GIVING BACK CONTROL

A USER-CENTERED APPROACH TO THE DESIGN OF A WORK ENVIRONMENT

BY

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ABSTRACT

This project centers on an office environment and the physical and psychological well-being of the people who work within it. Located at 525 Beresford Avenue in Winnipeg, Manitoba, the Churchill United Park Church was converted to serve as an office space for a hypothetical publishing firm, Choice Publications. With recent knowledge concerning the health and well-being of employees, the design of workplaces has shifted to comprise a human-centered approach. The purpose of this practicum project was to investigate the evolving nature of the office, and to determine its role regarding to the identity, well-being, and behavior of individuals in order to better accommodate their needs.

A review of literature resulted in a broad understanding of individual motivations, behaviors, values and needs. Central to the exploration is the study of environmental psychology theories and the introvert-extrovert dichotomy. Research into third place theory and the significance of home act as the primary lenses to evolve conventional office design into a hybrid of new typologies. Combined with the analysis of current contextual issues, precedents, programming, and site and building, these theories were the driving factors that informed the final design solution.

The design proposal demonstrates one way in which these theories could be used to design an innovative office space. Throughout this investigation, emphasis is placed on balancing diverse user needs, enhancing employee well-being, offering flexibility and choice, supporting personalization, and supporting collaboration and privacy simultaneously.

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01 CHAPTER

INTRODUCTION

1.1 PROJECT DESCRIPTION
1.2 QUESTIONS OF INQUIRY
1.3 METHODS
1.4 CONTEXTUAL ISSUES
    1.4.1 DEVELOPMENTS OF THE WORKPLACE
    1.4.2 FOUR WORK MODE THEORY

1.1 PROJECT DESCRIPTION

This practicum project, Giving Back Control: A User-Centered Approach to the Design of a Work Environment outlines a proposal for the design of a workplace for a hypothetical workplace of a publication company in Winnipeg, Manitoba. It proposes the renovation of the Churchill United Park Church located at 525 Beresford Avenue, to accommodate approximately 100 employees within roughly 17,000 square feet of space.

As workplaces are faced with challenges of being relevant in today's context, companies and designers have begun to shift their attention towards a human-centered approach for the design of the office environment. The workplace is in a state of transition; its role in society is being re-evaluated to better accommodate its employees. Society's understanding of work in regard to the way people carry out their tasks, interact with others, plan their work day, and connect with the environment has changed. Designers of the work environment have been forced to reconsider their approach as a result of this shift. The analysis will begin with this notion, looking at the different ways in which workplaces are evolving to better suit their employees' needs. The main issues arising are as follows:

a. Developing an environment that fulfills diverse employee needs in order to improve health and well-being,

b. Balancing the need to connect with others along with the desire for privacy to focus on work tasks in an environment free from distractions,

c. Moving away from traditional methods of working that seamlessly involves contemporary and mobile technology, and

d. Examining how the spaces of the office can be simultaneously developed into alternative typologies to suit employees' lifestyles.

Together, these issues informed the design in an attempt to question and transform conventional offices in contemporary society, cater to a personalized human-centered design approach, and create a restorative environment. In this way, the office space creates a critical dialogue between design and psychology. Ultimately, this practicum strives to further the body of interior design knowledge related to environmental psychology, psychology of personality, and the innovative human experience of the third place and the home.

1.2 QUESTIONS OF INQUIRY

To direct the research of the following literature review, three research questions have been prepared.

1. In what ways can an individual's social context facilitate optimal function, well-being, and satisfaction?

2. To what extent does personality, specifically introversion and extroversion, influence the choices and preferences an individual makes in relation to the interior environment and how can the environment complement the users personality?

3. How can the office environment respond to the ever-changing demands of employees brought on by flexible and mobile technology?

1.3 METHODS

The research portion of this project begins with an investigation into emerging trends in office design along with analysis of the most recent Gensler workplace survey. Together, these provided context and support to the practicum topic. Furthermore, these developments informed the theories studied in the literature review. The literature review concentrates on theories found in environmental psychology, personality psychology, particularly the introvert-extrovert tendency, as well as the significance of home environments and a study of third place theory. This provides a framework for design implications and ultimately informed the design concept for the office environment.

The next section examines precedents, which were selected and analyzed based on their relevance to the concepts explored in the literature review as well as their particular typology. Design implications were derived from each literature topic and precedent analysis to inform the design.

In addition to the literature review and precedent analysis, an investigation into the chosen site and building was carried out. These studies attempt to examine the opportunities and constraints of the existing space and thereby aided in the programming and spatial organization of the project.

1.4 CONTEXTUAL ISSUES

The following chapter examines some of the key driving forces shaping future workplaces, including movements in technology, evolving employee demographics, and changes in spaces. A review of the most recent Gensler Workplace Study is used to highlight factors of workplace environments and modes of working that are leading the way in innovative designs of offices and use of corporate space.

1.4.1 INTRODUCTION

The interiors of working environments have changed considerably in previous years. Since the beginning of the twentieth century, workplaces have evolved from factory-like arrangements to cubicle office systems, and finally to open concept plans that dominate offices today. The office environment has evolved, and continues to do so, to accommodate new ways in which employees conduct business. Arup Foresight (2011), a global consultancy practice focused on workplace research, believes, "Each workplace is a unique combination of people, technology, and space, all of which change over time" (p.6). This perspective encapsulates some of the key factors shaping future workplaces; innovative technology, the employees, and the types of services and activities that will take place. "For workplace strategy this means finding the right balance of technologies and spaces that enable people to work in flexible environments which manage diversity, inspire innovation, and allow for both happy and productive employees" (Arup, 2011, p.5). This section identifies and reviews the three central aspects that are dramatically changing work and workplaces: People, Technology, and Space.

1.4.2 DEVELOPMENTS OF THE WORKPLACE

PEOPLE

It has been consistently demonstrated that the physical environment can have a significant effect on behavior, perceptions, and satisfaction of people. In particular, office environments can greatly affect the productivity, performance, and psychology of its workers. In turn, the attitude of the workers as a consequence of the workplace has an enormous influence on the success of the business. For this reason, businesses can thrive by focusing on not only the wellness, but also the well-being of employees, recognizing the evolving demographics of

their workers, and understanding the unique and diverse expectations of individuals.

As we gather new information on how people work, companies are more and more interested in the well-being and quality of life of their employees. Many organizations invest in the wellness of their workforce, which focuses primarily on physical health with emphasis placed on ergonomics, health benefit programs, and in-office gym facilities. However, Kate Lister (2014), president of Global Workplace Analytics, a consulting and research firm explains, “Employee well-being includes employee wellness, but also addresses the psychological well-being of the individual workers, addressing considerations such as worker engagement, choice and control, work-life balance, financial well-being, etc” (p.2). For designers and planners, studies on Sick Building Syndrome and Seasonal Affective Disorder are just some of the issues that reveal the environments impact on both the health and well-being of its users. For that reason, the workplace is viewed from both a physical and psychological perspective. What’s more, businesses are recognizing the connection between employee well-being and organization performance. “Ultimately, what is good for people is good for the organization. To win in the years ahead, organizations will need to concentrate efforts on ensuring the sustainability of their most important assets, their people” (Lister, 2014, p.5). This new way of thinking changes how organizations treat their employees, addressing their needs and wants for the good of the company.

For the last several years, the Baby Boomer generation has been a guiding force in the workplace. However, with the emergence of younger generations entering the work environment, companies are looking for ways to both support older employees and attract younger workers. “In some companies, the workforce already consists of at least four generations: Traditionalists, Baby Boomers, Generation X and Generation Y” (Arup, 2011, p.9). Each of these generations brings with them different views, expectations, values, and ideas about work and life. With them, Baby Boomers bring experience, skills, and knowledge to the workplace. Mike O’Neill (2009), Director of Knoll’s Workplace Research, discovered that younger generations, though lacking in experience are “the first generation[s] to have grown up surrounded by technology and digital interactive media: video games, the Internet, instant messaging, and many entertainment options” (p.7). While each generation offers unique assets that contribute to the overall success of the collective workplace, having multiple generations in an environment leads to differences in the value of certain workspace features. Baby Boomers value privacy and quality of meeting rooms most in office design. Generation X and Y employees rate an engaging workplace and experience as its most important issue. Of course, Baby Boomers worked in offices where

privacy and private offices were the standard. Younger generations tend to be more team oriented and value collaboration and communication (O'Neill, 2009, p.6). "This means finding effective ways for people to collaborate and work, despite their differing age, culture, technological know-how or background" (Arup, 2011, p.9). As Baby Boomers retire and become less of a force in the workplace, there will be a shift in the way the office is valued leading to a new office paradigm. For now, the design of offices faces a unique challenge to accommodate and adapt to a wide range of people.

For the office to be relevant, workplace design must evolve with the changing lifestyles and employee attitudes towards work and life. Coupled with demographic changes, employees are no longer working strict nine-to-five schedules or sitting at their desks all day. The process of work has become much more dynamic and accommodating. Arup (2011, p.10) emphasizes, "For duel-earning child-caring parents, the need for flexible working arrangements, part time opportunities, and child care solutions will continue to grow." These factors are leading to a fresh perspective on the diverse individual needs of the employee. For instance, clothing styles, cultural views, religions, ways of working, diets, physical activity, and other preferences and attitudes are recognized within the workplace. Arup (2011) explains:

> We are seeing a shift away from collective values towards greater self-expression and individualism; a trend that has to be met by workplaces that cater to a much more diverse set of requirements; a meeting room that can act as a prayer room; a workstation that transforms from an open to a private space; a canteen that serves all dietary requirements; flexible working times that suit different lifestyles; regional office hubs; or technologies that enable remote working and cross-generational collaboration (p.10)

Much more is being asked of workplace design to adapt to the unique and ever-evolving user expectations. These demands mean that the office will no longer be viewed simply as a building that the employee attends every day to complete work. The office will more closely resemble a "set of facilities that focus on the requirements of different users and contexts" (Arup, 2011, p.10). These factors challenge office design to accommodate and mold itself to the ways in which people operate, rather than forcing individuals to work in a certain way or space.

TECHNOLOGY

In the twenty-first century, day-to-day life is dominated by technology. It is shaping how we learn, work, communicate, store information, and carry out daily functions. For the office environment, the role of technology is

vital as it allows for faster, more efficient communication and leads to unbounded ways of working.

Technology in the workplace is not a new concept. However, new technologies are being introduced into offices that are changing the ways employees collaborate and interact. Organizations are using social media technologies like Internet forums, blogs, e-mail, instant messaging, and audio and video conferencing to connect with their clients and staff. “Coupled with the rise of social networking, we are seeing the emergence of unprecedented personal hyper-connectivity: from mobile phones, to tablets, to wearable computing; everything is geared to keep people constantly connected” (Arup, 2011, p.14). This connectedness results in a virtually always-accessible workforce no longer limited to face-to-face meetings or disruptive phone calls. Instead, technology allows for quick interactions that speed up the working process.

This consistent connectedness brought on by mobile technology suggests that location no longer restricts where people work. “For the future workplace, this means that most people can work with anyone, anywhere, at any time. Boundaries between work and private life will continue to blur as people work from home, on the train, while drinking coffee, or in the park” (Arup, 2011, p.14). Employees can answer e-mails and collaborate with colleagues at any time of the day with online tools and social networking. Within the workplace itself, mobile technologies, such as laptops and media tablets, no longer tie employees to dedicated workstations either. As an alternative, employees can choose where and how they work. With an increasingly mobile workforce, touchdown stations or hot-desking is becoming a popular solution. In this way, space is shared among workers. When an individual completes a task, they can move on to another space, leaving it open for a different employee to use. This flexibility creates a variety of spaces that employees visit to carry out work tasks throughout their day. Arup (2011) reasons, “The future shape of workplaces can best be described as a network of physical and virtual entities that constantly change as people, spaces, and technologies connect and disconnect in various ways” (p.14). These factors challenge office design to foster connections between employees, encourage flexible working styles and move away from formal, structured methods of interacting.

SPACES

More people are working in new and unique ways, and mobile technologies are enabling employees to work away from the physical office environment. The benefits that the workplace provides must make employees want to go to the office on a daily basis. For the workplace to remain relevant, it must appear valuable to the people who occupy

the space by offering unique and different services, and by creating an informal, comfortable, home-like environment.

For workplaces to appear beneficial, they must satisfy the needs and goals of the employees in a better way than an alternative setting. “They will have to be places where people actively want to go; places in which people prefer to work. For example, this could be because the workplace provides specialized facilities, has a relevant social context, or serves great food” (Arup, 2011, p.17). The flexibility that the contemporary office appears to be offering allows the design to include unprecedented amenities in the workplace. “At a local level, this will be characterized by the blurring of workplace facilities and the surrounding community” (Arup, 2011, p.17). These spaces may include cafes, local food markets, libraries, showrooms, Wi-Fi hotspots, and the like. Ultimately, these spaces would cater to a variety of users and processes to elevate the place of the office in the view of the employees. “Collectively, these issues create workplaces that are much more than just spaces for people to work. Advances in technology and changes in working practices will upgrade the skill-set of workplaces, essentially expanding the range of possible functionalities a building can provide” (Arup, 2011, p.18). These amenities may make the difference in how an employee feels about their workplace. With this in mind, future workplaces will be limitless in their ability to provide for their employees and formal ideas of the traditional workday will dissolve.

Now that people have more freedom in where and how they complete their work, the office will need to be welcoming, attractive, and comfortable to bring workers into the physical space. One way to achieve this is to make the office appear more home-like and relaxed. Working from home is incredibly appealing. The office space needs to be equally as attractive to compete with the comfort of the home. “With the blurring of home and work life, homes will not only have to become more functional working environments, but workplaces will also have to become more comfortable living environments” (Arup, 2011, p. 29). As more organizations are focusing on the well-being of their workers, play and relaxation have become commonplace techniques to lower employee stress levels.

Altogether these developments have tremendous impacts on both the workforce and the workplace. The office becomes a much more accommodating environment that responds and adapts to the needs of the user. It integrates technology to create flexible working methods, creates informal atmospheres, and offers a variety of innovative services that are valued and enjoyed by employees. Integrating these trends into workplace design results in a dynamic work environment that continues to be a significant part of society.

1.4.3 FOUR WORK MODE THEORY

Gensler, a large design and consulting firm, has conducted several studies to determine factors that help to create effective workplaces. For several years now, Gensler's studies have helped demonstrate how the design of an office can support the worker's engagement, satisfaction, and performance. Most recently, the 2013 workplace survey reveals the relationship between design and business performance, uncovering opportunities for a better environment. Gensler (2013) recognized and established a framework of four prominent working methods found in today's workplaces: "focus, collaboration, learning, and socialization" (p.2). A summary of these four work modes follows.

LEARN

Many companies demand that their employees continue education and continuously learn to remain relevant and innovative. "The demand for higher skills means that learning has to be integral with the workplace" (Gensler, 2013, p. 13). In today's society, people are hired not just by what they know but also by how fast they can learn and adapt to changes and adaptations in their industry. With this in mind, companies are including libraries and other resources in the design of their offices.

COLLABORATE

Connecting, brainstorming, and the sharing of ideas can increase productivity, speed up work processes, and lead to new ideas that one could not come up with on their own. Companies view collaboration as an incredibly positive component to the work process. Designs and spatial arrangements that improve communication and social interaction between employees facilitate collaborative working methods.

FOCUS

While it may be considered an outdated mode of working, focused work is still significant. "To focus effectively, people need to be free of distractions and interruptions" (Gensler, 2013, p.13). Being able to focus successfully and complete a task effectively aids in the competence of an individual and leads to positive psychological outcomes. In terms of the design, a balance between community and individuality can be achieved

by separating loud spaces from quiet areas along with a distribution of private rooms for focus. Organizing the office into zones ranging from highly collaborative workstations to private balances working habits.

SOCIALIZE

With the rise of social networking and hyper-connected technology, socializing is a key component to daily life. Socializing helps employees to feel connected to one another and improve their well-being. “The resulting sense of community creates pathways of information sharing and helps align values, culture, and mission” (Gensler, 2013, p.13). Like collaboration, spatial arrangements that encourage employees to gather together can aid in social interaction and improve communication.

THE SOLUTION: BALANCE & CHOICE

Office design has cycled through competing demands coinciding with on-going issues in societies such as openness versus privacy, interaction versus autonomy and focus versus collaboration. In today’s world distractions exist that compromise an employee’s ability to focus. Collaboration continues to appear as a solution to all workplace problems. When done right, collaboration can have significant effects on performance. However, collaboration that sacrifices focused work has negative outcomes. Key findings of the survey indicate, “Workers are struggling to work effectively, effective workplaces balance focus and collaboration, and choice drives performance and innovation” (Gensler, 2013, p.6).

The capability to focus and complete one’s individual task weighs heavily on the fulfillment of the employee’s competence, performance, and job satisfaction. “Those who can focus are more satisfied, higher performing, and see their companies as more innovative,” (Gensler, 2013, p.9). Unfortunately, employees face numerous distractions that limit their ability to focus. Smartphones, social networking websites, less space for individuals, less privacy, and longer work days are some of the disruptions employees face in a workday. Concentrated tasks take effort. To engage deeply, people need undivided attention with as few distracters as possible. Alone, concentration can even be difficult, but the challenge to concentrate increases with the addition of inherent distracters, like other people. What’s more, Gensler (2013) discovered “workplace strategies that sacrifices individual focus in pursuit of collaboration will result in a decreased effectiveness of both” (p.10) A person, frustrated from distractions while trying to focus on work, is unlikely to socialize happily with coworkers, be productive, creative, and engaged.

Gensler found that though collaboration was a booming quality for workplaces in the past, time spent collaborating has decreased and thus focus has increased since their last survey in 2008. These results suggest a more balanced approach to working modes. The solution lies in the dynamic equilibrium of focus and collaboration where workplaces can support both of these work methods, as well as, both introverted and extroverted tendencies in employees. “For employees whose workplaces support both their individual work and collaboration work, we see a significant spike in performance” (Gensler, 2013, p.11). One strategy to balance the office environment is to provide ample private space to get away and think amongst open, communal areas.

Resolving the balance between collaboration and focus comes from options and choices for the employees. Enabling choice provides companies with a self-directed atmosphere where engaged employees can make meaningful decisions in when, where, and how they complete their tasks. Gensler (2013) explains, “Enabling choice with the right alignment of tools, policies, and spaces is an opportunity for companies to create a climate in which autonomous, engaged employees can make meaningful decisions to maximize their individual job performance” (p.12). Offering unprecedented levels of freedom for staff to modify and choose their environment may be a solution.

Balance and choice are key components to the designs of future workplaces. Enabling employees to perform their jobs effectively begins with supporting the individual’s choices by offering the opportunity for focused work as well as layering in alternative spaces and opportunities that support all work modes. This method enables the connections that drive success in today’s society and lead to improved performance, satisfaction, and individual well-being.

CHAPTER

02

LITERATURE REVIEW

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2.1 ENVIRONMENTAL PSYCHOLOGY & THE HUMAN EXPERIENCE

2.1.1 INTRODUCTION

Humans and the environment share a symbiotic relationship in which people affect the environment they inhabit and in turn, the environment affects them. It is this interplay between individuals and the built environment that serves as the definition of environmental psychology; a discipline that environmental psychologist, Dak Kopec (2006) explains is "dedicated to the examination of the human environment experience as it relates to physical attributes and social components of human action and interaction processes" (p.15). Advancements in the field of environmental psychology serve to create supportive environments that enhance the experiences of those who are intended to occupy the space.

Especially important in interior design, environmental psychology plays an important role in the planning and development of spaces in which people routinely work, live, and play. For workplaces, organizations are increasingly taking into account the health and well-being of their employees. In this way, environmental psychology can aid in understanding what people instinctively look for and require in the workplace.

Supported by theories rooted in the field of environmental psychology, this section addresses the wants and needs that are fundamental to all humans. Pioneers in personality psychology Edward L. Deci and Richard M. Ryan (2008) suggest that "there are specifiable psychological nutriments, which, when afforded by an individuals social context, facilitate personal growth, well-being, and integrity" (p.656). This section summarizes key concepts regarding human's basic psychological needs, the power of place, as well as human space needs through issues such as personal space, territoriality, and crowding. Together, these concepts aid in the organization and layout of space and the development of design implications to move forward on the design of the office environment.

2.1.2 WELLNESS & WELL-BEING

The work environment is a setting where people spend a great majority of their time. It can, at times, be either very stressful or very rewarding. Work environments, however, can be designed in a way that utilizes interior design initiatives to improve the health and well-being of employees, reduces stress, and increases job satisfaction and engagement. Companies must provide healthy environments in order to create offices where people and the business can prosper. Biologist Stephen Boyden defines the optimum healthy environment as “the conditions, which tend to promote or permit an animals optimal physiological, mental, and social performance in its natural or ‘evolutionary’ environment” (as cited in Heerwagen, 2008, para. 5). That is, to be considered an optimum environment, the workplace must meet both the functional, physical needs of its user along with more subjective, psychological needs.

Plenty of research in the profession of interior design already makes great strides regarding aspects of the built environment that affect the physical health and well-being of its occupants. Factors to be considered include functionality, ergonomics, physical comfort, life safety, material health concerns, visual and acoustical privacy, thermal comfort, indoor air quality, lighting, connection to the outdoors, and aesthetic details. Together these needs achieve comfort, safety, and improved physical health for inhabitants.

ERGONOMICS & PHYSICAL COMFORT

There are numerous aspects of workplace culture that affect overall satisfaction and stress levels. For instance, technology in the workplace, general work task requirements, and a decrease in physical activity affects the health and satisfaction of individuals. Kopec’s (2006) study found the following:

> When workers are uncomfortable or in pain, their productivity and morale decline; worse, an acute discomfort can lead to a chronic or permanent affliction that negatively affects a worker’s overall quality of life. (p.237).

Research into ergonomic design recognizes that the physical environment significantly influences physical comfort along with human health and, therefore, is critical to individual effectiveness, satisfaction,

and well-being. “Ergonomics uses objective and wide-ranging standards for design products and spaces that appear to relate well to human-centered design” (Edwards, 2011, p.170). Ergonomics responds to the physiological needs of the user by using anthropometric data or human body measurements to create something both humanistic and functional in nature to eliminate or at least minimize workplace injury and stress. Uncomfortable or merely unsatisfactory conditions that do not take into consideration the stress created by the work environment can lead to physical health issues and further hinders well-being.

MATERIALS & INDOOR AIR QUALITY

Material choices and mechanical components of interior design can affect the health and safety of users of spaces if not chosen or specified with careful consideration. Harmful building materials, chemical and biological contaminants, poor indoor air quality, and flaws in HVAC can lead to an illness known as Sick Building Syndrome. SBS involves situations in which building occupants experience illnesses in connection with the building that they regularly visit or live. These health concerns reveal that there are serious side effects tied to the physical qualities of environments. Edwards (2011) suggests the solution to the problem in stating, “Designers can employ natural materials and products such as planting, as well as specifying more mechanical means such as ventilation and humidity, in locations that are under the control of the individual” (p.170). The health issues as a result of the factors mentioned are becoming more widely known to the public. Currently, healthy materials and improved design options are becoming more accessible in the design and construction process.

LIGHTING & VIEWS

With longer working hours, stressful and trying tasks in work and daily life, and the onslaught of technology and the increased time spent using it, the exterior world is frequently and easily forgotten. The incessant and constant contact with work, and therefore technology, leads to over-stimulation and mental and physical fatigue. Kopec (2006) explains, “window views of nature positively affect the health and well-being of building occupants, and views have a restorative value in relation to stress at work” (p.244). Design initiatives that include natural lighting, as well as views to the outdoors can provide brief restorative moments that reduce stress, fatigue, and dissatisfaction. However, it is important to consider the possible effects of artificial lighting in conjunction with sunlight. “Lighting affects our well-being on many levels – visibility, activity, communication, mood and comfort, health and safety, and aesthetic judgment – interior lighting design, utilizing natural or artificial lighting, must respond to all of these needs” (Kopec, 2006, p.245).

Not every space is equal in its capacity for sunlight or views of nature. Therefore, the incorporation of artificial lighting should meet illumination requirements for occupants to properly complete tasks given to them.

ACOUSTICS & NOISE

Work involves both interaction and quiet focus; therefore people need time to work on individual tasks while others need communication to gain information or validate ideas. In an environment requiring focused concentration to complete tasks, excess noise is not only an annoyance but also a distraction that hampers satisfaction and productivity.
Noise may come from a variety of sources including vehicular traffic, construction, HVAC or people themselves. Unfortunately noise is often out of human control. With particular design initiatives, however, noise can be reduced. Acoustic consideration is important in the context of the workplace since the four work modes – focused, collaboration, socialization, and learning - are mutually exclusive (Gensler, 2013, p. 2). There are areas in a work environment that require very little noise and acoustic privacy while other spaces encourage conversation and interaction. It is imperative that acoustics is a critical design consideration to reduce and absorb sound in rooms of group activity in order to maintain a desirable level of noise, so as not to distract those concentrating.

PSYCHOLOGICAL NEEDS

The physical and functional needs of an office environment are essential in creating a space that eliminates distractions, health issues, and dissatisfaction. Equally important are the psychological requirements of the user. Deci and Ryan (2008) identify three basic psychological needs that, if satisfied, lead to optimal function, growth, motivation and well-being. These needs include autonomy, competence, and relatedness (p.658).

Autonomy refers to the way humans naturally seek freedom in their actions and decisions. People have a desire to choose what to do, when to do it, how to do it, and where to do it. Furthermore, they want their behaviors to reflect their interests, talents, and desires, and to construct their goals. People want to make a meaningful difference or impact through their choices. Deci and Ryan (2008) explain, “autonomy concerns feeling volitional and congruent with respect to what one does” (p.658). Without autonomy, people feel unnatural and negatively controlled. They seek a sense of independence to determine how they spend their time, not be coerced into doing things. In Gensler’s workplace survey (2013), it was evident that offering plenty of choice in how, when, and where employee’s work leads to a self-sufficient,

engaged workforce. Organizations see positive outcomes and greater innovation when they give an opportunity to their employees. Therefore, it could be concluded that autonomy-supportive environments, as opposed to controlling conditions, impact the functioning, well-being, performance, and motivation of an individual. Providing people with options and choice in their behavior supports their desire for autonomy.

The second psychological need, competence, refers to "feeling effective in one's actions – that is, experiencing opportunities to exercise, expand, and express one's capacities" (Deci & Ryan, 2008, p.658). People want to develop new skills, strive for excellence, make progress and grow. When this happens, humans are satisfied and take pride in their accomplishments. Competency involves feelings of being in control and experiencing proficiency in a task or skill. It allows the individual to sense as though they are good at something and that they belong. A workplace environment designed to support competence recognizes the diverse and unique needs each user requires to complete a task successfully, allowing the employee to adapt, change, and control the conditions of the environment. Deci & Ryan (2008) claim "feelings of competence are enhanced by engaging optimal challenges and receiving positive feedback; they are diminished by conditions that deprive one of control over outcomes, signify that one does not have the capacities necessary for the task at hand, or are too easy" (p.658). Coupled with the need for choice, allowing employees to be in control of their surroundings supports their desire for competence.

The third and final psychological need, relatedness, "refers to feeling connected with others and having a sense of belonging within one's community" (Deci & Ryan, 2008, p.658). Feelings of relatedness involve a desire to interact, to have friends, and be around people who accept and value them. Relatedness involves caring for or receiving care from others as well as the connections one has with the environment. Supporting environments for relatedness foster engagement and, encourage social interaction as well as, impact ways of communicating.

If these psychological needs are not satisfied, there are negative consequences. Deci & Ryan (2008) reason that "when any of the three basic psychological needs for autonomy, competence, and relatedness is thwarted or frustrated, the individual will exhibit diminished motivation and well-being" (p.658). When these needs are satisfied, they result in positive outcomes for the individual such as improved well-being and a sense of belonging.

2.1.3 THE POWER OF PLACE & THE NEED TO BELONG

Human beings are fundamentally driven by the need to feel as though they belong, that is, they are competent, purposeful, and related to

something bigger than themselves. In the workplace, for instance, employees perform best when they feel valued, comfortable, and like they fit in. A sense of belonging that emerges not only from the relationships one has with others as well as their bonds to the environment is necessary for a healthy psychological well-being. Unfortunately, in today's society where people are often distracted and disconnected from their surroundings, achieving feelings of relatedness and a sense of belonging may be more difficult.

In environmental psychology, the concept of 'sense of place' refers to an experience of a person in a particular setting. It refers to a combination of features that gives an environment a unique atmosphere or character. Concepts related to a 'sense of place' include place attachment and place identity. Environmental Psychologist Dak Kopec (2006) explains:

> Each of these terms attempts to describe a host of emotions that define the meaning of place, which is, essentially, how people see themselves in relation to others and a particular environment, and explains the emotional bond we may develop to that place over time (p.62).

A 'sense of place' can provide stability, meaning, and a source of personal identity. "For people to develop a sense of place, they must feel as if they belong there and be able to make an emotional connection" (Kopec, 2006, p.62). A place said to have a strong 'sense of place' has a particular identity that is deeply felt by an individual and corresponds with their personal identity. When a setting reflects the identity of its users a feeling of belonging and acceptance results. Meaningful places, however, rely on both the physical and social aspects of an environment. The connection between person and place can happen as a result of the social relationships that exist within the boundaries of an individual's setting, as well as the physical characteristics of the site itself. For instance, physical environments provide tangible aspects that can encourage a connection.

To understand a place further and comprehend the possible meanings and relationships to space, research on place attachment and place identity is important. Each of these concepts refers to the emotional and psychological relationships between human and the physical environment.

PLACE ATTACHMENT

In essence, place attachment is thought to be an emotional relationship between human and environment. Kopec (2006) explains three factors that serve to attach people to a place; "their personal characteristics and behaviors; the availability of facilities, opportunities, and resources; and

a sense of belonging" (p.62). In other words, place attachment occurs when settings reflect the user, provide for the individual both physically and psychologically, and establish a sense of belonging or purpose. When place attachment results between person and place these settings carry "deep meaning for people because their identities are intricately woven into those places, which, therefore serve as restorative environments" (Kopec, 2006, p.62). These are spaces that people enjoy, long to be in when they are away, and that improve their satisfaction when they are within that environment.

PLACE IDENTITY

Identities are the meanings and characteristics individual's give to themselves that reflect their personalities and preferences and provide distinction from others. Place Identity involves "those dimensions of the self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals, and behavioral tendencies and skills relevant to this environment" (Prohansky, 1978, p.155). For each individual, it is suggested that there may be physical characteristics that help to define and maintain self-identity. For example, individuals modify a space to reflect who they believe themselves to be or want to be.

