

**INN-VIRONMENT: A PLACE FOR RESTORATION,
RECOVERY AND RENEWAL FROM AIR TRAVEL**

BY
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A Practicum
Submitted to the Faculty of Graduate Studies
In Partial fulfillment of the Requirements for the Degree of

MASTER OF INTERIOR DESIGN

Department of Interior Design
University of Manitoba
Winnipeg, Manitoba

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A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of
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ACKNOWLEDGEMENTS

With gratitude for their dedication, commitment and encouragement, I would like to acknowledge my committee members: chair advisor Akemi Miyahara, internal advisor Jean Trottier and external advisor Stephen Cohlmeier. They have provided a dynamic collaboration of individual experiences, creative insight, and enthusiasm throughout every phase of this academic endeavor. I would also like to express my gratitude to Dr. Seiko Goto for sharing with me her knowledge, expertise and passion for The Japanese Garden and Tea House. Dr. Goto's guidance has contributed immensely to the outcome of this practicum.

For continually believing in all that I do, I am eternally thankful to my friends and family. I am especially indebted to my mom for her unconditional love, guidance and support. I strive to emanate her strength and perseverance.

With patience and understanding, my boyfriend Andrew has motivated me and challenged me to do the best I possibly can. His energy, dedication and passion for all he does, is a constant source of inspiration.

This practicum is dedicated to my Grandmother, Violet Butterfield, for instilling in me the desire to travel and for teaching me to never stop exploring.

ABSTRACT

"As tourism and travel have become an integral part of people's social and economic life styles, hotels have been transformed into crossroads of our nomadic society. Geographic borders appear to have eroded, as people travel anywhere, and anytime, for business, pleasure or the sheer thrill of being on the move. Much of the world's population seems to be in perpetual motion, and the design of contemporary hotels has evolved to encourage this trend." (Albrecht, D., 2002. p. 9).

PURPOSE:

The purpose of the practicum is to address the needs of the contemporary air traveler, within the context of an airport hotel. Typically, airport hotels are placeless, failing to address the surrounding context within which they are situated. Human benefits within a built environment relating to place, time and being will be emphasized. The practicum will focus on the following:

1. Sense of place
2. Awareness of the passage of time
3. Experience of being (in the present moment)
4. Providing a means for restoration, recovery and renewal from air travel

INQUIRY PROCESS:

"To exist is to have a particular connection with a specific part of space at a given moment in time" (Nute.K.,2004). Consideration of the surrounding context within the interior hotel environment will facilitate an understanding of place. Fostering an understanding of place will help to orientate the traveler, enhancing the experience of being in the present moment, thereby understanding the passage of time. The practicum will also investigate how natural elements that have a positive effect physically, mentally, and emotionally can be effectively integrated into the hotel interior environment to enhance the experiential journey toward restoration, recovery and renewal for the contemporary air traveler.

The inquiry process and methodology will entail analysis of secondary literature and case studies. The secondary literature topics are as follows: (1) Phenomenon of Air Travel, (2) Health effects of Air Travel, (3) Nature and Restoration, (4) Nature and the Human Psyche and (5) Techniques used in Japanese Architecture to represent nature. Three case studies pertaining to built environments that celebrate a particular place, time and experience of being will be analyzed. The research findings will form the design foundation for the proposed hotel.

Five areas within the Four Points Sheraton ® Hotel will be designed in detail: (1) hotel lobby, (2) restaurant, (3) spa facility, (4) prototype guest room, and (5) the transitional spaces connecting all four areas. The transitional space will be considered as a means of defining the layers connecting each space.

The presence of nature will be strategically integrated into the hotel through spatial and visual diversity of experience, scale of space, selection of materials, lighting, and views into and out of adjacent interior space. The integration of natural elements will provide a means for calming the human mind, body and psyche from travel-induced stress, creating a healing effect for the traveler.

PROJECT SITE:

Four Points Sheraton ® Hotel, Winnipeg International Airport
Winnipeg, Manitoba Canada

CONCLUSION:

The practicum and design project will demonstrate how the Four Points Sheraton ® Hotel provides a place for restoration, renewal and recovery from the chaos of travel, within the context of contemporary interior design.

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1.0 INTRODUCTION AND PROJECT OVERVIEW

1.1 PHENOMENON OF AIR TRAVEL

Everyday, millions of people of widely varying ages and states of health travel by air, sometimes for very long distances. Air travel has contributed largely to the global diversity of race and culture we see today, and without international air travel, world commerce would not have reached the existing magnitude of products shipped and received within the marketplace. Air travel has also played an invaluable role in international relations through its ability to enable an almost instantaneously response to an event anywhere in the world. "The benefits of air travel in contemporary society are so real, so evident, and in such demand that commercial air travel will continue to grow to the benefit of humankind" (DeHart, 2003, p.150).

In conjunction with the growth of air travel, hotels have evolved to meet the needs of the contemporary traveler. "Contemporary hotel culture demonstrates that travel and tourism remain central to modern life" (Albrecht, D., 2002. p. 7). Hotels, whether in cities or remote areas, have evolved from ordinary places to sleep while in transit, to sophisticated destinations that combine private guest rooms with restaurants, lounges, gyms, spas, meeting facilities, and ballrooms. Contemporary hotel design not only fulfills travelers' needs, it plays an integral role in improving the overall travel experience.

The evolution of travel has simultaneously defined the evolution of hotels. The increasing number of people traveling, either conducting business on a global scale or jetsetting off to foreign places for adventure, equate to hotels meeting the population's growing mobility. As society expects more and more entertainment, hotels are simultaneously rising to the challenge by becoming highly experiential destinations. "Even nature itself has been turned into a spectacle for tourists. Hotels in natural settings emerged in the nineteenth century to provide respites from city life and industrialization" (Albrecht, D., 2002. p. 8). Bathhouses and water spas were introduced by the ancient Greeks, and later perfected by the Romans where they became the first man-made facilities to use nature as a therapeutic form of renewal. Contemporary hotels continue

to offer places to recover from stress and routine, and offer not only release from travel exhaustion, but fulfillment through encounters with nature.

1.2 PROJECT DESCRIPTION

The objective of this practicum is to strategically design a place for restoration, recovery and renewal within an airport hotel.

Air travel is a highly kinetic and desensitizing experience whereby the human body often encounters many adverse health effects. People who travel are on the move and the overall kinetic experience affects all senses. This practicum will examine the transitional journey from the Winnipeg International Airport to the Four Points Sheraton ® Hotel. Philosopher Maurice Merleau-Ponty describes this simultaneity of experience and sensory interaction in the following way: 'my perception is [therefore] not a sum of visual, tactile and audible givens. I perceive in a total way with my whole being. I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once.' (Merleau-Ponty, M. P., 1964, p. 48). The concept underlying the Traditional Japanese Tea House will be explored as a strategy for designing a seamless multi-sensory experience, incorporating nature and natural elements and broadening the user's ability to recover from air travel.

The journey to renewal will explore ways that sense of time, understanding of place, and experience of being can be enhanced through design.

Air travel diminishes the awareness of the distance traveled, the passage of time or integration into the place to which you are traveling. Airport hotels are typically placeless, failing to acknowledge the surrounding landscape, geographical setting and local culture. In order to create a sense of place within such an environment, consideration of both site and surrounding context will be incorporated into the design criteria.

Western culture is based on speed and control, largely dependant on the sense of vision with its instantaneous imagery and distant impact, whereas Eastern Culture promotes haptic experiences, architecture that fosters slowness and intimacy, appreciated and comprehended gradually as images of the body and the skin. The architecture of the eye detaches and controls, whereas haptic architecture engages and unites. Tactile sensibility replaces distancing visual imagery by enhanced materiality, nearness and intimacy. (Montague, T, 1971, p. 13)

The Japanese Garden and Tea House exemplify haptic architecture by placing an emphasis on distance, passage of time and understanding of place. In order to enter the Tea House, you must pass through a series of spaces, transitional zones and layers of space. An awareness of the progression through space enables a greater sense of detachment from the chaos of contemporary society.

The design challenge for the hotel is to develop a strategy for understanding spatial experience in motion, facilitating an awareness of the transition from one space to another. The intention behind defining the transitional spaces is to change the mindset of the user and create a diversified sensory experience. Each space and layer of transition will be explored according to design strategies developed from a study of the traditional Japanese Garden and Tea House.

2.0 LITERATURE REVIEW

The method of inquiry I will use is content analysis. This method allows analysis of secondary literature to provide further investigation and insight into the practicum topic.

The theoretical objective is to investigate the following:

1. The health effects of air travel
2. The contributing factors of stress and fatigue upon air travelers
3. The restorative benefits of nature and natural elements
4. The benefits of nature on the physical, mental and emotional well-being of the traveler
5. The techniques for representing and integrating nature and natural elements into the hotel for restoration, recovery and renewal

2.1 HEALTH EFFECTS OF AIR TRAVEL

For many people, air travel is a way of life. People fly to visit family and friends, to attend a celebration or a funeral, to go to university, or work, or to escape the mundane activities of daily life. Business is conducted on a global scale requiring people to fly frequently. As a result of the greater volume of air traffic witnessed worldwide, the health effects related to air travel have increased. The health and wellbeing of travelers is in jeopardy not only in-transit but pre and post flight as well. It is critical for passengers to properly prepare prior to a flight and to be able to restore themselves after a flight.

In 2003, Roy L. DeHart of The Vanderbilt Centre for Occupational and Environmental Medicine, Nashville, Tennessee, published health issues associated with air travel. The environmental concerns inherent to air travel are summarized below.

Pre-Flight

For the purposes of this practicum the total experience of flying has been considered, not just the experience of flight. The contemporary traveler is exposed to travel anxieties prior to flight where the inevitable components of air travel occur: luggage handling, airport congestion, delayed flights, customs inspections and security clearances. Since the tragic events of September 11, 2001, pre-boarding-stress, anxiety, and frustration have increased enormously.

The Flight Environment

Once on board, passengers push their way along the narrow aisle of the aircraft to find space in the overhead compartment or under the seat to stow their carry-on luggage. When seated, passengers find that there are only inches between themselves and other passengers. Airborne passengers then breathe recycled air depleted somewhat of oxygen and so low in humidity that their noses and throats become dry and irritated. Other symptoms of poor cabin air include odor, temperature discomfort and draft. Passengers are exposed to the physical stress of noise and

vibration and occasional disruptions in the flight path sufficient to induce motion sickness. There are at least four potential stressors present in the flight environment affecting passenger comfort level:

- | | |
|---------------------------------|-----------------------------|
| 1. Reduced atmospheric pressure | 2. Reduced oxygen |
| 3. Noise and vibration | 4. Subfreezing temperatures |

1. Atmospheric pressure- is the downward pressure exerted by the weight of the overlying atmosphere. A reduction in atmospheric pressure results in the sudden expansion of gas in the sinuses, middle ear, lungs, and intestines until the gas can be released. If the gas is trapped this can result in pain and discomfort for passengers. To maintain an appropriate pressure level in the cabin, outside air is compressed by the jet engines and transferred into the cabin. When the air is compressed, it is heated and must be properly conditioned before entering the cabin. The process used to maintain the appropriate oxygen level dries the air, reducing its humidity before it enters the pressurized cabin.
2. Reduced oxygen- as the aircraft ascends in altitude and the surrounding gas pressure drops, the percentage of the relative gases remain the same. In the case of oxygen, although the relative amount of gas remains the same, the amount of total gas is significantly reduced, resulting in an inadequate amount of oxygen reaching the body's tissue. Cabin altitude was selected over 50 years ago when most passengers were expected to be healthy and fit and not expected to have any adverse health outcomes from the slight reduction in available oxygen. Today people have increasing health concerns, and varying levels of environmental sensitivities.
3. Noise and vibration- Passengers and crew are susceptible to high decibel noise during short and long-haul flights. The principal sources of noise and vibration are from engine, air movement/friction, and in-flight cabin activity. Exposure to high noise and vibration could cause irritation and discomfort for passengers and crew with hearing sensitivities, and may take a while after flight to recover from.

4. Subfreezing temperature- modern jet aircraft have pressurized and climate-controlled cabins that maintain and regulate temperatures. However, with increased altitude environmental temperature is reduced. Passengers may be sensitive to compensating cabin temperatures and feel discomfort in their core body temperature regulation.

Post-flight

Post-flight, passengers may have traveled eight hours since departure in a foreign country, having crossed multiple time zones. Their bodies remain convinced that it is 4:00am and they should be sleeping, when the actual time is 10:00am. This de-synchronization of physiological rhythms contributes to travel-induced fatigue, commonly known as jet lag.

Circadian dysrhythmia is a disruption of the normal physiological rhythm of the human body based on a 24-hour cycle. This disruption often occurs in travelers crossing multiple time zones. A circadian rhythm is a synchronized process that affects many physiological functions and sets the body's internal clock. The result of sitting for long periods may cause Deep Vein Thrombosis (DVT). Some passengers have a genetic tendency for increased blood clotting. Other factors such as illness, smoking, and medication may present pre-existing risks leading to DVT during or following flight. According to Winnipeg airport demographics, 80% of the flights arriving in Winnipeg originate within Canada, limiting passenger exposure to jet lag and DVT. The environment and our ability to provide the timing for these rhythms act together, resulting in disruption to a person's daily physical schedule.

Contemporary air travel exposes the traveler to irregular conditions affecting all senses. Thus the total experience of flying impacts the traveler. Pre-flight, the traveler may experience frustration, anxiety, and stress resulting from luggage handling, flight delays, airport congestion, customs inspections and security clearances. While in-transit, the passenger housed in a confined cabin environment may experience discomfort associated with reduced atmospheric pressure, reduced available oxygen, noise and vibration and temperature regulation, among many other potential

stressors. The traveler's comfort level may be affected by fear of heights, being away from home and in what may be an unfamiliar and uncontrollable environment and, for some, exposure to considerable stress at a time of maximum vulnerability. Steps taken prior to flight and post flight can help minimize the overall effects impacting one's health. The proposed hotel design will take into consideration the environmental conditions inherent to air travel as the precursor to this practicum, and enhance the traveler's ability to recover from such impacting health effects.

2.2 NATURE AND RESTORATION

"A Place with extent is a cohesive whole. It is free of interruptions and interference from things that do not belong" (Kaplan & Kaplan, 1998, p. 73).

Nature plays an integral role in restoration. As a result of environmental stressors related to air travel conditions, many people experience and suffer from physical and mental fatigue. This causes circadian rhythm imbalance, and consequently attention and performance decline. Few travelers seek restoration from travel in spaces of tranquility and serenity for peace of mind. In 1892 Psychologist, William James (as cited in Kaplan, 1995) developed a theory based on the notion of attention decline and the need for restoration, entitled "Attention Restoration". James emphasized the voluntary will to focus, and ability to divert one's attention away from all distractions to obtain attention restoration.

Although James (as cited in Kaplan, 1995) emphasized the role of effort in voluntarily directing one's attention away from the source of distraction, he did not address the possibility that people in this context are susceptible to fatigue. Landscape Architect, Frederick Law Olmstead (as cited in Kaplan, 1995) not only recognized the possibility that the capacity to focus might be beleaguered by fatigue he also recognized the need for urban dwellers to recover their mental capacity in the context of nature. This was evident, both in his approach to the design of parks, and in his writing. Olmstead wrote about the importance of natural scenery to restoration "...it 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" (as cited in Kaplan, 1995, p. 174).

Inspired by James and Olmstead's (as cited in Kaplan, 1995) notion of voluntary attention and fatigue, Environmental Psychologists Stephen and Rachel Kaplan (1989) renamed the concept "Directed Attention Fatigue." The properties that emerged from the amalgamation of James' and

Olmstead's theories are: they require effort; play a central role in achieving focus; are under voluntary control; are susceptible to fatigue; and control distraction through the use of inhibition. What is important to extract from Kaplan and Kaplan's concept is not what has caused the decline in attention and brought upon fatigue, but the state of mind that is altered and the steps taken for restoration.

Kaplan and Kaplan (1989) stated that restorative benefits are more likely to occur when one can feel secure enough to let down one's guard, and feel absorbed in the environment without feeling vulnerable. The concept of restorative experiences arose in the context of a 9-day research program conducted by Kaplan and Kaplan (1983) in the wilderness. As a result of time spent in nature, the participants found the program to be fully conducive to recovering from mental fatigue. Although the participants found restoration in wilderness, restoration can occur at many different levels and in vastly differing amounts of time, depending on the context. Many activities and settings can provide opportunities to recover from mental fatigue. Most often, nature and activities that involve natural environments lend themselves to restoration. Kaplan and Kaplan (1989) noted that everyone experiences natural environments and settings differently, but common properties emerge.

The following properties, defined by Kaplan and Kaplan (1989) are based on the components of the restorative environment.

(1) Being Away.

Recovering from mental fatigue requires being some place other than the source of the fatigue (Kaplan & Kaplan, 1989). People often talk of having to get away, of needing a change of scenery. Such expressions indicate accumulated mental fatigue.

Generally, people physically remove themselves from the source of mental fatigue in order to overcome it. However, Kaplan and Kaplan suggest that the effect of removing oneself from the

source can also be achieved conceptually. Quite often the mind wanders off to distant places for a moment, allowing one to feel as though one is far removed from one's current state. Being away can involve a conceptual rather than a physical transformation. A new or different environment, while potentially helpful, is not necessarily essential. A change in the direction of one's gaze, or even an old environment viewed in a new way can provide the necessary conceptual shift.

Natural settings are often the preferred destinations for extended restorative opportunities (Kaplan & Kaplan, 1989). The seaside, the mountains, lakes, streams, forests, and meadows are idyllic places for 'getting away'. Yet, for many people in the urban context, the opportunity to get away to such destinations is not possible. However, the sense of being away does not require that the setting be distant. Natural elements can be implemented into the interior environment, creating an opportunity for a virtual escape. For example, surrounding oneself with some aspect of nature implies being somewhere different from the usual.

(2) Fascination.

Nature is comprised of fascinating objects as well as many processes that people find fulfilling (Kaplan & Kaplan, 1989). Many of the fascinations afforded by the natural setting qualify as 'soft' fascinations: characteristic of natural settings that have a particular advantage in terms of providing an opportunity for reflection, which can further enhance the benefits of recovering from directed attention fatigue. Kaplan and Kaplan (1989) used the concept 'Restorative Experiences' or 'Restorative Environments' to refer to such opportunities for reducing the fatigue of directed attention. Clouds, sunsets, snow patterns and the motion of leaves in the breeze readily capture a person's attention, yet in an un-dramatic fashion. Attending to these patterns is effortless, leaving ample opportunity for thinking about other things. Although Kaplan and Kaplan reference natural settings as places of restoration, the principles can be applied to interior design. For example, the use of materials that are characteristic of natural settings - wood, cork, and stone -

can create fascinating focal points within interior space that provide opportunity for reflection on nature.

(3) *Extent.*

The environment must be rich enough and coherent enough to constitute a whole other world. It must provide enough to see, experience, and think about so that it takes up a substantial portion of the available room in one's head (Kaplan & Kaplan, 1989).

In the distant wilderness, extent comes easily. However, even a relatively small area can provide a sense of extent. Trails and paths can be designed so that small areas seem much larger. Miniaturization is another device for creating a feeling of being in a whole different world, although the area is in itself not extensive. Japanese gardens combine both of these devices and provide a sense of scope as well as connectedness. Extent also functions at a more conceptual level. For example, settings that include historic artifacts can promote a sense of being connected to past eras and past environments and thus to a larger world (Kaplan, 1995). As a component of restoration, extent can be applied to interior design enhancing the restorative experience. Interior space is comprised of floor, wall, and ceiling planes. By providing opportunities to visually connect adjacent interior spaces through consistency of material or framing interior views, a sense of extent as well as connectedness can be achieved.

(4) *Compatibility.*

There should be compatibility between the environment and one's purposes and inclinations (Kaplan & Kaplan, 1989). In other words, the setting must fit what one is trying to do and what one would like to do. The natural environment is regarded as particularly high in compatibility. It is as if there were a special resonance between the natural setting and human inclinations. For many people, functioning in the natural setting seems to require less effort than functioning in more 'civilized' settings, even though they have much greater familiarity with the latter. Compatibility can exist in the interior environment by functionally meeting the user's needs and

inclinations and spatially alluring the user with the interior in a way that is engaging and stimulating.

This practicum is primarily concerned with the benefits of nature for human restoration. Kuo and Sullivan (2001) articulated nature's ability to alleviate mental fatigue for the majority of people, particularly heightening attention functioning and lowering levels of aggression. Francis and Cooper Marcus (as cited in Kaplan & Kaplan, 1989) found that natural settings were the preferred location for people in times of stress. Kaplan and Kaplan verified that more participants noted that being in 'organic' locations, encompassing natural elements such as water, alleviated mental fatigue at times of stress. Interestingly, the desire for physical exertion as a means of reducing stress was not as highly rated. This could imply that people who find peace of mind in orienteering and other 'wilderness' activities do so from merely being with nature rather than through physical hardship, as was initially thought from studies of wilderness experiences (Kaplan & Kaplan, 1989). People who were asked to rate their preferred wilderness experiences generally identified that simply enjoying the natural surroundings preceded any other preference, such as reduction of tension or attainment of physical fitness. This comfort found within nature has been shown to grow into feelings of equanimity and peace with oneself. (Kaplan & Talbot, 1983).

Nature and natural elements play an essential role in restoration. Travelers, having been exposed to environmental stressors and adverse health affects related to air travel require restoration. To obtain restoration, the voluntary will to focus and divert one's attention away from all distractions is required. By incorporating the components of restorative environments (as defined by Kaplan & Kaplan, 1989) into the proposed hotel, techniques such as *being away* can provide the traveler with a conceptual shift. The sense of *being away* does not require that the setting be distant. Simply controlling the direction of one's gaze can remove the traveler from the source of fatigue, enhancing the ability to recover. *Fascination*, incorporated into the hotel, will enhance the traveler's ability to focus on the present moment, diverting attention away from the

source of distraction. *Extent*, incorporated into the hotel, will provide a restorative experience that is of sufficient scope to engage the mind. *Compatibility* will allow the interior environment to spatially coincide with the traveler's needs and inclinations. By providing enough to see, experience and think about, the hotel will allow the traveler to become absorbed into the interior environment without feeling vulnerable.

2.2.1 NATURE AND THE HUMAN PSYCHE

The experience of nature is mainly about people and their relationship with the natural environment. The expression 'natural environment' is not intended to include only purely natural elements, any more than the 'built environment' refers exclusively to constructed elements. Nature may be present in many settings. For the purpose of this practicum, nature will be defined in symbolic terms, represented by elements found in nature. Natural elements, introduced within the hotel, will contribute toward recovery from travel exhaustion. The integration of nature is intended to create a multi-sensory experience. In the mid 1930's, the work of Architect Alvar Aalto (as cited in Pallasmaa, 2000) moved away from the Functionalist Aesthetics of reduction towards a layered and multi-sensory architecture. This transformation of ideals is described in a lecture given in 1936 by Architect Erik Gunnar Asplund "...the idea that only design, which is comprehended visually, can be art is a narrow conception. No, everything grasped by our other senses through our whole human consciousness and which has the capacity to communicate desire, pleasure, or emotions can also be art" (as cited in Pallasmaa, J., 2000, p. 80).

According to Kaplan and Kaplan (1989), people are particularly aware of information that is visual (i.e., pertaining to what they see). That does not mean that people interpret the information exclusively in visual terms. Rather, it means that visual stimuli can effectively allude to other sources of information. For instance, the sight of water provides information about potential opportunities which may or may not be visual themselves. Visual stimuli rely upon the viewer's

imagination and prior experience to recognize aspects of the scene other than the visual material presented. For example, water trickling over rocks in a stream is a sight that evokes pleasure. Visual material is thus particularly effective in evoking other information previously associated with the presented information.

Edward, O. Wilson, founder of sociobiology and mastermind behind the term Biophilia and the Biophilia Hypothesis stated that, "...the natural environment is as central to human history as social behavior" (Wilson, 1993, p. 1). Wilson described the Biophilia hypothesis in his book entitled *Biophilia*, as a human "innate tendency to focus on life and lifelike processes" (Wilson, E.O, 1984. p.1). Landscape architect, Roger S. Ulrich contributed to Wilson's Biophilia Hypothesis noting that "exposure to nature fosters psychological wellbeing, reduces the stress related with modern living and promotes physical wellbeing" (Ulrich. 1993, p. 73).

The following elements of Biophilia, defined by Wilson (1993), are based on the Biophilia Hypothesis and are described in application to interior design.

Views to Nature:

Framing interior views, whereby strategically connecting adjacent interior space, provides a sense of visual connection within the built enclosure, as well as human unity with the surrounding environment. Strategically framing views from interior space outward to nature, provides an even greater sense of visual connection with space beyond the interior enclosure. Similar to *extent* (Kaplan & Kaplan, 1989), *views to nature* can be applied to interior design enhancing the restorative experience. Views to adjacent interior space can provide a sense of visual connection, and human unity with the surrounding interior environment.

Natural Light:

"Mass, color, light, sound and line infuse our perception and we distinguish them only in the conceptual activities ordering and controlling experience" (Berleant, 1992. p. 155).

Light is necessary for the visual system to operate. Space that exists on the boundary of interior and exterior space is lit naturally as well as artificially. The interplay between natural and artificial light on interior space is distinguished by variability. "Natural light varies in magnitude, spectral emission and distribution with different meteorological conditions at different times of the day and year, at different places on the Earth's surface" (Boyce, P.R., 1981, p. 25). Human circadian rhythms are also highly responsive and dependent on natural light for regulation and balance of the internal biological clock (DeHart, 2003).

Natural Materials:

Natural materials used in interior space can further connect the interior with nature. Materials such as wood, and stone allude to time and the process required for nature to produce such materials. The first existence of wood is found in natural settings, trees growing in forests, and secondly as a material used in the built environment for structure, flooring, furniture, and wall panels. Stone is another material that when used in the interior environment connects the interior with nature and represents time. Stone is quarried from the earth and the process required for nature to produce stone articulates time, durability and permanence.

Gaston Bachelard (as cited in Pallasmaa, 2000, p. 80), in his phenomenological investigation of poetic imagery, made a distinction between 'formal imagination' and 'material imagination'. Bachelard stated that "...images arising from matter project deeper and more profound experiences than images of form. Matter evokes unconscious images and emotions, but modernity at large has been primarily concerned with form" (as cited in Pallasmaa, 2000, p. 80). Form and massing in the modern world does not provide the opportunity for reflection of nature, whereas integrating images of matter such as water, wood, and stone can provide such opportunity. Similar to *fascination* (Kaplan & Kaplan, 1989), natural materials used in interior

space that are characteristic of natural settings can provide opportunity for reflection of nature, further connecting the interior with nature.

Spatial and visual diversity:

The element of mystery and unknown also exists with the presence of spatial diversity (Wilson, 1993). All human beings are strongly oriented to spatial and visual information. A nearby moving object, for example a tree branch swaying in the wind or water trickling down a rock, or a person passing by one's window is difficult to ignore. Similar to *extent* (Kaplan & Kaplan, 1989) *spatial and visual diversity* (Wilson, 1993) is a technique used to make relatively small areas seem much larger, and provide a feeling of being in a whole different world. Spatial and visual diversity in the interior environment provides the user with a sense of place, and the ability to exist in the present moment.

The literature search pertaining to Nature and the Human Psyche has identified elements found in nature that are applicable to the hotel design intervention. Using nature in symbolic terms allows for creative opportunities in achieving a multi-sensory experience. The elements of Biophilia as outlined are techniques that will enhance the user's ability to regain mind, body and spirit after air travel.

2.2.2 NATURE AND AESTHETICS

"Abstraction and perfection transport us into the world of ideas, whereas matter, weathering and decay strengthen the experience of time, casualty and reality" (Pallasmaa, J, 2000, p. 79).

Air travel does not contribute to understanding distance or time. The aesthetic quality of the human experience of air travel is primarily somatic (relating to or affecting the body), with no awareness of time or hapticity (relating to the sense of touch). The term 'aesthetic', introduced by Baumgarten in 1750, was identified as the perception of the senses (as cited in Pallasmaa, 2000). To experience an aesthetic sense of environment, either stationary or in motion, requires a unity of person with environment. Human engagement with the built environment is translated into perceptual and haptic awareness.

Berleant (as cited in Pallasmaa, 2000) writes of the entire built environment as a dynamic whole, with people and structures in constantly changing reciprocal interrelations. "Architecture is the construct of an active environment, made up of space, volume, and the perceptual modalities of place" (Pallasmaa, J, 2000, p. 79). The architectural dynamic, to which Berleant refers, is not necessarily of physical movement but of perceptual movement. Perceptual movement occurs in the urban context where people are passengers in elevators, automobiles, buses, subways, trains and planes. Therefore the experience of moving through space is multi-sensory, human awareness of time in space is mutual and every experience leads directly to the next.

Modern ideas of built form tend to be placeless and timeless. Failing to address the surrounding context within which they are situated, and having no trace of time, buildings within the modern realm are not experienced as a dynamic whole.

Vision places us in the present tense, whereas haptic experience evokes the experience of a temporal continuum. The inevitable processes of ageing, weathering and wear are not usually considered as conscious and positive elements in design; the artifact exists in

a timeless space, an artificial condition separated from the reality of time. The architecture of the modern era aspires to evoke an air of ageless youth and of perpetual present. The ideals of perfection and completeness further detach the architectural object from the reality of time and the traces of use. Consequently, our buildings have become vulnerable to the effect of time, the revenge of time. Instead of offering positive qualities of vintage and authority, time and use attack our buildings destructively. (Pallasmaa, J. 2000, p. 79)

In contrast to the modern ideas of built form, Italian philosopher Gianni Vattimo introduced the notion of "fragile architecture" in the late 1970's (as cited in Pallasmaa, 2000). The architecture of fragile image is explained as contextual, responsive and imperfect. It is concerned with real sensory interaction instead of idealized and conceptual manifestations. This architecture opens up instead of the reverse process of closing down from the concept to the detail.

The aesthetic quality of nature is such that it is not perfect (Pallasmaa, 2000). Nature is in a constant state of process and change. Nature expresses a fragile context, with deliberate discontinuities. The design process of Finnish Architect Alvar Aalto seeks differences and discontinuities instead of a unifying logic. Aalto's process is not dictated by a dominant conceptual idea right down to the last detail, "...it grows through separate architectural scenes, episodes, and detail elaborations" (Pallasmaa, 2000, p. 80). Whereas the usual design process proceeds from a guiding conceptual image down to the detail, fragile architecture develops from real experiential situations towards an architectural form.

The experiences gained from exposure to natural surroundings may not necessarily come from experiencing the wilderness itself, but perhaps more from the state of mind, inspired by fragile elements found in nature. The concept of Nature and Aesthetics is highly applicable to hotel design. Aesthetic sense of environment requires a unity of person with environment. The entire built environment is a dynamic whole, with people and structures in constantly changing

reciprocal interrelations. The hotel is a temporary abode for people on the move, and thus should be designed for movement and interaction. Furthermore, interior design is not a static, two-dimensional phenomenon; it is the construct of multi-dimensions, affecting all human senses. Bearing in mind that the aesthetic quality of nature is not perfect, that it is in a constant state of process and change, will allow the design to be programmed for movement, process and change in a journey that celebrates unity of human nature and nature.

2.3 THE TRADITIONAL JAPANESE GARDEN AND TEA HOUSE

The principle behind the Japanese Garden and Tea House, according to Landscape Architect Dr. Seiko Goto, is "a harmony of spirit, blending nature and human beings, providing the means for establishing universal peace" (Goto, 2003, p.121). The review of literature pertaining to the traditional Japanese Garden and Tea House has been extensive. Much of the literature consulted for this practicum discussed Chanoyu, the way of tea, placing a great deal of emphasis on the importance of tea to the everyday in Japan. "Chanoyu has influenced and penetrated deeply into the details of the everyday, forming a large part of Japanese taste and habits" (Sadler, 1962, p. vii). The way of tea is an artistic discipline, which stresses the element of control for it to be effective.

