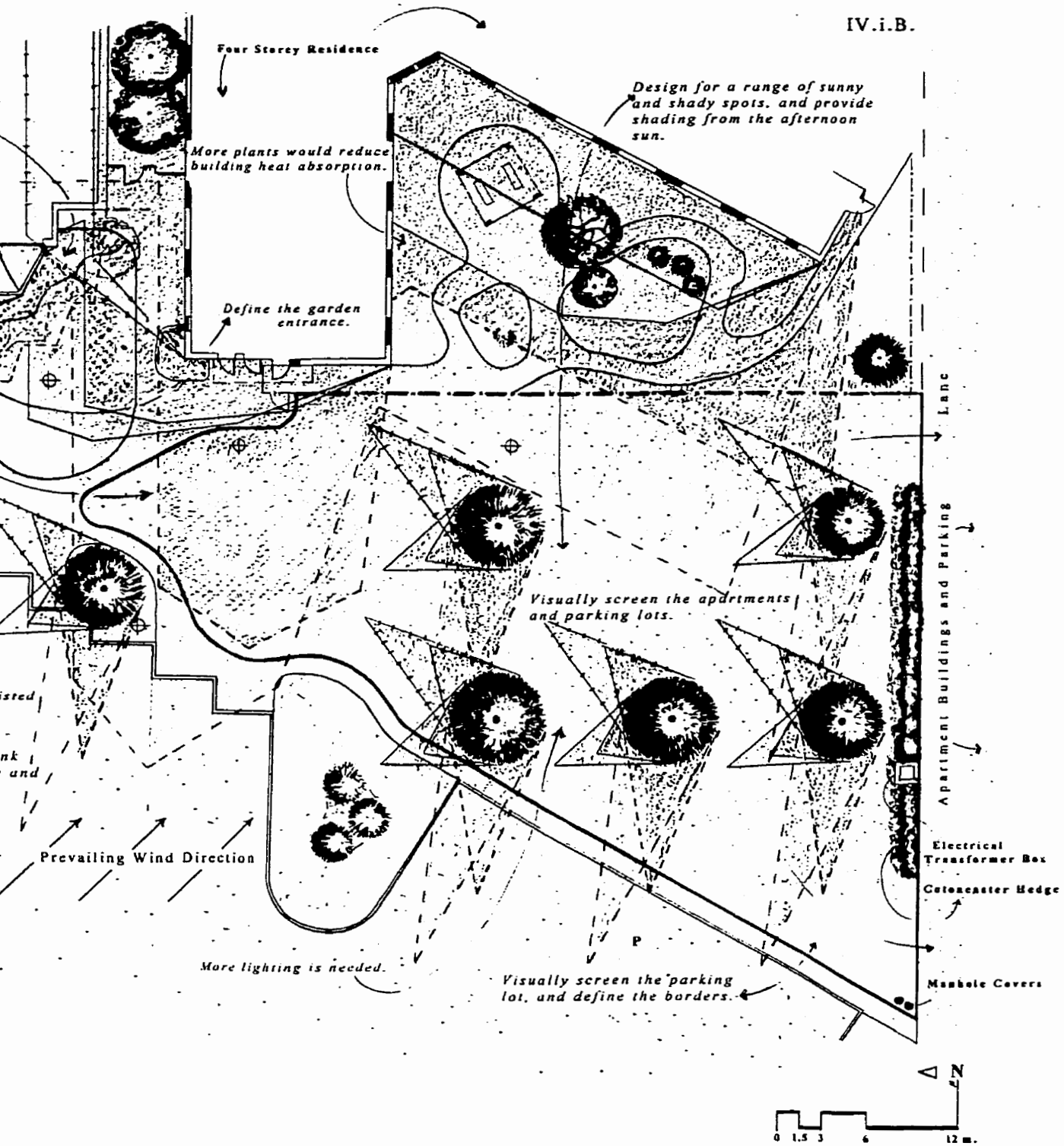




Sherbrooke Community Centre Garden: Site Conditions, Design

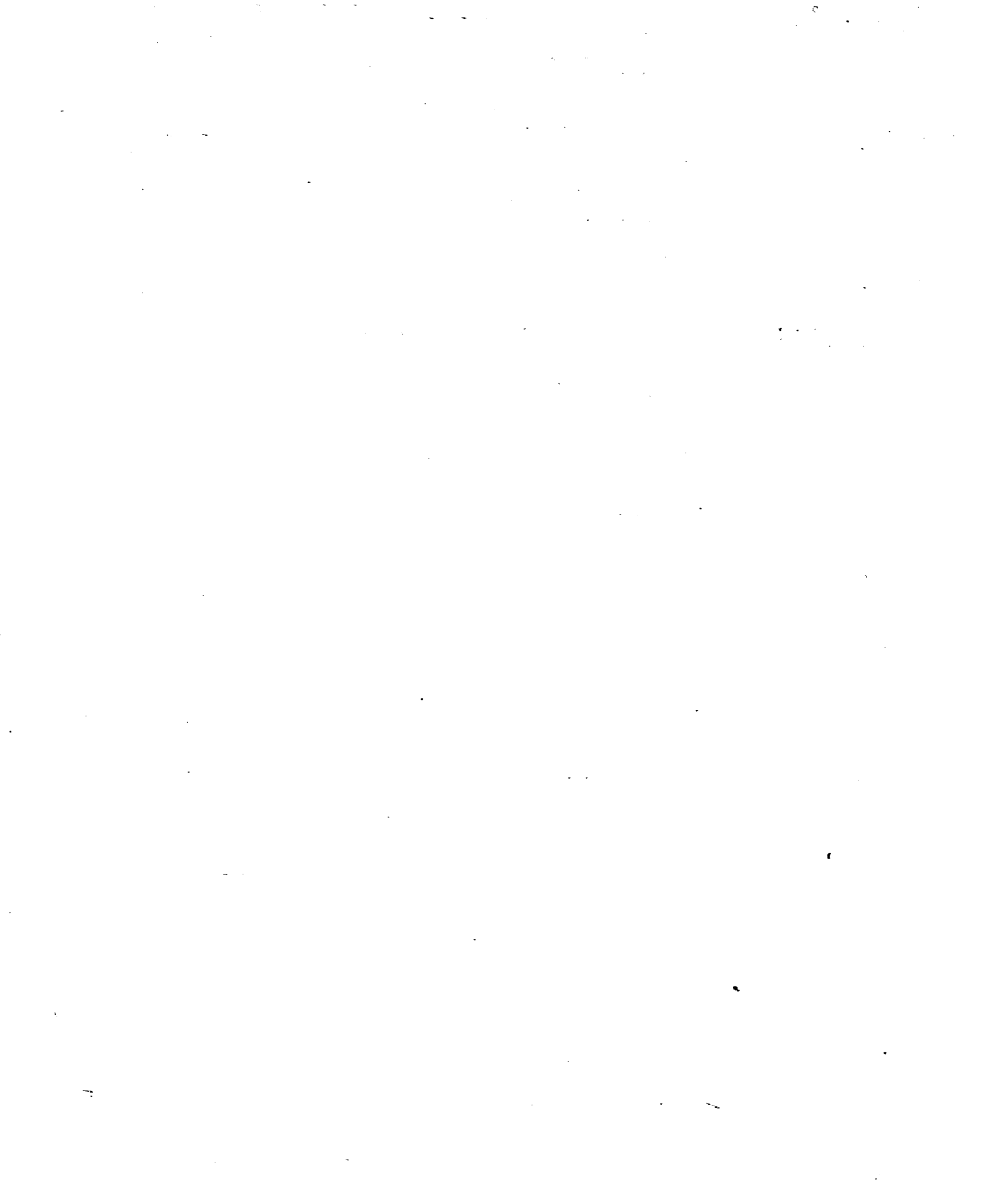


IV.i.B.



Garden: Site Conditions, Design Concerns

MLA Practicum Project: Jocelyn Young.



Appendix 1V.i.C. Photographs of Site



1. View of Sherbrooke from the public park, facing west.



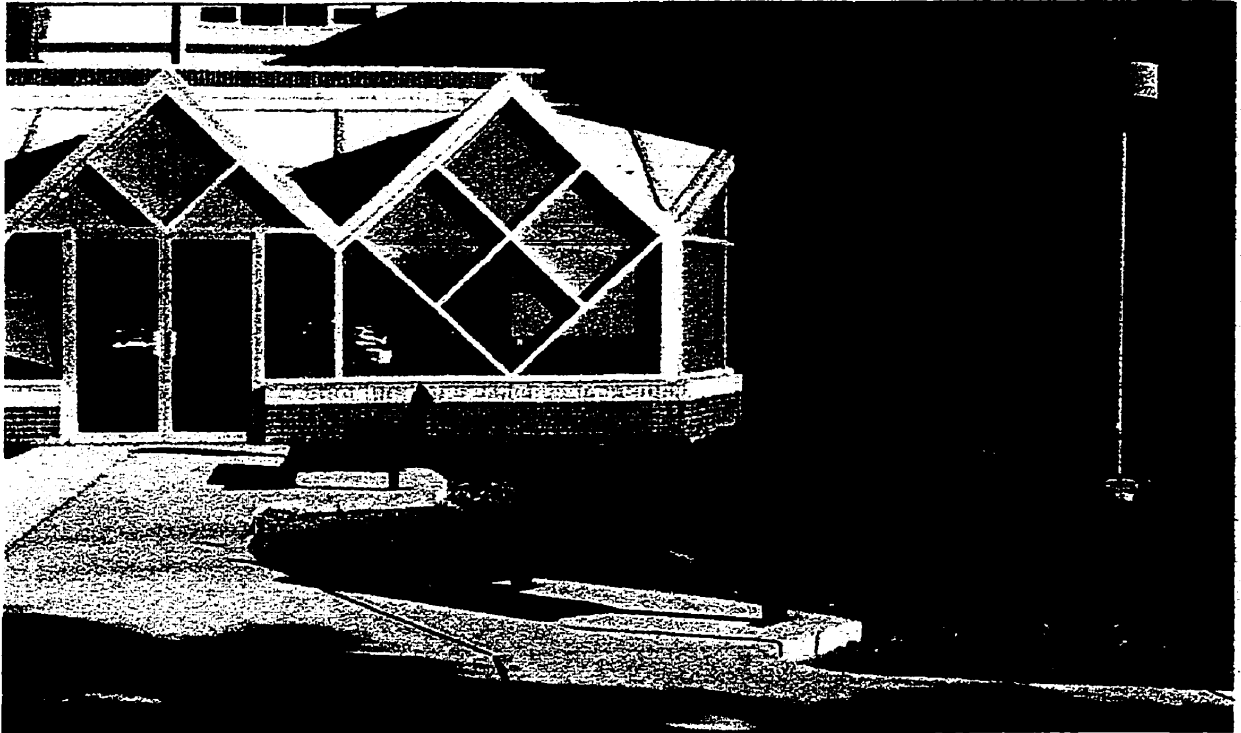
2. View of the garden site from the southwest corner