Place identity also involves the influence of the environment. A physical environment serves as a source for satisfying specific goals or desires, which is an integral part of one's identity. Individuals can evaluate which properties in different environments fulfill their unique and various needs. When a place contains components that satisfy a person biologically, socially, psychologically, and culturally, a rich relationship is created between a person and place. Individuals can learn and define their personal values, attitudes, and beliefs about the physical world as they interact with various places.

Kopec (2006) explains, "A place with which we identify generally provides a sense of continuity, helps to reinforce self-identity and self-esteem, enables us to get things done, and provides either a sense of individuality or a sense of belonging" (p.62). Through one's personal connection to a place, a sense of belonging and competence is gained, which in turn gives significance and meaning to life. Therefore, it can be reasoned that if a space does not help to define an individual's personal identity or satisfy psychological needs, then well-being, satisfaction, and a sense of belonging cannot be achieved. Individuals who are satisfied with their environment, an environment that responds to the individual's identity and supports it, are more likely to bond to, form an attachment, and be loyal to that place.

2.1.4 PERSONAL SPACE TERRITORY, & CROWDING

The development of a deep person-place bond is an important aspect of human life. With the fulfillment of psychological needs, space becomes special and intimate, providing good health, well-being, reflecting one's identity, providing a sense of belonging, and finally leading to attachment. Strong attachments, however, can cause place-protective behavior to occur. "Place protective behavior is likely to result when meaningful places are threatened by potential changes. People are willing to fight for places that are more central to their identities" (Stedman, 2002). Invasion can occur when people trespass on a territory, or the perceived identity of the area is changed or taken over. Invasion of one's space can lead to anger, discomfort, or anxiety on the part of the victim. Theories including territoriality, proxemics, and crowding reflect place-protective behavior.

Territoriality serves as a mechanism to regulate social interactions in the pursuit of desired levels of privacy. Territoriality is described as the "possession and defense of physical space, as well as the exclusiveness of use, marking, personalization, and identity (as a reflection of the self) of that space by the occupant or user" (Kopec, 2006, p.63). For the individual, territorial control provides security, identity, and influence over the person-place relationship.

In such a way, anthropologist Edward T. Hall's (1969), theory on proxemics, the study of the human use of space, can be viewed as a part of human territoriality. Proxemics deals with territories in a much more pragmatic way. Hall defines four distinct distances (Figure 1) at which activities and social transactions typically take place. These spaces correspond to the distances a person takes to carry out tasks, talk to other people, participate in events, and engage with the surroundings. The distances include intimate, personal, social, and public spaces.

Hall's (1969) first zone, intimate space, is the closest area to the human body. This area surrounds the body and is the most private of all of the distances; occupied by no more than two people who share a strong bond. "While this zone is pleasant in some situations, as when one is interacting with a loved one, it can be quite unpleasant in other situations" (Altman, 1975, p.59). The control that one has over their intimate space is key to their individuality and identity.

Personal space is the area in which an individual feels at ease including others that they feel connected to, like friends or close acquaintances. Altman (1975) explains that this zone "still permits rich exchange of touch, smell, sight, and other cues, although there is by no means as

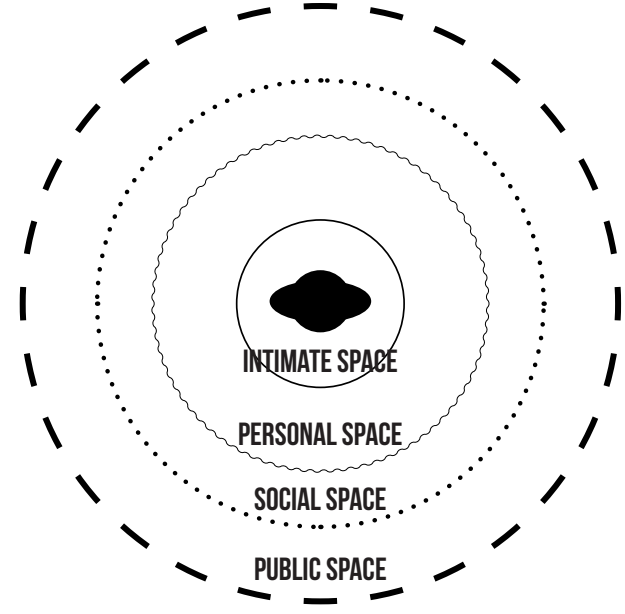
much exchange as occurs in the intimate zone" (p.59).

The third zone, social space, includes the spaces in which people feel comfortable conducting social interactions with casual acquaintances or strangers. This distance is considered "the normal distance at which business and general social contact occur" (Altman, 1975, p.60).

Lastly, public space, the largest of the distance zones, includes the area beyond personal interactions. "Such distances are typically reserved for formal occasions or for public speakers or high-status persons" (Altman, 1975, p.60).

Each of the distance zones varies somewhat depending on culture, personality, and environmental factors, making these zones immeasurable and subjective. The various zones represent intangible boundaries around an individual that allows various degrees of openness to others. Moving closer or farther from others alters accessibility to the individual. The individual communicates a desire for privacy, moving away from others. By moving closer, the individual permits access and communication. Thus, these distances serve to regulate contact with others and make personal boundaries more or less permeable, and the individual more or less accessible. For some, the use of personal space as a mechanism to shut off certain channels of communication is

F.1



vital to satisfaction. Also, many people are very aware of those around them in terms of personal interaction levels as over-stimulation in social scenes can cause them displeasure. Others are less aware of those around them. By no means are these distances universal to all; however, an understanding of each zone is necessary for establishing privacy requirements for individuals and provides implications for the design of spaces.

Tuan (1977) explains, "The world feels spacious and friendly when it accommodates our desires, and cramped when it frustrates them" (p.65). A breach in personal space results in crowding: an excess of undesired external social contact. Feelings of crowding are highly

contingent on personality factors and perceived levels of control. People respond to crowding in different ways. For some, crowding can be desirable and energizing, for those who prefer less stimulation, it can be unpleasant and discomforting. Therefore, the notion of crowding is entirely subjective.

2.1.5 SUMMARY & DESIGN IMPLICATIONS

By incorporating physical and psychological factors into design, one can control an environment and to an extent, the relationships and behaviors of its inhabitants. This information helps to predict the behaviors and reactions towards the spaces found within the built environment. At an intimate level, environmental psychology is effective in improving an individual's surroundings and providing a sense of belonging. It succeeds in establishing an environment that supports the individual, rather than acting as a hindrance. An environment must meet both the physical, basic needs as well as the psychological needs of a human being. Once achieved, one can then turn to the fulfillment of the other aspects of an environment that make it meaningful and significant. This section has addressed some of the ways environmental psychology attempts to unite aspects of physical health, social interaction, psychological connections and design practice to support human occupancy of the built environment.

Plenty of research focuses on the environment's impact on the physical health of occupants with emphasis placed on the physical comfort of the individual through ergonomics, acoustical control, material choices and indoor air quality. However, others attempt to understand the psychological impact of place. An individual's psychological health influences the ways they perceive the environment, make choices, and cope altogether. Meanings and perceived emotional bonds with the environment influence the identity, sense of belonging, and place-protective behavior of its occupants. Territorial infringements threaten the meaning of the environment as well as the identity and belongingness of the individual. Similarly, when personal space is encroached upon a sense of crowding ensues. In the end, the subjective difference in people, such as personality factors, affect how one perceives, either positively or negatively, the environment. The next chapter begins to explore these personality differences in greater detail.

Table 1 illustrates major concepts from this chapter along with potential design implications for the design proposal in this practicum. The design implications are derived using a series of 'filters' including spatial arrangements, color, lighting, acoustics, volume/size, circulation, materials, and communication/interaction. Concepts from authors and theorists studied within the literature review can then be directly correlated with the physical attributes of the space.

CONCEPT	SOURCE	SUMMARY	DESIGN IMPLICATIONS
Physical Health & Well-Being	Kopec, 2006 Edwards, 2011 Gensler, 2013	For a place to fulfill an individual it must first meet basic, physical needs and provide a healthy environment.	Ensure the environment meets individual's basic needs as well as provides safety and a healthy place to work. Provide maximum access to natural daylight, views to the outdoors, ventilation, patios, etc. Provide superior ventilation, indoor air quality, thermal comfort, visual and acoustic privacy, appropriate light quality, proper functionality, and physical comfort. Design for human scale; ergonomics. Prioritize human proportions. Provide easily adjustable furniture to fit a range of sizes, needs, and preferences, and to promote movement throughout the day. Design spaces that encourage movement and offer posture choices (sitting, standing, perching, lounging, etc.) Offer support zones such as kitchens and break rooms to aid in the physical and mental health of the employee.
Psychological Health & Well-Being	Deci & Ryan, 2008 Gensler, 2013	For a place to provide positive psychological outcomes it must fulfill the needs of autonomy, competence, and relatedness.	Ensure the user has a variety of choice and a sense of control over their environment to feel competent and independent. Allow for opportunities to connect and interact with others in order to feel a sense of belonging and relatedness. Offer a variety of workstation options and a mixture of spaces for people to determine where and how they work best. Provide flexible and adaptable furniture, lighting, etc. Incorporate a range of furniture solutions that encourage people to sit, stand, and move throughout the day. Create safe and informal spaces that help people to connect with others one-on-one or in groups through furniture arrangements, etc.

The Power of Place	Prohansky, 1978 Kopec, 2006	Bonds formed with the environment lead to a sense of place (place attachment & place identity).	Set up positive experiences in the workplace to augment human interaction, establish meaningful connections, and feel valued. Create entrances that are welcoming with a visible reception for people who do not routinely work in the building. Include spaces beyond the lobby that reinforce the brand, identity, character, and culture of the company. Utilize company colors, logo, slogans, messages, etc. Create spaces that allow for personalization and individual customization that reflects their identities and personal values.
Social Interaction Distances	Hall, 1969 Altman, 1975	Various distances represent intangible barriers around an individual that allows various degrees of openness.	Allow for control or manipulation over the environment to encourage personalization, personal empowerment, and belonging. Allow individuals to create environments that reflect their identities and satisfy personal needs. Incorporate modular furniture that can be positioned to facilitate either the desire to be alone or interaction between groups. Allow for the control over lighting, acoustics, spatial arrangements and desired interactions where possible
Territoriality & Crowding	Tuan, 1977 Stedman, 2002 Kopec, 2006	If a meaningful place's territory is breached or becomes crowded it can have positive or negative effects on an individual depending on their personality.	Question the permeability between spaces in order to communicate territories and privacy. Decrease perceptions of spatial confinement using design elements that eliminate feelings of crowding. Create clear boundaries (tangible or intangible barriers, acoustic, lighting, spatial arrangements, etc.) to establish territory or indicate differences in function/purpose. Provide ample views of nature, utilize bright lighting where necessary, and encourage a flexible spatial arrangement to reduce feelings of confinement.

Table 1: Design Implications Regarding Themes of Environmental Psychology and the Human Experience

2.2 THE INTROVERSION-EXTROVERSION SPECTRUM

2.2.1 INTRODUCTION

The concept of personality involves many aspects that reflect the richness and complexity of the human being. Because of this complexity, the word “personality” embraces several meanings. In popular usage, personality can be used to describe a person’s outward impression. For example, one can speak to someone as having a lot of personality, a bad personality, or lacking in personality. For the purposes of this practicum, however, personality is looked at as the unique and characteristic patterns within an individual that influence their thoughts, desires, and behaviors. This dynamic pattern of characteristics is responsible for distinguishing and defining an individual’s manner of interacting with the physical and social environment, as well as a person’s tendency to behave a certain way under different circumstances. To provide further insight, Mischel et. al (2008) summarizes the construct of personality as a phenomenon that:

- Shows continuity, stability, and coherence.
- Is expressed in many ways- from overt behavior through thoughts and feelings.
- Is organized. In fact, when it is fragmented or disorganized it is a sign of disturbance.
- Is a determinant that influences how the individual relates to the social world.
- Is a psychological concept, but it also is assumed to link with the physical, biological characteristics of the person (p.4).

While there are numerous facets to the concept of personality, this practicum focuses on the topics of introversion and extroversion. Contrasting issues of openness and privacy, which corresponds with introversion and extroversion, has consistently alternated as solutions in office design. While extroversion is widely positive in some situations, and some introversion as a deficit at times, there are instances where each tendency is positive. As Gensler’s workplace survey (2013) pointed out, a balance between focus and collaboration, private and public, or introvert and extrovert is key to the successful organization of the workplace. The design of an office does not have to be an uncompromising proposition. Rather, creating a well-balanced continuum of open to more private workspaces aligns more effectively with the needs and styles of work and workers in today’s offices.

The practicum aims to understand, in detail, the introvert and extrovert tendency, the theories and models associated with this facet, and their main differences. In response to current research, a set of guidelines is used to direct the design of a new office environment, which equally reflects the introversion-extroversion spectrum.

2.2.2 DEFINING INTROVERSION & EXTROVERSION

In psychology, the Five Factor Model, otherwise known as the Big Five, is the most current, valid, and reliable personality framework available today, and serves the primary means of understanding and interpreting personality. The model comprises five basic tendencies "derived from analyses of the natural-language terms people use to describe themselves and others" (John et al., 2008, p. 116). The five tendencies include extroversion, agreeableness, conscientiousness, neuroticism, and openness. "These five tendencies represent personality at a very broad level of abstraction; each dimension summarizes a large number of distinct, more specific personality characteristics" (John et al., 2008, p.119). The five domains and their corresponding facets were proposed, edited, and agreed upon by many prominent personality researchers over the years including Allport, Odbert, Tupes, Christall, Norman, Cattell, Costa, and McCrae.

The Big Five test is conducted using questionnaire scales where each of the personality traits reflects two opposite but connected aspects. For example, this model sees individuals as having more or less of the extroversion trait. Those with more (scoring higher on the scale) identify as extroverts. Those with less (scoring lower on the scale) identify as introverts. Along these lines, introversion is regarded as the opposite of extroversion. This spectrum, however, involves a vastly diverse group of people, and, for this reason, can be confusing to summarize. Despite this, theorists Costa and McCrae (1995, p.30) have attempted to create a comprehensive view of the extroversion domain. They indicate that extroverts and introverts differ regarding six facets: warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions (Greene & Weiner, 2008, p.329).

Being high on the warmth facet of extroversion explains an extrovert's friendly and affectionate nature. However, being low on the warmth facet does not mean that introverts lack compassion or do not like other people. Instead, it suggests they are more distant and show more restraint in social situations than those who score higher. Extroverts will likely be talkative and easily form close relationships with others. "They really like most people they meet and they find it easy to smile and be outgoing with strangers" (Green & Weiner, 2008, p.329). On the other hand, introverted relationships involve encounters between fewer people,

the opposite of the extrovert's love for larger groups.

To be gregarious is to prefer and enjoy being around others and seek out social situations. Introverted people, on the other hand, "shy away from crowds of people and usually prefer to do things along" (Green & Weiner, 2008, p.329). They are more inclined to avoid encounters where there are plenty of chances to meet new people, as this would be overwhelming. As follows, introverts and extroverts differ in the ways in which they refuel or gain energy. Psychologist Marti Olsen Laney (2002) proposes:

> "Introverts…are energized by the internal world-by ideas, impressions, and emotions. Contrary to our stereotypes of introverts, they are not necessarily quiet or withdrawn, but their focus is inside their heads. They need a quiet, reflective place where they can think things through and recharge themselves" (p.21).

For introverts to refuel, they seek out solitude where they can think and focus successfully. Those low on gregariousness are content being by themselves and involving themselves in quiet contemplation where the extroverted individual may not enjoy being alone. Extroverts engage in activities outside themselves, talking to people and trying new things. Extroverts may lose energy when they have nothing to do or are not in contact with others.

Being assertive means the extrovert is more likely to express themselves and ensure they are at the forefront of a situation. Within this facet, high scorers are "dominant, forceful, and assertive, and often have been leaders of groups to which they belong" (Greene & Weiner, 2008, p.329). Conversely, low scorers prefer to stay in the background and keep their opinions to themselves. "They would rather go their own way than be a leader of others" (Greene & Weiner, 2008, p.329).

Activity level refers to how active an individual will likely be. High scorers are more energetic and keep themselves busy while low scorers are more relaxed, laid back and react slowly as situations unfold. For extroverts, "they often feel as if they are bursting with energy and usually seem to be in a hurry" (Greene & Weiner, 2008, p.329). With this in mind, extroverts have high aspiration levels and are very productive in their daily tasks. Introverts, instead, prefer a leisurely lifestyle to one that regularly involves being on the go.

Another difference between the introvert and extrovert temperament is how either type experiences excitement or external stimulation. German Psychologist, Hans Eysenck's work connects tendencies with biological foundations, focusing on the characteristics of introverts versus extroverts. He believed that introverts and extroverts differ in their

arousability. Extroverts are naturally less arousable, so those high in the excitement-seeking facet seek out situations and partake in activities that will stimulate arousal. Introverts are naturally over-stimulated, so they avoid intense arousal (Corr, 2004, p.318). This difference in temperaments relates to sensation seeking, which is a mannerism that represents an individual's tendency to pursue new experiences, take risks, and seek thrills. Extroverts tend to be high on the excitement-seeking scale as they crave stimulation, which requires them to keep searching for new, exciting experiences. For example, they are most satisfied in a lively atmosphere like a concert or party and are energized by the external world: a setting with ample stimulation and excitement. Greene and Weiner (2008) explain, "They are attracted to bright colours and flashy styles" (p.329). Extroverted individuals enjoy a variety of stimuli, where introverts would find it to be too much. "Just being around people can be over-stimulating to introverts. Their energy is drained in crowds, classes, or any noisy or invasive environment" (Laney, 2002, p.23). Introverts look to reduce stimulation in their environments to maintain their best performance. They feel comfortable in a setting like a quiet room for reading or visiting with a close friend since they can be easily over-stimulated, especially in the fast-paced external world. This difference is not to say that introverts prefer a bland environment with very little happening. "Introverts enjoy complexity when they can focus on one or two areas, without pressure" (Laney, 2002, p.23).

Those low on the facet of positive emotions are said to be less enthusiastic and high-spirited, but they are not necessarily depressed or unhappy. High scorers or extroverts, "are cheerful, high-spirited persons who laugh easily" (Greene & Weiner, 2008, p.329). They are happy, exuberant, optimistic, and joyful.

The Big Five contributes to a general outlook of both introversion and extroversion and begins to explain how each is prevalent in an individual in different situations. This model is able to account for how different "traits influence how individuals construe and interpret the personal meaning of a particular environment or situation has for them, and to which aspects of the environment they attend" (John et al., 2008, p.141). In this way, the Big Five can predict how and where people are likely to spend their time. The introversion-extroversion polarity begins to clarify how people respond to and interact with both the physical and social environment. John et al. (2008) suggest, "Traits also influence the way individuals select both social and nonsocial environments and how they modify these environments" (p.141). With this in mind, certain aspects regarding the facets of the introversion-extroversion spectrum reveal implications for the spatial planning and arrangement of the built world.

The following table provides a summary of the six facets of extroversion and compares each with the differences found in introverted personality types.

FACET	HIGH (EXTROVERT)	LOW (INTROVERT)
Warmth	Affectionate, friendly, form attachments easily, enjoy the company of others	Formal, reserved, distant, hard to get to know
Gregariousness	Prefer others company, large groups	Tend to avoid social interaction, enjoy being alone
Assertiveness	Take charge, dominant, forceful, expressive, articulate, fluent, natural group leaders, speak without hesitation	Prefer to be in the background, keep their opinions to themselves, let others do the talking, let others lead the way
Activity	Energetic, keep busy, always on the go, lead fast-paced lives	Relaxed, leisurely, mellow, likes to take it easy
Excitement-Seeking	Crave excitement and stimulation, takes risks, enjoys bright colors and noise	Prefer less stimulation, less noise
Positive Emotions	Easily experiences and expresses joy, happiness, and excitement, optimistic, laugh easily and often	Express themselves less easily, less excitable and amused

Table 2: The Six Facets of Extroversion

2.2.3 THE MIDRANGE MAJORITY

While many people view themselves as either introverted or extroverted, most contemporary theories measure introversion-extroversion as a single dimension of personality. Most people fall in the middle of this dimension with only rare extremes being solely introverted or extroverted. This balance represents someone who is at ease with groups and social interaction but also takes pleasure in times alone, away from a crowd. Those in the midrange of the introvert-extrovert spectrum can have extremely expressive and emotional conversations or mellow and relaxed ones. Depending on the situation, they can be warm or distant. To put it simply, the majority of people do well both socially and individually and require a balanced environment of public and private.

In any case, people vary in their behavior all the time. Humans are dynamically complex and cannot be easily polarized. For instance, people can be more or less extroverted than one another, and each person is more extroverted in some situations and less so in others. In other words, the majority of human behavior is a result of the situations with which one interacts.

2.2.4 PROSPECT-REFUGE THEORY

The importance of providing varying degrees of privacy for individuals to offer a balanced environment is also understood through Jay Appleton's

Prospect-Refuge Theory (1975). Prospect-Refuge theory attempts to explain responses to the environment in terms of an instinctual impulse towards places of openness or enclosure, surveillance or concealment, and public or private. “In The Experience of Landscape Appleton (1975) suggests that preferences for environments depends on both prospect (how far one can see) and refuge (how protected one is against possible enemies)” (Stamps, 2006, p.1). While this theory originated out of the notion of an animals innate need for protection and concealment from perceived dangers for their survival, the same need for openness and privacy can be applied to interiors to satisfy the psychological processes of introverts and extroverts. Of course, an animal’s setting is generally thought to be the outdoor landscape, where the modern human being looks to the physical built world of architecture and interiors as their place of living. Grant Hildebrand’s (1999) Origins of Architectural Pleasure discusses prospect-refuge theory as it relates directly to the built world.

First, refuge exists as the ability to hide, or conceal oneself, with the opportunity for surveillance. Hildebrand (1999) lists several physical aspects of the interior that can lead to a sense of refuge including “darkness, solid walls rather than windows, closure on three sides, small horizontal dimensions, narrow horizontal aspect ratio, and, especially, low ceilings” (p.32).

With a similar concept in mind, David Little (2010), a professor in the Department of Social and Developmental Psychology at Cambridge University suggests “restorative niches.” A restorative niche is a place an individual goes to retreat, rejuvenate the mind, and restore themselves. Regardless if it is a physical, tangible place or a mental state, it involves finding privacy (refuge) when immersed in the public realm (prospect). The restorative niche is a mechanism used to satisfy the person most closely representative of the introvert tendency. These types of spaces become sanctuaries to introverts in the midst of socialization. The restorative niche allows for separation from the group, anonymity, and either total avoidance of interaction or small intimate contact that forms emotional bonds. Introverts thrive in a lifestyle that provides ample opportunities for quiet and solitude. The restorative niche, as a tool, offers a setting that is strikes a balance between public and private therefore, the needs of the two temperaments.

Extroverts thrive, instead, on opportunities for excitement, stimulation, and activity, which suits the notion of prospect. Appleton (1975) understood prospect as an unobstructed, extensive view, or ability to see in large open spaces. Interior prospect theories can be treated as the opposite of refuge with larger ceiling heights, transparent walls, and higher light levels.

The success of prospect-refuge theory comes when the two are contrasted in the same instance. Hildebrand (1999) explains, “They cannot exist in the same space. They can occur contiguously, however, and must, because we need them together. From the refuge we must be able to survey the prospect; from the prospect we must be able to retreat to the refuge” (p.22). There is value in having spaces in the built world to pass through that transition between public and private. The opportunity for both prospect and refuge is necessary to provide comfort and satisfaction to a wide range of inhabitants.

“Individuals have been shown to vary widely in the balance they seek between the two extremes in the prospect-refuge juxtaposition” (Hildebrand, 1999, p.46). This variety is evident in an Introverts preference for quiet, private space and an Extroverts preference for large groups and more noise. Depending on the users preferences and physiological needs, the configuration of their home or other significant setting may be more refuge dominant or prospect dominant. “Thus the availability of a generous range of choice is likely to be of real value, yielding a malleable surrounding capable of accommodating changing moods and emotional needs” (Hildebrand, 1999, p.47).

This exploration on the importance of providing choice between public and private and control further relates to Deci & Ryans’s basic psychological needs explored in section 2.1.1 Wellness and Wellbeing. When individuals are able to engage with the design of a space to determine their own level of required openness or privacy based on their personal sense of comfort, they display a sense of control over their environment. In the design of the office where the objective is to provide a satisfying environment, allow relaxation, and encourage social interaction, providing both prospect and refuge is necessary. A facility that contrasts open, bright spaces (prospect) with cozy, protective retreats (refuge) offers a unique mix of functions that satisfy a wide range of people. Therefore, to achieve a pleasing and comfortable office design is arguably to achieve an environment that allows for the opportunity for prospect-refuge to take place. Establishing an atmosphere that promotes the physiological needs of the employee, allows the possibility for increased performance, job satisfaction, and well-being.

2.2.5 SUMMARY & DESIGN IMPLICATIONS

As psychology appears to have a greater influence on the organizations, employees, and the physical arrangement of workplaces, a deeper understanding of the psychological differences between individuals is essential. This knowledge goes beyond the debate between public versus private space to include a series of aspects designers can utilize in the physical environment. A study of the Big Five’s extroversion

tendency showcased six aspects including warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions that can easily translate into design guidelines. In conclusion, individuals differ in their desires for social interaction, approaches to communication, daily pace, level of arousability, the need for stimulation, and methods of self-expression. This diversity between openness and privacy led to the Prospect-Refuge Theory, which shed light on providing varying degrees of privacy for individuals to gauge their level of comfort based on their surroundings and activities.

In order to understand the implications that the introvert-extrovert tendency has on the design proposal for the office environment, Table 3 illustrates major concepts from this chapter along with potential design implications for the design proposal in this practicum. The design implications are derived using a series of "filters" including spatial arrangements, color, lighting, acoustics, volume/size, circulation, materials, and communication/interaction. Concepts from authors and theorists studied within the literature review can then be directly correlated with the physical attributes of the space.

CONCEPT	SOURCE	SUMMARY	DESIGN IMPLICATIONS
Introvert and Extrovert differences	John et al., 2008 Greene & Weiner, 2008 Laney, 2002 Corr, 2004	Extroverts and Introverts differ in 6 facets: warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions	Consider high contrast, stimulating environments for extrovert areas and less contrasting elements for introvert spaces. Consider multiple spaces to fit a variety of social interaction preferences. Design spaces that allow workers to control sensory stimulation and choose to increase or decrease stimulation as needed. Offer places that are calming for the introvert through materials, color, lighting, and views. Offer places that are vibrant and colorful for the extrovert through materials, colors, lighting, and views. Provide a mix of spaces that range in activity level from busy to laid-back. Allow users to fall into the background of spaces (edge seating, physical barriers, etc.) while others standout (platforms, vantage points, etc.) Include formal areas as well as fun, informal spaces.

The Midrange Majority	*Personal Communication with committee	The vast majority of people fall somewhere in the middle of the Introvert-Extrovert dimension.	Balance Introvert and Extrovert, Public and Private, and Accessible and Inaccessible. Offer a variety of spaces for different types of work, relaxation, and interaction to balance the unique needs of the user.
Prospect-Refuge Theory	Appleton, 1975 Hildebrand, 1999	The opportunity for both prospect (open space) and refuge (private space) is necessary to provide comfort and satisfaction to a wide range of inhabitants.	Incorporate places of privacy (refuge) in a public realm (prospect). Ensure spaces of refuge are dim with solid walls and low ceiling heights. Prospect spaces are bright, transparent, and have high ceiling heights. Consider physical barriers such as overhangs and tangible boundaries to give a sense of security and prevent unwanted interactions. Establish restorative niches like nooks, quiet tables in the corner, seating along edges of rooms, full height washroom stalls, and solid barriers. Mix these spaces within public spaces that introverts can identify with as private space in which they belong.
The Restorative Niche	Little, 2011 & 2010	The Restorative niche can be both tangible or in-tangible refuge within the prospect..	Nooks, quiet tables in the corner, spaces along edges of rooms, chairs hidden behind boundaries, full height washroom stalls etc.

Table 3: Design Implications Regarding Themes of the Introvert-Extrovert Spectrum

2.3 BLENDING TYPOLOGIES

2.3.1 INTRODUCTION

Interior designers are constantly striving to meet the ever-changing demands of their users and, in doing so, come up with new typologies to fit these needs. The third place, first introduced by urban sociologist Ray Oldenburg in the early 80's, was initially proposed as neither a space for work or home but as a leisurely place where people gather in order to connect with others and relax. Spaces that fall into this category may include pubs, libraries, markets, or coffee shops. However, as the boundaries between work, home, and personal life are blurred in the 21st Century, the roles of these typologies are changing.

With technologies rapidly changing the way humans exist, interior environments must adjust in order to stay relevant. In the workplace, technology encourages a more mobile and flexible way of working where employees no longer require a designated working area. This means allowing and encouraging people to work whenever and however they want. With this flexibility, some employees seek out third places in their community to complete their work for their leisurely and relaxing qualities. Though not meant for work, these spaces may lack features, in some aspects, for completing work tasks. The elements that make third places successful, however, can be applied to workplace design to create a stress-free environment that provides a sense of comfort and fun.

As a public space, the third place greatly encourages social interaction and connection to others. On the contrary, the home is looked at as a private environment. Humans have continuously depended on the home environment as a means of support, comfort, and restoration. As a result, people have cultivated a secure and enduring relationship with the home. Other than the workplace, the home is a space where people spend a vast majority of their time. As was noted in the Chapter 1.4 Contextual Issues, employees are expecting a workplace that is valuable and offers numerous benefits as a physical space. With the desirability to work from home, and the flexibility that the new office environment provides, employees prefer comfortable workspaces with a home-like atmosphere. For this reason, the fundamental nature of home will be examined to determine what constitutes a successful home-like environment that can then translate into the office setting.

This chapter examines the relationships between individuals and their environment in terms of sociological and psychological needs. While it may not be accurately representative of third place, this theory

shows potential if applied to workplace design. It offers a framework of characteristics to improve social interaction and relaxation, it presents numerous positive benefits to both the individual and the collective, and it blends seamlessly with the current spatial demands of employees. Additionally, the home-like environment plays a significant role in improving the well-being of workers. The essence of home, in particular, will be analyzed with regard to its privacy, comfort, personalization, warmth, and other relevant characteristics.