Based on a conversation between the author and Dr. Seiko Goto, 2004, the strategies used throughout the Japanese Garden and Tea House are defined accordingly:

- The views established in the garden and within the Tea House are strategic, in that they frame glimpses of spaces beyond.
- Upon entering the garden, views beyond are strategically controlled, forcing the user to reflect on the present moment. The element of surprise is heightened by this technique, as the whole cannot be experienced from any one position.
- To achieve balance in the interior space, the light source in a Tea House is mainly from borrowed natural light, moonlight and candlelight. The placement of windows and shutters are strategically positioned in relation to the position of the sun and moon to maximize or minimize light entering the interior, depending on the direction and time of day.
- Materials used in the construction of the Tea House remain true to their original character. Selecting materials that have original shapes, colours, and textures are believed to help the user imagine the beauty of nature. Completely symmetrical patterns are avoided precisely to harmonize artificial space with nature.

2.3.1 TRANSITIONAL SPACE

Transitional spaces are essentially layers of space, areas in and of themselves. They are the spaces in our physical environment that lead into or out of buildings, as well as connect one interior space with another. They are often not considered to be inside or out, nor are they a destination or end result, but the spaces that link one space with another. According to Robert Bartholomew (1974), Associate Professor of Design at Northern Illinois University, transitional areas include:

... visual separation or connection, territorial definition, traffic control, environmental variables (light, temperature, sound, wind control), security, and behavioral patterns. The functions within transitional zones can be affected by: material usage, changes in elevation, degree of privacy, transitional definition between public and private areas, changes in scale, and orientation to the degree of the extended visual field. (Bartholomew, 1974, p.1).

The transitional spaces within the hotel will be explored as part of the journey toward restoration, recovery and renewal.

2.3.2 TECHNIQUES FOR REPRESENTING NATURE

"The tea garden was intended to break connections with the outside world, and to produce a fresh sensation conducive to the full enjoyment of aestheticism" (Goto, 2003. p. 119). The following techniques are used as strategies to incorporate nature within an urban fabric. The techniques also allow nature to be created within small urban spaces, diverting the mindset of the user from the chaos and stress of urban environments to that of calm, serene natural spaces. The following techniques are represented graphically with still images from video case study #2.4.1.

Pathway and Focal Point



Figure 1. Pathway and Focal Point

"The tea path helps to purify the mind. The garden is composed of scenes that gradually unfold as people move through it. Sometimes the scene ahead is intentionally hidden by the planting of large trees at a curve, or by stepping stones to increase the profundity of a small space" (Goto, 2003. p.

119).

The above image depicts pathway and focal point, a design strategy used throughout the garden to reduce the level of focus to a minimum. The placement of a focal point allows the users visual focus to be controlled. There is always a certain degree of uncertainty, an element of surprise, as for the user questions what lies ahead. Feelings of anticipation and curiosity arise as a result of the intimate connection between user and space.

Gateway

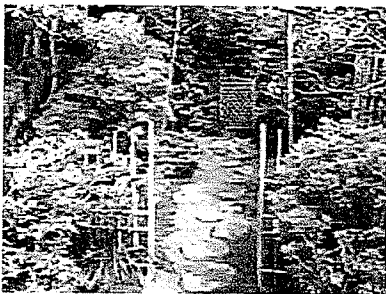


Figure 2. Gateway

Gateway is a strategy used to demarcate a transitional point in the garden. The garden is divided into two parts, with the gate serving as the threshold between the two spaces. The gateway entices entry into the adjacent space. The construction of the gateway is lightweight and relatively transparent, serving as a visual connecting device between one space and another.

Contrast in Scale

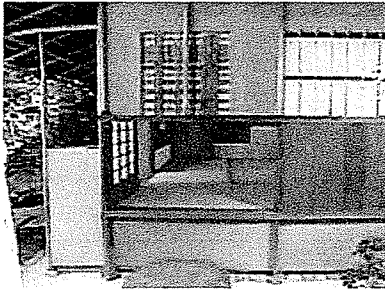


Figure 3. Contrast in scale



Figure 4. Contrast in scale

The above images depict contrast in scale, a technique used in the construction of Japanese Tea Houses to emphasize a point of entry into the tea house. The minimized entrance forces users to crouch down upon entering the tearoom. The reduced scale minimizes motion, “preserving the atmosphere of calm and serenity” (Goto, 2003. p. 123). This design strategy provides the user with a greater sense of the progression through space, stressing the element of control through contrast of scale of space and light. This technique also reduces everyone to the same level.

Natural Material

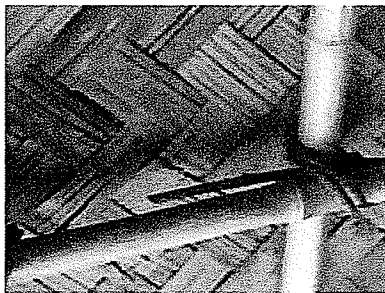


Figure 5. Natural materials

Many of the materials used in the construction of the Tea House remain true to their original character. The form, texture and colour of materials remind us of their natural environments.

Asymmetry



Figure 6. Asymmetry

“Asymmetry is introduced even when the room is square, for example by means of the pitch of ceiling or the disposition of the small windows” (Goto, 2003. p. 124). The asymmetrical layout of windows, ceiling, or curvilinear post removes any

feeling of rigidity from the space. This technique gives the impression that the space is much larger. Completely symmetrical patterns are avoided in order to harmonize artificial space with nature.

Natural Lighting



"The interior light level of the tea-room should neither be too light or too dark." A room that is too light is not suitable for concentration, for the mind is likely to be disturbed, but on the other hand if there is not enough light a sense of gloom and melancholy may be felt." (Sadler, 1962. p. 9).

Figure 7. Natural Lighting

The above image demonstrates how natural light filters through rice paper screens to the interior space. Minimal artificial light is used, in an attempt to create a serene and calm atmosphere. The light source in a Tea House is mainly from borrowed natural light, moonlight or candlelight. Windows and shutters are strategically positioned in relation to the position of the sun and moon to allow natural light to enter the interior space.

Natural Element



Natural elements, such as the flower, represent nature in a refined and symbolic way. A single natural element is used to represent nature in the most simple and minimal way.

Figure 8. Natural Element

2.4 CASE STUDIES

2.4.1 THE TEA HOUSE

Video Case Study:	Traditional Japanese Garden and Tea House
Location:	Japan
Source:	Mainichi News Paper, Title of Film: Kyo, Sukiya Meitei Jyusen. Japan: Mainichi Movie Studio.

Analysis of the following video case study is based on a method of movement notation developed by landscape architect Lawrence Halprin, called 'Motation' (Halprin, 1963). This method was adopted as a means of understanding movement and the spatial techniques used throughout the garden and Tea House. Furthermore, this method provided a system for coding kinetic and spatial experience. 'Motation' is a system that resembles the technique used in motion picture film and animation. Individual pictures or frames, separated in space, are related to time to form apparent movement (Carr, Schissler, 1965, p. 128). The intention of 'Motation' is to simplify the nature of what is being analyzed into frames or stills, using symbols to form a graphic representation of the overall experience.

The video of the Tea House is broken down into frames. Each frame represents a layer of transition in space with symbols to notate and code the various spatial techniques of the Tea House into quantitative and qualitative forms. The reason for adapting this method of movement notation is to visually analyze how the Japanese Garden and Tea House strategically provides a high quality sensory experience with an understanding of the techniques used to represent nature within limited spatial boundaries. In reading the following case study, it is important to remember that this is not a substitute for plans and elevations but rather an abstract representation a of three-dimensional visual experience.

THE SYSTEM

The 'Motation' system employs a standardized form for the purpose of understanding movement. A new form was developed by the author, refer to completed form on page 36. Having viewed the video of the Tea House and identified the elements that exist throughout the garden and Tea House, symbols (Figure 9.) were created to graphically represent each element.

SYMBOLS	Structure:	Distance	Natural elements:	Lighting:	Time Units:	Flooring material:	Wall material:	Ceiling:
	- wall - gate - door - window - screen	- forward - backward - upstairs - downstairs	- stone - water - wood - earth - water basin - water fountain - tree - shrub	- bright/high - balanced - dark/low Focal Point: - above eye level - eye level - below eye level	- unit of elapsed time - acceleration - deceleration - stop	- bamboo - wood - tatami mat - stone - tile	- wood - paper - window	- wood - paper Ceiling to floor contrast: - light - dark - both dark - both light

Figure 9. Symbols legend used in the Case Study of the Tea House.

The symbols listed above identify: (1) the distance traveled between one layer of space and the next; (2) the structural and natural elements that exist; (3) the lighting condition; (4) the focal point (if it is above eye level, below eye level or at eye level); (5) time, as represented by unit of elapsed time, acceleration, deceleration and stopped time between each frame; (6) the flooring, wall and ceiling material; and (7) the contrast between ceiling and floor material.

THE FRAME

The basic unit of the 'Motation' system is the 'frame' comparable to a motion picture film. This basic unit has been adapted in the case study of the Tea House. It should be noted that the frames are read vertically from bottom to top in the direction of movement (Figure 10). 'As we walk, ride or drive, we carry the notion of looking ahead. Psychologically we orient upward rather than downward" (Halprin, 1963) By convention we read left to right along a straight centerline, the 'Elevation' frame demonstrates this convention graphically (Figure. 11).

	9.8' A								24
	34' A								23
	15' A								22
	9.8' A								21
	13' A								20
	9.8' A								19
	11.5' A								18
	19' V								17
	11.5' A								16
	6.5' A								15
	19' A								14
	6.5' A								13
PLAN	DISTANCE	ELEVATION	LIGHT	TIME	FLOOR	WALL	CEILING	FOCAL POINT	FRAME

Figure 10. Diagram demonstrating how the system is read from bottom to top.

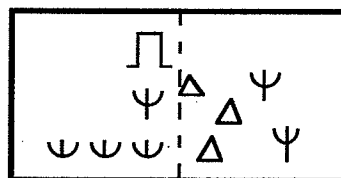


Figure 11. 'Elevation' frame is read graphically. The symbols represent the perceived environment.

THE HORIZONTAL TRACK

On the left side of the form is a row of large frames that compose the horizontal track (Figure 12), noted as the "Plan". This horizontal track is used to map the path of travel through each layer of transition within the Tea House. Shown at the bottom of the form is the overall site plan, "the Key Plan", which outlines the journey through the Tea House. The path of travel is numbered, corresponding to the overall key plan, then broken into smaller frames and analyzed in detail. (Figure 13).

	9.8' A								24
	34' A								23
	15' A								22
	9.8' A								21
	13' A								20
	9.8' A								19
	11.5' A								18
	19' A								17
	11.5' A								16
	6.5' A								15
	19' A								14
	6.5' A								13
PLAN	DISTANCE	ELEVATION	LIGHT	TIME	FLOOR	WALL	CEILING	FOCAL POINT	FRAME



Figure 12. The Horizontal Track

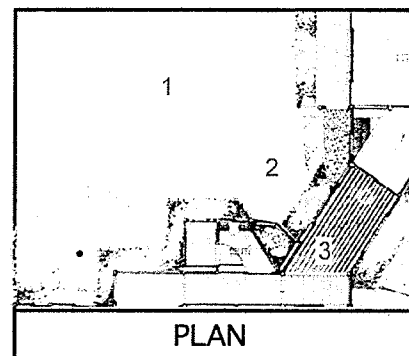


Figure 13. Diagram of a typical 'Plan' frame, as shown in the horizontal track.

THE DISTANCE TRACK

Located to the right of the horizontal track is the column noting the distance in feet between each frame. Symbols representing the direction of travel and location of focal point are also shown (Figure 14). A still image of the focal point is depicted in the frame on the right hand side of the form and marked with a red bubble next to the frame number. (Figure 15.)

	9.8' A	Ψ Ψ Ψ	✱	○	田	田田	◎		24
	34' A	Ψ	✱	●	田	◎	◎		23
	15' A	田	✱	●	田	◎	◎		22
	9.8' A	Ψ 田 田 田	✱	●	田	◎田	◎		21
	13' A	田 田	✱	○	田	n/a	n/a		20
	9.8' A	田 田 田	✱	●	田	n/a	n/a		19
	11.5' A	田 田	✱	●	田	◎田	◎		18
	19' V	田 田	✱	○	田	◎田	◎		17
	11.5' A	田 田	✱	●	田	◎田	◎		16
	6.5' A	田 田 田	✱	●	田	◎田	◎		15
	19' A	田 田 田	✱	●	田	◎田	◎		14
	6.5' A	田 田 田	✱	●	田	◎田	◎		13
PLAN	DISTANCE	ELEVATION	LIGHT	TIME	FLOOR	WALL	CEILING	FOCAL POINT	FRAME



Figure 14. Distance Track.

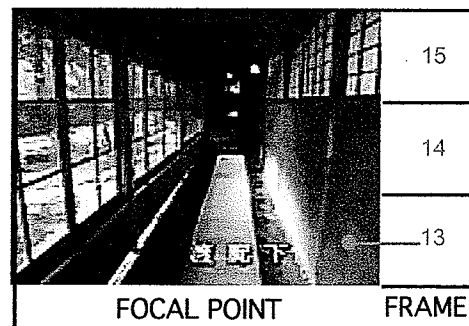


Figure 15. Still image of focal point from Video Case Study-Tea House-1

THE VERTICAL TRACK

Located to the right of the distance track is what is referred to in 'Motation' as the vertical track. This frame portrays graphically what is perceived in elevation; as mentioned previously, the frame is simply called 'Elevation'. This track plots what is perceived directly ahead of the viewer. To account for peripheral vision (180'), the vertical frame is split by a centerline into two 90' quadrants. The top of the frame is equal to an overhead horizon of 45' (Figure 16.). This is the spatial context for relating the vertical environment on paper.

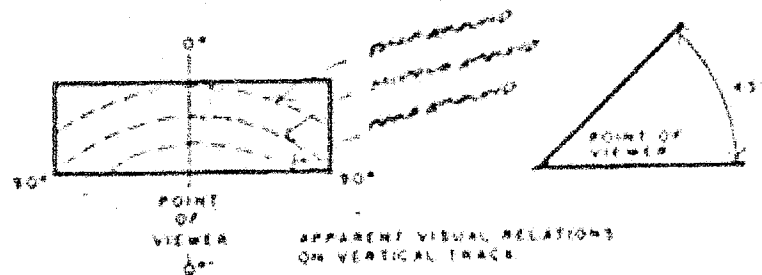


Figure 16. The spatial context for relating the vertical environment on paper.

LIGHT AND TIME TRACK

To the right of the vertical track is the 'Light frame'. The light is quantified and qualified into three categories based on observations from the video. The three categories are as follows: (1) bright-high light; (2) balanced; or (3) dark-low level lighting. It was difficult to determine from the video exactly what type of lighting was used, other than natural light. The symbols therefore cover a broad range of lighting conditions.

Time is measured in units. Each unit represents the degree of perceived speed based on the video. Movement throughout the video was noted as: acceleration; deceleration; or stopped time. The cause for change in speed was noted and speculated upon, and will be explained in the summary of findings. (Refer back to figure 9).

FLOOR, WALL AND CEILING TRACK

Any change in material was identified throughout the case study. The floor material consisted of bamboo, wood, tatami mat, stone and tile. The wall material consisted of wood, paper, or a window (fenestration). The ceiling consisted of wood or paper. The contrast between floor and ceiling was also identified, and will be discussed in the summary. (Refer back to figure 9).

The following is a summary of the observations from the Video Case Study: Traditional Japanese Garden and Tea House (refer to table 1. p. 36):

- The minimum distance traveled, between one layer of transition and the next, was no less than 6'-5".
- The maximum distance traveled was no more than 34'-0" (frame 22-23). Frame '6' backtracked over frame '4' and '3' to reach frame '7' (refer to plan) covering a total distance of 32' 0".
- In the minimum distance traveled, the wall material defined the layers of transition.
- In the maximum distance traveled, the flooring material defined the layers of transition.
- For every transition, the flooring material changed.
- Wood flooring was oriented in the direction of travel
- When the unit of elapsed time came to a stop, the focal point was a natural element (tree, stone) and for the most part symmetrically positioned in the foreground. However, the surrounding structural elements (wall, door, window or screen) were asymmetrically composed.
- The screen grid framing the symmetrical focal point was composed of varying scales. The screens form a unit, on the whole, of asymmetrical composition. The asymmetrical layout of structural elements removes any feeling of rigidity from the space, creating the impression that the space is much larger. This further emphasizes the avoidance of completely symmetrical patterns, harmonizing artificial space with nature.

- The lighting appeared to lead you through the Tea House. The rice paper screens filtered natural light, allowing it to penetrate deep into the interior spaces.
- The contrast between dark ceiling material and light flooring material remained relatively consistent throughout the Tea House.
- Further toward the centre, away from the perimeter of the Tea House, the ceiling and floor material became more similar. For example, both ceiling and floor were a dark material in the inner most spaces of the Tea House.
- The progression through the Tea House never gave way to the totality of what lay ahead. This technique reduced the level of focus to the present.
- The overall experience of moving through the Tea House did not halt the flow of time. Movement was maintained at a pace that was pleasurable. The overall haptic and multi-sensory journey appeared to be a healing experience.
- The Tea House appeared to accommodate, rather than impress, and evoked domesticity and comfort rather than admiration and awe.
- The feeling of external control and visual effect appeared to be replaced by a heightened sense of interiority and tactile intimacy.
- The natural materiality appeared to stimulate the senses.
- The sense of tradition evoked a benevolent experience of natural duration and temporal continuum.

The design strategy of the Tea House does not appear to be dictated by a dominant conceptual idea right down to the last detail. It appears to grow through separate transitional scenes, episodes and detail elaborations.

TEA HOUSE CASE STUDY-1 TABLE 1

	9.8' A										24
	34' A										23
	15' A										22
	9.8' A										21
	13' A										20
	9.8' A										19
	11.5' A										18
	19' V										17
	11.5' A										16
	6.5' A										15
	19' A										14
	6.5' A										13
PLAN	DISTANCE	ELEVATION	LIGHT	TIME	FLOOR	WALL	CEILING	FOCAL POINT	FRAME		
	16' A										12
	23' A										11
	6.5' A										10
	15' A										9
	19' A										8
	32' A										7
	19' V										6
	16' A										5
	11.5' A										4
	16' A										3
	19' A										2
	19' A										1
PLAN	DISTANCE	ELEVATION	LIGHT	TIME	FLOOR	WALL	CEILING	FOCAL POINT	FRAME		
	Structure: wall gate door window screen	Distance: forward backward upstairs downstairs	Natural elements: stone water wood earth water basin water fountain tree shrub	Lighting: bright/high balanced dark/low Focal Point: above eye level eye level below eye level	Time Units: unit of elapsed time acceleration deceleration stop	Flooring material: bamboo wood tatami mat stone tile	Wall material: wood paper window	Ceiling: wood paper Ceiling to floor contrast: light dark both dark both light			

2.4.2 THE AIRPORT LOUNGE

Case Study:	Star Alliance Airport Lounge at Terminal B, Zurich International Airport
Architect:	KPMB (Kuwabara Payne McKenna Blumberg Architects) Toronto
Location:	Zurich International Airport
Sq.ft:	7,700 Sq. Ft
Completion Date:	July 2003
Source:	Lasker, D. (2002). A Stellar performance for Star Alliance. Canadian Interiors. 03.02. p. 39-42.

The lounge located in the Zurich International Airport is based on an abstracted notion of the Japanese Garden. In Europe and Asia, it is considered a strong gesture of hospitality if someone invites you into their garden.

Out of that concept KPMB, developed the idea of a pavilion or walled garden enclosure that opens up, welcoming the traveler inwards (Figure 25).

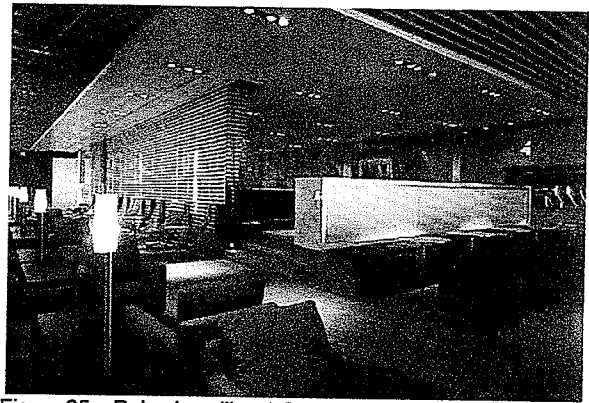


Figure 25. Raised pavilion 1-Star Alliance Lounge

People are drawn to natural light, and the perimeter of the lounge is flooded with natural light. The design challenge was to make the centre space interesting enough to draw people away from the perimeter space and into the centre. The concept of a raised pavilion in the centre of the lounge stemmed from that design challenge. The floor of the pavilion is slightly raised, allowing views to the windows and exterior landscape (on a clear day the Alps are visible).



Figure 26. Raised pavilion 2- Star Alliance Lounge

The raised pavilion can not compete with the perimeter of the space. To contrast with the perimeter, the pavilion was made more like a cocoon-quieter, more relaxing and calming (Figure 26).

In keeping with the cocooning idea, the lounge has subdued adjustable lighting, featuring halogen floor lamps that impart a residential character. The wood screens contain and manage the space's large structural columns. The slats contain fiber-optic lights that bring the screens alive at night. By day, natural light filters through the layers of screen, producing intriguing silhouettes of patrons in the elevated pavilion.

Continuing with the garden metaphor, the materials chosen are analogues for nature. The furniture is also reflective of this notion. This case study demonstrates how space is sensitive to travelers needs. KPMB's primary purpose was to create space, quietude and comfort.



Figure 27. Business Class Lounge

Designing for comfort meant having the best seating. Classic pieces by Eames and contemporary pieces by Antonio Citterio and Jasper Morrison were selected, not only for their ease of maintenance and durability, but for their simplicity, tactility and comfort. The lounge includes a 130 seat business class section (Figure 27), and a 30 seat inner sanctum for first class. A windowless wall was transformed into a minimalist garden (Figure 28).

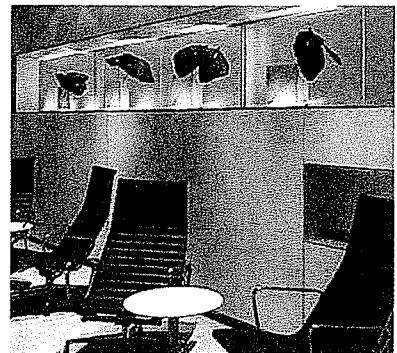


Figure 28. Seating and minimalist garden.

Travel can be very tiring. The lounge is intended to help people regenerate between flights. Many people maximize their time waiting for their connecting flight and need space to work. A separate section within the executive class area is reserved for workstations (Figure 28) fully equipped with Internet connection, telephones and fax machines.

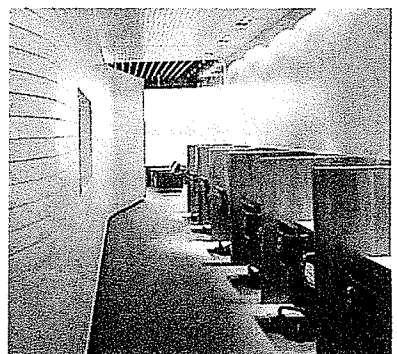


Figure 29. Workstations

Circulation throughout the lounge is subtle and graceful. You slip into it, you don't just enter. Many lounges have dead ends where you have to turn around and go back. To maintain the flow of circulation this lounge has loops of movement. KPMB was interested in transparency, where nothing is ever complete and closed. This concept continuously suggests a series of smaller spaces.

2.4.3 THE HOTEL

Case Study:	"The Hotel"
Architect:	Ateliers Jean Nouvel
Location:	Lucerne, Switzerland
Sq.ft:	15,000
Completion Date:	2000
Source:	Albrecht, D. (2002). <i>New Hotels for Global Nomads</i> . New York: Cooper Hewitt National Design Museum. Stephens, S. The Hotel. Lucerne Switzerland. <i>Architectural Record</i> 05.01 p. 238-243.

The following interior project illustrates the unity of time and space through light. "The Hotel", designed by French Architect Jean Nouvel, is situated in Lucerne, Switzerland. Glimpses of oversized film stills mounted on guest room ceilings are visible from the exterior in an attempt to freeze time (Figure 30). The use of mirrors in the interior refracts scenes at street level into the restaurant below grade (Figure 31).

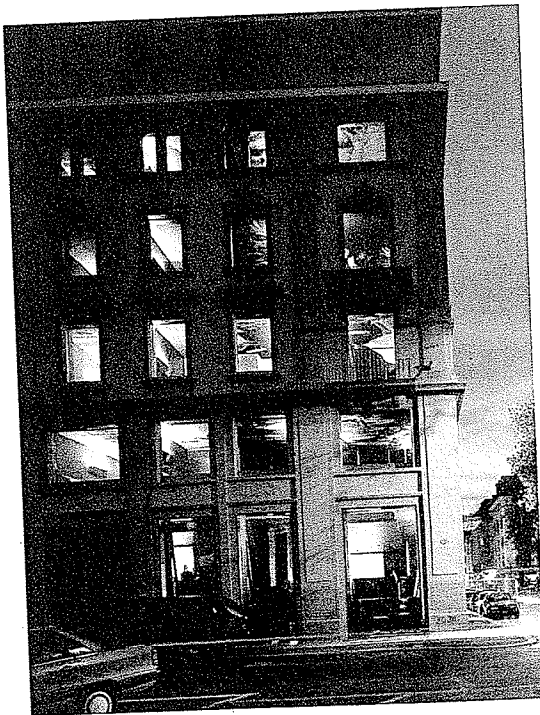


Figure 30.
Exterior view of The Hotel, Lucerne, Switzerland

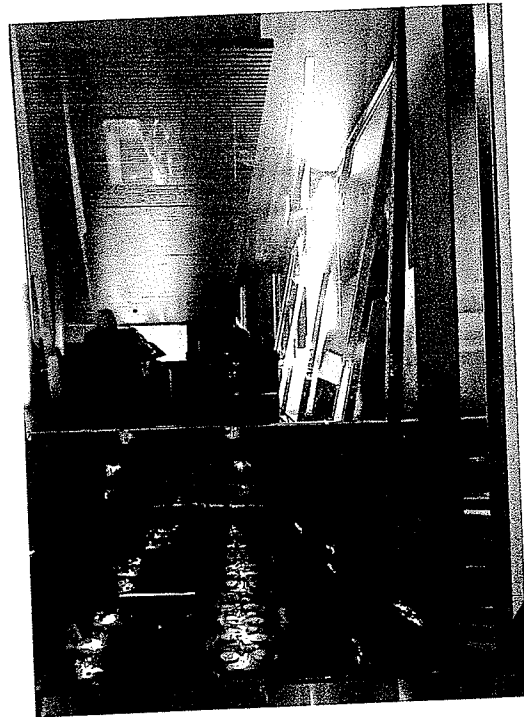


Figure 31.
Interior view of The Hotel restaurant

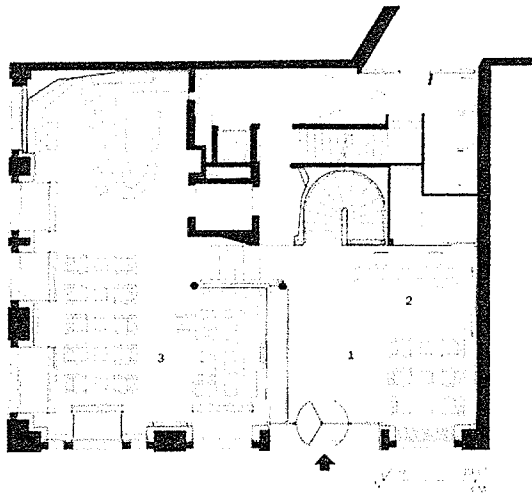


Figure 32. Main Floor Plan of Hotel

1. Lobby
2. Reception
3. Bar/Lounge

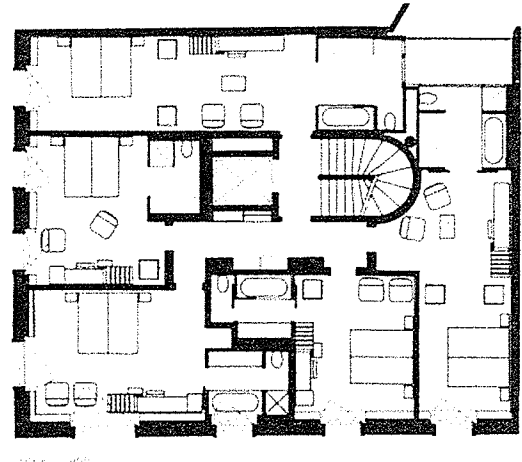


Figure 33. Typical Guest Room Layout

The presence of backlit film stills in the lobby evoke a sense of tension, and of being frozen in time. The restaurant, located below grade, receives a substantial amount of daylight via vertical slots of space around the perimeter that extend up to canted inward floor-to-ceiling mirrors located in the lobby (Figure 34). Guests in the restaurant become the spectacle, enabling people walking past to peek in, becoming 'voyeurs' into the scene below (Figure 35). The canted mirrors refract daylight and reflect fragments of outdoor scenery from above (Figure 36). This technique is similar to that of a camera, allowing duplication of scenes to occur. Recalling the words of Foucault, this technique questions "which is reality and which is projection?"

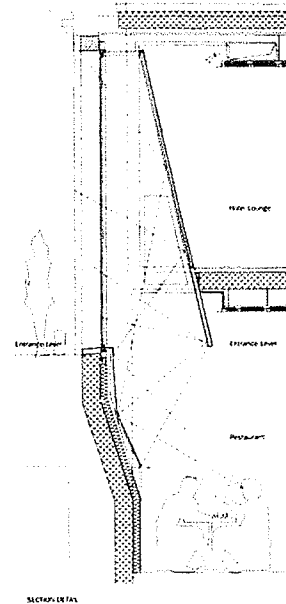


Figure 34. Section detail of canted mirrors.

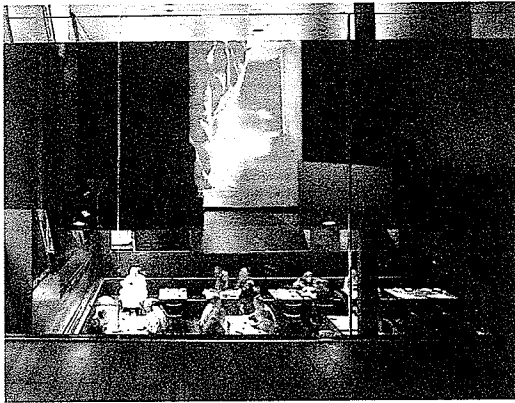


Figure 35. Interior Lounge, view into restaurant below.



Figure 36. Interior Restaurant with view out to street level.

The small hotel is easily identifiable as you approach it by night, since the ceiling murals, up-lit by sconces, turn it into a vibrantly coloured cinematic lantern (Figure 37). The ceilings tell a story. Nouvel selected stills from 25 films and had them printed and mounted on the ceiling. The images appear to involve a romantic or tense moment in the film, and mix a dark and vibrantly hued palette softly lit by wide wall mounted sconces. To add to the dramatic effect of observer and spectacle, Nouvel consulted artist Alain Bony and tinted each of the room's dark walls to look something like blurred afterimages of the film stills above (Figure 38). The abstract effect draws the interior space and observer into the spectacle of the image. The spaces within the hotel bare a strong resemblance to that of a camera obscura²

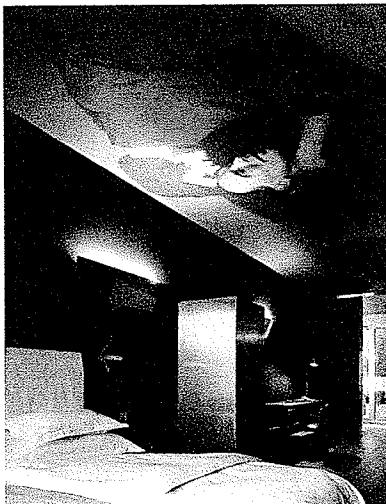


Figure 37. Interior view of a guest room.

