The Design of Happiness

“Without joy we may be surviving but we are not thriving.”

—Ingred Fetell Lee, *Joyful*

University of Alberta

The Design of Happiness: Redesigning Interior Spaces to Improve User Health and Wellness

by

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Table of Contents

Abstract

Design for health and wellness is an emerging area within the design field based in the principles of environmental psychology. This subsection of design takes a number of concepts into consideration including ergonomics and comfort, accessibility, emotional design, pleasure with products, biophilic design, as well as the functionality, aesthetics, and character of the built environment.

This thesis investigates the process of how to evaluate, research, and design a built environment for health and wellness. A case study was made of 3 spaces within the Student Union Building on the University of Alberta campus and a redesign of these spaces has been created. Consideration was given to function and aesthetics, including the furniture, finishes and needs of each space for the student user group.

The Fitwel Certification is a rubric utilized by Stantec (a world-wide Architectural and Engineering company) and many other companies to evaluate the health impact that an office building has on the employees in that space. This rubric was adapted for campus buildings and used as a guideline for the evaluation of the Student Union Building. Data from a survey of students was also utilized to shape the design choices for the SUB redesign.

Keywords:

Environmental Psychology	Aesthetic	Biophilia
Built Environment	Health	Placemaking
Functionality	Wellness	Accessibility
Mood/Feeling	Inclusivity	

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Chapter 1

1.1 Introduction

This project is a multifaceted study of how the built environment affects people's health and wellness and includes several design concepts meant to improve these conditions. This project utilizes the Fitwel evaluation system and applies it to an education institution. The Fitwel system has previously been used to determine opportunities to provide a better health experience for office building users. To apply it to an educational setting, I have selected 3 spaces in the Student Union Building (SUB) to use as case studies for the application of this system. The Student Union Building offers unique opportunities as it is multifaceted space and has multi-use requirements including: eating, studying, socializing and sleeping; providing a comprehensive spectrum of campus experiences outside of the classroom for students.

Four pieces of furniture have been custom designed for the SUB spaces. to demonstrate how to better meet the health needs of the student users. Two of these pieces were constructed as full-scale prototypes to be included as part of this thesis work.

Additionally, the concepts studied and utilized from the Fitwell system are being transposed into the domestic environment. The initial start of a book will show the application of the Fitwel concepts to this environment. The book, *Home Made Happiness: 60 ways to design your home for health and happiness*, includes the 10 original Fitwel topics, with 2 additional topics, various tips and suggestions are introduced so that they can apply them to improve the health and wellness of their home for themselves and their family. This book will be an ongoing project initiated from this project in SUB.

Significance of Project:

The topics of environmental psychology and designing for user health are ones that require more in depth research and implementation as the built environment affects every single person around the world in both developed and developing countries. Since the beginning of the modern era, we as a society, have shifted building our own homes and structures that specifically suit our needs, to living in houses, cities and being surrounded

by infrastructure that is constructed by others. The average person now spends 90% or more of their time inside of a built environment that they had no input or influence over. The effect that these built environments have on us is overwhelming and can be unhealthy, banal, and understimulating. To paraphrase Richard Neutra, the fact that we do not realize the harmfulness of a design element does not mean that it is harmless. "Urban spaces, landscapes, and buildings--even small and modest ones--profoundly influence human lives. They shape our cognitions, emotions, and actions, and even powerfully influence our well-being. They actually help constitute our very sense of ourselves, our sense of identity" (Goldhagen xiii). Winston Churchill summarized it best when he said, "we shape our environments, thereafter they shape us."

The built environment does more than just provide us safety or shelter from the elements. It significantly impacts our lives and some of the choices we make. "It affects our moods and emotions, our sense of our bodies in space and in motion. It profoundly shapes the narratives we tell ourselves and construct out of our daily lives" (Goldhagen xiv). The design (or lack thereof) of spaces can make us healthy or sick. It can affect how we think, it can make us serene or despondent, motivated or apathetic, it can profoundly change who we are and how we behave. It has been observed that we are in fact, different people in different places. Each element of the built environment is a choice--it was chosen by someone and was designed and constructed in a certain way. More often than not, it takes just as many resources to build a bad building as it does to build a good one. Much of the build environment can be rebuilt, and much more will be built in the future. Which means there is the opportunity to reshape these environments into better places--ones that support our physical health, our mental and emotional well-being, and our social interactions.

Learning how the built environment shapes our lives and how spaces can be reshaped to improve people's lives has the opportunity to positively impact people. The information gained from this project could be diffused through the construction and design industries to improve the minimum building standards of all kinds of built environments; not just office and work environments, but also schools and home environments. This could have a profound impact for the most vulnerable and underserved populations in North America

and around the world (the elderly and disabled, the poor, and those displaced by world disasters). All of these populations suffers significantly by the poor living and educational conditions that are created by the application of minimum building standards. Elderly people are often removed from their homes and forced to move into institutions due to the unsafe conditions in their homes (i.e. stairs, bathtub, doorways or hallways that cannot accommodate assistive devices, etc.) These same barriers make typical home construction extremely difficult for anyone with a disability and often renders these persons incapable of living alone as they cannot navigate or utilize their home safely on their own.

Poorer populations often live in "dark, characterless, cramped, windowless boxes located somewhere in an undifferentiated thicket of high-rise towers" (Goldhagen xxi). A lack of access to nature diminishes these inhabitants sense of community and reduces their social ties with their neighbors. Additionally, "children who inhabit chaotic, densely populated homes exhibit measurably slower overall development than do children raised in more spacious quarters. They underperform in school and exhibit more behavioural problems both in school and at home" (Goldhagen 4).

People whose lives are disrupted by world disasters (earthquakes, tsunamis, hurricanes, war, etc.) are not only traumatized by the horrific event that they endured, but can often spend one or many years living in extremely sub-par housing while their homes, cities, and countries are rebuilt. During the 2010 earthquake in Haiti, one and a half million people lost their homes, and 7 years later, many were still living in encampments of makeshift temporary shelters. Entire families live in one room shanty homes made with dirt floors, metal walls, and tarp roofs line busy streets. There is no privacy, no electricity, no plumbing, no quiet, no clean air or fresh water. With slight variations of metal or thatch roofs, plastic scraps, plywood or cardboard sheets, slums like these exist in many areas around the world such as Brazil, Tunisia, South Africa, Jamaica, Pakistan, Chile, India and many others. Slums are the world's fastest growing habitat according to UN-Habitat, a United Nations program focusing on improving urban development. People who grow up in these kinds of challenging and impoverished conditions experience lifelong deficits in their ability to manage their emotions, cope with life's

challenges and their ability to take advantage of opportunities when they are presented (Goldhagen 4).

Similar to the mental and emotional challenges that these vulnerable populations encounter in their home environments, the school environment has a profound effect on the health and well-being of its students. A study conducted in 34 different British schools identified six design parameters as having a significant effect on learning. They are color, freedom of choice, complexity, flexibility, light and connectivity. These factors can impact a student's learning by as much as 25 percent--which is equal to the amount of progress a typical student makes over an entire academic year.

Academic Pursuit:

This thesis aims to take the Fitwel Assessment, first introduced in 2016, and apply it to the educational and individual home environments. Because of the newness of this assessment, the applicability of it has not been fully pursued and realized. It is my belief that this assessment can be used to help advance the minimum building standards for construction and in doing so, can improve the lives of many. While the application of this assessment in the office environment is valid, and employee health and productivity is important, I believe that applying it to educational and home environments can have a more profound and impactful effect on people. Creating environments that are more supportive and conducive to learning improves our institutions by allowing each citizen to achieve their maximum potential. Additionally, creating home environments that support people physically, mentally, socially, and emotionally provides people with the psychological sanctuary that is needed for health and happiness.

Definitions and Scope:

For the purposes of this paper, health is defined as the physical condition of a person being free of injury or illness, whereas wellness is defined as the mental, emotional, intellectual and social well-being of a person. Built environment is defined as the human-made space in which people live, work and recreate on a day-to-day basis. Three rooms on the main floor of the Student Union Building are the built environments on

which this project is focused. Biophilia is defined as the theory that humans possess a desire to interact with other forms of life through nature. Environmental psychology is an interdisciplinary field that focuses on the way that individuals interact with their surroundings. More specifically, it examines the way that the natural environment and the built environment shape us as people. For this project, placemaking is defined as looking at, listening to, and asking questions of the people who utilize a particular space in order to discover their needs and aspirations which then form a common vision for that place so that the users feel a deeper sense of connection and belonging to it.

The goal of this project is to improve the health and wellness of students who use the Student Union Building (SUB) through the application of design changes in 3 commonly used rooms on the main floor of SUB. Because students have unique health-based needs this project only focuses on student health and does not take faculty, staff, employees, or any other users into consideration. The application of environmental psychology, biophilic design practices, and placemaking were utilized to improve student health and wellness within SUB.

1.2 Background

Current SUB Information:

The three spaces in SUB that are being redesigned in this project are currently plagued by upholstered furniture from the 1990's that is stained and has lost its cushioning. Most of the tables are wobbly and uneven, and the accompanying chairs are uncomfortable. While there are large windows in two of the spaces the lighting is inconsistent and there is a significant lack of plants and other biophilic elements. (See Appendix A for photographs of current SUB details).

Secondary Research:

Primary and secondary research was conducted to collect data and information related to this project. The primary research is outlined in the General Methodologies section. The pursuit of secondary research started with a literature search into several fields of study including environmental psychology, biophilic design, the built environment and the

emotions of both happiness and joy. While numerous books, journals and articles were utilized, six specific texts formed the backbone on which this project was based.

The book *Welcome to your World: How the Built Environment Shapes our Lives* by Sarah Williams Goldhagen, has been influential for this work. The book utilizes research in cognitive neuroscience and environmental psychology to explain how the built environment and its design affects people far more than we previously thought. She discusses some of the world's best and worst buildings, landscapes and cityscapes and details the way in which we are affected by them. Goldhagen explains that "the built environment affects our physical health and our mental health. It affects our cognitive capabilities. And it affects the ways we form and sustain communities. The built environment affects each of these facets of our lives, and because they are related to one another, it does so in ways that are mutually reinforcing" (Goldhagen 17). Goldhagen goes on to outline how form, pattern, light, color, sound, texture and other elements influence people's perceptions, reactions, and emotions in a space. One of the most profound statements made by Goldhagen is that "the more we learn about how people actually experience the environments in which they live their lives, the more obvious it becomes that a well-designed built environment falls not on a continuum stretching from high art to vernacular building, but on a very different sort of continuum: somewhere between a crucial need and a basic human right" (Goldhagen 41). This viewpoint became one of the most compelling arguments for the pursuit of the work and research I have conducted.

The Practice of Biophilic Design by Stephen R. Kellert and Elizabeth F. Calabrese discusses how biophilia is an "inherent human inclination to affiliate with nature" and how "even in the modern world it continues to be critical to people's physical and mental health and wellbeing (Kellert & Calabrese 3). They comment that "much of the built environment is so sensory deprived, it is sometimes reminiscent of the barren cages of the old-fashioned zoo, now ironically banned as 'inhumane'" (Kellert & Calabrese 5). In order to create more stimulating environments that positively impact people's health, the practice of biophilic design should be utilized. Biophilic design seeks to create a beneficial habitat for people by utilizing repeated and sustained engagement with nature.

This can be achieved through 3 different types of experiences: direct experiences with nature, indirect experiences with nature, and the experience of space and place. Direct experiences with nature include exposure to natural light, natural ventilation, water, plants, animals, weather, fire and natural landscapes and ecosystems. Indirect experiences with nature include: images of nature, the use of natural materials and natural colors, simulating natural light and air, naturalistic shapes and forms, natural geometries, biomimicry, age, change, and the patina of time, and elements that evoke nature. The experience of space and place includes the concepts of: prospect and refuge, organized complexity, integration of parts to wholes, transitional spaces, mobility and wayfinding, and cultural and ecological attachment to place. Kellert and Calebrese assert that "the successful application of biophilic design should also result in a wide spectrum of physical, mental and behavioral benefits. Physical outcomes include enhanced physical fitness, lower blood pressure, increased comfort and satisfaction, fewer illness symptoms, and improved health. Mental benefits consist of increased satisfaction and motivation, less stress and anxiety, and improved problem solving and creativity. Positive behavioural change includes better coping and mastery skills, enhanced attention and concentration, improved social interaction, and less hostility and aggression" (Kellert & Calabrese 8). The concepts of biophilic design play an integral role in the design development of this thesis project. Due to the numerous health benefits that biophilic design provides, it was incorporated throughout the project to maximize its effect.

The book *Joyful: The surprising power of ordinary things to create extraordinary happiness* by Ingrid Fetell Lee discusses how universally, across ages, cultures, genders or ethnicity, we tend to express joy towards the same objects and experiences. Using research from neuroscience and psychology, Lee "challenges the popular notion that true joy can only come from within and explores how the seemingly mundane spaces and objects we interact with every day have surprising and powerful effects on our mood" (Lee second cover). Lee takes the concept of joy and breaks it down into 10 aesthetics: energy, abundance, freedom, harmony, play, surprise, transcendence, magic, celebration, and renewal. Lee makes the argument that "even though joy's origins lie in highlighting what is essential for our survival, it has come to signify the ultimate luxury, an extra we

allow ourselves only if all our needs are met. The problem is that without joy, we may be surviving, but we are not thriving" (Lee 297). While it is not necessarily an obvious pairing, the integration of joy into the built environment is essential. Lee summarizes best it by saying, "once we accepted the notion that joy is inessential, it became easy for it to slip out of the center of our lives. Work became about endless gains in productivity, rather than the joy of craft or creation. School became a push for achievement, rather than an exploration or an adventure. Systematically, joy was squeezed out of the places where we spend most of our days. And the same thing happened to our physical environment. Buildings presented themselves as canvases for the display of status or ideology or brand identity, rather than spaces for the cultivation of joy. As joy moved to the edges of our world, to the playgrounds and beaches, nature preserves and candy stores, the rest of the world was left to languish" (Lee 297-298). For the spaces in SUB, I utilized Lee's aesthetics of harmony and play and incorporated them into the three designs. While they are not obvious, the hope is that they subconsciously influence the mood of the spaces to provide more joy for the students utilizing these spaces.

The Little Book of Lykke, written by Meik Wiking, founder and CEO of the Happiness Research Institute in Copenhagen, Denmark, discusses the various ways that happiness is defined and identified around the world. According to the World Happiness report, commissioned by the United Nations, shows that there is "a four-point happiness gap between the happiest and unhappiest countries, and three points of these four are explained by six factors: togetherness or sense of community, money, health, freedom, trust, and kindness" (Wiking 19). The most pertinent of these factors for this project are togetherness and health. Wiking expresses that having people to whom we can meet with socially and talk about personal matters, the happier we are. Loneliness is bad for happiness. If one looks at Maslow's pyramid of human needs, love and belonging come just after basic safety and physiological needs. Wiking states that "the happiest countries have a strong sense of community, and the happiest people have someone they can rely on in times of need" (Wiking 38). Creating spaces that foster a sense of community, togetherness, and socialization was a key goal in my designs. When outlining the concept of health, Wiking observes that "across cultures, there seems to be one thing that all

parents wish for their children: good health. Good health enables us to play, to seek out adventures, to pursue happiness" (Wiking 126). He also observed a reverse correlation between happiness and health. While it is generally believed that chronic health problems have a significant impact on happiness, in fact, our happiness has an impact on our health. According to Wiking, "a greater level of happiness predicts better future physical health" (pg 128). Therefore, by creating a healthier built environment, one can not only impact their happiness but that happiness will also impact their future health.

Dak Kopec's *Environmental Psychology for Design* is a definitive text on how spaces and environments influence human thoughts and behavior. This book starts by outlining the basic concepts of environmental psychology and discusses how humans perceive and process information. It then covers the specific needs of children and elderly adults as well as persons with disabilities. Then it discusses 6 different types of environments including the home, the community and neighborhood, learning and education, office, healthcare, resorts and recreation, retail and service environments. Kopec provides design ideas and recommendations for each type of user group and each type of environment, explaining the psychological rational throughout. For example, when discussing learning and education spaces, he says, "social areas should have a variety of soft furnishings for informal or spontaneous gatherings. Some suggest that furniture layout include a variety of positions including centripetal (inward facing) for group work and centrifugal (outward facing) for individual work (Kopec 226). He goes on to discuss the effects of color in learning environments and states that color "has been shown to influence students' attitudes, behaviors, and learning comprehension by affecting their level of attention. In most cases, bright rooms with light colors are preferred over rooms with dark colors. In addition to preferences, physiological and emotional reactions have been linked to room color, including respiratory rate and blood pressure, as well as the release of hormones within the brain and hypothalamus, which in turn affects mood, mental clarity, and energy levels" (Kopec 227).

The Art of Happiness by Alain de Botton primarily focuses on the home environment as its subject matter and expands on how the built environment affects people emotionally. De Botton initially states that "belief in the significance of architecture is premised on the

notion that we are, for better or for worse, different people in different places--and on the conviction that it is architecture's task to render vivid to use who we might ideally be" (de Botton 13). He expresses the idea that it is not just an ideal but a duty for homes and built environments to be designed in a way that support their users emotionally. "We require places where the values outside of us encourage and enforce the aspirations within us (de Botton 108). He goes on to say that "we require that our environments act as guardians of a calmness and direction on which we have a precarious hold" (de Botton 183). While he was not speaking specifically of an education based environment when making this last statement, I feel it directly applies. Students, through questionnaires have expressed that they often feel stressed and directionless when progressing through the higher education system. These young adults experience a multitude of new situations, ideas, and stimuli and at times find themselves feeling overwhelmed or at loose ends. Providing environments that support feelings of calmness and direction could help to foster improved health for these students.

Donald Norman's book, *Emotional Design: Why we love (or hate) everyday things* discusses how the emotional design of a product may be more critical to its success than its practical elements. Norman breaks a product's design down into three types of design: visceral, behavioral and reflective. Visceral design has to do with the product's appearance while behavioral design concerns itself with the pleasure and effectiveness of use. Reflective design considers the rationalization and intellectualization of the product. Norman goes on to discuss various ways that these three types of design can be incorporated into product design and discusses the success of several products. It is his discussions on emotions that I have found most useful in my research. Norman states that "emotions are inseparable from and a necessary part of cognition. Everything we do, everything we think is tinged with emotion, much of it is subconscious (Norman 7). He discusses the research of psychologist Alic Isen and her colleagues who have shown that happiness broadens the thought process and facilitates creative thinking. While anxiety has been proven to narrow thought processes and focus concentration on a single problem, when people are relaxed and happy their thought process expands, becoming more creative and more imaginative. He also discusses how negatively perceived design

leads to great frustration and that the fault lies not with the user but with the designer. One of the most impactful concepts from Norman's book is that "products can be more than the sum of the functions they perform. Their real value can be in fulfilling people's emotional needs, and one of the most important needs of all is to establish one's self-image and one's place in the world" (Norman 87).

1.3 General Methodology

During the 2018-2019 academic year (fall & winter semesters), a project was created and executed by eight Des 500 students to investigate the principles of the Fitwel Scorecard and to redesign the evaluation to be adapted to a University setting. The first semester was spent researching and evaluating the appropriateness of the Fitwel criterion, redesigning the Fitwel into a new rubric called UWell, and using the UWell survey to evaluate four different University buildings. During the second semester, the students chose two buildings to focus on and created design recommendations for the buildings to improve student health. Supervising this student project while simultaneously conducting the same research and evaluations on the Student Union Building was a large part of my research process.

Survey Results:

One form of primary research that was utilized in the evaluation of the SUB spaces was a survey published to students in the SUB newsletter. A total of 478 students completed the 61 question survey. The survey covered questions regarding the following topics: general demographics and use, food, water, comfort, safety, accessibility, lighting, sound, smell, ergonomics, and wayfinding. The results of this survey were used to help evaluate the wants and needs of student users. Additionally it helped to identify the "pain points" of the 3 spaces that created the most frustrations for the student users. The student feedback produced by the SUB survey provided the following information regarding each space:

Living Room:

- The upholstered furniture needs to be replaced do to it being old, worn, stained, and lacking cushioning which makes in too low and ergonomically incorrect.
- The tables and chairs in the living room area need to be replaced as the chairs are uncomfortable and hard with poor ergonomic support and the tables are too small and wobbly.
- Students prefer a view of the outdoors with a nature view being overwhelmingly the preferred type of view.
- Students would prefer natural elements to be incorporated into the interior spaces of SUB.
- Students prefer to socialize and study in the living room area.
- Students typically study alone but typically socialize with 2 or more people.
- Students prefer to study at a table and chair.
- Students prefer to socialize in an upholstered chair.

Food Court:

- Students prefer to eat in the food court area.
- Students prefer to eat at a standard height table and chair.
- There is an even mix of students who eat alone vs. eat with 1 friend vs. eat with 2 or more friends.
- Students feel that the issues related to ordering during mealtimes are mostly related to the space being overcrowded and having poor queuing/space planning strategies.
- Students feel that the issues related to finding seating include the space being too crowded and there not being enough tables and chairs available due to large tables being taken up by only one or two people.
- Students feel they would socialize with strangers more if there were mechanisms employed to make this process less intimidating.

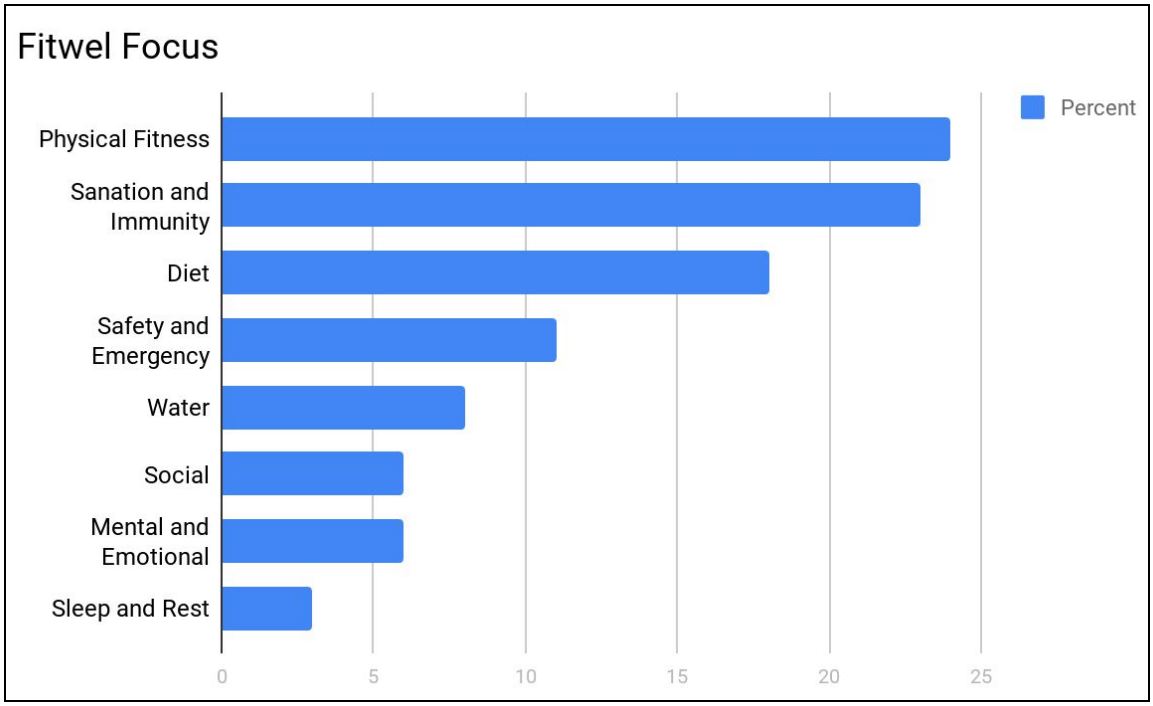
Study Space:

- Students would prefer to study in the living room space as opposed to the room in front of the Alumni lounge.
- Students would prefer sound dampening methods to be utilized to reduce the amount of noise from people talking.
- Students have a desire for a comfortable space to get away from the noise/stress of campus.