2.3.2 THE THIRD PLACE

Primarily, third place theory involves the spaces in which people inhabit, that are separate from the two familiar environments of the home and workplace. Oldenburg (1982) suggests that these are spaces like a café, pub, park, and library "where people gather primarily to enjoy each other's company" (p.269). These spaces are valuable for creating a sense of community and providing opportunities for people to connect with others. With that, occupants feel a sense of relatedness to both the people and the environment with which they interact. Oldenburg (1982) explains, "It is argued that participation in these third places provides people with a large measure of their sense of wholeness and distinctiveness" (p.265). The research identifies a cluster of qualities associated with third places that enhance the quality of users life. These improvements are distinctive to the nature of third places.

With the onset of alternative-working styles and flexible practices, along with blurred boundaries between work, home, and leisure, it can be reasoned that everyone would, instead, work from home or in 'third places'. Despite their advantages, third places are not ideal for focused work. "Third places lack territorial privacy, visual privacy, and acoustical privacy, and the tools that collaborative work requires" (Steelcase, 2009, p.2). However, their benefits to the individual and the group are undeniable. Third places are, debatably, much more comfortable, fun, and exciting than workplaces. For this reason, an investigation into what comprises third place will allow for a critical discourse into how the workplace and third place can blend. As a result, the facility will encompass the benefits of the third place along with the practical needs required to get work done.

Oldenburg identifies eight characteristics that define third place: neutral ground, leveler, conversation, accessibility and accommodation, regulars, low profile, playful, and a home away from home. Altogether, these characteristics provide a framework that is applied to the proposed office.

NEUTRAL GROUND

First, third places must be neutral. One of the key issues in this context is that other forces cannot control third places. In this sense, inhabitants are not tied down to the place by any means. People are free to engage or not engage on their own terms. Oldenburg (1997) suggests, “There must be places where individuals may come and go as they please, in which none are required to play host, and in which all feel at home and comfortable” (p.22) Above all, third places are casual and informal.

Characteristically, the notion of work exerts some control over the employee, expecting their participation and excellence in all things work related. For organizations to move away from constrictive work environments that currently limit the way people work, they must implement flexibility and give back control to the workers. This may be accomplished by employing a ‘hot-desking’ approach where there are no assigned workstations and each area in the office is seen as a place to work. Employees are free to do as they please, choose where to work, and are independent. By applying this knowledge of designing and working, the employee will feel more in charge, comfortable, and at ease. Thus, a sense of competence is established.

LEVELER

Third places, while being neutral, are also inclusive and challenge traditional hierarchies. They place no importance on a person’s role or status in society. “Within third places, the charm and flavor of one’s personality, irrespective of his or her station in life, is what counts” (Oldenburg, 1997, p.24). In third places rank does not matter, allowing for a sense of commonality and belonging among its occupants.

The workplace has traditionally been structured around the hierarchies of the workforce where those of higher status reap the rewards such as bigger offices, access and views to the outdoors, and better or more ergonomic furniture. Open spaces, access to special views throughout the building, consistency in furniture, and an equal treatment to each users experience of the space can help to level hierarchies. By leveling the hierarchies present in the workplace, at least in terms of the design of the office, employees may feel as though they are valuable to the organization regardless of their position. This feeling of importance and inclusivity with no weight on status creates a sense of belonging and fulfills the human’s need for relatedness.

CONVERSATION

Playful and happy conversation is the primary activity in third places. The tone of conversation and interaction is usually lighthearted and good-natured. Activities within the space should complement discussions such as games, as well as food and drink.

As previously mentioned, collaboration and socialization are two of the four work modes recognized by Gensler (2013). It is clear that conversation is an essential activity to carry out work for organizations. The problem stems from the way that people in modern society communicate; through computers or phones. Oldenburg's Third Place Theory understands the importance of providing a one-on-one physical connection for people. With the lack of perceived interaction in the modern workplace, people are often inclined to keep to themselves. By incorporating conversation into the workplace, the employee feels connected to their colleagues, feels as though they belong, and their need for relatedness is fulfilled. Moreover, the atmosphere of the office environment takes on a relaxed and fun impression.

ACCESSIBILITY AND ACCOMMODATION

These types of spaces must also be open and readily accessible to those who occupy them. "Third places must stand ready to serve people's needs for sociability and relaxation in the intervals before, between, and after their mandatory appearances elsewhere" (Oldenburg, 1997, p.32). Most importantly, third places are convenient. Without convenience, these spaces would lose their appeal. Third places, combined with accessibility, must also be accommodating, meaning they provide and fulfill the needs of their occupants.

Within the workplace, spaces must feel accessible and convenient otherwise people will not use them. This particular characteristic relates specifically to the spatial layout of the office setting. For instance, the common areas of the office should be located in the center of the building in such a way that the paths of circulation lie nearby it making it easy to get to. If a space is out of the way and it cannot accommodate the needs of the employee in some way, it becomes undesirable.

REGULARS

Regulars often occupy third places. These people frequently visit the space. Oldenburg (1997) explains, "It is the regulars who give the place its character and who assure that on any given visit some of the gang will be there" (p.34). Repeated contact with these people establishes a sense of community and belonging for individuals.

Within the workplace community, there may be new employees, members who have worked with the company for a significant period, and long-serving veterans. Over time as employees become familiar with the culture and identity of the workforce they are likely to become more confident and comfortable participating. Encouraging involvement in the workplace, whether it is through active interaction or silent methods of connecting, will reduce anxiety and enhance confidence and competence in the employee.

LOW PROFILE

Third places have a homey, lounge-like feel and are often without extravagance. They uphold a low profile with unimpressive exteriors while maintaining interiors that are comfortable and welcoming. Oldenburg (1997) suggests, “Regulars of third places do not go home and dress up. Rather, they come as they are” (p.37). This is because third places are accepting of all types of individuals. “Plainness, especially on the inside of third places, also serves to discourage pretention among those who gather there” (Oldenburg, 1997, p.37). Third places focus on the conversation and people, more than the lavishness of the interior.

This characteristic may seem contradictory to the advantageous third place. Words like ‘plainness’ and ‘unimpressive’ paint third places in a negative light. However, this characteristic merely suggests a simple and inclusive design aesthetic. In this way, the office space poses fewer distractions for the employee, promotes a casual work experience, and encourages comfort.

PLAYFUL MOOD

With playful conversation, third places are never marked with hostility or tension. Instead, they have a cheerful, optimistic nature. “Whether pronounced or low key, however, the playful spirit is of utmost importance. Here joy and acceptance reign over anxiety and alienation” (Oldenburg, 1997, p.38). These places avoid conflict focusing instead on positive interactions.

The office environment can be a tense and unfriendly setting. By focusing on a playful, lighthearted atmosphere, third places enhance a sense of community, which enlivens people’s days and reduces isolation.

HOME AWAY FROM HOME

Third places often have a warm and relaxing ambience. They offer occupants a sense of belonging and ownership much like an individual’s home. People feel attached to the space in some way and feel

rejuvenated by spending time there.

As a result of work and home life blending into one another, the role of each typology is viewed differently. More and more the home environment is looked upon as a solution for discomfort and stress. With this in mind, integrating home-like elements into the workplace can positively impact workers well-being. The result is a much more personal, informal, and comfortable space for employees to work productively.

Oldenburg presents several relevant and engaging issues pertaining to third places as social environments. What can be gathered from the literature is that the success of third places centers around personal experiences and fulfillment of individual needs. Each person has a variety of needs that must be filled by an environment. To some, the need is social interaction; to others the need is to unwind and relax. Regardless, these needs revolve around personal well-being.

In the workplace, people look for the right blend of privacy and isolation that's needed to get work done, but at the same time want to feel connected to the greater whole. By implementing these characteristics of third place, the office develops into something like "a two-point-five space: a place for work that combines both community spaces and private work studios" (Steelcase, 2009, p.2). With these aspects, spaces are focused on social interaction and equality, of balancing the diverse needs of the users, and creating a customized user-centered space. The more variety offered by an environment enhances the ability to fulfill the various individual needs of the users and improves the desirability of a place. With its spontaneity and lack of structure, the third place requires a variety of options to provide an experience that is personalized. More importantly, third places help to define individuals. They support a person's personality by allowing them to choose, control, and engage in their natural way. These characteristics present an office environment where one can informally connect and engage with others, but also where they can work effectively.

2.3.3 THE HOME

Within the investigation of Third Place, a "home away from home" atmosphere was a key characteristic. This idea coincides with the conceptual issues in Chapter 1.4 where newfound flexibility and technology allows employees to work comfortably from home. With the blending of the work and third place typologies, it was important to review the elements that contribute to the success of third places. As work and home blend, it is also essential to investigate the qualities that make the home a successful environment to apply them to the proposed office. Examining the many aspects of the home environment

and reviewing theoretical evidence that supports restoration and privacy in home-like environments will reveal the necessary components that will transform the workplace into a “home away from home.”

Crucial to the functionality of successful home-like settings are themes related to a pleasant phenomenological experience of space. When discussing the “home away from home”, Oldenburg (1997) refers to David Seamon’s perspective on the home. Seamon found several criteria including centrality, ownership and control, restorative qualities, freedom to be, and a sense of warmth that best represented the home (p.39). This criterion is discussed, and then incorporated to arrive at an impression of the home as a whole. Each is compared to and considered with aspects of the workplace.

CENTRALITY AND FAMILIARITY

First, Oldenburg (1997) declares, “The home roots us. It provides a physical center around which we organize our comings and goings” (p.39). With this perspective, the home is a central component of a human’s everyday life. It is a hub that sets up opportunities for people’s daily activities and personal belongings. So much so that these activities become routine, and a person’s movements throughout the space are fluid since they know the area intimately. These daily habits may lead to a sense of familiarity and comfort with a setting. Seamon (1979) explains, “A substantial portion of a person’s everyday behaviors happen automatically because of rootedness” (p.80). The same, however, could be argued for the workplace, a setting upon which people visit regularly and spend a great deal of time. To establish spatial familiarity and comfort, the office must create a place for habitual daily activities and physical action. Rituals such as entering and exiting the office space, making coffee, and meeting with a team may have a particular habitual time and place within the workplace. Consideration into the sequential workday will provide the opportunity for familiarity, comfort, and rootedness into a home-like office space.

APPROPRIATION

Oldenburg (1997) goes on to suggest, “The more people visit a place, use it, and become, themselves, a part of it, the more it is theirs” (p.41). Actively and frequently engaging with a space increases familiarity, therefore, establishing a sense of ownership. This notion leads to the second theme Seamon (1979) investigates: Appropriation. “Appropriation involves, first, a sense of possession and control: the person who is at home holds a space over which he is in charge” (p.80). As previously mentioned, control is an important psychological need of human beings. Feeling secure and independent to make choices leads to positive

psychological outcomes. For instance, owning a home provides stability, comfort, and control over one's living environment. "A second aspect of appropriation is privacy," Seamon (1979) explains, "A place to be alone is part of at-homeness and the person whose home does not provide such a place feels a certain degree of upset" (p.81). In essence, appropriation deals with an occupant's ability to control a setting and thus their privacy and accessibility. "Disruption of appropriation leads to responses of feeling-subject which may include anger, anxiety, or discomfort" (Seamon, 1979, p.81). The same holds true for the workplace, where choosing how, when, and where to work leads to greater satisfaction and performance. On the contrary, infringement or lack of privacy in the workplace can have negative psychological consequences.

REFUGE

The next theme involves the home as a refuge. Oldenburg (1997) recognizes, "Homes are places where individuals are regenerated or restored" (p.41). Together, stability and control over the home lead to a sense of comfort that translates into the home being a refuge. The home encourages occupants to de-stress, feel calm, comfortable, and secure. Seamon (1979) states, "Most obviously, the home houses physical rest" (p.81). Unlike other typologies, the home is the place where humans sleep. The bed is often a comfortable, private, and restorative piece of furniture for inhabitants to rest. "Besides sheltering sleep, the home may also foster psychological regeneration" (Seamon, 1979, p.82). People go home after a stressful day to recuperate, re-orient themselves, or get ready before going out again. With its restorative properties, the home provides a stable place in which the person can regain his physical and psychological energy.

Restoring a sense of calm and relaxation in the daily lives of employees is an essential component of workplace design. In an effort to ease this stress and feel less formal, workplaces appear to be looking towards the home for design inspiration. By understanding the environment through a restorative lens, the office design aims to provide a foundational understanding of what it is that creates a comfortable, relaxed atmosphere to achieve the overall goal of a healthy environment. Lighting, color, scents, nature, and simplicity are all interior design strategies that can be applied to convey a relaxing space. By becoming more home-like, offices can rid themselves of formal aspects traditionally associated with the workplace in favor of a supportive environment.

FREEDOM TO BE

Many psychologists are concerned with the degree to which there is a suitable match between individuals and their environment. Storr (1988)

explains the disadvantages of an environment not fitting an individual: “If the individual regards the external world merely as something to which he has to adapt, rather than as something in which his subjectivity can find fulfillment, his individuality disappears and his life becomes meaningless or futile” (p.72). As previously mentioned in Chapter 2.2 Introversion and Extroversion, individual personality interacts with and affects the interior environment just as the environment affects personality. When a space allows one to act in a way that is natural to them, positive psychological outcomes result. Kopec (2012) explains, “Places and spaces such as a home are important to people because they allow a person’s identity to form through experiences, memories, and emotional attachment to a specific space and/or place” (p.176). The home is arguably the most personal and individual space for the human being. With this in mind, Seamon (1979) identifies the fourth criteria of home, which “is the feeling of being at ease or ‘the freedom to be’” (p.83). This aspect involves the active expression of personality and the assertion of oneself within an environment. As a private setting removed from public scrutiny and surveillance, the home establishes the freedom that allows people to be whoever they want to be. Aspects of freedom are also visible in the homes physical character. Freedom is evident when people modify their environments to best suit them and display their personal belongings throughout the home. In this way, personalization functions as a means of improving the feel of the environment for the user and decreases the anonymity of a space.

Personalization and more flexible working styles seem to be contradictory concepts. Without the assignment of individual workplaces it can be difficult to personalize the setting. One method of personalization includes the display of items and personal objects, which is difficult in non-territorial workplaces where employees do not have individual physical spaces. Another form of personalization includes changing the position of furniture throughout the space. This type of personalization is more temporary and adaptable, perfect for the flexible workspace. Through social contact and allowing the user to gauge their level of privacy in the workplace, they personalize their working experience. Personalization seems to have the function of improving the feel of the environment by eliminating sterile and business-like atmosphere of the office space. Bare walls and the prohibition of decorating with personal items impede physiological needs like comfort and physical well-being.

W A R M T H

Lastly, “warmth refers to an atmosphere of friendliness, concern, and support a successful home generates” (Seamon, 1979, p.84). What many describe as a warm or cozy atmosphere is a result of the connections and welcoming nature of these places. These types of

spaces feel good to be in. In warm spaces, people feel comfortable, safe, and supportive. Seamon (1979) explains, “Use is one quality prerequisite for warmth; a warm home or room will not be one that is unused or used only infrequently” (p.84). Use involves the active presence of people and pleasant social interaction. Accordingly, warm spaces feel intimate and support intimate interactions. Warmth “radiates from the combination of companionship, and it enhances the sense of being alive” (Oldenburg, 1997, p.41). It is apparent that the positive social connections between people creates a sense of belonging and fulfills the psychological need of relatedness. A warm atmosphere, though less tangible than other criteria of the home, is significant as it sustains happiness and well-being.

Opportunities for casual socialization support the feeling of warmth in the workplace and establish a sense of relatedness in the employee. Other strategies including warm materials, colors, lighting, and natural elements may aid in the sensation of warmth in the home-like office environment.

2.3.4 SUMMARY & DESIGN IMPLICATIONS

The five aspects of the home discussed here touch on different physical and psychological aspects of the human being, have varying spatial indications, and lead to diverse experiential outcomes. Altogether they form a description of the home as a whole. The following table illustrates the common themes found in the literature regarding third place and the home. Directly related to these themes are design implications for the design proposed in this practicum. The design implications are derived using a series of ‘filters’ including spatial arrangements, color, lighting, acoustics, volume/size, circulation, materials, and communication/ interaction. Concepts from authors and theorists studied within the literature review can then be directly correlated with the physical attributes of the space.

CONCEPT	SOURCE	SUMMARY	DESIGN IMPLICATIONS
Characteristics of Third Place	Oldenburg, 1997	There are 8 characteristics that comprise the natural of third places including neutral ground, leveler, conversation, accessible & accommodating, low-profile, regulars, playful, and a home away from home	Reduce constrictive environments by encouraging flexible working styles (hot desking). Encourage movement through the space with destinations for employees to come and go as they please. Eliminate personal offices as much as possible to level hierarchies. Create areas that support informal or formal interactions. Establish zones or affordances for spontaneous conversation. Consider different activities that compliment conversation (i.e. Drinking/eating/games/etc.) Create a single common area for socialization located at the heart of the building in such a way that is convenient and accessible for circulation paths. Employ a simple aesthetic with little extravagance to create a casual, lounge-like work experience. Provide social spaces to reinforce the importance of fun and social interaction. Encourage a playful and lively atmosphere through bold colors and patterns. Incorporate informal, non-constricting environments with a home-like feel.

Phenomenology of the Home	Oldenburg, 1997 Seamon, 1979	Meanings of home have common themes including centrality, ownership and control, refuge, freedom, and warmth.	Utilize bright natural lighting to create a bright, cheerful atmosphere. Allow for control over lighting, acoustics, spatial arrangements, and desired interactions where possible. Create spaces that allow for personalization and individual customization through spatial arrangements and the displaying of personal belongings in order to establish a sense of ownership. Maximize concealment and enhance freedom by using appropriate window heights, types, and overhangs; selecting window tinting, blinds, and other window treatments indoors; and placing screens or opaque to ensure privacy. Create a calming, warm atmosphere through materials, texture, color, lighting, and views. Utilize commonly domestic design elements and color palettes throughout the space. Consider curtains, area rugs, dining tables and chairs, framed artwork, chandeliers, etc

Table 4: Design Implications Regarding Themes of the Third Place and the Home

2.4 CONCLUSION

According to the literature, an interior environment that fulfills employee needs in a space designed to promote well-being can have withstanding effects on their performance and job satisfaction. Each section examined in this literature review will enable the design of the office to function as a supportive, user-centered environment from the sometimes stressful and tense workday.

In terms of environmental psychology, an understanding of a person's physical and psychological needs have provided a conceptual outline to establish how an individual's psychological health influences the way they perceive the environment, make choices, and cope altogether. This section has addressed some of the ways environmental psychology attempts to unite aspects of physical health, social interaction, psychological connections and design practice to support human habitation of the built environment. The ability to provide meaningful connections between people and the environment was found to influence the identity, sense of belonging, and place-protective behavior of its occupants.

An investigation into personality psychology and the introvert-extrovert spectrum provided context for the value of psychologically supportive environments. A comparison of the two tendencies shows the distinct differences in social interaction levels and the preference for privacy versus openness in individuals. This dichotomy led to the Prospect-Refuge Theory, which shed light on providing varying degrees of privacy for individuals to gauge their level of comfort based on their surroundings and activities. The literature review has clarified a need for the design of daily-experience spaces, such as work environments, that better support the natural temperaments for all of its occupants and balance the desire for openness and privacy.

As work, home, and leisure continue to blur, typologies are faced with challenges that require an innovative approach to the spaces of a person's everyday life. Specific elements of third places are found to be conducive to user-centered environments. A focus on the intimate social interactions and the playful, lighthearted atmosphere of third places allows for a sense of relatedness, ease, and warmth. The analysis of third places provides a framework by which the design follows.

As particular elements of home-like environments are also found to be favorable to supportive environments, the implementation of home design elements will result in an interior environment that will aim to

create an atmosphere of comfort and belonging. A focus on the physical and psychological aspects of the home allow for a heightened sense of control, comfort, and freedom in the home. This analysis of the home interior provides an opportunity to integrate a framework by which the design conforms to.

The new workplace, specifically, becomes a hybrid third place with a focus on a playful atmosphere and supporting conversation. However, it also turns out to be more relaxed and restorative, like the home.
If environments, such as the workplace transition appropriately, they will be in a position to positively influence the well-being of the individual. Through an analysis of the literature, it can be established that a supportive, user-centered environment makes use of the following theories: environmental psychology, personality psychology, third place theory, and theories surrounding the essence of home. By employing the design implications that followed each chapter, which were derived from the main concepts explored, a work environment that balances the various needs of introverted and extroverted employees and showcases user well-being is proposed. These concepts are explored and resolved in ‘Chapter 6.0 Design Proposal.’

03

CHAPTER

CASE STUDY REVIEW

3.1 INTRODUCTION

3.2 CASE STUDY 1: VITRA CITIZEN OFFICE

3.3 CASE STUDY 2: HYBRID OFFICE

3.4 CASE STUDY 3: CISCO OFFICE

3.5 CONCLUSION

3.1 INTRODUCTION

In addition to the contextual issues and the literature review, three case studies were studied to provide insight and inspiration to the proposed design. Each case study was analyzed in terms of its programmatic features, design elements and principles, spatial attributes, and theoretical relevance to the design proposal. Key features explored in these projects include a user-centered approach, the treatment of public and private space, and an innovative and unconventional approach to the design of an office environment.

The precedents reviewed in this section provide guidance to the design by using elements of environmental psychology, offering insight into the diverse needs of each user, and presenting unique ideas that blur the boundaries of work with other typologies. As discussed in the literature review, ensuring a healthy well-being in the lives of employees in the workplace through interior design is crucial to providing an environment that is accommodating and fulfilling.

Following the analysis of each case study are design implications that were extracted using a series of “filters” including materials and finishes, spatial organization, and programming.

3.2 CASE STUDY 1:
VITRA CITIZEN OFFICE CONCEPT

Architects: Vitra/ Sevil Peach

Location: Weil am Rhein, Germany – Vitra Design Museum

Type: Office

Area: 3000 sq. ft

Year: 2010

Functioning as an exhibition at the Vitra Design Museum, the Citizen Office concept was developed by Vitra, a Swiss product design company. Since its launch in 1991, the Citizen Office project challenged the conventional office by developing concepts and strategies that changed the aim and limitations set by previous office environments.

The goal for this project was to create a workplace that was dynamic, facilitated interaction, and eliminated boundaries between living and working. Rather than focusing on the desks and chairs of the office, Vitra emphasized the independent office worker or “office citizen”, their social interactions, and the varying methods they use to work within the public and private spectrum. The space goes beyond basic offices to cater to a wide range of different working styles, activities, and forms of interactions. In a Citizen Office, employees choose which work pace

F. 2

F. 3

F. 4

and place is best for the task at hand, and the office accommodates these individual choices.Vitra Citizen office reflects a trend towards even hierarchies and an increase in technology-enabled flexibility in working practices.

SPATIAL ORGANIZATION

As seen in the floor plan (Figure 5) the design of the Citizen Office appears to be fairly open in its spatial arrangement. However, this environment balances open and closed or public and private zones by treating the design much like a city. The Citizen Office's central Office Forum space (Figure 2 & 3) is the most public, acting like a community square or marketplace for people to gather and converge. These communal areas are social meeting places meant for colleagues to meet quickly or spontaneously. It is here that colleagues meet, relax, chat, and work.

The surrounding workstation areas structured around the central forum are described as districts of a town. These stations offer variety to the employees from meeting zones to private workstations for concentrated work. Spaces include private boxes (Figure 6), workboxes, meeting boxes (Figure 7), high meetings, high work, work sofas (Figure 4), team work benches, cafeteria, lounge working, outdoor work, project room,

F. 5

F. 6

F. 7

F. 8

silence room, library (Figure 8), and sample library. The names of these spaces creatively inspire the type of working method that occurs there.

The strength of Vitra's concept is that it gives people the freedom to choose. In the Citizen Office the employees decide which rhythm, structure, and setting is right for their mood and task, presenting possibilities for performing every task in the right place at the right time and in the right way. The Citizen Office also offers innovative and original spaces that aren't yet the norm in conventional office design. Each of these environments are practical yet adaptable systems, which facilitate networking, social communication, and when needed, also provide places to withdraw for both concentrated work and rejuvenation. Several volumes, such as the private boxes, workboxes, meeting boxes, and furniture provide enclosure and safety for individual workers who seek privacy, particularly the introverted individual. These private, intimate spaces offer different types of concentrated, undistracted work where introverted employees will feel at ease. In this environment, employees are not forced to carry out any task in a way that does not come naturally to them. Introverts would not be asked to step out of their comfort zone, act out of character, or disguise their very nature. Concentrated individual work is just as possible as collaborative teamwork.

Finally, it is clear in the plan (Figure 5) that circulation paths, both

horizontal and vertical, which connect these spaces are organized in such a way that employees are disrupted as little as possible. These paths are found along the exterior of the building and as far as possible from work.

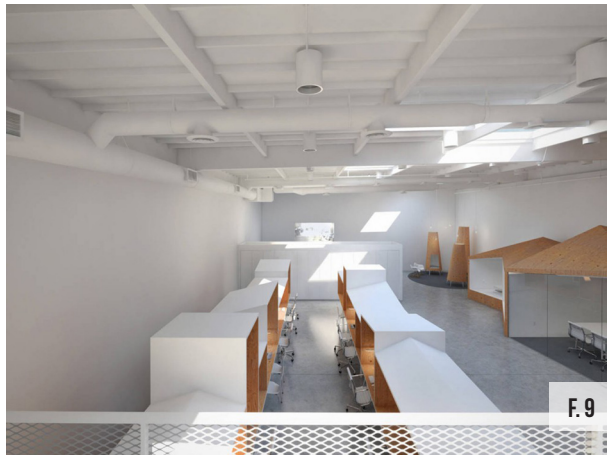
MATERIALS AND FURNITURE

The Vitra Citizen Office carries out a contemporary décor with exciting accent colors, lightly colored furniture and neutral wood accents. The space is bright, organized, and provides a creative backdrop for its employees. Airy paper lanterns of different shapes and sizes hang from the ceiling and provide the spaces with a warm, cozy ambience, while large windows ensure ample natural light efficient for tasks. A mixture of smooth surfaces for carrying out work tasks as well as soft textiles to relax on create a unique textural and sensory experience. The space is designed to inspire creativity yet remains functional and accommodating at the same time.

The Citizen Office uniquely pays attention to the physical human body of their employees. In this design, physical activity is integrated into the office in order to improve wellbeing, incentive, and the health of the employees. People are encouraged to work in different positions and move around. Through manipulative furniture that can change from sitting to standing positions or different seating options that encourage occupants to lounge, curl up, stretch out, or sit comfortably, the Citizen Office takes ergonomic theories into consideration. The variety from standard seating to more unconventional furniture options changes the way in which people will work, how comfortable they are at the office, and influences their physiological health. To add, great value is placed on room quality, including atmosphere, lighting, acoustics, indoor climate and air quality. Not only are the individual needs of the employees being met through freedom, choice, and variety, but also with the concentration on the health and wellbeing of each occupant.

FEATURE	IMPLICATION
Spatial organization, like a city, centers around a marketplace with surrounding districts to signify working styles/activity	Approach spatial planning in terms of private and public areas. Provide varying degrees of exposure/privacy for an activity (eg. public meeting spaces vs. private meeting spaces)
Various unique and unconventional spaces that cater to a mix of working styles	Give users a wide choice in how and where they do their work. Offer a variety of spaces for different types of work, relaxation, and interaction.
A dynamic and healthy work environment	Develop spaces and furniture that facilitate adaptation. Consider ergonomics and the health of the employees. Provide dynamic spaces and furniture that can be manipulated to facilitate movement.
Contemporary materials, textures, and colours	Incorporate design elements to inspire creativity and imagination

Table 5: Summary of Vitra Citizen Office Concept and Corresponding Design Implications



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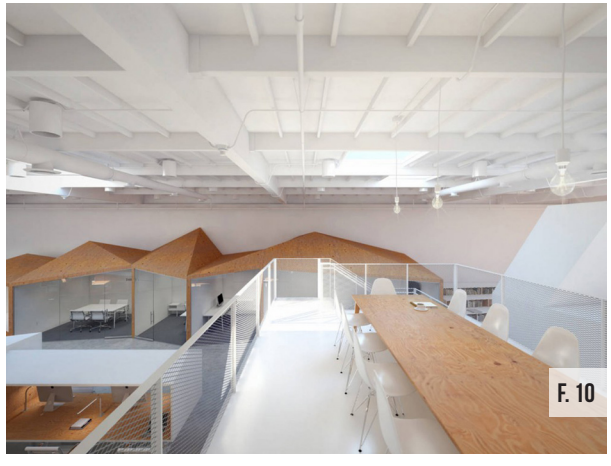

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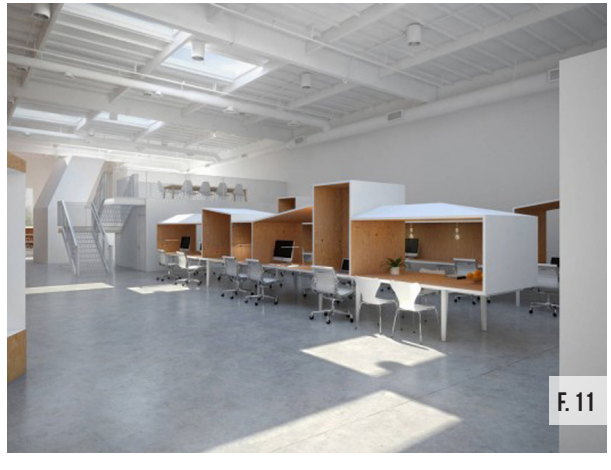


F. 11

3.3 CASE STUDY 2:

THE HYBRID OFFICE

Architects: Edward Ogosta Architecture

Location: Los Angeles, California, USA

Type: Office

Area: 6000 ft^2

Year: 2012

Serving as the office for a creative media agency, the Hybrid Office has been named fittingly as it combines contrasting elements of nature and urban contexts, and interior and exterior into a mixture of unusual yet rich spaces. The hybrid office is designed for 30 workers to foster an atmosphere of creativity and embody the distinctive identity of the company. Inhabiting an existing concrete warehouse, each feature within the office intertwines an interior element with an aspect of the exterior world to prompt a rethinking of the ways in which people experience space, everyday objects and surrounding environments. The fundamental notions of dwelling, occupying, and working are overturned yet at the same time refined to create a unique, personalized experience for each worker.