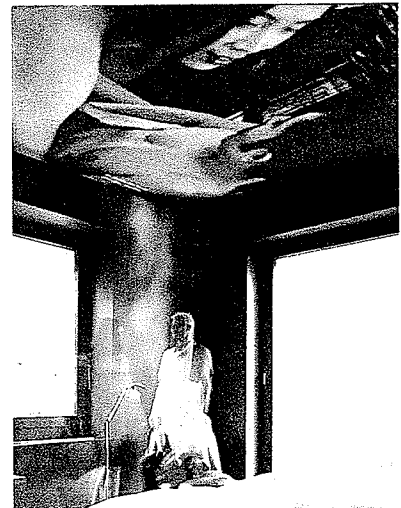


Figure 38. Interior view of a guest room.

² The camera obscura, a prototype of the photographic camera, was a large dark room that an artist physically entered. Light entered through a small hole in one of the walls and projected a distinct, but inverted, color image onto the opposite wall that could then be traced. This led to the advancement in drawing three-dimensional space on a two-dimensional flat surface also referred to as perspective drawing.

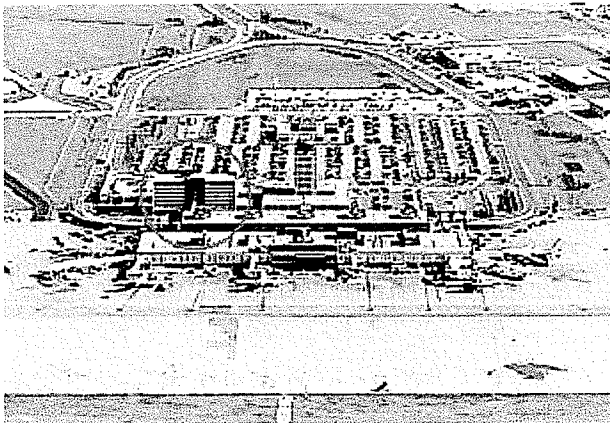
The interior space of "The Hotel", with its sense of enclosure, its darkness, its separation from the exterior, demonstrates the concept behind the camera obscura. The connection between photography, cinematic film stills and interior space is revealed through light and physical traces of the photographic camera. The canted mirrors allow the refraction of light to penetrate into the depths of interior darkness, both animating the space, connecting it with the space outside and reflecting the spectacle within to voyeurs on the street.

3.0 SITE DESCRIPTION

The site chosen for this practicum is located in Winnipeg, Manitoba, Canada adjacent to the only 24 hour airport in Western Canada. The Winnipeg International Airport is the only major airport between Toronto and Calgary and welcomes close to 3 million passengers annually. The airport is a stopping point for business and leisure travelers as well as tourists heading to or from Northern Manitoba.



Figure 39.



The hotel located adjacent to the airport has been selected as the site for this practicum. The design will address the needs of the contemporary air traveler by providing a place for restoration, recovery and renewal from air travel (source: <http://www.waa.ca>).

Figure 40.

3.1 FACILITY OVERVIEW

A series of interventions within the airport were initially considered as part of the journey. However, in keeping with the objectives set forth in the document, the Four Points Sheraton ® Hotel has been selected as the site and local opportunity for this practicum. The Four Points Sheraton ® Hotel is connected via skywalk to the Winnipeg International Airport. This physical connection between the airport and hotel is inherent and forms a sequential journey that imparts an awareness of the context surrounding the traveler's experience and the path the traveler might take to arrive at the hotel.

3.2 THE WINNIPEG INTERNATIONAL AIRPORT

The Winnipeg International Airport is an international style building designed in 1960 by local Winnipeg architects Cecil Blankstein and Bernard Brown of Green Blankstein and Russell Architects. An expansion to the original facility took place in 1986, and was designed by local Winnipeg architecture firm IKOY. The airport's mission is "to provide excellent, commercially viable airport services and facilities in partnership with the community". Its vision is "to be recognized as a safe, innovative and progressive airport. Further goals are to become financially strong, a leader in the pursuit of globally emerging opportunities and a source of pride to Manitoba". (Source: Canadian Architect, May 1995, p. 35).



Figure 41.

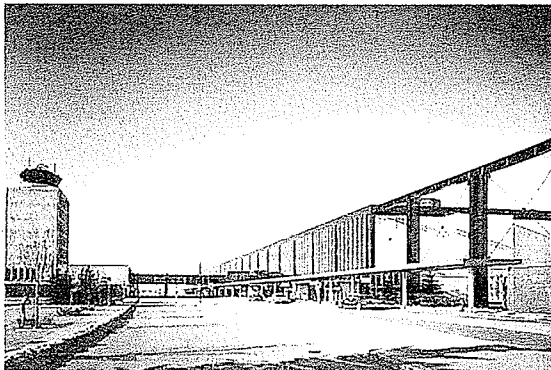


Figure 42.

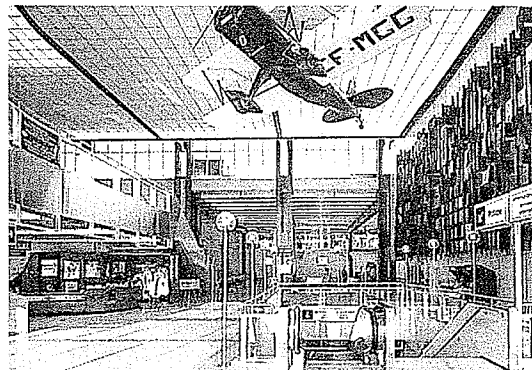


Figure 43.

Within The Winnipeg International Airport there are options for the traveler to experience local food, culture and a sense of place, for example:

- Restaurants such as locally established Gunn's Bakery and Winnipeg based Norm n' Nate Delicatessen.
- Bars such as The Winnipeg Exchange Brew Works and Eatery serve local microbrews on tap.
- Retail Shops feature Manitoba art and unique souvenirs.
- Specialty shops sell flowers and gifts as well as locally made Morden's chocolates.

Other amenities within the airport that serve to accommodate the traveler are available such as:

- Currency exchange, insurance services, information centre, goods and services tax rebate kiosk, baggage carts, a children's play structure, Inner City leisure arcade, data port/modem equipped payphones, baggage storage services, a freezer for perishables, Canada Customs and Immigration Offices, Tourism Winnipeg kiosk, and information panels for hotel accommodations.

3.3 ESTIMATED FLOOR AREA

Based on the existing floor plan of the Four Points Sheraton ® Hotel, the proposed design intervention would commence in the hotel, but is influenced by the preceding experience including the flight and The Winnipeg International Airport. The design will choreograph the experiential journey throughout various areas of the Four Points Sheraton ® Hotel. The required existing space is 11,360 square feet.

AREA	SQ. FT
LOBBY	1522 Sq. ft
RESTAURANT	1978 Sq. ft
SPORTS BAR (proposed SPA)	3878 Sq. ft
ROOM	377 Sq. ft
TRANSITIONAL SPACE	3605 Sq. ft
TOTAL AREA	11360 Sq. ft

Table 2.

3.4 FOUR POINTS SHERATON® HOTEL SITE PLAN

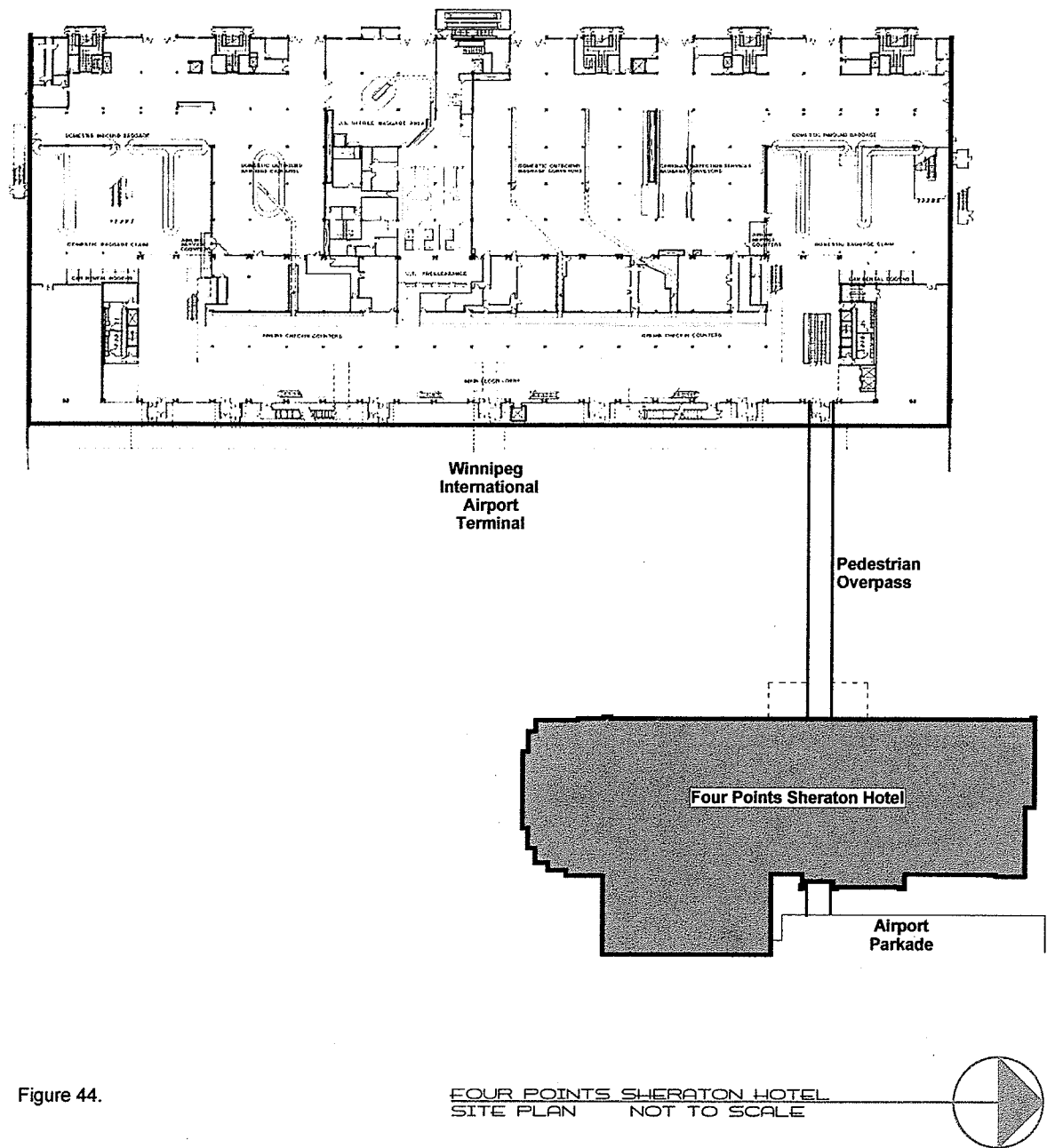


Figure 44.

3.5 EXISTING FOUR POINTS SHERATON® HOTEL 1ST FLOOR PLAN

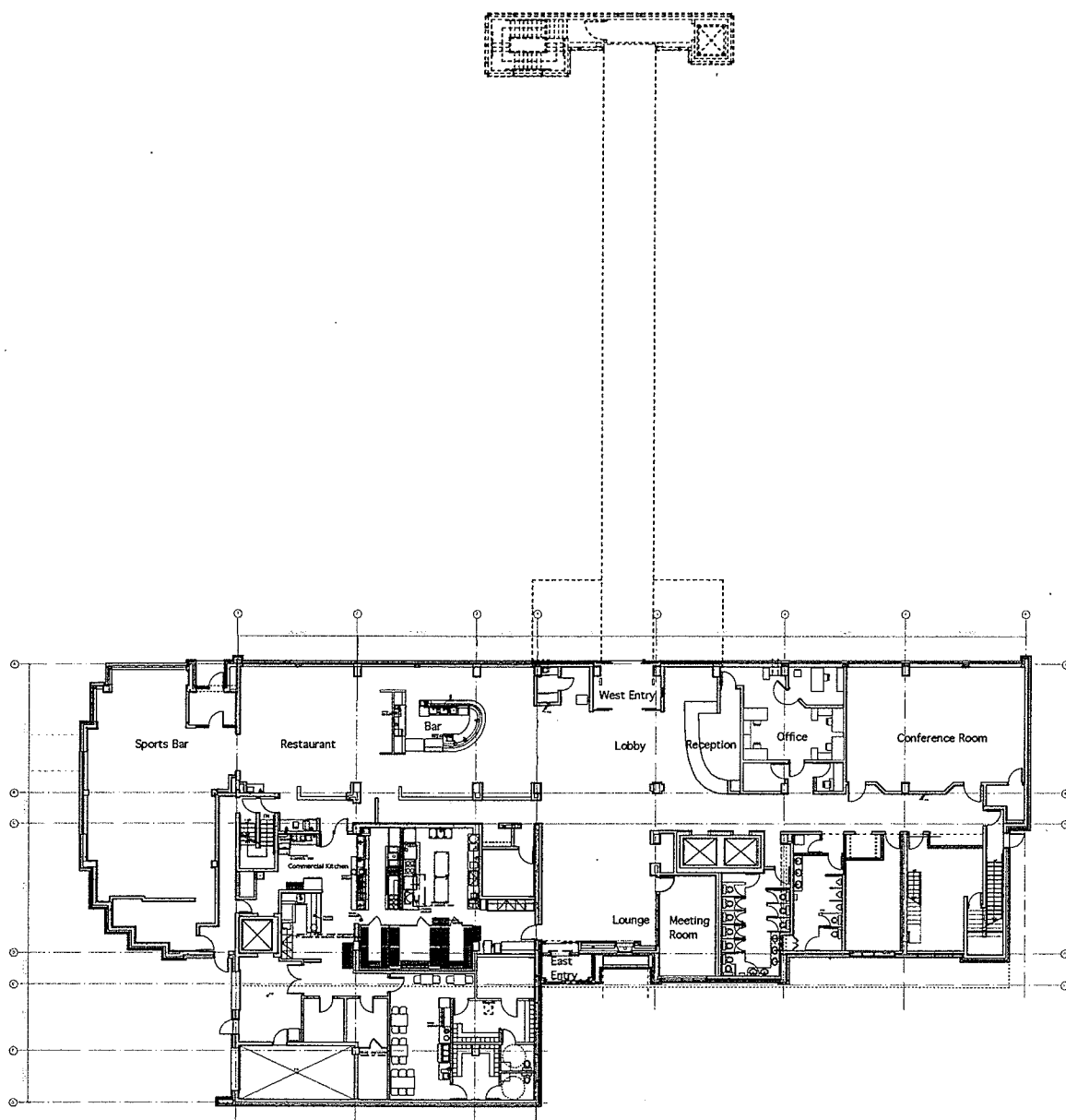
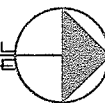


Figure 45.

EXISTING FOUR POINTS SHERATON HOTEL
MAIN FLOOR PLAN

NOT TO SCALE



3.6 FOUR POINTS SHERATON® HOTEL 2nd FLOOR PLAN

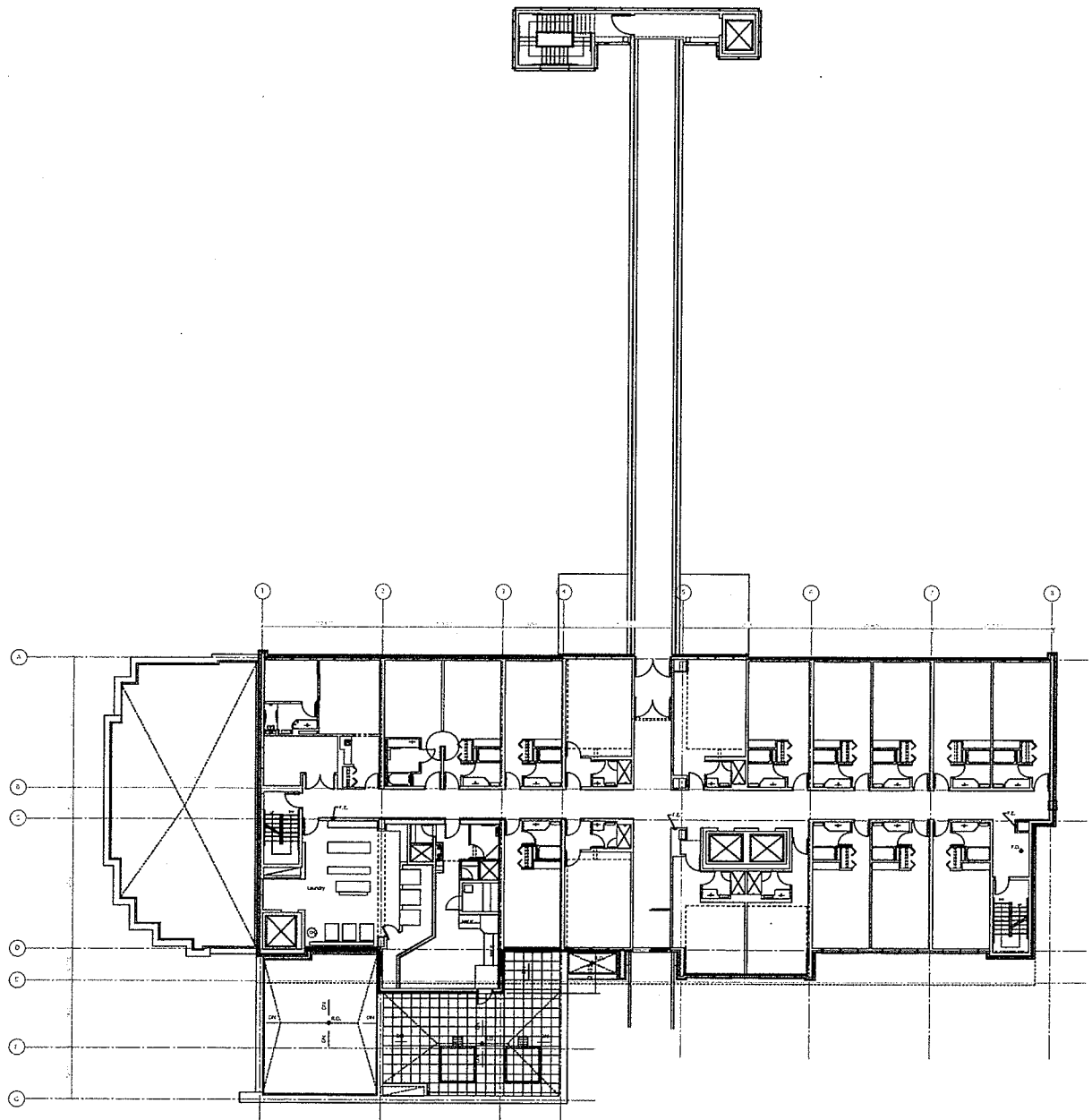
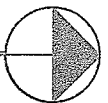


Figure 46.

EXISTING FOUR POINTS SHERATON HOTEL
SECOND FLOOR PLAN NOT TO SCALE



4.0 DESIGN STRATEGIES

In order to design an environment for recovery from air travel, it is important to understand the effect of movement through space. Movement is inherent to travel. One can be a passive spectator amidst the buzz and activity, but the essential characteristic of travel is that it demands participation and requires movement. During the flight, passengers are typically seated while the aircraft travels at high speeds. The dimensions of speed and distance traveled while in flight are not apparent to the passenger the way they are experienced at walking speed (approximately 4 miles/ hr). At pedestrian speed, all the elements and details of design come into sharp focus.

The design of the hotel choreographs the interior environment, as it would be experienced in motion. The intended restorative experience throughout the five (5) areas of The Four Points Sheraton® Hotel has been shaped by theories discussed in the Literature Review.

The following strategies describe how the theories have been incorporated into the design in terms of spatial organization, design elements, lighting, colour and materials.

Placement of partitions in the lobby, restaurant and room, as well as translucent panels and suspended fabric in the spa, intentionally reduce the user's level of focus to the present. This is based on the theory of the Japanese Garden and Tea House where the totality of what lies ahead is never completely disclosed.

Within the Tea House, emphasis is placed on the wall material to enhance the spatial experience of the shortest distance traveled or smallest space of the interior environment. Within the hotel, the smaller spaces and shorter distances traveled were emphasized by the use of colour, texture and lighting on the walls. An emphasis is also placed on the floor material to enhance the spatial experience of the longest distance traveled and within the larger spaces of the interior. This strategy is used in the corridor leading to the restaurant, throughout the spa and transitional areas

to emphasize movement throughout the larger spaces. For every transition, the flooring material changes

In the Japanese Garden, a gateway is used to emphasize a transitional point, enticing entry to adjacent space, as well serving as a visual connecting device. In Tea House the transition between rooms is emphasized by a change in floor material, and linear flooring such as wood plank is oriented to follow the direction of travel. Both strategies are used throughout the hotel to entice entry and emphasize the transition from one space to another. This is evident in the entry to the lobby, the corridor leading to the restaurant, spa and room. The floor material has a linear pattern and runs in the direction of travel to further emphasize the distance traveled, and the notion of elapsed time.

Asymmetry exists throughout the hotel to give the impression that the space is much larger and to harmonize artificial space with nature. This strategy is evident in the lobby where the placement of images depicting prairie grass and grain are positioned asymmetrically on the north wall. As well, within the room the focal point is of a natural scene asymmetrical positioned on the partition. In the Tea House, natural elements represent nature in a refined and symbolic way. This strategy provides the opportunity for reflection of nature, as well as a fascinating focal point within interior space.

Materials natural in form, texture, and colour have been selected wherever possible throughout the hotel. The lighting leads the user through the interior of the hotel. Contrast between dark flooring and lighter ceiling material was chosen for the periphery of the lobby, restaurant, spa and room as this strategy is used in the design of the Tea House to emphasize the contrast between outer and inner spaces. Even darker flooring and ceiling material was selected for the inner most spaces of the hotel. This is evident in the central dining area of the restaurant, and the sleeping area of the room.

The incorporation of natural elements within a temporary refuge from travel is intended to create a sense of place. The inspiration behind the material, colour and texture is found in the diverse landscape and geography of Manitoba, Canada. By incorporating natural elements into the hotel interior, it is intended that the traveler, through movement and exploration, will not only experience a sense of restoration and renewal, but also a sense of place.

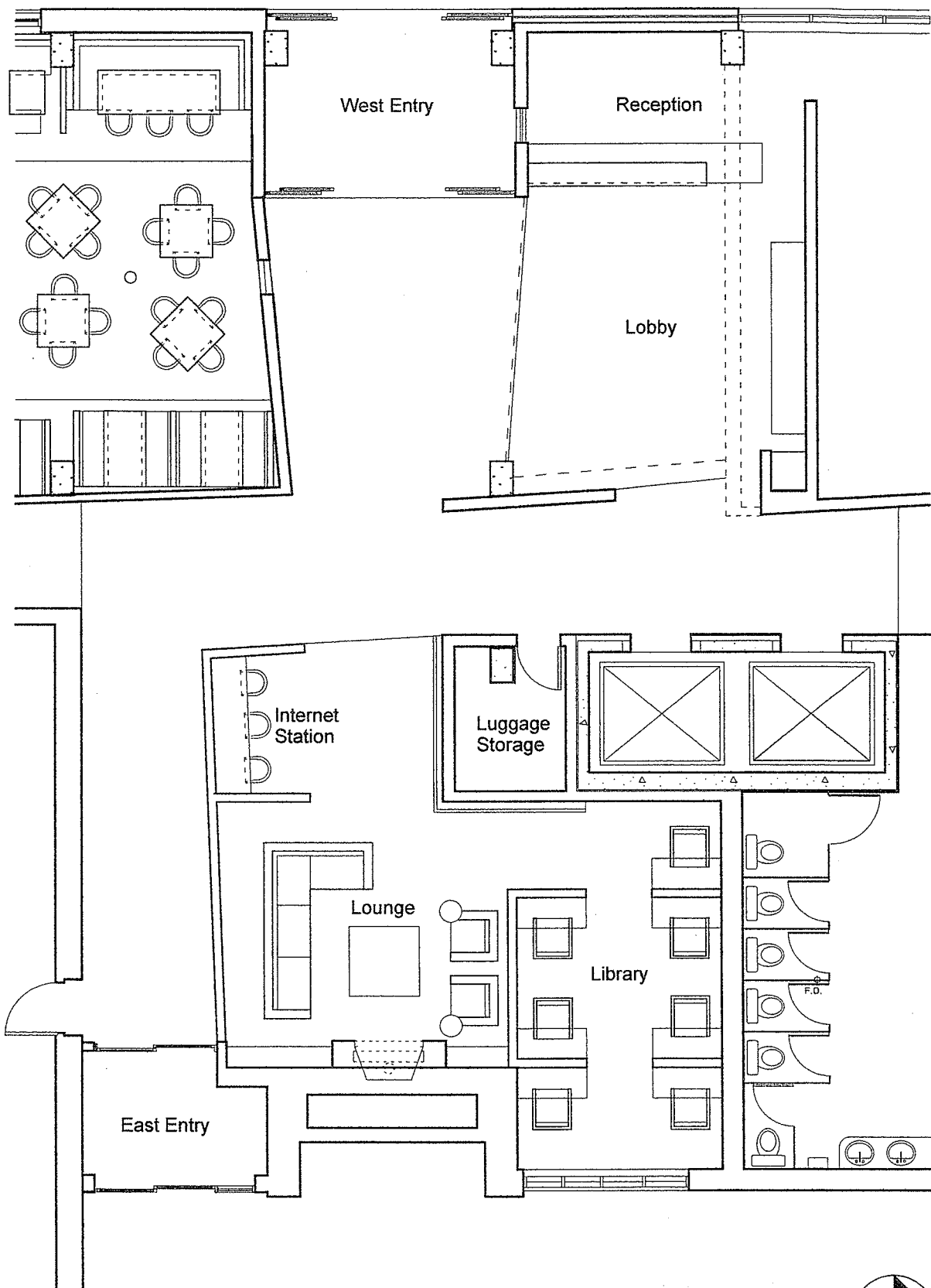
The following outlines the intended material, colour, texture, lighting and views that will be proposed in the design phase.

	MATERIALS	COLOURS	TEXTURE	LIGHTING	VIEWS
LOBBY	<u>Light Floor:</u> carpet to wood plank, tile, cork <u>Wall:</u> strawboard, leather tile, glass, translucent panel <u>Dark Ceiling:</u> Drywall, wood	Warm earth tones	Grain, fields	Diffuse daylight, integrated, recessed, down-lighting (grazing)	(1) View into restaurant (2) View to lounge
RESTAURANT	<u>Dark Floor:</u> Wood to cork <u>Wall:</u> wood slat, leather tile, drywall (paint) <u>Dark Ceiling:</u> wood column, wood slat canopy, exposed mechanical system	Warm woodsy tones	Bark, trees	Diffuse daylight, integrated, recessed, ambient	(1) View of restaurant to lobby (2) View into Spa
SPA	<u>Light Floor:</u> cork to concrete, bamboo plank, carpet <u>Walls:</u> glass, drywall, wood slat, translucent panel <u>Dark Ceiling:</u> drywall, glass	Cool water tones	Water, sand	Diffuse daylight, Integrated: recessed, backlighting	(1) View to restaurant (2) View within spa from one treatment area to another
HOTEL ROOM	<u>Dark Floor:</u> carpet to wood, cork, tile <u>Wall:</u> drywall, fabric, tile <u>Dark Ceiling:</u> drywall (paint), wood	Cool sky tones	Clouds, sky	Ambient, task, backlighting	(1) View from entry of room (2) View of storage (3) View from partition to bed (4) View from bed
TRANSITIONAL SPACE -Hotel Entry (Lobby) -Corridor from Lobby to Restaurant -Corridor to Spa (2 nd Floor) -Corridor to Room	<u>Light Floor:</u> carpet, wood plank, cork <u>Wall:</u> Drywall, wood, translucent panel <u>Dark Ceiling:</u> drywall	Cool and warm tones	River bank, branches	Integrated: recessed, up-lighting, backlighting, safety lighting	(1) View down corridor to restaurant (2) View of Guest room entry

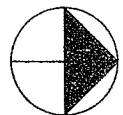
Table 3.