The above information was evaluated and consolidated to inform the creation of the design brief for the redesign of three SUB spaces. (See Appendix B for complete survey results).

Fitwel Information:

The Fitwel Scorecard was commissioned and overseen by the Centre for Disease Control and Prevention (CDC) in conjunction with the General Service Administration (GSA) and developed by the Center for Active Design (CfAD), a not-for-profit organization invested in designing healthy communities. With the intention of creating healthier work environments for office workers, Fitwel has become one of the most widely used certifications. The Fitwel Scorecard consists of 63 strategies grouped into 12 areas of evaluation which include: location, building access, outdoor spaces, entrances and ground floor, stairwells, indoor environments, workspaces, shared spaces, water supply, food services, vending machines and snack bars and emergency procedures. The students and I took these 63 strategies and reconfigured them into 8 categories that impact health and determined which categories the Fitwell Scorecard emphasized the most. This reconfiguration showed that Fitwel most highly valued how a space impacts the physical health of the user and health criteria that contribute to user productivity through a reduction of absenteeism because of illness or poor diet.



However, for a University campus the Fitwel rubric needed to be adapted from employee wellness in an individual office building to student wellness on a campus, or multi-building ecosystem. I worked with a group of undergraduate students and employed a multitude of methodologies including surveys, personal observations and experiences, and expert interviews to investigate the definition of student wellness.

Expert Interviews:

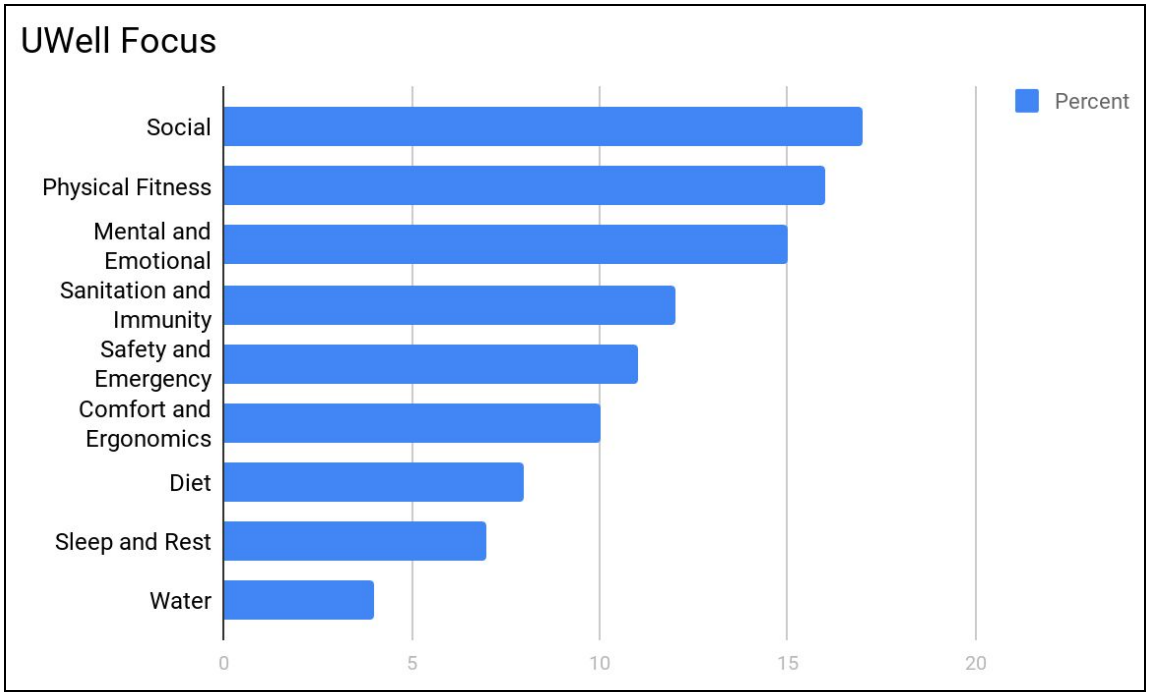
Expert interviews were conducted with University of Alberta Architects, Ben Louie and Kelly Hopkins, Wellbeing and Sustainability Specialists, Kaitlyn Gillis and Blake Jackson from Stantec (one of North America's largest architectural firms which champions the Fitwel assessment program and certifies Fitwel Ambassadors). From these interviews, the Fitwel Certification was explained and the concept of Biophilic Design was introduced. Biophilic Design is a concept within the building industry used to increase occupant connectivity to the natural environment through the use of direct nature, indirect nature, and space and place conditions. Blake Jackson provided the project with the guideline, 'think about the built environment as preventative medicine'.

Additionally, a lecture provided by Melissa Visconti, the Wellness Services Team Lead at the University of Alberta helped to define and inform the concept of student wellness. Melissa stated that 'student health must encompass physical, mental, emotional, social, intellectual, spiritual, financial and environment components'. All of these student health issues were considered when adapting the Fitwel rubric for the University setting. However, three factors were outlined as significantly affecting academic performance: stress, inadequate sleep and anxiety. While these health issues can create physical symptoms, they often manifest in mental and emotional health issues first. This, therefore, became one of the primary focuses of the redesigned UWell Scorecard (see Appendix C for full survey).

A second interview with Ben Louie spotlighted a missing component in the UWell evaluation: winter. Since this new rubric was being created primarily for institutions in North America and with the University of Alberta being the first case study, significant consideration was given to the uniqueness of a winter climate and how it affects student health. The advice to design for 'white and black: snow and night' was given and was used to shape the UWell evaluation.

UWell Scorecard Evaluation:

The final UWell Scorecard included both campus-wide and building specific strategies that were categorized into 13 areas of evaluation including: Commuting (Building Specific), Campus Amenities (Campus-Wide), Student Spaces (Building Specific), Multi-Purpose Spaces (Building Specific), Outdoors (Campus-Wide), Community (Campus-Wide), Food (Campus-Wide), Water (Building Specific), Safety (Campus-Wide), Safety (Building Specific), Entrances (Building Specific), Stairwells (Building Specific), and Systems & Policies (Building Specific). The UWell strategies were then categorized into the same 8 health categories as the Fitwel with a 9th category of Comfort and Ergonomic added as it was felt to be a significant health requirement for a University campus.



After a thorough evaluation of the spaces in the Student Union Building, the 3 spaces in SUB received a cumulative score of 125 on the UWell Scorecard. The UWell Scorecard revealed mental and social health as having the greatest deficiencies with physical fitness and comfort and ergonomics as also having large margins for improvement. These 4 categories therefore informed a majority of the design decisions for the improvement of the Student Union Building (see Appendix C for complete UWell evaluation).

Mental Health	16/41 = 25
Social Health	23/46 = 23
Physical Fitness	27/45 = 18
Comfort and Ergonomics	10/28 = 18
Diet	5/21 = 16
Sleep and Rest	5/18 = 13

Sanitation and Immunity	23/34 = 11
Safety & Emergency	24/30 = 6
Water	8/12 = 4

Chapter 2

2.1 Design Brief

UWell "C" Level Recommendations:

The current score of 125 out of 226 points clearly shows that there is significant room for improvement when it comes to the health influences of the Student Union Building. There are a number of interventions that SUB can immediately implement in order to increase their score to 145 points which will allow them to achieve a "C" level health score (see Appendix C). Those interventions include:

- Survey: Conduct an annual student commuter and building use survey with a response rate of at least 30%. (1 point)
- Bicycle Parking: Provide adequate bike parking for 5% of regular student occupants or enough to exceed demand as dictated by the student commuter and building use survey. (2 points)
- Commuter Showers: Provide lockers and at least 1 public shower per 500 regular student occupants. (2 points)
- Handwashing: Provide permanent educational signs posted in all bathrooms regarding handwashing. (1 point)
- Bathroom Cleaning Schedule: Provide official documents detailing the daily bathroom cleaning schedule and/or policy for all building restrooms. (2 points)
- Quiet Room: Provide at least 2 alternative seating options (couch, recliner, beanbag, etc) in the quiet room located on the basement level. (3 points)
- Sleeping Areas: The quiet room could also be considered a sleeping area if low lighting and detailed daily cleaning schedules were provided for this space. (4 points)

- AED Wayfinding & Testing: Provide clear, annotated plans detailing the locations of all the Automated External Defibrillators (AEDs). Include AED locations on all building wayfinding. Provide official documents detailing the regular testing schedule of all AEDs per manufacturer recommendations. (1 point)
- Stair Signage: Provide permanent point-of-decision signs at elevator call areas on each floor indicating the nearest staircase. (2 points)
- Elevator Accessibility: Provide visual and audible indicators of elevator operations including tactile symbols and raised braille messages adjacent to the elevator control buttons. (3 points)
- Smoke Free Signage: Provide smoke-free and vape-free signage at all building entrances. (1 point)

Hierarchy of Student Needs:

In order to further improve the health impact of SUB on student users, more in-depth design interventions must be created and implemented. Three specific spaces were utilized to demonstrate these design interventions. These spaces include: the living room area, the food court area and the space in front of the student alumni lounge, which we will call the indoor park area. In order to create these design interventions, information from the UWell assessment and the student survey were combined to determine the following hierarchy of needs and wants:

1. Provide mechanisms to improve student physical, mental, emotional and intellectual health.
2. Provide spaces for studying, socializing, eating, sleeping and any combination thereof.
3. Create mechanisms to reduce student loneliness by enable socialization.
4. Reduce feelings of being overwhelmed or crowded which cause anxiety and frustration.
5. Incorporate access to nature, natural views and materials, and daylight.
6. Facilitate student placemaking and ownership within the spaces.

7. Create a warm, cozy atmosphere in the living room space that feels welcoming, residential, and supportive.
8. Create a bright and fun atmosphere in the food court.
9. Create quiet spaces or a way to get away from the stress of campus.
10. Create a functional space plan each of the three spaces that allows for ease of movement and traffic flow.
11. Provide solutions for queuing during mealtimes.
12. Resolve difficulty with finding seating during mealtimes.
13. Provide new furniture in each of the spaces that is durable, sustainable and supports the function of each space.
14. Provided furniture for alternative sitting/lounging positions.
15. Ensure that finishes in each space are able to withstand the harsh Alberta climate, significant use, and are easily cleanable.
16. Enable greater access to electrical outlets.

Chapter 3

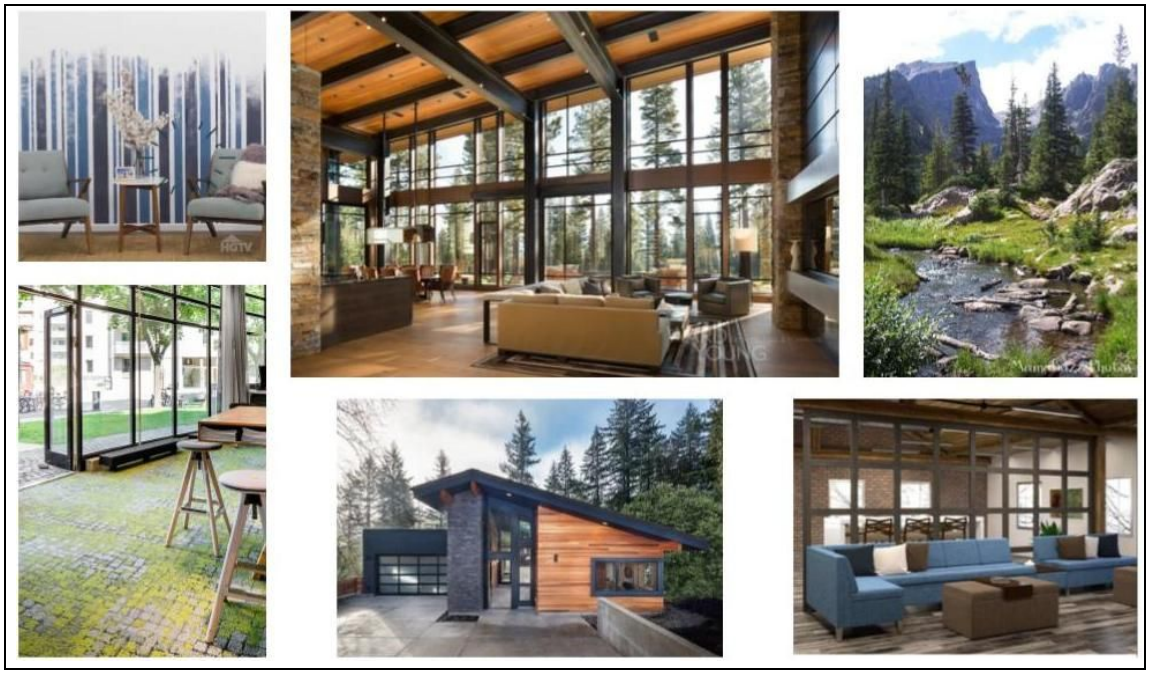
3.1 Design Concept

Inspiration and Initial Ideation:

Campus environments often include spaces that are designed for specific needs or uses; classrooms for teaching, libraries for accessing information and for studying, food courts for dining, but rarely are these spaces designed with health and wellness as the primary focus. This design project aimed to investigate these issues by designing 3 spaces in SUB to include furniture, finishes and features chosen specifically for their contributions to physical, mental, emotional, social, and intellectual health. There were 5 primary viewpoints that were considered throughout the design conceptualization process: biophilic design, ergonomics, sustainability and durability, joyfulness, and placemaking. Additionally, each space was evaluated for ways to improve the space plan and traffic pathways and to create an ease of use for students and all users.

Living Room: The overall SUB design started with the living room space. This space is used by students for socializing, eating, studying and sleeping. Students expressed a need

for better study areas with more access to electrical outlets. They wanted the ability to study more comfortably in the upholstered furniture areas. Alternative seating options and noise reduction mechanisms were both requested by 36% of students. Although the room has large floor-to-ceiling windows on the south side, 30% of students feel this room is too dark. The design intention for this space was to marry the idea of a cozy, mid-century modern mountain lodge with natural elements and influences.



Food Court: Of the students surveyed in SUB, 43% come to SUB to use the food court. Over 35% of students surveyed said that they find ordering food during mealtimes to be difficult and over 68% said that finding seating during mealtimes is difficult. Their main complaints are that the food court is too crowded and that there are not enough tables and chairs as many 4-person tables are often taken up by only 1 or 2 people, and that sitting with strangers is intimidating. As high as 58% of students said they would socialize more with strangers if there were mechanisms in place to make this less intimidating. The food court needs restaurant queues and distinct traffic pathways in order to provide more function and organization to the space. Additionally, applying a more linear approach to the seating areas and a greater variety of table sizes for both large and small groups will help to maximize the functionality of the space. While the design has reduced the number of overall seats available, enough seating is provided to accommodate peak usage (see

Appendix D for usage data). Reducing the extraneous seating and providing greater organization to the seating areas should help to reduce the feeling of crowdedness. The overall design concept for the food court is to create a light, bright space, with accents of wood, natural colors and features.

Indoor Park: The indoor park is currently a spill-over dining/study space with no distinct identity. While this space is located adjacent to the Alumni Study Room, the majority of students expressed a greater desire to study in the Living Room as opposed to this location. Additionally, through my research with the UWell evaluation, campus amenities including spaces for gamification, immersive sensory experiences (campus experiences), and a restorative garden were all identified as lacking or missing from the University of Alberta's north campus. Because of these factors, I decided that this space would be better utilized by becoming an indoor park rather than another nondescript place for tables and chairs. The design of this space is meant to allow students the feeling of being immersed in nature while still being inside and protected from the Alberta winter. This spatial design of this space invites students to sit on the floor, picnic, relax,

socialize and/or study. The space includes faux grass, indoor trees, faux sky, and numerous alternative seating options including beanbags and swings.

Biophilic Design:

The incorporation of biophilic design played a primary role in the design of these spaces in order to maximize the health benefits that nature provides. Within the 3 SUB spaces, 2 Direct Experiences of Nature could be found: light and fire. Floor-to-ceiling windows in both the living room and the indoor park provided natural light to these spaces and a large copper fireplace is located in the north-west corner of the living room. To create a greater direct experience with nature, 2 additional opportunities were identified and incorporated into the design of these spaces.

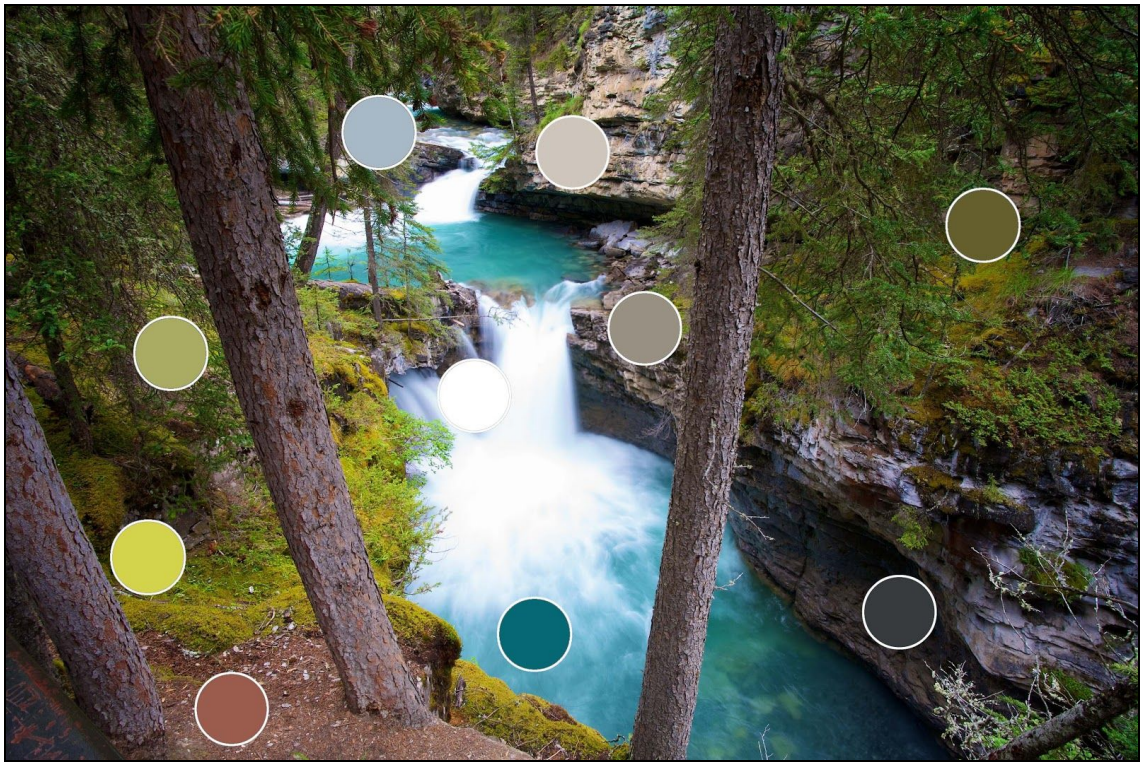
Plants: To create additional direct experiences with nature, plants were added throughout all 3 spaces in various forms. Moss installations were added to the east wall of the indoor park as well as the ceiling of the food court and potted plants were added to the food court and the living room spaces. Two indoor trees were also incorporated into the indoor park design. According to Kellert and Calabrese, the abundant use of plants can "reduce stress, contribute to physical health, improve comfort, and enhance performance and productivity" (Kellert & Calabrese 13).

Water: A water feature was added to the indoor park as another direct experience of nature. Integrating water into the built environment can "relieve stress, promote satisfaction, and enhance health and performance" (Kellert & Calabrese 12). However, they advise that it is most pleasing when it is clean, in motion, and experienced through multiple senses. The string water curtain designed for this space provides the sensorial health benefits of water, allowing students to see and hear it, while utilizing a recirculating pump for minimal water usage.

While there are 10 Indirect Experiences of Nature identified, the existing SUB spaces do not include a single one. Four Indirect Experiences of Nature were utilized throughout the design of these three spaces.

Natural Colors: "The effective biophilic application of color should generally favor muted 'earth' tones characteristic of soil, rock, and plants" (Kellert & Calabrese 15). A nature-inspired color palette was shared across all three spaces to provide cohesion. The color palette was derived from a visit to Johnston Canyon Falls in Banff National Park. A warm grey-beige, similar to that found in rocky mountain landscapes, was chosen for the wall color throughout the room to lighten the space and provide a bright, neutral

backdrop. Accent colors varying in shades of green, blue, teal, orange, and yellow were used in the furniture upholstery to provide a sense of both calm and warmth.

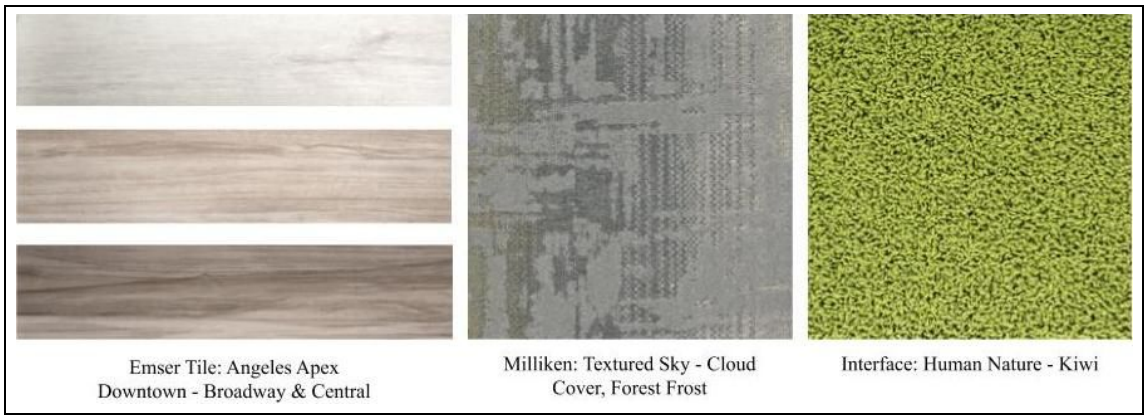


According to Dak Kopec, the following psychological effect results from each of those colors: “Orange--energizes, stimulates appetite. Yellow--energizes, relieves depression, improves memory, stimulates appetite. Green--soothes, mentally and physically relaxes, mitigates depression and anxiety. Blue--calms, lowers blood pressure, decreases respiration” (Kopec 103). Teal--promotes restfulness, provides mental and spiritual balance. The combination of these colors is meant to both stimulate and energize students for socialization and group collaboration, and to calm and soothe students for relaxation, sleep and healing.

Natural Shapes and Forms: The use of natural shapes and forms can help to “transform a static space into one that possesses the dynamic and ambient qualities of a living system” (Kellert & Calabrese 16). A wall mural depicting an abstract tree motif was added to the west wall of the living room to create a sense for the students that they were in nature, sitting amongst the trees. This same design was also incorporated into the queue dividers within the food court. While the queue dividers are made of metal, which

gives them an entirely different look, the repetition of the element helps to provide a sense of cohesion between the spaces.

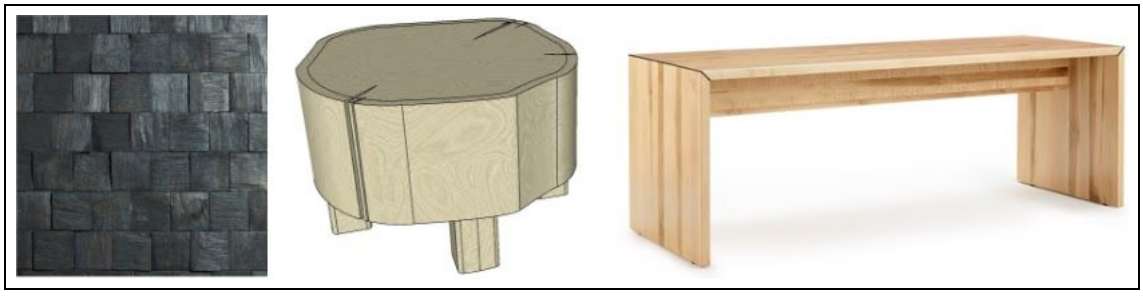
The flooring in the living room consists of ceramic tile that looks like wood planks and carpet tile that mimics a mossy forest floor, while the carpet tile in the indoor park provides the impression of grass.