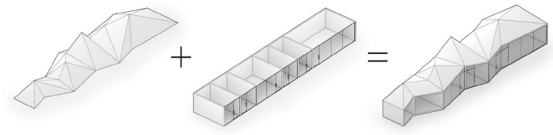
Group Workstations (Mountain Offices) combine the strong, captivating, and undulating mountain form with the steady rhythm of organized offices (Figures 12). These spaces function as administrative or managerial offices as well as conference rooms.

Individual Workstations (House Tables) mix the different styles of homes that appear in a linear row along an urban street with the basic shape of a table (Figure 11 & 13). These whimsical desks explore the ways in which people inhabit and dwell in their everyday spaces such as at work and at home.

In the meeting room (Book Arena) a set of bookshelves is combined with the stepped form of a classical arena (Figures 14 & 18). This space functions as book/archive storage, seating, as well as facilitates office-wide meetings. It provides an interesting alternative to conventional workstations or meeting rooms.

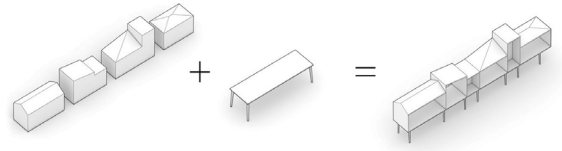
Furniture (Tree-Chair) is significantly inspired by nature where the trunk of a tree is combined with a standard chair (Figure 15 & 19). These forms create unusual but intriguing places to inhabit acting as a shell or nest that wraps itself around the occupant. They offer intimate, private retreats

F. 12



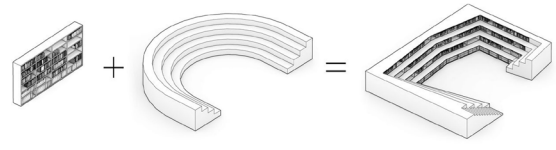
MOUNTAIN + OFFICES = MOUNTAIN OFFICES

F. 13



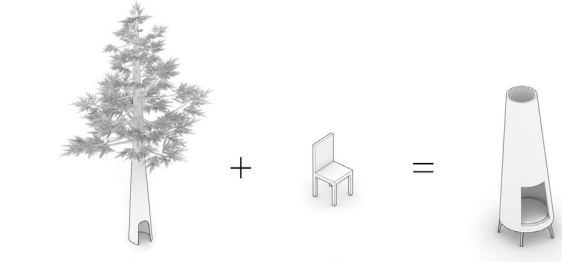
HOUSES + TABLE = HOUSE TABLES

F. 14



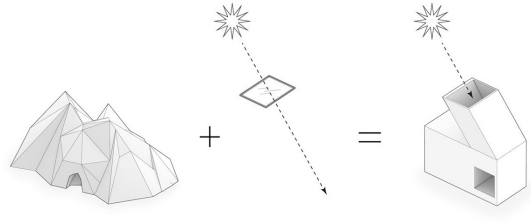
BOOKSHELVES + ARENA = BOOK-ARENA

F. 15



TREE + CHAIR = TREE CHAIR

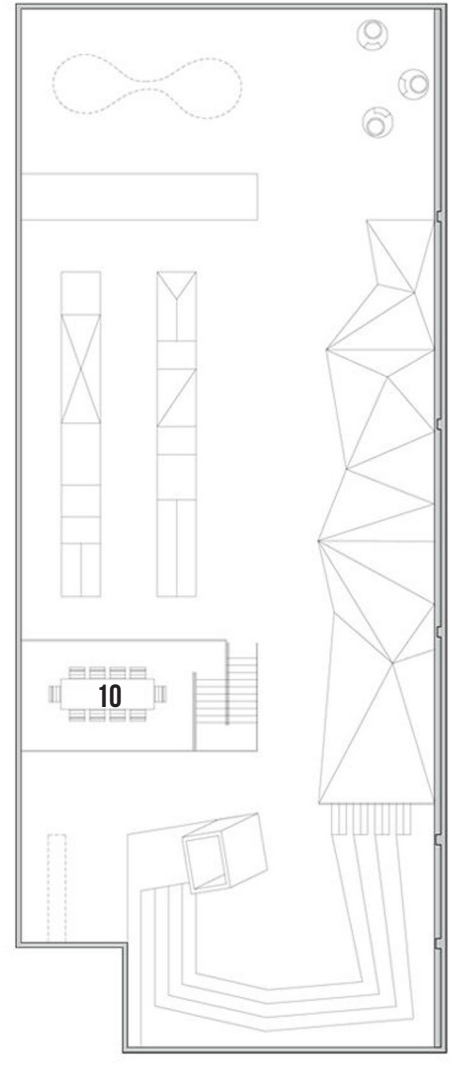
F. 16



CAVE + SKYLIGHT = SKYCAVE

F. 17

ground floor plan



mezzanine plan

1. ENTRANCE
2. SKYCAVE
3. BOOK-ARENA
4. MEETING ROOM
5. WASHROOMS
6. MOUNTAIN OFFICES
7. HOUSE TABLES
8. KITCHEN
9. TREE CHAIR AREA
10. MEETING ROOM

to escape from the busy, stressful atmosphere that comes hand in hand with an office.

The reflection zone (Skycave) offers a mysterious yet alluring form of a cave with the enticing element of a skylight (Figure 16 & 20). Inside are comfortable textiles to lounge and rest, providing a unique retreat for employees to hide away and escape.

SPATIAL ORGANIZATION

Although the overall organization of the space is planned in a fairly open concept, aspects of introverted, private spaces are apparent (Figure 17). The form of the House Table workstations provides privacy for the inhabitant regardless of whether or not they are in an open environment. The semi-circular structure of the book-arena wraps around the visitors in a warm embrace, encouraging occupants to find a space to relax. The cave-bed is likely the ultimate indulgence for the introverted

individual, providing an intimate retreat that is completely closed off from the rest of the office for when an individual needs total privacy.

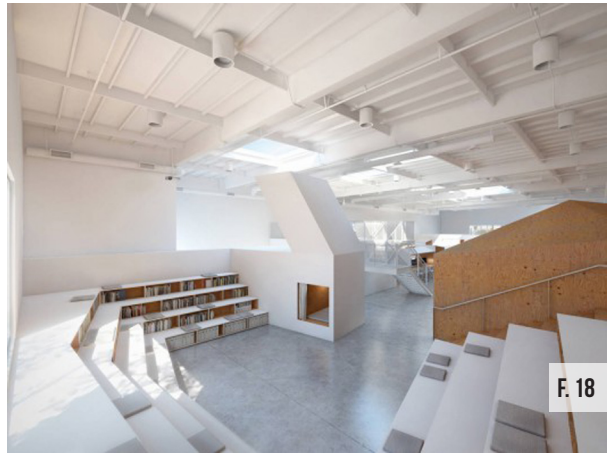
In this open office, the circulation is simple and flows in a fairly linear fashion from the front of the office toward the back, leading visitors and workers progressively through the most public spaces to more private areas.

INNOVATIVE AND UNUSUAL SPACES

The greatest strengths of the Hybrid Office involve its unique spaces and furniture. The spaces and furniture combine functional aspects of conventional objects found in traditional offices with exciting and wondrous elements found in nature. These spaces challenge the ways a person works and encourages employees to explore and move about the office. Such exploration and movement within the office defies the traditional office experience. Throughout the interior, users can slip into private niches for concentrated work or relaxation while others can utilize common areas for social interaction.

MATERIALS, TEXTURES & COLORS

Each innovative, blended structure found in the Hybrid office is


F. 18

F. 19

F. 20

constructed from veneered plywood and white painted fiberboard. The two materials contrast yet showcase the interplay between inside and outside, especially in terms of the structures that allow their inhabitant to occupy and nest within the space. The aesthetic is minimal yet contemporary and although it could seem lackluster and low-key, the whimsical forms that make up each space of the office provide ample excitement and wonder to encourage participation. The concrete floor and use of white runs throughout the office, which provides consistency in an otherwise sporadic mix of unusual spaces.

FEATURE	IMPLICATION
Innovative and unusual spaces uncommon to traditional offices.	Draw inspiration from nature to create rare yet recognizable spaces that challenge the way people work, interact, and relax Incorporate forms and volumes that enclose individuals while providing private, functional, and alternative places to work..
Simple yet contemporary materials and colours	Utilize materials that communicate concepts of hard and soft, open and closed, public and private, and inside and outside in order to deliver a unique sensory experience while highlighting a sense of refuge. Use materials and day-lighting to enhance qualities of the space and encourage exploration
Simple spatial organization that runs in a linear fashion leading visitors and workers progressively through the most public spaces to more private areas.	Organize spaces along simple circulation paths that lead from the most public to the most private

Table 6: Summary of The Hybrid Office and Corresponding Design Implications

F. 21

F. 22

3.4 CASE STUDY 3:

CISCO OFFICES

Architects: Studio O+A

Location: San Francisco, CA, USA

Type: Office

Area: 110,000 ft^2

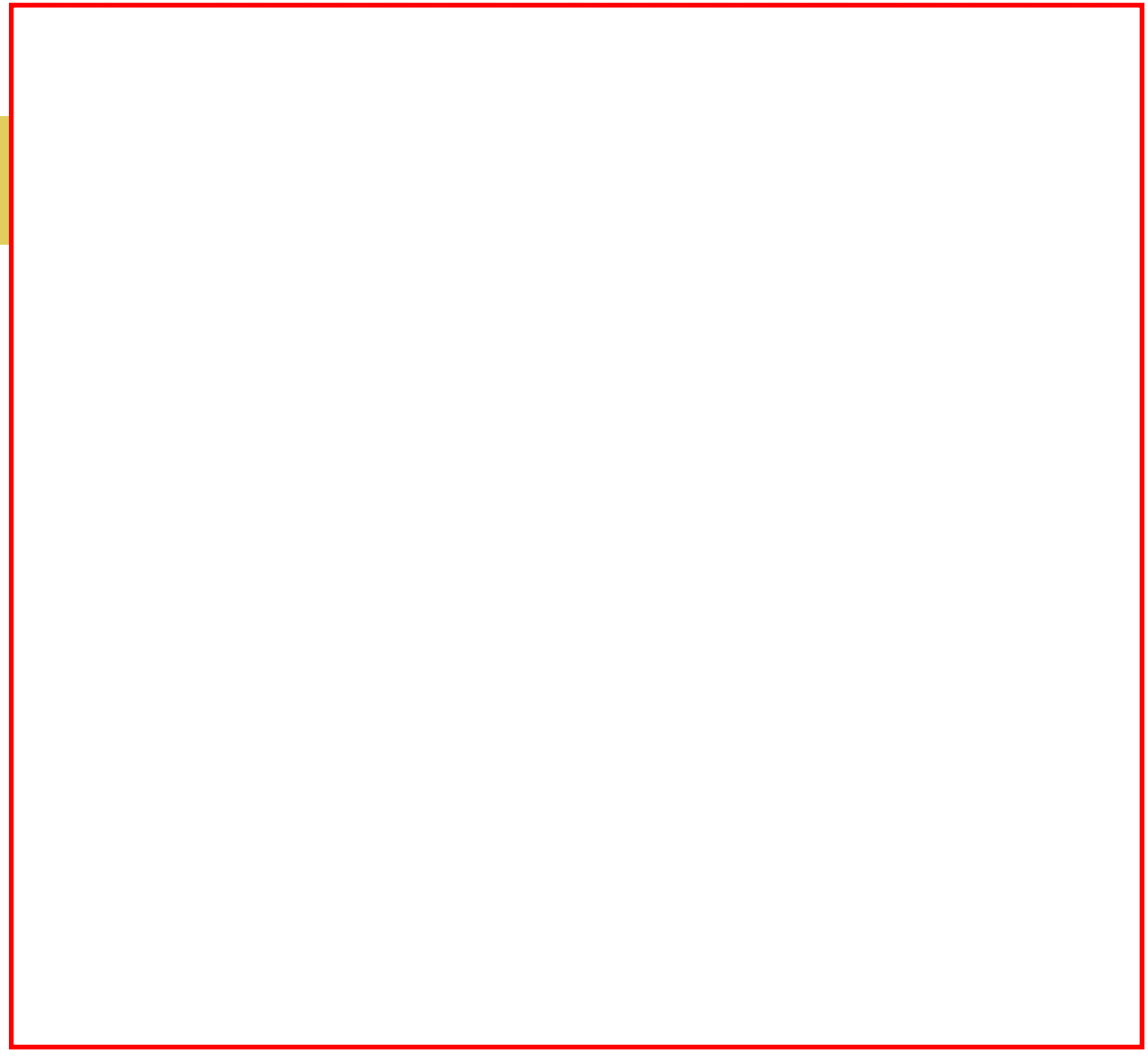
Year: 2013

This precedent perfectly balances a desire for collaboration and interesting alternative work spaces to provide a cozy ambience for Cisco, a large wireless router design company located along San Francisco's water front (Figure 23).

F. 23

For Cisco, O+A aimed to design a space that emphasized simplicity and ease of use in order to reflect the company's widely used products as well as their identity. The company goal, however, was clear: to include ample collaboration space, natural light, and to conserve the company's tight knit community. This workplace blurs the boundaries between public and private while challenging traditional hierarchies in office design. It offers a multitude of spaces to Cisco's employees, which creates an active dialogue on the establishment of a

warm, friendly community in workplace culture.



F. 24 SELECTED FLOOR PLAN FROM THE CISCO OFFICE

SPATIAL ORGANIZATION

In keeping with the company's goals, the large scale of the office offers ample space for collaboration while floor-to-ceiling windows bathe the space in natural light. To combat the massive size of the office from possibly dividing the close community of Cisco, O+A incorporated an assortment of smaller meeting spaces within the large building. For instance, a sunken area (Figure 21 & 22) brings intimacy within a very open office. A wide staircase with integrated seating at its base acts as a fun meeting point. The outdoor deck (Figure 23) offers panoramic views of San Francisco and a great place to relax and enjoy the sunshine. While the open office appears to focus on collaboration and meeting, there are several points throughout the design that cater to privacy and withdrawal. Nooks, niches, huts (Figure 25, 26, & 27), and phone rooms provide employees with places to sit down and reflect. Varying levels of enclosure and ease makes the space feel more like a lounge than an

office, which tames the big, open environment into feeling more human.

MATERIALS, TEXTURES, AND COLORS

Ample natural light supports a vivid palette of colors, striking graphics, rich finishes, and unconventional design elements. O+A succeeds in ensuring that the space is interesting and colorful, without ever losing its comfortable, close-knit character. Deep colored woods are used to support the colorful scheme and provide warmth to the space but are also highlighted in interesting details on ceilings and walls. Interesting textiles work as an acoustic layer while keeping the space feeling inviting, fun, and carefree. These soft fabrics add comfort and warmth to spaces that are used for relaxation and relief. O+A also provided Cisco with several chalkboards, whiteboards, and corkboards (Figure 27) throughout the office to encourage employees to sketch, write, and pin-up inspirational graphics and ideas. All of these details appear to shake up conventional office designs into something far from the strict, structured designs of the past. Instead, a human-centered approach based around the comfort, simplicity, and ease of the inhabitants emerges into a successful office that attempts to balance the complex needs of the users.

F. 25

F. 26

F. 27

3.5 CONCLUSION

The case study research has shed light on a unique approach towards the design of work environments, that better supports all of its occupants by offering choice and balance to employees. By employing the design implications derived from each case study explored, a work environment that focuses on the employee, balances the needs between introverted and extroverted, and blurs the lines between lounge, home, and office will be proposed.

FEATURE	IMPLICATION
A large space at risk of disconnect offers a combination of private and public spaces to encourage interaction or retreat where necessary.	Nooks, quiet tables in the corner, spaces along edges of rooms, chairs hidden behind boundaries, full height washroom stalls, sunken spaces, outdoor retreats, etc.
Lounge-like feel	Move away from the traditional desk format of working and create small lounges and comfortable areas to work instead.
Fun and graphic materials, textures, and colours	To go with the lounge-like feel, utilize fun colours and intriguing graphics to spark creativity and provide a comfortable atmosphere.

Table 7: Summary of O+A's Cisco Office and Corresponding Design Implications

CHAPTER 04

DESIGN PROGRAMME & ANALYSIS

4.1 CLIENT & USER DESCRIPTION

- 4.1.1 BRANDING & IDENTITY
- 4.1.2 OFFICE ROLES & METHODS
- 4.1.3 USER PROFILES

4.2 SITE ANALYSIS

- 4.2.1 INTRODUCTION
- 4.2.2 TRANSPORTATION & CIRCULATION ACCESS
- 4.2.3 SITE INVENTORY
- 4.2.4 FOLIAGE & ENVIRONMENTAL FEATURES
- 4.2.5 CLIMATE
- 4.2.6 SCALE & RHYTHM
- 4.2.7 SITE OPPORTUNITIES & CONSTRAINTS

4.3 BUILDING ANALYSIS

- 4.3.1 INTRODUCTION
- 4.3.2 HISTORY
- 4.3.3 EXTERIOR
- 4.3.4 INTERIOR
- 4.3.5 BUILDING OPPORTUNITIES & CONSTRAINTS

4.4 SPATIAL & FUNCTIONAL REQUIREMENTS

- 4.4.1 PROGRAMME OUTLINE
- 4.4.2 SPATIAL ADJACENCIES & ZONING

4.5 CONCLUSION

4.1 CLIENT & USER DESCRIPTION

The primary users of the office building consist of a hypothetical Publishing Firm, Choice Publications, located within Winnipeg, Manitoba.

Choice Publications specializes in the creation of magazines, newsletters, advertisements, and directories for national, regional, and local organizations and companies. This experienced company provides clients with a range of services in management, editorial, photography, graphic design and layout, printing, and distribution. A staff of writers, editors, designers, sales representatives and managers form a professional and talented team suited to create and produce dynamic, customized work while ensuring the needs of clients, advertisers, and readers are met.

F. 28

F. 29

F. 30

4.1.1 BRANDING & IDENTITY

NAME

The name “Choice Publications” stems from the information gathered in the literature review. The importance of choice is continuously expressed within the theoretical investigation. It became central that the user be able to choose the spaces and places that best suit their tasks and psychological needs. The choices that people make are an important part of their identities and a reflection of their personalities.

The name of the company, also, speaks volumes about who and what the company is comprised of. Choice Publications, though fictional, would be a sophisticated yet modern company that strives towards excellence. The term choice represents many things in modern English language. In this instance, however, it is interpreted to mean superiority, and fine quality. In a competitive industry, Choice Publications ensures its audience that their company is the best option. This name also suggests that the organization offers multiple ideas and possibilities to its clients and their projects, while implying that the clients wants and desires are of top priority.

BRANDING & IDENTITY

This practicum project presents an interesting opportunity in the chance to represent the identity of the hypothetical client by establishing an organizational brand as well as designing the interior of the office space. The identity of the organization is based upon the gathered and extracted information in the literature review. By clearly reflecting the character of the company through its branding, the environment becomes a self-verifying space. It acts as a cue for the potential users of the interior by echoing their character within the interior experience. When the identity is clearly represented, the user can more accurately assess if it is a space with which they are likely to form a relationship, establish attachment, and feel as though they belong. Determining these characteristics of the company will help to resolve possible color schemes and appropriate aesthetic decisions of the office that other existing organizations provide during design projects. In conjunction with the values and aims that the organization possesses, the design of a logo expresses the identity and character of the hypothetical company.

4.1.2 OFFICE ROLES & METHODS

CONSULTATION

Work and meet with clients to create a publication that meets specific goals

MANAGEMENT

Ensures the entire publishing process is managed from start to finish and completed as efficiently as possible

ADVERTISING SALES

Ensures that advertising sales revenues reach their full potential and the client organization's financial objectives are achieved.

EDITORIAL

Professional writers and editors gain necessary insight into the particular field to write, gather and edit content that meets the client's communication goals.

GRAPHIC DESIGN & LAYOUT

Graphic designers will use computer software to design and produce visually appealing publications to create the image the client desires.

PHOTOGRAPHY

High quality images from professional photographers will be offered to enhance communication and the visual appeal of the publication.

PRINTING

Using the most current printing equipment and technology available, the firm will ensure that the finished product is of the highest quality possible.

MEDIA

With print and electronic media, publications are available in a variety of interactive formats.

4.1.3 USER PROFILES

The office is designed to accommodate approximately 100 users involving a mixture between full-time and part-time staff. User profiles provide a description and consideration into the needs of the users that will occupy the office.

PRIMARY USERS:

Full-time staff will be the primary users of the corporate office space. These primary users will likely live in Winnipeg and commute to work daily. Typically, individuals will range between the ages of 21-65 and spend a great deal of time in the work environment. Full-time staff will require workspaces where they can spend time on concentration tasks as well as a variety of alternative environment options where they will pause, learn, rest and socialize. Staff may be working individually or need the opportunity to meet with a group of people as well as visiting clients.

FREQUENCY OF USE

Weekdays: 8 a.m. – 6 p.m. for regular office hours with potential for use before or after.

Weekends: Casual use by employees

ACTIVITIES

1. Meet and collaborate with colleagues and clients
2. Socialize spontaneously
3. Computer/desk (concentrated) work
4. Drawing, sketching, writing or other creative processes
5. Discuss/debate in group meetings
6. Display work/ Present ideas and process work
7. Research (digital, magazines, books, etc.)
8. Print or photograph
9. Social networking (e-mail, facebook, twitter etc.)
10. Make calls, e-mails, messages etc.
11. Consume meals/beverages
12. Relax/ Lounge/ Take breaks

ENVIRONMENTAL & PHYSICAL NEEDS

1. Work surface
2. Adjustable seating
3. Task light
4. Storage (work & personal belongings)
5. Natural lighting
6. Basic needs
    a. Place to eat/drink
    b. Washroom facilities

VALUES & NEEDS

1. Inspiration: Aesthetically attractive places that meet a variety of needs & uses while providing a rich sensory experience

2. Inviting: Welcoming, supportive environment that supports each individual user

3. Flexibility: A space that can be adapted to changing needs and uses through spatial arrangement. Opportunity for personalization. Variety of informal and formal spaces the vary degrees of interaction.

4. Quiet & Privacy: The freedom to work either collaboratively or in isolation based on personal schedules & needs.

5. Connection: Abundance of receptacles and connections to support the technology used by each worker. Access to books, magazines, and research material. Access to technical equipment (computers, printers, scanners, photocopies, fax etc.)

6. Comfort: Variety of options for sitting, working, reading, sketching, collaboration, & relaxing. Encourage moments of pause that help foster spatial, and social engagement, as well as private restoration and relaxation. Place emphasis on the human scale to promote a sense of enclosure, security, and inclusiveness.

7. Accessibility: Easy to access via public transportation, bike, foot, and vehicle (+ parking options). Barrier-free design considerations. Effective and uncluttered paths of travel to help facilitate the flow of people, movement and way-finding through space.

8. Function, Convenience & Efficiency: Ensure proper amenities are available in relation to the programme of each space (i.e. food & drink). Access to innovative technology, equipment, and resources

9. Safety/Security: Ability to secure personal possessions. Public access to the space limited to office hours. Good visibility to entrance.

SECONDARY USERS

Secondary users consist of part-time staff as well as custodians. Contract or part time staff would require the same amenities as full-time primary users for the duration of their stay in the workplace.

FREQUENCY OF USE

Part-time staff frequent the office at a variety of times between the 8 a.m. to 6 p.m. office hours. Some employees may work a few days a week while others could return each summer to fulfill intern or summer student positions. Custodians would visit the office after hours to clean the space while employees are not present.

ACTIVITIES

1. Clean
2. Vacuum
3. Fix/ Service
4. Waste & Recycling collection

ENVIRONMENTAL NEEDS

1. Sink (Floor Sink)
2. Storage- Work & Personal items
3. Basic Needs
4. Place to eat/drink
5. Washroom facilities

VALUES & NEEDS

1. Security: Ability to secure personal possessions, tools, and equipment. Feeling of safety and security in the space. Good visibility to entrance

2. Accessibility: Easy to access via public transportation, bike, foot, and vehicle (+ parking options). Effective and uncluttered paths of travel to help facilitate the flow of people, movement and way-finding through space as well as make cleaning easier.

3. Organization: Ample storage for tools and utilities. Effective organization of spaces & amenities to ensure efficiency

4. Efficiency: Ensure proper amenities are available in relation to the programme of each space

TERTIARY USERS

As a functioning publishing company that produces editorials for a variety of industries, multiple clients will be required to visit the office on occasion. Clients may include professional businesses, private companies, local residents, or profit and non-profit organizations. Staff will work with the client to form the parameters of the project, such as target users, needs, and background information. Other casual (less frequent) visitors include mail carriers or delivery personnel and security workers.

FREQUENCY OF USE

Client visits are sporadic, often during typical office hours between 8 a.m. and 6 p.m. It could also be expected that the staff of Choice Publications will leave the office to meet with clients.

ACTIVITIES

1. Meet with staff
2. Present innovative projects and new problems to solve. Establish parameters of projects.
3. Provide information about target users, needs, and background information etc.
4. Connect and communicate with staff
5. Brainstorm with staff to resolve issues
6. Participating in an open forum, generating dialogue about company issues
7. Attend presentations of process work and finished work
8. Consume meals & beverages

ENVIRONMENTAL NEEDS

1. Large Desk
2. Executive Chairs
3. Basic Needs
    a. Place to eat/drink
    b. Washroom facilities
4. A welcoming entrance
5. Inviting places to gather in groups and collaborate
6. Formal and informal gathering spaces
7. Availability of a variety of technologies and resources for communication purposes.

VALUES & NEEDS

1. Security: Ability to secure personal possessions. Feeling of safety and security in the space. Good visibility to entrance

2. Accessibility: Easy to access via public transportation, bike, foot, and vehicle (+ parking options). Easy to find within the community. Welcoming to a variety of clients

3. Inspiring: An innovative space that sparks imagination. Encourages communication between client and staff

4. Professional: Clean and organized space that presents a sophisticated, and responsible image to the public

5. Inviting: A welcoming environment that promotes a feeling of ease between staff and a variety of clients.

4.2 SITE ANALYSIS

This section describes and analyzes the region, neighborhood, and site proposed for Choice Publication's office. The following criteria were used and developed to aid in picking a site.

SITE SELECTION CRITERIA:

1. Within close proximity to Winnipeg's downtown for ease of client/ employee access and interchange, yet isolated from the busier areas of the city

2. Meet spatial & functional requirements (roughly 17,000 square feet)

3. In close proximity to areas of nature (i.e. Parks, rivers, etc.)

4. The opportunity for adaptive reuse of a building to make use of its existing infrastructure

5. Publicly accessible by automobile, transit, pedestrians, and cyclists

6. Opportunities for expansion of outdoor landscaped spaces on the lot

7. High degree of isolation- preferably within a single building rather than a shared building for a greater degree of intimacy and solitude.

8. In close proximity to recreational services (i.e. restaurants, cafes, leisure facilities, etc.)

9. Located within a quiet neighborhood where disturbance is minimal

F. 31

4.2.1 INTRODUCTION

Based on the information gathered from the literature review, it was important to explore communities outside of the downtown core. This way, the boundaries between work, home, and third place would continue to merge. The selected site is situated within a residential neighborhood, which sets it apart from contemporary offices that tend to crowd together downtown. Because of its location, this site encourages the feeling of “a home away from home.”

It was also crucial that the site be located in a district of Winnipeg that was secluded and quiet to satisfy the introvert’s need for less stimulation and more privacy, but be close enough to downtown and the popular parts of the city to meet the needs of the extrovert.

The site was selected based on the conditions set by the theories explored in this project and the criteria mentioned. An appropriate site, which met the majority of these qualifications is the Churchill Park United Church located at 525 Beresford Avenue in Winnipeg, Manitoba (Figure 32). The Church, which is surrounded by homes and immersed in a quiet neighborhood, provides an isolated and thus relaxed and comfortable environment for the staff of the firm. Nestled between two major city roadways, Pembina Highway and Osborne Street, the site is near a variety of services such as cafes, restaurants, and stores. These amenities have the potential to be used by the staff as alternative options for eating, or leisure, located within walking distance or just a short drive away from the proposed site.

The large size of the site provides a building that meets the functional and spatial requirements of the project, and offers room for exterior development of outdoor green space to be landscaped.

LEGEND

PROPOSED SITE

RAILWAY

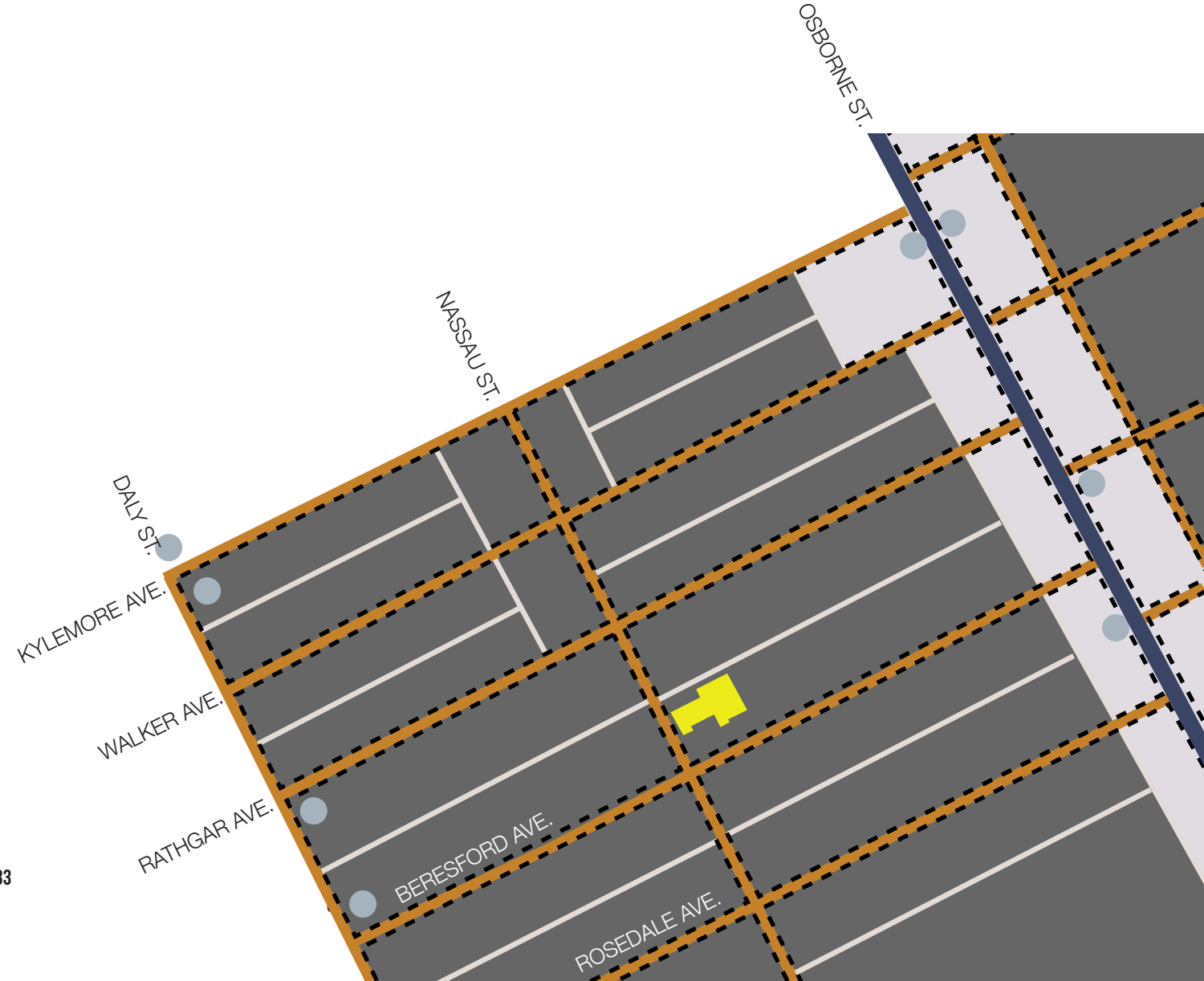
4.2.2 TRANSPORTATION & ACCESS

The surrounding roadways, including Pembina Highway, Osborne Street, and Jubilee Avenue are major vehicular paths within the city of Winnipeg that support high volumes of traffic. The proposed site, though accessed by these major routes, is considerably quieter in terms of the traffic volumes that pass through. This makes the site ideal as it is easily accessible yet eliminates negative aspects of high traffic areas like noise and congestion. Wide walking and cycling paths align each street in the neighborhood and provide a pedestrian-friendly environment. The cold and long winter months, however, favor vehicular traffic over walking or cycling. To consider other methods of transportation, the site is located within 1 to 2 blocks of major city bus routes (Figure 33). Because of its proximity to major roads, the site is easily accessible by the public in many modes of transportation; however parking on the site may be limited. Currently, it appears the grounds include a small parking lot at the rear of the building off of the back lane, which is reserved for Ministry staff and guests where as street parking is used for public events and the majority of visitors to the site.