3. View of the site facing east northeast. The five mature spruce to the right are in the site.



4. View of the garden site facing south. The greenhouse doors are directly to the left.

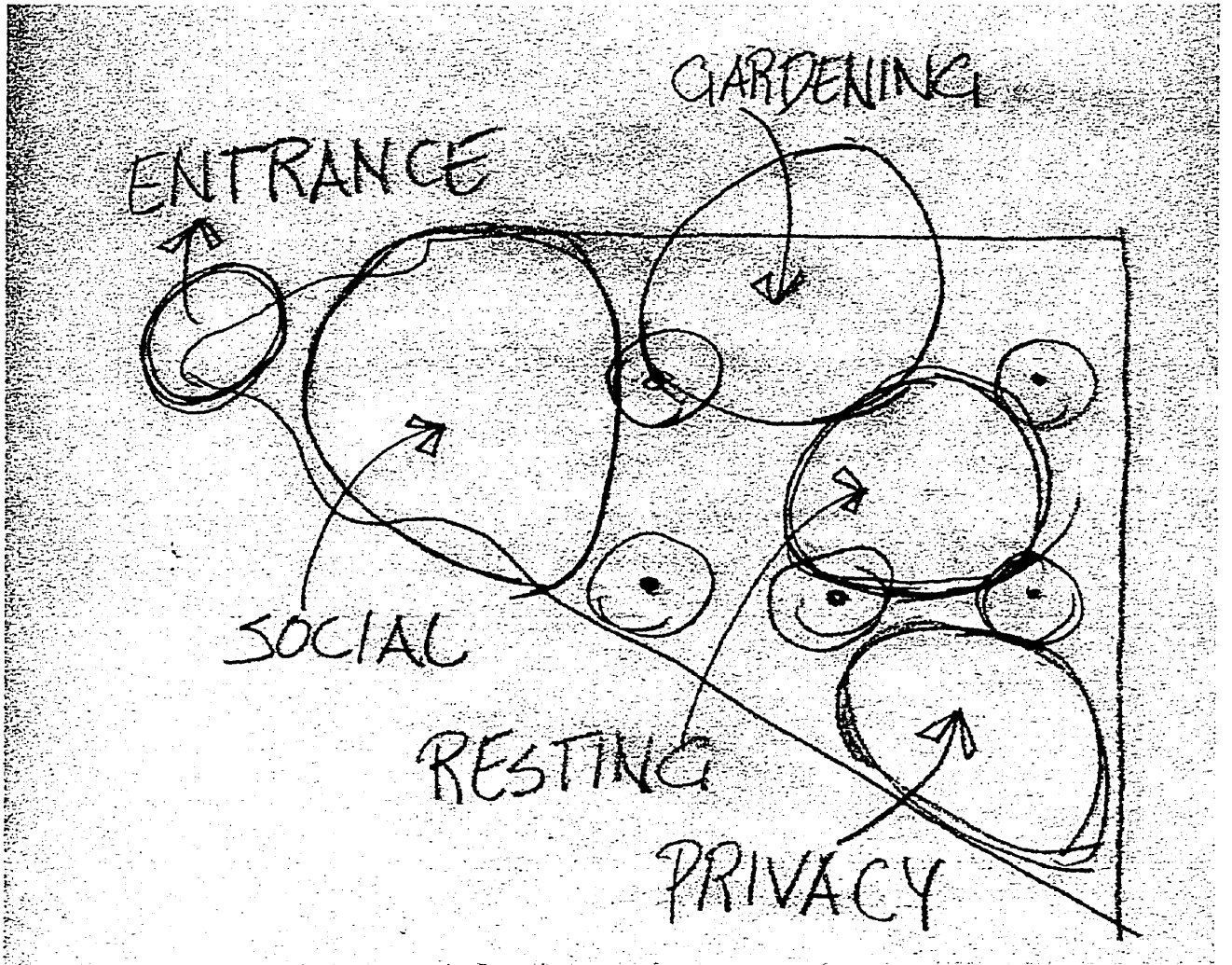


5. View of greenhouse, showing existing site benches (without arm rests)

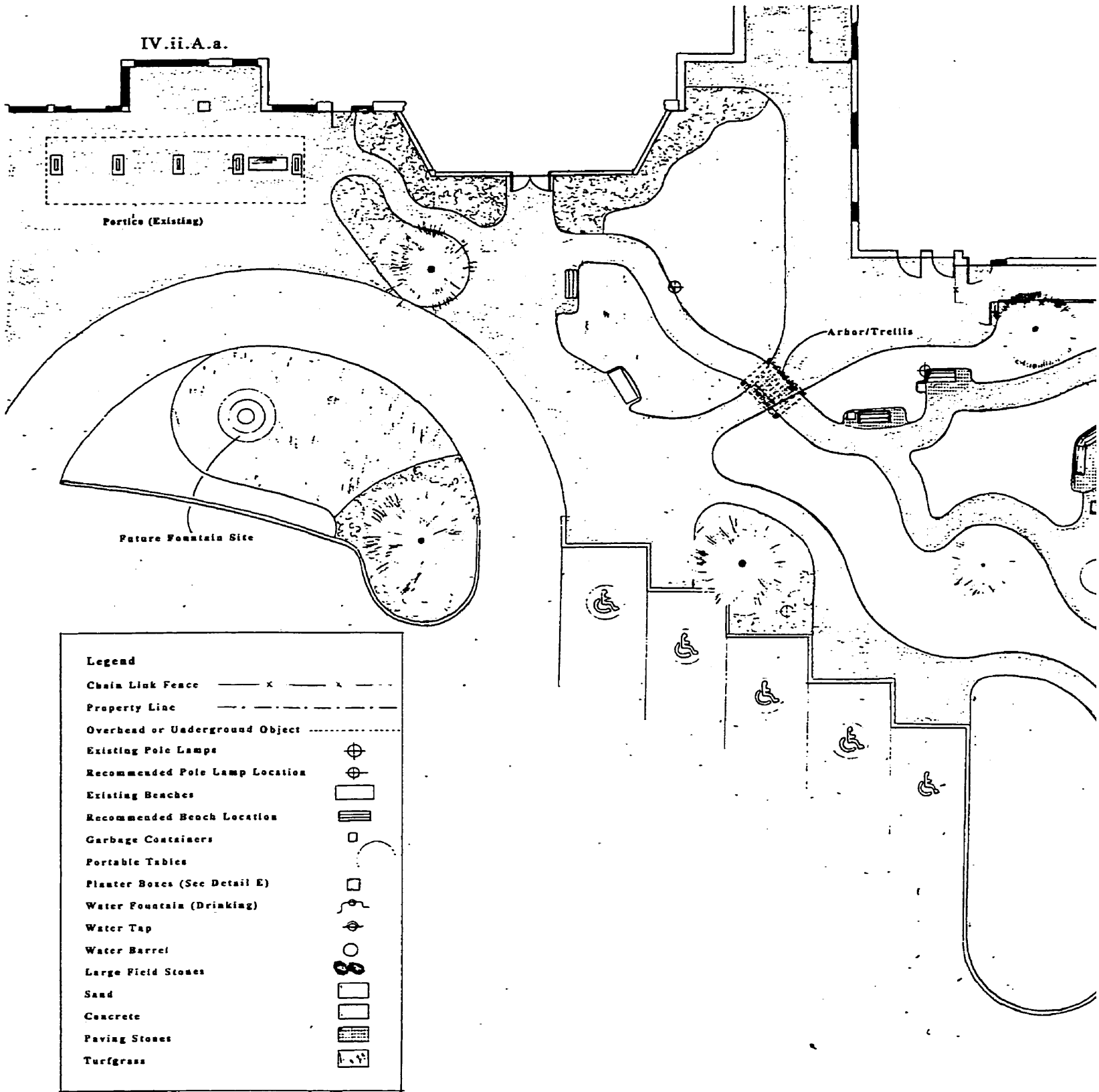


6. View from site towards the greenhouse, the only visible link from the building to the garden.

IV.i.D. Conceptual Design Sketch

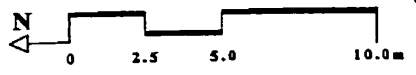
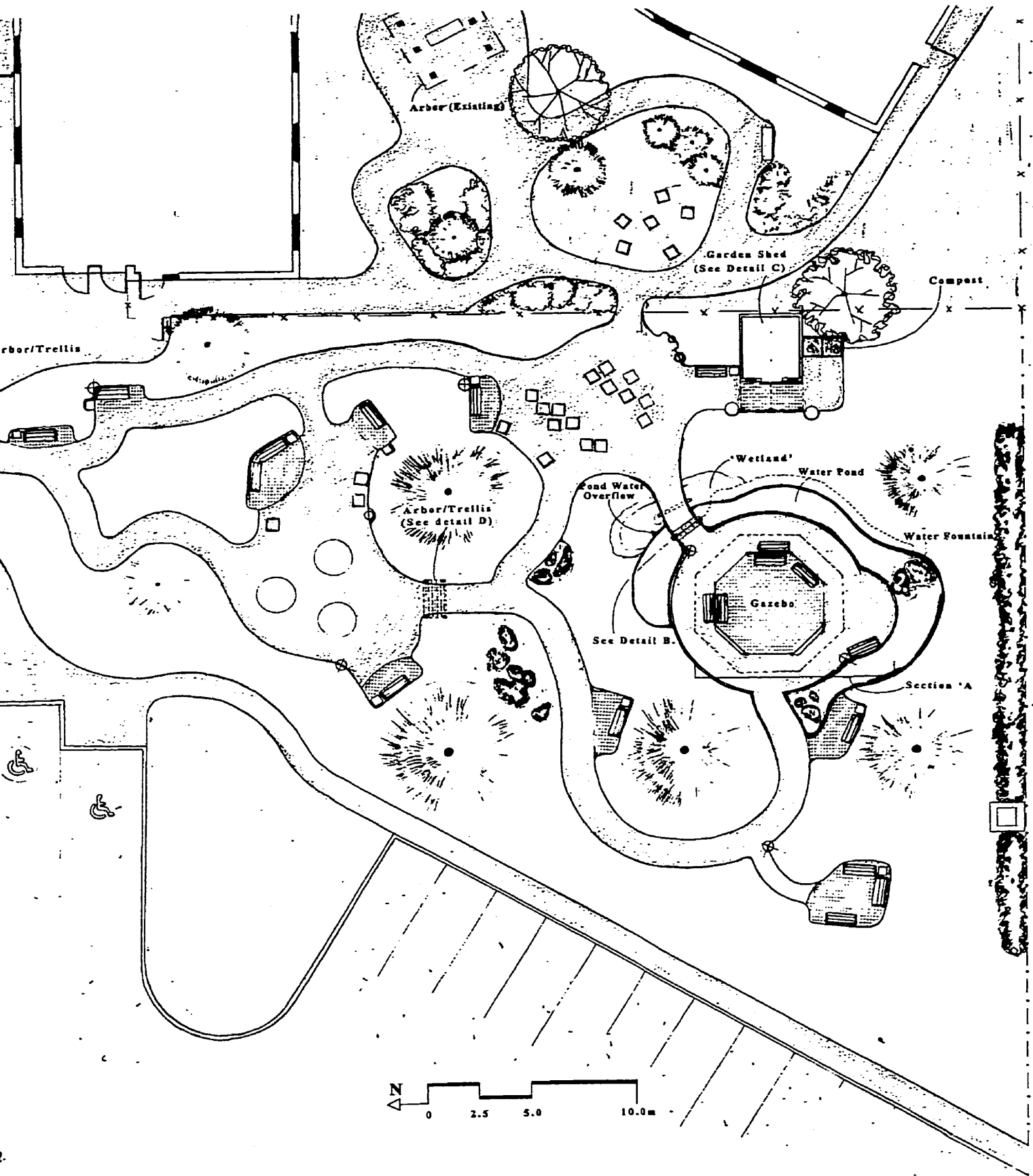


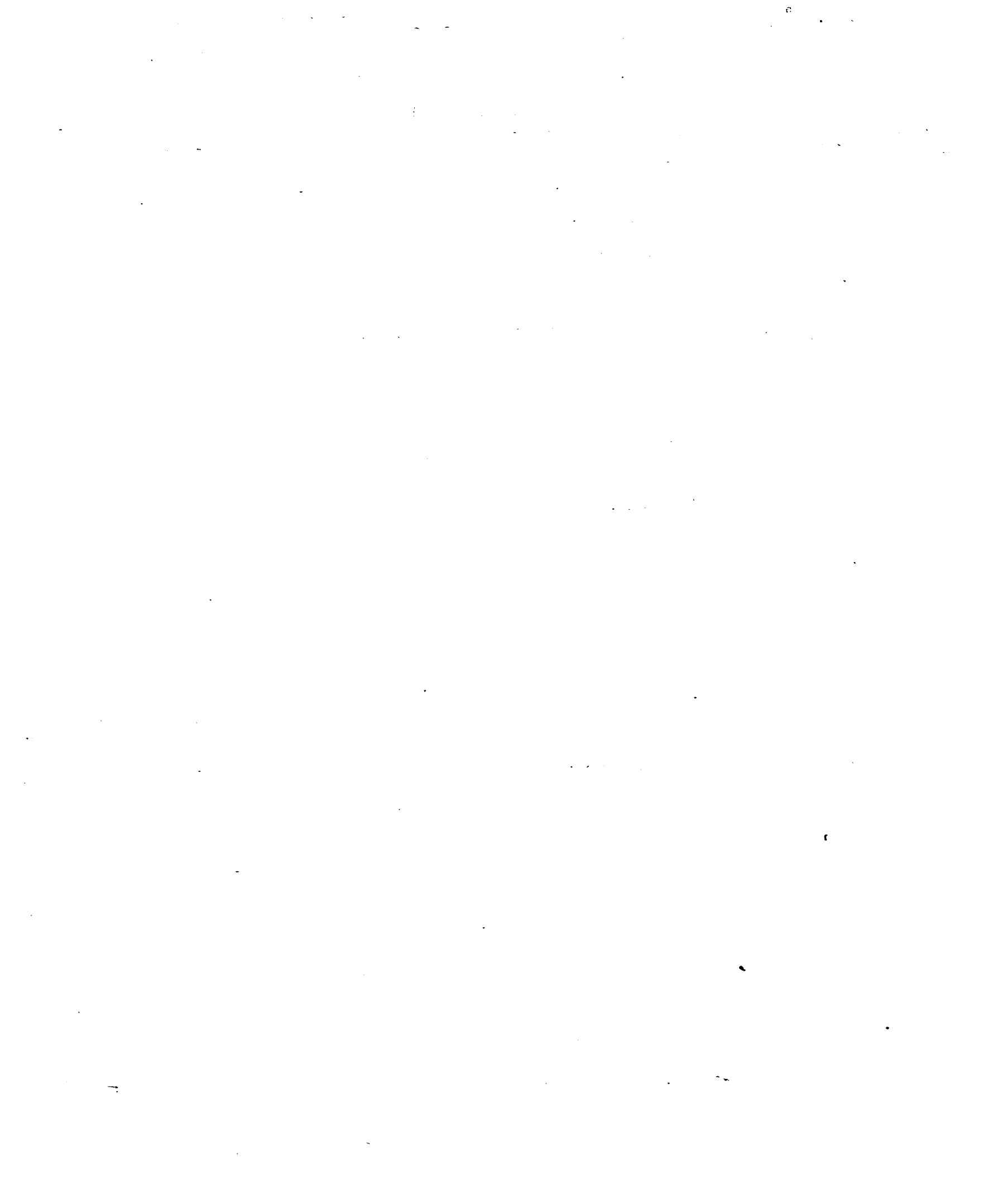
Initial concept sketch. The mature spruce trees on site provide walls which divide the garden into rooms.