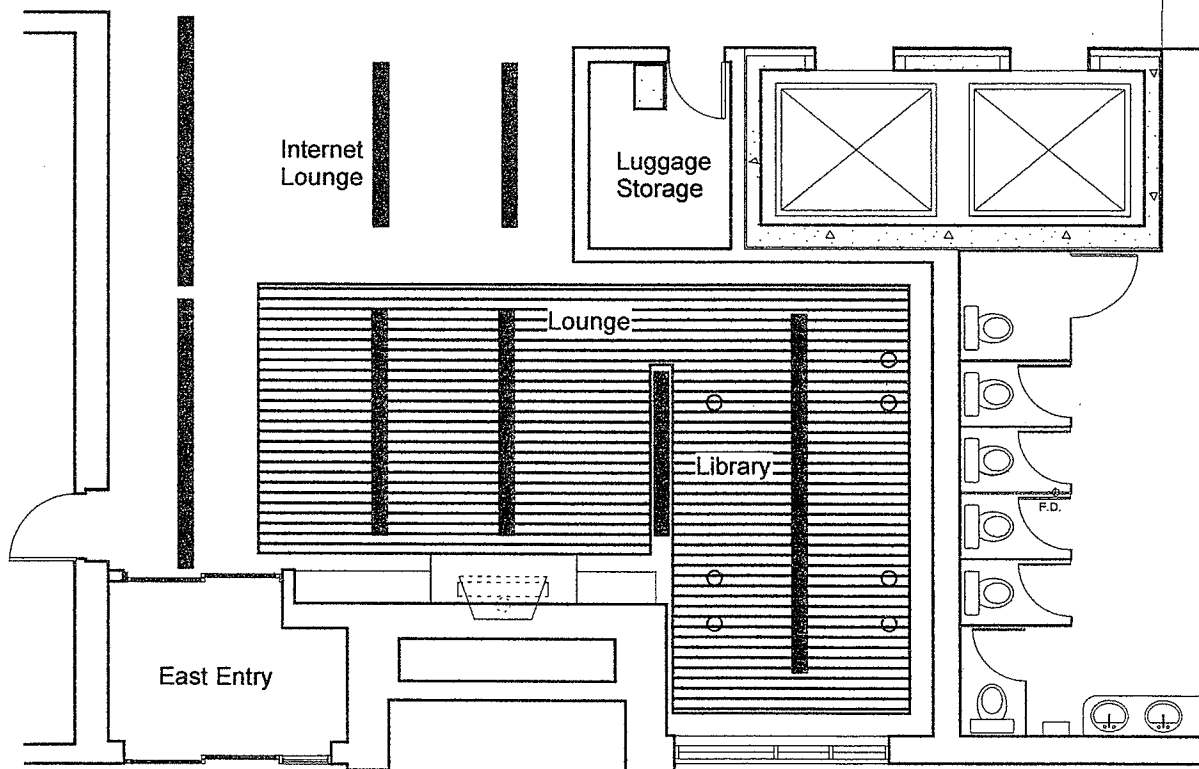
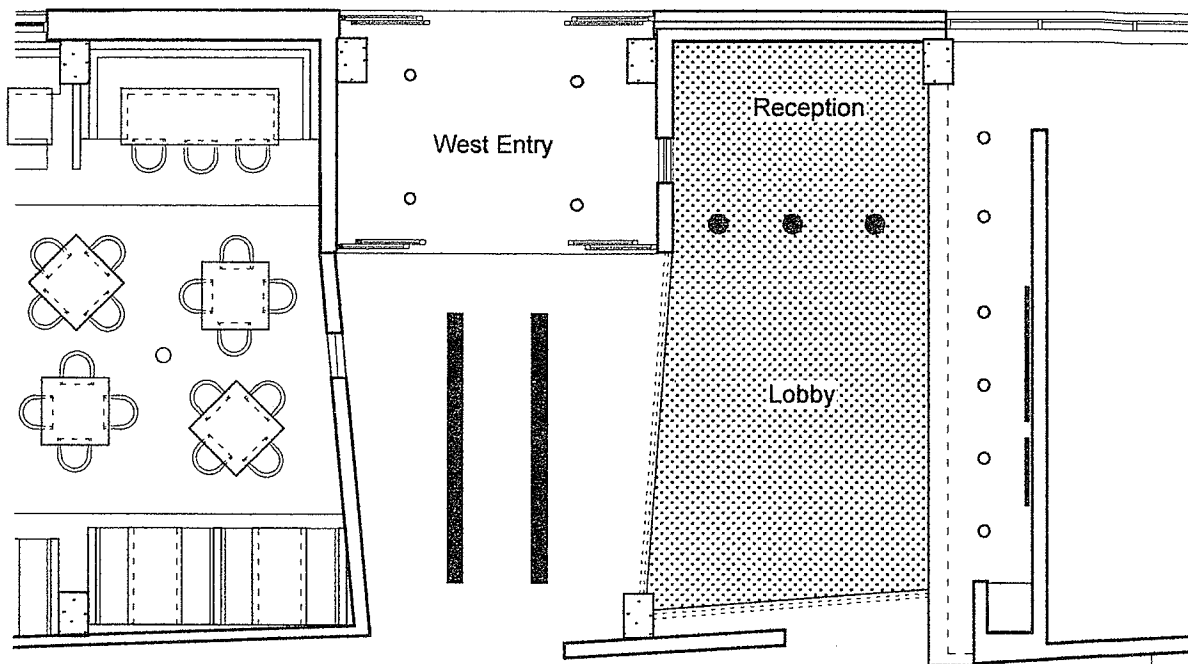
5.0 DESIGN INTERVENTIONS

5.1 LOBBY DESIGN INTERVENTION

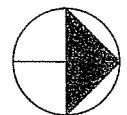


Lobby / Lounge / Library Floor Plan

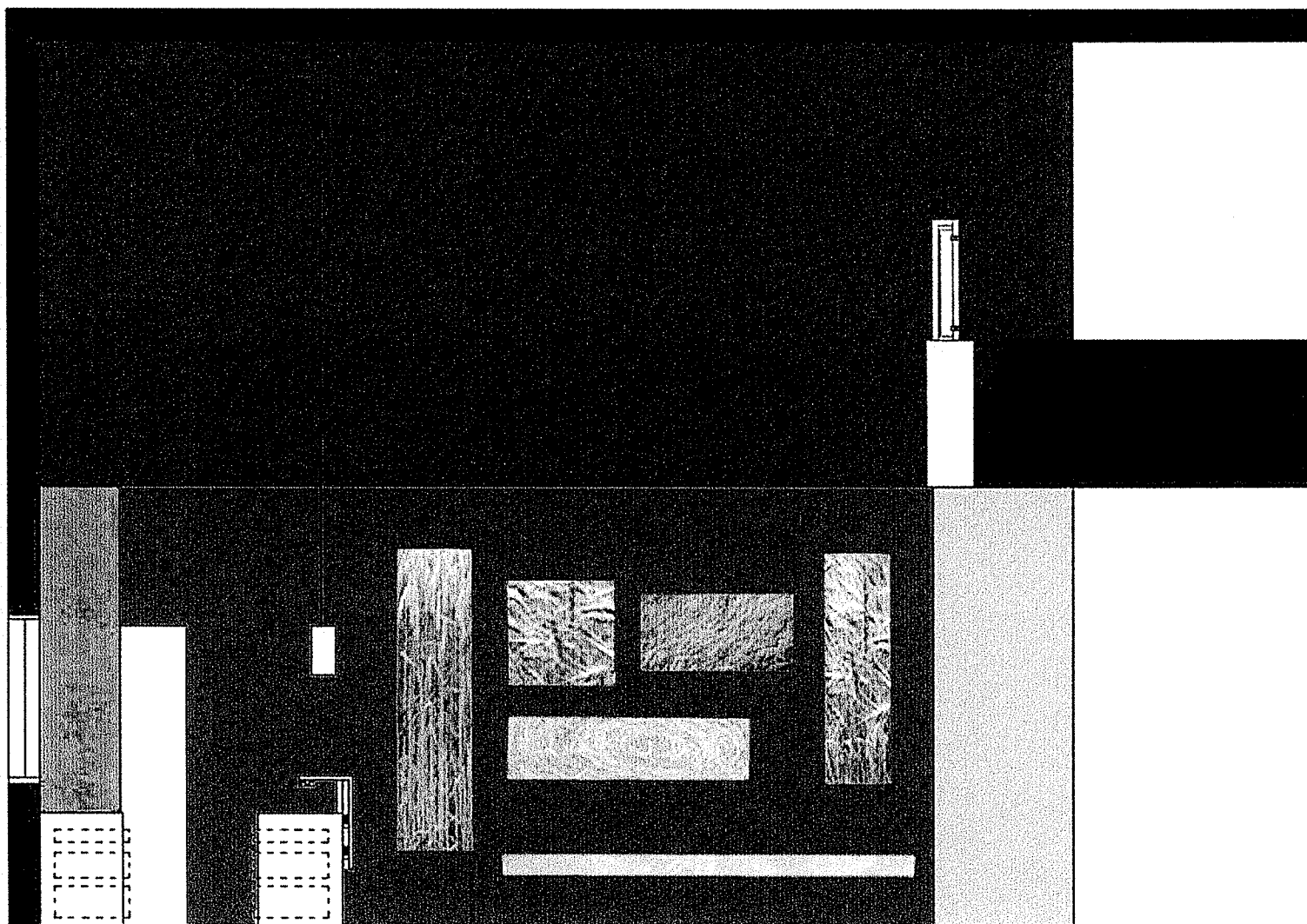




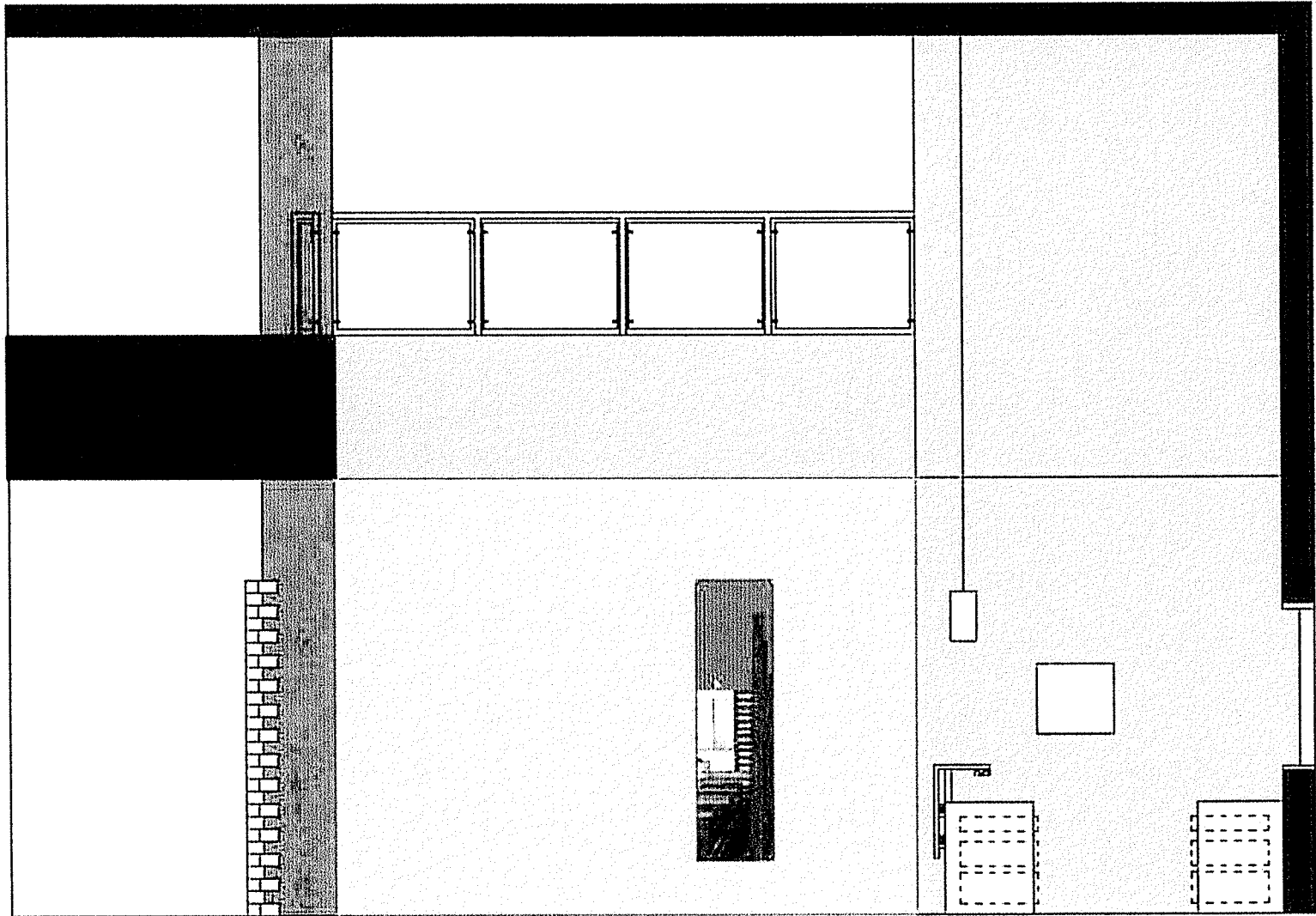
- Flush Mounted Fluorescent Lighting
- ▬ Recessed Incandescent Strip Lighting
- Recessed 4" Diametre Incandescent Lighting
- Incandescent Pendant Fixture
- ▬ 8'-0" Dropped Ceiling
- ▬ 23'-7" Double Height Ceiling



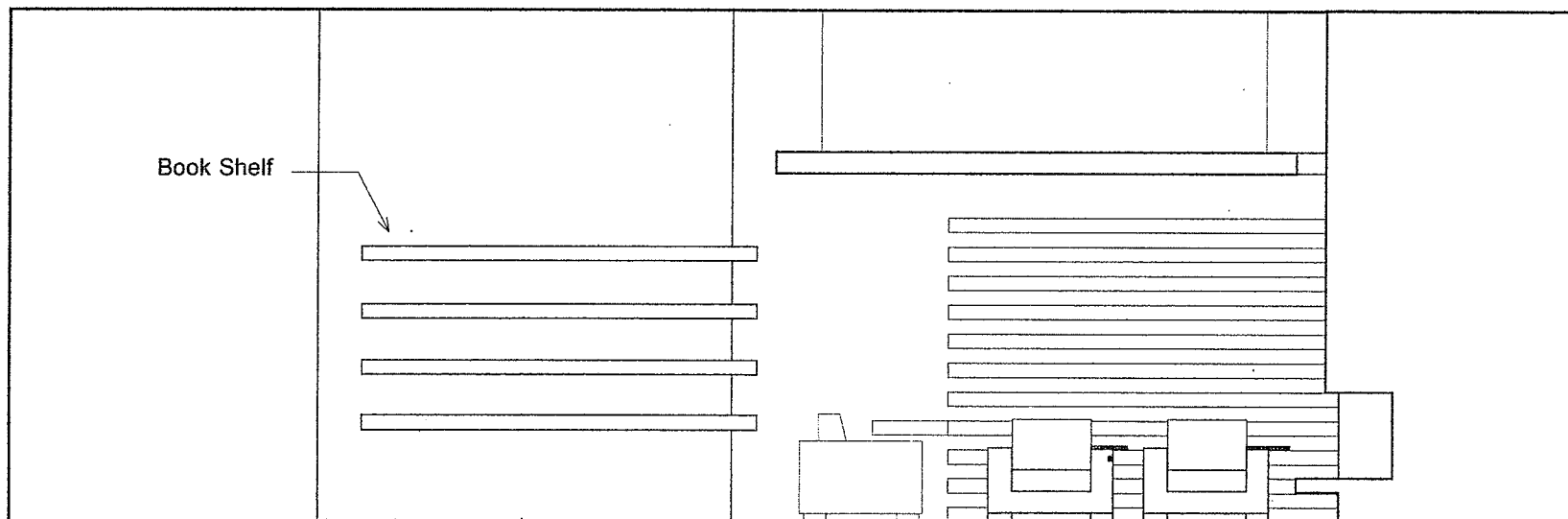
Lobby / Lounge / Library Reflected Ceiling Plan



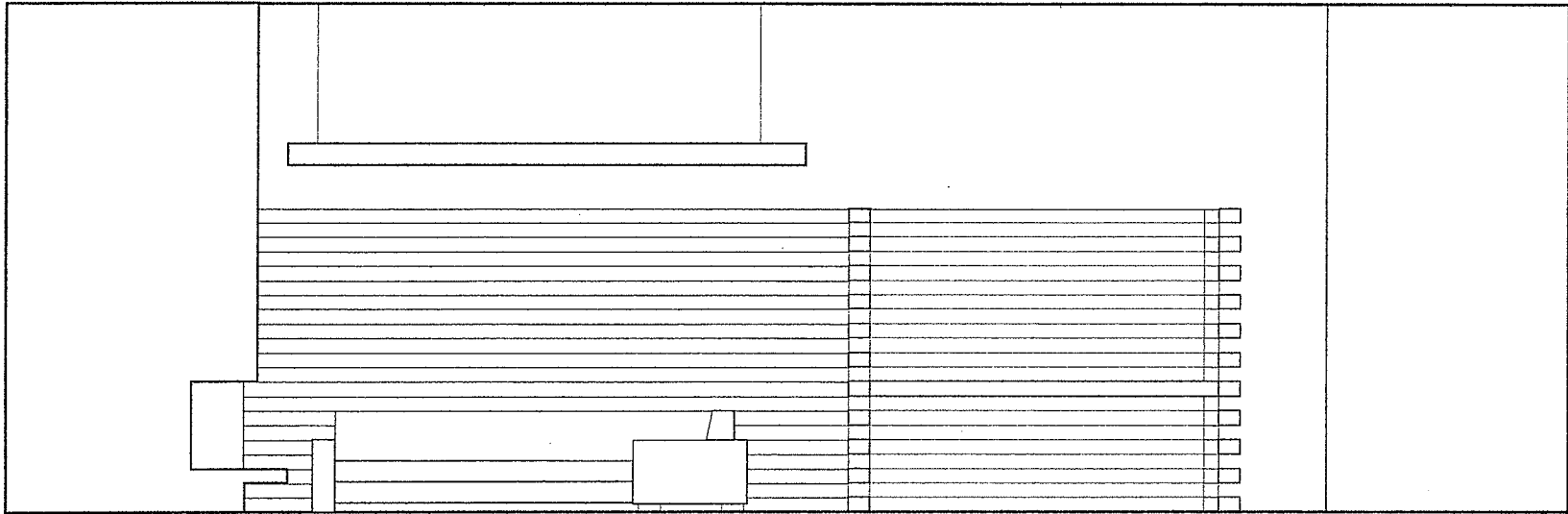
Lobby Section/Elevation Looking North



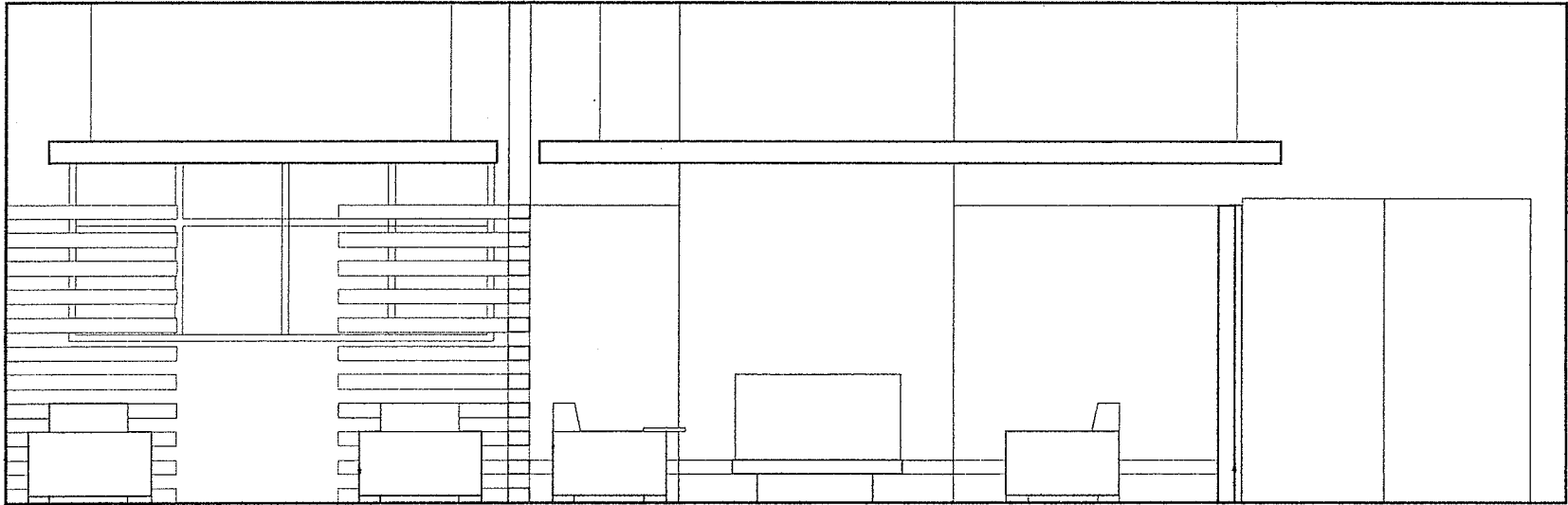
Lobby Section/Elevation Looking South



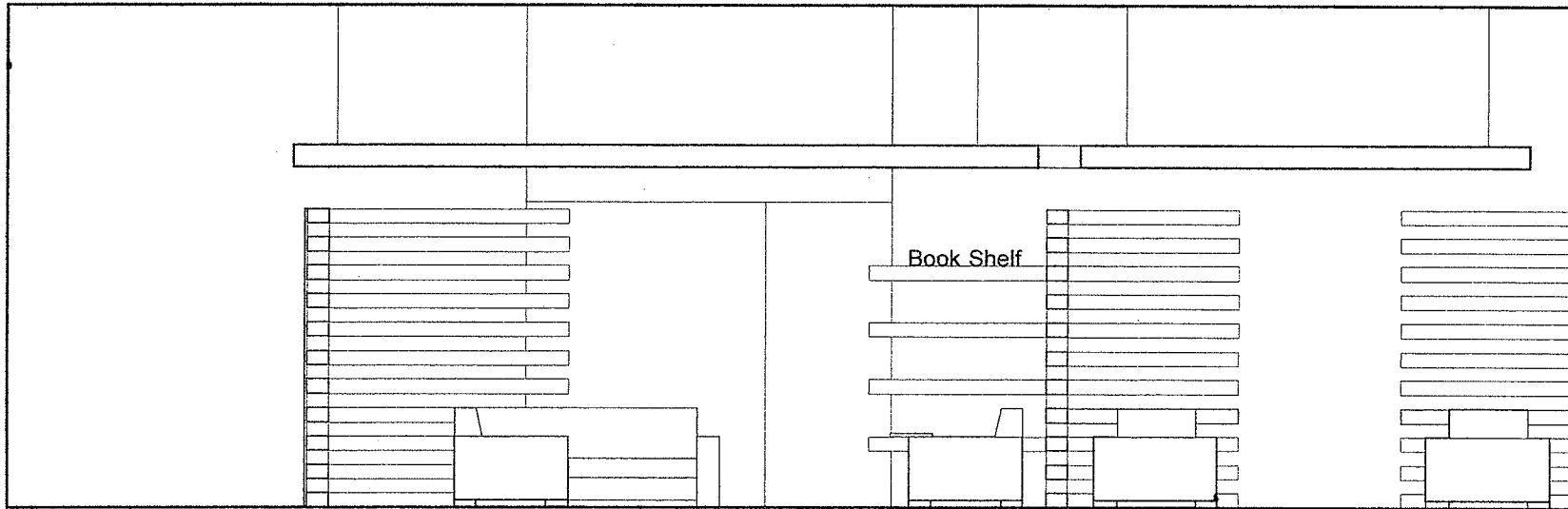
Library / Lounge Elevation Looking North



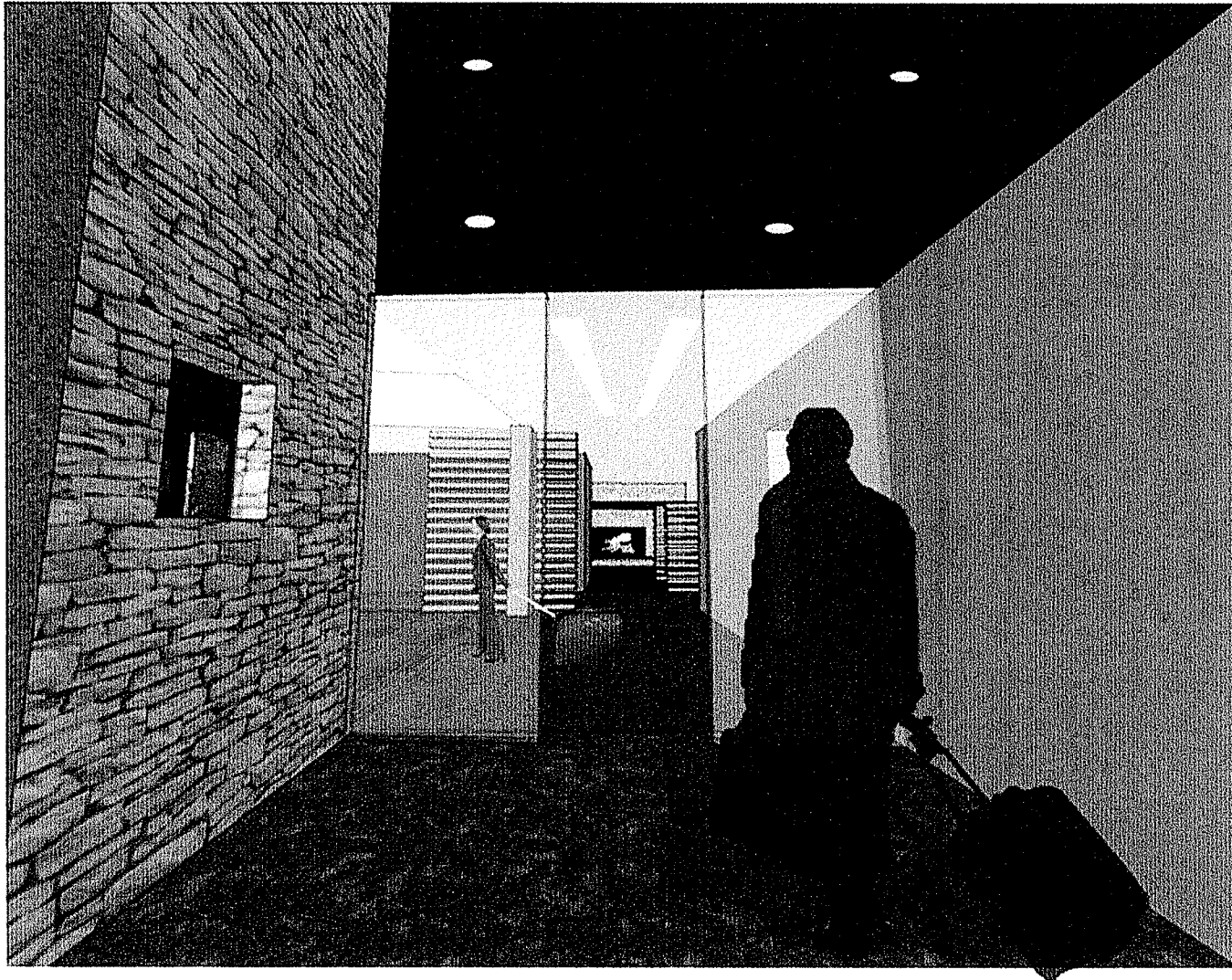
Library / Lounge Elevation Looking South