LEGEND

200 ft.
50 m

- PROPOSED SITE
- COMMERCIAL USE
- RESIDENTIAL USE
- PRIMARY VEHICULAR PATH
- SECONDARY VEHICULAR PATH
- TERTIARY VEHICULAR PATH
- PEDESTRIAN PATH
- BUS STOPS



4.2.3 SITE INVENTORY

BUILDING DENSITY & USE

Located in an older residential community of Winnipeg, the site is surrounded by densely populated, small homes. These homes have a large impact on the overall atmosphere of the streetscape as they provide a comfortable, homey feel to the neighborhood. The street is also lined with large trees that add to the cozy feeling of the community. These qualities offer a desirable environment for the users of the office that seek the comfort and privacy of a “home away from home.” It is the design’s intention to contribute to the pleasant atmosphere already offered by the street and enhance the character if possible.

Just to the east and west of the proposed site, major roads provide commercial use such as restaurants, cafes, and leisurely shopping (Figure 34).

EXISTING SERVICES:

Food Services

- Monticchio Ristorante Italiano
- Deseo Bistro
- All About Thai
- Safeway
- Subway
- Oakwood Café
- The Round Table Steakhouse and Pub
- Pizza Hut
- Salsbury House

Entertainment

- Park Theatre and Movie Café

Retail

- Nerman’s Books and Collectibles
- Price Chopper
- Fountain Tire
- Lord Roberts Community School
- Winnipeg Fire Paramedic Service-Station 13

LEGEND

- MIXED USE
- RESIDENTIAL
- COMMERCIAL
- SERVICES
- INSTITUTIONAL
- PROPOSED SITE
- RECREATIONAL

200 ft.
50 m

4.2.4 FOLIAGE & ENVIRONMENTAL FEATURES

Vegetation found around the proposed site includes the even placement of tall elm trees. Clusters of trees are also found within the nearby parks and at the edges of streets (Figure 35). These trees are incredibly tall and dense, offering shade, visual complexity, acoustical qualities, comfort, and privacy. Contrasting with the busy streets and nearby services, the site resides in a quiet neighborhood within close proximity to several parks including, McKittrick Park, Ted Jones Park, Berwick Bay Park, Taft/ Stinson Park, Elva Fletcher Way Park and Hugo Street End Park, some which hold baseball diamonds and walking paths. Only a short drive away, the Red River wraps around the community and is close enough if the user desires a visit.

LEGEND

200 ft.
50 m

PROPOSED SITE

VEGETATION

4.2.5 CLIMATE

Winnipeg receives predominantly southerly winds, which can vary in strength and speed throughout the year. However, the proposed site remains fairly sheltered due to the large Elm trees that line each street. Particularly in the summer months, the trees provide protection from stronger winds, yet they also shield the site from sunlight. For the majority of the day, very little daylight enters into the building. With the leaves gone from the trees in the colder months, the site is more susceptible to both winds and sunlight. These daylight patterns have promise to significantly impact interior conditions (Figures 36 & 37).

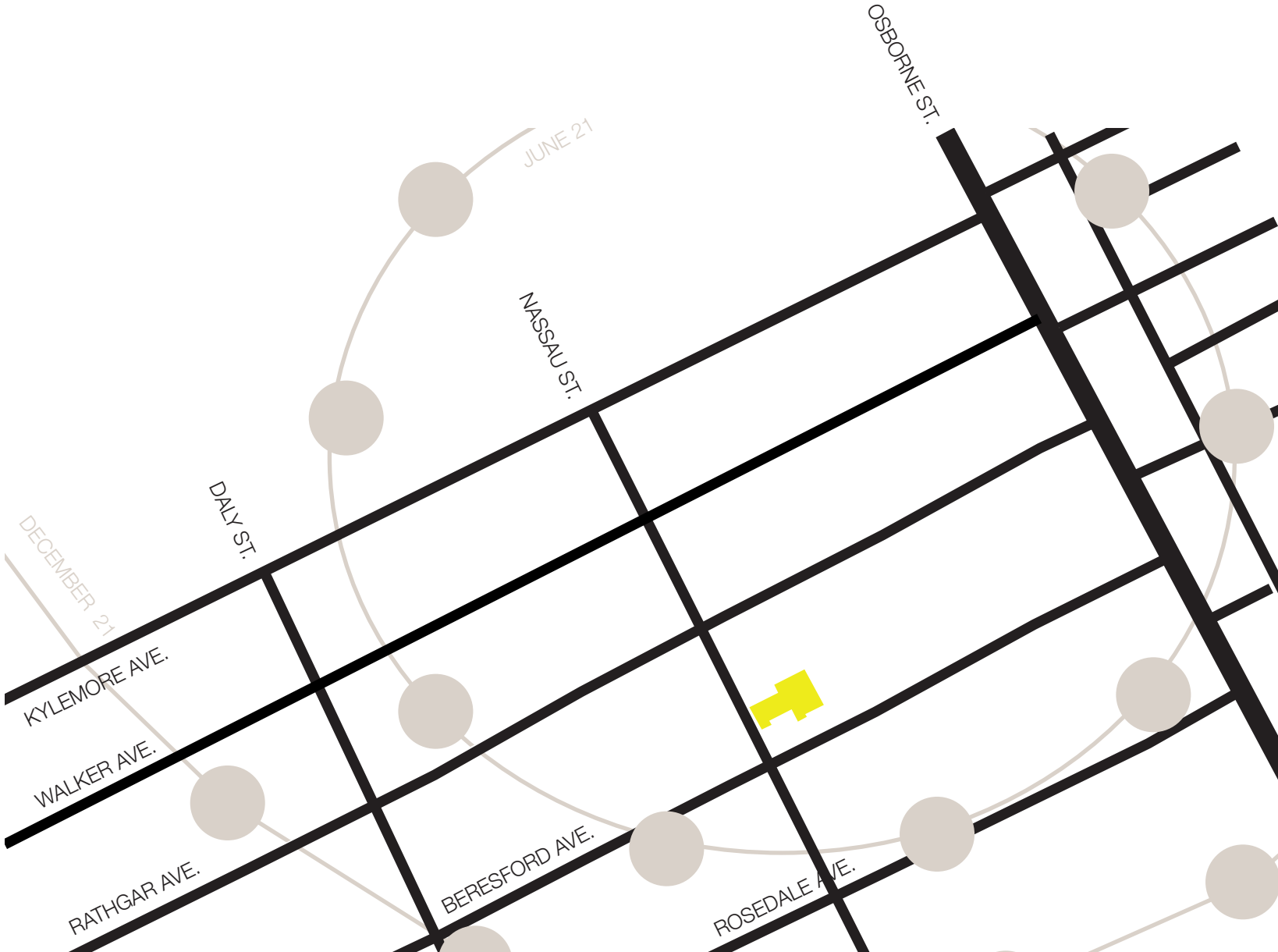
During warmer months, it is desirable for activities to move to the exterior spaces, utilizing the front lawn of the site. This change in scenery is beneficial to the users, connecting them with nature, and engaging the employee in new ways.

LEGEND

200 ft.
50 m

PROPOSED SITE

SUN PATH

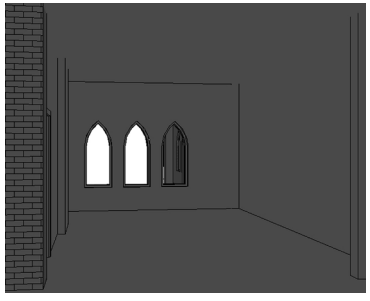


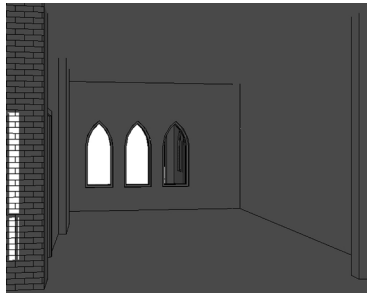
LOBBY

JUNE 21

DECEMBER 21

8 AM





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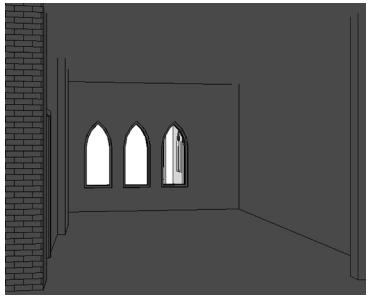

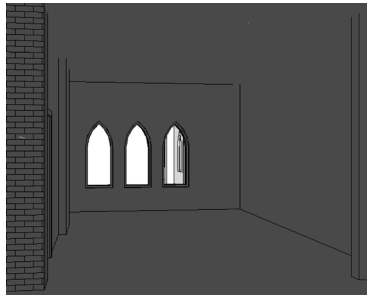

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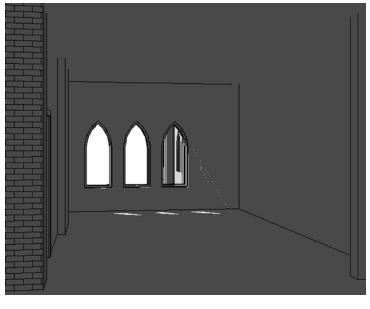

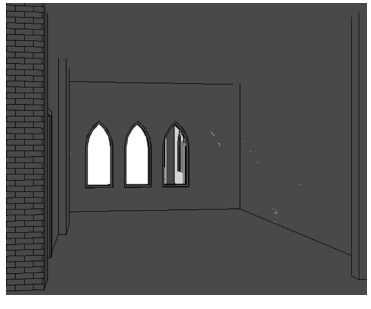

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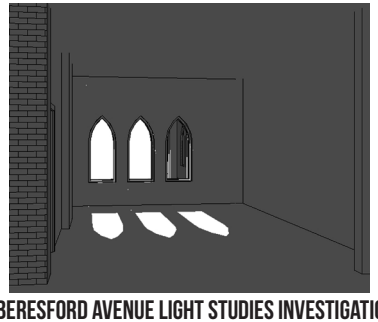

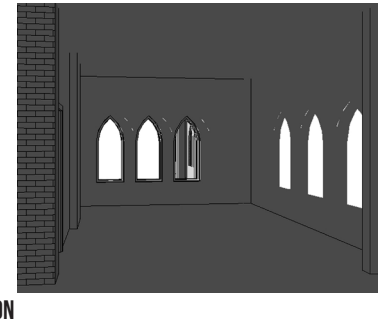

STAIRS

JUNE 21

DECEMBER 21

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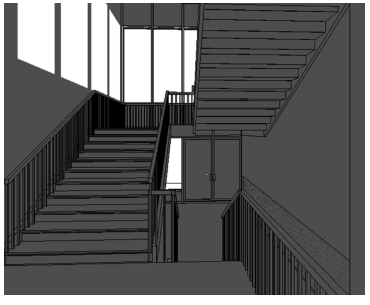

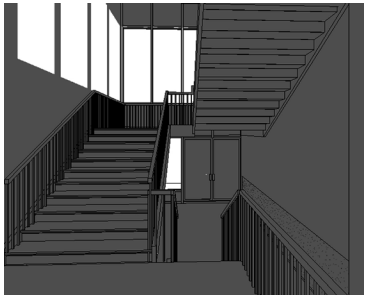

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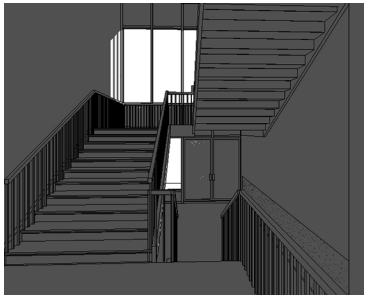

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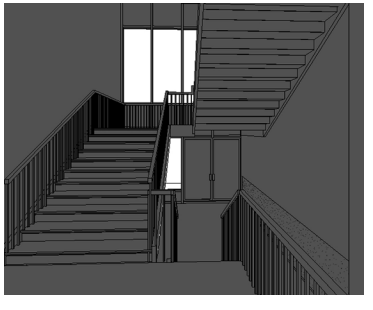

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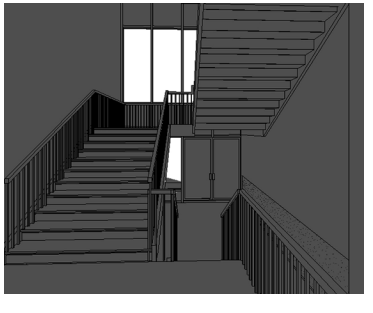

F. 37: 525 BERESFORD AVENUE LIGHT STUDIES INVESTIGATION

SANCTUARY

JUNE 21

DECEMBER 21

8 AM

11 AM

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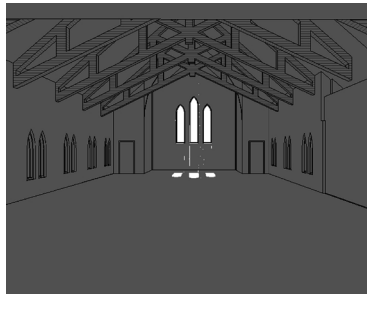

AUDITORIUM

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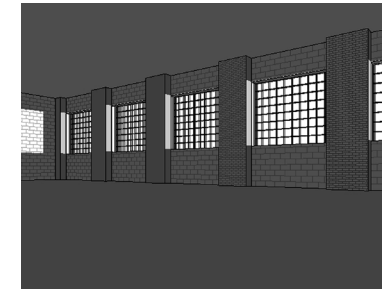

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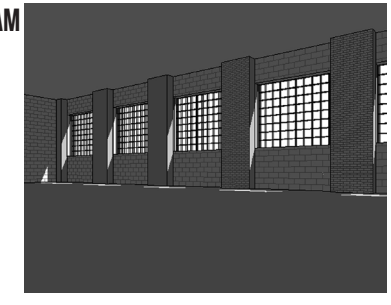

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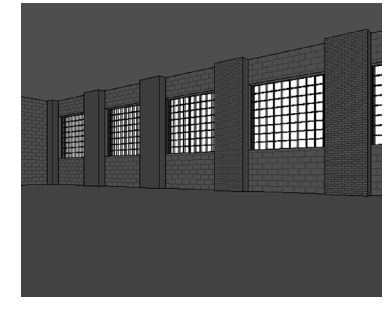

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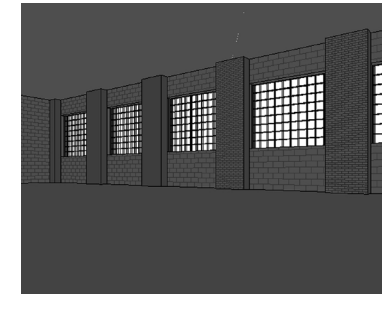


4.2.6 SCALE & RHYTHM

Upon walking the site, it was revealed that the majority of the buildings nearby are similar in scale, with no building exceeding three floors. In fact, most of the buildings are only small, residential homes. This simple scale provides a comfortable atmosphere for the user, as it is likely easier for a person to associate with homes of a smaller scale than huge skyscrapers. The church is a multi-level building with half of the structure rising two floors above grade and the other half one storey. Consistent with the buildings that surround it, the church provides opportunity to maintain a connection between the streetscape and the user. Also, each home is unique in character, which provides a pleasant rhythm and an interesting sensory experience for a person walking along the street.

4.2.7 SITE OPPORTUNITIES & CONSTRAINTS

SITE OPPORTUNITIES

- Central Winnipeg Location, yet offers seclusion and privacy
- The building is located in a quiet, intimate neighborhood
- Large trees offer privacy, comfort, shade, visual complexity, & acoustics
- Multiple parks suggest the possibility of quiet leisure, relaxation, reflection, and enjoyment.
- Located near several amenities
- Consists of a blend of residential and commercial use
- Low noise – very quiet neighborhood

SITE CONSTRAINTS

- Very limited Parking
- Large trees along the site block sunlight and create a dark building.
- Though some amenities are in walking distance from the site, (particularly those along Osborne Street) most amenities will be reached by automobile, yet this is favorable in colder months.
- This is an unusual typology to introduce into a residential neighborhood. The building will need to fully meet the needs of the user throughout the day, unable to rely heavily on adjacent services, like the downtown center can.

4.3 BUILDING ANALYSIS

4.3.1 INTRODUCTION

BUILDING DESCRIPTION

Year Constructed: 1948 (expanded in 1957 & updated in 2002)

Zoning: R1-M Residential-Single Family

Total Square Footage: 17,346 square feet on three levels (including the basement)

Proposed Project Square Footage: 17,346 square feet

Building Construction: Brick & CMU with Wood Frame Construction

Current Occupant: Churchill Park United Church

Selected for its unique spatial organization and the abundant space that properly accommodate the program requirements for this design project, the office for Choice Publications re-uses the Churchill Park United Church located on 525 Beresford Avenue in Winnipeg, Manitoba. Currently, the church functions as a positive facet for the surrounding community. It serves as a congregation space for church services and a gathering space for community events. In recognition of the positive aspects of this typology, it will be assumed that the proposed site and building is currently vacant. The project will employ the existing buildings 17, 000+ square feet as the primary approach to the design.

4.3.2 HISTORY

The Churchill Park United Church holds deep roots in two founding churches: Riverview United and Rosedale United. Rosedale United Church, the original building located on 525 Beresford Avenue, was constructed in 1910. Over several years since its establishment, space was added on to the wooden structure of the church until 1948 when a new brick structure was built. The church was then expanded substantially in 1957 to include a gymnasium, offices, and gathering halls. “On July 1, 1995, following much discussion and questioning, Rosedale United Church and Riverview United Church amalgamated to form Churchill Park United Church serving the Fort Rouge Area” (Churchill Park United Church, n.d.). The Churchill Park United Church has been an important part of the Fort Rouge/Lord Roberts Area. The Church currently provides the city of Winnipeg with a space for urban congregation yet maintains a hometown feel of a small-town country church. Updates were made to the building in 2002, including new lighting, carpeting, a new office layout, improved washroom facilities, technology enhancements, and ceiling fans.

Churchill Park
15 Years
100 Years
CHURCHILL PARK
KOREAN
SMALL OFFICE FOR RENT
COME IN OR CALL 452 8561

4.3.3 EXTERIOR

The exterior of the church mixes both eclectic features with modernism architecture, which speak to its original construction and expansion dates (Figure 38). The sanctuary space, originally constructed in the late 1940s bears an eclectic style, showcasing the brick exterior, stained glass windows, and gabled roof. Ornamentation is used carefully but deliberately to highlight the form and structure of this section of the building. The expansion, speaks more towards modernism with simple, linear forms. Nevertheless, the two portions work cohesively by combining like materials and details. Though Churchill Park United Church is a mixture of both two churches and two segments of a building, it has its own identity formed from its history. The original design of the exterior remains, for the most part, unchanged since its construction.

ENTRANCES

There are both front and rear entrances with the addition of a wheelchair-accessible east side entrance (Figure 39).

F. 39

COUNT
YOUR
BLESSINGS

4.3.4 INTERIOR

The Churchill Park United Church has changed very little since the late 1950s and continues to be a positive influence to the surrounding communities. The interior facilitates a variety of activities and users within the space, making it multi-purpose and functional.

EXISTING SPATIAL ORGANIZATION

First Floor

The main floor consists of the sanctuary (Figure 40), choir room, two small offices, a nursery, the main church office, a lounge with kitchenette, meeting room, Minister's office, and three washrooms (one of which is wheelchair accessible). The primary space on the first floor, the sanctuary, consists of details such as a raised platform, slanted floors that facilitate congregation viewing, original mountain fir trusses, and stained glass windows. Currently, the sanctuary has the ability to accommodate about 220 people, including standing space, however, a traditional Sunday service holds roughly 150 people.

F. 41

F. 42

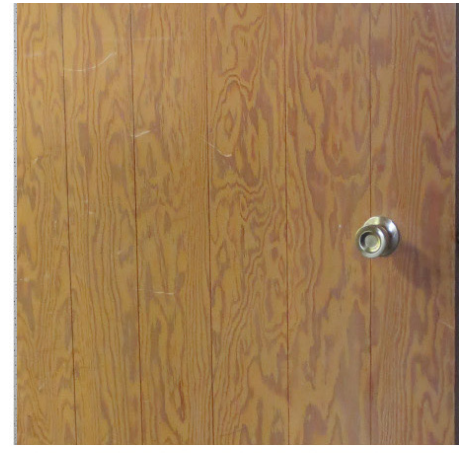
F. 43

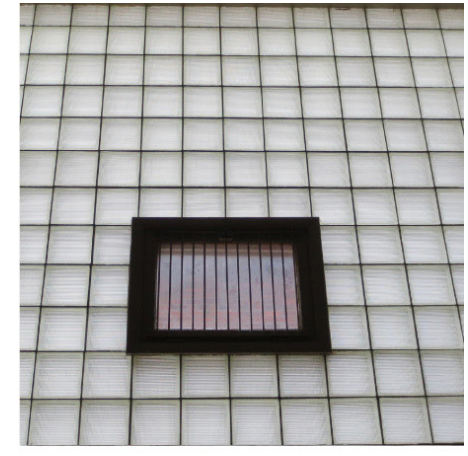
Second Floor

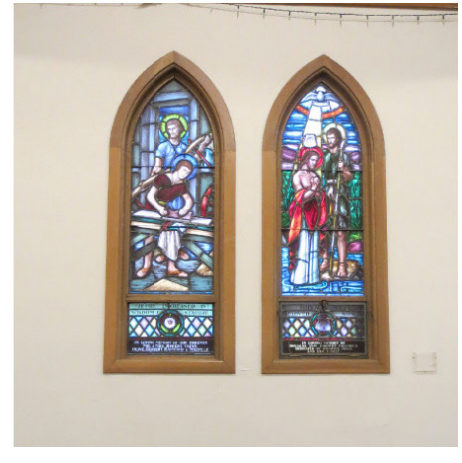
The second floor, which can be accessed by elevator or one of the two staircases, contains a large meeting hall/gymnasium (Figure 41) with approximately 16’ ceilings, a stage, adjacent kitchen (Figure 42), cloakroom, foyer, and two wheelchair accessible washrooms.

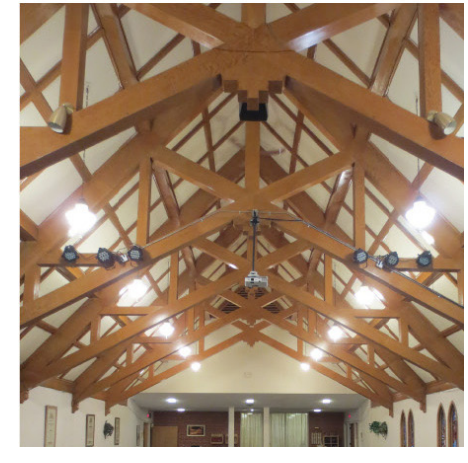
Basement

The partial basement, which can only be accessed by stairs, is currently used for Sunday school and youth activities as well as storage for the church (Figure 43).









F. 44

4.3.5 BUILDING OPPORTUNITIES & CONSTRAINTS

BUILDING OPPORTUNITIES

- Large enough space to carry out the desired typology (~17,000 sq. ft.)

- Unique shape to the building which will provide interesting zoning options

- The building is in relatively good condition and has withstood Winnipeg conditions

- The building has a distinctive and attractive character with a beautiful and interesting front façade.

- Wood details such as original doors and trusses add to the character of the building and will likely be kept for the final design

- Large spaces such as the sanctuary, lounge, and gymnasium provide ample room for the proposed spaces (i.e. communal area, kitchen)

- Accessible entryways and an elevator for accessibility is already put in place and functioning

- Multiple entrances provide interesting opportunities for circulation and traffic flow while meeting fire code requirements.

- Accessible washrooms can be utilized.

BUILDING CONSTRAINTS

• Existing features (i.e. stained glass windows, slanted floors in sanctuary, etc.) may not match the proposed design and will likely be altered. Some current materials (i.e. varied flooring materials) within the space are not desired for the final design.

• Current distribution of space and circulation flow creates a labyrinth in which it is easy to get lost.

• Distribution of space over three floors could complicate circulation flow

• South facing glazing is limited to stained glass windows. Large windows along the east wall (both first and second floor) let in minimal daylight as the adjacent building blocks them from the sun.

• The building is dark due to both a lack of sunlight and the use of dark materials and colors.

• Though some updates have been implemented in the building, many fixtures and features feel dated.

4.4 SPATIAL & FUNCTIONAL REQUIREMENTS

4.4.1 PROGRAMME OUTLINE

The programme for the office is based on the vision of an environment where everyone has a space in which they feel they belong. The programme for the facility accommodates 100 employees at any given time in 17,000+ square feet of space including 90 full-time staff and 8 interns or part-time employees as well as 2 maintenance staff. Divided among 3 levels, each employee can find a space at any given time to best suit their needs.

Activity-based working is a concept that focuses on the activities that take place throughout the work day and supports these activities in the best way possible. Activities can include working, meeting, consuming, relaxing, and supporting. The office programme includes a variety of lounge spaces, reception and lobby, several meeting rooms, a kitchen, open and closed workstations, bar, archive room, library, closet, photography room, copy/print rooms and various support spaces used to accommodate the activities that take place during a typical work day.

Each space ranges in their tendencies to be either public or private in order to offer the greatest degree of choice for individuals. A mixture of conventional spaces found in traditional offices as well as less common spaces creates a more specific, and customized experience for each member of staff.