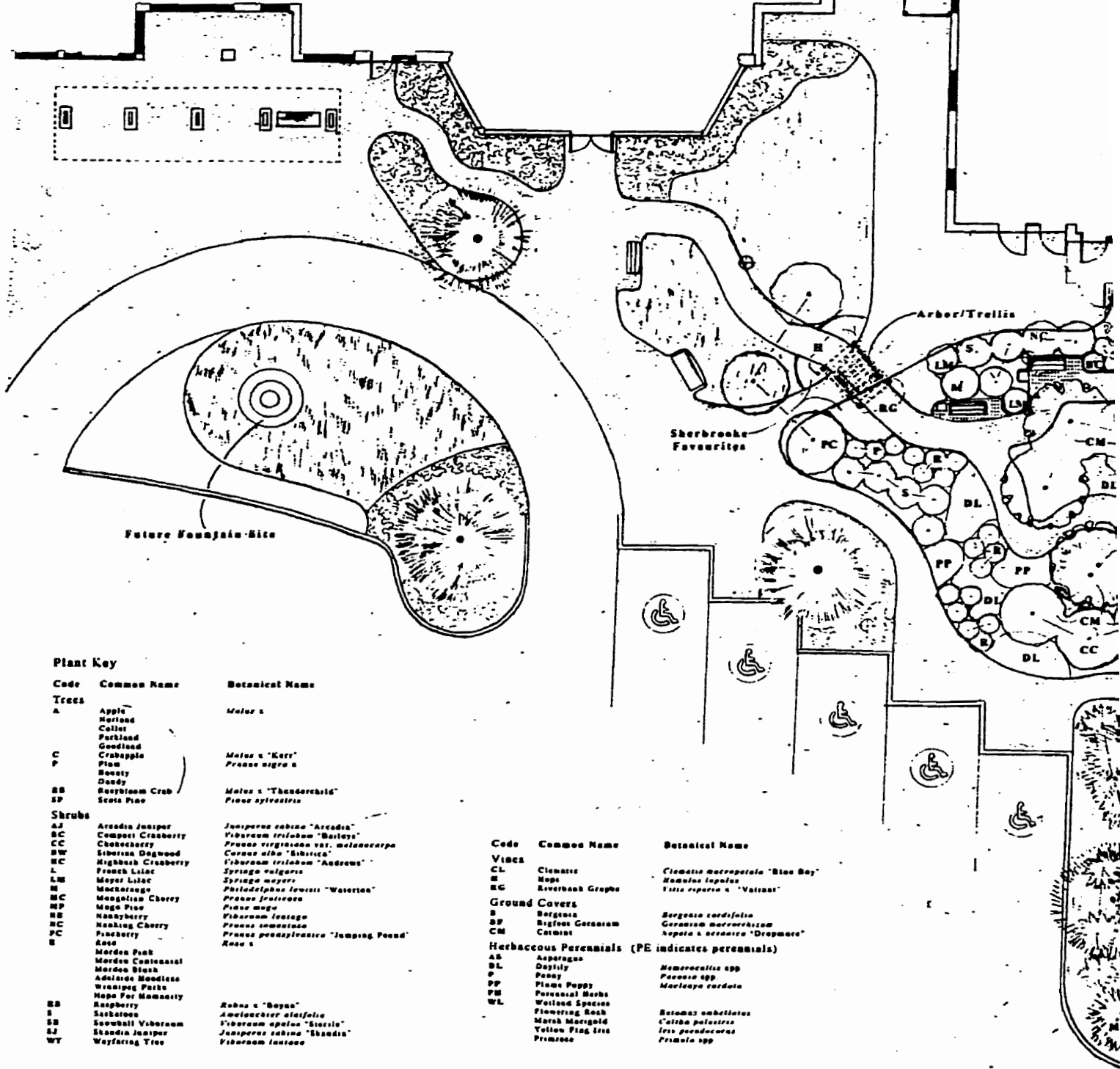
Sherbrooke Community Centre Garden :Base Plan.







IV.ii.A.b.

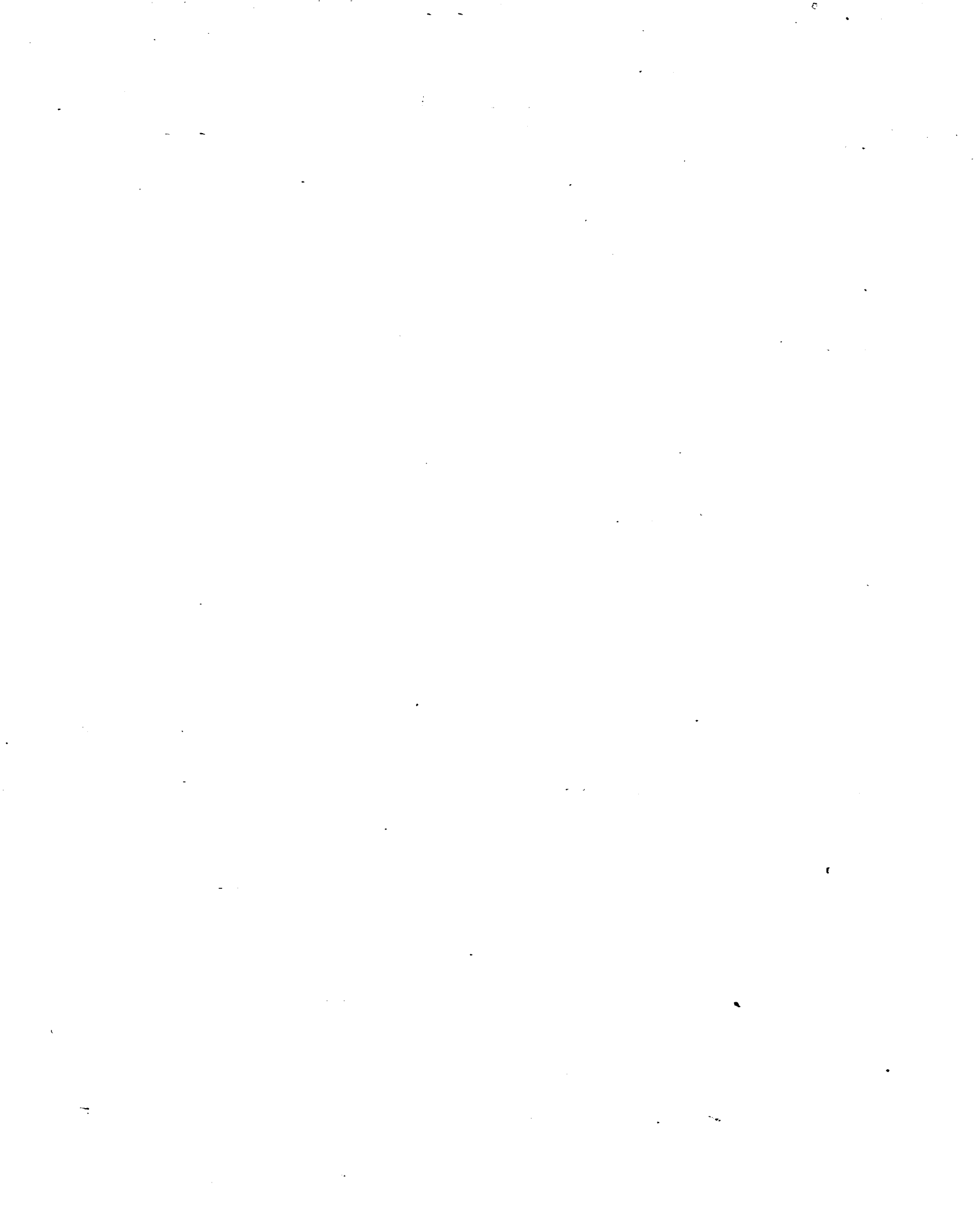


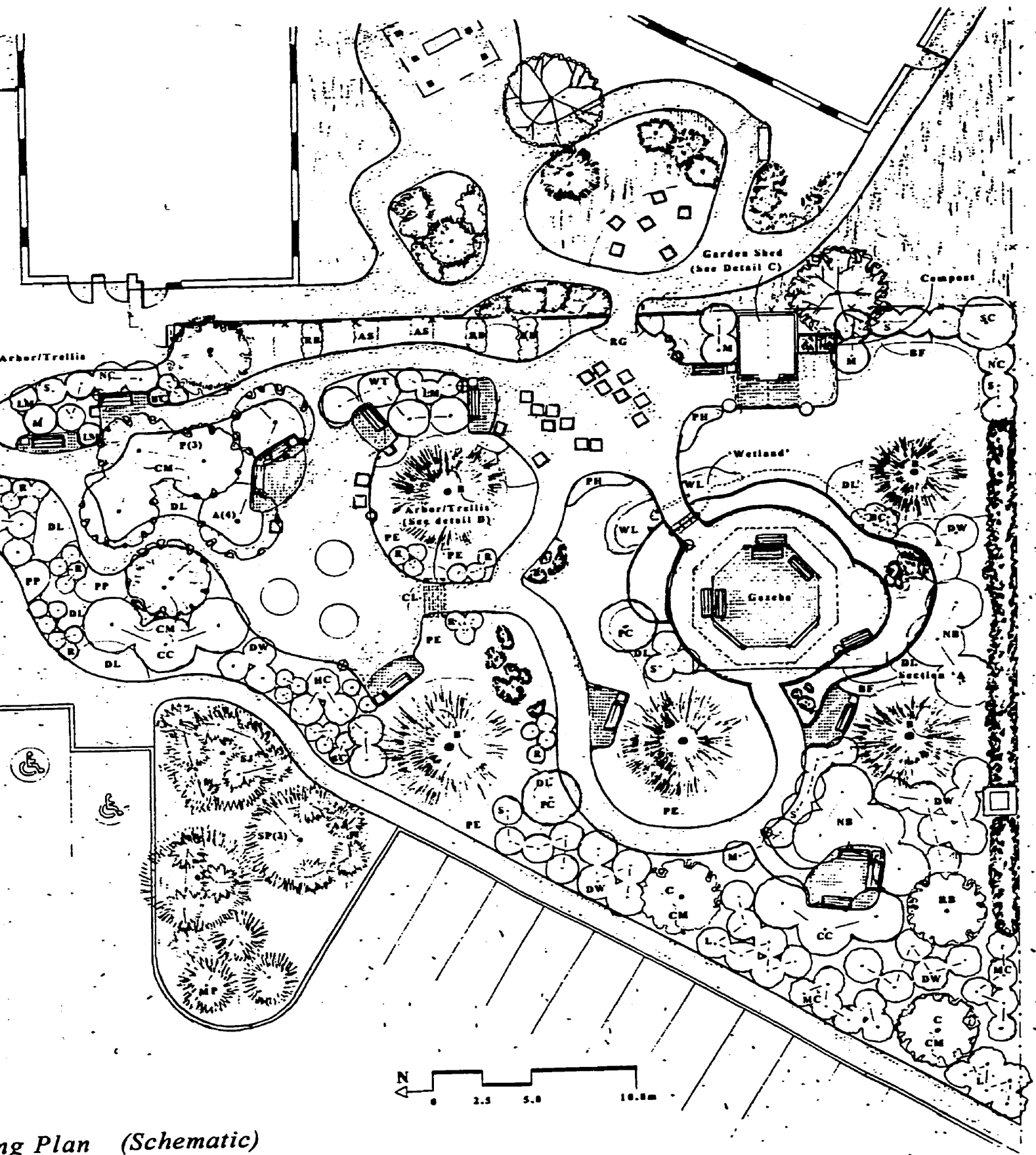
Plant Key

Code	Common Name	Botanical Name
Trees		
A	Apple	<i>Malus s</i>
	Horland	
	Collis	
	Portland	
	Goodland	
C	Crabapple	<i>Malus s 'Kerr'</i>
P	Pine	<i>Prunus nigra s</i>
	Bonny	
	Dandy	
BB	Bushloom Crab	<i>Malus s 'Thunderchild'</i>
SP	Scotts Pine	<i>Pinus strobus</i>
Shrubs		
AJ	Arcadia Juniper	<i>Juniperus sabina 'Arcadia'</i>
BC	Compost Cranberry	<i>Viburnum triflorum 'Baileys'</i>
CC	Chokecherry	<i>Prunus virginiana var. melanocarpa</i>
BW	Siberian Dogwood	<i>Cornus alba 'Sibirica'</i>
MC	Highbush Cranberry	<i>Viburnum trilobum 'Andrews'</i>
L	French Lilac	<i>Syringa vulgaris</i>
LM	Meyer Lilac	<i>Syringa meyeri</i>
M	Nectarange	<i>Philadelphus Lewisii 'Waterton'</i>
MC	Mouginia Cherry	<i>Prunus jantziana</i>
MP	Ming's Pine	<i>Pinus mugo</i>
MB	Nannyberry	<i>Viburnum lentago</i>
MC	Nanking Cherry	<i>Prunus tomentosa</i>
PC	Flackberry	<i>Prunus pennsylvanica 'Jumping Pound'</i>
E	East	<i>Rosa s</i>
	Morden Pink	
	Morden Centennial	
	Morden Blush	
	Adriatic Woodlice	
	Winnipeg Parke	
	Hope For Humanity	
BB	Raspberry	<i>Rubus s 'Bayer'</i>
L	Saxifrage	<i>Juncus acerifolia</i>
SB	Snowball Viburnum	<i>Viburnum opulus 'Sterile'</i>
SJ	Skandia Juniper	<i>Juniperus sabina 'Skandia'</i>
WT	Weyfaring Tree	<i>Viburnum lentago</i>