Library / Lounge Elevation Looking East



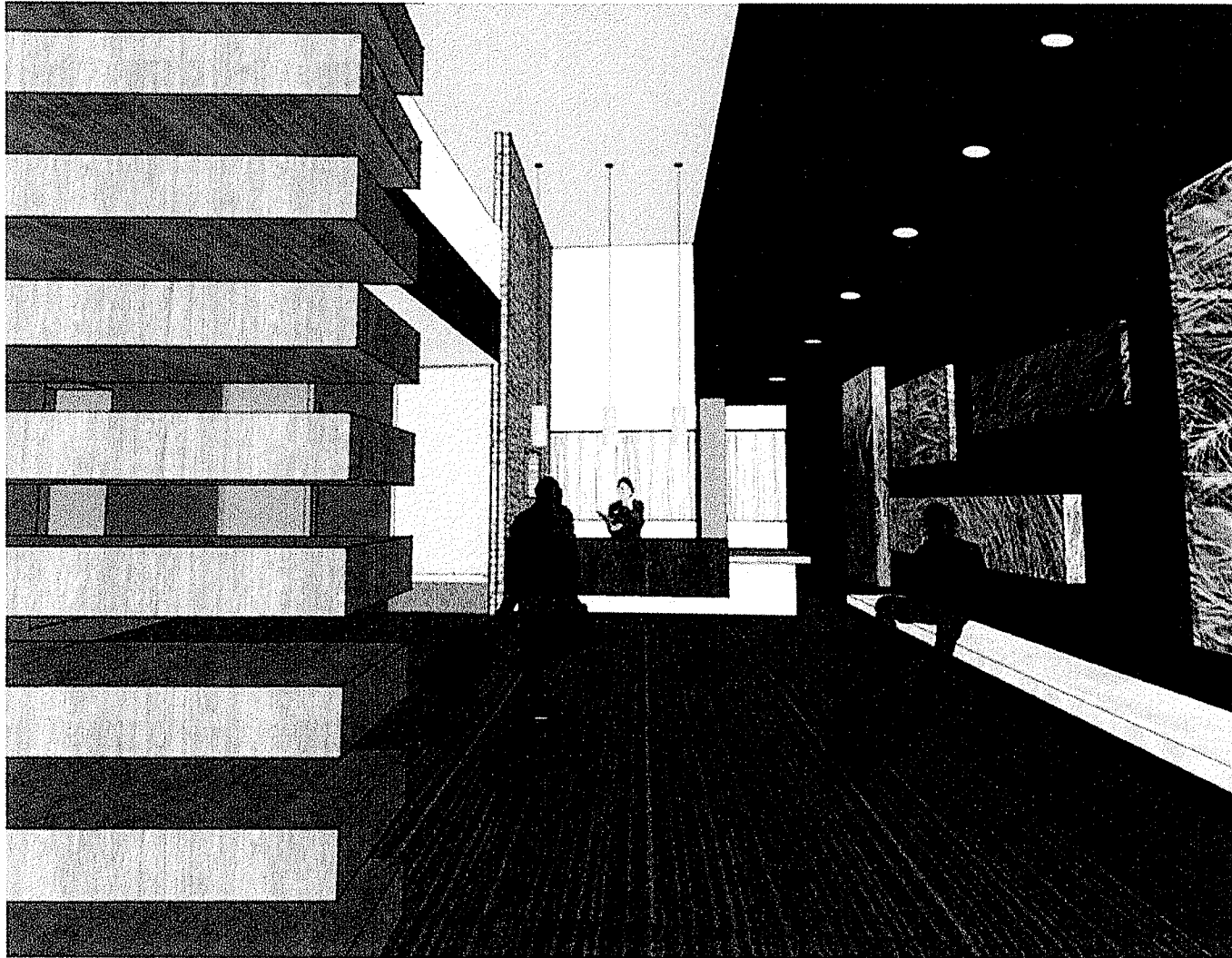
Library /Lounge Elevation Looking West



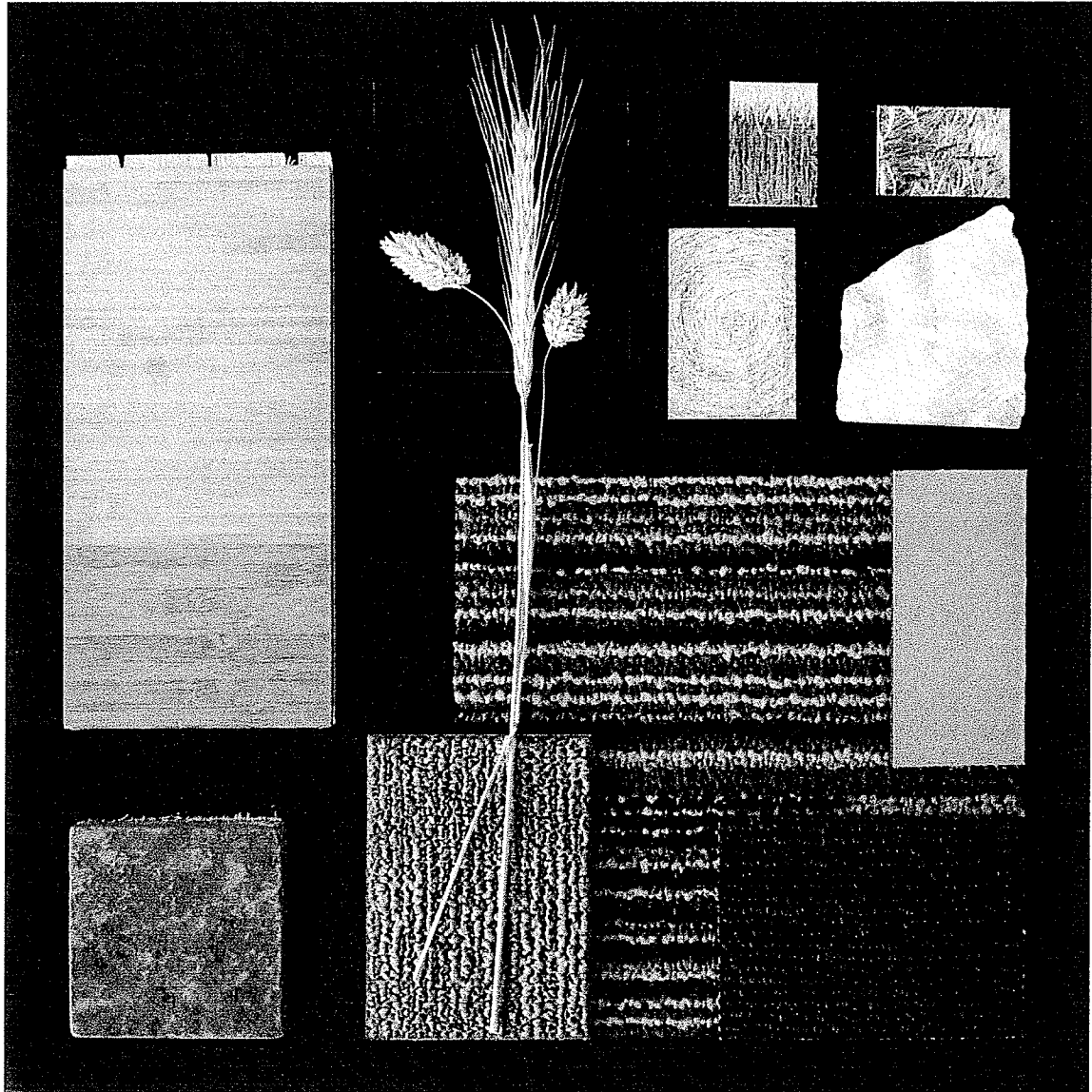
Lobby Entry Perspective View



Lobby Perspective View

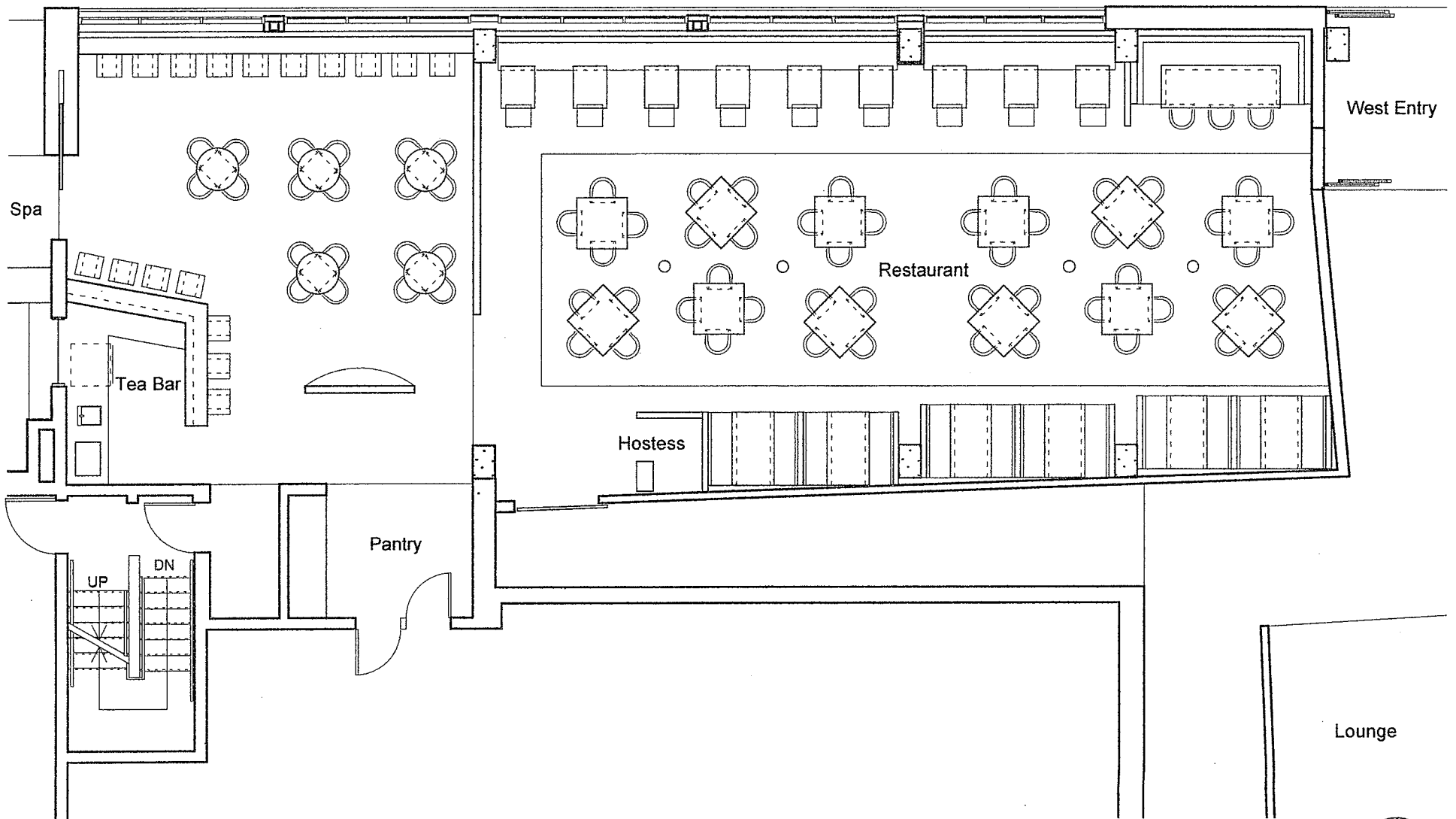


Lobby Reception Perspective View

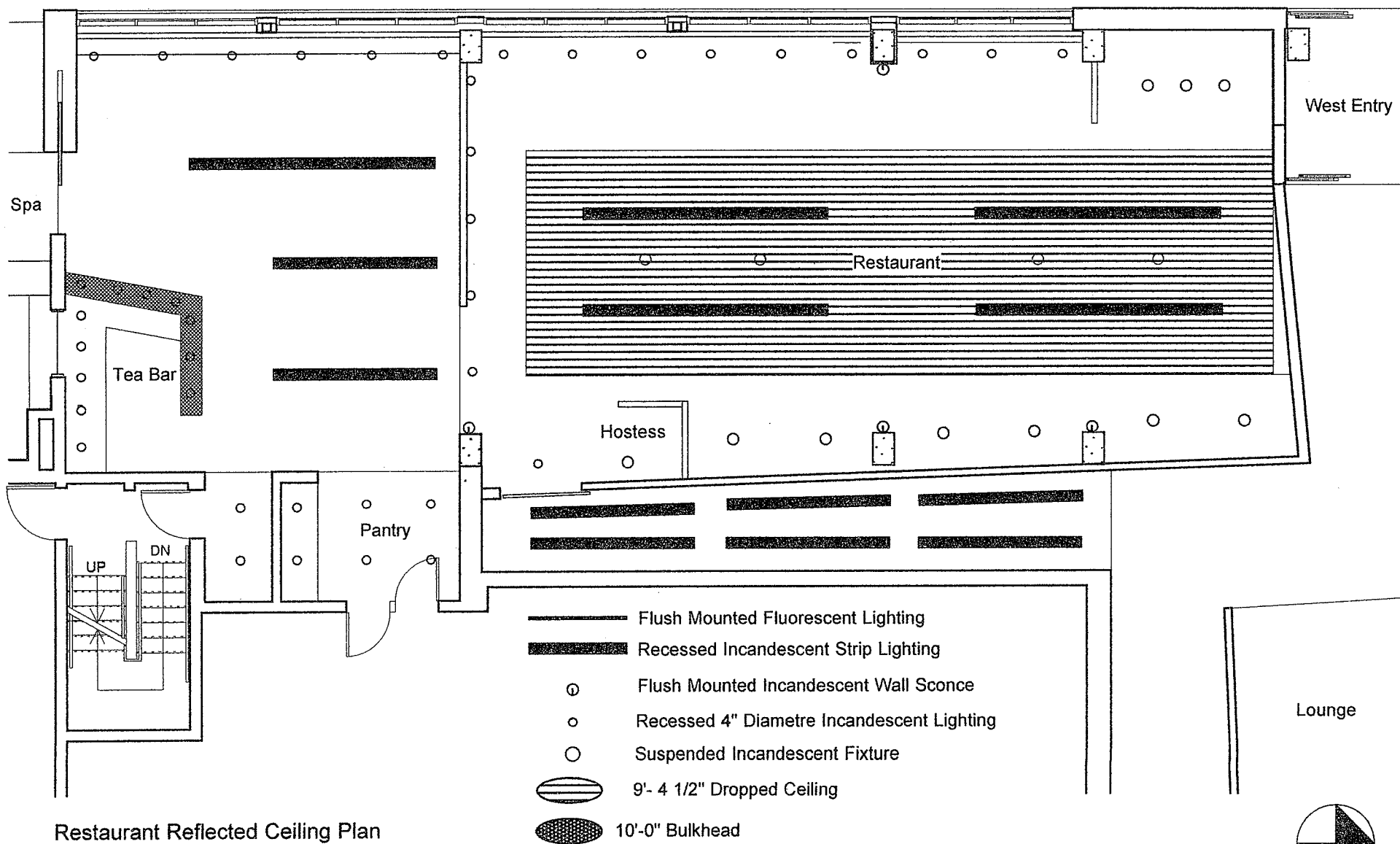


Lobby Material Selection

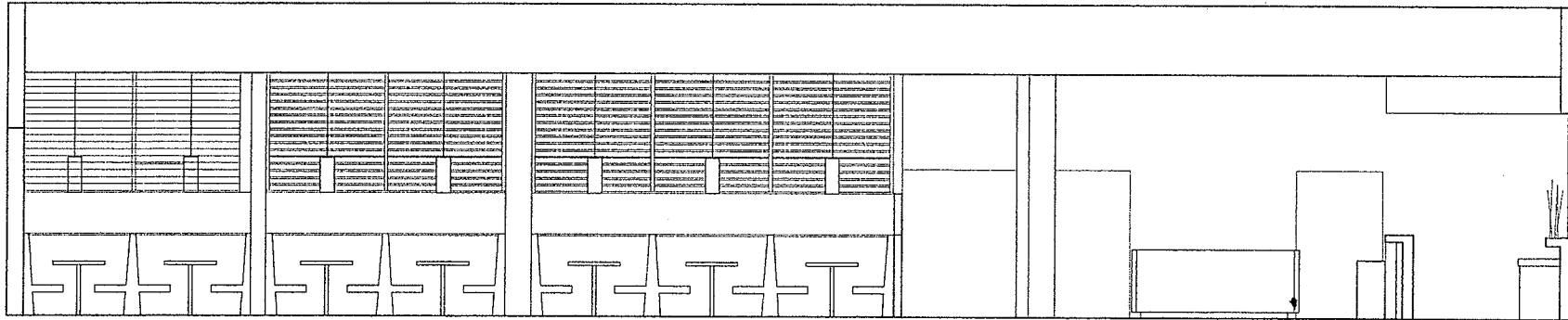
5.2 RESTAURANT DESIGN INTERVENTION



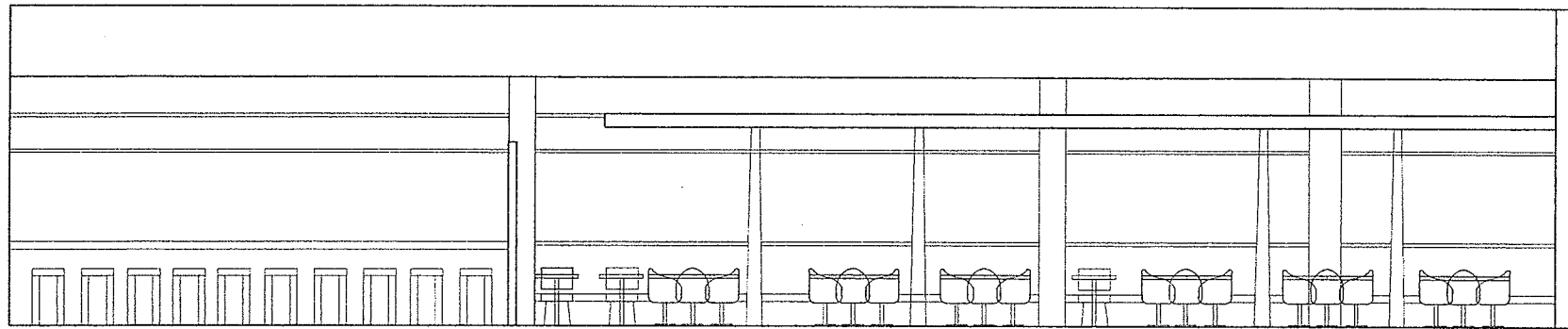
Restaurant Floor Plan



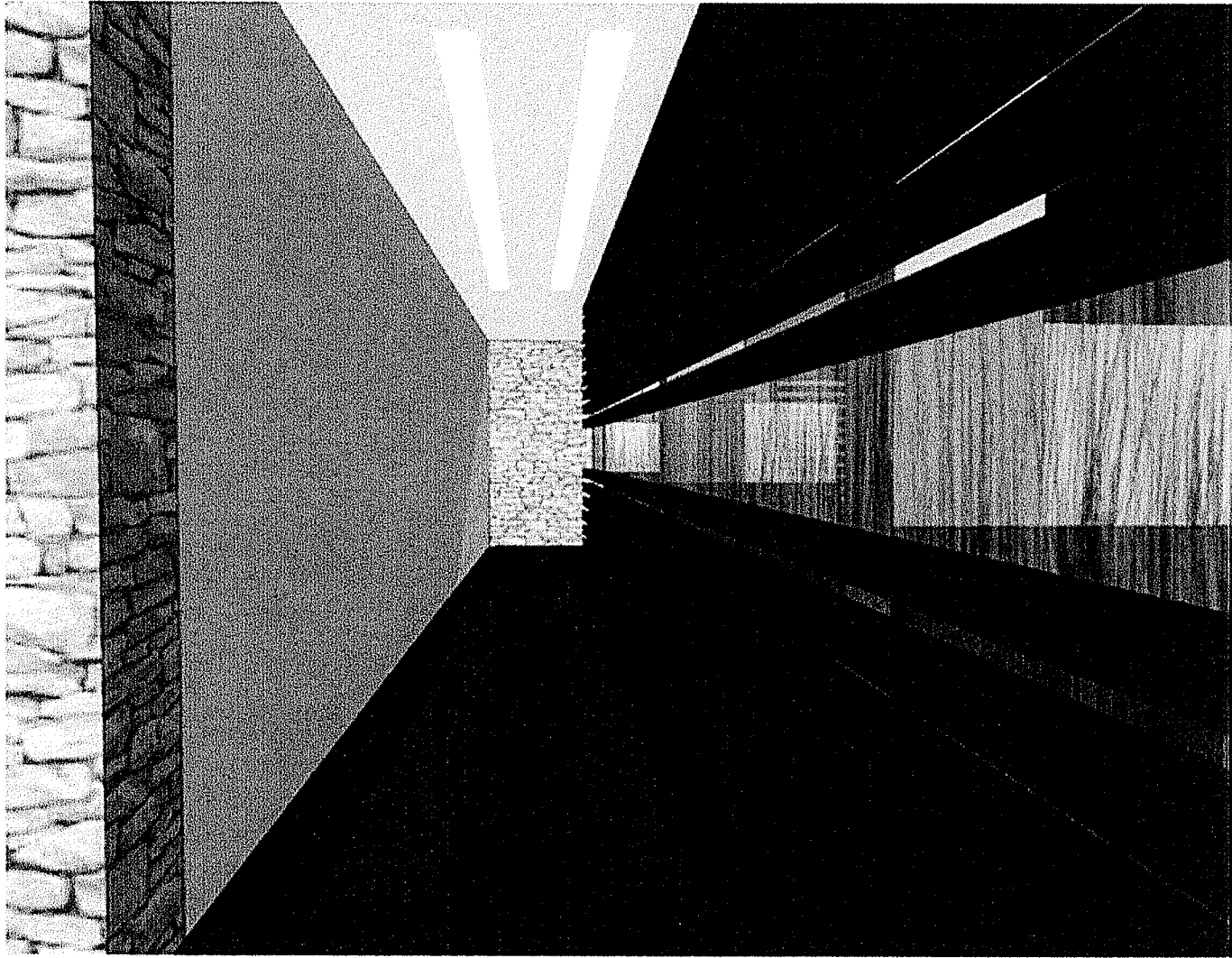
Restaurant Reflected Ceiling Plan



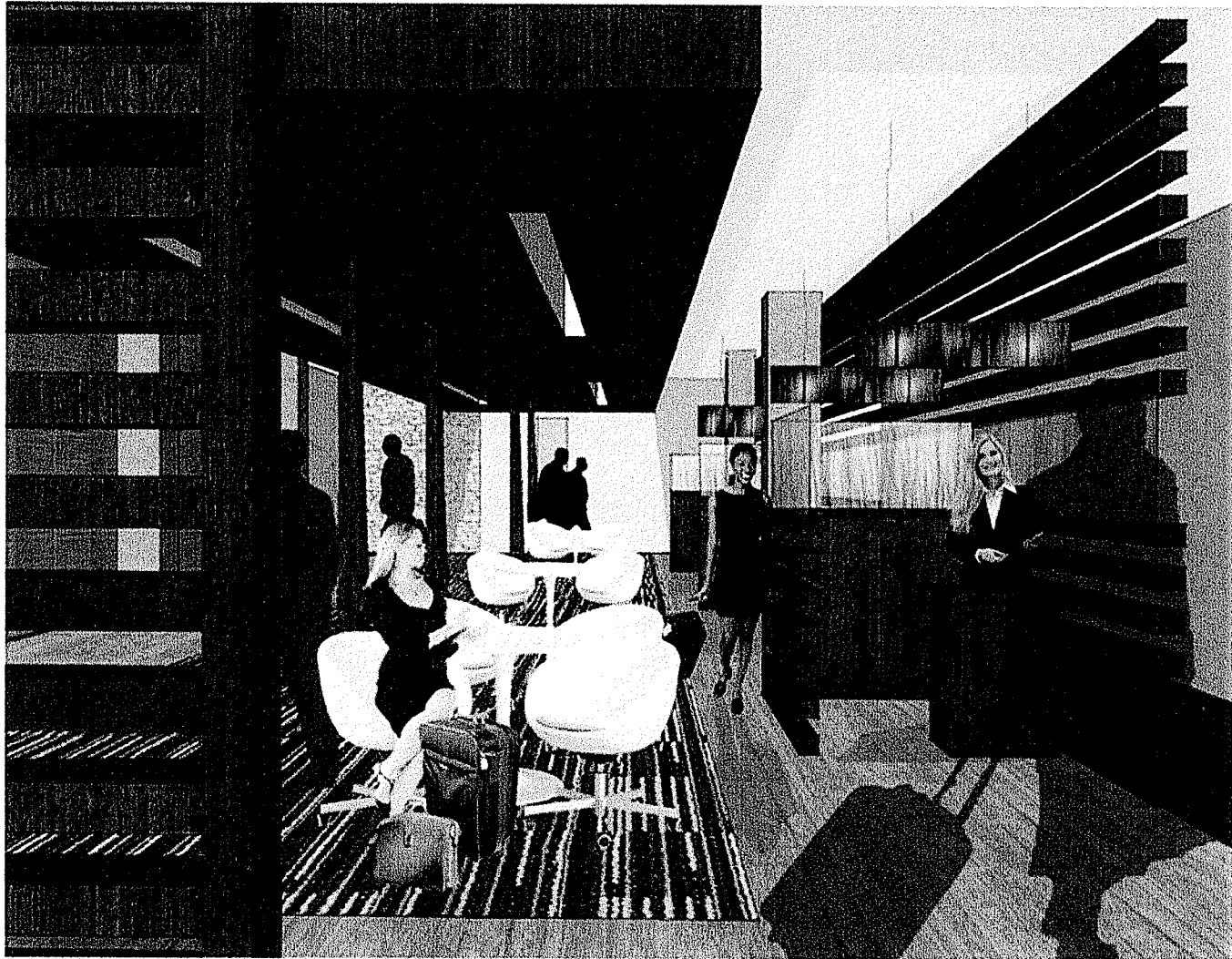
Restaurant Elevation Looking East



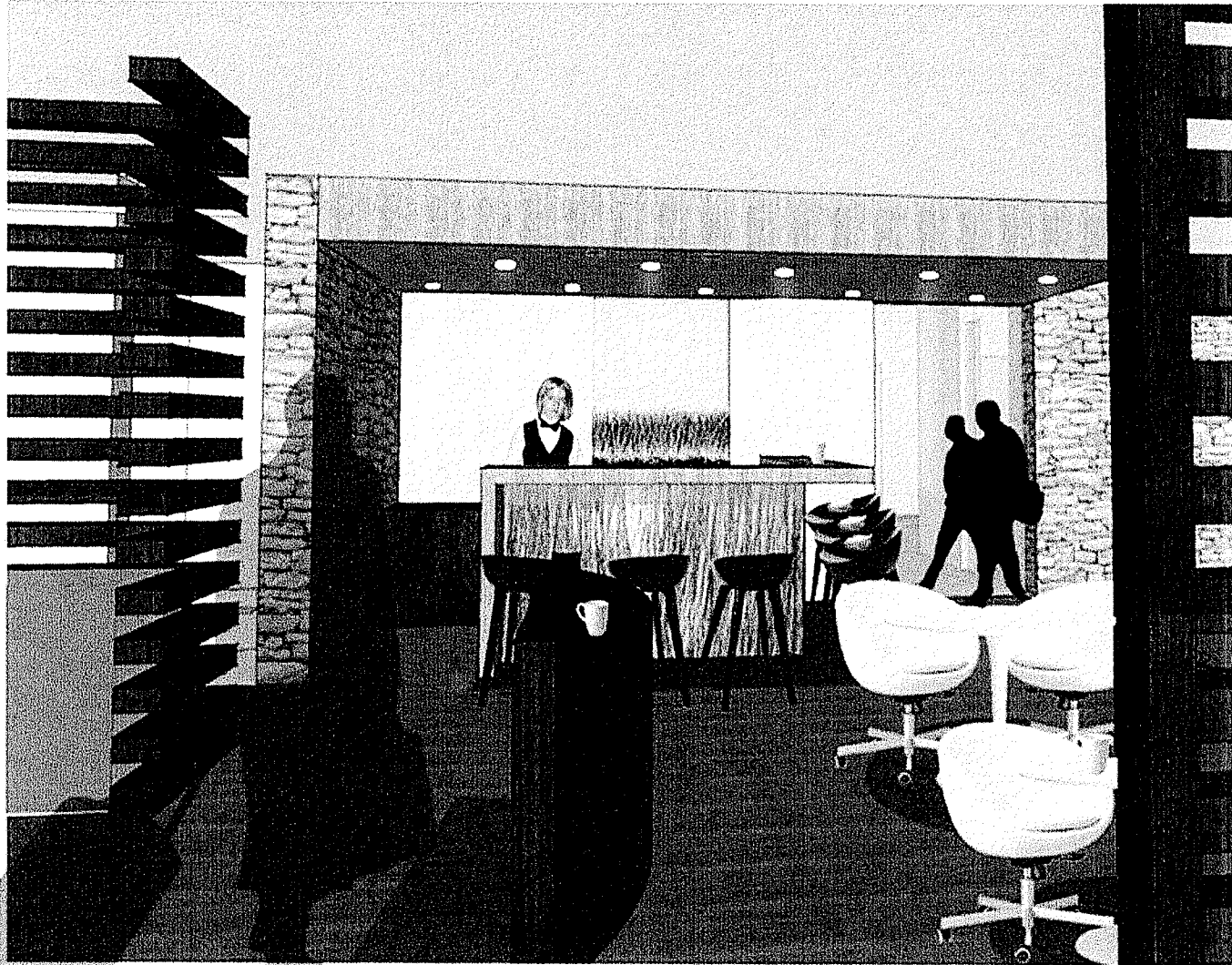
Restaurant Elevation Looking West



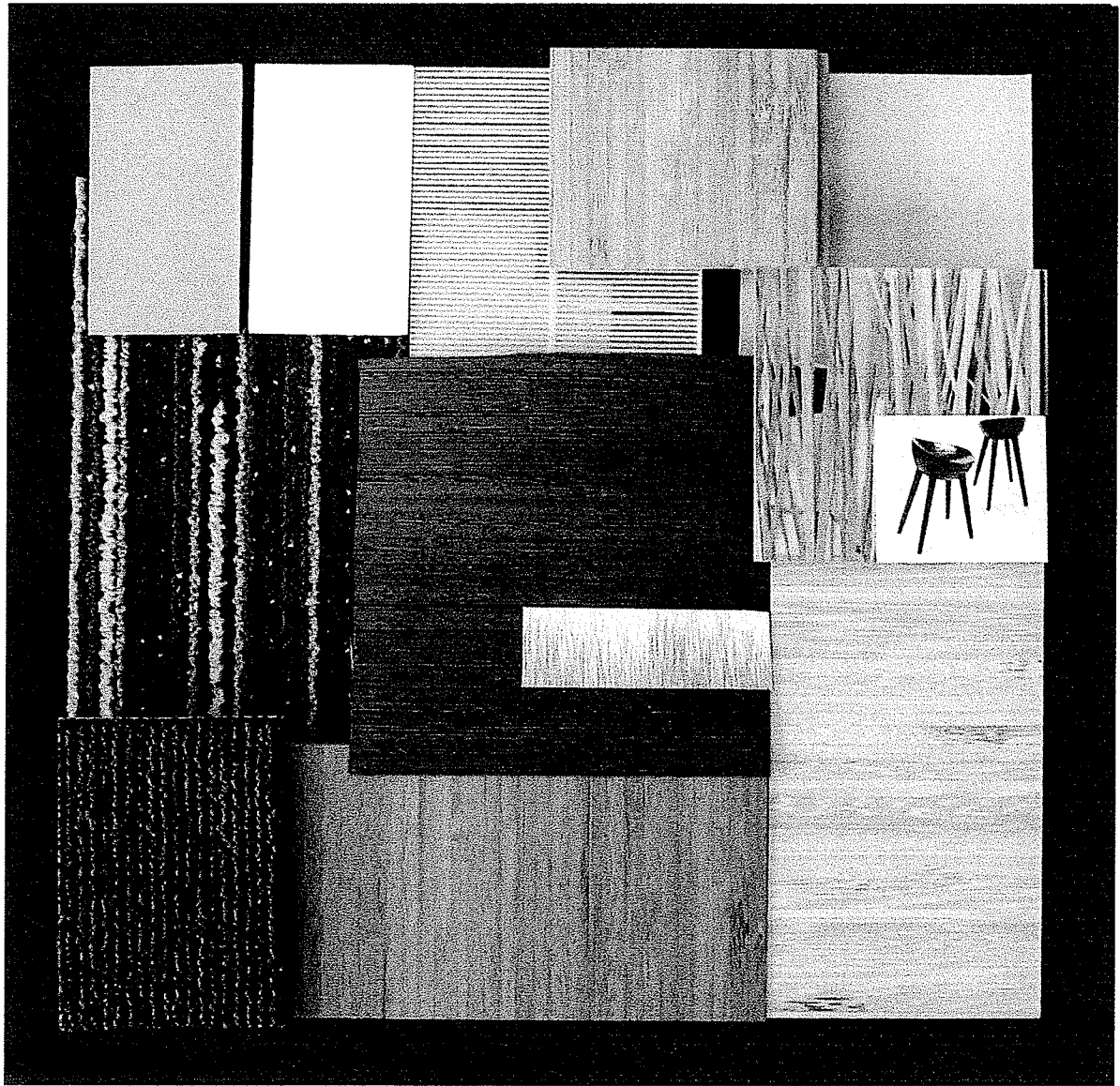
Restaurant Corridor Perspective View



Restaurant Perspective View

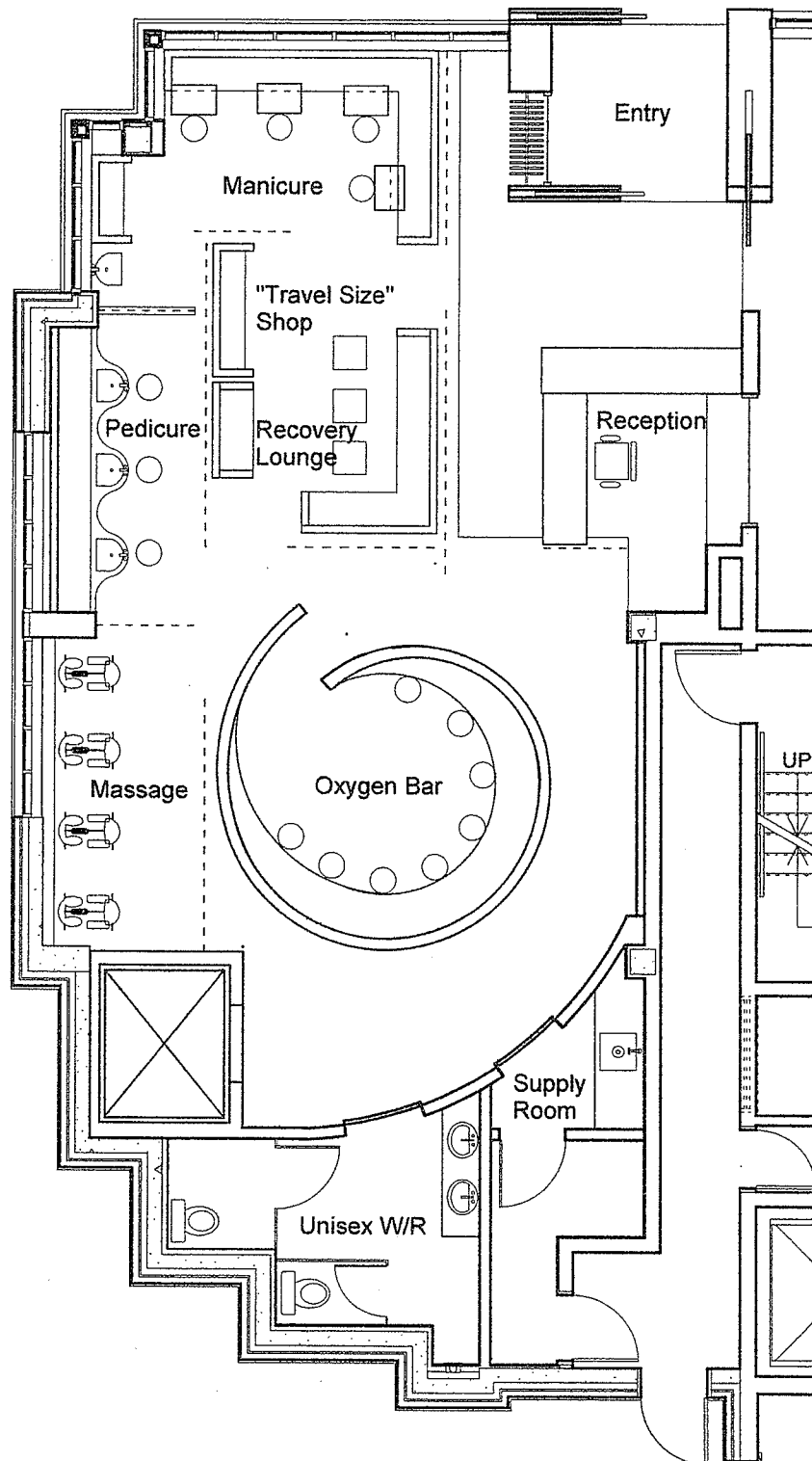


Tea Bar Perspective View

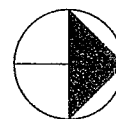


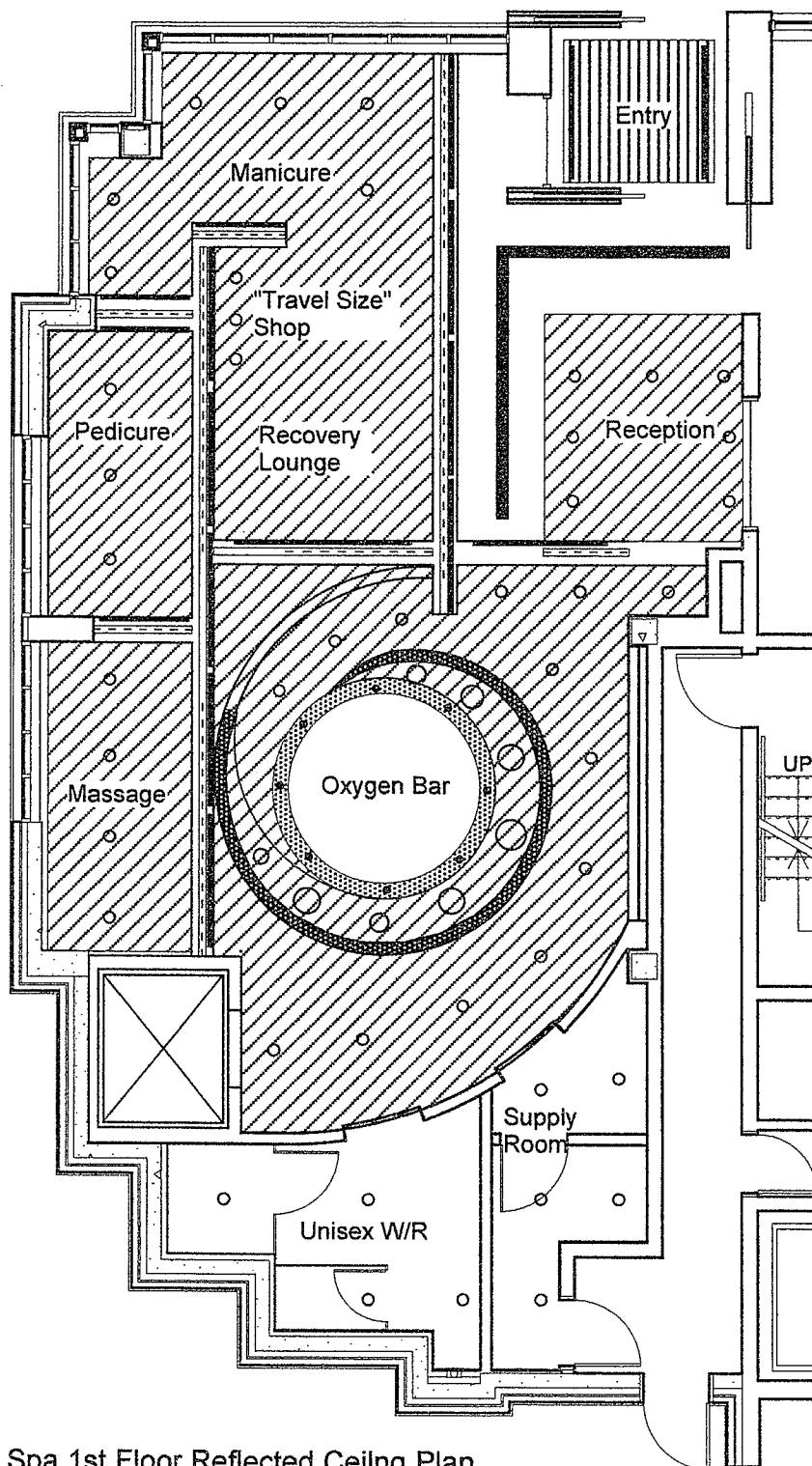
Restaurant Material Selection

5.3 SPA-1ST FLOOR DESIGN INTERVENTION

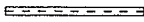