Many of the fabrics used in the living room design have biophilic designs, influences or colors.

Natural Materials: “The transformation of materials from nature frequently elicits positive visual and tactile responses, which few artificial materials can duplicate” (Kellert & Calabrese 15).

Wood and wood veneer was used in abundance through the design of all 3 spaces. Tree stump coffee and side tables were incorporated in both the living room and indoor park. Stacked wood panels are used to create an accent wall behind the stage in the living room. The wood panels mimic the look of end-cut 4x4 wood, applied at different depths for interest and texture and stained a rich brown-black. While the majority of the dining and study tables are white for a bright, clean impression, the community tables in the food court are a warm-toned wood. The material and color are meant to feel welcoming and invite the students to sit and socialize with friends or strangers.



Images of Nature:

Large installations of cloud ceiling panels have been incorporated into both the food court and the indoor park areas. Because single or isolated images of nature typically have minimal effect, these images of nature are repeated, thematic and abundant for maximum impact and will help to provide a sense of openness and spaciousness.

Prospect and Refuge:

The experience of Space and Place refers to "spatial features characteristic of the natural environment that have advanced human health and wellbeing" (Kellert & Calabrese 9). Included in the Experience of Space and Place, the concept of prospect and refuge is to create areas within the built environment wherein users can experience long views of their surroundings, which show opportunities and dangers, as well as enclosed areas providing safety and security. Room dividers were added to the east side of the living room to create a sense of refuge within this large prospect-like space. Students expressed feeling exposed within the space, so this additional 'wall' was added to enclose the space a bit more and to provide seating areas that felt more contained within this larger space. The wall dividers are designed utilizing a grid of open and closed squares. Closed squares were created by inserting acoustical tiles into the square frames to assist with sound dampening as 36% of students requested methods for noise reduction within the space.

Alternative Seating Ergonomics:

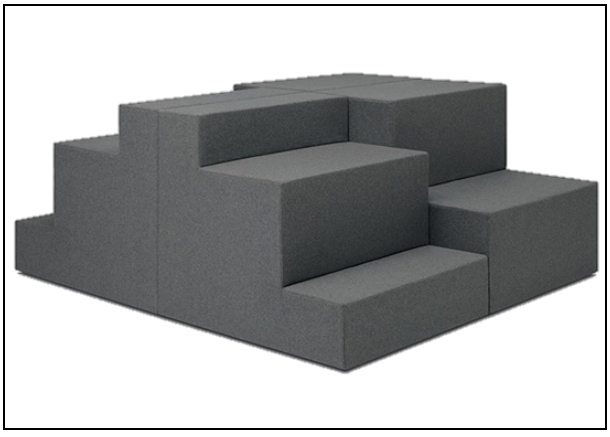
Special attention was given to the choice of furniture and products used in each space, ensuring that a variety of seating options were included in order to cater to various ergonomic preferences. The Allsteel Inspire Stacking Chair was chosen for its ergonomic comfort, while the Allsteel Rise seating, Lujo bean bag chairs, and the flying carpet bench, were chosen for these spaces because they provide alternative seating options. Having varied and numerous sized seating choices and positions greatly contributes to the physical comfort of people in a space. When students are provided with the choice of where and how to sit, and feel invited to do that which is the most comfortable for them individually, they benefit from both a physical and cognitive health perspective. As Kopec explains when discussing the design of learning environments, "the poor ergonomic design of the chairs, coupled with the length of time students are expected to

remain seated, can lead to lower back pain, which has become a major health concern in industrialized nations. Musculoskeletal fatigue and pain can cause students to focus more on easing their discomfort than on the subjects they are learning because the human brain is configured to satisfy *physiological* needs before *cognitive* needs. Students who move around in their seats are often attempting to find comfort and not paying attention to the instructor" (Kopec 226).

Allsteel Inspire Stacking Chair:

Constructed with a perforated polymer shell, durable metal legs, and non-mechanical seat suspension, this chair provides weight-activated movement that reduces pressure on the buttocks and thighs. Motion-sensing back recline intuitively adjusts with the user movement and provides support and comfort. Continuous airflow is facilitated through the y-shaped perforations in the polymer shell to keep the body comfortable. Optional chair or back cushions can be added for additional comfort. (See Appendix E for product specification sheet.)

Allsteel Rise:



The Allsteel Rise tiered modular seating allows students to sit in a variety of positions and accommodates both small or large groups. With optional power outlets and a metal tray writing surfaces, these stairs provide an alternative seating option that allows for short stops to charge ones phone or a gathering place for collaborative group discussions. (See Appendix E for product specification sheet.)

Lujo Bean Bag Chairs & Stools:

While the Lujo Bean Bag Chairs and Stools mimic naturalistic forms with their leaf and rock shapes, they were chosen as they facilitate alternative seating positions. The Lujo Bean Bag Chair provides support to the body in almost any position whether lounging, studying or sleeping. The stools provide additional places to sit or the opportunity to prop up your feet and fully relax. (See Appendix E for product specification sheet.)

Custom Flying Carpet Bench:

Constructed of bent plywood with a metal base, this custom bench accommodates a variety of seated and reclined positions allowing the user to find a place that is most comfortable for them.

Custom Designed Furniture:

Each of the 3 custom designed upholstered furniture pieces was created to meet different student needs. The rocking chair was designed to provide a slightly reclined seating position that also introduces motion as an ergonomic option for the students. The subtlety of rocking not only provides passive physical activity, but it can also help to relieve pain, improve sleep, and decrease anxiety. The socializing/sleeping couch was designed with a curved cut out in the front of the couch that allows students to pull up a table or ottoman and work together or eat lunch together. The angle of the arms allows students to stretch out across the couch and to utilize the armrests like pillows, providing a much more comfortable sleeping position than traditionally designed couches with square or round arms. Utilizing the ottoman in the cut out space expands the width of the couch providing students with more sleeping position options. The study/sleeping couch was designed with a pull up computer desk and a side table to allow students easy surfaces for laptops, books, and other study materials. The bolster cushions on the back allow for a supported and upright position while students are studying. However, should the student need a quick cat nap, the side bolster acts as a pillow and the side table allows the student to stretch out full length without dirtying the upholstery with their shoes.

Sustainability and Durability:

Furniture: Several of the furniture pieces, including the Integra Summit XL Chair and the Integra Coffee House Chair were chosen because they are constructed sustainability. Each part of the chair or table is individually replaceable; arms or legs can be replaced if damaged, cushions or backs can be replaced if stained. This allows the overall product a longer life cycle by replacing parts as needed, at a much lower cost. This allows the furniture to remain in good appearance and repair for a longer timeframe.

Integra Summit XL Chair & Integra Coffee House Chairs:

Designed with replaceable and recoverable components and lifetime warranty, these chairs are ideal for education settings. Both chairs have a 2000 lb capacity and 1000 lb drop test rating. The chairs are designed with a clean-out between the seat and back for ease of cleaning and stain reduction. (See Appendix E for specification sheets.)

Custom Furniture Designs:

Each piece that was custom designed for the Student Union Building was done with the mindset to provide sustainable and durable pieces. Each piece is constructed in such a way that all parts are individually replaceable--from the metal frames to the wood bases and/or tabletop, to the upholstered cushions. This kind of construction allows for increased longevity overall for the furniture in SUB and allows each piece to remain in good repair as replacing an individual part is far more economical than replacing the entire piece.

For pieces that do not have this kind of sustainability, special consideration was given when choosing fabrics and finishes to maximize durability.

Fabrics: When choosing fabrics for the living room and indoor park spaces, tight weaves, leather-like vinyls, and soft-handed crypton fabrics were used throughout the designs. These fabrics all have either a smooth or soft tactile quality to them because as Donald Norman said, “physical feel matters. We are, after all, biological creatures, with physical bodies, arms, and legs. A huge amount of the brain is taken up by the sensory systems, continually probing and interacting with the environment” (Norman 79). Ensuring that each piece of furniture and each finish provided a positive tactile experience was an important element in this design. Each fabric chosen is commercial

grade for maximum durability. The majority of the fabrics selected are bleach cleanable and all range from 40,000 to over 100,000 double rubs (double rubs is the term for the back and forth abrasion resistance a fabric can withstand). Anything over 15,000 double rubs is considered to have heavy duty durability and is ideal for commercial use. Vinyl fabrics were used exclusively for the seats of all of the booths and chairs in the food court for comfort and ease of cleaning.

Finishes: Flooring choices also followed this thought of durability and cleanability. Tile was chosen for all traffic paths and food use areas to withstand heavy use and winter conditions. Carpeting was used in both the living room area and indoor park area to create a sense of comfort and relaxation. Both areas utilize carpet tiles which can be replaced if damaged and easily cleaned if soiled.

The green, Interface carpet was chosen for the indoor park to represent grass and contribute to the sense of being outdoors while inside and protected from the winter elements. I wanted to create a space where students felt invited to sit on the floor and picnic or socialize, just as they would outside. The carpet chosen for the living room is reminiscent of the forest floor as it looks like a mix of rocks, ground, moss, and other natural elements. It provides a biophilic backdrop for the other living room elements while being constructed in a way that contributes to student's physical health. This particular carpet company utilizes a breathable, open cell backing that reduces the growth of mold under the carpet. Hardback carpet tiles can trap moisture vapor, which leads to condensation, the formation of water, and eventually, mold and mildew growth. The mold and mildew can then migrate to other building systems, like the HVAC system, which then creates poor indoor air quality. The open cell backing of the Milliken carpet chosen for the living room allows vapor to pass through the backing to the seams, where it vents naturally, preventing any condensation or water from forming under the carpet. (See Appendix E for carpet specification sheets).

Joyfulness:

Elements from Lee's aesthetics of joy were layered throughout the design to provide subconscious references to joyful shapes, elements, and experiences for the students. Of Lee's 10 aesthetics of joy, I have referenced 4 of them into the SUB space.

Abundance: While the word abundance may call to mind material accumulation, it is in fact more focused on sensorial richness. The aesthetic of abundance is "defined by a layering of color, texture, and pattern" (Lee 51). Within the SUB design, over 25 different types of furniture were used along with 44 fabrics, and varying shades of 5 different colors. By creating a diversity and layering of color, texture and pattern throughout these spaces, I hope to have achieved a rich palette that enlivens the student user's senses.

Freedom: Lee's aesthetic of freedom centers on the idea that joy thrives on the alleviation of constraints. She goes on to express that in nature we have a full and free experience of the world. "Large-scale studies conducted in the United States, Britain, and the Netherlands show that people living in greener areas have a lower incidence of anxiety and depression and display an ability to recover more quickly from stressful life events than those in less green areas. One possible reason is that spending time in nature decreases blood flow to a part of the brain called the subgenual prefrontal cortex, which is associated with the tendency to brood over problems. Natural settings literally make us more carefree". (Lee 83)

Harmony: Incorporating the aesthetic of harmony into a space demonstrates to the user "that someone cares enough about a place to invest energy into it. Disorder has the opposite effect. Disorderly environments have been linked to feelings of powerlessness, fear, anxiety, and depression, and they exert a subtle, negative influence on people's behavior" (Lee 107). Harmony can be created through balance, rhythm, and repetition of colors shapes and textures. When asked what is the most harmonious or joyful shape, most people answer the circle. "Circles have long been used as symbols of harmony and wholeness, in sacred traditions as well as secular ones. Circles describe halos in Christian art, the sun in Egyptian temples, and the festive rangoli made to celebrate Diwali, the Hindu festival of lights. King Arthur's knights convened at a round table because the

circle gives equal weight to every position around it. For similar reasons, circles also create a sense of social harmony in business meetings and informal gatherings. Research suggests that people prefer sitting at a slight angle to one another, rather than side by side, and that they will drag chairs into a loose circle wherever possible. The circle's unbroken perimeter and even rate of curvature make it the most stable, complete, and inclusive shape" (Lee 112). Circular elements have been associated with Lee's elements of joy as they are infinitely symmetrical.

Research has also shown that curved forms are implicitly associated with safety and positivity whereas sharp angles imply danger and negativity. For all of these reasons, circles and curves have been incorporated into the design choices of each room. Round coffee tables and end tables, curved chairs, and loose circular furniture groupings all help to subtly reinforce the harmonious effects of the circle.

Play: Play is the only activity that humans engage in solely because it produces joy. "Play lets us practice give-and-take, through which we learn empathy and fairness. It also promotes flexible thinking and problem-solving, which increase our resilience and help us adapt to change. When we play, our awareness of time diminishes, and our self-consciousness fades. Play can put us in a powerful flow state, which allows us to let go of everyday worries and be absorbed in the joy of the moment" (Lee 136-137). By incorporating an indoor park into the SUB design, it is my intention to provide students a space designed to promote the idea of play. The incorporation of swings, beanbags, and rocking chairs into the SUB design was used to create a sense of nostalgia for students. As people age, they tend to lose their sense of play--they are told to "quit playing around", and instead learn that seriousness is prized over joy. But by utilizing nostalgia as a design methodology, students can reconnect with their inner sense of playfulness. "If we are at our most playful in childhood, the thinking goes, then an environment that transports us back there might stir joyful memories and reconnect us with our impulse to play" (Lee 138). Many scientists believe that when people are able to retain or reconnect to a childlike perspective, they "open themselves up to fresh ideas that lie outside of traditional frameworks" (Lee 152). The indoor park not only provides as an immersive experience allowing for a respite from the stress and pressures of student life and a way

to feel more connected to nature during the long Alberta winters, but the incorporation of playfulness also promotes intellectual growth through freedom of thought and creativity.

Placemaking:

One goal in designing the three spaces in SUB was to create a sense of placemaking for students. As Donald Norman explains to us, attachment to places is formed when the spaces helps to create significant personal association--if they bring to mind pleasant, comforting moments. These spaces then become favorite corners of our home, favorite locations, or favorite views (Norman 48). One of the ways that this was designed into the SUB spaces was in the living room area. A variety of furniture pieces was used in order to reference a more residential, home-like atmosphere. Typically in educational or institutional settings, one or two furniture pieces are selected and then purchased in large quantities to fill a large space such as the SUB living room. However, in one's home, people do not decorate using a large quantity of the same piece of furniture. Instead variety and eclecticism is used to create a more home-like or collected atmosphere. Pieces are selected specifically for their size, shape, comfort, or usefulness. The same process was followed when selecting the furniture for the living room of SUB. Two types of couches were designed specifically for this space, to facilitate student socialization, individual and group studying, and student sleep. Additionally, 6 different types of chairs were utilized in various furniture configurations throughout the space to allow students to find a chair that suits them best. The different shapes, sizes, location and ergonomic positioning of these chairs allows students to find their own place within this larger living room space.

Each student can find a spot that fits them best and that they can identify as their own. It is my hope that through these furniture choices, I have created spaces on campus where students feel a sense of ownership within their space--a sense of belongingness, of being considered and understood; a place where they can feel happiness, joy, comfort, or playfulness with the ultimate goal of significantly bolstering their physical, mental and emotional health.

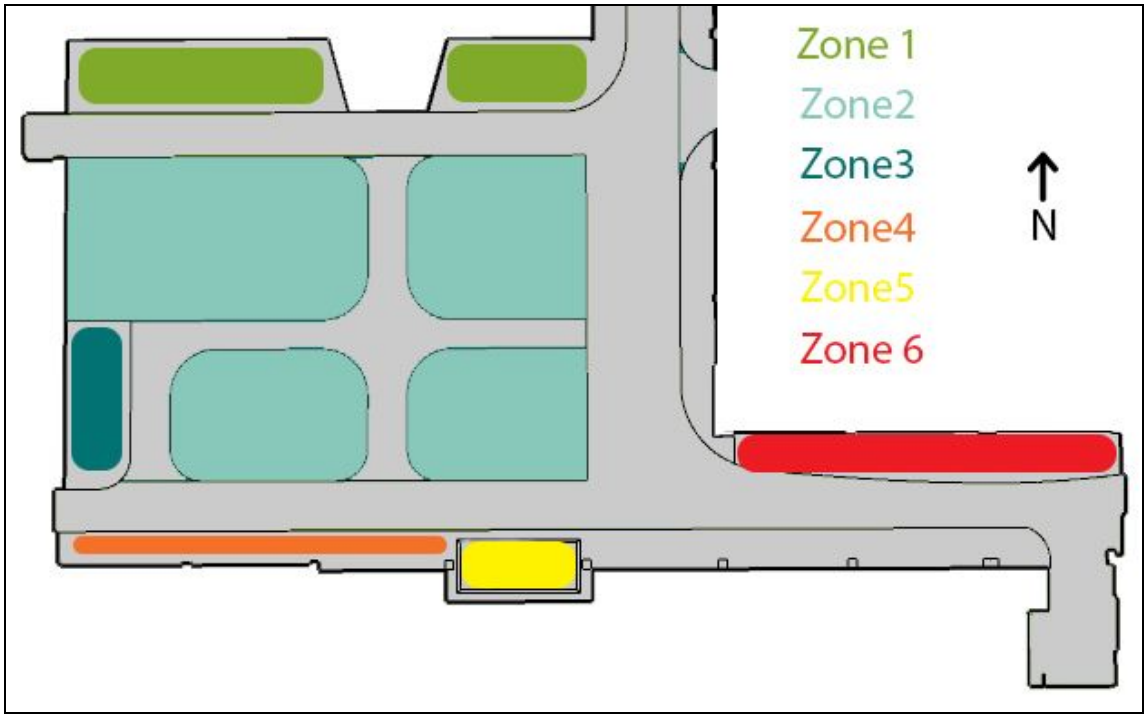
3.2 Space Planning

Each of the spaces within SUB were designed following Kopec's advice regarding design for social spaces in that they all include both centripetal (inward facing) furniture groupings and centrifugal (outward facing) furniture groupings providing spaces for both group and individual work.

Living Room:

The living room of SUB was designed into 6 distinct zones: a restaurant/study zone on either side of the stage area, a living room zone in the center of the room for socialization and studying, a group collaboration zone on the west wall, tranzient zone with seating on

the south end of the room, a ‘front porch’ zone on the balcony overlooking the basement level, and a secondary park area on the east end of the room.



Zone 1: The 2-person, round tables located in the center of the living room and utilized for both eating and study have been replaced with 30” square tables lined up on either side of the stage area. Each table is individually lit, providing much needed lighting in this part of the room. This arrangement allows people to eat or work individually, as they often do, but also allows them to pull tables together into larger groupings for social dining or collaborative work. A student sample group of 8 senior level students conducted a qualitative evaluation of several study areas around the university campus. The goal was to determine the comfort level of various chairs provided for dining and studying. Spaces within Van Vliet, Agriculture, HUB, SUB and Engineering were evaluated within this study. The Allsteel Inspire Stacking Chair was the only chair rated highly by the sample student group. These chairs were paired with the 30” square tables and incorporated into both the living room and food court spaces.

Zone 2: By moving the study/eating space out of the center of the living room, it opened up the room for a larger, more inclusive social space. The furniture groupings in the living room area were designed utilizing research from Lee and Kellert & Calabrese. One

of the concepts within biophilic design is the idea of organized complexity. “People covet complexity in both natural and human settings, which signify places rich in options and opportunities. The most satisfying settings tend to possess qualities of complexity but experienced in an orderly and organized way (Kellert & Calabrese 19). Lee addresses this same idea when discussing her aesthetic of harmony. She explains that “repeating colors, shapes, or textures in different parts of a room helps our eyes view the room as a whole, rather than a mishmash of disconnected things. This is important because research shows that we’re attracted to environments with a moderately high degree of complexity, but only if the complexity is well structured. The greater the complexity in an environment, the greater the need for an underlying harmony to bring a sense of order and ease to a space (Lee 110). As a result of this research, I designed the living room space to be a mirror image across a vertical axis within the room. There are 8 different furniture groupings, ranging in size from 2-person to 7-person arrangements that each repeat across this central axis. This provides a diversity and complexity to the space, allowing people to find a grouping that best fits their needs, while also providing an organization to this diversity.

Club Chairs for 4

Curved Stage Seating for 4

Custom Sofas & Lounge Chairs for 7

Custom Sofas & Armless Chairs for 5

Custom Sofas & Armless Chairs for 7

Custom Sofas & Lounge Chairs for 5

Custom Sofa & Club Chairs for 4

Club Chairs for 2

Zone 3: Booth seating was added to the west wall of SUB to provide group collaboration space. These tables include power outlets and Allsteel Inspire stacking chairs for maximum effectiveness and comfort.

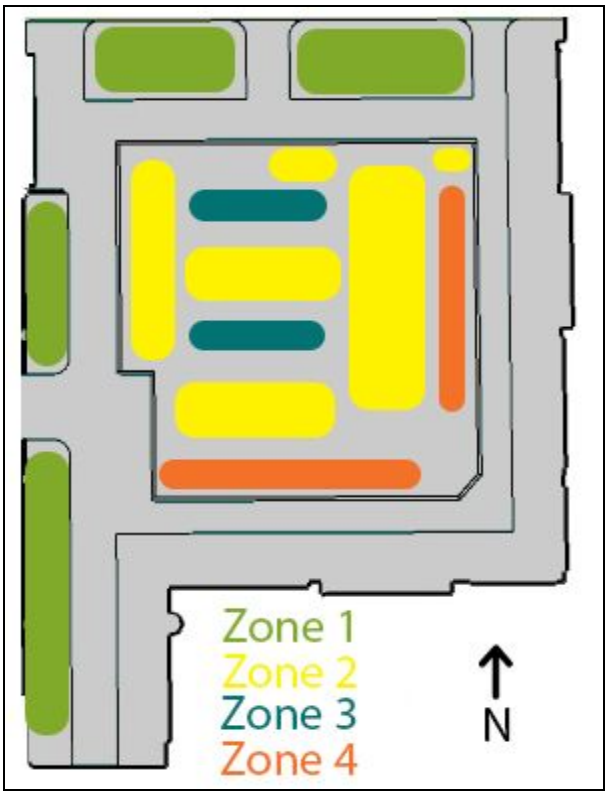
Zone 4: Furniture placed along the windows at the south end of the living room includes chairs facing both north, for quick stops when walking through the space, and chairs facing south, to allow for direct visual access to the outdoors and a sense of privacy and independence from the rest of the room. The Integra Coffee House chair was specifically utilized in this space because of its durability, sustainability and cleanability.

Zone 5: The small balcony overlooking the basement level of SUB is an underutilized and unappreciated space. This space, which I have redesigned to be the 'front porch' of SUB has been outfitted with rocking chairs and side tables to invite students to sit and relax for a short or long period of time. With direct views to the outside, it was designed to allow for coffee with a friend or to read independently while rocking away stress and worry.

Zone 6: The secondary park space located near the east exit door is designed as more of a short term space with tables and chairs for small coffee breaks and the Allsteel Rise seating for brief stops or group collaboration.

Food Court:

The food court consists of four distinct zones that offer a range of dining experiences: booth seating, flexible table seating, community tables, and countertop seating.



Zone 1: The booth seating located on the north side of the room contains 6 foot wide booth seating, providing the widest seating available for those students needing extra space. The booth seating on the west side of the room contains 5 foot wide booth seating. Both booth locations allow for a more private dining experience for groups up to 4 people.