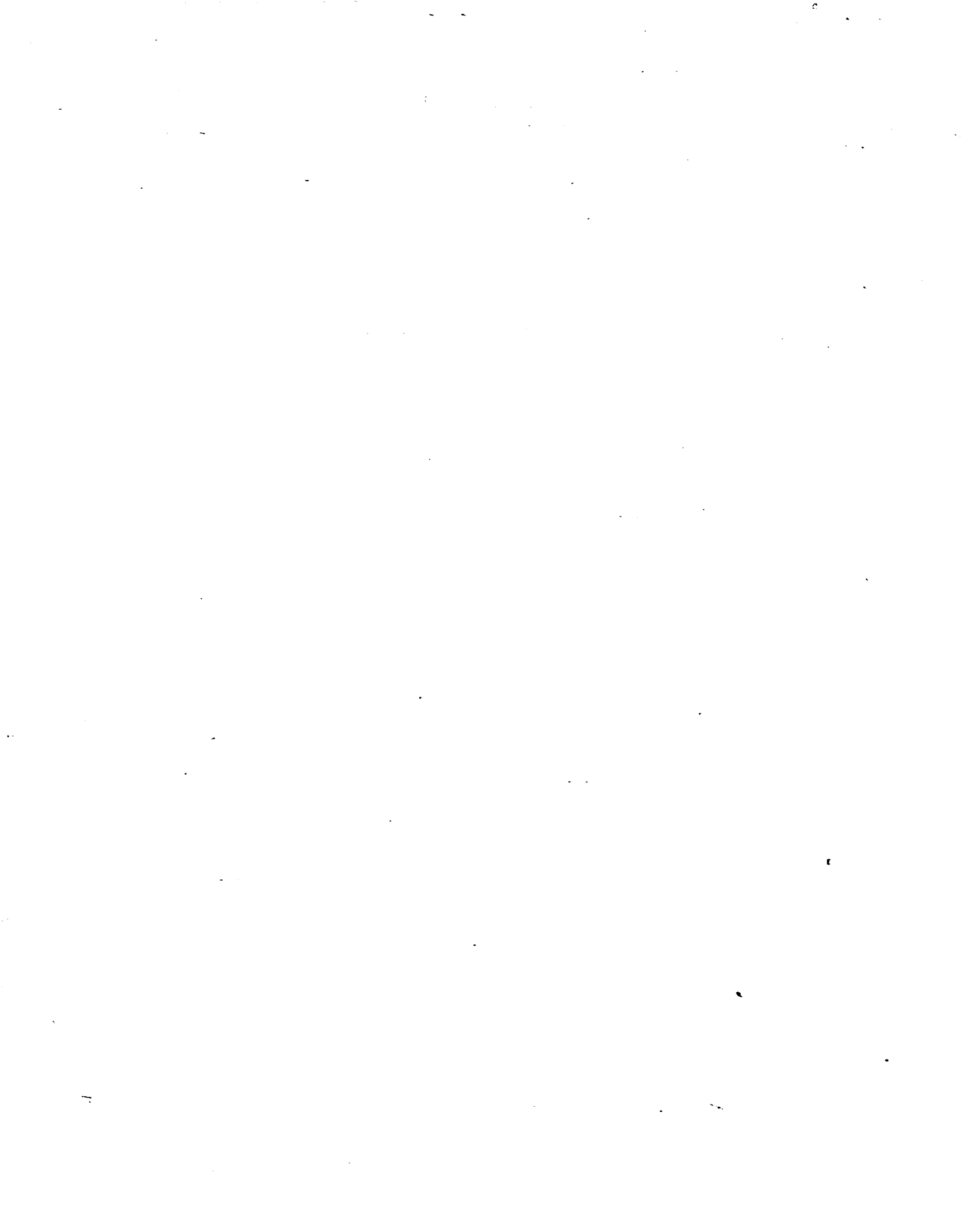
Code	Common Name	Botanical Name
Vines		
CL	Clematis	<i>Clematis macropetala 'Blue Boy'</i>
E	Hops	<i>Humulus lupulus</i>
RG	Sweetbark Grape	<i>Vitis riparia s 'Valron'</i>
Ground Covers		
B	Bergenia	<i>Bergenia cordifolia</i>
SP	Rigidus Geranium	<i>Geranium macrorrhizum</i>
CM	Catmint	<i>Nepeta s 'arvensis' 'Dropmore'</i>
Herbaceous Perennials (PE indicates perennials)		
AL	Asparagus	
DL	Daisy	<i>Memorialis spp</i>
P	Penny	<i>Paeonia spp</i>
PP	Pink Poppy	<i>Macleaya cordata</i>
PM	Perennial Marjoram	
WL	Wetland Spoken	
	Flowering Rush	<i>Botanich umbellatus</i>
	Marsh Marigold	<i>Calla palustris</i>
	Yellow Flag Iris	<i>Iris pseudacorus</i>
	Primrose	<i>Primula spp</i>

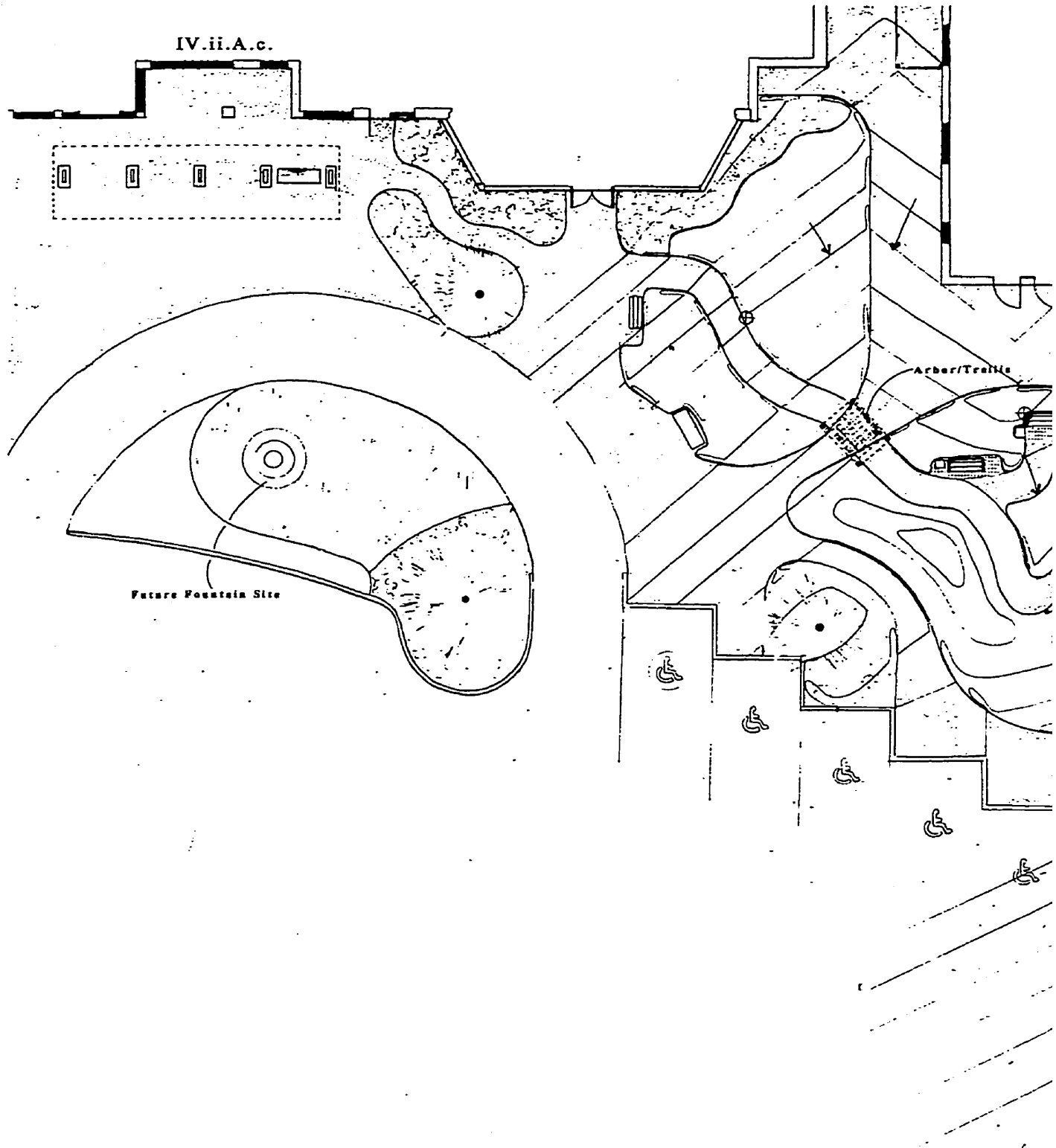
Sherbrooke Community Centre Garden : Planting Plan (Schema)