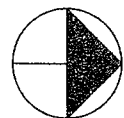
Spa 1st Floor Plan

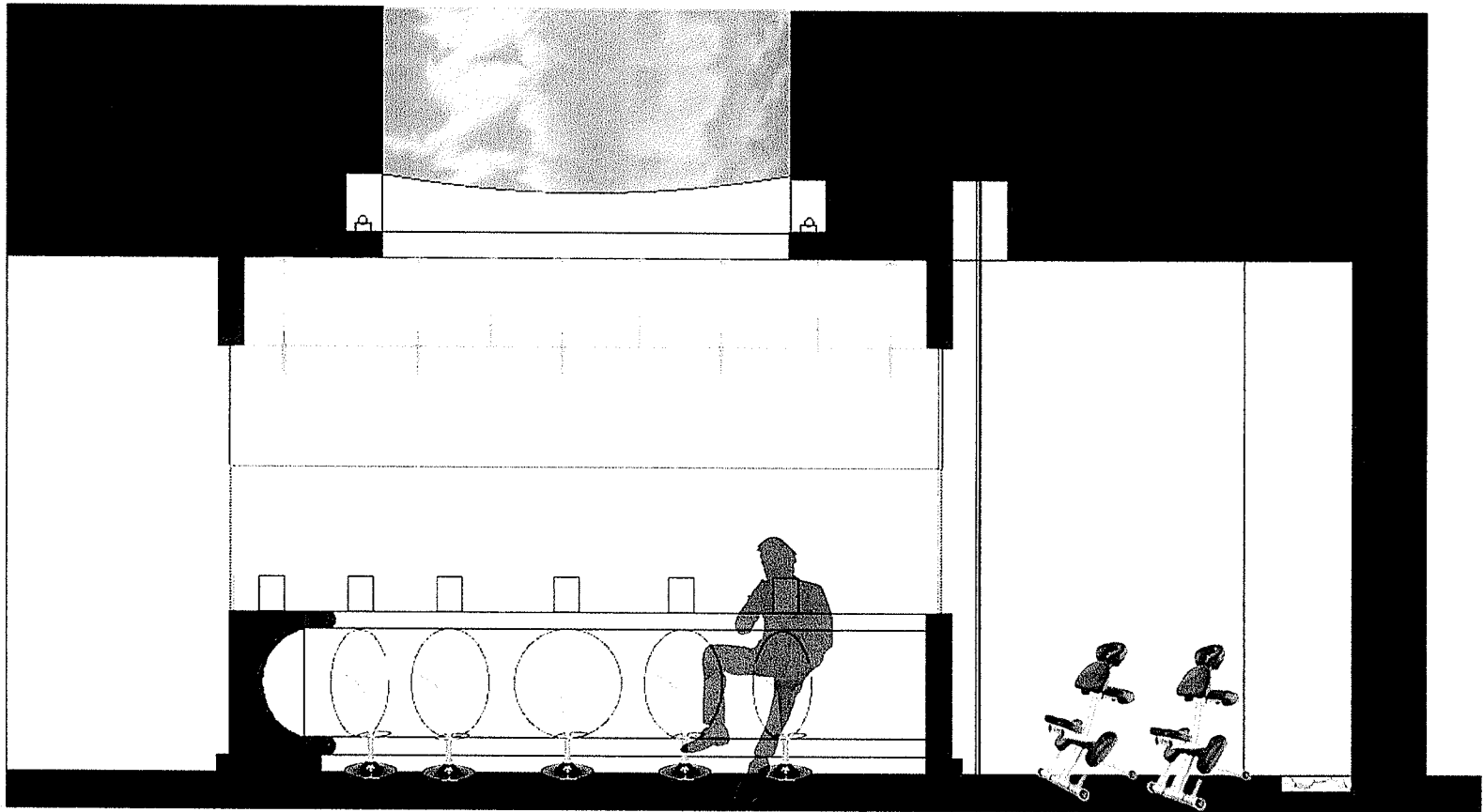




Spa 1st Floor Reflected Ceiling Plan

-  Ceiling Suspended Fabric (Fringe)
-  Flush Mounted Fluorescent Lighting
-  Recessed Incandescent Strip Lighting
-  Flush Mounted Incandescent Uplighting
-  Recessed 4" Diameter Incandescent Lighting
-  Suspended Incandescent Fixture
-  10' Dropped Ceiling
-  11' Dropped Ceiling
-  10' -6 1/2" Dropped Ceiling
-  8'-4" Bulkhead

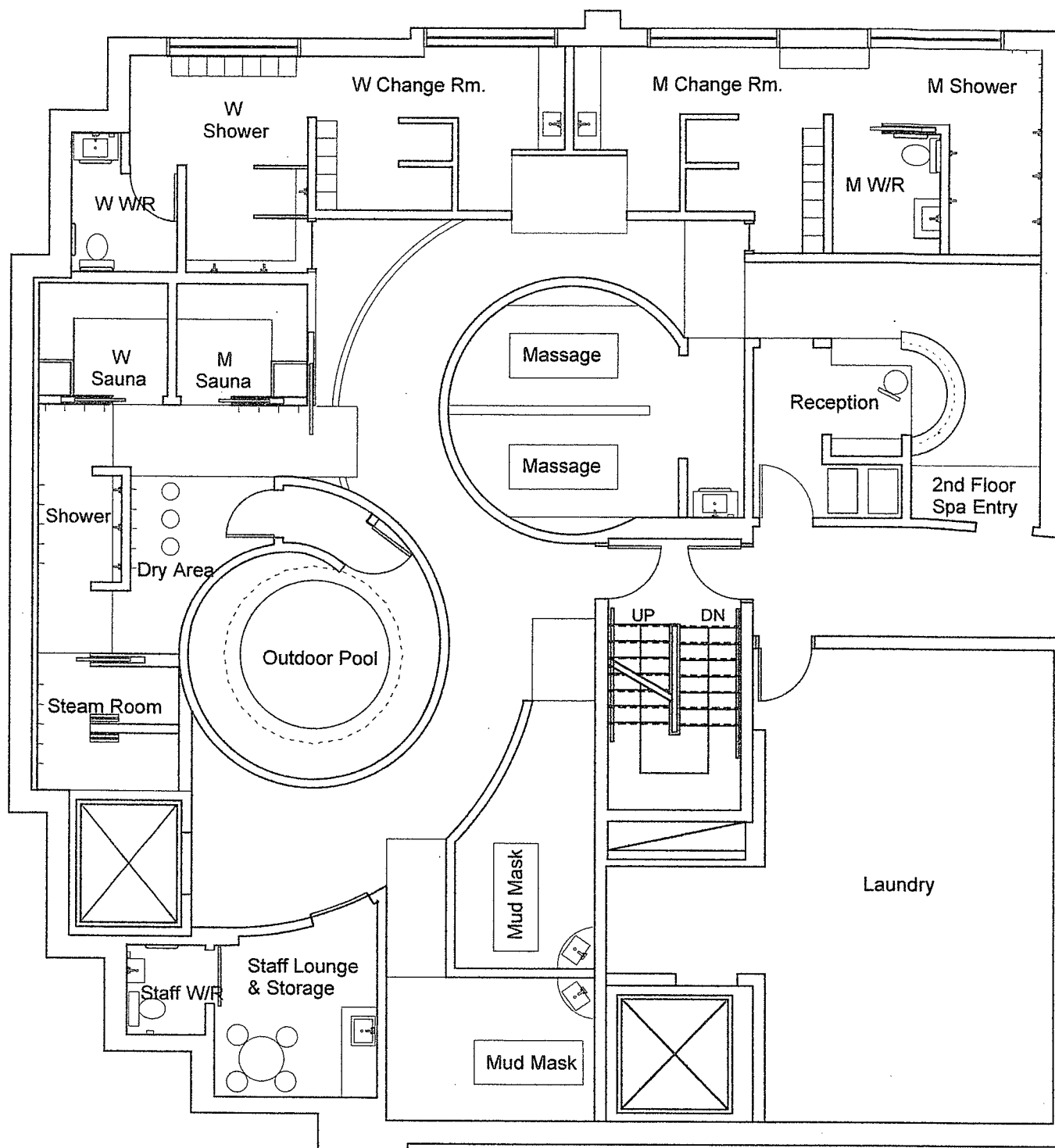




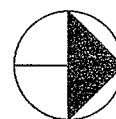
Spa Oxygen Bar Section / Elevation Looking East

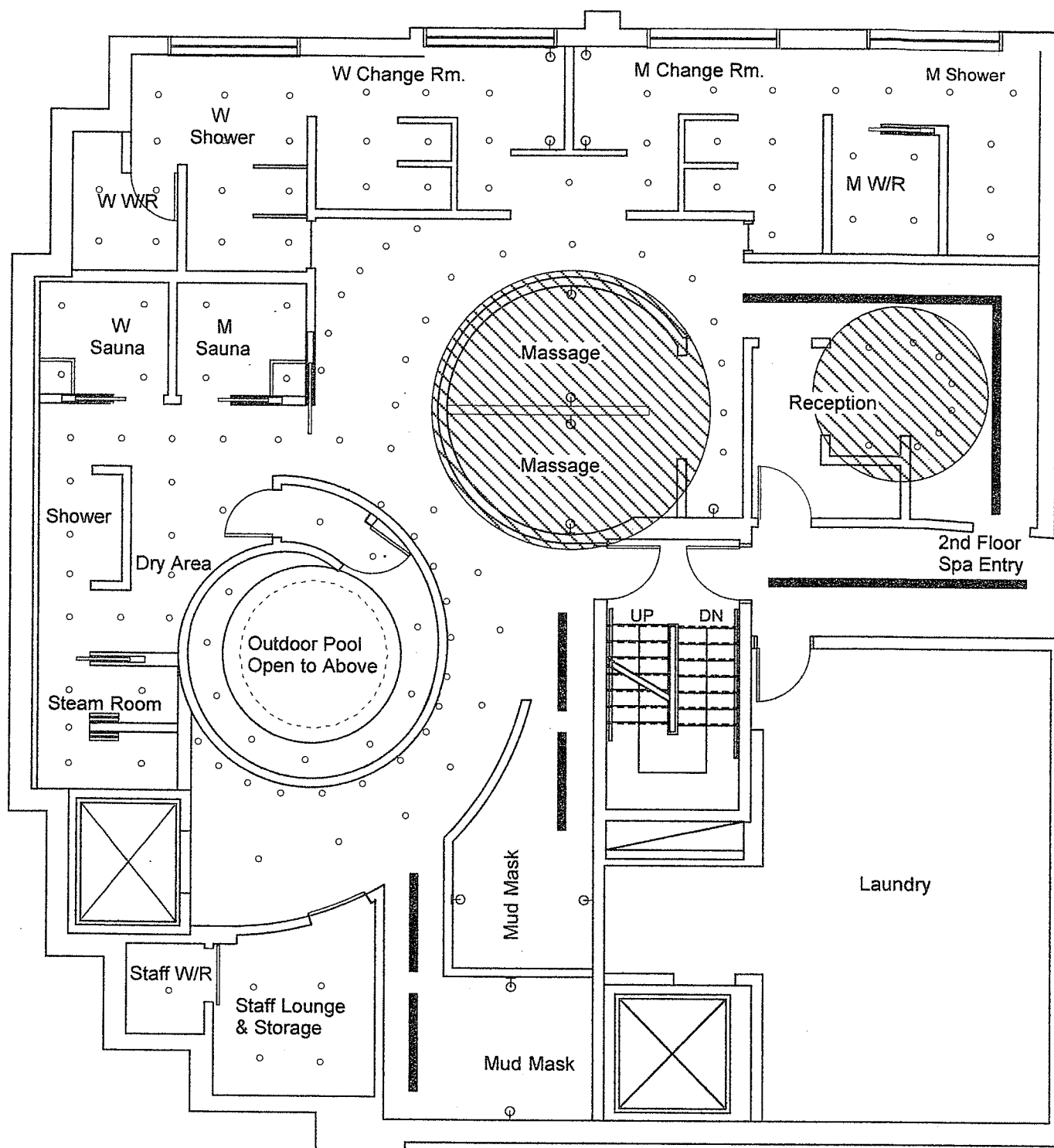


5.4 SPA - 2ND FLOOR DESIGN INTERVENTION



Spa 2nd Floor Plan





Spa 2nd Floor Reflected Ceiling Plan



Recessed Incandescent Strip Lighting



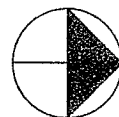
Recessed 4" Diameter Incandescent Lighting

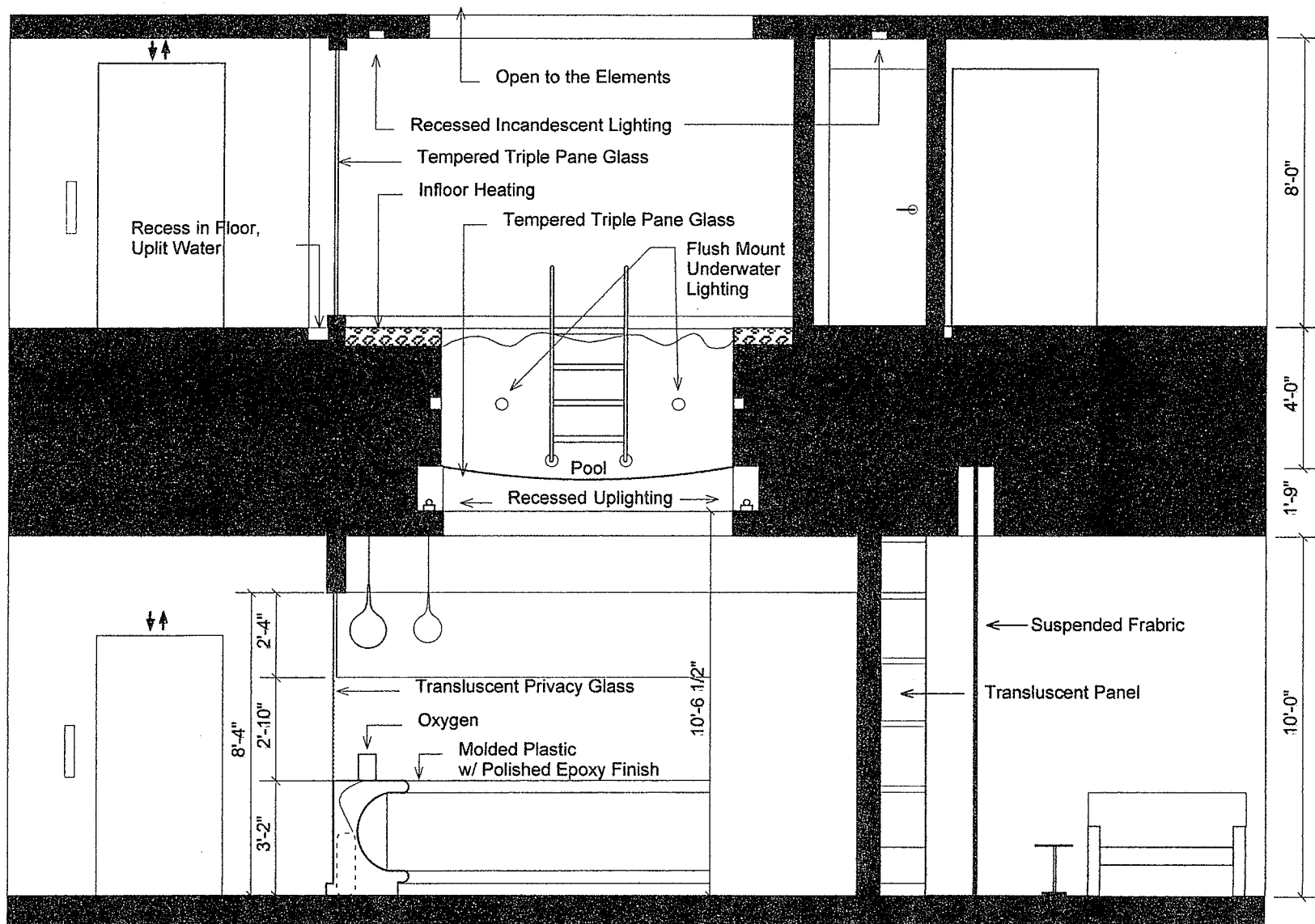


Wall Sconce

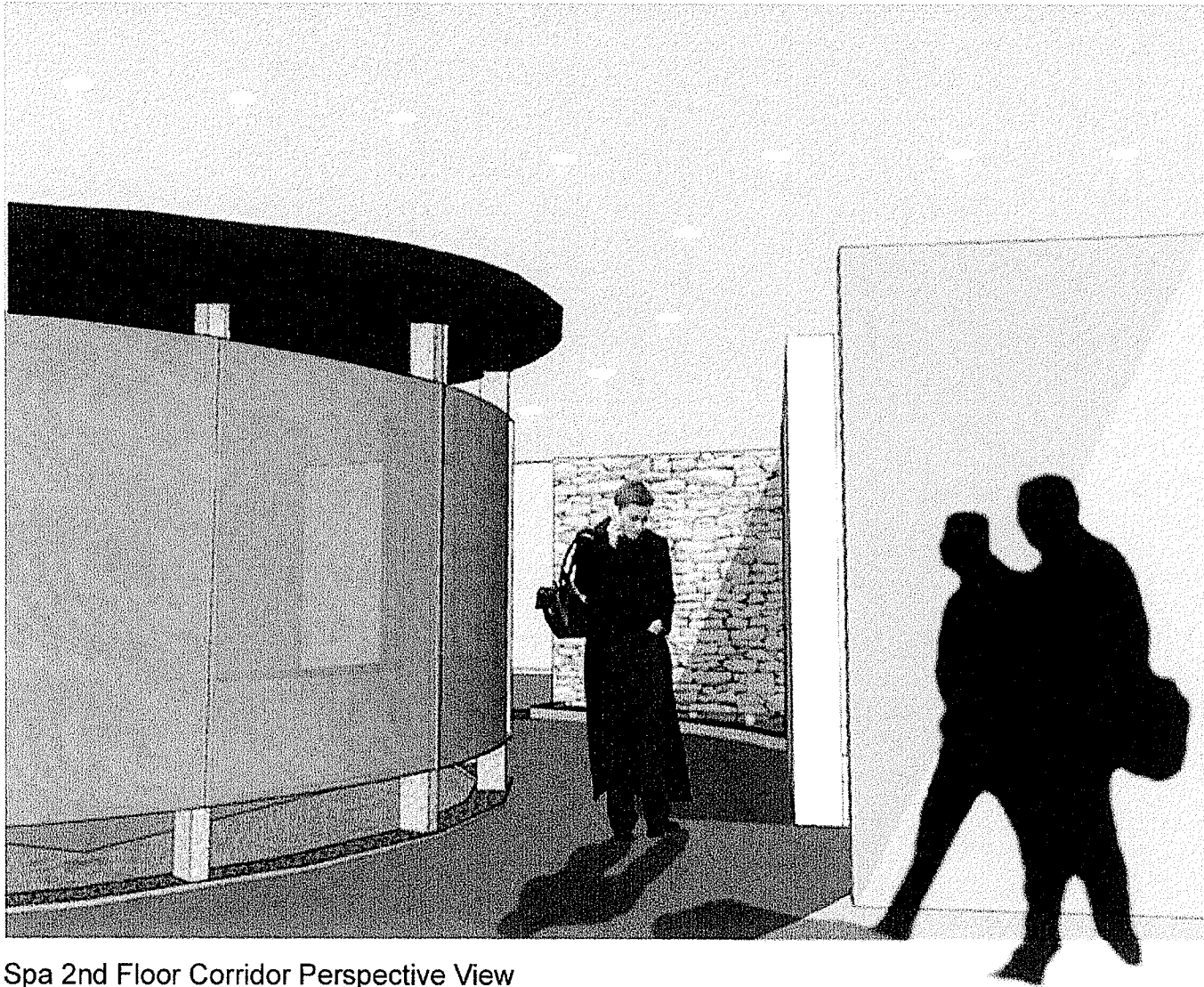


7'-2" Dropped Ceiling

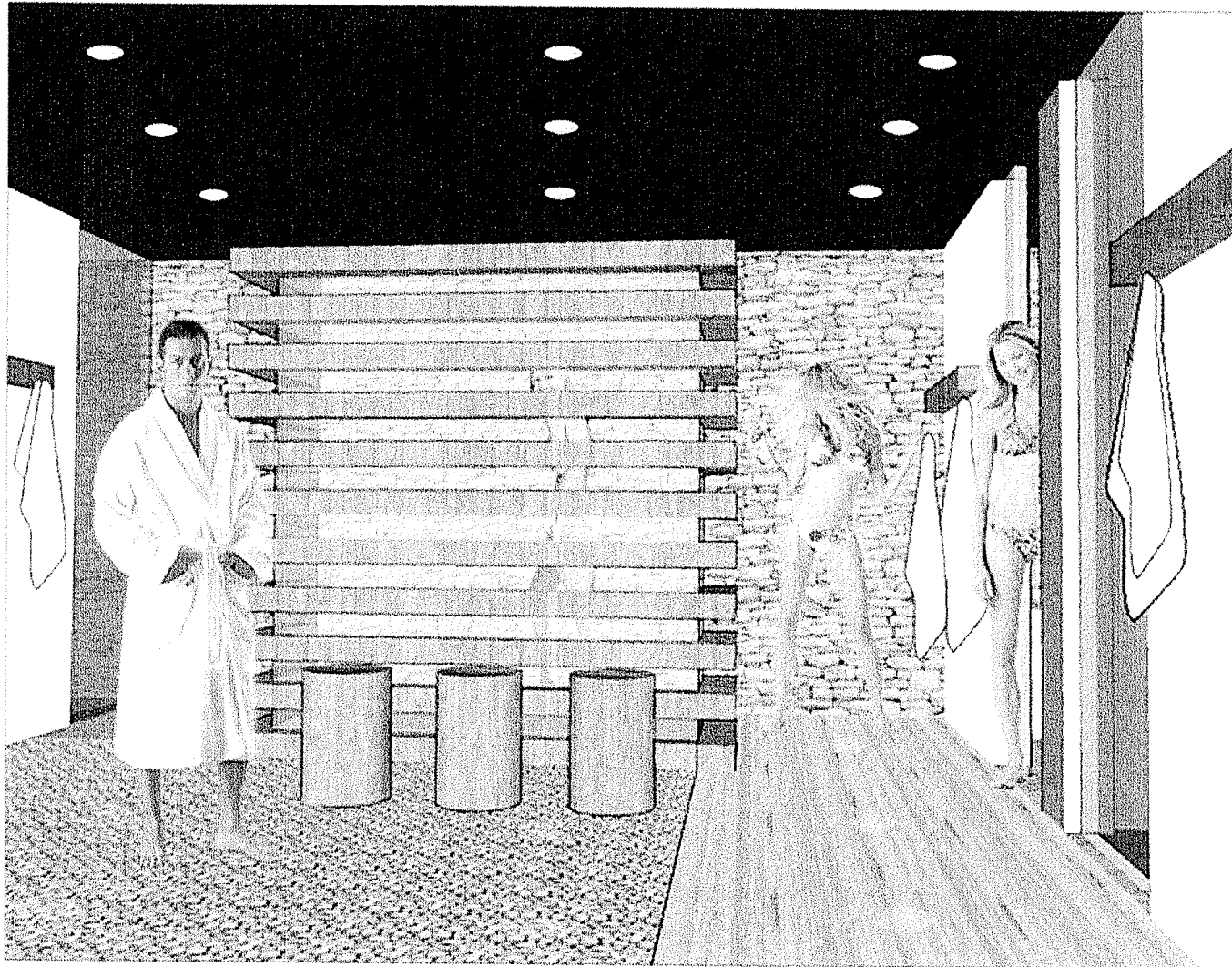




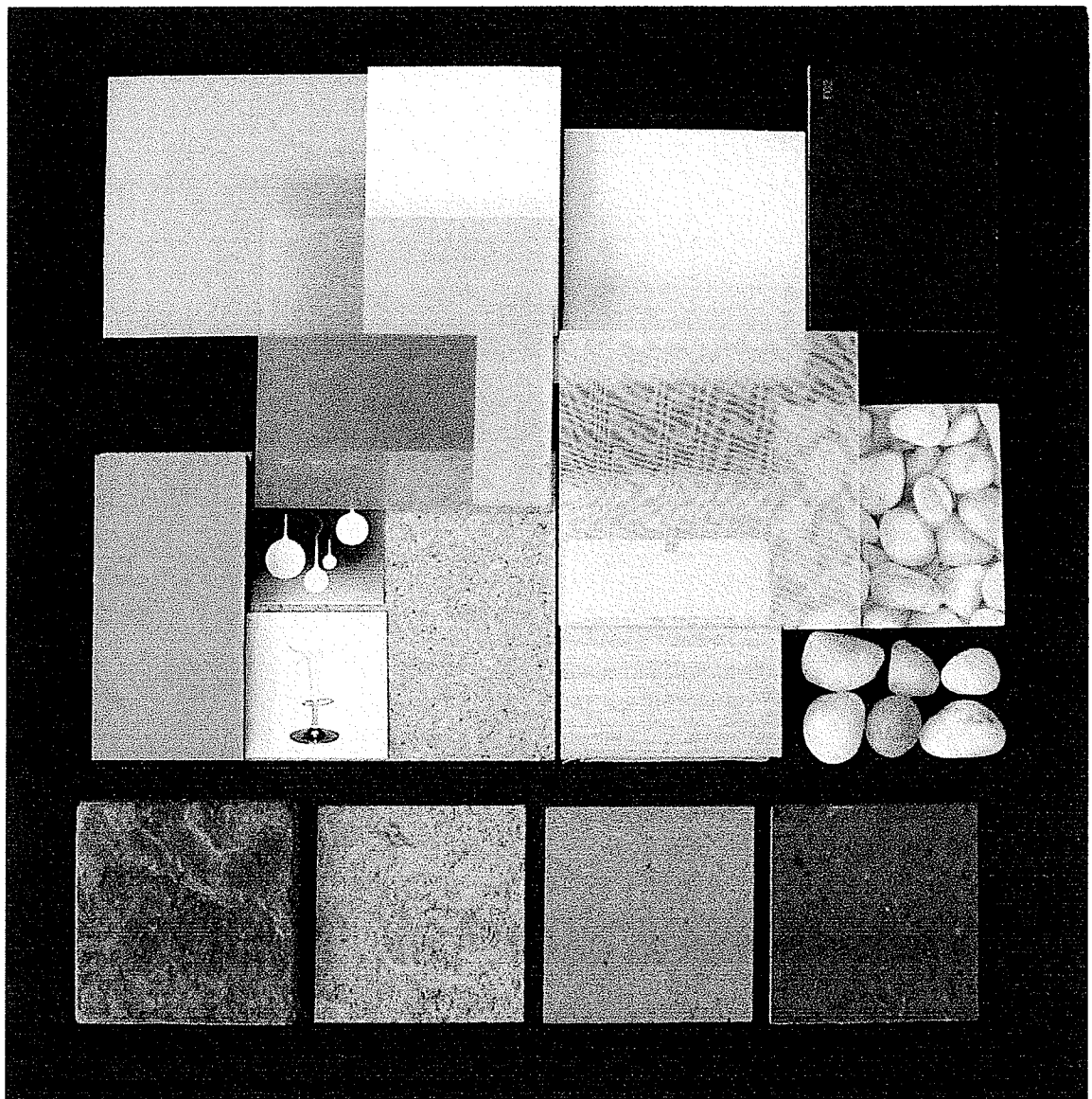
Spa 1st and 2nd Floor Section / Elevation Looking South