WORK

ACTIVITY: WORK						
SPACE	**AREA (FT^2)**	**USERS**	**#**	**PRIVATE/ PUBLIC**	**FF&E**	**NOTES**
Private Office	200	1-2	6	Private	Horizontal Surface, Task seating, Task lighting, waste/recycling	Isolated, Calm, Quiet
Casual Workstations	3000	30	N/A	Semi-Public	Horizontal surface, task seating, task lighting, waste/recycling	'Hot-Desking'
Work Bar	400	8	2	Semi-Public	Horizontal surface, stools, waste/ recycling	Modern, fresh, Clean
Personal Offices	100-200	1 per office	3	Private	Horizontal surface, task seating, task lighting, waste/recycling, storage	Inviting, personal

Table 8: Spatial & Functional Requirements for Work Spaces

MEET

ACTIVITY: MEET						
SPACE	**AREA (FT^2)**	**USERS**	**#**	**PRIVATE/ PUBLIC**	**FF&E**	**NOTES**
Private Meeting Room	150	1	1	Private	Horizontal Surface, Task seating, Task lighting	One-on-one interactions, isolated, calm, quiet
Small Meeting Room,	300	2-6	1	Semi-Public	Horizontal surface (medium table), task seating, task lighting, storage, screen (projector or TV)	Medium groups, adaptable, multipurpose, comfortable, acoustically sound
Client Consultation Room	200	2-4	1	Semi-Public	Horizontal surface (small table), task seating, task lighting, storage, screen (projector or TV), writable surface	Small groups, adaptable, multipurpose, comfortable, acoustically sound
Meeting Booths	50	1-4	4	Semi-Public	Horizontal surface, soft seating, pillows, task lighting, task seating	Enclosed, modern
Public/ Conference Room	500	6+	1	Public	Horizontal surface (large table), task seating, podium, task lighting (dimmable), projector/screen/TV, compute, storage	Large groups, adaptable, multipurpose, comfortable, acoustically sound
Drawing Room	300	8	1	Private	Horizontal surface, task seating, task lighting, writable surfaces	Fun, bright, private
Team Lounge	300	10	1	Semi-Public	Horizontal surface, task seating, task lighting, writable surface, soft seating, fireplace, waste/recycling	Groups,

Table 9: Spatial & Functional Requirements for Meeting Spaces

CONSUME

ACTIVITY: CONSUME						
SPACE	**AREA (FT^2)**	**USERS**	**#**	**PRIVATE/ PUBLIC**	**FF&E**	**NOTES**
Dining Area	2000	15	1	Public with private zones	Soft seating (benches, couches, chairs), side/coffee tables, dining tables, dining chairs, fireplace	Active, lounge-like, homey, spacious, comfortable, informal
Kitchen	1000	5+	1	Semi-Public	Coffee bar, counter, storage, fridge, freezer, commercial dishwasher, double sink, waste/recycling, dining tables, dining chairs, bench, task lighting	Open, bright, clean, accessible, modern, fresh
Bar	125	5	1	Semi-Public	Horizontal surface, stools, counters, storage, waste/recycling	Open, bright, clean, fun, lounge-like

Table 10: Spatial & Functional Requirements for Consuming Spaces

RESTORE

ACTIVITY: RELAX/RESTORE						
SPACE	**AREA (FT^2)**	**USERS**	**#**	**PRIVATE/ PUBLIC**	**FF&E**	**NOTES**
Nap Nooks	100	1-3	4	Private	Soft seating (benches, couches, chairs), side/coffee tables, horizontal surface, task lighting, pillows, storage	Tranquil, homey, relaxing, enclosed
Gym	1000	10	1	Semi-Public	Storage, fitness equipment, shower	Relaxed, semi-enclosed, modular, multi-purpose
Living Room Lounge	500+	15	2	Semi-Public	Horizontal surfaces, informal and comfortable soft seating,	Welcoming, comforting, relaxed, open, multipurpose
Library	800	10	1	Semi-Public	Shelving, storage, soft seating, adjustable lighting, task lighting, task chairs, horizontal surfaces	Organized, inspiring, relaxed, fun
Den	1000	~25	1	Public	Soft seating, horizontal surfaces, adjustable lighting, TV, pool table, foosball table, dining chairs, stereo, gaming equipment	Fun, inviting, lively, comfortable, informal, open
Outdoor Space	N/A	10-15	2	Semi-Public	Horizontal surfaces, outdoor furniture, umbrellas, outdoor lighting, waste/recycling	Inspiring, natural, fun, highlights views

Table 11: Spatial & Functional Requirements for Restoring Spaces

SUPPORT

ACTIVITY: SUPPORT						
SPACE	**AREA (FT^2)**	**USERS**	**#**	**PRIVATE/ PUBLIC**	**FF&E**	**NOTES**
Reception	200	1-6	1	Public	Horizontal surface, task seating, comfortable/casual waiting chairs, artwork, technology (computers, printers, phones, internet access) storage	Visible from entry, welcoming, accessible/ barrier free
Mail Room	125	1-6	1	Private	Storage, shelving, horizontal surfaces (counter w. lower storage)	Organized, Clean, accessible, bright
File/Archive Room	300	1-4	1	Private	Storage, shelving, horizontal surfaces (counter w. lower storage)	Organized, clean, accessible, bright
Storage/ Supply Room	200	1-4	1	Private	Storage, shelving, horizontal work surfaces, office supplies, recycling/ waste	Organized, clean, accessible, bright
Washroom Facilities	300	3	5*	Private	Toilet, stalls, sink, mirror, paper towel dispenser/dryer, soap dispenser, waste bin, grab bars, hooks	Accessible, clean, organized, calming
Closet	200	N/A	1	Private	Lockers, shelving, lighting	Warm, quiet, enclosed, secure
Print/Copy Room	150	1-3	1	Private	Storage, shelving, horizontal surfaces (counter w. lower storage & upper cabinets) printer, faxer, copier	Organized, clean, accessible, bright
Photography Room	100	1-2	1	Private	Storage, shelving, horizontal surfaces, backdrop, camera and lighting equipment	Organized, clean, accessible, bright
Play Room	300	8	1	Public	Horizontal surface, storage, seating, computers, tv, soft seating, toys	Fun, bright
Circulation	N/A	N/A	N/A	Public	Elevator, stairs, railings	Wide, bright, highly visible, safe

Table 12: Spatial & Functional Requirements for Supporting Spaces

4.4.2 ZONING DIAGRAMS

This study identifies the major areas that are proposed in the work environment, their intended scale, and the relationships between each projected space. The diagrams explore and examine the relationships and interactions between spaces needed for the workspace to function efficiently. Zoning Diagrams (Figures 45, 46, 47) express these relationships within the boundaries of the existing building.

Each diagram has been analyzed to uncover its strengths and weaknesses to determine the best layout of the major areas.

BASEMENT

LEGEND

CIRCULATION PATHS

WORK

CONSUME

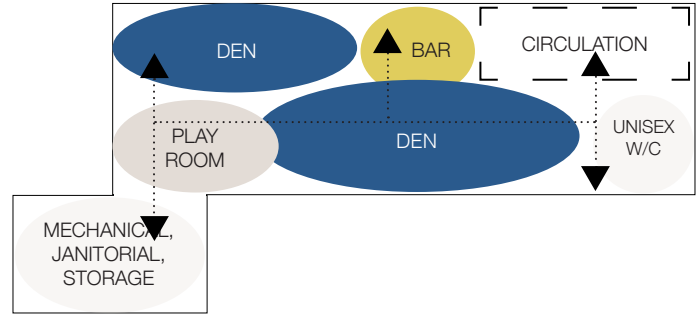
MEET

RELAX/RESTORE

SUPPORT

PRIVATE SEMI-PUBLIC PUBLIC

F. 45



BASEMENT ZONING & CIRCULATION DIAGRAM
N.T.S.

ZONING & CIRCULATION STRENGTHS

• A large zone, the den is designated to the majority of the basement level. This space is focused on fun and functions as a distraction from work making it necessary that it is separated from the main working areas.

• Areas like the den, bar, and play room work well together as they contain similar activities

• Possible room for expansion as the entertainment space may not need the entire basement level

• Plenty of room for storage

• Circulation is linear and relatively straightforward

• Mechanical, janitorial and storage areas are separated from the main area

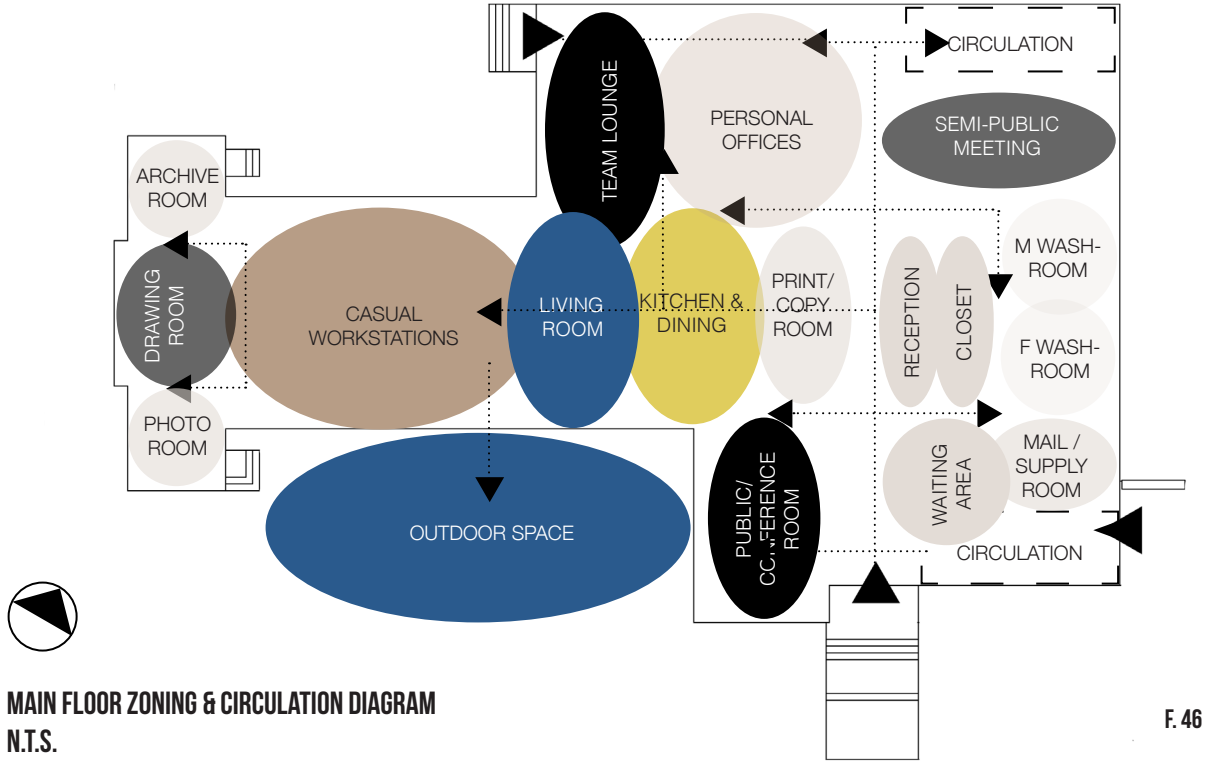
• Washrooms between the basement and the main floor share a common wall.

ZONING & CIRCULATION WEAKNESSES

• In its existing condition the elevator cannot access the basement so individuals needing assistance cannot enter this space. This would also make it difficult for janitorial staff to carry larger equipment

• Currently, a washroom does not occur on the basement level.

MAIN FLOOR



MAIN FLOOR ZONING & CIRCULATION DIAGRAM
N.T.S.

F. 46

ZONING & CIRCULATION STRENGTHS

• Circulation occurs on two distinct paths for ease of navigation

• Spatial organization is based with a balance between extroverted, public spaces and introverted private areas.

• Workstations are adjacent to exterior access to enjoy the outdoors

• Support spaces mostly accessed by reception are kept in close proximity while support spaces used by staff are located near workstations

• Meeting spaces are near the main entrance for use by visiting clients

• Washrooms are located where existing plumbing is found and in a relatively central location. Placing the washrooms behind the reception allows for them to be used in private.

• The Reception lies in a central location.

• Kitchen, dining, and living act as the heart of the building and provide a central common area for workers to meet,, much like a home.

ZONING & CIRCULATION WEAKNESSES

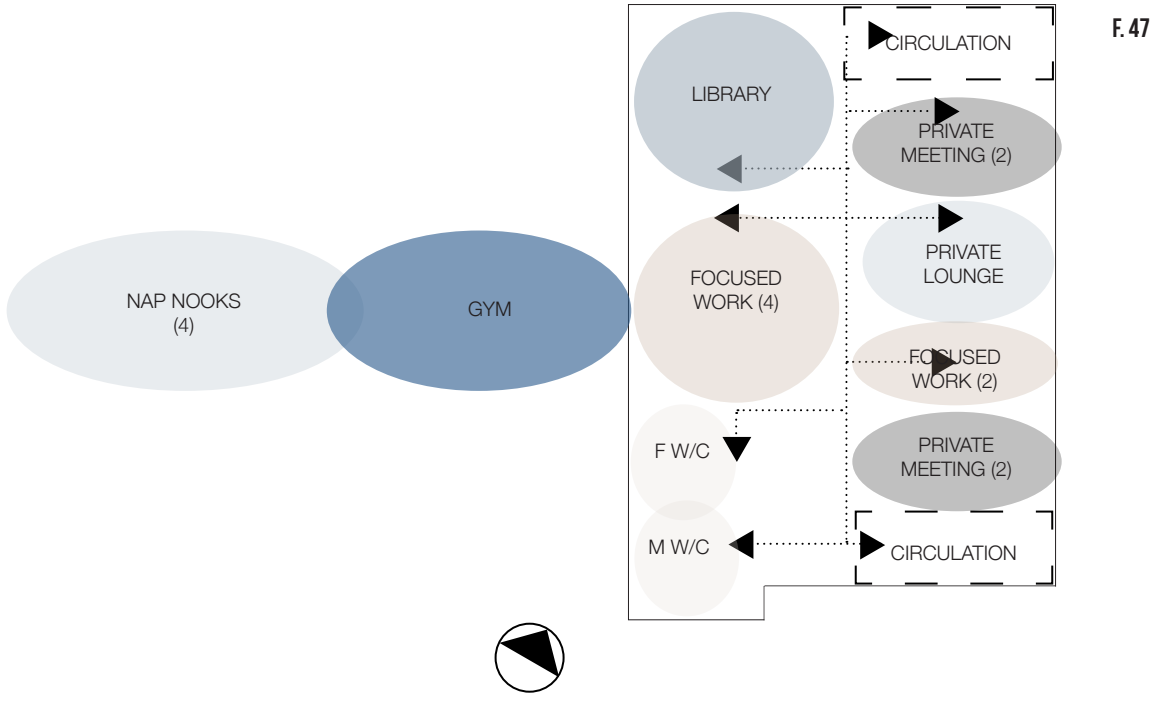
• Support spaces are scattered along the main level which may cause confusion and complicate circulation

• The existing sanctuary space, an area of the building with a lot of character is replaced with supporting spaces, those that don't require much design

• More space may need to be allotted for the casual workstations

• The personal offices are located in a high traffic area and may require more privacy.

SECOND FLOOR



F. 47

SECOND FLOOR ZONING & CIRCULATION DIAGRAM
N.T.S.

ZONING & CIRCULATION STRENGTHS

• Most spaces found on this level promote privacy and solitude

• Circulation runs along a linear path with branches to promote ease of navigation

• Washrooms are located where existing plumbing can be found.

ZONING & CIRCULATION WEAKNESSES

• Some zones such as the focused work spaces may require more space than allotted

• North-West circulation leads from very private spaces on the second floor to more public spaces on the main level. A more gradual experience may be required.

• More space is required on this level to fulfill spatial requirements

4.5 CONCLUSION

Above all, the goal of the proposed office environment is to offer a unique approach to design that centers first and foremost around the user of the space. By understanding the context, client, users, and activities taking place, the design is relevant, functional and meaningful to the user.

05 CHAPTER

DESIGN PROPOSAL

5.1 INTRODUCTION

5.2 DESIGN OVERVIEW

5.3 INTERIOR DEVELOPMENT

- 5.3.1 BASEMENT
- 5.3.2 MAIN FLOOR
- 5.3.3 SECOND FLOOR
- 5.3.4 ROOFTOP PATIO

5.4 MATERIALS, FURNITURE, & FIXTURES

5.5 REFLECTED CEILING PLANS

5.1 INTRODUCTION

The following chapter will discuss the development of the design for the publishing firm, Choice Publication's workplace located at 525 Beresford Avenue, Winnipeg, Manitoba. The proposed design of the office environment reflects the synthesis and understanding of the information and design implications gained through the literature review and analyses as described in the previous chapters. This chapter will acknowledge the design concept, discuss spatial organization, and enlighten specific design choices through the use of plans, sections, elevations, and perspectives.

5.2 DESIGN OVERVIEW

As the theories examined in this project are extensive, not all could be central to the design process. Manifesting the various design implications derived from the literature review and analyses, the office environment investigates spatial qualities that meet Deci & Ryan's three psychological needs, cater to differing personality types, explore ideas of prospect and refuge, and recognize aspects associated with third places and the home. Particular aspects of the research provide the focus for the design process to develop a cohesive language.

The office environment for the publishing firm, Choice Publications, is, first and foremost, designed to support the functions and spatial requirements for the contemporary employee. From the literature review, it became crucial to offer the employee as much choice and control as possible. The environment gives the employee a sense of freedom by handing over control of the space. It was uncovered in the literature that freedom is an important component of a home-like environment. When people are free to do as they wish, they are more comfortable and at ease, therefore they are more likely to complete their tasks efficiently and succeed in the workforce. Control also helps to relieve unnecessary stress while empowering occupants to utilize their surrounding in a positive manner and improve well-being. This idea makes sure that the space will meet a diverse range of unique individual needs. Key ways of offering control are to provide a mixture of spaces, present an assortment of experiences, encourage movement, and allow for personalization and ownership.

A MIXTURE OF SPACES

The workplace makes use of a simple spatial organization strategy that organizes spaces based on their activity and their degree of privacy. For example, the basement level includes a public, open concept area and acts as a space for entertaining, company events, socialization, and other group activities. The main floor features spaces that are designed for planned group meetings, casual interactions as well as focused work. This level balances opportunities between public and private spaces whereas the second floor is designed for private work, one-on-one meetings, and restoration of the body and mind. The result is a balance between community and individuality.

As a result, the design becomes a network of interconnected zones and settings that progress from very public, active areas to quiet, private settings. This mixture of spaces provides users with a range of zones to support their various modes of work. This application also helps to reduce the noise level of the open office, which increases employee satisfaction and productivity. Giving employees control over where and how they work creates optimism in the workplace and provides ample opportunity for the user to satisfy their need for autonomy and control.

ASSORTED EXPERIENCES

The proposed design focuses on creating interior spaces that meet the needs of all individuals, including introverts and extroverts. Users can find busy, exciting settings in the office that increase stimulation as well as relaxed environments that encourage a more leisurely pace for the individual. To provide a place of refuge for quiet thinkers, the space is equipped with small meeting rooms, quiet work rooms, and individual nooks. For social users, the office offers open workstations, collaboration zones, entertainment spaces, and team lounges. Offering variety gives employees the choice to work alone or with their coworkers.

In open concept areas of the office building, particular emphasis is placed on the concepts of foreground and background to suit the assertive facet of the introvert-extrovert spectrum. Even within a large area, people can find restorative niches that suit them.

While a large aspect of this project was uncovering the differences between socialization preferences of introverts and extroverts, it became essential that the office support and augment human social interaction. In third place theory as well as Deci & Ryan's psychological needs, making connections to others through conversation and interaction is crucial to the positive well-being of an individual. It was decided that a playful and informal setting would remove the strict stereotypes of the workplace and encourage employees to connect with one another in intimate one-on-one settings as well as large groups. Multiple furniture arrangements are found throughout the space to help the employee meet and connect with their colleagues on a variety of levels.

ENCOURAGING MOVEMENT

The proposed office also offers an assortment of solutions that encourage people to sit, stand, and move. It was evident in the discussion of third place characteristics that a positive environment eliminates hierarchies and creates an inclusive atmosphere. Regardless of status, employees are allowed to move about the three floors of the office to choose the best place and position to complete their work.

Through multiple seating options in a variety of spaces, this dynamic workplace promotes movement and injects a sense of liveliness into the setting.

A dynamic environment also suggests that the office is a flexible space. Being able to change when a circumstance deems it necessary is a key component of flexibility. This idea is a primary objective of the design; listening and adapting to the body's physical and psychological needs to maximize comfort and productivity in the office. With the use of specially designed and strategically placed furniture, employees comfortably adapt to the many situations they face in the office.

In an effort to encourage movement and remove the authoritarian idea of the office environment, it was important to in integrate elements not commonly found in the conventional office, such as uncharacteristic spaces, nontraditional furniture types and personal controls. The office re-establishes a feeling of comfort and ease by considering other typologies like the third place and home that are well-known for their positive atmospheres. Eradicating the notion that one must sit at an assigned desk is the primary idea to transform the office space into a hybrid typology, while encouraging more movement.

PERSONALIZATION & OWNERSHIP

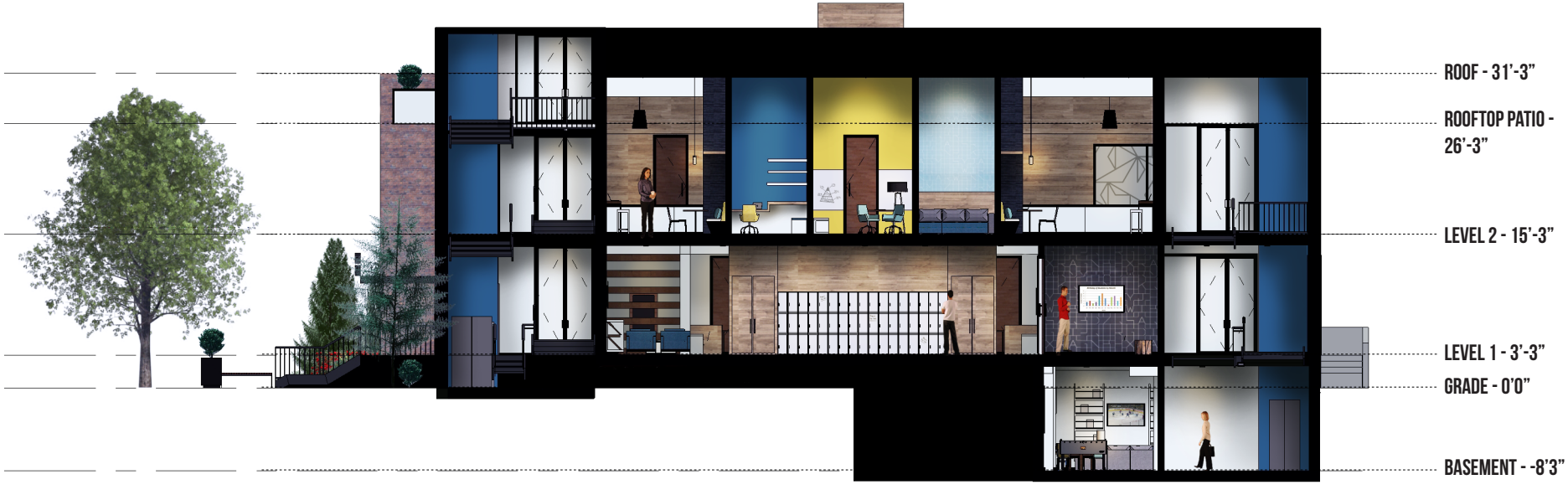
Other dimensions to improve the workers well-being and sense of control that became prominent from the literature review include personalization and ownership. These were two characteristics that David Seamon noted to describe the essence of the home. With this in mind, multiple writable surface including lockers, writable paint, and glass, cultivates a space where employees can share their ideas and express themselves. Using the physical space to write establishes a sense of personalization for the employee in a non-territorial setting. Non-territorial offices pose a challenge for personalization as well as storage. This issue can be mitigated when employees are given a mobile pedestal in which they can keep their office supplies and belongings.

In an adaptable environment that surrenders control to the employee, adjustable and modifiable furniture and design elements give the user opportunity to express ownership and personalization. Elements, such as modular seating options, movable ottomans, rolling tables, curtains to adjust privacy, flexible spatial arrangements, along with the choice of where to work, turn over control to the employee. As the occupant transforms the space to suit their unique needs, they impart their control and mark over the environment.

The following section will describe each of the key elements in the design in more detail.

5.3 INTERIOR DEVELOPMENT

F. 48 SECTION 1
SCALE: 1/16" = 1'0"



F. 49 SECTION 2
SCALE: 1/16" = 1'0"

5.3.1 BASEMENT

One of the goals of the design is to provide clear directors and communicate the purpose of each space to further develop the relationship between the individual and the built environment. The most extroverted of the spaces, the basement, is a space that communicates a place for activity, conversation, and stimulation. This space offers a change of pace and a distraction from the stresses of work. Comparable to a public space like an upbeat lounge or a den in the home, it is here that colleagues meet, relax, find inspiration and entertainment, watch TV, eat, socialize, and play on the foosball and pool tables. The multitude of activities offered here encourages conversation, noise, and invites social interactions with its playful atmosphere. Bright and colorful material choices amplify the fun, but relaxed setting.

Groups of soft seating provide areas for workers to sit together, work on personal laptops, and converse. Employees can connect with one another building their need for relatedness, either in small or large groups depending on the furniture arrangement they choose. By choosing where to sit amongst the space based on an individual's comfort level they feel a belongingness to the environment and a sense of ease and comfort.

The basement resides in an open plan, free of boundaries and barriers. Despite the boundary-less space, there is an opportunity for refuge. Individual seating options in the corner and edges of the basement allow for concealment as well as a view out towards the rest of the space. These smaller arrangements of chairs coupled with overhangs and narrower areas of the basement cater to the introverted type while large arrangements along with the more active zones of the basement are better suited for extroverts.

The basement features a wide variety of furniture that was chosen for its residential-like aesthetic. Hightower's Montag Sofa was used in this space since it is modular and can be adjusted and reconfigured by the users. This adaptability encourages people to use the basement freely while also giving the organization flexibility to move and customize the location and arrangement of the fixtures and furniture. If necessary, the space can be reorganized to accommodate large office-wide meetings or office events.

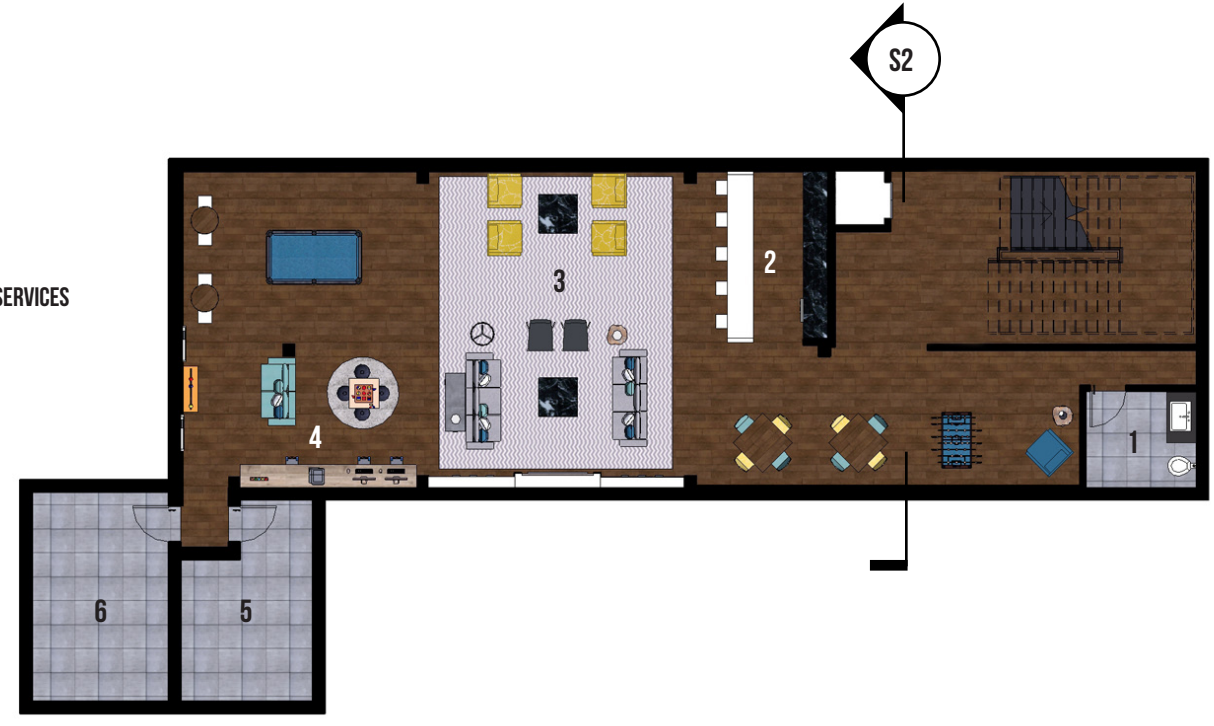
A bar, which reflects the third place typology, becomes a focal point in

the space with its rich blue color. This area provides space for workers to prepare meals and beverages while a set of tables accommodates up to eight employees to enjoy their food, engage in spontaneous meetings or function as an alternative workspace amidst activity. The bar is bright, stimulating and signifies an area that suits the active, gregarious extrovert.

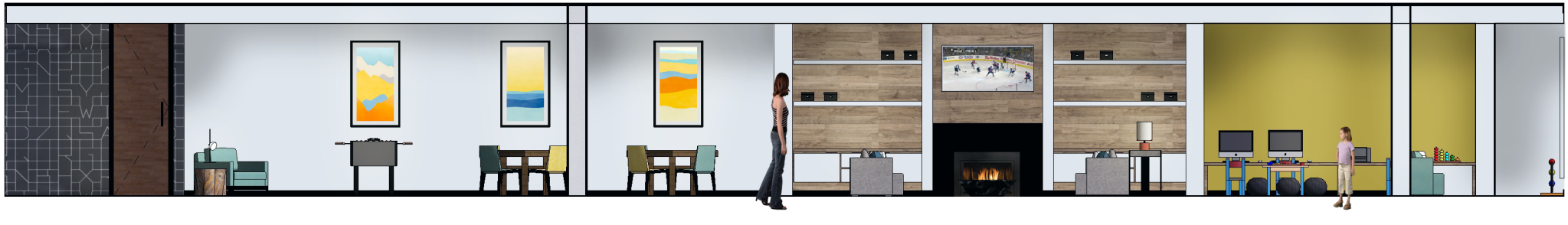
The basement design features writable wall surfaces and bright art work that helps to personalize the space. At the center of the basement, a custom shelving unit allows employees to display personal items and make the space their own. Within the unit, a fireplace adds warmth to the space, creating a home-like setting with comfortable soft-seating and pillows. Dark wood floors and wood paneled walls also add warmth to the basement.

To be as much like the home as possible the office design also offers a setting for the families of the employees. The play room offers employees a place to bring their children if they are off of school or sick. Contemporary employees are expecting the workplace to cater to their diverse needs, which includes their family and home life, so the office must be accommodating. Here, friends and family can stay in the building but are separate from the work areas of the office. This minimizes any disruption that might occur from guests.

1. UNIVERSAL WASHROOM
2. BAR
3. DEN
4. PLAY ROOM
5. STORAGE + JANITORIAL SERVICES
6. MECHANICAL ROOM



F. 50 BASEMENT FLOOR PLAN
SCALE: 1/16" = 1'0"



F. 51 BASEMENT SOUTH ELEVATION
SCALE: 1/8" = 1'0"

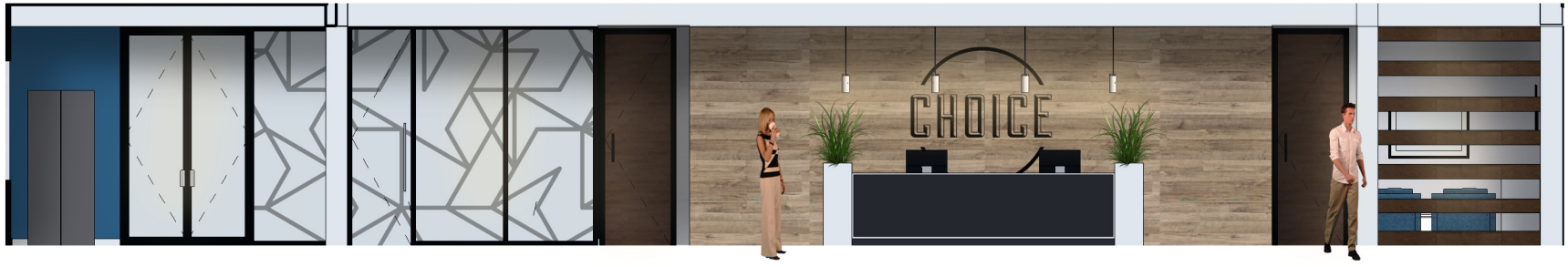
F. 52 PERSPECTIVE OF BASEMENT LOOKING SOUTH-EAST

5.3.2 MAIN FLOOR

F. 53 MAIN FLOOR PLAN
SCALE: 1/16" = 1'0"

5.3.2 MAIN FLOOR

10. SOUTH STAIRS
11. WAITING AREA
12. RECEPTION
13. MAIL & SUPPLY ROOM
14. CLOSET
15. WOMEN'S WASHROOM
16. MEN'S WASHROOM
17. CLIENT CONSULTATION ROOM
18. MEETING ROOM
19. NORTH STAIRS
20. LARGE MEETING ROOM
21. COPY/PRINT ROOM
22. PERSONAL OFFICE
23. PERSONAL OFFICE
24. PERSONAL OFFICE
25. KITCHEN
26. DINING AREA
27. TEAM LOUNGE
28. LIVING ROOM LOUNGE
29. WORK TABLES
30. DRAWING ROOM
31. PHOTOGRAPHY ROOM
32. ARCHIVES
33. MAIN PATIO



F. 54 RECEPTION EAST ELEVATION
SCALE: 1/8" = 1'0"

F. 55 PERSPECTIVE OF RECEPTION

5.3.2 MAIN FLOOR - RECEPTION & WAITING AREA

The entrance to the work environment serves as the most public aspect of the design and is used to welcome staff and visiting clients alike to the workplace of Choice Publications. Because of this, the space is meant to feel welcoming, open, fresh, and modern. The welcoming entrance creates a personal connection to the company's identity as soon as employees enter the building, establishing a sense of connection. It is at this point that the company first expresses its identity and image to each user. The reception space offers graphic representations of the company's logo behind the reception desk, which is a modern design that compliments the aesthetic of the lobby. Branding also creates a sense of purpose by establishing the mood and character of the company.