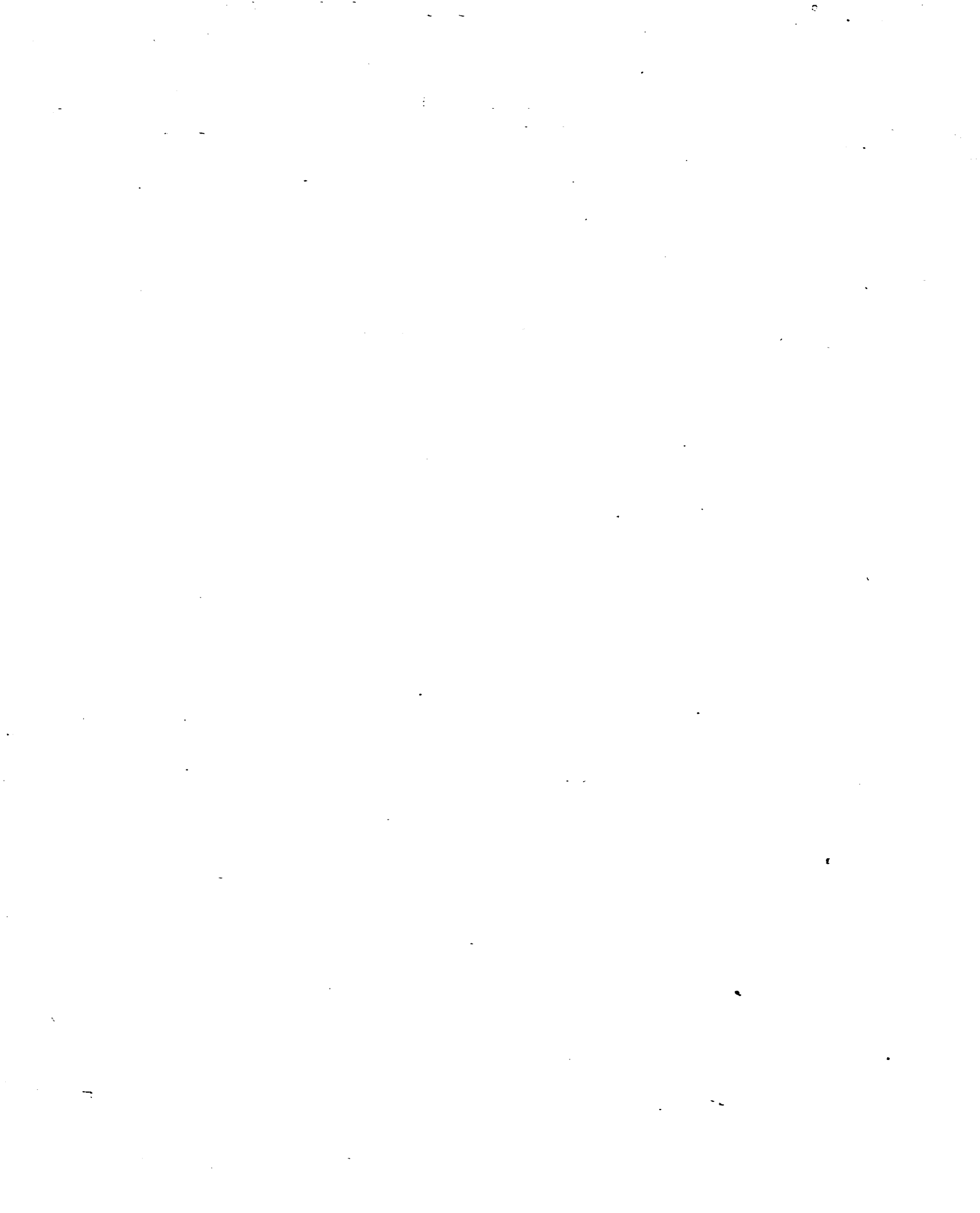


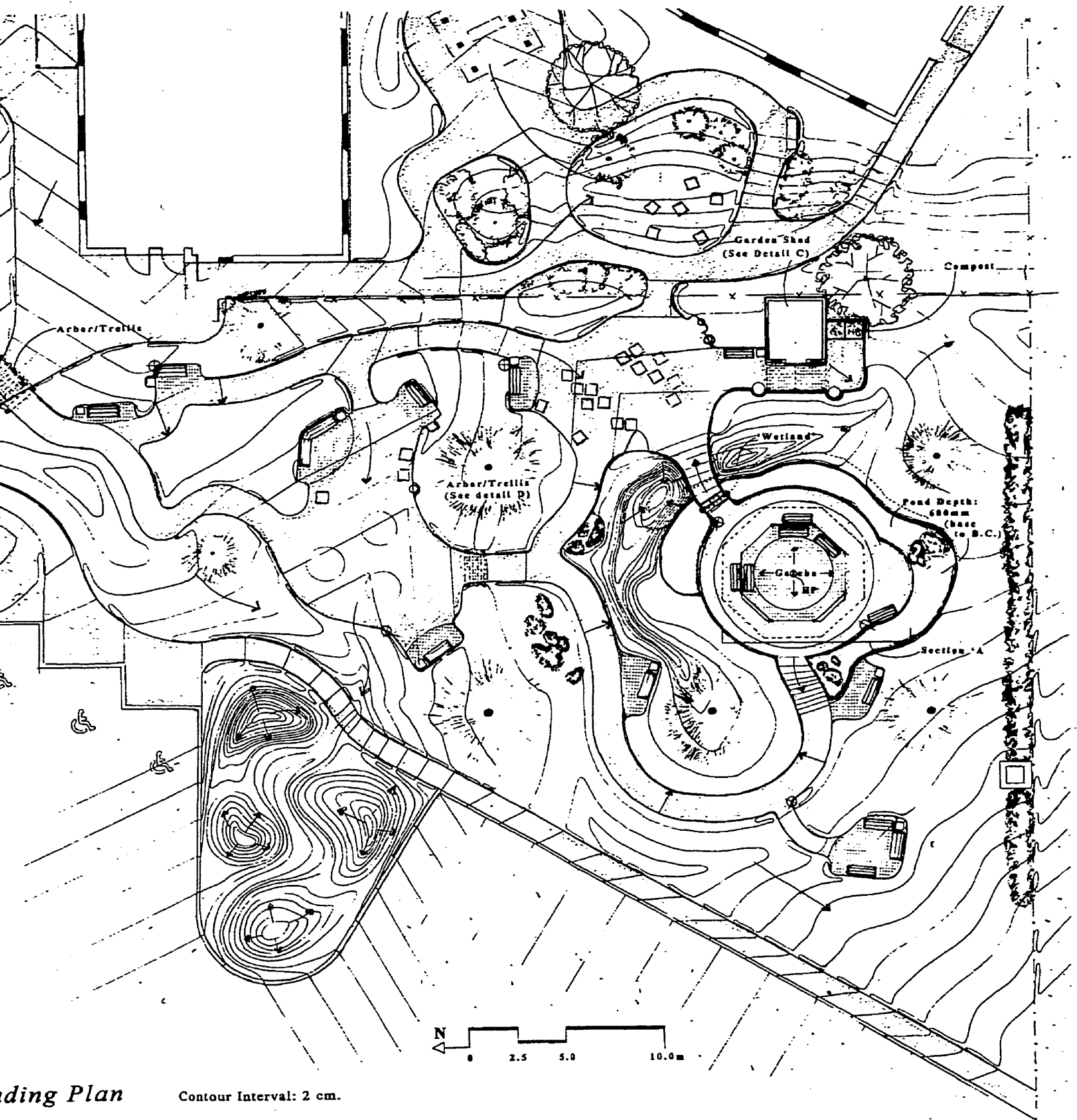
ing Plan (Schematic)





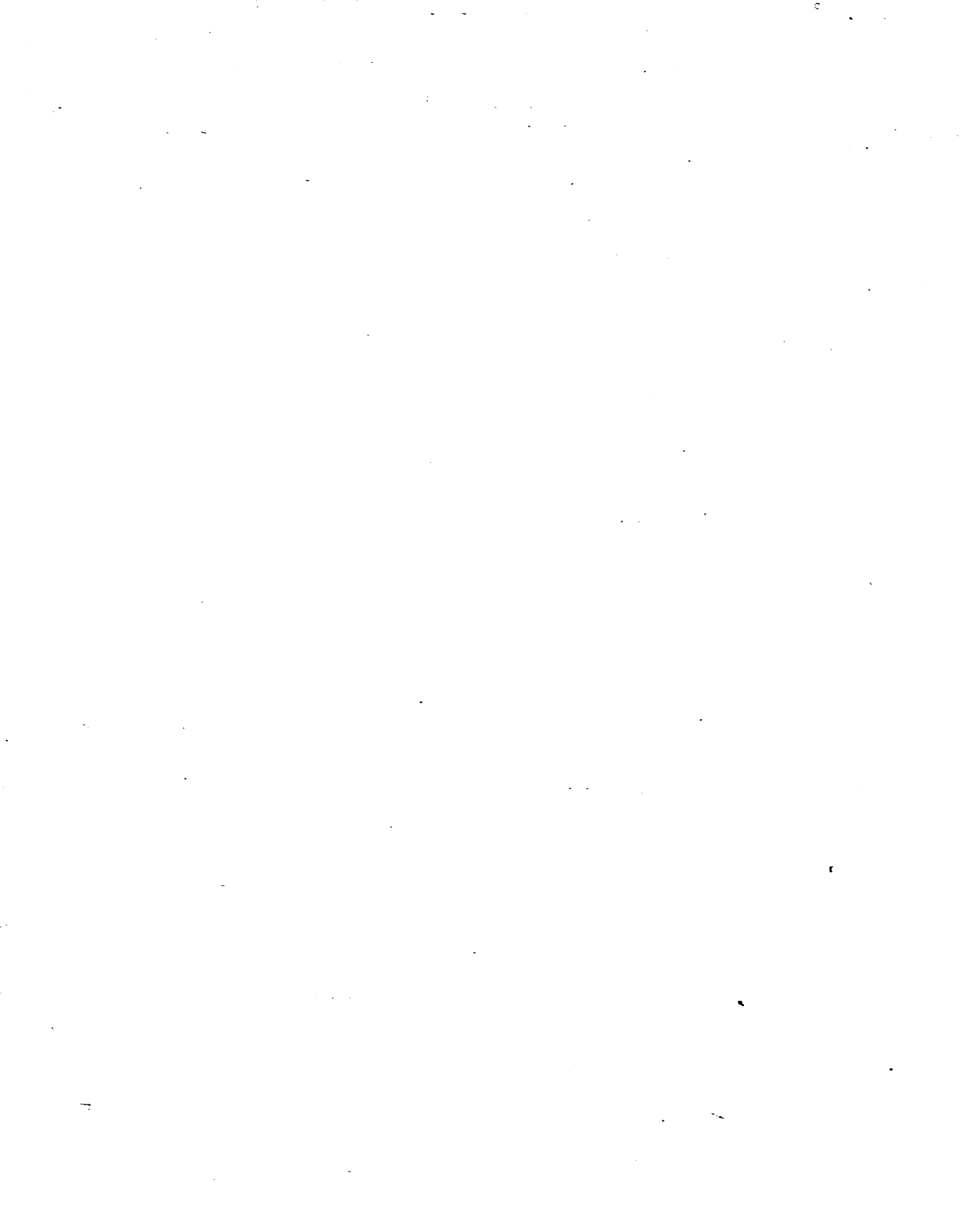
Sherbrooke Community Centre Garden : Grading Plan





ding Plan

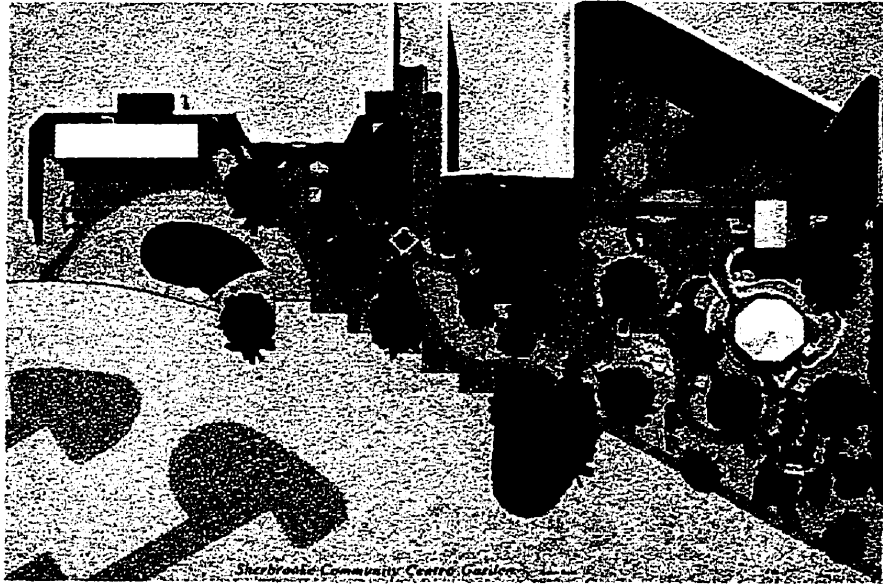
Contour Interval: 2 cm.



IV.ii.B. Site Model Photographs



1. View of site from the west.



2. Plan View

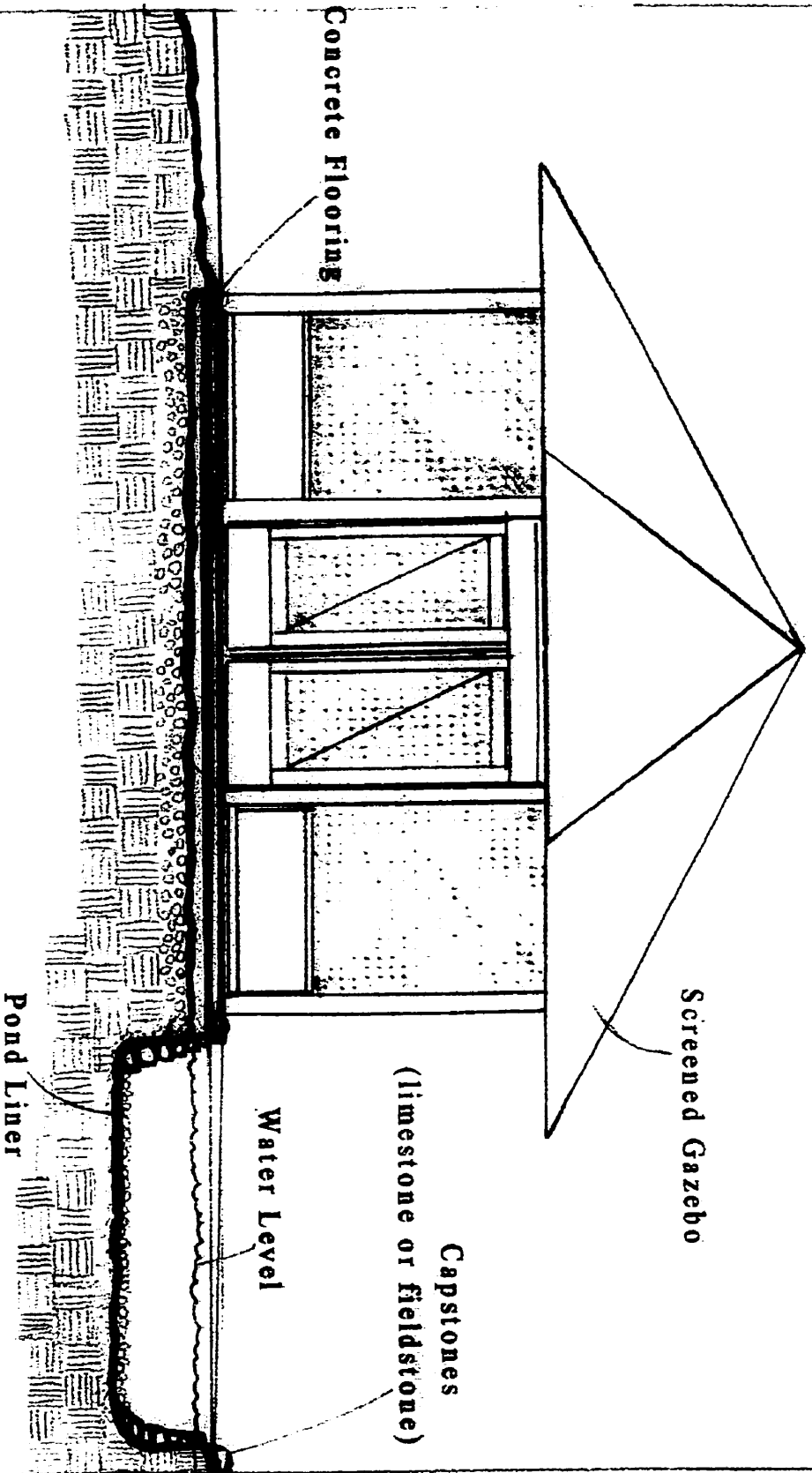


3. View of site looking north



4. View looking east northeast from the southwest corner of the site.

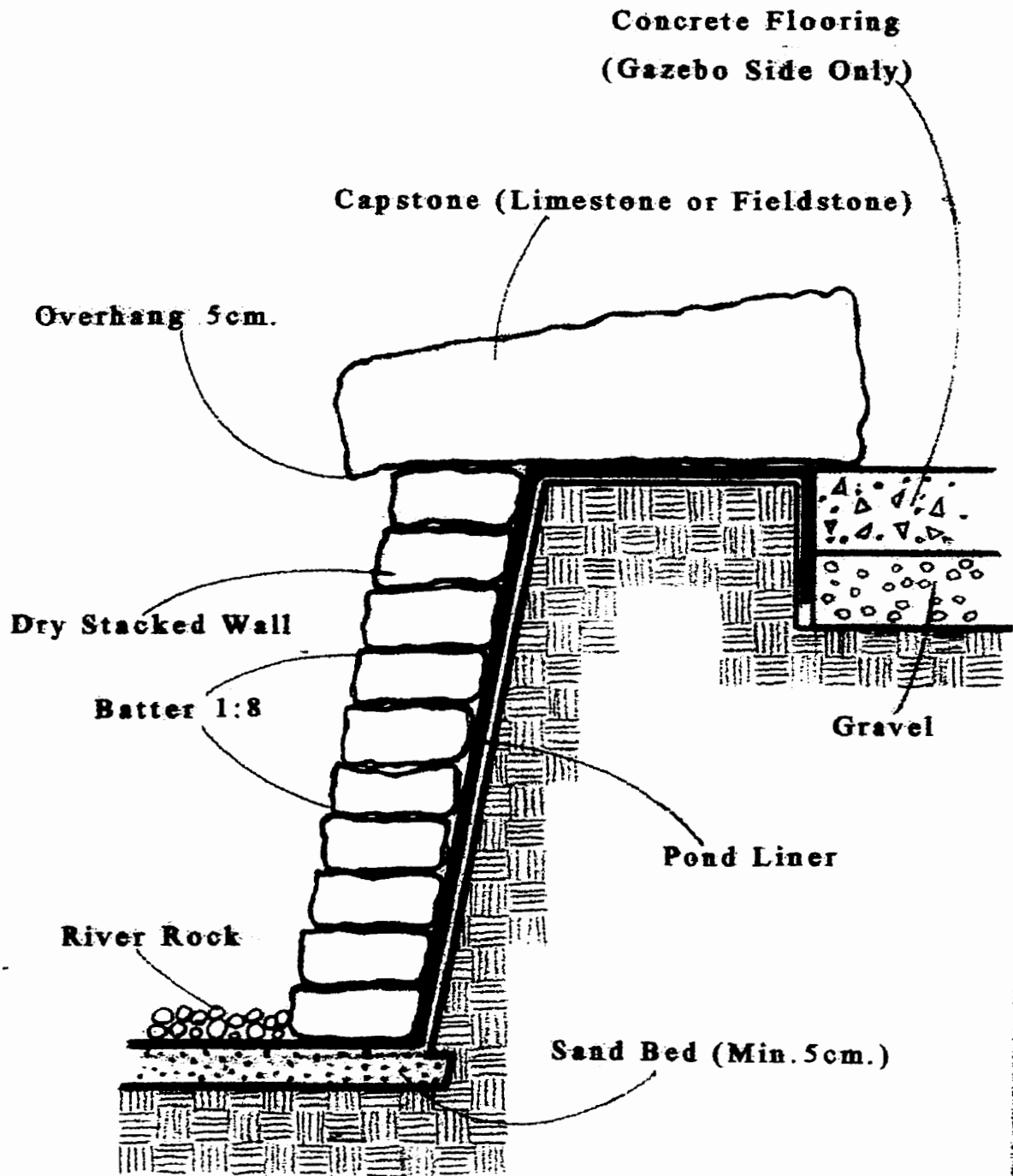
A. Section and Details



Section 'A' Scale: 1:50

(See Base Plan)