Zone 2: Two-person tables and chairs are located in the central part of the food court and provide the majority of seating. These tables allow for single students or two-person groups to dine without taking up a 4-person table. But, by using square tables, they can easily be grouped together to provide seating for larger groups, letting students expand or reduce the table size as needed to suit their social group.

Zone 3: Community tables were added to the space as a mechanism to foster socialization between single diners. Students can dine at the community table and be

drawn into conversations they might not otherwise have joined. The goal is that these tables with help to assist with student loneliness by allowing them to socialize with strangers in a more natural way. These tables can also be used to accommodate large social groups.

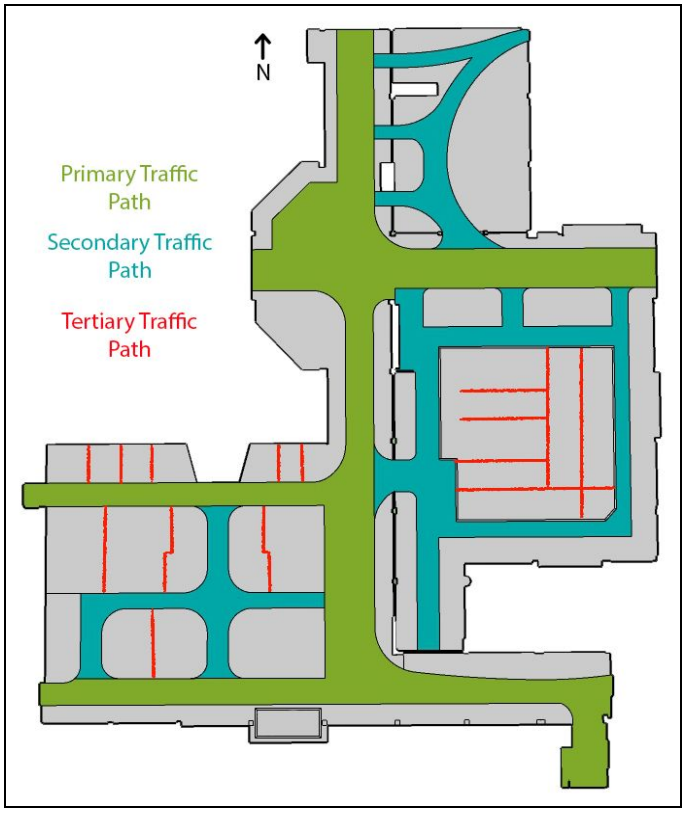
Zone 4: Countertop seating is available for students who are wanting a short-term dining/study location and/or independent seating. The countertop space includes charging stations for students wishing to work while they eat. This dining zone provides a great place for people-watching and a respite from student life.

Indoor Park:

The indoor park is the least divided of the 3 rooms as the entire space serves the same purpose: to create an atmosphere where students feel outside of the typical education setting. While there are numerous furniture clusters within this space, this space is not zoned in order to allow students to move and rearrange the furniture depending on the individual or group user wants and needs.

3.3 Traffic Patterns

Within both the food court and the living room, students expressed frustrations regarding crowdedness and flow. In the living room space, 25% of students expressed a desire for better pathways around and within the seating areas. Whereas, 37% of students find it difficult to order food due to crowding or queuing issues in the food court. In order to assist with these issues, primary and secondary traffic paths were created in all three SUB spaces.



The primary traffic paths connect different rooms within the building and provide pathways to exit doors. Primary traffic paths measure from 6 feet 8 inches to 11 feet 6 inches wide depending on their location, in order to facilitate a larger flow of traffic.

The secondary traffic paths occur within each specific room and help to direct the student user to various furniture groupings, room uses or features. These traffic paths range from 4 feet to 6 feet 8 inches wide in order to provide adequate space for people with mobility issues. The secondary traffic paths in the living room are quite linear, providing easy access to each area within the room. The north-south traffic path acts as an axis over which the furniture groupings are mirrored. The secondary traffic paths in the food court provide pathways around the columns and direct access from any entrance to the restaurant stalls. In the indoor park, the secondary traffic path follows a more meandering approach. The curvilinear design gives the space a completely different feeling and helps to reinforce the park-like design.

In all three spaces, and in the living room in particular, tertiary traffic paths (extra breathing space), were added between the furniture groupings to reduce feelings of

anxiety caused by crowding. As many as 10% of SUB student users expressed feelings of anxiety caused by being overwhelmed or crowded. According to Kopec, “students who feel crowded will be less likely to develop relationships and may not perform as well in school” (Kopec 226).

Queue dividers were added to the food court to separate the walking space from the queuing space in front of each restaurant. Each queue space was designed with a 3’ width in order to accommodate a variety of student mobility abilities. The queue dividers, made from laser-cut sheet metal, were designed with the same abstract tree motif utilized on the west wall of the living room. The repetition of this design feature was chosen to contribute to the feeling of harmony within the three spaces and to reinforce the biophilic design of the space.

All three spaces were designed to be diverse and information rich, while meeting the needs and wants of the student users. As Kellert and Calabrese tell us, people “tend to respond positively to information-rich and diverse environments that present a wealth of options and opportunities, so long as the complexity is experienced in a coherent and legible way” (Keller & Calabrese 17). The design of the traffic paths and implementation of queue dividers was to provide order, accessibility, and intuitiveness to these rich, complex spaces.

3.4 Material Boards

Living Room:

Living Room Hallway & Front Porch:

Food Court:

Indoor Park:

3.5 Custom Product Designs

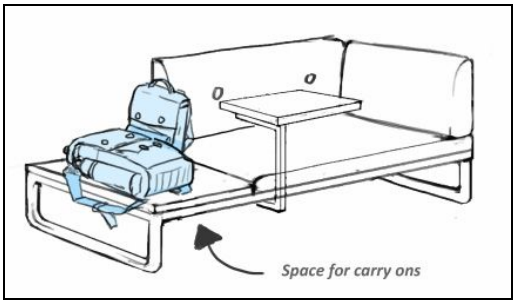
Four custom furniture designs were created specifically for the SUB spaces. The first two designs were created in conjunction with a group of undergraduate students who participated in a special projects class. This special project was created specifically on the directive to create upholstered furniture designs for the Student Union Building's living room space. The students worked in pairs under the supervision of Robert Lederer and myself and were given the design brief to create an upholstered piece of furniture and complementary table focusing on at least one student user need. The student user needs provided to the students include: socialization, studying, or sleeping. The students spend a semester researching and designing their furniture pieces which were then presented to the SUB clients at the end of the semester. Both designs were solid but each had improvements that could be made to better suit the overall SUB design and needs as outlined in my research. As part of my thesis work, I created my own revisions of their designs.

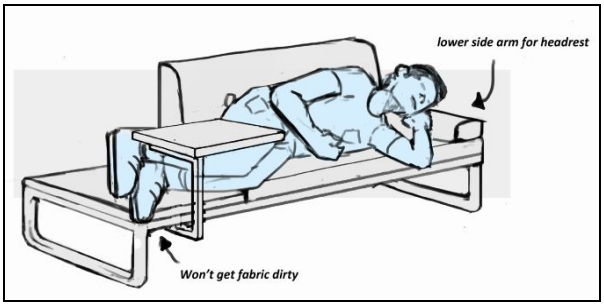
Study/Sleeping Couch:

Upholstered Furniture Design 1: Titus Lo and Jana Bermas

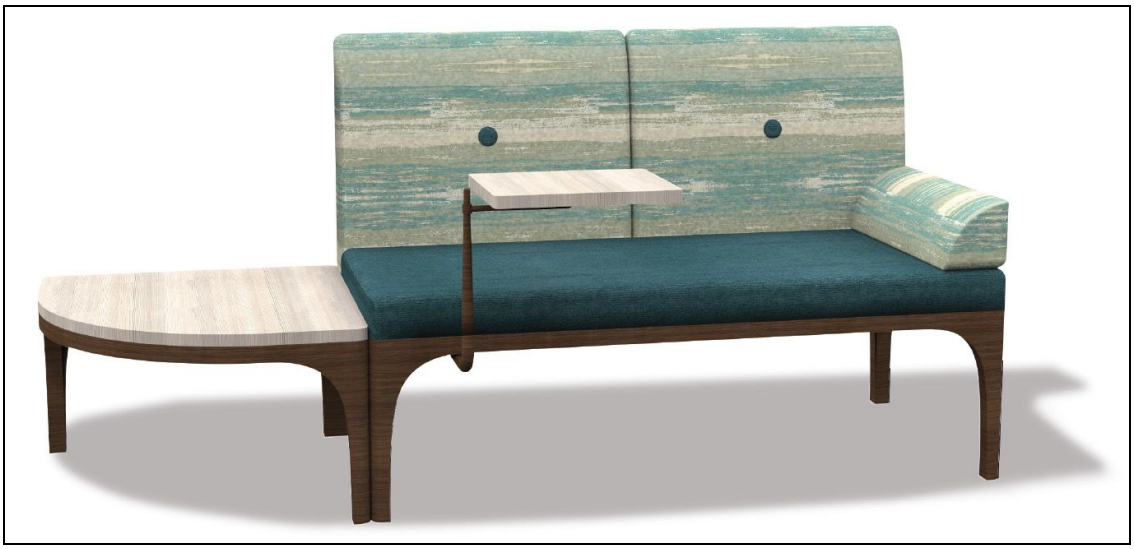
Titus and Jana took inspiration from mid-century modern design, as well as nature and worked together to create a design that provided both study and sleeping options for students. Their furniture design included a loveseat with a movable work table for studying and a single arm to provide pillow-like cushioning for sleeping and side table to allow adequate length for sleeping while keeping the loveseat clean and dry from the snow or dirt found on student shoes.

Ideation Sketches:





Final Design (students):

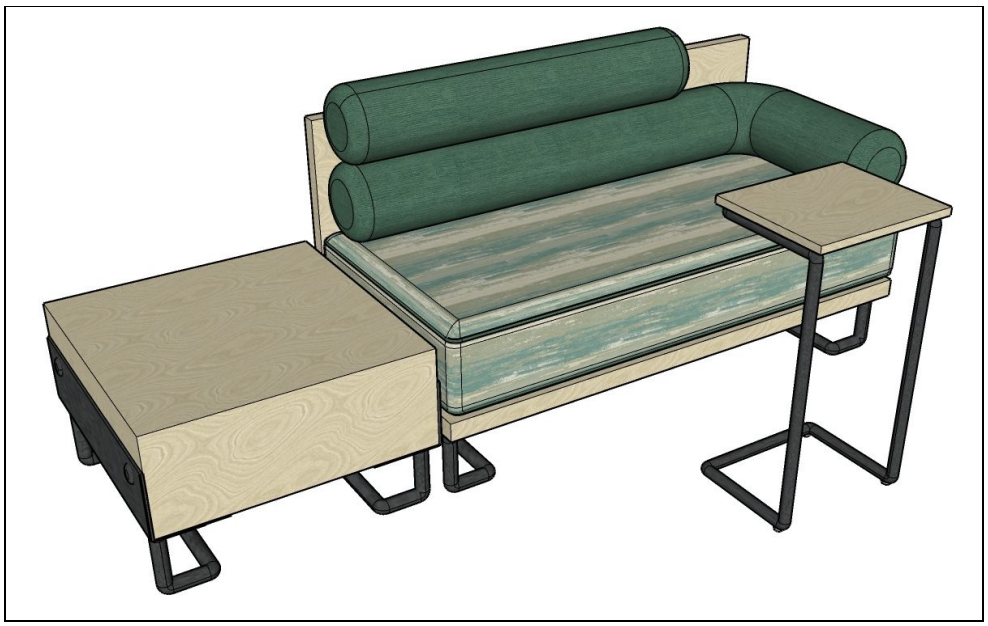


The students received valuable feedback after their presentations that helped to shape my design changes for this piece of furniture. It was discussed that the movable work table would likely break easily and that the lack of height of cushioning on the seat and disproportionately long legs might make the seat both uncomfortable and the base might not be durable enough. Additionally, with the loveseat being constructed as one single upholstered piece, it was not very sustainable as a design as the entire piece would need to be replaced if damaged or stained.

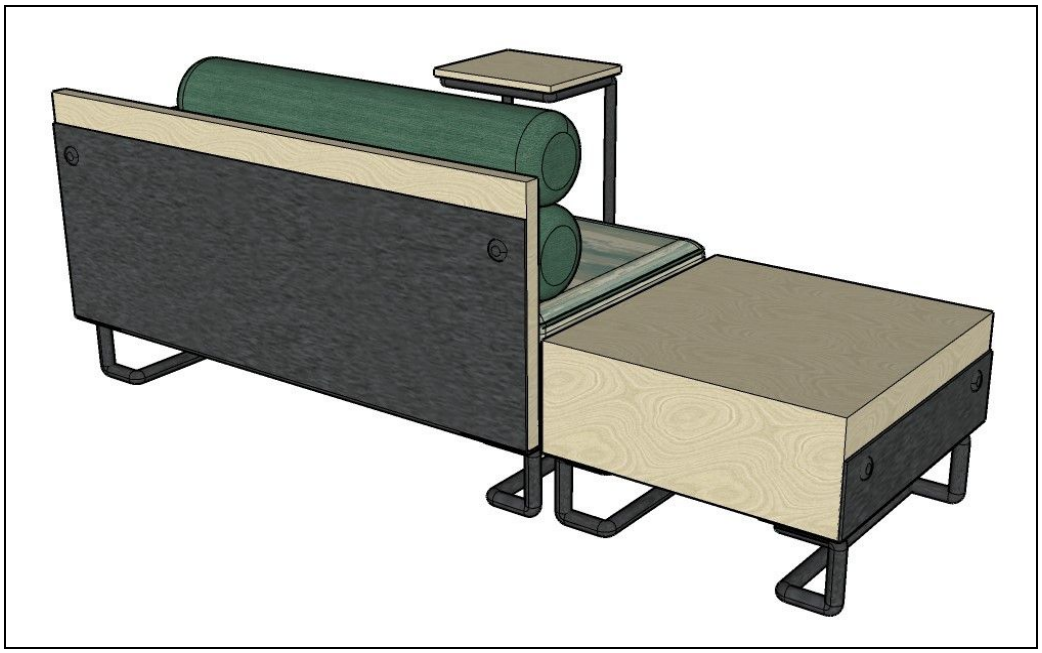
As a result of this feedback, I made a number of design revisions. The base was redesigned to be lower to allow for thicker seat cushions for added comfort. The legs were replaced with metal tube for improved durability while still maintaining enough height off the ground to allow for ease of cleaning. A steel plate was utilized along the back for support and durability and to allow for sustainability within the construction of the piece. Each of the elements (legs, wood base, back steel plate and cushions) are attached to an adjacent element, allowing each part to be replaced individually. Tube shaped bolsters were utilized to reinforce the circle theme that is used throughout the space. Additionally the placement of these cushions indicate how the piece should be used for studying and/or sleeping by providing a “pillow” along one side of the loveseat, and a double height back cushion along the back of the piece. The movable work table was replaced with a freestanding C-table constructed of steel tube and a wood top for

durability and flexibility of use.

Final Design (front):



Final Design (back):



This design contributes to the SUB living room design in several ways. First, it contributes to meeting the needs for furniture that supports studying and sleeping. Second, the design of this piece of furniture adds to the eclecticity of the space, which helps to create a more residential feeling in the living room space. Third, this piece has

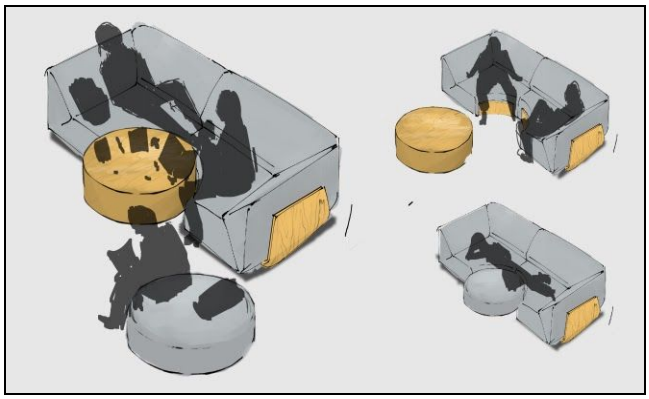
sustainability in its construction which will contribute to the maintenance and longevity of the furniture, which was a primary goal of the SUB leadership team. Without building a full-scale prototype, it is difficult to know what changes might be necessary to maximize comfort and optimize ergonomic support. This piece of furniture, while 60" long, is typically meant to only be used by one person, allowing it to be used by people of all sizes and body types. However, providing correct ergonomic support for such a wide variety of shapes and sizes is challenging. The back cushioning may need to be adjusted in size or placement and/or the back support angle may need to be adjusted to better suit the majority of people. Additionally, specific fastening mechanisms for each element have not been fully determined, which could lead to design adjustments.

Socialization/Sleeping Couch:

Upholstered Furniture Design 2: Rizwan Ali & Nelson Chen

For their upholstered furniture design, Rizwan and Nelson worked with the concepts of modularity and sustainability while also incorporating circles to provide a subconscious reference to inclusivity. They created a piece constructed a metal tube base and bent plywood frame. They then designed thick, angled cushions that fit together within the frame like tetris pieces, each of which is individually replaceable should they become stained or damaged. The uniqueness of their design comes from the circular cutout in the couch seat that allows for a circular coffee table or ottoman to be pulled close for studying or sleeping.

Ideation Sketch:



Final Design (students):

Feedback provided to the students during their presentation included the idea of raising the bottom of the coffee table to allow for a user's knees to fit comfortably under the table. Additionally, the height and angle of the arms and back of the couch and chairs were discussed as needing adjusting for comfortable sleeping.

For my redesign of this furniture, I made the recommended adjustments to the coffee table and couch arms/back. I also removed the base from the ottoman and adjusted the height of it so that it could be slid under the coffee table for storage. The ottoman is the same height as the couch to provide extra space and options for sleeping positions, while the coffee table is raised to promote good ergonomic positions while studying or socializing. Two sizes of the couch were provided, an 84" couch and a 64" love seat, although both maintain the same size circular cutout to allow for one size of coffee table and ottoman to be used interchangeable with both pieces. A smaller, 24" ottoman was added as a supplemental seating or side table option.The chairs originally designed by Rizwan and Nelson were eliminated from the final SUB design as other commercially available chairs were thought to be more useful in the space.

Final Design:

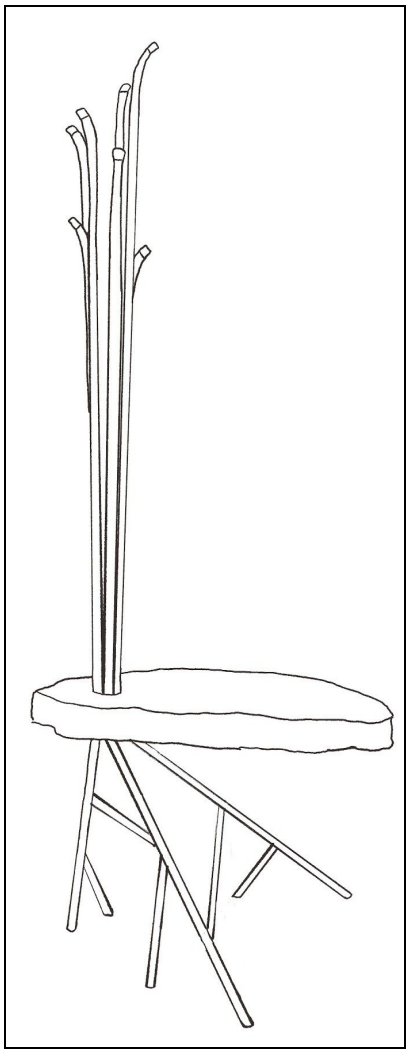
This design serves the ergonomic needs of sleeping and socializing while contributing to the overall feeling of joyfulness through the incorporation of circles and curved edges, I feel that the design of the coffee table could use some further exploration. Functionally I am not yet sure if it provides optimal ergonomic benefits for studying and feel aesthetically that the table is a bit "leggy". I feel full scale prototypes of these pieces would be needed to fully resolve some of the design performance concerns.

Tree Table:

The tree table design was based on the combination of two needs in the Student Union Building: the incorporation of nature and natural elements, and the need to provide students with storage options for bags, backpacks, and winter coats and accessories. Currently the living room area provides no options for storage for student items which means that they often end up on the floor, disrupting traffic patterns and causing tripping hazards. Or students place their coats and bags in their chairs or on couches with them, creating opportunities for the disruption of healthy, ergonomic sitting positions.

This side table is constructed of ¾" steel tube that comprises the base and the coat rack, with a live edge wood slab sandwiched between creating a table surface. The design incorporates wood caps and feet to give the steel tube a termination point. This design provides two Indirect Connection to Nature utilizing Natural Shapes and Forms and Natural Materials. The metal base mimics the roots of a tree while the metal coat rack provides the impression of branches. These elements bisect a live edge wood slab, which serves as the table top.

Ideation Sketch:



Full Scale Model:

A full-scale prototype was constructed to ensure that the cantilevered placement of the base and top would not cause the table to tip over when backpacks and coats were hung on it.

Final Design:

The table was constructed from 2.5" Pau Ferro live-edge wood and the base and coat rack were constructed from ¾ inch steel tube. Wood feet and tips made from ash and were turned on the lathe, sanded and finished with a clear coat to provide polished caps for the open tubing. These caps also reiterate the wood elements within the design. Plastic PVC tubing was used were the metal tube terminates into the wood slab for a

clean transition. The tubing was painted with automotive finish in a spring-green color to tie into the natural colors used within the overall room design. Resin was used to fill cracks in the table top which was then sanded smooth and finished with a clear coat of Osmo.

Design Analysis:

The construction of this design was successfully executed and fulfills the desire to utilize a biophilic approach to provide both table space and coat and bag storage. The piece provides both functionality and a sculptural quality to the space. However, I do think there could be some improvements made to this design. First, with the end grain going vertically in the table surface, it might prove to be more brittle than would be ideal for a public space on a University campus. Inevitably someone would try to sit on it and could either break the table and/or hurt themselves. Additionally, the amount of weight that the coat rack can hold without becoming unbalanced is yet untested. If manufactured for mass production, I would prefer to see a different solution where the coat rack meets the wood surface, in the form of a smaller cap, or ideally, no cap at all.

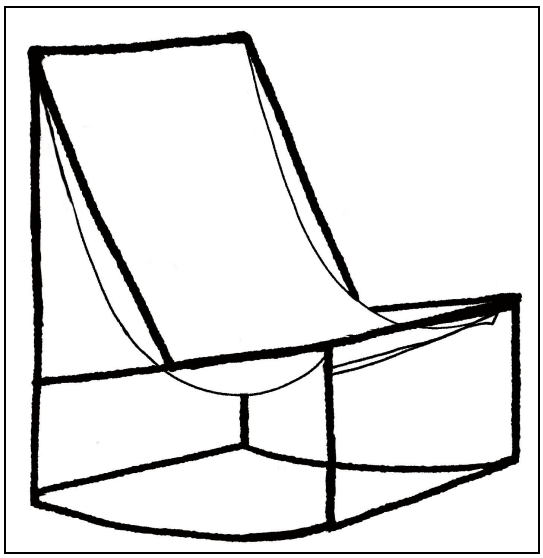
Rocking Chair:

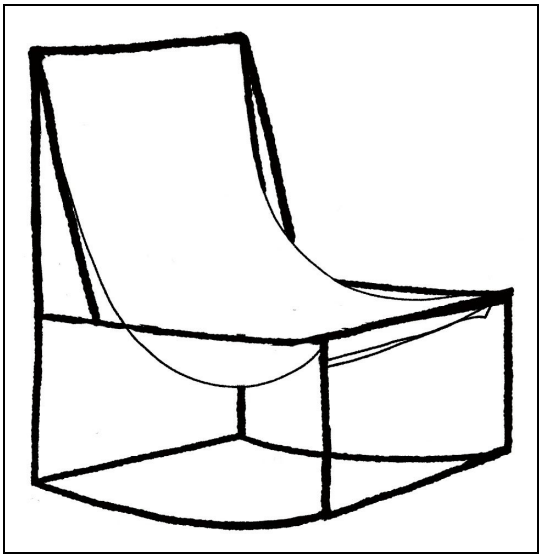
The idea of a rocking chair was developed from the concept that rocking chairs provide a surprising number of health benefits. Rocking chairs "engage the thigh and abdominal muscles to provide a mild form of exercise, increase circulation and improve knee strength and flexibility" (My Body+Soul). It is however their rhythmic motion that offers the greatest health benefits. The motion of rocking taps into the parasympathetic nervous system which is the sedative side of the nervous system and therefore aids in pain relief. The motion of rocking release endorphins which helps to improve mood and relieve stress. Sitting in a rocking chair is simultaneously relaxing, rejuvenating and calming. The following health conditions have been proven to benefit from rocking chair therapy: dementia, arthritis, back pain other forms of chronic pain, constipation, vertigo, and it can increase mobility. Research shows that up to 30% of the symptoms of anxiety and depression may be relieved by using a rocking chair. Researchers from the University of Geneva found that rocking can foster deeper sleep. While their study was conducted using hammocks, there is thought that rocking chairs would have a similar effect.