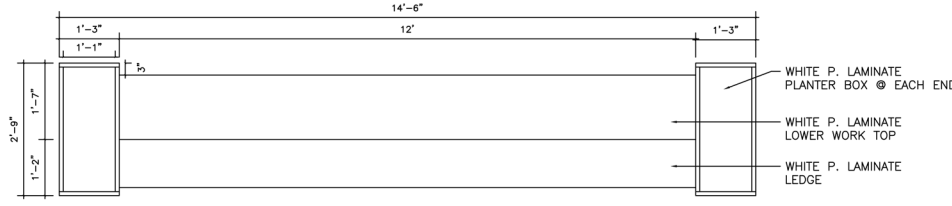
The reception lies in the center of the main floor in a location that is visible to users as well as clients who visit the space but do not routinely work there. Upon entering the space, the user is presented with a vast view into the office without disturbing busy workers. The open reception area allows natural light to penetrate inward as opposed to isolating the receptionist. A light, airy space feels uplifting and positive. The large opening above allows users to view the second floor and gain an understanding of the layout of the building.

Soft seating within the waiting area allows clients that are visiting the workplace with a quiet place to sit, take a moment of pause, and observe. The waiting area is semi-enclosed with a dark wood beam feature wall, which gives privacy to the clients but ensures they are accessible to approaching staff. This aspect is representative of prospect-refuge theory where users can see without being seen. The waiting space is equipped with TV's, which flip through digital works from Choice Publications along with a custom bookshelf to showcase physical copies of the companies work. A wall clad in a fun alphabet wall-covering is a playful nod to the publication company.

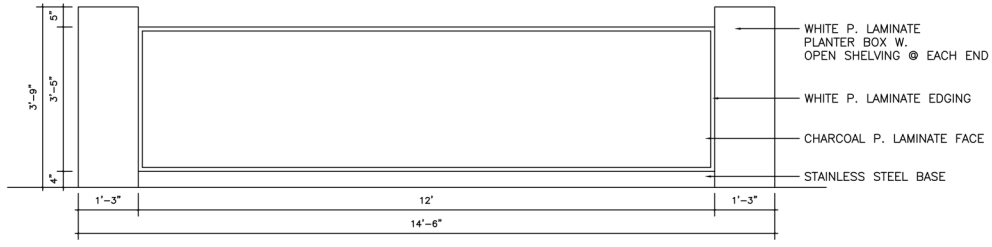
Behind the reception lies the closet with lockers and a place to hang coats, perfect for visiting clients and workers to leave their belongings while at the office. This hub of lockers is used to support how modern employees work and the emergence of mobile workers that do not have assigned desks. Unfortunately, the elimination of territorial desks also

removes opportunities for employees to personalize their workspace. To add the opportunity for personalization, the lockers are covered in a writable surface so that employees can write personal messages or notes to communicate with other members of the office. Also, a mail and supply room, areas the receptionist would frequently need to attend, is located behind the reception area.

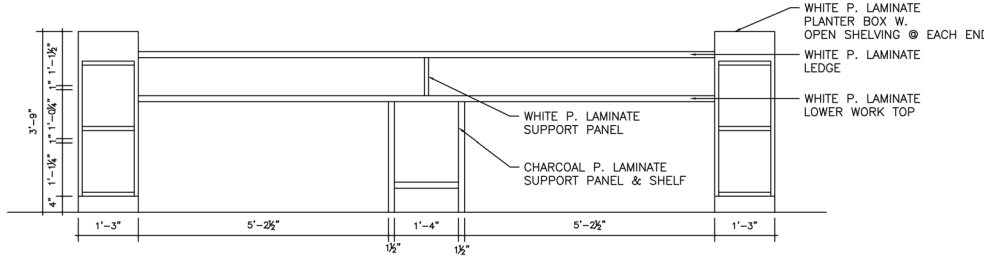
The furniture and finishes in the lobby, reception area, and waiting area reflect the fresh, graphic, and intriguing feeling with a modern aesthetic. The materials for this portion of the office were mindfully chosen to provide durable surfaces that would last over time. Cream laminate flooring contrasted with dark carpet tile and dark wood floors keep the space feeling warm and comfortable. Plants along with wood paneled walls, and soft textiles make the space feel comfortable and relaxed.



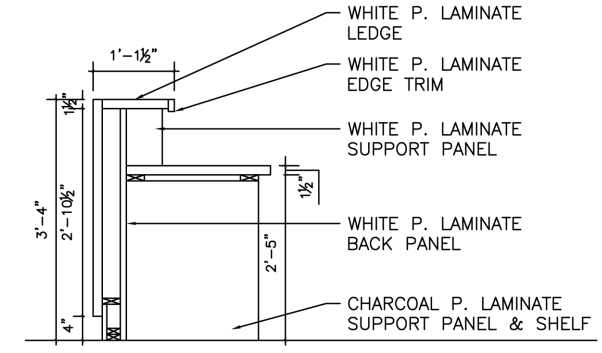
F. 56 RECEPTION DESK PLAN
SCALE: 1/4" = 1'0"



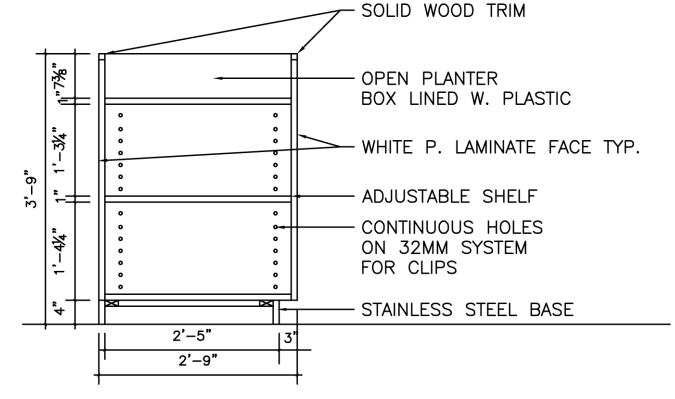
F. 57 RECEPTION DESK FRONT ELEVATION
SCALE: 1/4" = 1'0"



F. 58 RECEPTION DESK REAR ELEVATION
SCALE: 1/4" = 1'0"



F. 59 RECEPTION DESK SECTION
SCALE: 1/2" = 1'0"



F. 60 RECEPTION DESK SECTION AT OPEN SHELF
SCALE: 1/2" = 1'0"

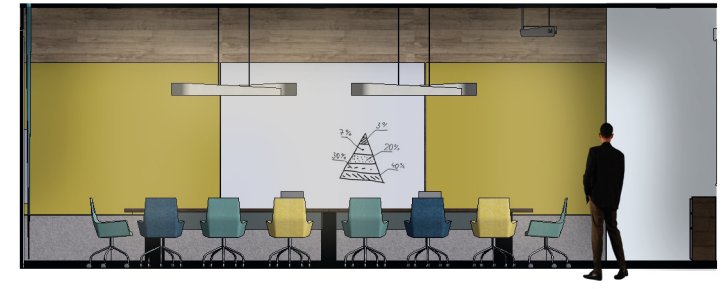
F. 61 PERSPECTIVE OF WAITING AREA

5.3.2 MAIN FLOOR - LARGE CONFERENCE ROOM

Venturing further into the office space occupants will find several meeting rooms. These spaces are meant for meeting and connecting with other staff and clients to present and discuss work. Each space is flexible, efficient, and technologically proficient to suit a variety of activities. The meeting areas range in size from small intimate interactions to larger meetings that accommodate a group of people. These spaces are meant for both planned and unplanned meetings to present and discuss work.

First the large conference room seats up to twelve employees around a large conference table with access to power. Transparent glazing with a fun pattern (which can be seen in Figure 62. Kitchen & Dining Room Perspective) allows visual connections to the other spaces of the building while fabric curtains maintain privacy within the space when needed. On one wall, writable paint in white and chartreuse allows employees to personalize, brainstorm, and write directly on the wall. Assorted colorful chairs were selected not only for functional purposes, but to add visual interest and enhance the playful atmosphere of the space. The space is equipped with a projector, projector screen, ample storage, and artwork to add a fun and personal touch. Behind the projector, a wall is covered in a dark blue textured wallcovering to add depth and contrast to the otherwise bright space.

On the north side of the reception is the client consultation room, which is meant for meetings between new clients and employees, seating up to four people. Adjacent to the client consultation room is another meeting space suitable for up to six employees.



F. 62 LARGE CONFERENCE ROOM ELEVATION
SCALE: 1/8" = 1'-0"

F. 63 LARGE CONFERENCE ROOM PERSPECTIVE

5.3.2 MAIN FLOOR - KITCHEN & DINING AREA

To establish a home-like setting, it was integral to include specific places that directly correlated to the home such as the kitchen, dining room, and living room. The kitchen is one of the most important public areas in the workplace as it is where plenty of social interaction takes place. Mainly, the kitchen provides a setting for breaks and preparing meals and beverages. In addition, the activity of preparing food creates an environment that allows conversation to flow easily. The result is a setting that feeds the need for relatedness and connections to others.

Often people describe the kitchen as the heart of the home. In this instance, the kitchen is located at the center of the building and lies along major circulation paths so that it is easily accessible to all employees, an aspect central to third-place theory. The bold blue walls emphasize the kitchens prominent location while adding excitement and stimulation to the space. To also draw attention to the kitchen area, a wood overhang is located overtop of the island. The wood adds warmth and a subtle sense of refuge to the kitchen space.

Although it is modern, the design and arrangement of the kitchen resembles that of a home. A blue mosaic tile backsplash contrasts the white laminate cabinets. Just as the kitchen counters of the home fulfill a variety of tasks, the white Corian island functions as a place for eating, spontaneous meetings, one-on-one interaction with colleagues, collaboration, and an alternative place to work.

The dining room is located adjacent to the kitchen and is visually connected by the dark wood flooring that spans the length of the space. The dining space is comprised of two large tables that can be rearranged if need be. To add a residential touch, a rug beneath the dining table adds texture and warmth to the space.

On either side of the kitchen area are hubs that house mobile pedestals that belong to each employee. These mobile pedestals would hold the workers belongings and office supplies. Throughout the day, the user can take their pedestal around the building to their desired place of work.

F. 64 PERSPECTIVE OF KITCHEN & DINING ROOM

5.3.2 MAIN FLOOR - TEAM LOUNGE

The office design also includes a space where teams or groups of employees can work for an extended period. This space is separate from the rest of the work area to provide privacy to the group but lies near other work zones.

The team lounge is arranged much like a living and dining room, which creates a home away from home atmosphere for the office. The living room space offers opportunity for relaxed discussion between team members to enhance connections, but the table provides a place to focus and work on the task at hand. On one wall, there is plenty of storage, a hidden shelf for personal items, and a writable surface for brainstorming, writing notes, or writing personal messages. The wood paneled wall along with the electric fireplace insert adds to the warm, comfortable, and home-like character of the team lounge.

To balance the community emphasis of this space, individual built-in nooks offer workers a comfortable and private space to sit. The nooks provide the opportunity for both prospect and refuge, creating opportunities for viewing or retreating based on desired comfort levels. The nooks are dark enclosures that surround the user and allow them to sit in the background of the space and view the area of the team lounge. The wall also features shelving, a waste and recycling center, and storage.

F. 65 TEAM LOUNGE & KITCHEN ELEVATION
SCALE: 1/8" = 1'0"

Again, the Montag modular sofa by Hightower can be rearranged to best suit the team of employees working in the space. As well, the coffee table is a design by West Elm that can transform into a desk height surface, which allows the living room zone of the lounge to become a place for work. Materials, colors, and furniture within this space were chosen for their bright, modern, fresh, and playful qualities along with their residential-like aesthetic.

F. 66 PERSPECTIVE OF TEAM LOUNGE

5.3.2 MAIN FLOOR - LIVING ROOM LOUNGE & CASUAL WORKSTATIONS

One of the goals for the design of this workplace was to challenge traditional norms in office design. What is unique about Choice Publication's place of work is the elimination of traditional desks for working. Instead, the design focused on the creation of a lounge-like atmosphere, which would be both comfortable and inspiring to work. The living room lounge is designed, first and foremost, in the style of a residential living room. The result is a space that feels informal, relaxed, and fun. The modular Montag sofa is organized into a sectional and functions as an area for spontaneous meeting, relaxation, and alternative work spaces with laptop tables. Of course, the sofa could be re-arranged depending on the organizations desired function of the space. A bold, graphic area rug adds excitement and stimulation to the lounge but keeps the space feeling residential. Table lamps, a side table, coffee table, lounge chair, and console table were all organized in this area to add to the sense of comfort of being at home. Other seating options include movable ottomans, which were chosen for the flexibility they give to the room. While artwork adds a bright pop of color on the white wall, a large wood paneled fireplace adds vertical interest and warmth to the space. On the opposite side of the fireplace are large worktables where individuals can touch-down to work on a task.

F. 67 PERSPECTIVE OF LIVING ROOM LOUNGE

Varied seating options throughout the space from sofas, lounge chairs, tables and task chairs, booths and tables, or stools at the kitchen island, allow for different postures to be sustained throughout the day.

Particular emphasis was placed on the foreground and background of the space where on either side of the living room lounge, work surfaces

and booth style seating and tables align the walls to provide more places to work comfortably. While the living room lounge, found in the foreground of the open space, is bright, fun, and accommodating for groups, the booth seating and work surfaces in the background are more secluded. These spaces accommodate individuals or small groups. Those that are more assertive and enjoy being in the center of the crowd will likely enjoy the living room lounge while those that are less assertive will find comfort in sitting in the background. These different workstations allow users to choose where they work best based on their level of comfort.

To ensure flexibility, the booth seating is entirely modular and can be re-organized along with the wood planters that separate each booth and work surface. The plants add a fresh, textural element to the space while also offering extra privacy to those working or meeting along the wall.

F. 68 MAIN FLOOR SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

F. 69 PERSPECTIVE OF DRAWING ROOM

5.3.2 MAIN FLOOR - DRAWING ROOM

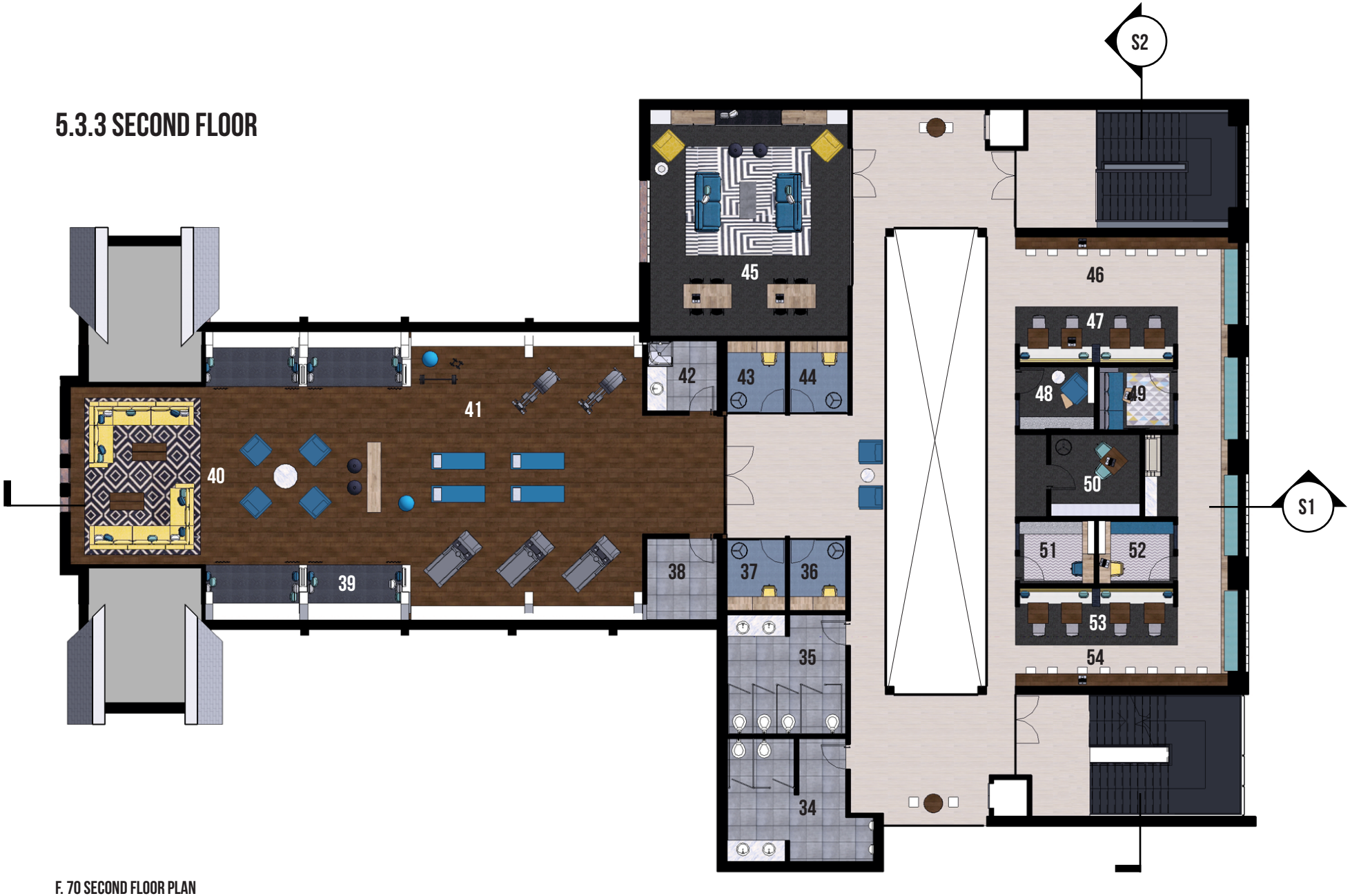
At the end of the lounge, a large wood feature wall physically separates the drawing room from the rest of the space. This wall provides a sense of privacy and protection as well as creates interesting views that maintains a connection to adjoining spaces. Much like the feature wall in the waiting area, this wall gives privacy to the users but allows views into the drawing room. This aspect is representative of prospect-refuge theory where users can see without being seen. Two glass doors, with the same geometric pattern seen throughout the space, provide a fun graphic element to the room while also aiding in shielding views into the space. Acoustic tile ceilings along with carpet tiles and soft upholstered ottomans help to absorb sound and maintain privacy within the drawing room.

The drawing room is dedicated to the meeting, connection, and collaboration among employees. Whiteboards on the walls allow employees to brainstorm and make notes about the work at hand. Two standing-height rolling tables provide a quick meeting space for large scale documents or group discussions. Employees have the option to sit or stand around the table depending on their physical needs.

Collaboration, as a work mode, is a stimulating and exciting process. To complement the invigorating character and add visual interest, a unique bubble pendant light fixture hangs above the tables. As well, an expressive area rug adds interest to the space while adding a home-like touch.

Next to the drawing room, a photography room is included and contains adjustable and variable lighting sources, tripods, photographic tools, and backdrop screens. An archive room, also adjacent to the drawing room, allows for a space where workers can go to view past work.

5.3.3 SECOND FLOOR



F. 70 SECOND FLOOR PLAN
SCALE: 1/16" = 1'0"

5.3.3 SECOND FLOOR

34. MEN'S WASHROOM
35. WOMEN'S WASHROOM
36. PRIVATE OFFICE
37. PRIVATE OFFICE
38. STORAGE
39. NAP NOOK
40. LOUNGE
41. GYM
42. SHOWER
43. PRIVATE OFFICE
44. PRIVATE OFFICE
45. LIBRARY
46. WORK BAR
47. MEETING BOOTHS
48. PRIVATE LOUNGE
49. PRIVATE LOUNGE
50. PRIVATE MEETING ROOM
51. PRIVATE OFFICE
52. PRIVATE OFFICE
53. MEETING BOOTHS
54. WORK BAR

5.3.3 SECOND FLOOR - MEETING BOOTHS

The most introverted of the spaces within the office building, the second floor concentrates on focused, individual work, relaxation, and one-on-one, intimate interactions. In the center of this floor, a space open to below allows the users of the second floor surveillance and control over their accessibility.

On the north-west side of the building, a hub of small, private rooms covered in a dark textured wallcovering houses a variety of individual activities. These rooms offer permission to be alone, permit a users control over the space, and offer a safe retreat to introverts. Two of the five rooms function as a quiet lounge to turn into the self or simply to escape from the group areas on the main floor and basement. These spaces are playful, comfortable, and encourage relaxation or even sleep. Two spaces are designated work spaces, more closely resembling a traditional personal office. These spaces are free from visual and audible distraction or interruption for deep focus and thinking. The final space is devoted to intimate, deep conversation with another colleague. Here two people can easily display and discuss content in a safe and comfortable environment. Through prospect-refuge theory these spaces resemble the dark, opaque qualities of the refuge, but high ceilings and colorful materials and finishes eliminate feelings of crowdedness. The walls of the private rooms feature a void detail that maintains the privacy of the user within while hints of activity inside communicate to those outside that someone is using the room. This establishes a feeling of security while still allowing for a visual connection to the rest of the space, or seeing without being seen.

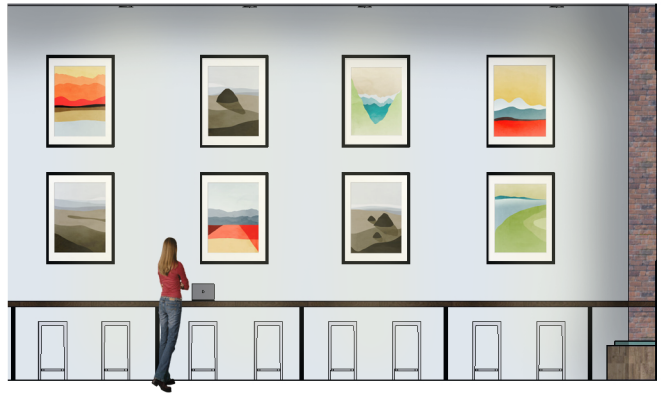
On the exterior of the private rooms are four fixed booths where employees can work, meet, collaborate, and discuss work. The booths are small; they are equipped to fit no more than four people at a time, keeping interactions intimate and unintimidating. The dark, alcove-like booths give a sense of security, concealment, and protection to the user. Behind the users sitting in the booths, warm materials like wood paneled walls and ceiling details make the space feel comfortable and inviting.

On either end of the second floor and opposite of the meeting booths are two work bars. The standing-height bars are meant for focused work, where users can sit on a stool or stand depending on their physical

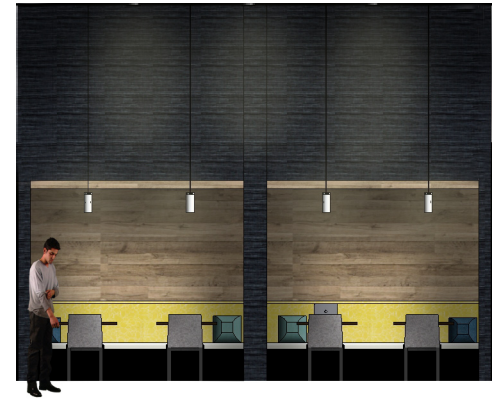
needs. This area speaks to aspects of environmental psychology, where those requiring privacy prefer the background of an environment. Facing the wall is also thought to eliminate distractions and improve the employees performance. Above the work bar, an array of artwork enlivens the space and adds a personal touch.

Along the far northwest wall. fixed, upholstered benches offer workers a quiet, concealed place to sit, work, or meet. As was mentioned in the literature review on introverts and extroverts level of assertiveness, those low on this quality prefer to fall into the background of a setting.

F. 71 PERSPECTIVE OF SECOND FLOOR MEETING BOOTHS & WORK BAR



F. 72 WORK BAR ELEVATION
SCALE: 1/8” = 1’-0”



F. 73 MEETING BOOTH ELEVATION
SCALE: 1/8” = 1’-0”

F. 74 PRIVATE ROOMS ELEVATION
SCALE: 1/8” = 1’-0”

5.3.3 SECOND FLOOR - LIBRARY

The library has traditionally been a place of quiet, focus, and inspiration. On the second floor, the library is filled with related work, inspiration, along with the companies past work.

A central seating arrangement offers space to meet in small groups while single chairs along the edge of the room are available for individuals seeking seclusion. Furniture was carefully selected to convey a lounge or home-like atmosphere. Sofas, side tables, table lamps, coffee tables, and area rugs complement this aesthetic. Acoustic ceiling tiles, soft textiles, and carpet tiles absorb sound and maintain the privacy desired for this introspective space.

The bookshelf is designed to portray a residential, display-like aesthetic. Rather than rows of shelves, like a more traditional library, this bookshelf allows for the showcase of objects and books. The shelves are organized around a nook with upholstered seating where individuals can retreat into to sit and read. This alcove allows users with a comprehensive view of the space while they seek refuge. As a result, the space becomes an inspiring place for quiet study, prospect-refuge, and relaxation.

Two standing-height rolling tables allow employees to work on a task and conduct research using the literature in the library. Employees have the option to sit or stand around the tables depending on their physical needs.

F. 75 LIBRARY ELEVATION
SCALE: 1/8" = 1'-0"

F. 76 LIBRARY PERSPECTIVE

5.3.3 SECOND FLOOR - GYM & NAP NOOKS

To promote the well-being of employees, spaces like the nap nooks serve as a space for silent introspection and retreat. These are nooks where staff can step away from their work or take a moment to think about their tasks without disruption. As their name suggests, the nap nooks are large enough to lie down and sleep resembling the bedroom of the home. Each nook is equipped with a shelf for storage and lighting. The nooks are designed to provide the occupants with an opportunity to gauge their desired amount of privacy. Dark curtains allow the user to enclose themselves in the nook or leave it open to communicate with those in the nearby lounges. Through prospect-refuge theory, these nooks create a sense of enclosure that generates a feeling of comfort and protection while still allowing the choice for accessibility.

Outside of the nap nooks are two seating arrangements for small or large groups adjacent to a fireplace that adds to the comfortable, relaxed, homey nature of the space.

Next to the nap nooks, the gym is an area that also focuses on the wellness and restoration of the employees. The gym allows staff to disconnect from their tasks and de-stress by running on the treadmills or doing yoga.

The vaulted wood ceiling keeps the space feeling warm while suggesting a feeling of enclosure. These ceilings along with structural trusses establish visual interest to the space. Dim pendant lighting throughout the room creates a tranquil and relaxed atmosphere.

F. 77 GYM & NAP NOOKS ELEVATION
SCALE: 1/8" = 1'0"

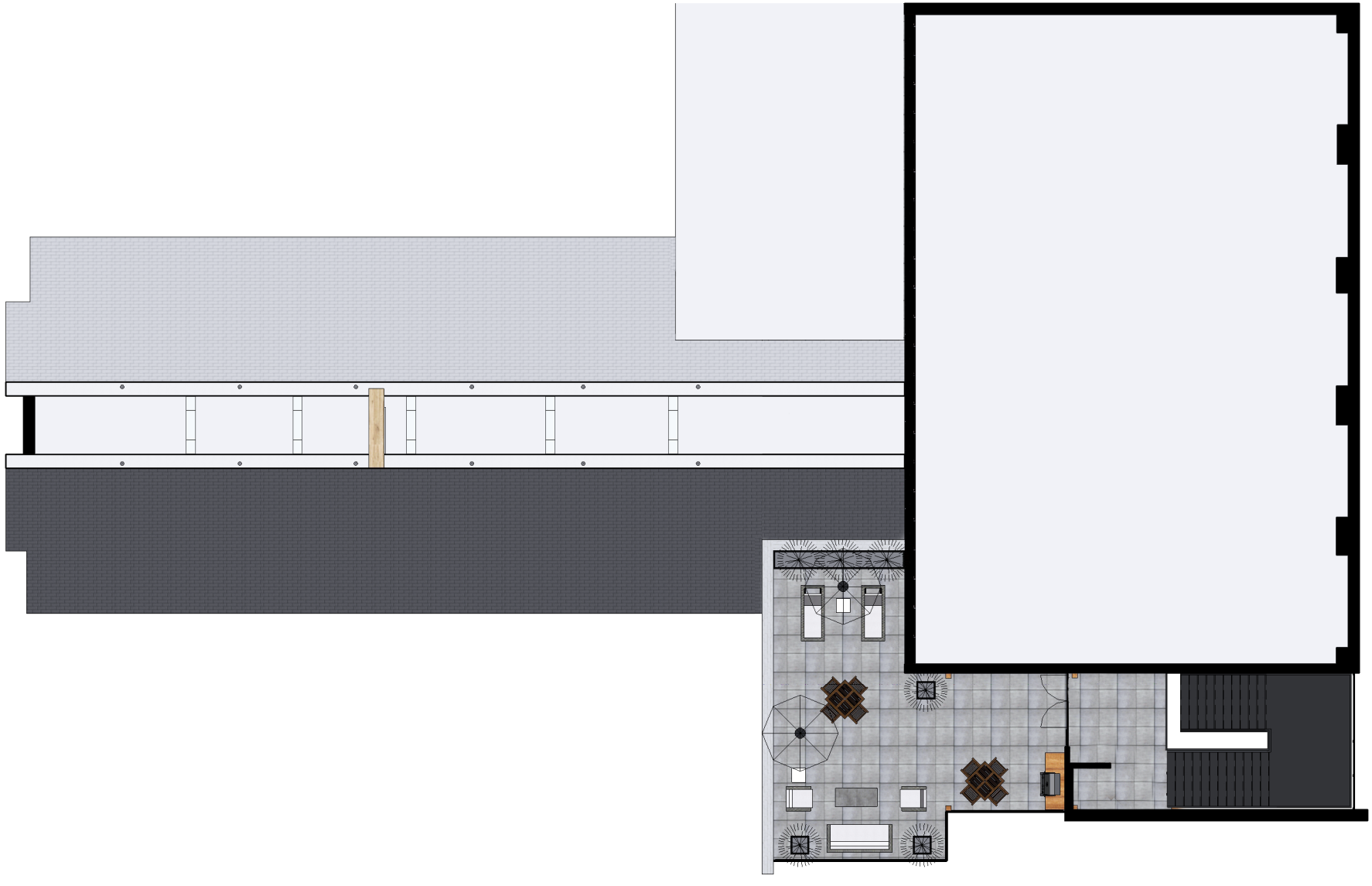
F. 78 NAP NOOK PERSPECTIVE

5.3.4 PATIOS

Lastly, outdoor spaces including a main patio and rooftop patio enable employees to take their work outside for a change of scenery, get some fresh air, or enjoy their breaks either alone or with others. The addition of outdoor spaces into the design offers views to the urban surroundings and provides a place of inspiration, relaxation and reflection away from the other spaces of the office. The main patio can be accessed through the living room lounge and central work space. The top floor consists of a retreat for Choice Publications workers, a rooftop patio, which can be accessed by the main stairs or elevator. The outdoor patios feature greenery and enables employees to work outside in the warmer months and get a change of scenery in the office. This space features patio furniture for casual seating as well as café seating and tables, and umbrellas.