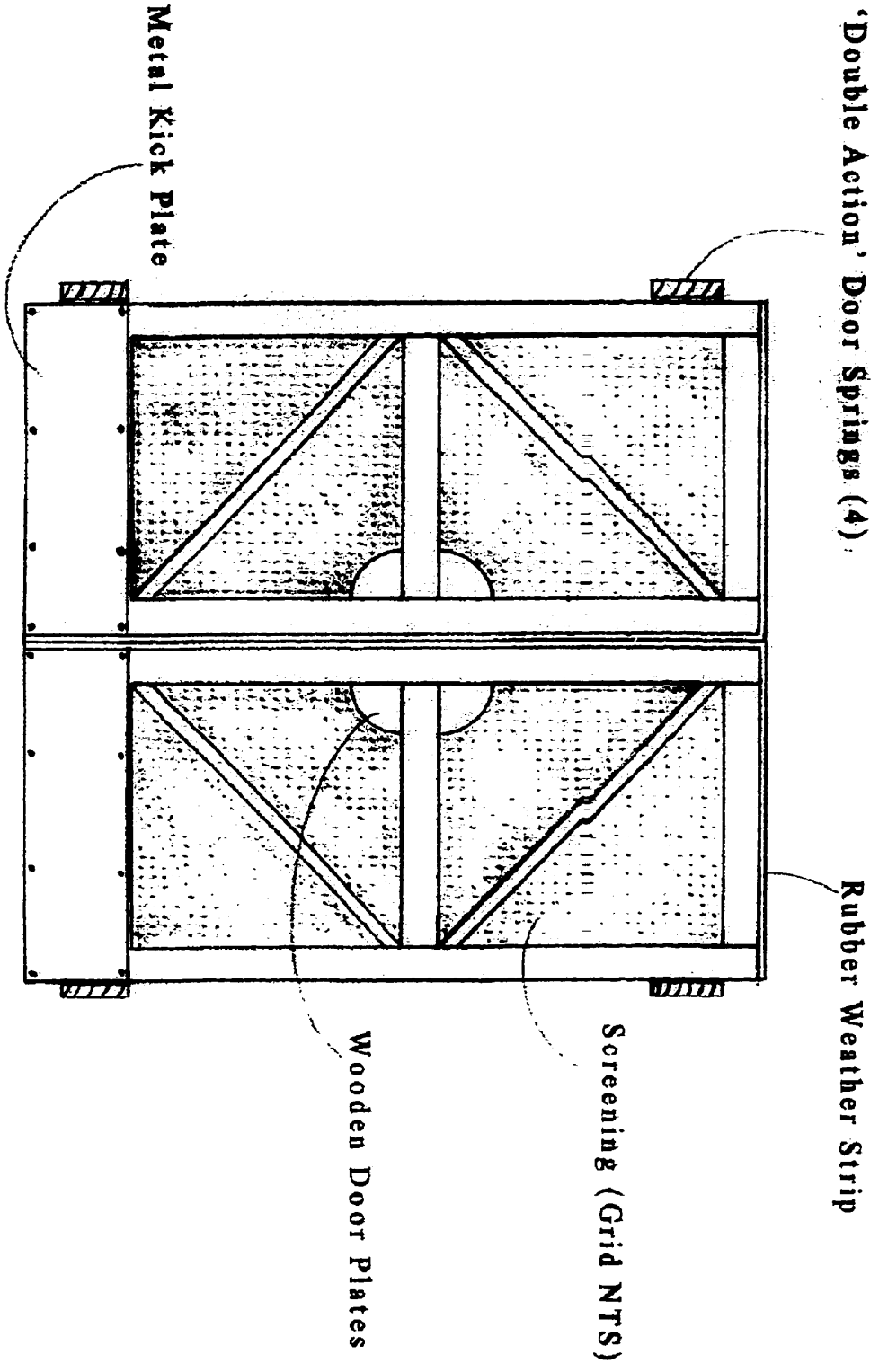
IV.iii.A.a.



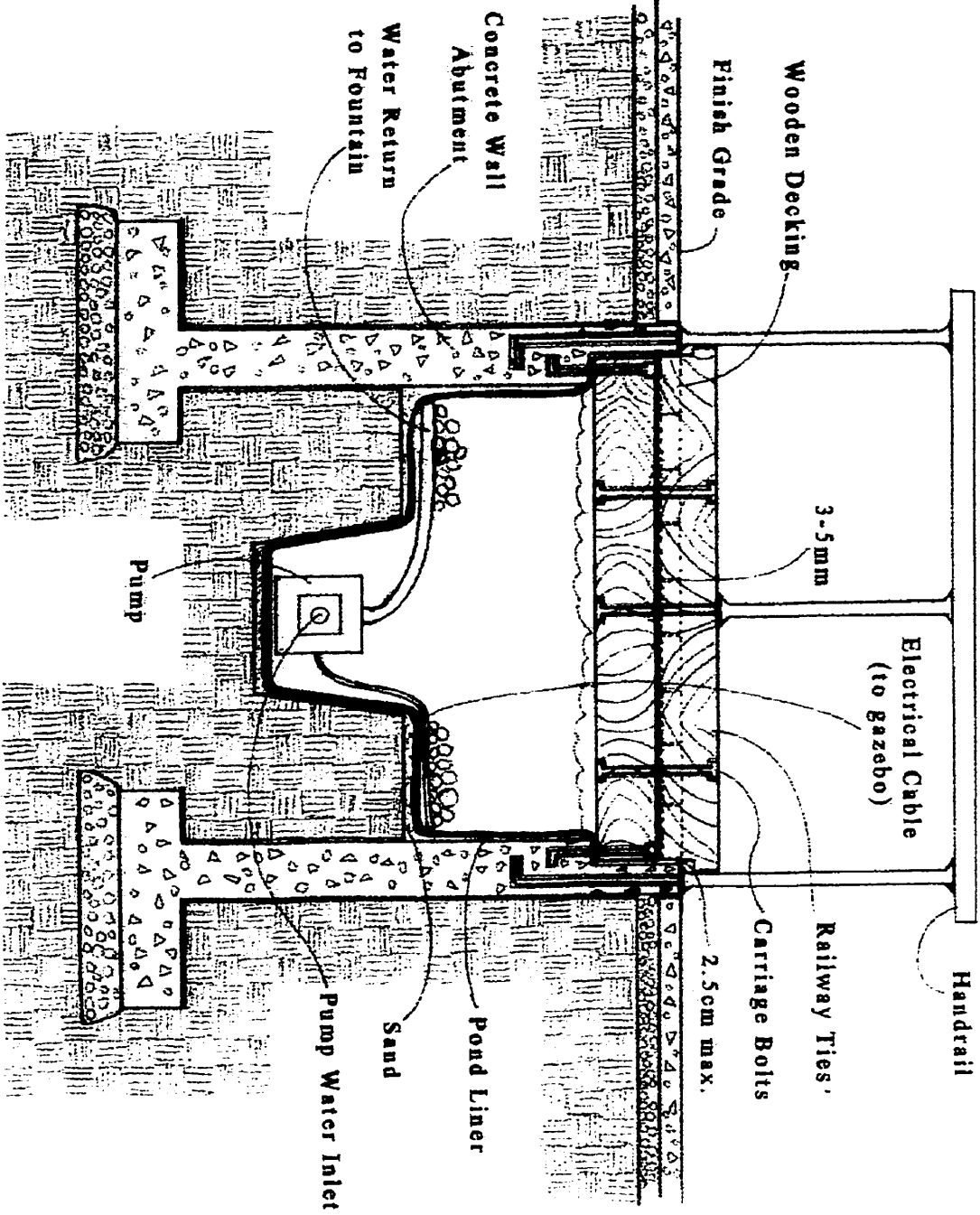
A.i. Pond Curb Detail (N.T.S.)

IV.iii.A.b.

A.ii. 'Spaghetti Western' Saloon Door (Gazebo) Scale: 1:20.