I took the desire to incorporate rocking chairs and their health benefits and combined it with the design of a sling chair often seen or used on the beach or in a park. I wanted to

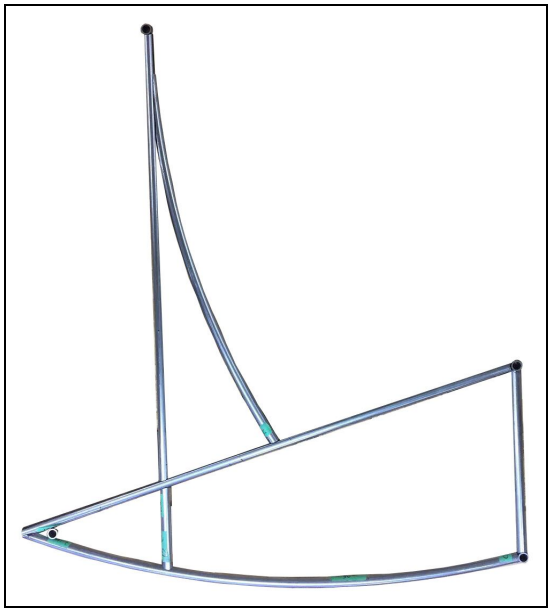
create a chair design that was simple in its form and sustainable in its construction, and yet easily identifiable and relatable. I wanted this piece to be fun and inviting and to evoke feelings of joy and whimsy.

Initial Designs:





The chair was first constructed as a full scale model using ¾ inch steel tube. Initially, the vertical components of the rocking chair were welded at a 90 degree angle to the floor, however after use and investigation, this positioning was not found to be comfortable. A sketch model was then constructed out of wood to discover the best angle for the back. An angle of 100 degrees was found to be the most conducive to allow the user to relax and feel comfortable while still maintaining enough of an upright position to let the user read or study.



Full Scale Models:

Final Design:

Each part of this chair is individually replaceable, making it fully sustainable. The metal frame is constructed with ¾ inch steel tube and consists of 2 welded sides and 4 straight pieces that connect the sides together. Eight 4 inch lag bolts screw into nuts that have been welded inside of the cross bars to hold the chair together and to allow it to be taken apart if/when the sling needs to be replaced or laundered. The front two cross pieces are 2 inch longer than the two back cross bars to create a skewing within the rocking chair which keeps it from "walking" as it rocks. The rocking chair contains two cushions, one at the top to cushion the head from hitting the top cross bar, and one at the seat. The seat cushion cushions front cross bar from hurting behind the knees and provides seat support to help the sling maintain rigidity and support where the occupant is sitting. The sling is made from indoor/outdoor upholstery dyed polyolefin fabric that is stain repellent, bleach cleanable, and can sustain 55,000 double rubs. The sling is stitched into two loops that go around both cushions, which allows it to be easily removed for cleaning. The color

palette and pattern of the fabric are reminiscent of what could be found on outdoor lounge chairs to give the impression of sitting outside while in my indoor park design.

Design Analysis:

The size and proportions of the rocking chair were thoroughly investigated and should feel comfortable for people of multiple sizes. However, the low nature of the chair can make it difficult for some users to easily get into and out of it. Providing a version with arms might improve this situation. For added durability and strength it might be advisable to increase the tube frame size from ¾ inch to 1 inch. Additionally, if created for mass production, the head cushion needs to be created from a softer foam to create a more comfortable headrest. After using this particular fabric for the prototype, it was determined that polyolefin fabric is quite difficult to work with and will melt when exposed to heat. Therefore, fabrics with high polyolefin content should be avoided for ease of maintenance. The fabric for the sling should be made from a more natural material so that it can withstand commercial washing for maximum cleanability.

3.6 Interior Renderings

The following images are renderings of the three redesigned SUB spaces that I am proposing. They show vignettes of each space and highlight important components within each one.


Living Room


Food Court

Chapter 4

4.1 Ongoing research

My book, *Home Made Happiness: 60 ways to design your home for health and happiness* is in its initial stages and something that I want to continue to pursue with the hope of getting published. The rationale behind writing this book and the information it provides is to create a guidebook for the average person who may not be design educated but who wishes to improve their habitat in order to live happier and healthier. It is meant as a way to introduce the concepts of the Fitwel system to people that would otherwise never be exposed to it, and to break the system down into manageable ideas and concepts that can be easily incorporated into one's home or daily routine. This book is not a construction guide nor does it promote the idea that one must have unlimited resources to achieve the tasks that are outlined. Instead it provides cost effective ideas and information that can be used to guide one's design intentions and assist in making everyday choices.

The book is also based on another health assessment called the WELL Assessment which was originally launched in 2014 and included 7 health categories. The WELL Assessment was developed by the International WELL Building Institute and was the first standard that focused exclusively on the ways that buildings, and everything in them,

can improve comfort, drive better choices, and generally enhance, not compromise, health and wellness. In 2018, the WELL v2 Standards were released with an expanded number of health categories, now totaling 10.

The book will be comprised of 12 chapters, with the first 10 following the same categories as the Well v2 Standards which include: Air, Water, Nourishment, Light, Movement, Thermal Control, Sound, Materials, Mind, and Community. The final 2 chapters: Nature & Accessibility were subsections within the Mind and Community categories in the Well v2 Assessment; however, these concepts are more impactful within the home environment that they have been expanded to become full chapters within the book.

Each chapter within my book includes anywhere from 2 to 9 tips outlining ways to make small but impactful changes that can improve the health within your home for yourself and your family. Additionally, there are case studies which provide deeper information for certain topics as well as personal stories which provide the reader a way to relate to and apply the presented information.

4.2 Conclusion

Design Critique:

Having worked on this design for 6 months and upon reflection of my original design ideations, the following critique of the positive elements and recommendations need to be considered:

- I feel that the creation of the Indoor Park space is a valuable contribution to both the Student Union Building and to the overall campus. Being located in a city with such a long winter season it is of the utmost importance to provide students with as much contact with nature as possible as people are less likely to seek significant outdoor exposure in such a cold climate.
- I feel that the rocking chair design created for the Indoor Park and front porch spaces was very successful in both its ability to contribute to physical, mental and emotional health as well as its ability to provide enjoyment and whimsy to the

student life. I would like to see these implemented, not just in the Student Union Building both in multiple locations around campus.

- I feel that through this design, all three spaces have a significantly greater biophilic influence but would love to pursue additional biophilic ideas and methods of implementation.
- I worked hard to create spaces that felt bright, fun, and inviting and would be places that students would want to gather in. However, in the Living Room space specifically I would have preferred a darker, moodier, cozier design concept but felt challenged to balance this desire while providing cohesion to the three spaces. If given the opportunity I would revisit this concept to see how these two concepts could be better blended.
- I believe that the types of seating in the food court are good both functionally and aesthetically, but I am concerned as to whether the amount of seating will feel adequate during peak mealtimes. Exploring additional furniture arrangements for this space could provide additional seating opportunities.

Uwell Reassessment:

An increase to the UWell score of 18 points has been achieved through the previously described design interventions. Points were achieved in the following categories:

- Campus Experience: the Indoor park provides an immersive sensory experience of nature for student users. (5 points)
- Direct Connection to Nature: Students are provided 3 direct connections to nature including: fire, water and plants. (3 points)
- Indirect Connections to Nature: Students are provided 4 indirect connections to nature through the use of: Natural Colors, Natural Materials, Natural Shapes & Forms, and Images of Nature. (3 points)
- Alternative Seating: Multiple furniture options allowing for alternative seating were incorporated into both the indoor park and the living room spaces. (4 points)
- Restorative garden: Because this University experiences so much winter, a restorative garden was added to the SUB design as an indoor experience. The

indoor park is designed to provide a serene, immersive and sensory nature experience. (3 points)

If the Student Union Building implemented both the suggested interventions and the above design, it would achieve a UWell score of 163 points. While this score is 2 points shy of a "B" level, or Advanced Healthy Building Status, it still provides a marked improvement to the overall health and wellness of student users (see Appendix E).

It should be acknowledged that there are interventions that achieve the spirit and intent of the UWell system, without actually being able to achieve the points. The designs created for the Student Union Building contain elements that contribute to both campus beautification and campus gamification, but because these criteria are campus-wide amenities, providing these elements within SUB alone is not enough to meet the rubric requirements. These interventions are:

- Campus Beautification: While the design for SUB provides visual art installations, it does not meet the minimum threshold of 5 percent of buildings across campus. (2 points)
- Campus Gamification: The indoor park would be the perfect location for game playing elements to be added to the SUB environment. Two more gamification locations would need to be added campus-wide to meet this requirement. (2 points)

While honoring the spirit of the UWell system is more important that the number of points achieved, I believe that this demonstrates a weakness within the rubric design itself. Designing an assessment that is trying to quantify the qualitative is quite a difficult task. The original Fitwel Assessment was utilized to evaluate a single office building and was rewritten as the UWell Assessment to evaluate assess both a single building and a network of buildings. Instead of trying to achieve this in one rubric, it may be better to create two separate assessments--one for individual buildings, and one for the overall campus.

In order to do this, I have written a 2-part system (see Appendix F). The first part evaluates buildings individually giving them credit for their individual interventions. The second part is a campus-wide rubric that includes all of the larger systems that impact all

students (such as safety, food, etc). Points are awarded for buildings that individually meets UWell requirements.

Utilizing this new UWell rubric (UWell V2), the Student Union Building achieves 75 points out of 136 points in its current state. Through initial interventions, the SUB would achieve "C" health status with a score of 89 points. The design recommendations provided would allow SUB to achieve 103 points which meets the requirements for "B" level, or an Advanced Healthy Building Standard. The University of Alberta campus currently has a score of 60 out of 125 points which demonstrates that there is a lot of room for improvement when it comes to designing for student health and wellness. Based on the reassessment of the SUB and the U of A campus, if the UWell Assessment is used in the future, I would recommend that this 2-part system be utilized and tested for effectiveness and viability.

Future Pursuits:

It is my hope that my education in this field continues through employment and ongoing independent research. I feel that the potential for this field of design is immense and far reaching. It is my hope to pursue and progress in multiple facets including: university wellness design for students, product and/or furniture design for wellness and sustainability, literature creation for the everyday homeowner, and policy consulting for home construction standards in North America.

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Appendix A:

Living Room

Food Court:

Indoor Park:

Appendix B:

SUB Survey Results			
		Total Responses	**Percent**
1	**Are you:**	478	
	Female	335	70.08%
	Male	138	28.87%
	Unwilling to answer	5	1.05%
2	**Do you have any physical or cognitive challenges in navigating spaces?**	477	
	No	465	97%
	Yes	9	2%
	Unwilling to answer	3	0.63
	If Yes, please describe:		
	Get lost easily	2	
	Autism	1	
	Visual Processing Disorder	1	
	Multiple Sclerosis	1	
	Chronic Fatigue	1	
	Wheelchair/Disabled	1	
	Anxiety	1	
	Blank Out	1	
3	**How frequently do you use SUB?**	477	
	Several times per week	176	37%
	Once Weekly	146	31%
	Once monthly or less	85	18%
	Daily	67	14.05%
	Never	3	0.63%
4	**What time of day do you typically use the main floor of SUB?**	**475**	
	Afternoon (1p-5p)	348	73.26%
	Noon-time (11a-1p)	281	59.16%
	Evening (5p-10p)	145	30.53%
	Morning (6a-11a)	129	27.16%
	Night (10p-6a)	28	5.89%
5	**Why do you come to SUB?**	**476**	
	Food Court	204	
	Services	127	
	To Study	103	
	To Socialize	81	
	To sleep/relax	34	
	Entertainment	15	
	Volunteer/Work	6	
	Pathway to Other buildings	5	
	Farmers Market	2	
6	**When you are studying are you most comfortable doing it:**	**468**	
	At a table and chair	383	
	In an upholstered chair	39	
	Reclined or Laying down	26	
	In a bean bag	12	
	On the floor	5	

	Upholstered Chair with Table	3	
	Bed	2	
	Couch	1	
	Somewhere comfortable/quiet	1	
7	**When you are socializing are you most comfortable doing it:**	**466**	
	In an upholstered chair	194	
	At a table and chair	149	
	In a bean bag	67	
	Reclined or laying down	50	
	On the floor	3	
	Doesn't matter	2	
	Couch	2	
	Standing	2	
	Upholstered chair w Table	1	
8	**When you are eating are you most comfortable doing it:**	**464**	
	At a standard height table and chair	374	
	At a counter height table and chair	77	
	In an upholstered chair	44	
	None of the Above	2	
	Sofa	2	
	Depends on the time of day	2	
9	**Do you find the upholstered furniture on the main floor of SUB comfortable?**	**464**	
	Yes	387	83.41%
	No	77	16.59%
	If No, Why?	**77**	
	Too Hard/Lack of Cushioning/Too Low	26	
	Perceived Cleanliness	24	
	Worn/Old/Ugly/Broken	14	
	Unergonomic/Uncomfortable/Painful	9	
	Tables too Low	6	
	Cant Judge	6	
	Not Versatile/Lack of Reclining	3	
	Arm Rests Uncomfortable/Can't Sleep	3	
	Don't Like	1	
10	**Do you find the tables and chairs on the main floor of SUB to be comfortable?**	**466**	
	Yes	397	85.19%
	No	69	14.81%
	If No, Why?		
	Uncomfortable/Hard/Poor Ergonomics	28	
	Tables too small/wobbily	24	
	Poor arrangement/too crowded	7	
	Cleanliness	6	
	Old/Bad Aesthetics	3	
11	**Do you find the tables and chairs in the food court comfortable?**	**466**	
	Yes	365	78.33%
	No	101	21.67%

	If No, Why?		
	Chairs need more cushion/Uncomfortable/Not ergonomic	41	
	Chairs don't move/too far/too close to table	32	
	Too old/Basic/Bad aesthetic	11	
	Too crowded	9	
	Too dirty	4	
	Don't use them often	3	
	Bad lighting	2	
	Chairs are too small	2	
	Not able to hang coats or bags on chairs	2	
	Tables are too small	1	
12	**Is there sufficient light to read?**	**461**	
	Yes	384	83.30%
	No	77	16.70%
13	**is there sufficient light to study/write?**	**460**	
	Yes	383	83.26%
	No	77	16.74%
14	**Does the light make it difficult to work on the computer (glare/reflections)?**	**461**	
	No	358	77.66%
	Yes	103	22.34%
15	**Are there sounds on the main floor of SUB that you find obnoxious or distracting?**	**456**	
	No	296	64.91%
	Yes	160	35.09%
	If Yes, what?		
	Talking/People	107	
	Sub Stage Events	29	
	Food Court	15	
	Other	5	
	Machinery/Mechanical Hum	4	
	Construction/Fire Alarms	4	
	Outside Sources/Loading Dock	2	
	Classes/Recitals	1	
	Night janitors moving furniture	1	
16	**If you are studying do you prefer:**	**460**	
	Quiet	186	40.43%
	Ambient Noise	147	31.96%
	White Noise	127	27.61%
17	**Do you find the room temperature on the main floor in SUB to be:**	452	
	Acceptable as is	359	79.42%
	Too Cold	55	12.17%
	Too Hot	38	8.41%
18	**Would you prefer the fireplace on the main floor of SUB to be on:**	454	
	More often	378	83.26%
	Less often	76	16.74%

19	**Does the fireplace in SUB contribute to your thermal comfort?**	457	
	Yes	251	54.92%
	No	206	45.08%
20	**Do you gravitate to sunny areas for a sense of warmth?**	**457**	
	Yes	331	72.43%
	No	126	27.57%
21	**Do you find the smells from the food court to be a problem?**	**457**	
	No	376	82.28%
	Yes	81	17.72%
22	**Are there smells on the main floor of SUB that you find obnoxious or off putting?**	**456**	
	No	409	89.69%
	Yes	47	10.31%
	If Yes, please describe:		
	Other food vendors/grease	16	
	Overall ventilation is bad	12	
	Subway	11	
	Microwave	2	
	Bathrooms	1	
	People's body odor	1	
	Couches	1	
	Other people's food	1	
	Garage area	1	
23	**Do you feel safe in all areas of the SUB building?**	452	
	Yes	417	92.26%
	No	35	7.74%
	If No, Why?		
	Dark and empty/Night	7	
	Drunk/Bothersome/Questionable people at night	6	
	Sketchy areas/Loading dock/Small/Narrow Spaces	5	
	Elevator	3	
	Not enough security	3	
	Non-main stairways	3	
	Thieves	2	
	Increased police activity makes it seem unsafe	2	
	ATM corner has areas people could hide out	1	
	Too exposed	1	
	Walkway is scary	1	
	Lack of windows on upper floors	1	
	Previous incidents	1	
	Too many people	1	
24	**Do you feel safe utilizing the washrooms in SUB?**	453	
	Yes	440	97.13%
	No	13	2.87%
	If No, Why?		

	Dirty	7	
	Night	2	
	Too exposed near entrances	2	
	Too big	1	
	Sketchy people	1	
	Smell	1	
25	**Are there certain hours of the day that you would not feel safe within SUB?**	453	
	No	359	
	Yes	94	
	If Yes, please describe:		
	Night	78	
	Evening	17	
26	**Is it easy during mealtimes to order food?**	**439**	
	Yes	281	64.01%
	No	158	35.99%
	If No, Why?		
	Too Crowded/Long Lines	132	
	Poor queuing/Space planning	29	
	No food vendors that appeal/Need more choices/Need more vegan/vegetarian/allergy	9	
	Service Rushed/Not enough staff/People rude	5	
	Not enough affordable choices	3	
	Hard to hear	2	
	Don't use	2	
	Not enough plates	1	
	Microwave lines too long	1	
27	**Is it easy during mealtimes to find seating?**	**439**	
	No	301	68.56%
	Yes	138	31.44%
	If No, Why?		
	Too crowded/busy	179	
	Not enough seats	97	
	Not enough tables	24	
	People taking up larger tables	16	
	Poor space plan	9	
	Don't eat there	5	
	People studying in food court/hang out after eating	3	
	Not enough outlets	2	
	Tables too small=people take more than one table	1	
	Empty tables aren't cleaned	1	
28	**Is it easy to navigate around the furniture in the living room?**	**438**	
	Yes	400	91.32%
	No	38	8.68%
	If No, Why?	**38**	
	Cramped/Crowded	25	
	Bad arrangement/Lack of proper or grid like pathways	9	

	Backpacks on the ground	2	
	Spaces are too narrow for people with mobility aides	1	
	Living room furniture is too large	1	
	Furniture is Dirty	1	
	People rearranging to reach outlets	1	
29	**Is it easy to identify where you are and where you want to go?**	439	
	Yes	418	95.22%
	No	21	4.78%
	If No, Why?		
	Lack of wayfinding/maps/"you are here" markings	9	
	Everything looks the same	1	
	Not clear where things are	2	
	Staircases that don't connect to certain floors	2	
	Convoluted layout	4	
	Hard to identify washroom/office/elevator locations	4	
	Hard to describe meeting points/zones	1	
	Bad numbering system in areas	1	
30	**Are the stairwells easy to locate?**	440	
	Yes	409	92.95%
	No	31	7.05%
	If No, Why?		
	Don't know where they are/hidden/hard to find	17	
	Convoluted layout/locations	8	
	Not enough signs	6	
	Too crowded	1	
	Closed	1	
31	**Are the stairwells easy to navigate?**	440	
	Yes	419	95.23%
	No	21	4.77%
	If No, Why?		
	Don't know where they're located above 2nd floor	6	
	Confusing	2	
	Lack of signage	2	
	Don't like the stairs without risers	1	
	No floor number identification in stairwells	1	
	Haven't been in them	1	
	Steps too wide by beanbag area	1	
	Too steep	1	
	Closed/out of order	1	
	Lack of designated lanes of travel within staircase and hallways	1	
32	**Do you find yourself having trouble staying altert after being in SUB for an extended period?**	**435**	
	No	286	65.75%
	Yes	149	34.25%
33	**If yes, after how much time do you notice the issue?**	**212**	
	1-2 hours	94	44.34%

	2-4 hours	88	41.51%
	4-6 hours	30	14.15%
34	**Do you look for seating that gives you a view of the outdoors?**	**433**	
	Yes	301	69.52%
	No	132	30.48%
35	**What type of outdoor view do you prefer?**	**432**	
	Nature (Grass, Trees, etc)	365	84.49%
	Architectural (Buildings)	39	9.03%
	Other	18	4.17%
	Roadways/Pedestrian traffic	10	2.31%
36	**Do you prefer interior spaces that include nature elements (plants, wood surfaces, natural textures, views of nature, imagery of nature, etc)?**	**433**	
	Yes	378	87.30%
	No	55	12.70%
37	**Do you have a need for a lactation room on campus?**	433	
	No	416	96.07%
	Yes	17	3.93%
38	**If you do need a lactation room, how many locations on campus do you think are necessary?**	173	
	1 in each larger campus gathering area (SUB, HUB, CAB, etc)	85	49.13%
	1 per building	51	29.48%
	1 every other building	20	11.56%
	1 total	17	9.83%
39	**Do you have a need for a quiet room on campus? (A comfortable space to get away from the noise/stress)**	**433**	
	Yes	321	74.13%
	No	112	25.87%
40	**If you would want a quiet room, how many locations on campus do you think are necessary?**	**377**	
	1 per building	213	56.50%
	1 in each larger campus gathering area (SUB, HUB, CAB, etc)	100	26.53%
	1 in every other building	58	15.38%
	1 total	6	1.59%
41	**Do you think there are enough healthy food options on campus?**	**432**	
	No	256	59.26%
	Yes	176	40.74%
42	**Do you think there are enough healthy food options in SUB?**	**431**	
	No	260	60.32%
	Yes	171	39.68%
43	**Do you think you would eat healthier if there were more healthy food options available?**	**430**	
	Yes	325	75.58%
	No	105	24.42%
44	**Is price a deterrent to eating healthier on campus?**	**432**	
	Yes	358	82.87%
	No	74	17.13%