Spa 2nd Floor Corridor Perspective View

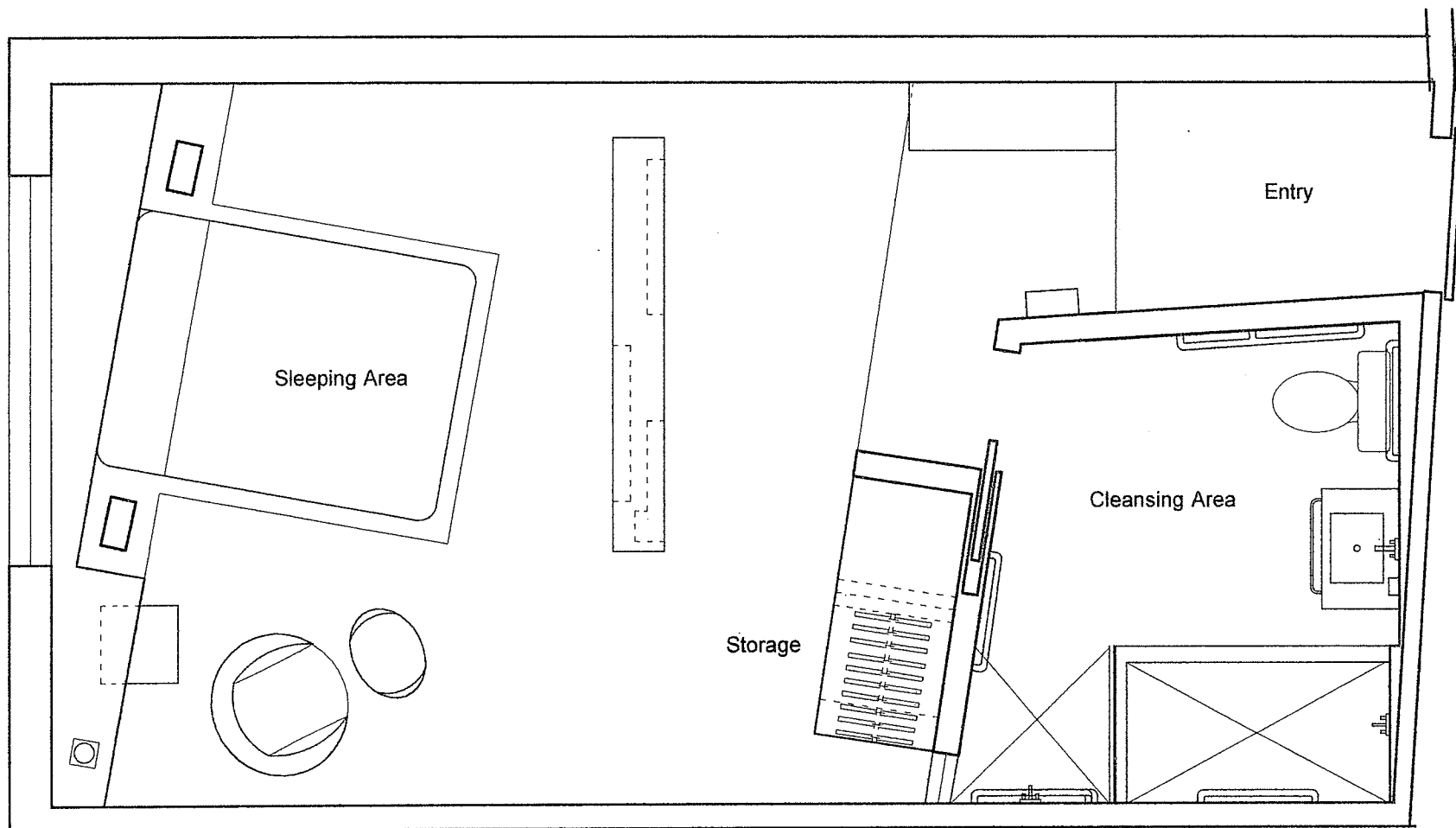


Spa 2nd Floor Sauna Perspective View

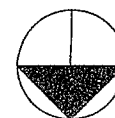


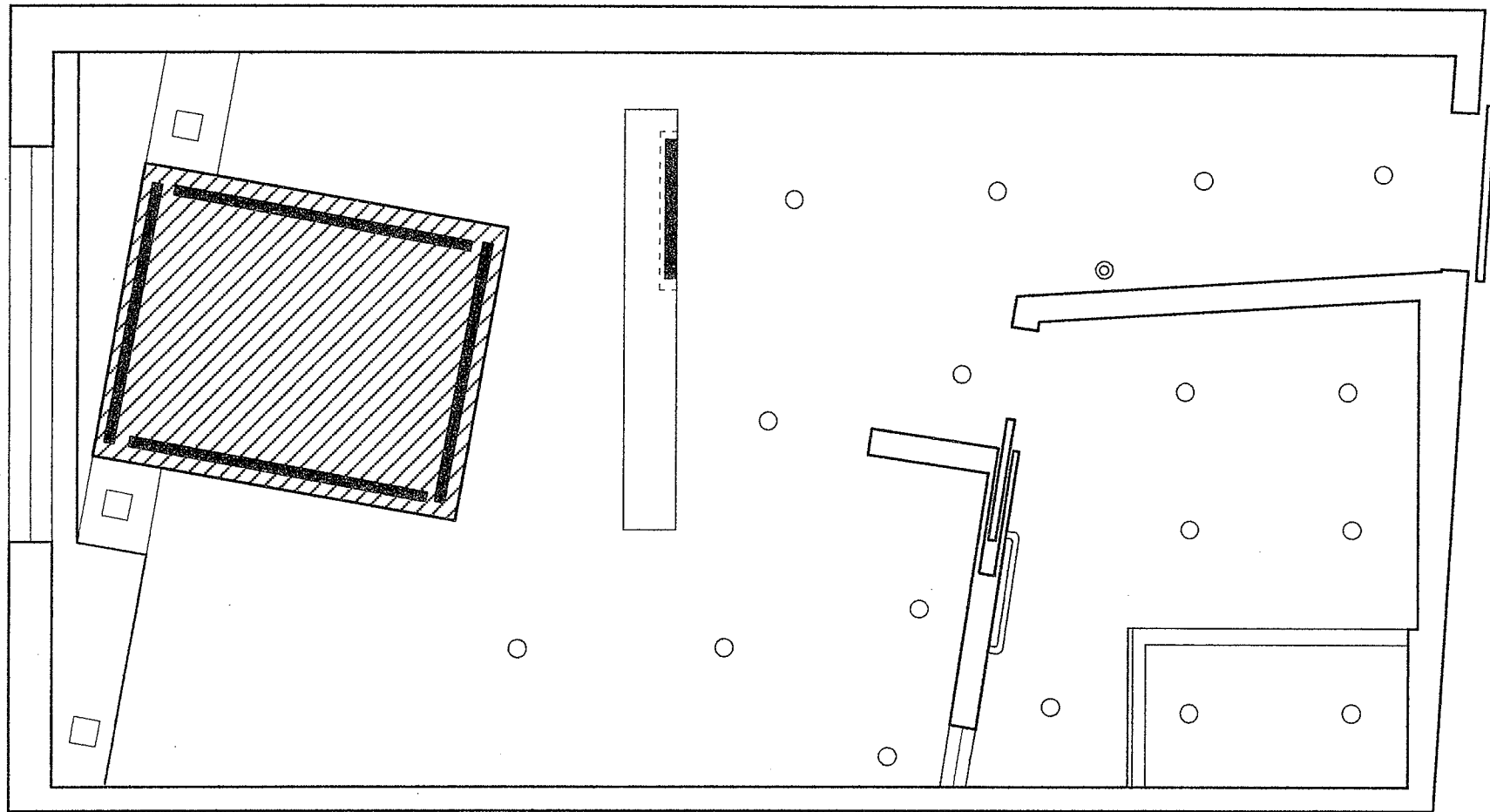
Spa Material Selection

5.5 ROOM DESIGN INTERVENTION



Room Plan





Room -Reflected Ceiling Plan

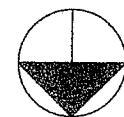
— Fluorescent Lighting

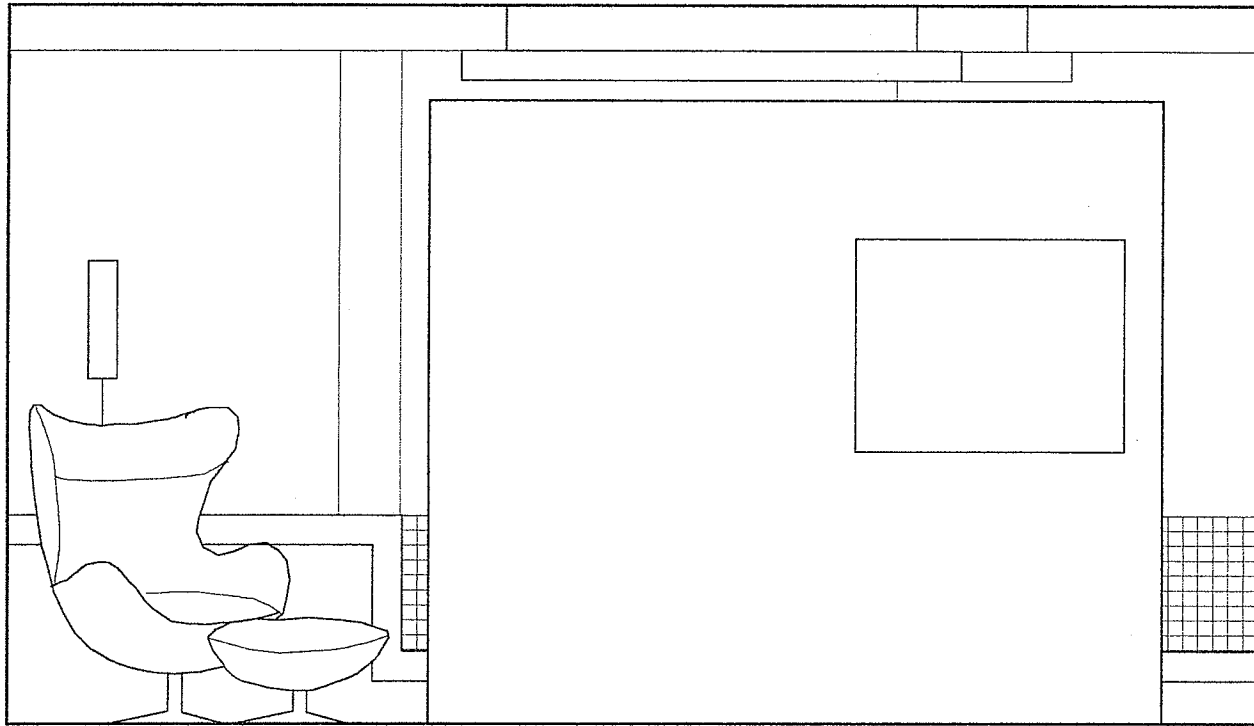
7'-2" Dropped Ceiling

○ Recessed Incandescent Lighting

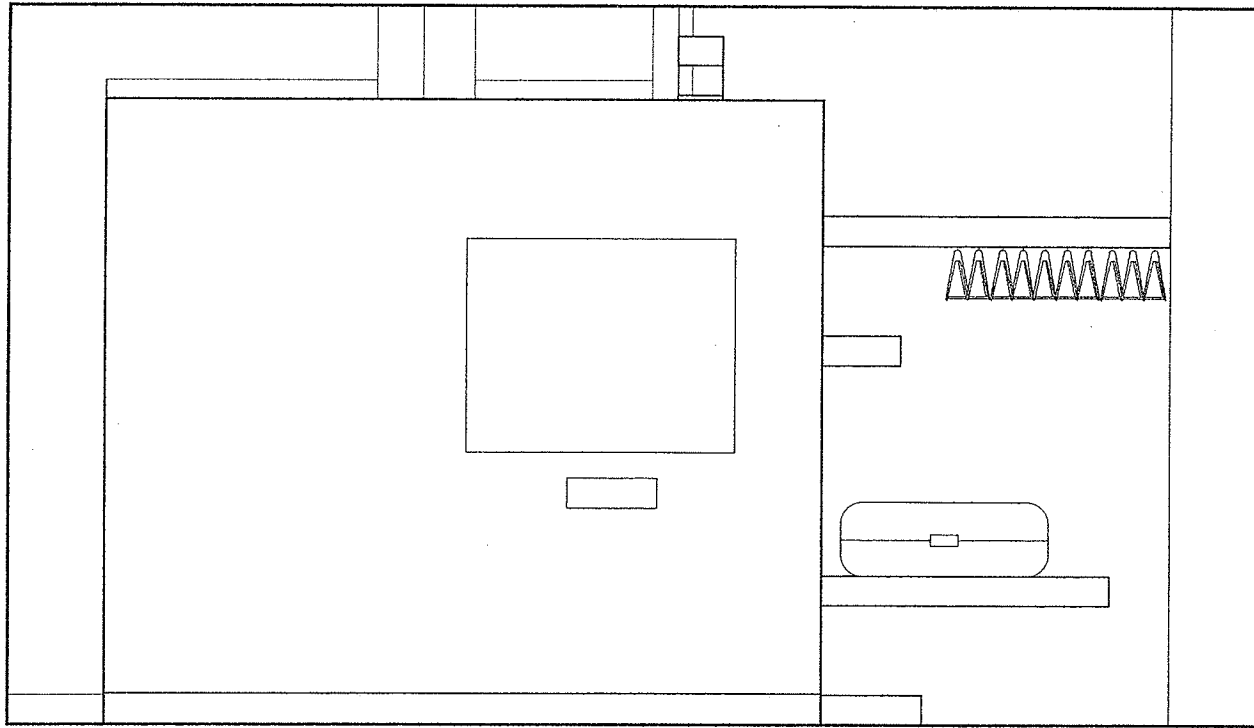
□ Task Lamp

⊙ Pendant Light Fixture

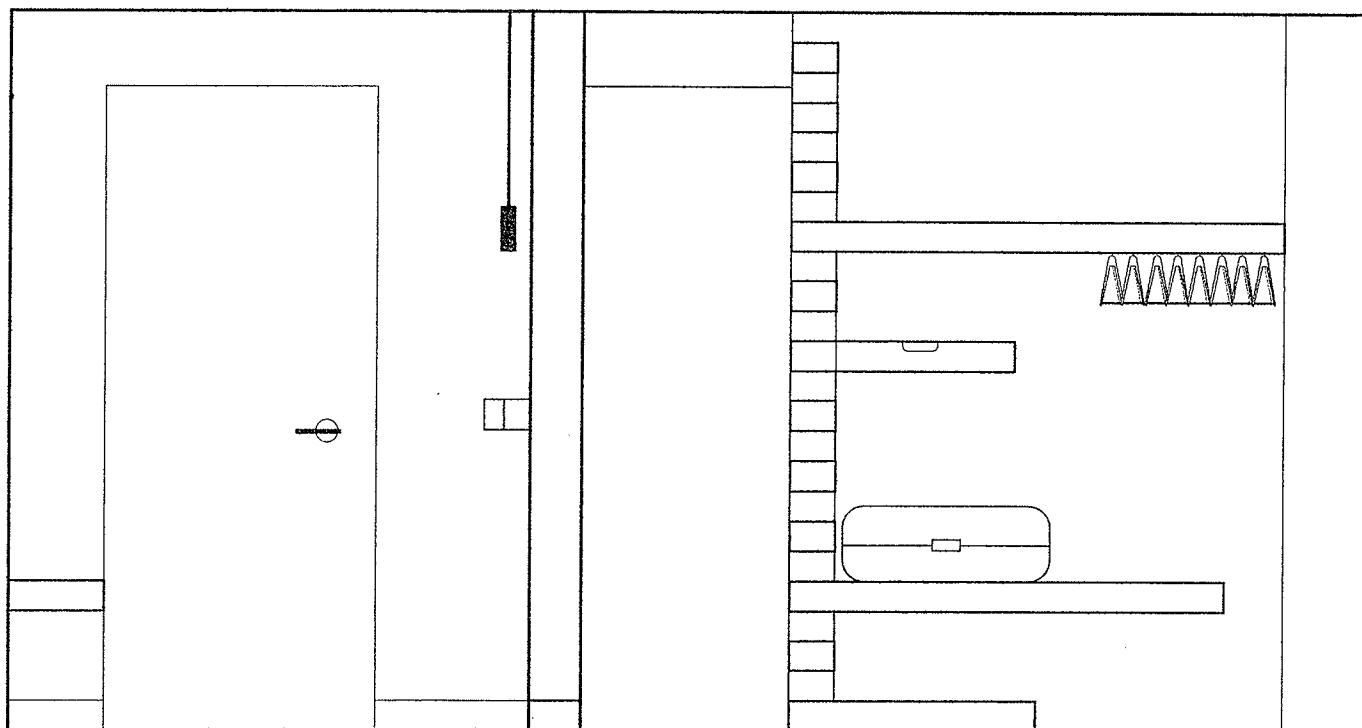




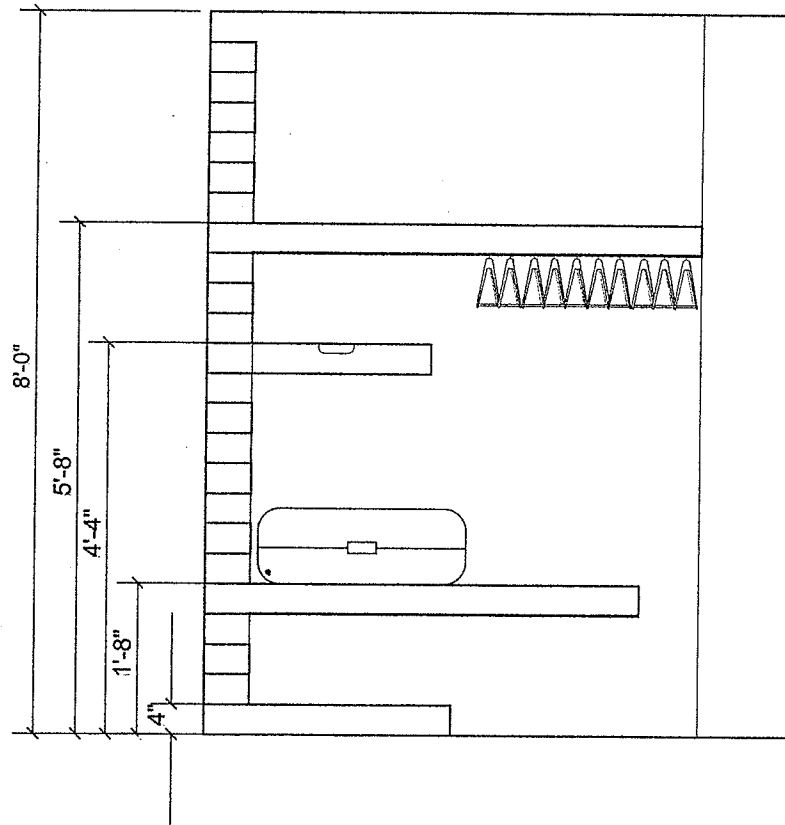
Room Elevation Looking East



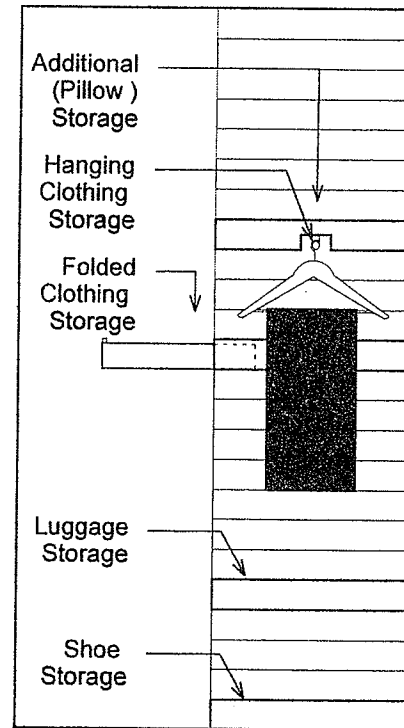
Room Partition Elevation Looking West



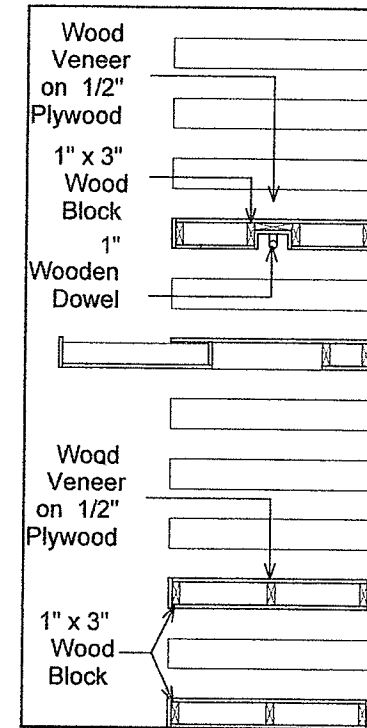
Room Entry / Storage Elevation Looking West



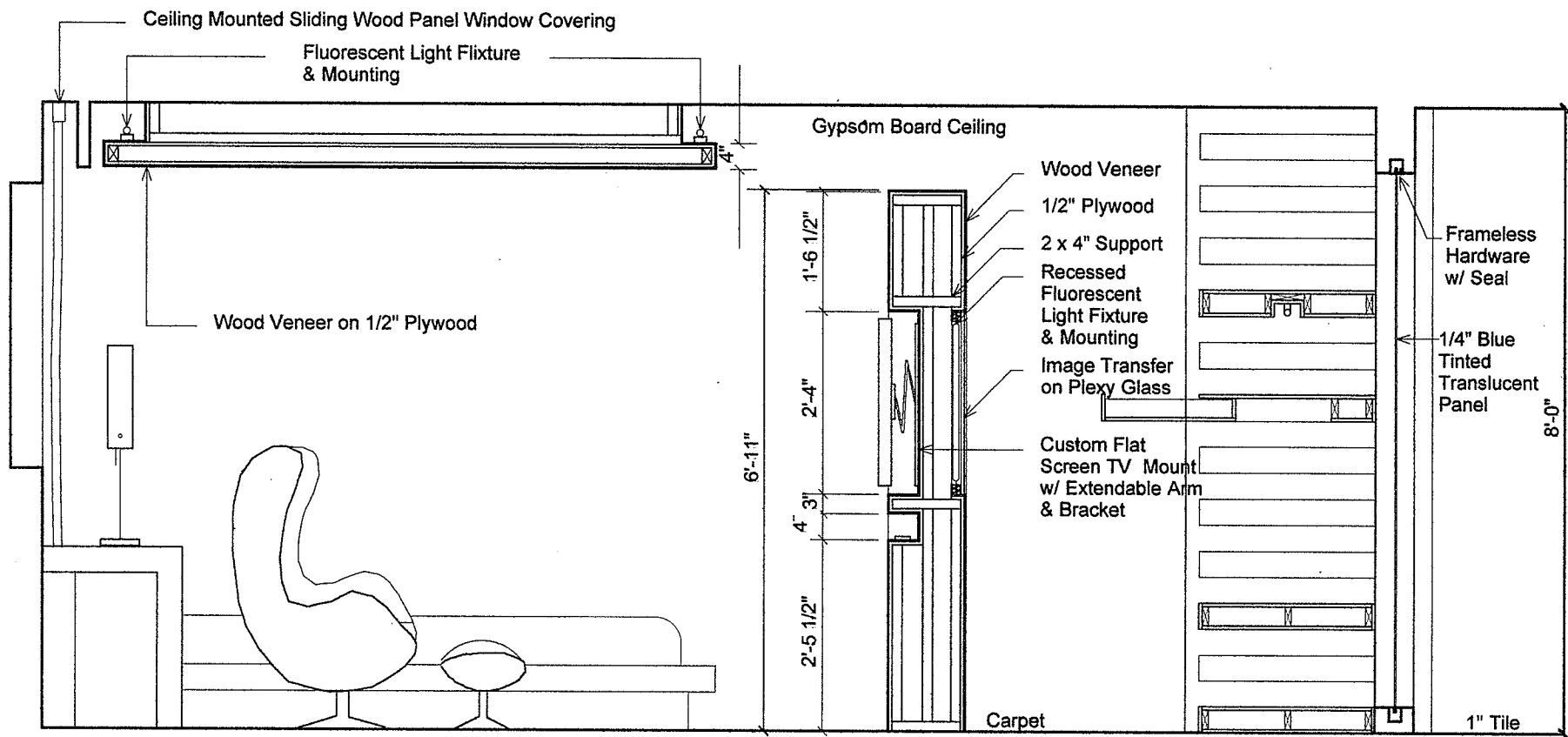
Room Storage Elevation



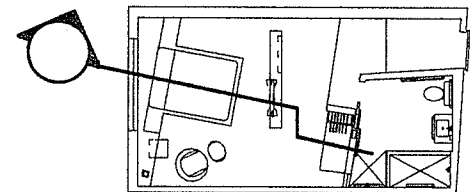
Room Storage Elevation

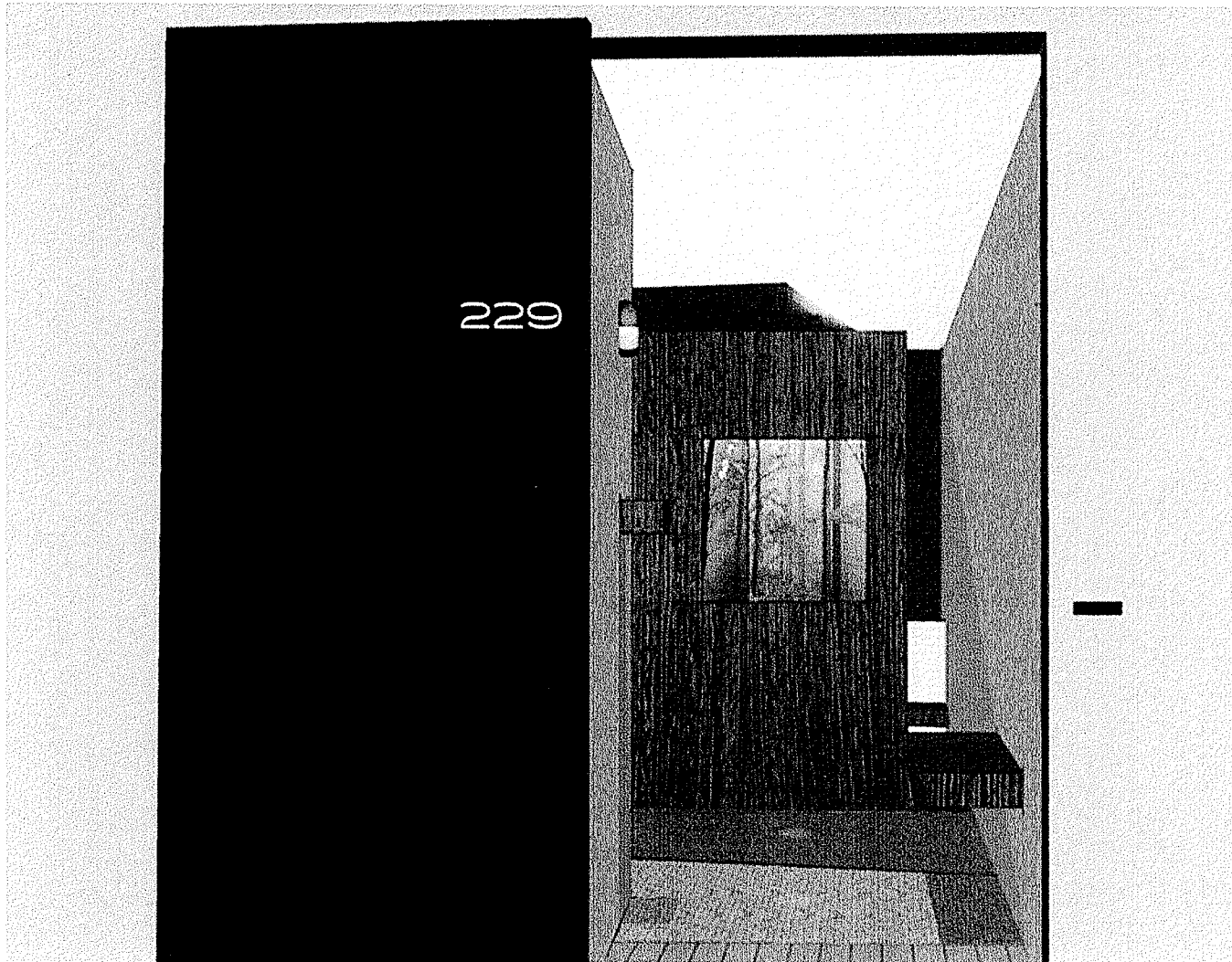


Room Storage Section



Room Section Detail Looking South

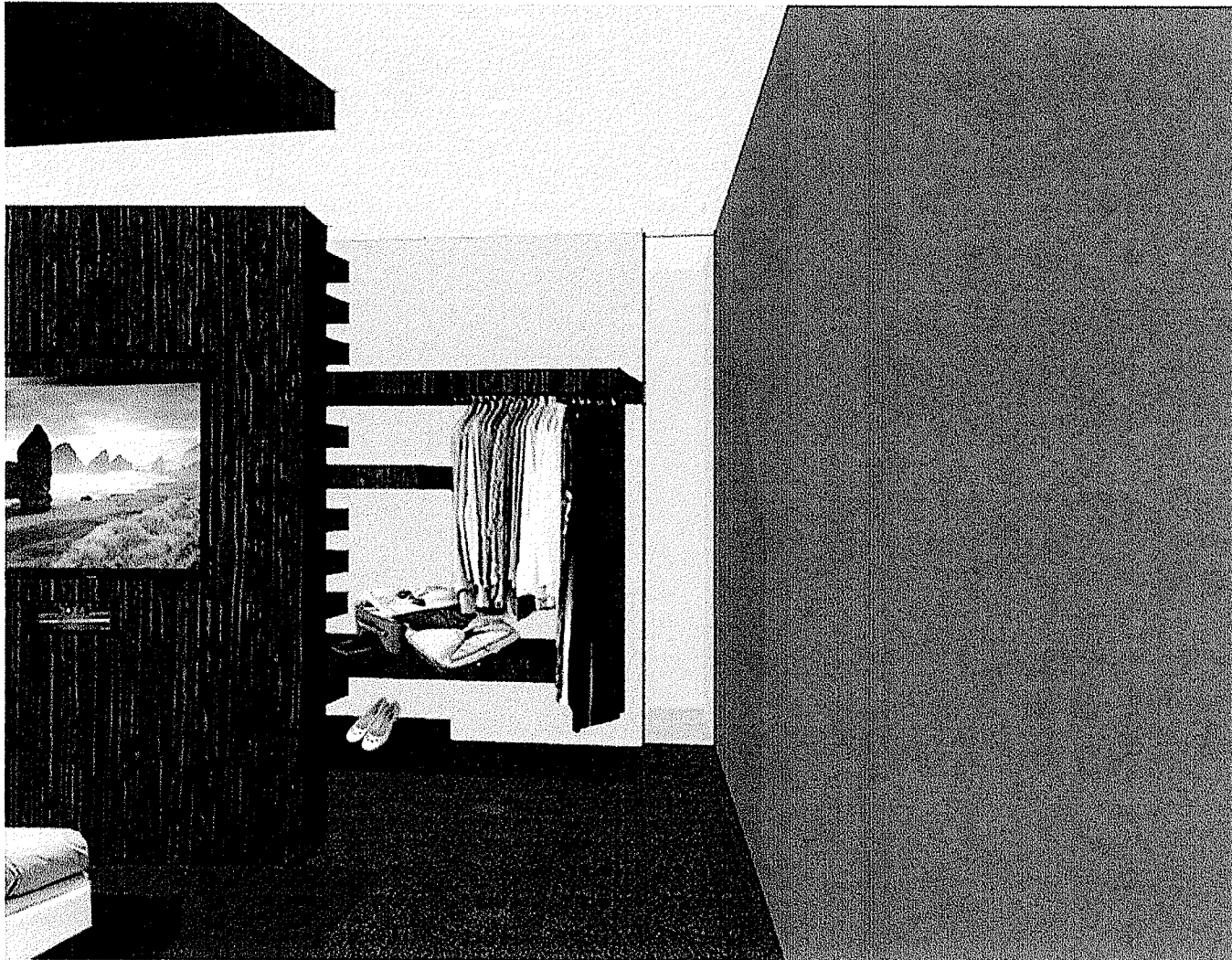




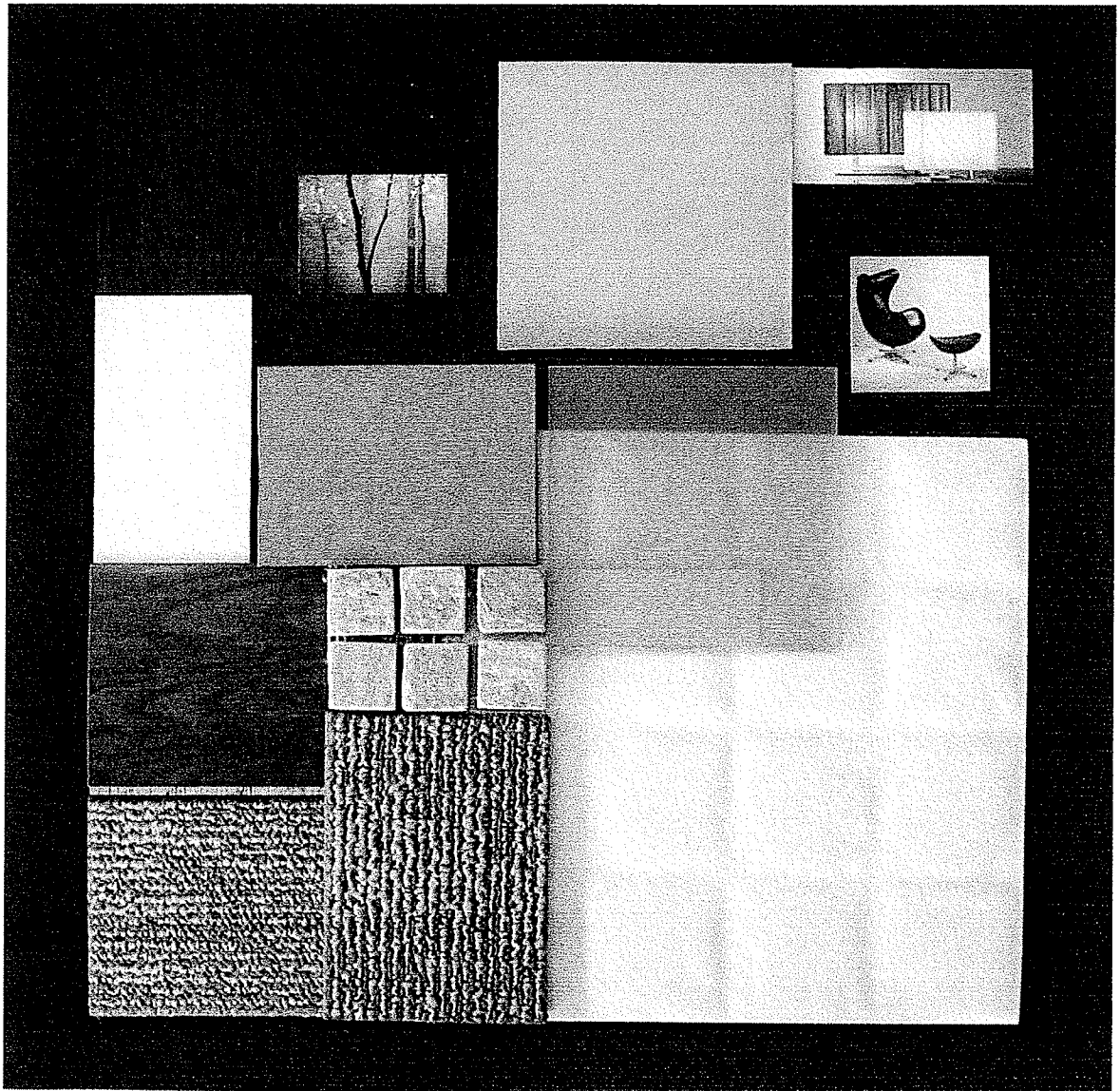
Room Entry Perspective View



Room Sleeping Area Perspective View



Room Storage Area Perspective View



Room Material Selection

6.0 CONCLUSION

This practicum is the result of the application of a collaboration of theories and precedent analysis. Strategies from the principal theoretical ideas have ultimately formed a hotel design addressing the needs of the contemporary air traveler.