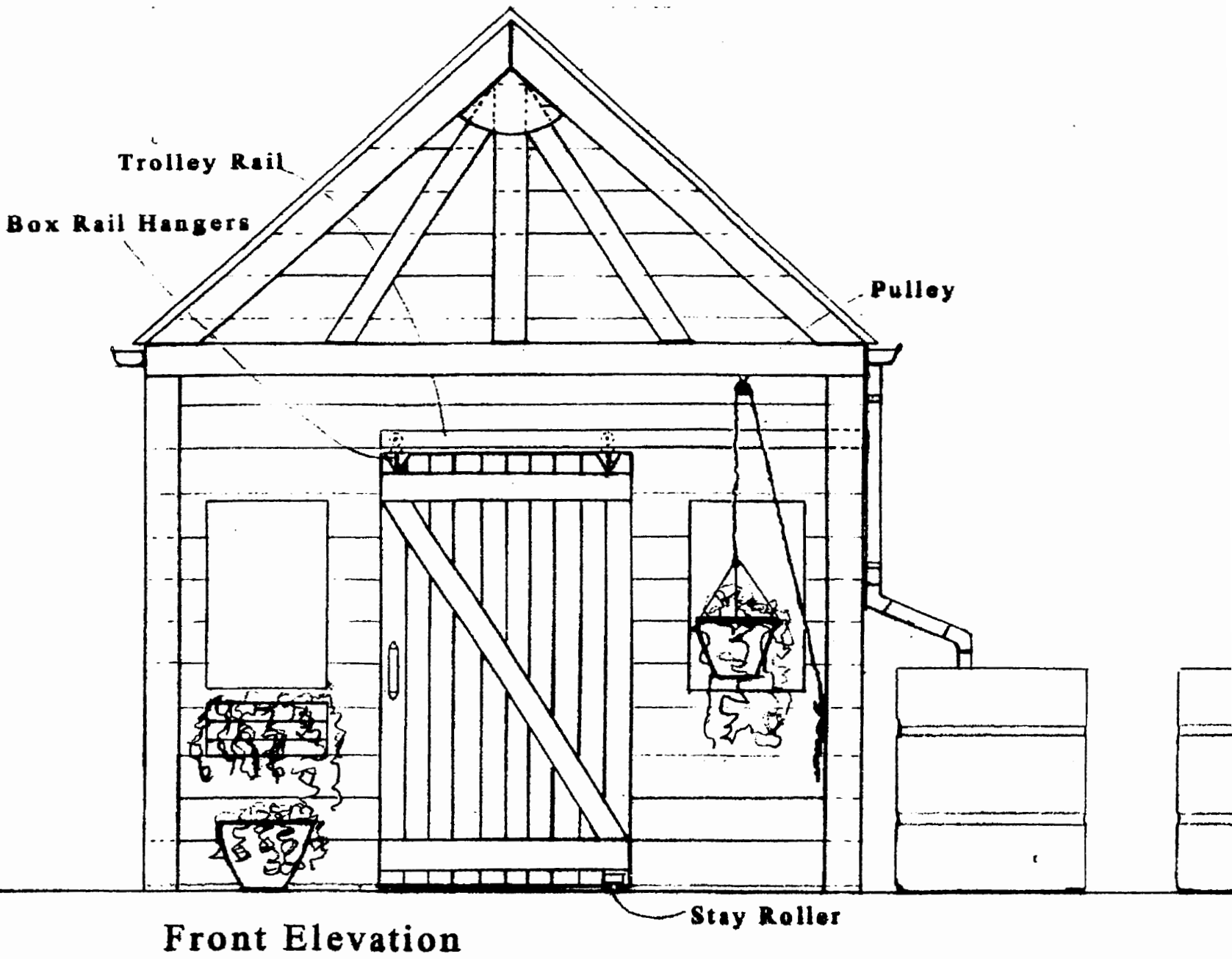


B. Pump and Bridge Details N T S



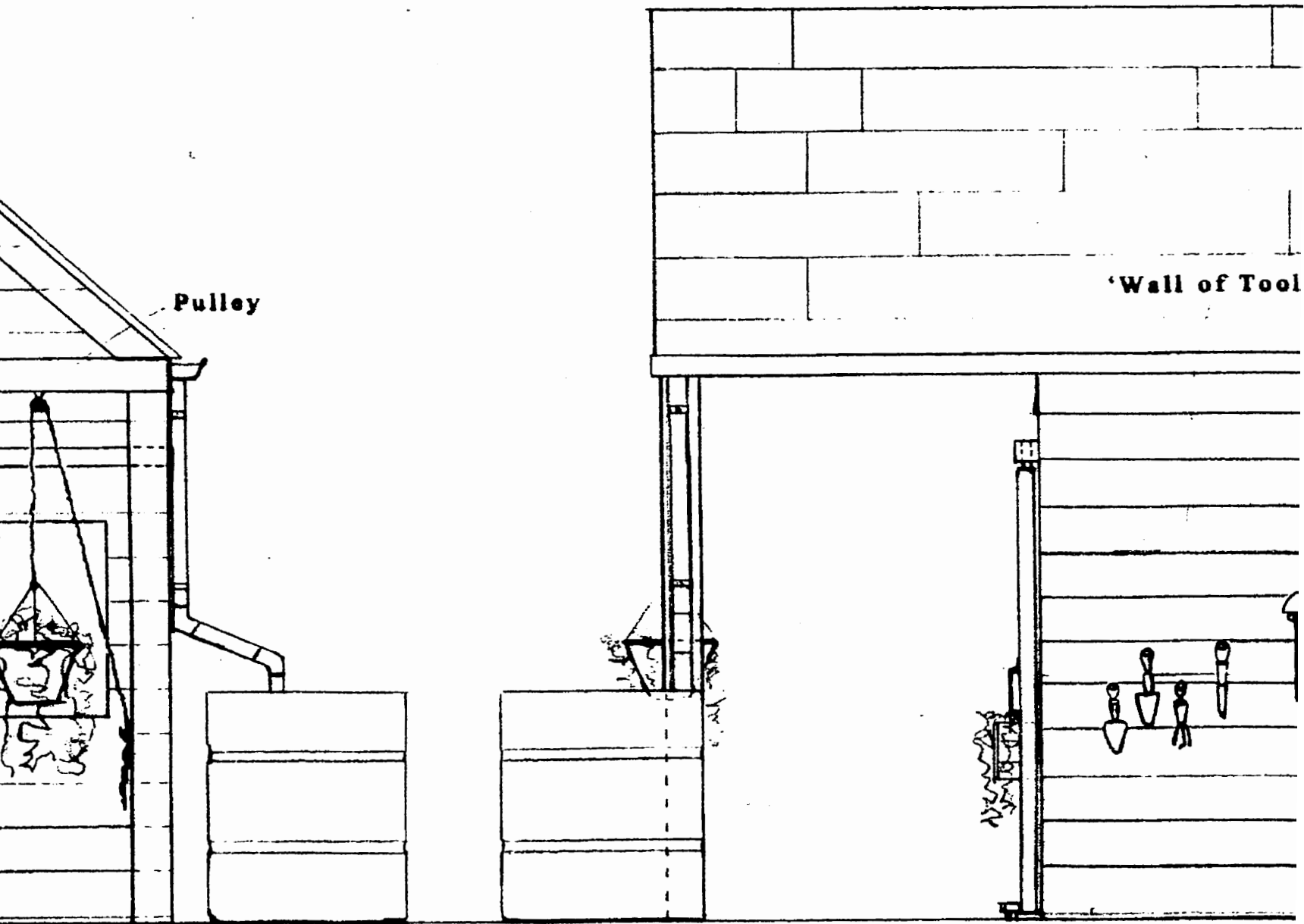
IV.iii.B.

C. Garden Shed.



Sherbrooke Community





Pulley

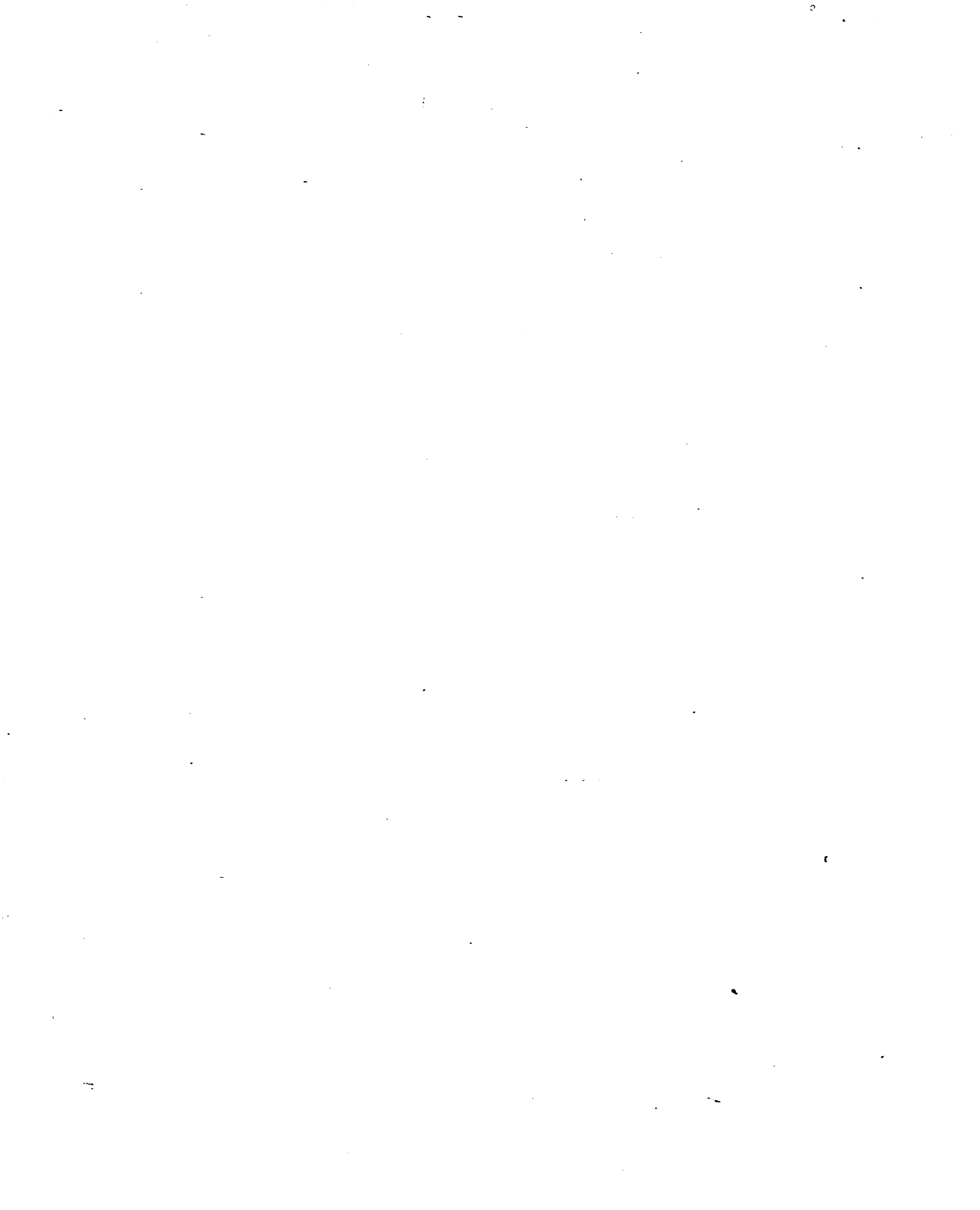
'Wall of Tool

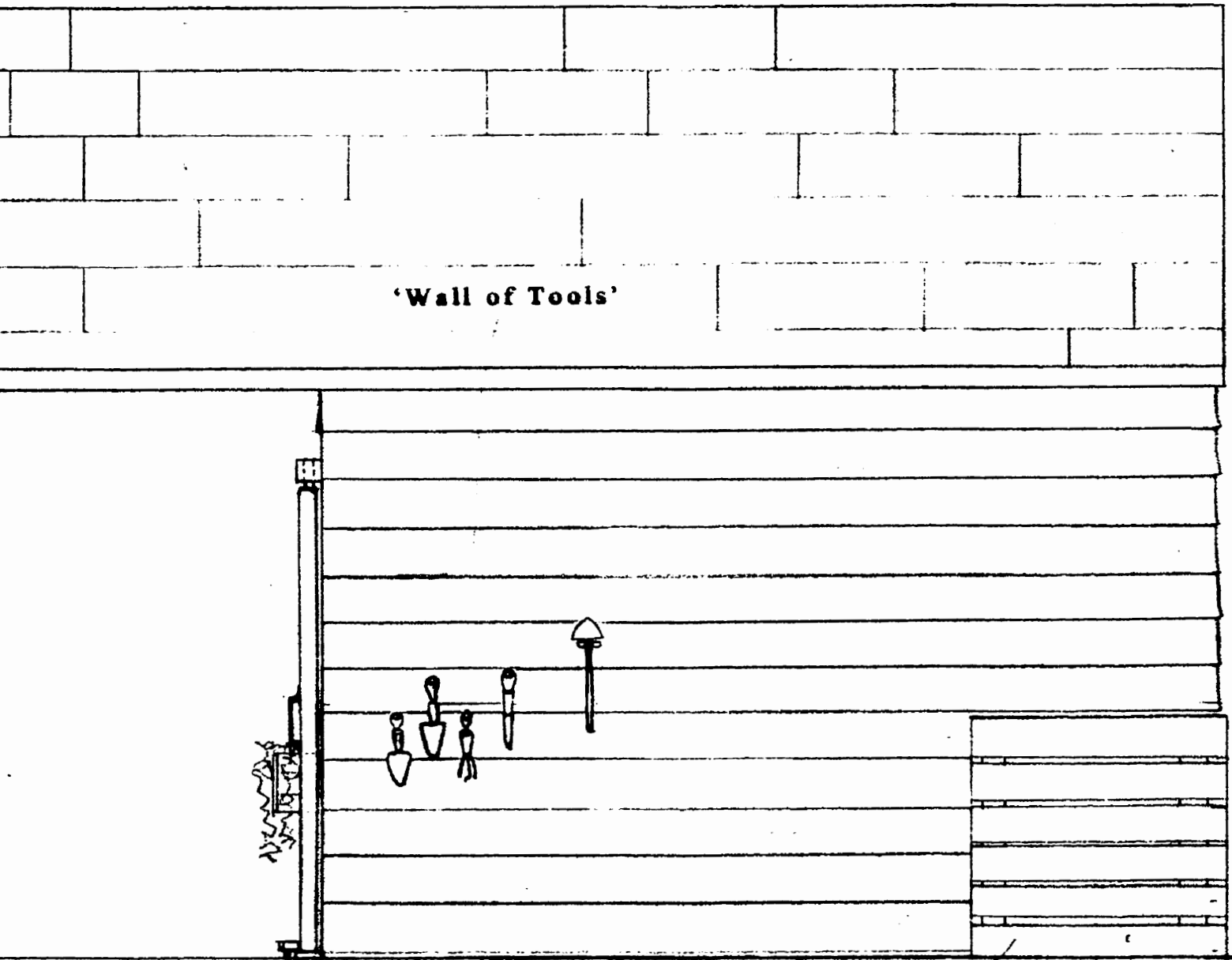
Stay Roller

Side Elevation

Scale: 1:25

Community Centre Garden





'Wall of Tools'