45	**Is price a deterrent to eating healthier in SUB?**	**431**	
	Yes	328	76.10%
	No	103	23.90%
46	**Do you utilize vending machines on campus?**	**430**	
	No	325	75.58%
	Yes	105	24.42%
47	**Do you think there are enough healthy food/drink options in the vending machines?**	**412**	
	No	323	78.40%
	Yes	89	21.60%
48	**Is price a deterrent to choosing healthy vending machine options?**	**412**	
	Yes	218	52.91%
	No	194	47.09%
49	**When in SUB, where do you prefer to eat?**	**424**	
	The food court	189	44.58%
	The living room	132	31.13%
	The area in front of the Alumni Lounge	59	13.92%
	Other	44	10.38%
50	**When in SUB, where do you prefer to socialize?**	**423**	
	The living room	236	55.79%
	The area in front of the Alumni Lounge	71	16.78%
	The food court	67	15.84%
	Other	49	11.58%
51	**When in SUB, where do you prefer to study?**	**422**	
	The living room	185	43.84%
	The area in front of the Alumni Lounge	132	31.28%
	Other	75	17.77%
	The food court	30	7.11%
52	**Do you typically eat:**	**426**	
	With 1 friend	162	38.03%
	With 2 or more friends	133	31.22%
	Alone	131	30.75%
53	**Do you typically study:**	**425**	
	Alone	234	55.06%
	With 1 friend	126	29.65%
	With 2 or more friends	65	15.29%
54	**Do you typically socialize:**	**420**	
	With 2 or more friends	234	55.71%
	With 1 friend	186	44.29%
55	**Functional changes that i would like to see made to the main floor of SUB include:**	**416**	
	Provide more electrical outlet access	293	70.43%
	Provide better table options for working or eating on sofa/chair	236	56.73%
	Locate some tables and chairs closer to the windows	210	50.48%

	Provide new tables and chairs	200	48.08%
	Provide new living room seating	198	47.60%
	Provide other types of seating for alternative sitting/lounging positions	151	36.30%
	Reduce noise	149	35.82%
	Add lighting	127	30.53%
	Provide better pathways around and within seating areas	100	24.04%
	Change flooring	47	11.30%
	Other	40	9.62%
	Reduce lighting	15	3.61%
56	**What other areas on campus do you use for study/socializing/meal breaks that you would support being renovated?**	405	
	CAB	114	28.15%
	Libraries	114	28.15%
	Other	69	17.04%
	HUB	67	16.54%
	Bio Sciences	25	6.17%
	FAB	16	3.95%
57	**Do you ever feel lonely on campus?**	425	
	Yes	238	56.00%
	No	187	44.00%
58	**Would you socialize more with other students during lunch if there were mechanisms that woud make this less intimidating?**	**426**	
	Yes	249	58.45%
	No	177	41.55%
59	**Do you feel comfortable when you spend time on the main floor in SUB?**	**426**	
	Yes	390	91.55%
	No	36	8.45%
	If No, Why?		
	Overwhelming/Too crowded	24	
	Too loud	9	
	Lack of belonging/judgement from others	3	
	Feel watched by others	2	
	Uncomfortable at certain times	2	
	Too open	2	
	Feel alone	2	
	Too warm	1	
	Bad lighting	1	
60	**Is there anything about the main floor of SUB that frustrates you?**	**423**	
	No	318	75.18%
	Yes	105	24.82%
	If Yes, What?		
	Not enough seating	28	
	Too Crowded/Overwhelming	19	
	Too loud	16	
	Lack of electrical outlets	10	
	Pathway issues/tables or people blocking pathways	7	
	Too dark	6	

	Food quality, pricing, queing times	6	
	Queing issues	5	
	Aesthetics	5	
	Furniture comfort/ergonomics	5	
	Cleanliness	4	
	Tables wobbly	4	
	Too warm	4	
	Event noise	4	
	Lack of furniture arrangements/room designation	3	
	Window/glare issues	3	
	Too open	2	
	Doors too heavy	1	
	Food smells	1	
	Closing the quiet room to use as event storage	1	
	Safety at night	1	
	Long lines	1	
	Too cold near alumni lounge	1	
	Lack of single seating	1	
	Elevator maintenance	1	
	Accessibility	1	
	Lack of coat/bag storage	1	
	Bookstore location	1	
61	**Is there anything about the main floor of SUB that creates anxiety?**	**424**	
	No	348	82.08%
	Yes	76	17.92%
	If Yes, What?		
	Too crowded/overwhelming	42	
	Too noisy	14	
	Too open/Lack of privacy	6	
	Bad room layouts/lack of traffic pathways	6	
	Vendors aggressive selling	4	
	Too dark	4	
	Food quality/options for dietary restrictions	3	
	Event noise	2	
	Get lost easily	2	
	Pest control issues	2	
	Too warm	2	
	Food court employees	1	
	Heavy doors	1	
	Elevators	1	
	Smells	1	
	Lack of seating	1	
	Cleanliness	1	
	Lack of security	1	

Appendix C:

Uwell		Educational Campus Scorecard	Healthy Building Status			Point Total	226
			Superior Healthy Building Standard			A	200
			Advanced Healthy Building Standard			B	165
			Minimum Healthy Building Standard			C	145
	Purpose	The goal of this survey is to determine the impact of campus and building architecture and amenities on student health. This assessment is broken down into campus wide strategies and buiding specific strategies.					
	Definitions						
	Multi-purpose spaces	Any freely occupied space intended for student use including social, eating, study, fitness, and entertainment atmospheres but excludes learning spaces such as classrooms, labs, and lecture halls.					
	Student spaces	Any space intended for student use including social, dining, study, fitness, entertainment and learning spaces.					
	Pedestrian route	A foot path that provides amenities such as benches, and lighting throughout.					
			VALUE	SUB	INITIAL SCORE	SUB AFTER INTERVENTIONS	SCORE AFTER INTERVENTIONS
	PREREQUISITE		226		125		145
0.1	Survey	Provide an official report of the student commuter and building use survey with a summary of findings including calculations showing a response rate of at least 30%, the number of alternative commute trips, and number of conventional commute trips.	1	NO	0	YES	1
1	COMMUTING (BUILDING SPECIFIC)						
1.1	Walk score 1	provide link to walk score evaluation of 50 or more for the address of the building	1	YES	1	YES	1
1.2	Walk score 2	provide link to walk score evaluation of 70 or more for the address of the building	2	YES	2	YES	2
1.3	Walk score 3	provide link to walk score evaluation of 90 or more for the address of the building	3	NO	0	NO	0
1.4	Accessibility to transit	provide an annotated plan(s) and clear, annotated photograph(s) demonstrating that the direct route to transit is less than 800m, free of obstructions and the pedestrian route has a running slope no steeper than 1:20.	3	YES	3	YES	3
1.5	Bicycle parking	[1] Provide a calculation showing the amount of bicycle parking required for the building (5% of regular student occupants or exceeds demand as dictated by survey by 1%). [2] Provide a clear, annotated photograph(s) and/or plan(s) showing: a) The total calculated number of secure and covered bike parking. b) The distance between the bike racks and a main entrance of the building (max 400m)	2	NO	0	YES	1
1.6	Commuter showers	[1] Provide a clear annotated photograph(s) and/or plan(s) demonstrating at least 1 public shower/locker per 500 occupants and location of showers/lockers. [2] Official documentation showing evidence that showers and lockers are available free of charge for all regular occupants.	2	NO	0	YES	1
2	CAMPUS AMENITIES (CAMPUS-WIDE)						
2.1	Pedway systems	Provide clear, annotated photograph(s), plan(s), and/or diagram(s) demonstrating the pedway system connecting all major buildings.	2	YES	2	YES	2
2.2	Parking fees	Provide documentation detailing the pricing scheme, clearly demonstrating that the fair market rate is being charged for all single-occupancy vehicle parking across campus.	2	YES	2	YES	2
2.3	Fitness facilities	[1] Provide a floor plan(s) and/or clear photograph(s) showing a free exercise room(s) with: fitness equipment (cardio and strength training equipment) and access to locker rooms with showers. [2] Provide an official document (signed, dated, and on official letterhead) declaring that all students have access to the exercise room free of charge or included in mandatory student fees.	5	YES	5	YES	5
2.4	Campus beautification	Provide official documentation detailing all permanent visual art installations (Sculpture, murals) or seasonal decorations (lighting, floral gardens) with a minimum average of 5 per building.	2	NO	0	NO	0
2.5	Campus gamification	Provide official documentation detailing all gamification instances on campus with minimum 3 on campus. Gamification strategies: The application of game playing elements to everyday campus interactions	2	NO	0	NO	0
2.6	Campus experiences	[1] Provide official documentation detailing all the immersive sensory experiences spaces (Theaters, shows, plays, concerts) for a minimum of 1 per 8000 students on campus. [2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	5	NO	0	NO	0
2.7	Farmer's market	Provide a clear, annotated photograph(s) and/or official document(s) detailing the location and schedule (minimum weekly) of a qualifying farmer's market with at least 1 local produce vendor.	4	YES	4	YES	4
3	STUDENT SPACES (BUILDING SPECIFIC)						
3.1	Natural daylight	[1] provide annotated plan(s) and/or diagram(s) showing a calculation including the total number of student spaces that have natural light for a minimum of 51% of the total student space. The area of workspaces with natural light is defined in plan as the area with direct line of sight to open sky to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and daylight area.	3	NO	0	NO	0
3.2	Views of Nature	[1] provide annotated plan(s) and/or diagram(s) showing a calculation including the total number of student spaces that have lines of sight to outside nature or greenery for a minimum of 51% of the total student space. The area of workspaces with views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and access to views.	4	NO	0	NO	0

3.3	**Direct connections to nature**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation of the student spaces that have at least three direct connections to nature for a minimum of 51% of the total student space. The area of workspaces with connections views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and direct connections to nature. Direct connections to nature include: Plants, water, light, fireplaces, natural landscapes or interior views of greenery.	**3**	NO	**0**	NO	**0**
3.4	**Indirect connections to nature**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation of the student spaces that have at least four indirect connections to nature for a minimum of 51% of the total student space. The area of workspaces with connections views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and indirect connections to nature. Indirect connection to nature includes: natural materials, patterns, or images, sounds, installations and simulations that evoke nature.	**3**	NO	**0**	NO	**0**
3.5	**Sound pollution**	[1] Provide audio or video recordings or decibel level readings demonstrating that there are no obnoxious noises in any student spaces.	**3**	YES	**3**	YES	**3**
4	**MULTI-PURPOSE SPACES (BUILDING SPECIFIC)**						
4.1	**Common dining area**	Provide annotated plan(s), diagram(s) or photographs demonstrating a common break area within 100m of the building equipped with refrigerator, microwave, sink, and dining area to accommodate meal-time activity.	**3**	NO	**0**	NO	**0**
4.2	**Dining area cleaning schedule**	Provide clear photograph(s) and/or official document(s) detailing the daily dining area (including sinks, microwaves, and refrigerators) cleaning schedule and/or policy for all building restrooms under control of building owner.	**1**	YES	**1**	YES	**1**
4.3	**Hand-washing**	Provide clear photograph(s) of permanent educational signs posted in all bathrooms.	**1**	NO	**0**	YES	**1**
4.4	**Bathroom cleaning schedule**	Provide clear photograph(s) and/or official document(s) detailing the daily bathroom cleaning schedule and/or policy for all building restrooms.	**2**	NO	**0**	YES	**2**
4.5	**Quiet room**	[1] Provide annotated plan(s), diagram(s) or photographs demonstrating a common quiet room, separate from study spaces, within 400m of the building [2] provide audio or video recordings demonstrating the absence of obnoxious noises [3] Provide clear photograph(s) and/or plan(s) showing at least two alternative seating options in this space (couch, recliner, bean bags or other).	**3**	NO	**0**	YES	**3**
4.6	**Alternative seating**	[1] Provide clear photograph(s) showing a alternative seating (couches, bean bags, hammocks, reclining chairs) in the building multi-purpose spaces	**4**	NO	**0**	NO	**0**
4.7	**Sleeping areas**	[1] Provide a floor plan(s) and/or clear photograph(s) showing a designated rest area with furniture (daybeds, fully reclining chairs, hammocks, couches) in a quiet, low light environment. [2] Provide clear photograph(s) and/or official document(s) detailing the daily cleaning schedule and/or policy for all campus rest areas.	**4**	NO	**0**	YES	**4**
4.8	**Lactation**	[1] Provide a clear annotated plans demonstrating that the location and number of lactation rooms meets the number requested in the student use survey. [2] The referenced section of the student use survey [3] Provide clear annotated photograph(s) and/or plan(s) demonstrating seating area, table, electrical outlet, sink, and secure refrigerator (the refrigerator can be located outside of the lactation station, but must be in proximity to and accessible from the station.	**3**	NO	**0**	NO	**0**
4.9	**Free room**	Provide an official document demonstrating how the room can be scheduled for activities, including social or wellness activities, available to all students free of charge, within 200 meters of every building.	**4**	YES	**4**	YES	**4**
5	**OUTDOOR SPACES (CAMPUS-WIDE)**						
5.1	**Smoke-free policy**	Provide an official document(s) or policy detailing that all outdoor spaces (including parking areas) are tobacco-free. A/C 2pts [1] Provide an official document(s) or policy detailing that all smoking outside of designated smoking areas is banned [2] Provide an annotated plan(s), diagram(s), and/or clear photographs) demonstrating all designated smoking areas, at least 10 m away from major pedestrian routes, building entrances or fresh air intakes. A/C [1] Provide an official document(s) or policy detailing that smoking is banned in all spaces within 10m of doors and fresh air intakes. [2] Provide a annotated photograph(s) detailing that all tobacco free spaces are clearly marked.	**2**	A/C	**1**	A/C	**1**
5.2	**Walking trail**	Provide clear, annotated photograph(s), plan(s), and/or diagram(s) demonstrating that the walking trail is accessible, paved, at least 3m or 10 feet wide (or a divided combination equivalent to), and without obstructions for 1/4 mile or 400 meters while providing amenities and context appropriate lighting. This strategy is only applicable to campuses that accomplish the snow removal strategy. A/C Select "Alternative Compliance" if the walking trail is partially indoors and therefore obstructed by doors.	**3**	YES	**3**	YES	**3**
5.3	**Campus wayfinding**	Provide an annotated exterior wayfinding plan(s), diagram(s), and/or clear photograph(s) detailing sign design, location, spacing and clearly demonstrating permanent visible signage to all major buildings or campus landmarks.	**2**	NO	**0**	NO	**0**
5.4	**Outdoor lighting**	Provide an annotated exterior lighting plan(s), diagram(s), and/or clear, nighttime photograph(s) detailing light placements and spacing and clearly demonstrating visible, continuous illumination along all pedestrian routes paths and parking areas.	**4**	YES	**4**	YES	**4**
5.5	**Outdoor fitness equipment**	Provide clear photograph(s) and/or site plan(s) showing qualifying outdoor fitness equipment. N/A Campuses located where there is more than 5 months of average freezing temperatures.	**1**	NO	**0**	NO	**0**
5.6	**Restorative garden**	Provide a clear, annotated photograph(s) and/or site plan(s) showing the qualifying restorative garden on campus. Restorative garden amenity : An area that provides a serene, immersive and sensory nature experience	**3**	NO	**0**	NO	**0**
6	**COMMUNITY (CAMPUS-WIDE)**						
6.1	**Herd immunity**	Provide an official document demonstrating vaccination and immunization services on campus.	**5**	YES	**5**	YES	**5**

6.2	**Health services**	Provide a list of general health professionals (at least 1 full-time per 4000 students) employed for the purpose of general health services at a clinic on campus.	5	YES	5	YES	5
6.3	**Mental health services**	Provide a list of mental health professionals (at least 1 full-time per 4000 students) employed for the purpose of mental health services at a clinic on campus.	5	YES	5	YES	5
6.4	**Semester break**	Provide an official academic calendar demonstrating at a full week without classes for all students each semester.	5	YES	5	YES	5
6.5	**Athletic pursuits**	[1] Provide official documentation detailing all the intramural and drop-in activities, including times and seasons, participation, and amenities available to athletes. [2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	5	NO	0	NO	0
6.6	**Volunteerism**	Provide official documentation detailing all school credit and bursaries available to student volunteers and simple application process (Maximum application process being: contact information, cover letter, and CV).	3	YES	3	YES	3
6.7	**Social engagement**	Provide official documentation detailing all student clubs and organisations, and campus events, with minimum 1 weekly open participation event.	3	YES	3	YES	3
6.8	**Winter activities**	Provide official documentation detailing winter-themed campus activities with minimum 1 monthly open participation event.	2	NO	0	NO	0
6.9	**Student club spaces**	Provide an official document demonstrating how a secure storage and office space can be borrowed and/or scheduled by student clubs free of charge.	2	YES	2	YES	2
7	**FOOD SERVICES (CAMPUS-WIDE)**						
7.1	**Healthy food service**	[OR] Provide a copy of all food service leasing agreements on campus, detailing how food service providers: - Provide healthy food choices for all regular occupants that are at least as rigorous as the Food Service Guidelines for Federal Facilities. Enable sustainable practices for the building. [OR] Provide official documentation describing how all on-site restaurants or cafés provide healthy food choices for all regular occupants that are at least as rigorous as the U.S. Food Service Guidelines for Federal Facilities.	5	NO	0	NO	0
7.2	**Nutritional information**	[1] Provide a copy of all food service leasing agreements on campus, detailing how food service providers provide nutritional information to customers.	4	NO	0	NO	0
7.3	**Portion sizes**	Provide a copy of all food service leasing agreements on campus, detailing how at least half of food items on menus are offered at smaller portion sizes for fair prices.	4	NO	0	NO	0
8	**WATER SUPPLY (BUILDING SPECIFIC)**						
8.1	**Water supply**	[1] Provide a official documentation demonstrating compliance with Americans with Disabilities Act (ADA) requirements. [2] Provide annotated plan(s), diagram(s) or photographs showing the location of water supplies (minimum 1 every 30 meters) with water bottle refilling ability (minimum 1 on each floor).	4	NO	0	NO	0
8.2	**Water in food service areas**	Provide clear photograph(s) showing access to free water station/supply in food service areas including cafeteria(s) and prepared food retail areas.	4	YES	4	YES	4
8.3	**Water in vending areas**	Provide clear photograph(s) showing access to free water station/supply visible near vending machines and snack bars	4	YES	4	YES	4
9	**SAFETY AND EMERGENCY SERVICES (CAMPUS-WIDE)**						
9.1	**Lockdown notifications**	[1] Provide an official document(s) detailing the address notification system within the building and for what emergencies on campus it is triggered. [2] Provide official documentation indicating the notifications are tested quarterly.	2	YES	2	YES	2
9.2	**Emergency call stations**	Provide annotated plan(s), diagram(s), photograph(s), detailing the location of emergency call stations within the building.	2	YES	2	YES	2
9.3	**Monitorings**	[1] Provide official document(s) or policy detailing schedule of patrols [2] provide annotated plan(s) diagram(s) demonstrating video surveillance locations.	2	NO	0	NO	0
9.4	**Safe walk**	Provide a campus wide safe-walk program available to all students from dusk until dawn	3	YES	3	YES	3
9.5	**Safety awareness**	Provide strategies for student awareness of safety and emergency services	1	YES	1	YES	1
9.6	**Snow removal**	Provide snow and ice removal on all campus walkways and streets	3	YES	3	YES	3
10	**SAFETY AND EMERGENCY SERVICES (BUILDING SPECIFIC)**						
10.1	**Emergency notification system**	Provide annotated plans(s), diagram(s) or official document(s) detailing the address notification system within the building and the way it responds to common emergencies in your community. Consider the context of the building site and the number of regular occupants.	3	YES	3	YES	3
10.2	**Automated External Defibrillator (AED)**	[1] Provide a clear, annotated plan(s), diagram(s) or photograph(s) detailing the locations of all the Automatic External Defibrillators (AEDs). [2] Provide clear, annotated plan(s), diagram(s) or photograph(s) demonstrating wayfinding is provided towards AED location [3] Provide an official document(s) detailing the regular testing schedule as recommended by manufacturer.	1	NO	0	YES	1
10.3	**Certified first responders**	provide an official document(s) stating that there is CFR available to the building with a response time less than 3 minutes.	1	YES	1	YES	1
11	**ENTRANCES AND GROUND FLOOR (BUILDING SPECIFIC)**						
11.1	**Entrances for pedestrian routes**	Provide clear photograph(s) and/or site plan(s) showing at least three building entrances are oriented towards a pedestrian route.	3	YES	3	YES	3
11.2	**Entrances: lighting**	Provide an annotated exterior lighting plan(s), diagram(s), and/or clear, nighttime photograph(s) detailing light placements, spacing, and clearly demonstrating visible, continuous illumination at all building entrances.	3	YES	3	YES	3
11.3	**Inclusive entrances**	Provide annotated photographs, plan(s) or diagram(s) demonstrating an inclusive, barrier free entrance that is located at the main entrance of the building with power door operation.	4	YES	4	YES	4

11.4	**Entryway systems**	[1] Provide clear photograph(s) and/or plan(s) detailing entryway system and demonstrating that the entryway system is located at each entrance, at least as wide as the entrance, and at least 5 feet deep (1.5 meters) in the direction of travel. [2] Provide an official statement (signed, dated, and on official letterhead) confirming that if mat systems are used, they are cleaned and maintained weekly. Entryway systems - floor mats, shoe cleaners, vestibules, etc to prevent outside contaminants from entering the building	**1**	YES	**1**	YES	**1**
11.5	**Publicly accessible use**	[1] Provide a clear photograph(s) and/or plan(s) showing a minimum of one public use space on the main floor. [2] Provide an official statement confirming that the identified areas are open to the public.	**3**	YES	**3**	YES	**3**
11.6	**Indoor wayfinding**	Provide annotated photographs demonstrating a permanent wayfinding display or building directory in a location accessible to all regular student occupants communicating major spaces within the building.	**2**	YES	**2**	YES	**2**
12	**STAIRWELLS & ELEVATORS (BUILDING SPECIFIC)**						
12.1	**Regularly accessible stairwell**	Provide a plan(s) and/or section(s) detailing the stairwell that is accessible to all common use and student-occupied floors.	**4**	YES	**4**	YES	**4**
12.2	**Stairwell visibility**	Provide a clear photograph(s) and/or plan(s) showing that the stairwell is equally or more visible than an elevator/escalator from building entrance. The stairwell used to comply with this strategy must also meet the criteria of 'Regularly accessible stairwell'.	**4**	YES	**4**	YES	**4**
12.3	**Stairwell design**	Provide a clear photograph(s), stair section(s), and/or elevation(s) showing compliance with a minimum of two of the active design strategies in stairwell design. Active design strategies in stairwell design include, but are not limited to, posting motivational signs, installing a music system or creative lighting, moderating stairwell temperature, adding rubber treading to stairs, painting walls a bright color, and hanging framed artwork. The stairwell used to comply with this strategy, must also meet the criteria of 5.1.	**3**	NO	**0**	NO	**0**
12.4	**Stair signage**	[1] Provide a clear photograph(s) of the permanent point-of-decision stair sign(s). The stairwell used to comply with this strategy must also meet the criteria of 5.1. [2] Provide a clear photograph(s) and/or plan(s) showing placement of stair sign (s) prompt at elevator call areas on each floor.	**2**	NO	**0**	NO	**2**
12.5	**Elevator accessibility**	Provide annotated photographs or video(s) demonstrating visual and audible indicators of elevator operation including tactile symbols and raised braille messages adjacent to elevator control buttons.	**3**	NO	**0**	NO	**3**
13	**INDOOR SYSTEMS AND POLICIES (BUILDING SPECIFIC)**						
13.1	**Smoke-free buildings**	Provide an official document(s) or policy (signed, dated, and on official letterhead) detailing that all buildings are smoke-free.	**3**	YES	**3**	YES	**3**
13.2	**Smoke free signage**	[1] Provide an example of signage publicizing a smoke-free and vape-free building. [2] Provide clear photograph(s) and site plan(s) showing signage at all building entrances.	**1**	NO	**0**	NO	**1**
13.3	**Green purchasing policy**	Provide an official copy of a valid green purchasing plan for the building indicating the building address or name detailing the green purchasing and implementation plan. Products must either fall under EPA's list of designated products or show the EPA's Safer Choice Label.	**4**	YES	**4**	YES	**4**
13.4	**Integrated pest management**	Provide an official copy of IPM plan or contract detailing procedures requiring non-chemical approaches to meet all the following: - improved sanitation (e.g., removing food from desks, cleaning) - inspection and monitoring of pest population sites managing waste (e.g., keeping refuse in tight containers, locating waste containers away from building if possible) - maintaining structures (e.g., fixing leaking pipes promptly, sealing cracks) - adding physical barriers to pest entry and movement (e.g., screens for chimneys, doors, and windows; air curtains) - modifying habitats (e.g., removing clutter, relocating outside light fixtures away from doors) - using traps (e.g., light traps, snap traps, and glue boards) - using pesticides judiciously	**3**	YES	**3**	YES	**3**
13.5	**Chemical storage**	Provide a clear photograph(s), floor plan(s) and/or diagram(s) showing: a) The location of areas such as garages, janitors' closets, laundry areas, science laboratories, art rooms, workshops, salons, high volume copy rooms where the output exceeds 40,000 pages or 20,000 pages double sided per month, and other areas where chemicals may be used or stored. b) Separate ventilation for all such areas described above. c) For cleaning products that are not stored separately, provide official documentation demonstrating that the products meet the Green Seal GS-37 standard and/or the California Code of Regulations.	**2**	NO	**0**	NO	**0**
13.6	**Asbestos**	Provide a jurisdiction-specific compliance document, proof of asbestos abatement (entirely removed or properly contained if present) by a certified professional, or the relevant legal policy regarding asbestos at time of building construction.	**4**	YES	**4**	YES	**4**
13.7	**HVAC+R**	Provide official documentation demonstrating HVAC+R systems exceed most recent ASHRAE or equivalent and are regularly monitored and maintained. A/C Provide official documentation demonstrating HVAC+R systems meet ASHRAE or equivalent standards at the date of build and are regularly monitored and maintained.	**2**	A/C	**1**	A/C	**1**
13.8	**Maintained temperature**	Provide annotated photos and/or specification documents demonstrating student-accessible thermostats or operable windows in all small student spaces (capacity of 30 or fewer)	**3**	NO	**0**	NO	**0**
13.9(	**Seasonal lighting**	Provide an official copy of a valid lighting purchasing plan or policy for the building, including the address or name, detailing the lighting purchasing and implementation plan.	**2**	NO	**0**	NO	**0**