Based on the theory developed herein, the following is a summary of the principles that have guided the design process, and the areas in which they have been applied.

Fascination, extent and compatibility are components of restoration defined by S. Kaplan (1995). *Fascination* was used in the lobby where prairie images provided the opportunity for reflection of nature and an understanding of location. *Extent* formed the design of the restaurant by providing an interior setting that is engaging, stimulating and different from the usual. *Compatibility* was implemented throughout all areas of the hotel by functionally meeting the user's needs and requirements.

Views to nature, an element of Biophilia defined by E. Wilson (1993), suggests a visual connection within the built enclosure. This strategy was applied to the tea bar and main floor spa through the presence of wheat grass growing in the tea bar, visible from the adjacent spa.

Gateway, contrast in scale, controlled views, focal point, asymmetry and natural materials are strategies used throughout the Japanese Garden and Tea House. *Gateway* entices entry into adjacent space, by serving as a visual connecting device between one space and another. This design strategy was used throughout the hotel, in the form of flooring material to demarcate every transition. *Contrast in scale* was used upon entrance to the lobby, tea bar and sleeping area of the room by lowering the ceiling. *Controlled views* was achieved with the use of wood slat partitions to limit the views from the lobby to the adjacent lounge and from the corridor to the restaurant. *Controlled views* were also used in the spa by placement of suspended fabric and

translucent panels, which heightened the element of surprise, as the whole could not be experienced from any one position. Similar to controlled views, *focal point* is a strategy that reduces the user's level of focus to a minimum. This is most evident in the room with the placement of a partition that intentionally hides the sleeping area from view. *Asymmetry* removes any feeling of rigidity from the space, giving the impression that the space is much larger. This was achieved in the room by the asymmetrical arrangement of furniture and the asymmetrical placement of a natural scene on the partition. *Natural materials*, a strategy used throughout the design of the Tea House, was demonstrated in the hotel with the selection of materials that were not only reminiscent of nature but were biodegradable and of high recycled content.

Incorporation of natural elements within the hotel, in conjunction with the components of restoration provides a place for the traveler to recover from the stress of air travel by calming the mind and restoring the body and spirit.

Precedent analysis has revealed how contemporary hotel culture has become a spectacle for the traveler. The Airport Lounge is not only part of the journey, but a highly experiential destination benefiting the overall travel experience. Furthermore, technologies inherent within "The Hotel", such as the canted mirrors in the restaurant, serve to create a space with extent. This technique also bridges the exterior world with the interior, creating a sense of place. "The Hotel" also has a significant amount of stimuli that, when combined with the extent of the hotel environment, results in a highly restorative experience, simultaneously providing a conceptual shift from the ordinary.

The philosophy underlying the Japanese Garden and Tea House provided the foundation for mapping the journey to renewal within the Four Points Sheraton ® Hotel in Winnipeg, Manitoba, Canada. The journey through the garden and Tea House offers a place for detoxification and renewal, while concurrently acclimating users to the Japanese Culture. The metaphorical journey through the hotel has followed the same premise: by providing a place for travelers to restore,

recover and renew themselves while consciously obtaining a sense of place, an awareness of the passage of time and the experience of existing in the present.

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8.1 CLIENT PROFILE (FOUR POINTS SHERATON ® HOTEL)

The Four Points Sheraton ® Hotel was designed by local Winnipeg Architecture Firm Cohlmeier Architects Limited in 2000. The hotel provides clean, comfortable accommodation with all the amenities required to rest, eat, work and play. The guest rooms come equipped with a television, telephone, internet hook-up, and a large desk for working or in-room dining. A full-service restaurant serves three meals a day and room service is



Figure 47.

available. A sports bar located next to the restaurant features video lotto terminals, pool tables and satellite TV. Meeting space and on-site catering, as well as business services are available 24 hours a day seven days a week. For recreation, a fitness centre is available 24 hrs a day and provides access to dry sauna, showers, universal system, treadmill, stair master ® exercise bike and wall-mounted television. Other existing amenities include express check-in/check-out, universally accessible baggage storage, concierge, and safety deposit box (Source: www.starwoodhotels.com).

8.1.1 FOUR POINTS SHERATON® HOTEL – 1st FLOOR ZONING STUDY

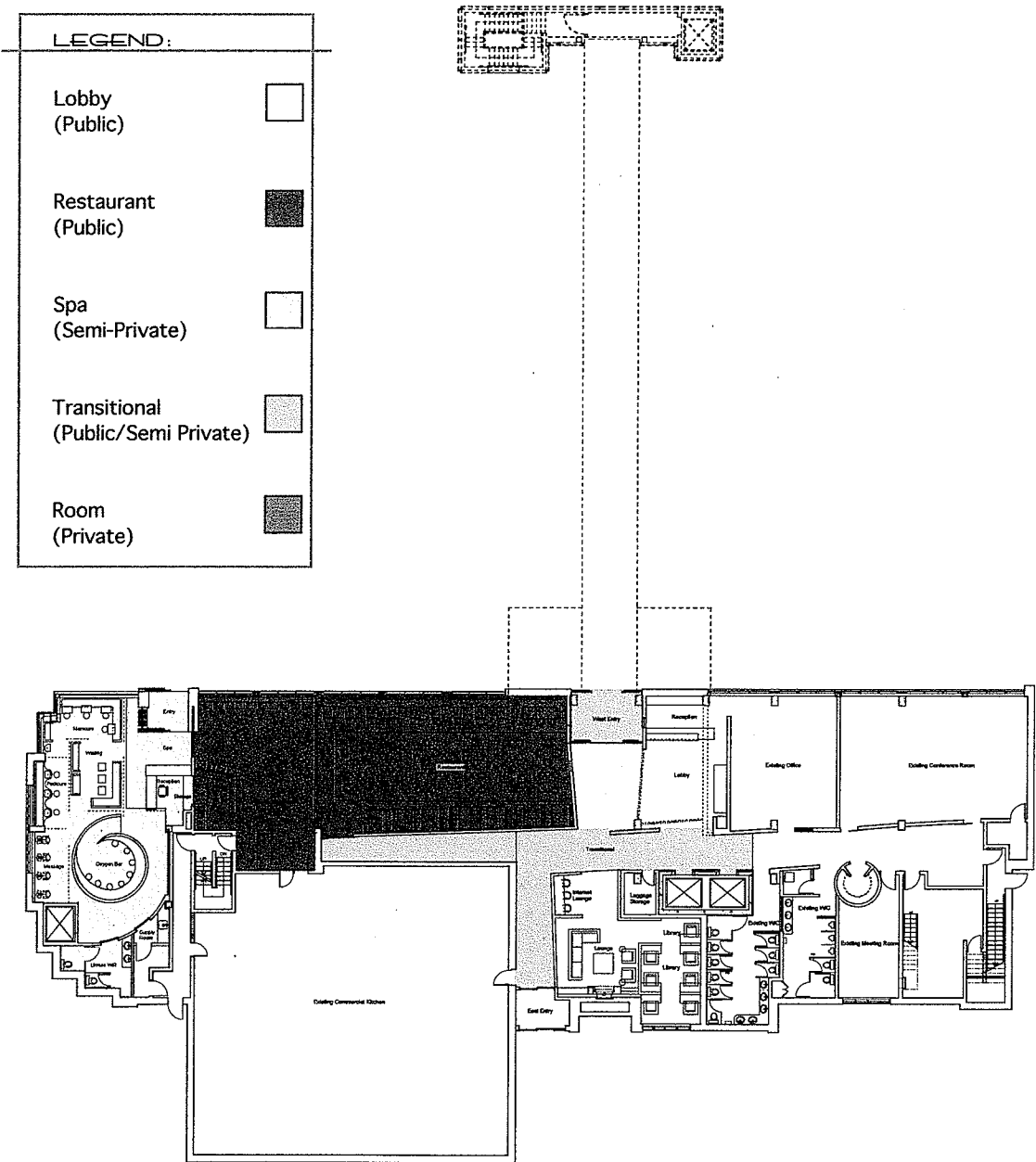


Figure 48.

REVISED FOUR POINTS SHERATON HOTEL
FIRST FLOOR PLAN NOT TO SCALE

8.1.2 FOUR POINTS SHERATON ® HOTEL – 2nd FLOOR ZONING STUDY

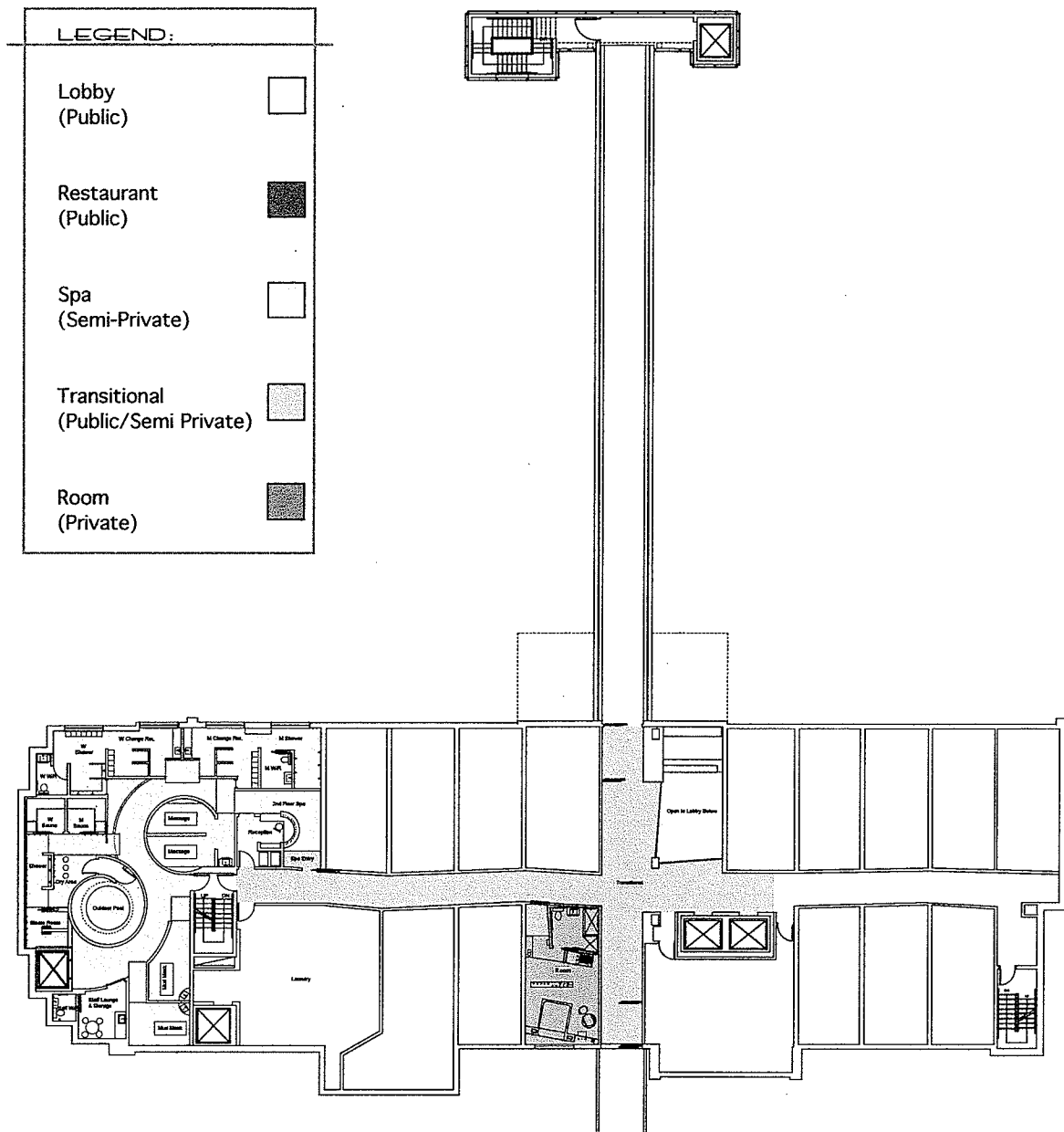
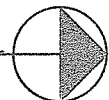


Figure 49.

REVISED FOUR POINTS SHERATON HOTEL
SECOND FLOOR PLAN NOT TO SCALE



8.1.3 EXISTING SPACE INVENTORY

AREA	FORM, SCALE & BALANCE	POINTS OF ACCESS + CIRCULATION	WINDOWS, LIGHTING + VIEWS	LOCATION OF ELECTRICAL + MECHANICAL
LOBBY	-Square -Large scale -Asymmetrical	-4 points of access -Front entrance/ exit on West side of building -Back entrance/ exit on East side of building -Circulation corridor intersects middle of space (North & South) -Pathway plan	-Windows (natural light) along West side of space -Recessed lighting in ceiling -Wall sconces along North and South walls -Views into adjacent restaurant, and out to surrounding airport terminal	-Mechanical in ceiling of corridor -Electrical along perimeter of space
RESTAURANT	-Rectangular -Large Scale -Symmetrical	-3 points of access -Circulation intersects space from 3 sides (North, East & South) -Diagonal Plan	-Windows (natural light) along West side of space -Artificial lighting suspended from ceiling -Wall sconces along perimeter walls -Views into adjacent lobby, spa and out to surround airport terminal	-Mechanical distribution from ceiling of corridor -Electrical located along perimeter of space
SPA (existing sports bar location)	-Rectangular -Large Scale on Main Floor -Small Scale on Second Floor -Asymmetrical	-2 points of access -1 secondary point of access : egress and exit from East side of building -Circulation begins and ends from West corner of space -Varied plan	-Windows (natural light) along West and South side of space -Artificial lighting suspended from ceiling -Exposed ceiling -Views into adjacent restaurant, and out to surrounding airport terminal	-Mechanical distribution extends from ceiling in corridor -Electrical located along perimeter of space
ROOM	-Rectangular -Small scale on Second Floor -Symmetrical	-1 point of access -Circulation begins and ends from corridor -Straight plan	-Windows (natural light) along one side of space (East and West side of Building) -Artificial lighting recessed in ceiling and ambient lighting -Views out to surrounding airport terminal	-Mechanical distribution extends from ceiling in corridor -Electrical located along perimeter of space
TRANSITIONAL SPACE -Hotel Entry (Lobby) -Corridor from Lobby to Restaurant -Corridor to Spa (2 nd Floor) -Corridor to Room	-Linear/ Rectangular -9' ceilings -Symmetrical	-4 intersecting points of access into corridor -2 points of access into pedestrian overpass -1 point of access into elevator and stairwell -Straight plan	-Windows (natural light) located at North/ South end of corridors -Glazing (natural light) along both sides of pedestrian overpass -Artificial lighting recessed in corridor ceiling, wall sconces located on corridor walls -Views out to surrounding airport terminal	-Mechanical system in ceiling of corridor - Electrical located along perimeter of space

Table 4.

8.2 USER PROFILE

Hotel guests are the user group that will be given priority in the design. The percentage breakdown of this user group is as follows: (Schneider, C. 2005).

- 75% **Corporate Travelers** visiting Winnipeg on business for meetings, conventions or trade shows
- 15% **American Tourists** on a stopover in Winnipeg prior to connecting flights en-route to fishing and hunting resorts in Northern Manitoba
- 10% **Leisure Travelers**

8.2.1 USER NEEDS/ACTIVITIES AND REQUIREMENTS

User activities/needs and requirements within the five (5) areas of focus of the hotel are outlined below. The following observations took place on July 6, 2005.

(1) Hotel Lobby:

Needs/Activities:

- Activities include checking in, checking out, waiting and meeting people in the lobby.
- Hotel guests check in or out of the hotel at varying times of day and night.
- Hotel guests travel with luggage of varying size and weight.
- Hotel guests travel in large groups, with children as well as alone.
- Corporate Travelers travel with laptops, pagers, cellular phones etc, and are therefore reliant on modern technology to conduct business while traveling.
- American Tourists travel with hunting, fishing and camping equipment.

Requirements:

- Travel takes place 24 hours per day. The lobby should therefore accommodate the needs and activities of guests requiring service 24 hours a day, seven days a week.
- Travelers need to familiarize themselves with Winnipeg during their stay and require maps of Winnipeg and surrounding areas.

- The lobby is the first place and the last place frequented by guests staying at the hotel. The lobby should therefore provide the user with a sense of place and orientation.
- The lobby must accommodate users traveling alone or in groups as well as their luggage by providing areas large enough for travelers to stop and rest.
- Luggage storage should be provided in the lobby area to allow guests to leave their luggage in a secure place while they wait to check-in, board a delayed flight, or visit the restaurant or spa facility within the hotel.
- A lounge/library should provide guests with reading material about Winnipeg and surrounding areas, as well as a quiet place to relax or conduct business.

(2) Restaurant:

Needs/Activities:

- Guests arrive at the hotel at varying times of the day and late into the evening; and obtaining healthy nourishment is one of their primary needs.
- Guests travel in large groups, with children as well as alone
- Guests on a short layover in Winnipeg visit the restaurant without checking into the hotel and therefore have their carry-on luggage with them.

Requirements:

- The proposed restaurant should accommodate the users needs by providing restoration through healthy nourishment.
- Flexible seating should be provided for large groups, medium sized groups, and individual travelers.
- Users will be traveling with luggage and will require wider circulation paths.
- Furniture that can easily accommodate luggage storage underneath should be integrated into the design of the restaurant.

(3) Spa Facility:

Needs/Activities:

- There is a need for a spa facility within the hotel, as guests arriving at the hotel have been exposed to the negative health effects of air travel.
- The contemporary air traveler needs to prepare prior to flight as well as to restore, recover and renew post flight.
- The activities needed by the traveler are ones that provide a calming and healing effect on the mind, body, and spirit.

Requirements:

- A spa located in the area of the existing sports bar will help travelers to renew themselves between flights by providing restorative treatments to help to recover from the negative health effects of travel. Treatments that help to re-circulate blood flow, relieve pressure and alleviate fatigue should be provided. The semi-private treatments should include hand, feet, and upper body massage, as well as oxygen therapy. The private area should provide sauna/steam, full body massage, and facials.
- The main floor spa should accommodate guests staying in the hotel as well as drop-in travelers, it should provide treatments that are quick yet energizing in a semi-private setting.
- A second level spa (above the existing sports bar) should provide a private and specialized environment for guests staying at the hotel.
- The spa location is adjacent to the restaurant (on the main floor of the hotel). Travelers not only require treatments that promote recovery from air travel, they also require restorative nourishment provided by the service offered in the restaurant.

(4) Guest Room:

Needs/Activities:

- Typical activities within the guest room include: organizing belongings, cleansing, changing, napping, preparing for a meeting, relaxing and sleeping.

Requirements:

- Guests require a space that is clean, comfortable, secure and safe.
- Guests require a space to store their belongings that doesn't allow the opportunity to leave anything behind for example in a dresser, a closet or underneath the bed.
- Guests require certain amenities that help them to conduct business while traveling - a work surface for writing, a place to put their laptop and connect to the internet, and a place to eat a meal.
- Within the cleansing and changing area, the user requires certain amenities such as a toilette, sink, bathtub and shower.
- Within the room, a multi-functional work surface should be equipped with internet hook-up.
- The room is the smallest and most private space within the hotel. The room is also the space where the traveler stops moving and rests. Within the relaxing and sleeping area, a comfortable chair is required for relaxation, and a bed is required for the traveler to sleep.

(5) Transitional Spaces:

Needs/Activities:

- Corridors, elevator shafts, stairwells, pedestrian overpass and the spaces that connect the lobby, restaurant, spa and room are considered transitional spaces.
- Within the transitional spaces guests primarily walk from one activity to another. The user needs these spaces to facilitate movement, bearing in mind that travelers will be pulling

and or carrying luggage, and their overall required personal space is increased as a result.

Requirements:

- Functionally meet the users needs and inclinations and provide the user with space that is wide enough to pull/ or carry luggage.
- Connect one activity with another by spatially alluring the user in a way that is engaging and stimulating. For example, framing glimpses from one space to another connects one space with another while engaging the user.
- Create a diversified sensory experience that changes the mindset of the users and helps the user to obtain a sense of detachment from the chaos of travel.
- Awareness of the progression through the transitional zones and layers of space to emphasize the distance traveled, passage of time and understanding of place.

8.2.2 ACTIVITY REQUIREMENTS

AREA	ACTIVITY	NATURE OF ACTIVITY	REQUIREMENTS
LOBBY	Check-in, check-out of hotel	- Active and noisy - Space used during the day and night	Easily accessible reception area
	Meet people, and socialize	- Active - Public and small group - Space used during the day and evening	Flexible seating
	Conduct business	- Active - Public, small group and private meetings - Space used during the day and evening	- Flexible seating - Privacy and enclosure - Acoustic quality
	Read and relax	- Passive and quiet - Space used during the day and evening	- Privacy and enclosure - Acoustic quality
RESTAURANT	Sit, eat and drink	- Active and noisy - Large group, small group and individual - Space used during the day and evening	- Easily accessible - Flexible seating - Acoustic quality
	Meet people, and socialize	- Active and noisy - Public and small group - Space used during the day and evening	- Semi-private enclosure - Acoustic quality
SPA	Waiting, Manicure, Pedicure,	- Active and quiet - Public and semi-private - Space used during the day and evening	- Easily accessible - Fixed seating - Semi-private enclosure
	Massage, mud mask	- Passive and quiet - Individual, small group - Space used during the day and evening	Private and enclosed
	Oxygen Bar, Water Therapy	- Active and quiet - Individual, small group - Space used during the day and evening	Private and enclosed
ROOM	Organize belongings	- Active - Individual - Space used at all times of day	- Semi-private enclosure - Fixed furniture
	Cleanse and change	- Active - Individual and private - Space used at all times of day and night	- Private and enclosed - Fixed furniture
	Work, read, check email	- Active and quiet - Individual - Space used mostly in the morning or evening	- Flexible seating - Privacy
	Relax, watch television, socialize	- Passive and noisy - Small group, or individual - Space used mostly at night	- Semi-private - Flexible seating - Acoustic quality
	Sleep	- Passive and quiet - Small group or individual - Space used mostly at night	Private and enclosed
TRANSITIONAL SPACE	Walk from one area to the next	- Active and noisy - Public, small group, and individual - Space used at all times of day and night	- Easily accessible - Acoustic quality

Table 5.

8.2.3 FURNISHING REQUIREMENTS

AREA	ACTIVITY	FURNISHING & EQUIPMENT
LOBBY		
Reception	Check-in, check-out	-Work surfaces -Storage and display units
Lounge/ Library	Meet people, socialize, read, work	-Seating -Tables -Work surfaces
Storage	Store Luggage	-Storage units
RESTAURANT		
Entry/ Hostess	Greet guests	-Work surface -Storage and display
Dining	Sit, eat, drink, socialize, read, work	-Seating -Tables -Storage
Tea Bar	Sit, drink	-Seating -Work surface -Storage and display
SPA		
Main level: Reception/ Travel Shop	Check-in, check-out	-Work surface -Seating -Storage and product display -Luggage storage -Coat and shoe storage
Main Level: Manicure/pedicure	Hand / foot treatment	-Seating -Table -Product storage
Main Level: Massage Therapy	Neck and shoulder treatment	-Seating
Main Level: Oxygen Bar	Oxygen treatment	-Seating -Table -Oxygen storage
Second Level: Reception	Check-in, check-out	-Work surface -Seating -Storage and product display -Robe and towel storage
Second Level: Change Rooms	Change & shower	-Seating, -Storage -Shower -Toilette
Second Level: Massage Therapy/ Mud Mask	Full-body treatment	-Table -Product storage
Second Level: Water and Steam Therapy	Full-body detoxification	-Seating -Water element -Mechanical room
ROOM		
Luggage Storage Area	-Un-pack, pack belongings -Hang garments	-Horizontal surface for luggage -Clothes hangers -Ironing board -Iron
Wash Area	Cleanse and change	-Toilet -Shower -Sink & mirror -Towel rack -Hooks -Horizontal surface

Table 6.

AREA	ACTIVITY	FURNISHING & EQUIPMENT
ROOM CONT'D		
Work Area	Prepare for meeting: check email, & write	-Horizontal work surface
Rest Area	Watch television, & read	-Seating -Lighting
Sleep Area	Sleep	-Bed -Table -Lighting
TRANSITIONAL SPACE		
Entrance/ Exit	Walk, pull/ carry luggage	-Doors -Exit Signage
Corridors/ Pedestrian Overpass	Walk, pull/ carry luggage	-Signage -Railing
Elevators	Stand, carry luggage	-Mechanical -Signage
Stairwell	Walk-up, walk-down	-Stair -Railing -Tactile warning strip -Signage

Table 6 cont'd.

8.3 DESIGN CONSIDERATIONS

8.3.1 UNIVERSAL ACCESSIBILITY

Universal design is 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.

According to Section 3.8 of The Canadian National Building Code (1995), the following universal design guidelines pertain to The Four Points Sheraton ® Hotel in Winnipeg.

Barrier-Free Path of Travel

- 1) Every barrier-free path of travel shall provide an unobstructed width of not less than 920mm for the passage of wheelchairs.
- 2) Interior and exterior walking surfaces that are within a barrier-free path of travel shall
 - a) have no opening that will permit the passage of a sphere more than 13 mm diameter.

- b) have any elongated openings oriented approximately perpendicular to the direction of travel,
 - c) be stable, firm and slip-resistant
 - d) be beveled at a maximum slope of 1 in 2 at changes in level not more than 13 mm, and
 - e) be provided with sloped floors or ramps at changes in levels more than 13 mm.
- 3) A barrier-free path of travel is permitted to include ramps, elevators or other platform elevating devices where there is a level change.

Accessibility Signs

- 1) Signs incorporating the international symbol of accessibility for persons with physical disabilities shall be installed to indicate the location of a barrier-free entrance.

Doorways and Doors

- 1) Every doorway that is located in a barrier-free path of travel shall have a clear width not less than 800 mm when the door is in the open position.
- 2) The doorway to at least one bathroom within a suite of residential occupancy shall have a clear width not less than 760 mm when the door is in the open position.
- 3) Door operating devices shall be of a design that does not require tight grasping and twisting of the wrist as the only means of operation
- 4) A threshold for a doorway referred to in Sentences (1) or (2) shall be not more than 13 mm higher than the finished floor surface and shall be beveled to facilitate the passage of wheelchairs.

8.3.2 HUMAN FACTORS

The interior spaces of buildings are designed as places for human movement, activity, and repose. There should be a fit between the form and dimensions of interior space and our own body dimensions. The following describes the three types of fit:

- (1) Static fit- for example: sitting in a chair, or leaning against a railing
- (2) Dynamic fit- for example, entering a room, walking up a stairway, or moving through rooms and corridors of a building
- (3) Personal and social fit- for example, how a space accommodates our need to maintain appropriate social distances and to have control over our personal space.

In addition to these physical and psychological dimensions, space also has tactile, auditory, olfactory, and thermal characteristics that influence how we feel and what we do within it.

8.3.3 WAYFINDING AND SIGNAGE

Signage is an essential component of the interior environment. For it to be effective, signage should be consistent in placement, use of graphics and selection of font (sans serif). Signage throughout the hotel is necessary for wayfinding, locating amenities, services and exits.

8.3.4 CODE COMPLIANCE

According to the National Research Council (NRC) National Building Code of Canada, 1995 the following codes apply to The Four Points Sheraton ® Hotel.

Major Occupancy Classification

The Four Points Sheraton ® Hotel, Winnipeg, Manitoba, Canada is classified as a Group C Residential occupancy.

The Restaurant within the Hotel is classified as Group A Division 2- Assembly Occupancy.

Door Swing

- 1) A door that opens into a corridor providing access to exit from a suite or room not located within a suite shall swing on vertical axis.
- 3) Every door that divides a corridor that is not wholly contained within a suite shall swing on vertical axis in the direction of travel to the exit.

Sliding Doors

- 1) A sliding door shall:
 - a) be designed and installed to swing on the vertical axis in the direction of travel to the exit when pressure is applied, and
 - b) be identified as a swinging door by means of a label or decal affixed to it.

Exits

- 1) Every *floor area* intended for occupancy shall be served by at least 2 exits.

Distance between Exits

- (1) The least distance between 2 required exits from a *floor area* shall be
 - a) one half the maximum diagonal dimension of the *floor area* , but need not be more than 9m for a floor area having a public corridor, or
 - b) one half the maximum diagonal dimension of the *floor area*, but not less than 9m for all other *floor areas*.
- 2) The minimum distance between *exits* referred to in Sentence (1) shall be the shortest distance that smoke would have to travel between the exits, assuming that the smoke will not penetrate an intervening *fire separation*.
- 3) Travel distance to an exit shall not be more than 50 m from any point in a service space.

Width and Height of Exits

- 1) The required width of an exit shall be not less than
 - a) 1100mm for corridors, passageways, stairs and ramps that serve more than three storeys above grade or more than one storey below grade.
 - b) 1650mm for stairs and ramps serving patients' sleeping rooms.
 - c) 1050mm for doorways serving patients' sleeping rooms.

Headroom Clearance

- 1) Except as permitted by Sentence (2) to (4), every exit shall have a headroom clearance of not less than 2100mm.
- 2) The headroom clearance for stairways measured vertically above any landing or the nosing of any stair tread shall not be less than 2050 mm.
- 3) The headroom clearance for doorways shall not be less than 2030 mm.
- 4) No door closer or other device shall be installed so as to reduce the headroom clearance of a doorway to less than 1980 mm.

Fire Separation of Exits

- 1) Every exit shall be separated from the remainder of the building by a fire separation having fire-resistance rating not less 45 min, for
 - a) the floor assembly above the storey, or
 - b) the floor assembly below the storey, if there is no floor assembly above.
- 2) The fire resistance rating of the fire separation referred to in Sentence (1) need not be more than 2 h.

Exits through Lobbies

- 1) Except as permitted by Sentence (2), no exit from a floor area above or below the *first storey* shall lead through a lobby.
- 2) Not more than one exit from a floor area is permitted to lead through a lobby provided
 - a) the lobby floor is not more than 4.5 m above *grade*.
 - b) the path of travel through the lobby to the outdoors is not more than 15 m
 - c) the adjacent rooms or premises having direct access to the lobby do not contain a *residential occupancy* or an *industrial occupancy*.
 - d) the lobby conforms to the requirements for exits, except that
 - i) rooms other than service rooms and storage rooms are permitted to open onto the lobby.

- ii) the fire separation between the lobby and a room used for the sole purpose of control and supervision of the building need not have a fire resistance rating, and
- iii) the fire separation between the lobby and adjacent occupancies that are permitted to open onto the lobby need not have a fire-resistance rating provided the lobby and adjacent occupancies are sprinklered.