F. 79 MAIN PATIO PERSPECTIVE

F. 80 ROOFTOP PATIO PERSPECTIVE



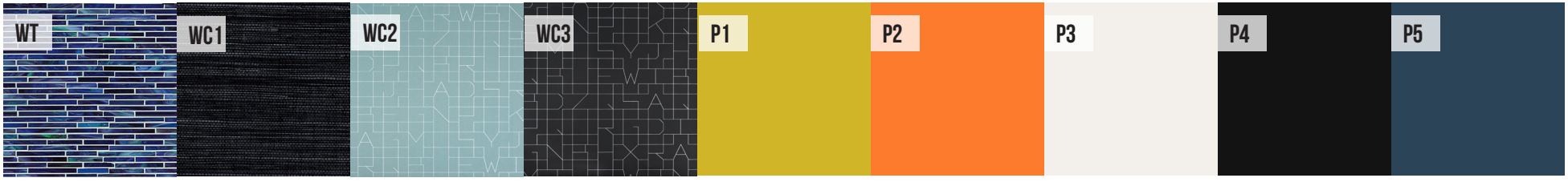
F. 81 ROOFTOP PATIO FLOOR PLAN
SCALE: 1/16" = 1'0"

5.4 MATERIALS, FURNITURE & FIXTURES

CT1- BLUE CARPET TILE
CT2- DARK GREY CARPET TILE
VT- VINYL TILE
W - DARK WOOD FLOOR
WT- WALL TILE
WC1- WALLCOVERING
WC2 - BLUE ALPHABET WALLCOVERING
WC3- BLACK ALPHABET WALLCOVERING
P1- YELLOW PAINT
P2- ORANGE PAINT
P3- WHITE PAINT
P4- BLACK PAINT
P5- INDIGO PAINT
T1- LIGHT BLUE TEXTILE
T2- B/W TRIANGLE TEXTILE
T3- BLACK LEATHER TEXTILE
T4- GREY TEXTILE
T5- YELLOW FLORAL TEXTILE
T6- INDIGO TEXTILE
T7- INDIGO KNIT TEXTILE
T8- LIGHT GREY TEXTILE
T9- CREAM POLY TEXTILE
L1- BLACK LAMINATE
L2- WHITE LAMINATE
L3- WOOD LAMINATE
C-TOP- COUNTERTOP
3F- 3 FORM PRESSED GLASS

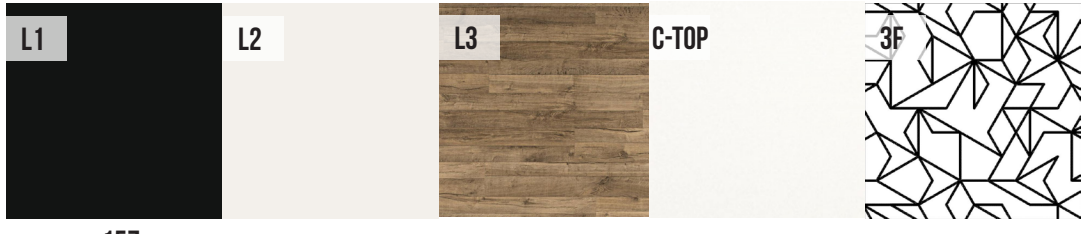
FLOOR

WALL



TEXTILES

HARD SURFACES



F. 82 MATERIAL LEGEND

A - HIGHTOWER MONTAG MODULAR SOFA
B- OFFECCT TAILOR CHIAR
C- WEST ELM RUSTIC STORAGE COFFEE TABLE
D- EMERCO STOOL
E- COALESSE MILLIBRAE LIFESTYLE LOUNGE CHAIR
F- HIGHTOWER HAPPY CONFERENCE CHAIR
G- KNITTED POUF OTTOMAN
H- WEST ELM LOW BONE COFFEE TABLE
I- HIGHTOWER FOUR CAST STOOL
J- SVEVA LINEAR PENDANT LIGHT
K- HIGHTOWER MONOLITE LAPTOP TABLE
L- CLEAR PENDANT LIGHT
M- DEVO ROUND TABLE LAMP
O- TALL WOOD MEETING TABLE

F

G

J

B

D

H

K

L

M

C

E

I

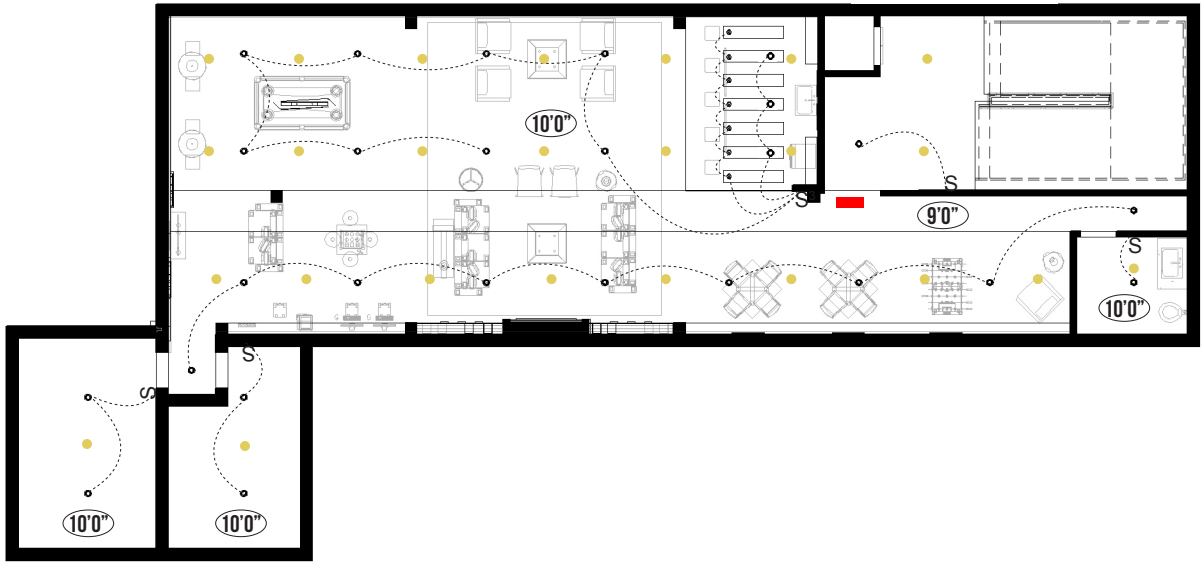
O

F. 83 FURNITURE & FIXTURES COLLAGE

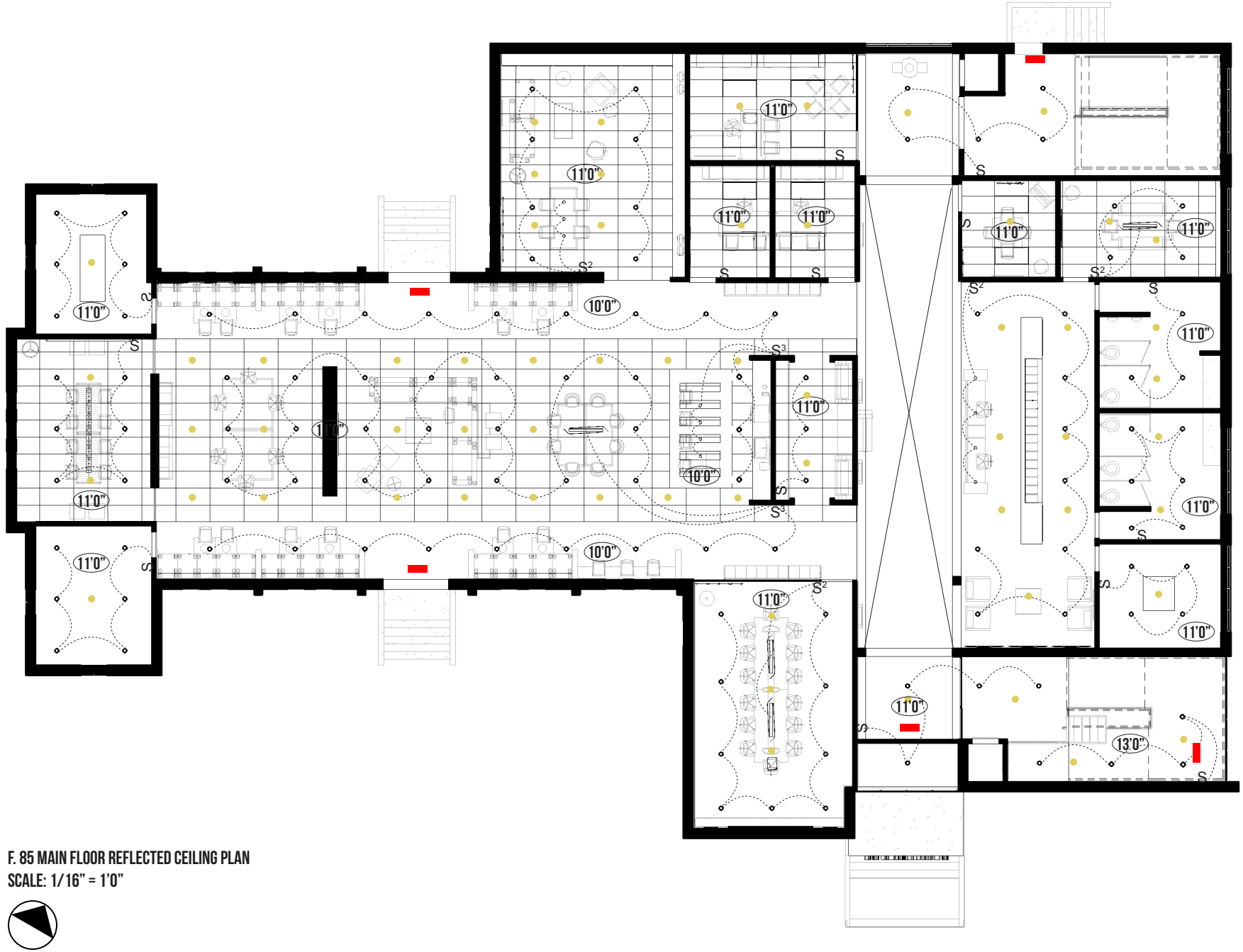
5.5 REFLECTED CEILING PLANS

LEGEND

- RECESSED DOWNLIGHT INCANDESCENT 277V
- PENDENT LIGHT
- FLUORESCENT T LINEAR BOX - 1 LAMP 2'X4'
- SVEVA PENDANT LIGHT
- # CEILING HEIGHTS A.F.F.
- S SINGLE SWITCH
- S^2 DOUBLE SWITCH
- S^3 THREE-WAY SWITCH
- S^4 FOUR-WAY SWITCH
- S^D DIMMER SWITCH
- EXIT SIGN
- SPRINKLER HEAD



F. 84 BASEMENT REFLECTED CEILING PLAN
SCALE: 1/16" = 1'0"



F. 85 MAIN FLOOR REFLECTED CEILING PLAN
SCALE: 1/16" = 1'0"

F. 86 SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 1/16" = 1'0"

06 CHAPTER

CONCLUSION

The inspiration for this project stemmed from my personal interest in psychology and personality. Reading Susan Cain's book "Quiet," I saw an opportunity to explore the potential for improving the psychological well-being of users in interior settings. In particular, I chose to investigate the extent to which an urban office typology could impact an employee's performance, sense of belonging, and feeling of support while promoting autonomous behavior. Extracting design implications through the investigation of concepts such as environmental psychology and relationships to space, introverted and extroverted personality types, and the qualities of the third place and the home accompanied this exploration. As a result, this proposal showcases a design that questions and rethinks the contemporary workplace.

To conclude the practicum project, the following reflects on the research questions that were posed at the beginning of this investigation.

In what ways can an individual's social context facilitate optimal function, well-being, and satisfaction?

From the onset of this project, a key objective was the exploration of the role that Interior Designers have in creating environments that play a positive role in the well-being of the individual. The answer to this question became apparent when studying Deci & Ryan's basic psychological needs: autonomy, competence, and relatedness. For an environment to lead to positive psychological outcomes in its users, it must promote user control, offer elements that lead to the users success, and encourage social interaction.

Through a review of the literature, it was found that control and choice are key elements to the creation of an environment that fosters well-being. It is believed that allowing the employee to choose their work mode would lead to optimal performance and success. For that reason, the workplace environment is designed to support autonomy and competence by recognizing the diverse needs each user requires to complete a task successfully. The proposed office space allows the employee to adapt, change, and control the conditions of the environment. This was achieved through flexible furniture options, and allowing the occupant to adjust their level of privacy as they see fit. Dark curtains to close off spaces, highlighting the foreground and background of zones, and diverse seating arrangements allow employees to augment their experience in the space.

The facility is programmed and organized to support a diverse range of activities that may take place at various stages in a workday. Activities include meeting with clients and collaborating with colleagues, focused work, restorative breaks, preparing meals and beverages, and tasks

that support and aid the work process. By focusing on these activities, the needs of the user are highlighted and an occupant is able to choose where to go throughout the building to best carry out their task at hand. As a result, the office environment becomes a much more dynamic space where employees are free to move about, no longer tied to a single desk to work. Thereby, the traditional office begins to adapt into something more inviting, liberating, and relaxed.

Furthermore, designing and planning the space in a way that supports socialization leads to the connection between colleagues as well as the environment. Environments that support the need for relatedness foster engagement and, encourage social interaction as well as impact ways of communicating. This was implemented into the design of the office in various ways, including paying particular attention to the selection and placement of furniture within the space, and creating zones of conversation for both small and large groups. Moments of spontaneous or unplanned meetings were considered throughout the design to allow for the most favorable possibility of connecting with others.

Interior design cannot claim to improve or revolutionize the work that employees produce and lead to their success. However, a part of this notion rings true as design can begin to facilitate new spatial experiences and improved conditions. Interior design has the ability to pinpoint spatial qualities and properties that contribute to supporting the needs of individuals based on their personality's or working styles that leads to improved performance and motivation.

To what extent does personality, specifically introversion and extroversion, influence the choices and preferences an individual makes in relation to the interior environment and how can the environment complement the users personality?

Through the literature review, it was found that introverts and extrovert differ in their need for stimulation, social preferences, expressions, and activity. As a result of these differences, it was assumed that individuals would gravitate towards areas of an environment that best supports these preferences.

Throughout the design, it was demonstrated how personality psychology could be applied to the interior environment. For example, the office supports a mixture of public and private spaces for groups and individuals. This involved harmonizing Gensler's four work modes. The office mixes places of collaboration and socialization with focus and learning. A deeper understanding of these alternative working styles and a user-centered approach to design breaks down the boundaries of workplace norms and evolves into a process of flexibility and freedom for

staff to modify and choose the way that they work. The working process is no longer bound to cubicles, assigned desks, planned meetings, and stagnant employees. With this transformation, the proposed work environment questions the traditional office by embracing choice as a part of the work process. It re-conceptualizes the physical spaces required to support and enhance the needs of the worker throughout their time at the office. As a result, the office design for this practicum project is a complex network of interconnected yet distinct spaces designed to support new working styles.

The office also allows individuals to stand out or retreat. This principle was found to be most relevant through theories of prospect and refuge. Thus, design principles implemented into the design of the office space include ideas of seeing and being seen in the space. Particular emphasis was placed on allowing some users to be the center of attention while others are able to fall into the background and go unnoticed. These subtle yet effective applications of prospect-refuge theory create an interior environment that is conducive to both introvert and extrovert needs.

Another goal in designing for introverts and extroverts was to encourage activity and favor a playful atmosphere along with one that is relaxed and leisurely. This aspect was also found to support an extrovert's need for stimulation as well as an introvert's preference for quiet spaces. Design principles implemented into the design that enhance preferences of extroverts include bright pops of color, bold graphics, and areas of activity including games, food, and collaboration. The office space also provides areas of solitude and quiet, small group furniture arrangements, and inviting fireplaces to complement the introvert's preferences.

The inclusion of all individuals in the office regardless of their personalities creates a supportive environment that allows users to express themselves in numerous ways, furthering their comfort and ease in the space and promoting an environment conducive to well-being.

How can the office environment respond to the ever-changing demands of employees brought on by flexible and mobile technology?

More people are working in new and unique ways, and mobile technologies are enabling employees to work away from the physical office environment. Now that people have more freedom in where and how they complete their work, the office will need to be welcoming, attractive, and comfortable to attract workers to the space. One way the design sought to achieve this was to transform the perception of the typical office. The office adopted new characteristics to transform into something outside of its definition by investigating qualities of the third

place and the home. The proposal demonstrates how the office can appear more home-like and relaxed since it is understood that working from home is incredibly appealing. With spaces commonly found in the home and third place, like the kitchen, dining room, living room, bar, gym, and lounge, the workplace transforms into a much more comfortable environment. Particular furniture, materials, and fixture selections were made for their residential-like qualities to add to the relaxed and informal atmosphere.

With this idea in mind, the workplace, a space individuals spend a great amount of time next to their homes, is a space for much more than simply to work. The office is a source of inspiration, a place to interact and communicate, a space for creativity and focus, a space to eat, and a retreat. As employee expectations regarding the workplace continue to evolve, flexibility becomes a key element of the design. The diversity of spaces, flexible furniture selections, and multi-use areas, support the need for flexibility.

In conclusion, the design proposal illustrates one possible way in which the theories selected could be used to inform the design of a new office environment. The design provides a flexible, dynamic environment that supports the shifting and diverse needs of each worker. Through the synthesis and analysis of information gathered during this practicum project, a thorough understanding of the activities and needs of the twenty-first-century employee was gained. With this knowledge, the standard work environment of the past was redeveloped into a new design based on control, interaction, and flexibility. The result is an environment that encourages conversation, offers private refuge, and supports an individual's personalities, all within a comfortable, informal space. I conclude that interior design can be used as a tool for supporting and enhancing an individual's unique personality and thereby facilitating satisfaction, growth, and well-being.

07 CHAPTER

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08 CHAPTER

APPENDICES

8.1 BUILDING CODE ANALYSIS

8.1 BUILDING CODE REVIEW

The 2010 National Building Code of Canada was carefully analyzed to ensure that the design of the proposed office building conforms to established life and safety standards.

3.1 GENERAL

3.1.2.1 Classification of Buildings or Parts of Buildings by Major Occupancy

D-Business and personal services occupancies

3.1.17.1 Occupant Load

Determines the number of people that are able to occupy a floor. The minimum area per person is calculated based on the standards set in Table 3.1.17.1. The occupant load per floor area or part thereof relevant to the project include:

Kitchens: 9.3 m2 or dining, beverage, and cafeteria space 1.20 m2

Offices: 9.3 m2

Reading or writing rooms or lounges: 1.85 m2

3.2 BUILDING FIRE SAFETY

3.2.1.1 Interior Areas

Basement: 2932 ft2

Main Floor: 8954 ft2

Second Floor: 7114 ft2

Building Area (largest floor plate): 8954 ft2

Total Interior Area: 19,000 ft2

Building Height: 31’-3”

Number of Floors within building: 3

Sprinklers located throughout the building

3.2.1.3 Roof Considered as a Wall

Any part of a roof that is pitched at an angle of 60 degrees or more to the horizontal and is adjacent to a space intended for occupancy within a building shall be considered as part of an exterior wall of the building.

3.2.2.18 Automatic Sprinkler System Required

3.2.4.1 Determination of Requirement for a Fire Alarm System

A fire alarm system shall be installed in buildings in which an automatic sprinkler system is installed.

3.2.4.3 Types of Fire Alarm Systems

The system must be a single or two stage system

3.2.4.11 Fire Detectors

Fire Detectors are not required since the building is sprinklered.

3.2.4.12 Smoke Detectors

Since a fire alarm is installed, smoke detectors shall be installed in:

a) Each room and public corridor,

b) Each exit stair shaft.

3.2.7.1 Minimum Lighting Requirements

An exit or a corridor providing access to exit shall be equipped to provide illumination to an average level not less that 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or ramps.

3.2.7.3 Emergency Lighting

The minimum shall not be less than 10 lx in exits, principal routes providing access to exit in open floor areas.

3.2.8.3 Construction Requirements

The building shall be constructed of noncombustible material

3.2.8.5 Vestibules

Each exit opening into an interconnected floor space shall be protected at each opening into the interconnected floor space by a vestibule.

3.4 EXITS

3.4.1.2 Separation of Exits

(2) If more than 2 exits are provided from a floor area, exits are permitted to converge in conformance with Sentence 3.4.3.1.(2), provided the cumulative capacity of the converging exits does not contribute more than 50% of the total required exit width for the floor area.

3.4.2.1 Minimum Number of Exits

Except as permitted by Sentences (2) and (4), every floor area intended for occupancy shall be served by at least 2 exits.

3.4.2.3 Distance Between Exits

The least distance between exits from a floor area is less than one half the diagonal dimension of the area.

3.4.2.4 Travel Distance

According to the building code, travel distance means the distance traveled from any point in the floor area to an exit measured along the path of travel. The travel distance from a suite or a room not within a suite is permitted to be measured from an egress door of the suite or room to the nearest exit, provided the suite or room is separated by a fire separation or is located in a floor area that is sprinklered throughout, and the egress door opens into the public corridor.

3.4.2.5 Location of Exits

The exits are to be located so that the travel distance to at least one exit shall not be more than 98’ (30m) in a non-sprinklered space. 148’ (45m) in a sprinklered space.

3.4.2.6 Principal Exits

At least one door at ground level must be designed in accordance with the requirements for exits.

3.4.3.2 Exit Width

The minimum aggregate required width of exits serving floor areas intended for business and personal services occupancies shall be 8mm per person (0.315 in) for a stair consisting of steps whose rise is not more than 180mm (7in) and whose run is not less than 280mm (11in).

The required exit width for exit stairs that serve interconnected floor space designed in accordance with Articles 3.2.8.3 to 3.2.8.9 shall be cumulative. Therefore, the minimum width of an exit stair must be no less than 1100mm (3.6ft) for corridors and passageways, ramps, and stairs that serve no more than two storeys above the lowest exit level.

3.4.5.1 Exit Signs

Every exit door shall have an exit sign placed over or adjacent to it if the exit serves a building more than 2 storeys in height and shall be visible on approach to the exit.

3.4.6.1 Slip Resistance of Ramps and Stairs

The surfaces of landings, ramps, and treads shall have a finish that is slip resistant and have a color contrast or distinctive pattern to demarcate the leading edge of the tread and the leading edge of the landing as well as the beginning and end of a ramp.

3.4.6.3 Maximum Vertical Rise of Stairs Flights and Required Landings

No flight of stairs shall have a vertical rise of more than 3.7m (12ft) between floors or landings. The top and bottom of every flight of stairs and ramp requires a landing.

3.4.6.4 Dimensions of Landings

The length and width of a landing must be at least the same as the width of the stairway in which it occurs, except that in a straight run, the length of the landing need not be more than 1100mm.

3.4.6.5 Handrails

1) A stairway shall have a handrail on at least one side, but if it is 1100mm or more wide, it shall have handrails on both sides.

2) Handrails must be continually graspable along their entire length and shall have a circular cross section with an outside diameter between 30mm-43mm (1.2-1.7 in), height between 865mm-965mm (34-38in),

3) At least one handrail must extend horizontally 300mm (1ft) past the top and bottom of the stairway or ramp,

4) The minimum distance between the handrail and the surface behind it is 50mm (2in).

3.4.6.6 Guards

1) Every exit shall have a wall or well-secured guard on each side.

2) The height of guards for exit stairs shall be not less than 920mm and no higher than 1070mm

3) No openings are allowed in the guard that permits the passage of a sphere whose diameter is more than 1100mm through a guard for an exit.

3.4.6.8 Treads and Risers

Steps for stairs shall not have a run of not less than 280mm (11in) between successive steps and a rise between 125mm-180mm (5-7in). Treads and risers shall not differ significantly in rise and run in successive flights in any stair system.

3.4.6.11 Doors

The minimum distance between a stair riser and the leading edge of a door during its swing is 300mm (12in).

3.4.6.12 Direction of Door Swing

Every exit door must open in the direction of exit travel and swing on a vertical axis.

3.4.6.13 Self-Closing Devices

An exit door that is normally required to be kept closed shall be provided with a self-closing mechanism, and shall never be secured in an open position.

3.5 VERTICAL TRANSPORTATION

3.5.3.1 Fire Separations for Elevator Hoistways

A vertical service space used as an elevator hoistway shall be separated from all other portions of each adjacent storey by a fire separation having a fire-resistance rating of 1h.

3.5.4.1 Elevator Car Dimensions

If an elevator is provided in a building all storeys must be served which fit the dimensions of a patient stretcher 2010mm (79in) long by 610mm (24in) wide.

3.7.2 PLUMBING FACILITIES

3.7.2.2 Water Closets

For an expected occupancy of 60 people, it can be assumed that there is equal distribution between males and females. Therefore, the minimum number of water closets for males is one and for females is two.

3.7.2.3 Lavatories

At least one lavatory is required for one or two water closets or urinals and shall be equipped with faucets that operate automatically or have lever-type handles that do not close under spring action.

3.7.2.6 Surface Protection

Surfaces below urinals and water closets shall be protected from deterioration by impervious and durable material.

3.7.2.7 Floor Drain

A floor drain shall be installed in a washroom containing a urinal equipped with an automatic flushing device.

3.8 BARRIER-FREE DESIGN

3.8.1.2 Entrances

No less than 50% of the pedestrian entrances of the building shall be barrier-free and shall lead from the outdoors at sidewalk level.

3.8.1.3 Barrier-Free Path of Travel

1) Shall not be less than 920mm wide,

2) Have no opening that will permit the passage of a sphere more than 13mm diameter

3) Be stable, firm, and slip resistant

4) Be equipped with passenger elevators, or other platform-equipped passenger-elevating devices to overcome a difference in level.

3.8.2.1 Areas Requiring a Barrier-Free Path of Travel

A barrier-free path of travel shall be provided throughout the entrance storey and within all other normally occupied floor areas served by a passenger elevator.

3.8.2.2 Access to Parking Areas

If exterior parking is provided, a barrier-free path of travel shall be provided between exterior parking area and a barrier-free entrance.

3.8.2.3 Washrooms Required to be Barrier-Free

A washroom in a storey to which a barrier-free path of travel is required shall be barrier-free. At least one barrier-free washroom shall be provided in the entrance storey.

3.8.3.3 Doorways and Doors

Every doorway that is located in a barrier-free path of travel shall have a clear width not less than 800mm when the door is in an open position. Door operating devices shall be of a design, which does not require tight grasping and twisting of the wrist as the only means of operation. Every door that provides a barrier-free path of travel through an entrance, including the doors to a vestibule, shall be equipped with a power door operator that allows persons to activate the opening of the door from either side. A vestibule located in a barrier-free path of travel shall be arranged to allow the movement of wheelchairs between doors and shall provide distance between 2 doors in a series not less than 1200mm plus the width of any door swing that swings into the space in the path of travel from one door to another.

3.8.3.8 Water Closet Stall

At least one water closet stall shall be not less than 1500mm by 1500mm and must be equipped with a door that:

- Can be latched from the inside with a closed fist,
- Provides a clear opening not less than 800mm wide when it is open,
- Swings outward, unless sufficient room is provided within the stall or enclosure to permit the door to be closed without interfering with the wheelchair.
- Is provided on the inside with a door pull not less than 140mm long located so that its mid-point is not less than 200mm and not more than 300mm from the hinged side of the door and not less than 900mm and not more than 1100 mm above the floor.
- Is provided with a door pull on the outside, near the latch side of the door.

The water closet must be located so that the clearance between the fixture and the wall on one side is not less than 285mm and not more than 305mm.

Grab bars must be provided that are mounted horizontally on the side wall closest to the water closet and shall extend not less than 450mm in both directions from the most forward point of the water closet. The grab bars are mounted not less than 840mm and not more than 920mm above the floor. The grab bars are not less than 30mm and not more than 40mm in diameter and has a clearance of not less than 35mm and not more than 45mm from the wall.

3.8.3.8 Water Closets

Shall be equipped with a seat located at not less than 400mm and not more than 460mm above the floor.

3.8.3.11 Lavatories

- Shall be located so that the distance between the centerline of the lavatory and the sidewall is not less than 460mm
- Has a rim height not more than 865 mm above the floor.
- Has a clearance beneath the lavatory not less than 760mm wide
- 735mm high at a point 205mm back from the edge
- 230mm high over the distance from a point 280mm to a point 430mm back from the front edge
- Has a soap and towel dispenser/hand dryer located close to the lavatory, not more than 1200mm above the floor in an area that is accessible to persons in a wheelchair.

3.8.3.12 Universal Toilet Rooms

A universal toilet room shall be served by a barrier-free path of travel and comply to the barrier-free water closet and lavatory standards.