Appendix: D

SUB Observations

Week of:																				
11/5/18-11/9/18	Monday				Tueday				Wednesday				Thursday				Friday			
	9a	12p	3p	6p	9a	12p	3p	6p	9a	12p	3p	6p	9a	12p	3p	6p	9a	12p	3p	6p
Living Room																				
Lounge Seating	8	32	19	10	6	33	16	16	10	31	21	16	3	28	22	10	17	26	17	17
Dining Seating	13	84	63	36	21	78	65	41	24	66	63	38	12	76	55	43	26	72	53	25
dB Level	58	67.4	75	66.1	62.5	67.9	67.7	65.5	61.4	68.3	64.8	70.3	60.2	66.9	67.3	63.7	66.8	67.7	70.2	61.9
Hallway																				
Lounge West	6	17	11	7	9	20	15	14	8	17	13	12	4	18	12	20	13	17	10	13
Lounge East	3	8	8	2	3	7	5	1	0	4	5	4	1	6	5	3	4	4	5	2
dB Level West	58.5	67.8	75.5	60.9	60.4	68	64.1	65.6	57	67.1	67	68.2	56.8	65.3	62.7	62	69.4	64.7	66.6	65
dB Level East	59.5	67.4	75.8	63.5	63.1	64.6	68	66.2	62.5	73.4	70.1	75.3	63.2	66.6	66.1	61.4	67.3	66.8	64.7	62.8
Food Court																				
Table Seating	26	124	70	47	15	120	77	52	30	118	82	42	21	113	87	45	36	149	55	69
Counter Seating	2	22	10	4	0	16	3	5	1	17	9	3	0	16	11	2	0	20	10	2
dB Level	65	68.1	74.5	68.9	66.2	72.3	69.6	67.3	67.3	71	70.9	76.6	66.2	71.7	70.5	67.1	72.7	73.9	70.1	69.2
Study Area																				
Lounge Seating	13	23	17	7	6	24	12	6	9	19	15	5	5	15	15	12	7	16	8	4
Table Seating	16	30	25	19	7	34	28	18	11	24	22	24	9	27	24	18	12	38	12	22
dB Level	66.2	64.9	72.1	71.3	67.1	68.8	69.1	68.1	66.8	70.9	68.9	76.1	67.6	68	69.4	67.2	71.9	74	67.5	67.1

Appendix E:

Allsteel®

Belong®

As part of the Gather™ collection, Belong offers surface for small-group meetings or impromptu gathering spaces. Available as a coffee or side table.

The sculpted spun-aluminum base provides legroom.

Belong is available in a variety of base colors and tabletop finishes.

Perfect for small-group meeting spaces.

Belong Statement of Line

Coffee Table
16"H x 32" dia.

Side Table
21"H x 16" dia.

Go to **allsteeloffice.com/configurator** to customize this product for your space.

Allsteel®

Allsteel Inc.
Muscatine, Iowa 52761

allsteeloffice.com

Form # A8093.B1 (12/16)

Allsteel supports green initiatives in the contract furniture industry as a member of the U.S. Green Building Council. Belong is an SCS Indoor Advantage™ Gold and level® 2 certified product.

SCS Global Services *does hereby certify that an independent assessment has been conducted on behalf of:*

Allsteel Inc.

2210 Second Avenue, Muscatine, IA, United States

For the following product(s):

Tables:

Altitude®,Altitude® A3/A5/A8 *(Added: May 25, 2018)*, Aware®, Community, Gather™ (All-Around™, Belong™, Harvest™, Harvest Metal, Harvet Rustic Merge, Hedge™, Transfer™, Merge®, Parallel™, Park by Norm Architects Tables *(Added: May 25, 2018)*, Picnic *(Added: May 25, 2018)*,Recharge Tables, Vicinity™ Tables

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

level® 2

Conforms to ANSI/BIFMA e3-2014e Furniture Sustainability Standard

Registration # SCS-SCF-02313

Valid from: April 1, 2017 to March 31, 2020

ANSI Accredited Program
Product Certification
#0821

SCS global SERVICES

Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

SCS Global Services *does hereby certify that an independent assessment has been conducted on behalf of:*

Allsteel Inc.

2210 Second Avenue, Muscatine, IA, United States

For the following product(s):

Tables:
Altitude® A3/A5, Altitude® A8, Aware®, Merge®
Gather™ Collection: All-Around™, Belong™, Community, Harvest™, Harvest™ Metal Tables, Hedge™, Parallel™, Recharge Tables*, Transfer™, Vicinity™ Tables
Park by Norm Architects: Casual, Meeting, Pill, Side Tables
Normann Copenhagen presented by Allsteel: Block Cart, Tablo Table
Townall by Rainlight: Picnic Tables
** Excludes Recharge Connectors*

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

Indoor Advantage™ Gold
Indoor Air Quality certified to SCS-EC10.3-2014 v4.0
Conforms to the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e3 -2014e (Credit 7.6.1, 7.6.2) for the open plan and private office parameters and(Credit 7.6.3) for the private office workstation parameters[1].
[1] Modeled as Individual Furniture Components

Registration # SCS-IAQ-02447
Valid from: January 1, 2019 to December 31, 2019

Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Inspire is designed to support a multitude of higher education environments. In Allsteel's second collaboration with Bruce Fifield of Milan-based Design Continuum Italia, Inspire responds to the specific needs of today's dynamic learning environments. Incorporating automatic comfort technologies, students can now stay comfortable longer promoting active, engaged learning.

Inspire has achieved SCS Indoor Advantage Gold Certification and level® 2 certification. Inspire is designed and manufactured to have minimal impact on both the physical and social environment, made with no PVC components, and ranges in percent recyclable from 59% to 98%.

KEY FEATURES

TriFit™ Comfort Technologies

Inspire encourages interaction and involvement through unrestricted freedom of movement. The TriFit technology incorporates seat suspension, back recline, and seat flexure in a non-mechanical system that allows users to move freely and learn comfortably.

Breadth of Line

Today's learning environments are extending beyond the classroom. Spaces are needed that invite interaction and support collaboration. With Inspire's broad statement of line, versatile spaces are created not only in classrooms, but also in active learning environments – cafés, libraries, labs, and team project rooms – throughout campus.

Lasting Performance

Higher education environments mandate lasting performance. With Inspire's 4-sided welded steel frame construction, it creates a durable design that withstands active environments. The back recline and seat movement technologies are robust and non-mechanical to provide long-lasting, quiet use.

MODELS AND OPTIONS

Inspire models are available with arms or armless. Arm models feature two arm cap options: non-flexible for high-use environments and flexible for enhanced comfort.

Seat and back upholstery options are available on all models. Upholstery can be field-installed and is field-replaceable.

MATERIALS AND FINISHES

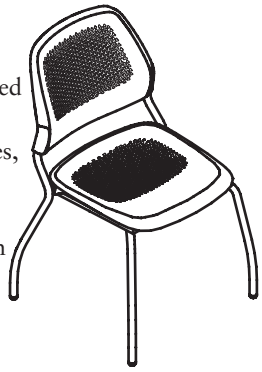
Polymer shells are offered in eight energizing colors and are made from recyclable material.

Trisect seating upholstery provides a high performance, sustainable fabric option to complement the eight polymer shell colors. This EIP antimony-free fabric incorporates Greenshield finish. Additional upholstery options also available.

- All upholstery foams are CFC-free.
- All COMs/COLs must be approved for upholsterability and applicable fire code compliance prior to order entry. See COM ordering instructions on pages 6-7.
- Allsteel fabrics and foam meet requirements for CAL TB117-2013. Contact Allsteel Customer Support for CTB133. COM/COL manufacturers supply certificates of compliance for fabric-only tests such as CAL TB117-2013. Allsteel must test a complete chair to supply a certificate of compliance with CTB133.
- Flammability code compliance of Allsteel textiles and seating is listed on pages 348-350 of the Seating Pricer. COM/COL manufacturers supply certificates of compliance for fabric-only tests such as CAL TB117-2013.
- Allsteel must test a complete chair to supply a certificate of compliance with CTB133.

Inspire meets the requirements set forth in ANSI/BIFMA X5.1-2011. Inspire is warranted for multiple shifts and users up to 300 pounds. Inspire four-leg stack and sled base chairs ship two per carton. All other models ship one per carton. Work chairs and work stools ship fully assembled. Model numbers and pricing are per chair.

Four-leg Stack Chair



Four-leg stack chairs can stack five high.

Glides are available in nylon, nickel-plated steel, or nylon with felt options. Nylon glides are recommended for hard surfaces, commercial carpet, and damp environments. Nickel-plated steel glides are recommended for carpet. Nylon with felt glides are recommended for wood, tile, or high-sheen floor surfaces.

Multi-surface casters are also available.

OPTIONS — FOUR-LEG STACK CHAIR

Upholstery Option:
- **N** None (Polymer seat and back)
- **S** Upholstered Seat Pad
- **U** Upholstered Seat and Back Pad

Glides/Casters:
- **G** Glides
- **C** Casters

Armrests:
- **O** Fixed Arms
- **A** Armless

Fire Code:
- **NO** Standard Upholstery, No Fire Code
- **FC** Fire Code Option for CTB 133 / Boston Fire Code / NY/NJ Port Authority ($100 extra) *See note below.*

Type of Glides/Casters:
- **0** Nylon Glides
- **1** Nickel-plated Steel Glides ($16 extra)
- **2** Nylon with Felt Glides ($16 extra)
- **3** Multi-surface Casters

Arm Cap:
- **N** No Arm
- **H** Non-Flexible
- **F** Flexible ($21 extra)

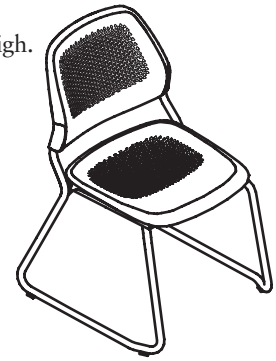
Frame Finish:
- **PR6** Silver
- **CBK** Charblack

Polymer Shell Color:
- **BLK** Black (formerly **CB** Onyx)
- **BU** Surf
- **BW** Brownstone
- **GN** Sprout
- **GY** Summit
- **RD** Cayenne
- **RG** Tangelo
- **WT** White (formerly Frost)

NOTE: Models with the fire code option are available in Onyx polymer shell only.

Upholstery
See pages 348-350 for selections and inside back cover for color codes.

Sled Base Stack Chair



Sled base stack chairs can stack five high.

Glides are available in polycarbonate, polycarbonate with felt or no glide options. Polycarbonate glides are recommended for hard surfaces, commercial carpet, and damp environments. Felt glides are recommended for wood, tile, or high-sheen floor surfaces.

OPTIONS — SLED STACK CHAIR

Upholstery Option:
- **N** None (Polymer seat and back)
- **S** Upholstered Seat Pad
- **U** Upholstered Seat and Back Pad

Armrests:
- **O** Fixed Arms
- **A** Armless

Fire Code:
- **NO** Standard Upholstery, No Fire Code
- **FC** Fire Code Option for CTB 133 / Boston Fire Code / NY/NJ Port Authority ($100 extra) *See note below.*

Type of Glides:
- **0** Polycarbonate Glides
- **2** Felt Covered Polycarbonate Glides ($16 extra)
- **4** No Glides

Arm Cap:
- **N** No Arm
- **H** Non-Flexible
- **F** Flexible ($21 extra)

Frame Finish:
- **PR6** Silver
- **CBK** Charblack
- **P8X** Solar Black
- **P8T** Titanium

Polymer Shell Color:
- **BLK** Black (formerly **CB** Onyx)
- **BU** Surf
- **BW** Brownstone
- **GN** Sprout
- **GY** Summit
- **RD** Cayenne
- **RG** Tangelo
- **WT** White (formerly Frost)

NOTE: Models with the fire code option are available in Onyx polymer shell only.

Upholstery
See pages 348-350 for selections and inside back cover for color codes.

SCS Global Services *does hereby certify that an independent assessment has been conducted on behalf of:*

Allsteel Inc.

2210 Second Avenue, Muscatine, IA, United States

For the following product(s):

See Addendum

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

Indoor Advantage™ Gold

Indoor Air Quality Certified to SCS-EC10.3-2014 v4.0

Conforms to the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e3 -2014e (Credits 7.6.1, 7.6.2, 7.6.3) for the seating parameters[1]. Also conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017 for the seating[1] and school classroom parameters.[2]

[1]Modeled as Office Seating

[2]Modeled as Pupil Seating

Registration # SCS-IAQ-02817

Valid from: January 1, 2019 to December 31, 2019

SCSglobal SERVICES

Stanley Mathuram, PE, Vice President

SCS Global Services

2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Certification Addendum

Allsteel Inc.

Certification: Registration # SCS-IAQ-02817 | Valid from: January 1, 2019 to December 31, 2019

Addendum

Indoor Advantage™ Gold

Indoor Air Quality Certified to SCS-EC10.3-2014 v4.0

Conforms to the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e3-2014e (Credits 7.6.1, 7.6.2, 7.6.3) for the seating parameters[1]. Also conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017 for the seating[1] and school classroom parameters.[2]

[1]Modeled as Office Seating
[2]Modeled as Pupil Seating

Products:

Seating:

#19®, Access™, Acuity™, Clarity, Evo™ , Inspire™, Involve®, Lyric™, Mimeo, Nimble®, Quip, Recharge, Relate®, Retreat™, Retreat™ Executive Conference Seating, Scout®, Seek®, Tolleson, Trooper®

Gather Collection: Clubhouse™, Linger™, Mind-Share™, Parallel™, Rise™, Scooch™, Take-5™, Vicinity™ Cafe

Normann Copenhagen presented by Allsteel: Form Barstool, Form Metal Armchair, Form Metal Chair, Form Rocking Armchair, Form Wood Armchair, Form Wood Chair, My Chair

Park by Norm Architects: Hi Solo, Lo Solo, Hi Settee, Lo Settee, Shell Chair

Townhall by Rainlight: Picnic (Bench and Stool, Rock, Summit, Wedge

Includes Wood options

SCS Global Services *does hereby certify that an independent assessment has been conducted on behalf of:*

Allsteel Inc.

2210 Second Avenue, Muscatine, IA, United States

For the following product(s):

Seating:

#19®, Access™, Acuity™, Clarity, Clubhouse™, Evo™ *(Added May, 25, 2018)*, Gather™ (Linger™, Mind-Share™, Rise™, Scooch™, Take-5™), Inspire™, Involve®, Lyric™, Mimeo, Nimble®, Parallel™, Quip, Recharge, Reflect, Relate®, Scout®, Seek®, Sum®, Tolleson, Trooper®, Vicinity™ Seating

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

level® 2

Conforms to ANSI/BIFMA e3-2014e Furniture Sustainability Standard

Registration # SCS-SCF-02310

Valid from: April 1, 2017 to March 31, 2020

ANSI Accredited Program
Product Certification
#0821

Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Allsteel®

The Advantages of a Perforated Seat with Springs

Exploring the comfort of Inspire™

As students participate in their classes, they should be able to concentrate on what is being taught and not be distracted by the discomfort of their chair. No matter how exciting the subject or the teacher, it is both challenging and ergonomically incorrect to sit perfectly still.

As we sit, the bones in our pelvis (referred to as the ischial tuberosities, or ITs) push against the muscles and tissues in the buttocks. Depending on weight and body dimensions, we may have more or less cushion in this area. Over time, pressure builds up in the IT area, and we feel uncomfortable. Our body shifts positions to alleviate this pressure buildup. A chair that lessens this pressure and faciliates movement can allow for better concentration during learning.

The Allsteel Inspire chair was designed to be such a chair, by relieving pressure and allowing movement for its occupants. The seat is perforated with Y-shaped channels, allowing the seat pan to flex which relieves pressure across the buttocks and thighs. Additionally, four integrated springs between the seat and frame help absorb energy and buffer the movements of the individual in the chair. These features help promote movement and make the sit more comfortable (especially through a long lecture).

A study was conducted to test the design elements of the Inspire chair and assess their impact on measurable comfort. A standard Inspire chair with a perforated seat and four springs (referred to as perforated seat) was tested against a modified Inspire seat without the perforations or springs (referred to as solid seat).

Figure 1

Perforated seat with springs.

Solid seat without springs.

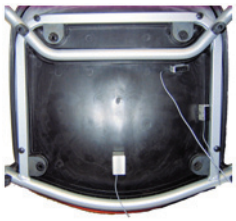
Measurements were taken as participants in the study sat and moved in different positions, simulating "real-world" movements.

Experimental Setup

Two chairs were used in this experiment. They were identical in every way except that the solid seat chair did not have the Y-shaped perforations and the springs to dampen movement. All other aspects of the chair (frames, casters, and backs) were the same. The chairs were instrumented with pressure mapping sensors (Xsensor X2 40:40 pressure maps) on the seat and backrest to measure the amount of distributed pressure the subjects had in these areas of the chair. An accelerometer was attached to the bottom of the seat to measure the dynamics of the seat and springs. There were also two inclinometers attached to the bottom of the seat to measure the angles of the seat during movement.

Figure 2

Pressure mapping pads on seat and back.



Accelerometer mounted on bottom, center of seat. Inclinometers mounted on front left (measures side-to-side) and left side (measures fore-aft) of the seat.

Subjects

Three subjects were used in the study: one female and two males.

Table 1

Study Participants by Height and Weight

Subject	Percentile Height	Percentile Weight
Female 1	1-5%	2-10%
Male 1	10-25%	26-50%
Male 2	90-92%	90-92%

Movements/Postures

Three positions that were used to simulate realistic movements in the chair:

1. Standing and then sitting in the chair.
2. Leaning and picking up/dropping an object while sitting.
3. Sitting with legs in and then out.

Standing/Sitting

Subjects started in the standing position, sat down on the chair, waited for five seconds, and then stood back up again. This cycle was repeated a total of five times. Pressure maps were taken to illustrate pressure distribution on the seat during movements. Accelerometer readings recorded the reaction of the springs to the individual sitting, and inclinometers measured the front and side angles of the seat. The pressure maps and accelerometer readings were mainly used for analysis in this portion of the experiment.

Leaning/Reaching

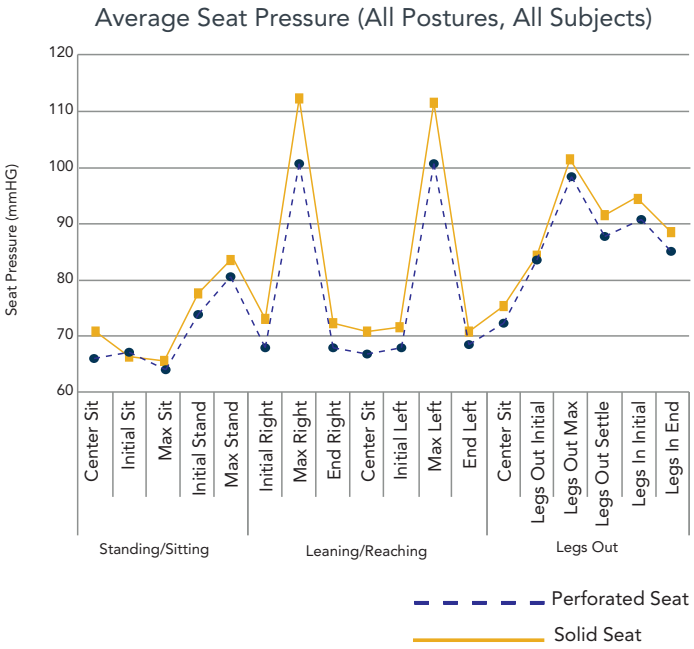
This movement simulated someone leaning in the chair to pick up an item from the floor or side of the chair. From the seated position, subjects reached for an object on the right side of the chair and then placed the object on their left side. This cycle was repeated a total of five times. Pressure maps and inclinometer readings were most important for this posture.

Legs Out

From the seated position, subjects leaned against the backrest and then put their legs forward, simulating a relaxed posture with their legs out. They then moved their legs in. This cycle was repeated a total of five times. Pressure maps and inclinometer readings were important for this posture.

Test Results

Figure 3

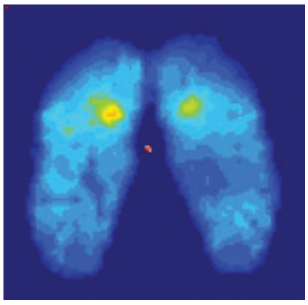


Graph showing the dynamic average pressure mapping values as subjects changed position. The perforated seat had an overall lower average seat pressure than the solid seat.

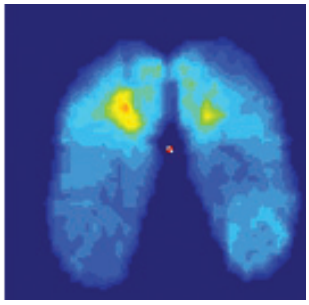
Standing/Sitting

Pressure maps showed that there was a 6% reduction of average pressure for participants when they sat in the perforated seat vs. the solid seat. A reduced average pressure means less pressure on muscles and nerves and the ability to sit with more comfort over time.