Compost

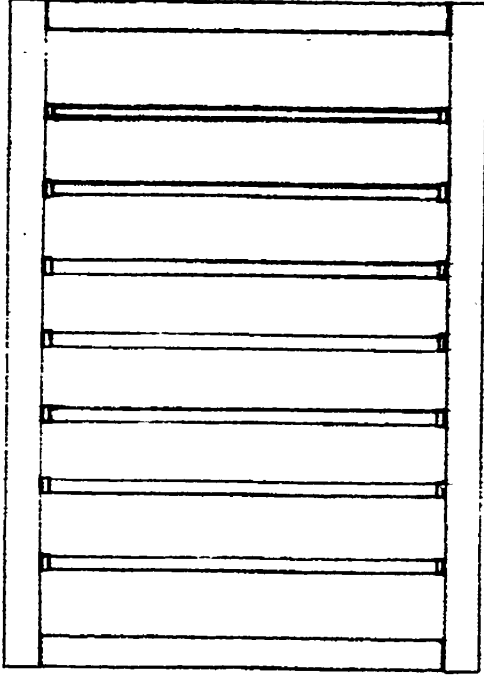
le Elevation

Scale: 1:25

Centre Garden : Detail Drawings

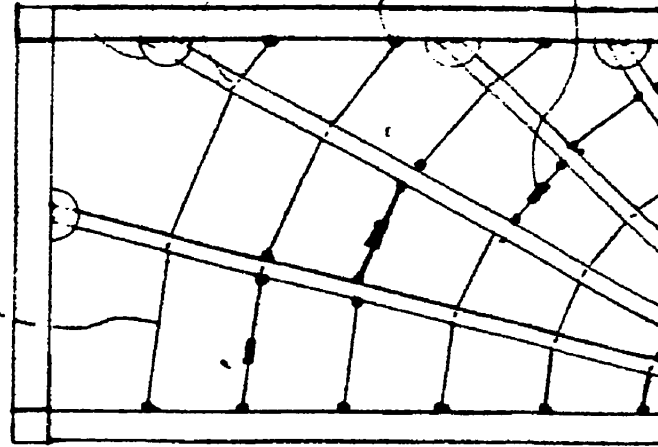


Plan View



D. Arbor Scale: 1:20

Aircraft Cable

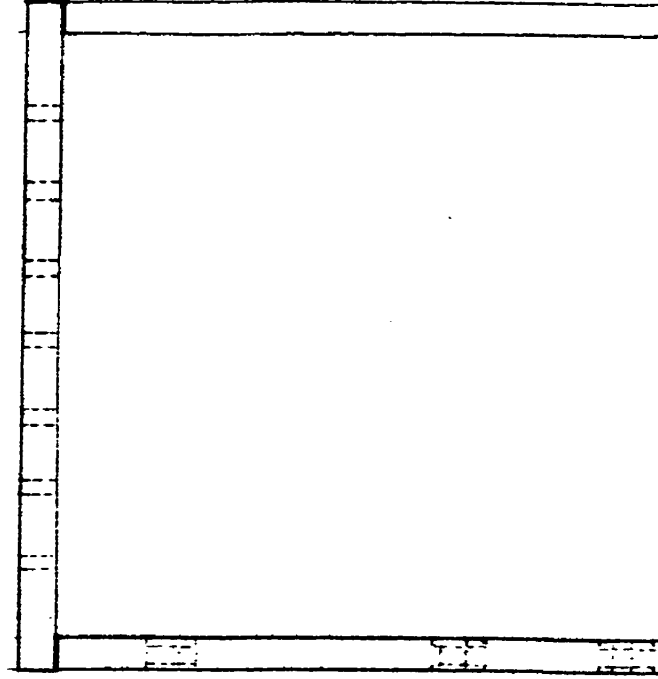


Wooden Supports

**Cylindrical
Metal Collar**

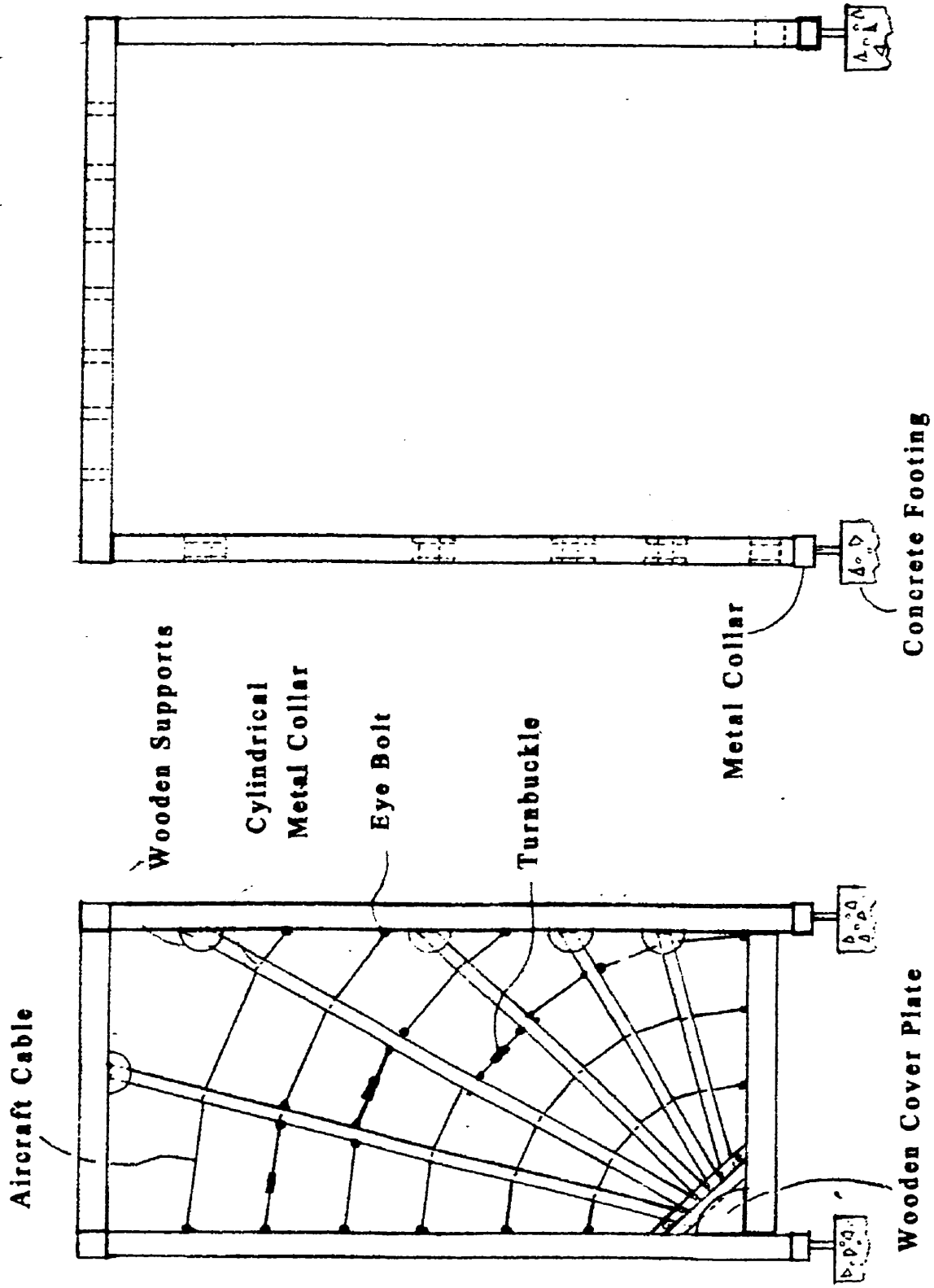
Eye Bolt

Turnbuckle





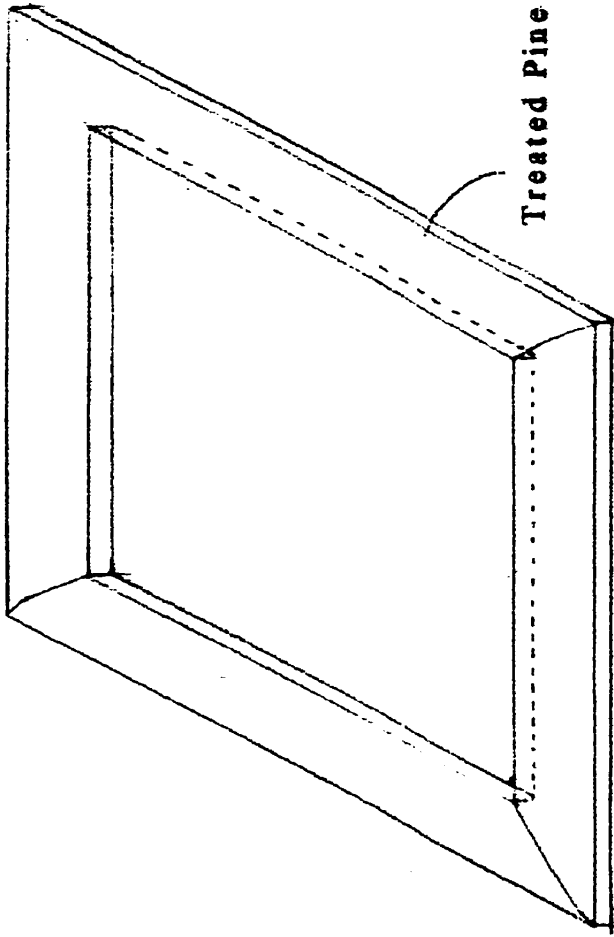
D. Arbor Scale: 1:20



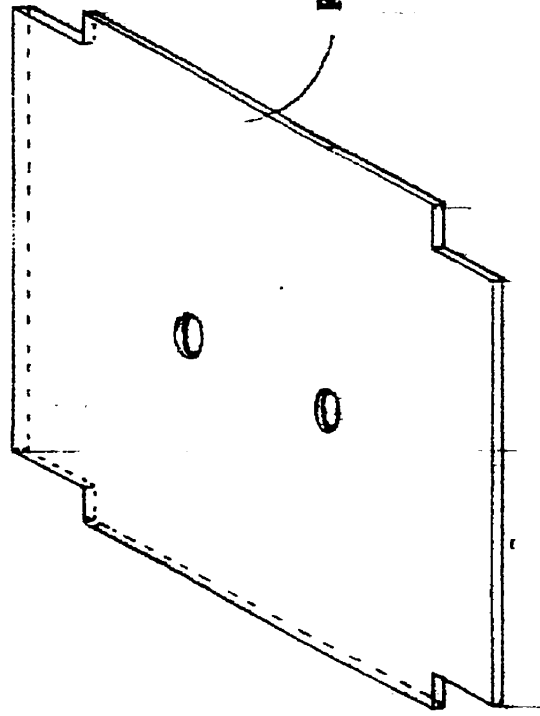
Front Elevation

Side Elevation



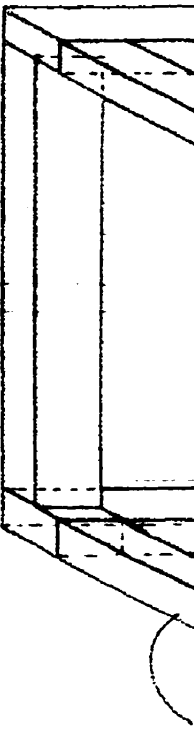
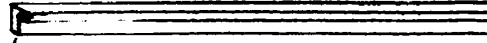


Treated Pine Cover

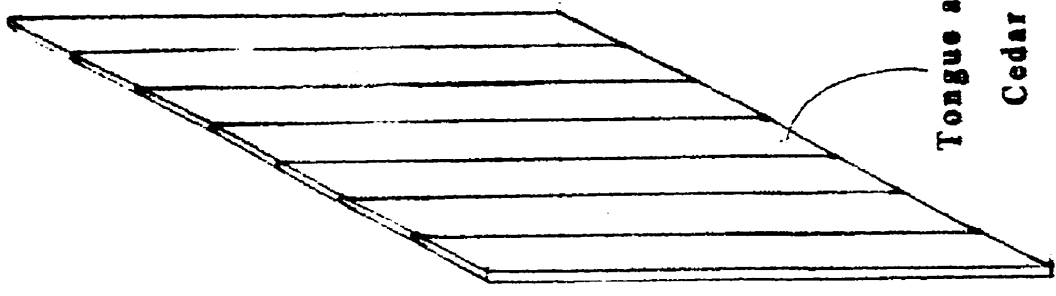
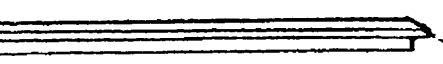


Removable Floor

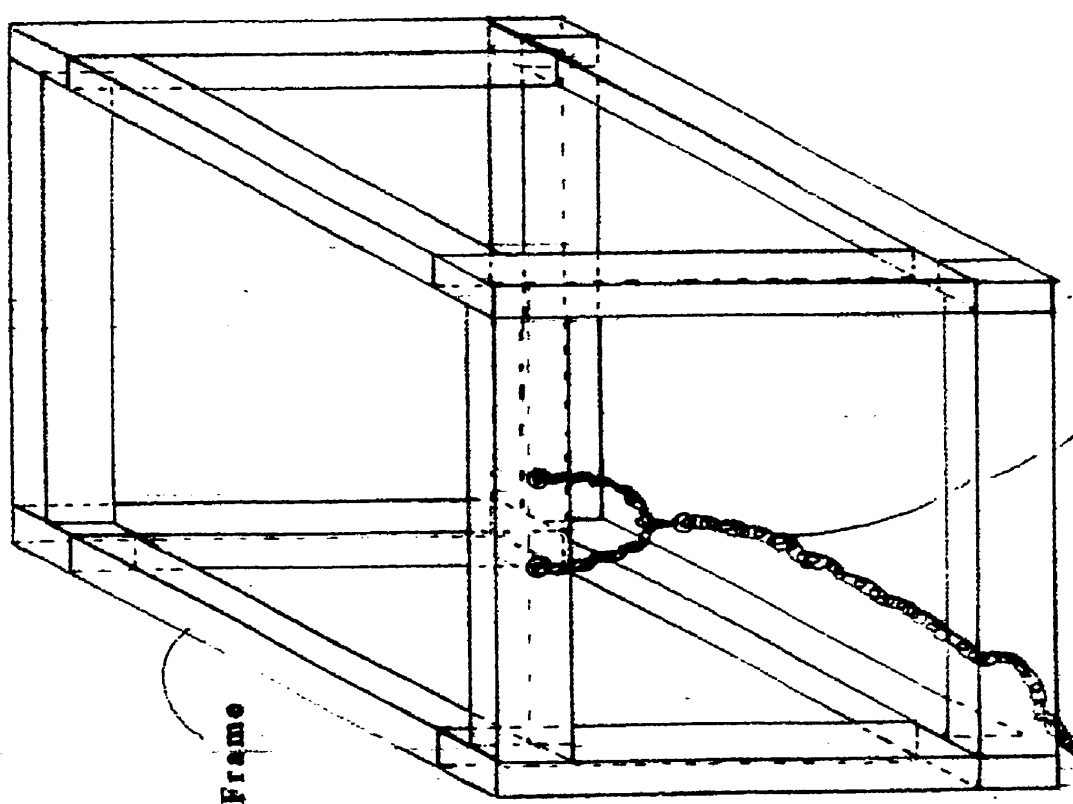
Molding (Optional) (4 corners)







Tongue and Groove
Cedar Siding
(4 sides)

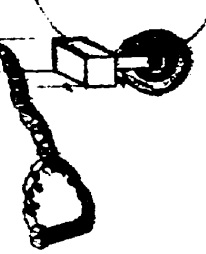


2x4 Frame

Snap and Pull Rope

Spacer

Rubber Swivel Wheels (4)



E. Planter Box Scale: 1:10