Figure 4



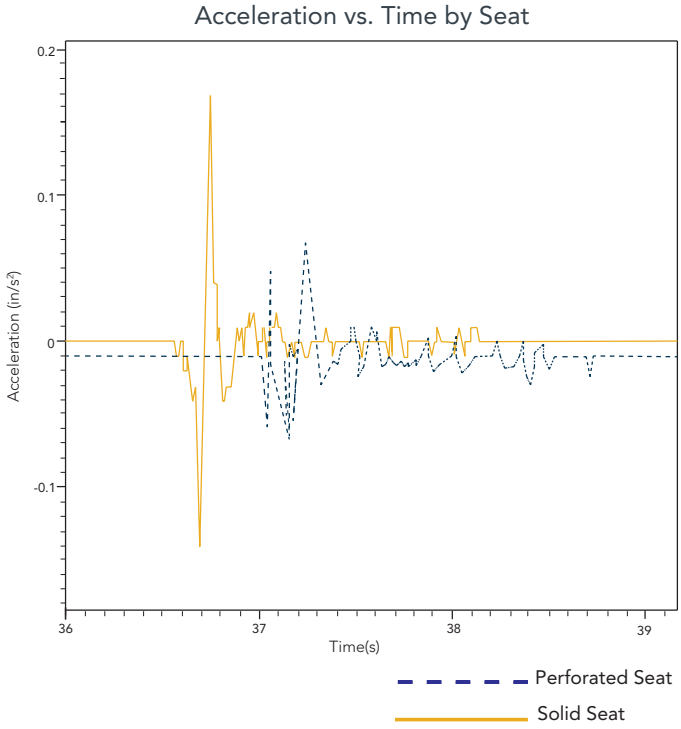
Standing then sitting in perforated seat with springs.



Standing then sitting in solid seat without springs.

The accelerometer readings showed that the springs absorbed the sitting energy in the perforated seat. When participants sat in the solid seat, there were higher peaks and 0.4 seconds less time of energy dissipation. With less time of energy dissipation, the user absorbs the shock of sitting or getting out of the chair instead of allowing the springs to absorb that energy. This can cause more fatigue and discomfort for the individual.

Figure 5



The perforated seat had a lower deceleration rate over a longer period of time because of the four springs suspending the seat. The solid seat had a higher deceleration value over a shorter period of time.

Leaning/Reaching

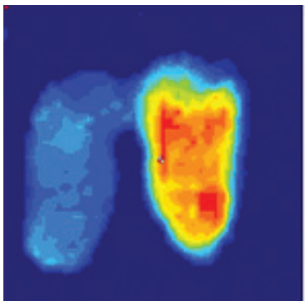
The ideal pressure map contains an even distribution of lower pressure colors and avoids as many of the high pressure colors (red and orange-red) as possible. As participants leaned to the right or left to retrieve or place an object, their pressure maps showed a transfer of high (red) pressure on the side of the chair to which the participant was leaning (see Figure 7). In all trials for all subjects, the perforated seat had less pressure and reduced peaks compared to the solid seat. When comparing the three highest pressure categories between the perforated and solid chairs, there was a 60% reduction of these pressure points in the perforated seat when subjects leaned to the left and right. The dynamic combination of the perforated seat and springs allows for this reduction of high pressure points, which should lead to increased comfort while moving.

Figure 6

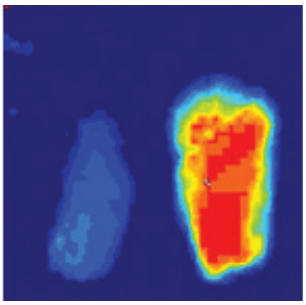
Pressure map coloring scheme. Dark blue is lowest pressure. Blue-green is medium pressure. Red is highest pressure.

The inclinometers also showed more movement in the perforated seat compared to the solid seat. The seat was able to lean two degrees more to each side with the springs, allowing the seat to relieve the pressure under the participant's legs during movement. This lowered the overall pressure felt by the user, as seen in the images in Figure 7.

Figure 7



Leaning to left in perforated seat with springs.

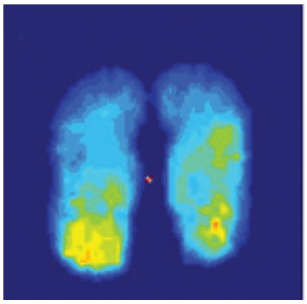


Leaning to left in solid seat without springs.

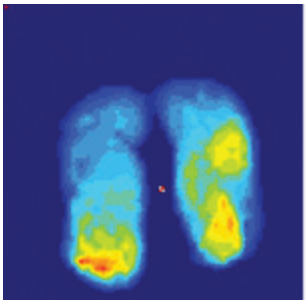
Legs Out

Sitting with the legs out in a relaxed posture produced higher pressure readings on the front edge of the seat (see Figure 8). The solid seat did not show any angular seat movement for the participants and had a higher average and peak pressure reading than the perforated seat design. The inclinometers did not measure any significant differences between the chairs in the fore-aft direction when the legs were extended.

Figure 8



Relaxing posture with legs out in perforated seat with springs.



Relaxing posture with legs out in solid seat without springs.

Conclusions

Three simple experiments were conducted to observe the differences between two chairs: the Inspire seat with Y-shaped perforations and springs and the solid seat without springs. As expected, the Inspire seat outperformed the solid seat in pressure map readings, accelerometer measurements, and inclinometer angles.

Standing/Sitting

The springs in the Inspire seat design allow the chair to move with the individual when he/she sits in the seat and help absorb the energy of sitting, rather than transferring it to the user. Additionally, the fore-aft, left-right, and up-down movements of the seat help make the seat more compliant to the movements of the user. The perforations in the seat help to reduce the sit pressure felt by the individual. Combined, these features should make the Inspire chair more comfortable.

Leaning/Reaching

Polymer seats can be rigid and cause high pressure points and undesirable contact on the edges when users lean to the sides. In the Inspire seat the leaning/reaching posture had lower average and peak pressures compared to the solid seat. Because the energy from movement is absorbed by the springs and not the user's body, the Inspire seat allows the user to feel more comfortable while moving through different postures and positions.

Legs Out

When participants put their feet out, there was less pressure on the front edge of the Inspire seat compared to the solid seat. This means that a user's popliteal area (region behind the back of the knees where blood vessels and nerves run) should experience less discomfort in a relaxed, legs-forward position in the Inspire chair. This reduction in pressure can prevent the legs from falling asleep and make it a better sitting experience for the user.

The Inspire chair's design reduces pressure in both a static and dynamic sit. The springs under the seat and perforated seat design complement each other to make the sitting experience more comfortable for the user. When the user does not have to worry about aches, pains, and discomfort associated with an uncomfortable chair, they will have a greater capability to focus on learning and interacting.

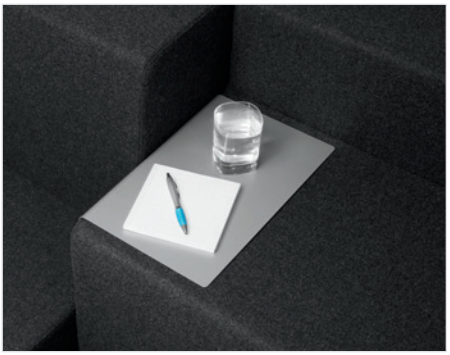
Allsteel®

Rise™

As part of the Gather™ collection, Rise is tiered modular stadium seating for small or large groups. Simple forms come together to create different landscapes for any space.

Optional power lets you stay connected.

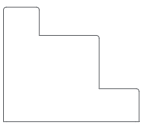
Two-tier and three-tier units create a soft and comfortable seating area.



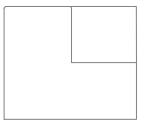
Optional tray provides a place to set a drink or work.

Rise Statement of Line

Two-Tier
34"H x 36"W x 40"D
Tiers 17"H x 20"D



Three-Tier
34"H x 36"W x 40"D
Top Tier 8½"H x 10"D
Middle Tier 16"H x 18"D
Bottom Tier 9½"H x 12"D



Inside Corner
34"H x 40"W x 40"D
Tiers 17"H x 20"D

Outside Corner
34"H x 40"W x 40"D
Tiers 17"H x 20"D

Go to **allsteeloffice.com/configurator** to customize this product for your space.

Allsteel®

Allsteel Inc.
Muscatine, Iowa 52761

allsteeloffice.com

Form # A8075.B1 (12/16)

Allsteel supports green initiatives in the contract furniture industry as a member of the U.S. Green Building Council. Rise is an SCS Indoor Advantage™ Gold and level® 2 certified product.

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Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Just Because You Build It Doesn't Mean They Will Come

Planning for Effective Workplace Interaction and Collaboration

Jan Johnson, Vice President of Design and Workplace Resources, Allsteel
Steve Hargis, Senior Vice President, Director, Consulting, HOK

In a 1928 American silent film called *The Crowd,* a classic shot satirizes the dehumanizing aspects of working at an everyday job in a large organization. It is a high-angle view of a huge room in which dozens of identical workers are occupying identical desks arranged in a perfect grid, all facing the same direction.

Movie still from the silent film, *The Crowd.*

This image has become iconic in American cinema. You can see it reprised in *The Apartment* (1960) and two films set in the 1950s: *The Hudsucker Proxy* (1994) and *Revolutionary Road* (2008). With its views of "drone-like" people stationed at typewriters and adding machines, the image is associated with a mid-century, utilitarian view of work.

At the time, these rigid and regular workplaces were paragons of standardization and real-estate efficiency. Because the workers were viewed as little more than extensions of their typewriters and adding machines, the fact that each appeared to be isolated among hundreds of other drones was perfectly acceptable. Today, it's not. As Judith Heerwagen, environmental psychologist, points out, "Knowledge work in the second decade of the 21st century is much more collaborative, cognitively complex, and dynamic, requiring workers to possess both social skills and technological competence."

And while it wasn't long ago that huddling around the water cooler was viewed as unproductive, today organizations are designing the workplace to encourage this kind of behavior, having realized that social interactions support behaviors, attitudes, and goals that lead to trust, collaboration and, in turn, innovation. Projects often move faster toward successful completion when people can share knowledge and experience, get instant feedback, build trust and camaraderie, and profit from diverse ideas and points of view.

Whether it's brainstorming an idea or developing a plan for a new product launch, the average knowledge worker spends about half of his or her time working with others. The challenge for organizations is to provide their people with environments that give them the team space, technology, and the work protocols they need to collaborate along with private space as needed. All too often, however, organizations provide dysfunctional worksettings that do not support the work being done, especially when it comes to collaborative space. In many cases, the physical plan is a reflection of benchmarking and number-crunching rather than a study of how work actually happens. More often than not, collaborative space is the first to get value engineered out during the planning process, at the cost of business effectiveness.

The Difference Between Interaction and Collaboration

Though the words "interaction" and "collaboration" are sometimes used interchangeably, they don't have the same meaning. Understanding the differences between the two and defining the types of interaction and collaboration organizations need can help planners support desired behaviors.

Interaction is a broad term that encompasses casual collisions and socializing that leads to building relationships, trust, and other factors critical to the social fabric of a group or organization. While these expanding social contacts are extremely valuable (albeit underappreciated in many organizations), not all interactions rise to the level of collaboration.

Collaboration, by comparison, involves much more than casual encounters at the company café, or even catching up on the status of a shared project. To collaborate, individuals or organizations must share knowledge and work together in pursuit of a common goal.

Creating the Right Setting for Effective Collaboration

The "if we build it they will come" model of providing collaboration spaces for employees rarely works. Workplace experts will tell you that too many areas – perhaps millions of square feet – provided for collaborative work are empty much of the time. That's millions of square feet costing organizations a small fortune to maintain, sitting empty and not meeting their desired goal of supporting the business. This disappointing utilization of space can have several causes including lack of management support for collaborative areas, the mismatching of available spaces and those looking for a place to do group work, not providing the right type of space for the right collaborative activities, or simply not performing the type of work that requires collaboration.

So how do we get the space formula right in order to make the best use of a real-estate investment?

Savvy workplace planners follow a strict methodology for creating environments that provide the right types of spaces in the best locations that truly support the range of activities and desired behaviors of an organization. This methodology takes into account several factors:

- **Context is critical.** Workplace plans and designs must be informed by the organization's industry, size, focus, strategy, culture, worker types, and regional considerations. Every organization has unique characteristics and a distinct approach to work. Planners need to help them differentiate between general workplace characteristics and those that are specific to their situations.

- **Planners need to thoroughly understand the work processes being supported.** As stated previously, many spaces dedicated to collaborative work go unused because the spaces often do not reflect the type of work being done or the type and amount of collaboration employees need to accomplish the activity. Three general types of work – creative, problem-solving, and knowledge transfer – can require somewhat different types of collaborative spaces.

Highly creative teams likely rely on artifacts or visual materials and can benefit from the "over-the-life-of-the-project" display of these items. The proximity of these spaces to the team's individual work areas also can be slightly less important than for other types of workers, since the creative process can sometimes benefit from removing oneself from distractions of the phone or the work on one's desk. On the other hand, teams working 24/7 on brand-new technologies might be most comfortable in a space that merges individual areas with collaborative areas and supports a high degree of chaos and instant reconfiguration.

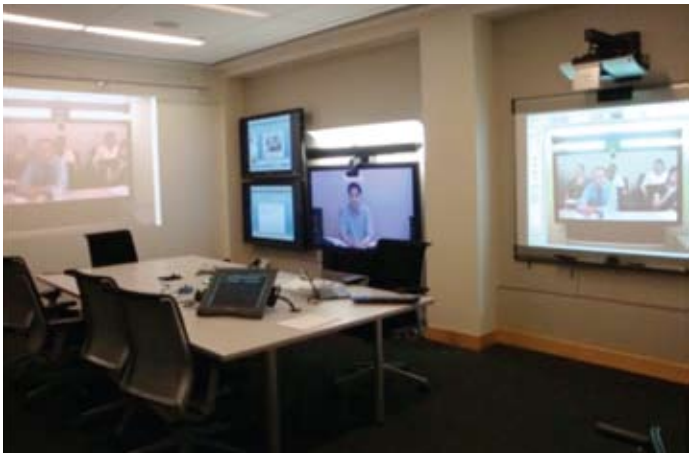
Problem-solving, process-oriented teams may have relatively less need for visual display, but proximity may be more critical, as these teams will grab another team member to quickly tackle a problem as soon as it arises. In the case of software engineers working out the bugs on an upgrade to an existing application, they may need to sit side-by-side in a team member's workstation so they can both see the monitor to check a line of code.

Knowledge-transfer activities may be well-supported by more traditional meeting spaces, such as conference rooms or training areas, where the ability to easily use technology is the most critical factor.

- **The average worker still spends half of his or her time performing activities that require concentration.** Planners need to strike a balance between providing spaces for collaboration and heads-down concentration.

- **Actual space utilization** can help to determine whether the mix, quality, and characteristics of spaces are matching the users' needs.

These ideas for creating successful collaboration spaces seem like common sense. Yet frequently they are not addressed, often because clients and their workplace planners don't study the organization's work practices in sufficient depth.



HOK's Advanced Collaboration Room including Thunder and Telepresence technology.

Case Study

One financial institution had been struggling with complaints from its employees all across campus, specifically with the need for more collaboration space. The real-estate and facilities groups were constantly hearing that no conference rooms were available when needed. By observing current meeting spaces carefully, however, the company discovered that the total percentage of space dedicated to collaborative space was not that far off. Rather, the floors had the wrong mix of "scheduled and unscheduled" spaces, and conference spaces were the wrong sizes. The average size of collaborative areas was seven people, whereas the size of a typical meeting was only three people. In general, they needed more, smaller, impromptu meeting spaces to do their work.

Typical Floor	Measure
Total Floor Area (sq. ft.)	39,096
Collaboration Area % of Total Area	17%
Total Collaboration Area (sq. ft.)	6,373
Total Conference Room Seats	257
Average Meeting Room Capacity (people)	7.14
Actual Meeting Size (people)	2.78
Collaboration Room Size per Person (sq. ft.)	24.8
Ratio Collaboration Seat per Person	1 : 1.11

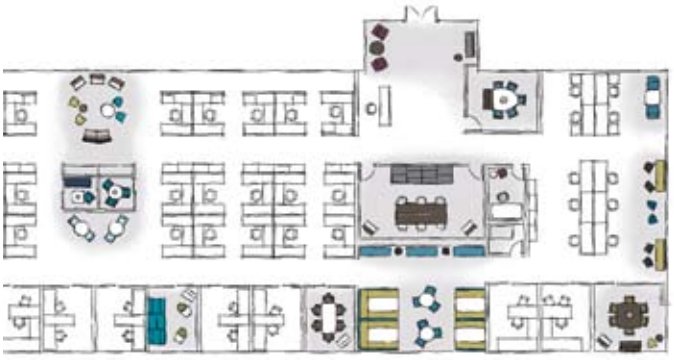
An overview of the financial institution's collaborative area density.

To help planners avoid these and other pitfalls, and to provide the best solutions, here is a simple checklist for asking the right questions and right-sizing collaborative space. Considerations fall into three categories: Planning, Provisioning, and Use.

Planning Considerations

Planning considerations involve how the space relates to its context. As you prepare to make decisions about what to build, how big the space should be, and where to put it, consider:

- **Location.** Is the space intended to draw people to it, like a café or training room? Can you take advantage of its proximity to other destinations, such as locating a break area near the restrooms? Or would it be more appropriate if the space were not on a main circulation path, but instead embedded in a team's own neighborhood? Could the space act as a buffer between other functions?



Collaborative spaces are centrally located toward the core of the building and are distributed throughout neighborhoods.

- **Occupancy/density.** How many people, on average, should a collaborative space accommodate? How much space will each person, including their equipment and materials, require?

- **Ratios.** Consider the number of people using the space on any given day, and what percentage of those users have assigned seats or are mobile. For example, organizations that have adopted alternative work strategies like work at home, telework, or desk-sharing may have more people in the office than individually assigned seats during peak periods, and collaborative space can help with this capacity need.

The chart that follows is from an organization that has a combination of mobile workers and workers assigned permanently to seats. They use this chart to determine the right mix of collaborative settings to support the population likely to be in the office at any given time.

Assigned Situation
1 person/1 workstation ratio
Less support space needs

Mobile Situation
Greater number of persons served
More support space needs

Assigned 100 workstations serving 100 persons	Best Practices	Mobile 100 workstations serving 250 persons
2	Team Collaboration 1 per 50 persons	5
3	Phone Booth 1 per 30 persons	8
3	Focus Room 1 per 30 persons	8
2	Huddle Room 1 per 40 persons	6
2	Project Room (small) 1 per 30 project-based persons	5
1	Project Room (large) 1 per 30 project-based persons	3
2	Conference Room (small/5-8 persons) 1 per 50 persons	5
1	Conference Room (large/12-15 persons) 1 per 100 persons	2
1	Department Library/Filing 1 per 100 persons	2

This table shows different recommendations for collaborative space based on whether employees are mobile (not assigned permanent worksettings) or assigned seats.

- **Proximity to users.** Based on the work processes of its users, how close to or distant from its users can a collaboration space be to remain effective? For example, users who do lots of spontaneous, mission-critical problem-solving will need the space to be nearby, while a training room could easily be farther away.

- **Sound levels.** Consider the impact of noise on users inside and outside the space. Conversations can be distracting to other workers in the area.

- **Transparency vs. visual privacy.** How important is it for users to see to the outside or for a passerby to see in? Transparency can be distracting or helpful. Visual privacy is sometimes a necessity.

- **Degree of architectural permanence.** Is the space a long-term space that will stick around, or is it something that is likely to be outdated in a couple of years? Will the investment be short term or built to last? How long is the company planning to stay in its space? Is it a short-term lease or an owned facility?

- **Infrastructure investment.** What is the infrastructure investment required for the space? Is it worth the cost and effort? Will its connections to building systems such as HVAC or power/data/voice make untethering expensive?

Provisioning Considerations

Provisioning considerations have to do with what needs to be in the space. As you think about how to outfit the space with furniture, technology, white boards, and other equipment, consider:

- **Range of postures.** Based on the nature or range of activities the space will support, which postures should be accommodated? This includes positions like standing, leaning, lengthy sitting at a computer, casual use of a computer, and lounging.

- **Writing/display support.** What types of vertical or horizontal writing surfaces are needed? How much? What size? Where do they belong in the space?

- **Technology equipment or support.** What kinds of technology, including power/data/voice distribution, are needed? What special considerations should be made, such as installing power sources in the middle of the table so loose cords don't create tripping hazards?

- **Type of information used in collaboration.** What type of information do users require as they collaborate? How portable is it? What tools are required to ensure information is easily accessible?

- **Intended duration of use.** How long will users be in that posture or using the space? Is quick "in-and-out" use the goal, or do work sessions typically last for several hours? Are users encouraged to get comfortable and linger?

Sound Levels

Most office users are no stranger to noisy offices, whether they occupy entirely enclosed individual offices or open-plan seating. The ABCs of acoustics help designers develop a set of methods to deal with sound in the workplace.

Absorb

- Design using materials that absorb sound rather than reflect it.
- Install sound absorbers with high noise-reduction coefficients.

Block

- Design using noise barriers that prevent noise transmission from one space to another.
- Use materials and designs that prevent noise transmission, like slab-to-slab walls instead of walls that merely go from floor to drop ceiling.

Cover

- Use sound-masking technology.

And, of course, there is the "P": plan wisely to separate noisy functions from areas where heads-down concentrative work must occur.

Use Considerations

Use considerations address how the space will be managed over time.

- **Adaptability to other users/uses.** Is there a need for the space to be used in different ways? How frequently will it need to be reconfigured? How will reconfigurations influence technology placement and other features?

- **Technology changes.** How quickly is technology changing? What are the risks of obsolescence? How much investment is required to avoid obsolescence? How much time is required to manage the technology aspects of the space?

- **Work process changes.** How flexible/malleable is the organization? How likely is it that users will change the way they work? How likely is it that users with different work-styles and processes will move into the space?

- **Ownership.** Is the space used only by a specific team or department, or is it considered a common space available to all?

- **Schedulable.** Given the type of uses the space will support, should reservations be available? If so, how will others know whether the space is available at a specific time?

Work continues to change from primarily repetitive tasks to a mixture of creative work and complex problem-solving, requiring a broad range of different spaces that accommodate specific collaborative activities and support change hour-by-hour or day-by-day. Collaborative spaces must be both flexible and evolutionary in order to optimize space and support these evolving work patterns.

Collaborative spaces are already a large part of our spatial vocabulary and are becoming even more so, making it increasingly important to "get it right" by matching the space and its attributes to the work and activities it needs to support. Different kinds of work mean different requirements for privacy, ownership, spontaneity, technology, and the "persistence" of visual display.

Collaboration in the Future

Experts all agree that our world is only getting more complex and the need to put our heads together to solve difficult problems will become more and more pronounced. The disagreement comes in what forms collaboration will take.

Those who embrace technology believe that the workplace of the future will include a mélange of enhanced social networks, holograms, and virtual-reality simulation. The result is that our real world and virtual worlds will collide, driving the need for highly advanced "theater-like" emersion rooms and a reduction in the number of face-to-face meeting spaces.

Others believe that the need for palm-rubbing and face-to-face interaction is on the rise and that our collaborative spaces need to become more like our living room – relaxed, comfortable settings for developing trust and a deeper understanding of culture differences and building the possibility for common ground.

Either way, work will continue to evolve, the workforce will continue to become even more diverse, and technology will continue to advance, enabling new ways of working. How all of these factors will shape the workplace has yet to be revealed. In the meantime, studying how, when, where, and why people collaborate is the best method for right-sizing the workspace and building a platform for effective communication at all levels.

A Tour of Potential Collaborative Spaces

Though not an exhaustive list of possible collaborative spaces, these examples demonstrate how different spaces can support various situations.

Commons Areas. The community area, cafeteria, or "commons" area for many companies can be the central gathering place of the organization and often can promote informal and spontaneous communications. In addition, there always seems to be an open spot in these areas to meet, so employees don't have to worry about reserving a space in advance, thus saving time, preserving the spontaneity of many interactions, and addressing the frequent complaint of difficulty in finding or reserving an available room.

The openness of these areas could cause someone to think that privacy is a major issue. In reality, it often is not an issue because workers have "aural" privacy – that is they can sense who is around them and moderate discussion topics and voice levels accordingly.

The areas can be furnished with everything from lounge furniture to cafeteria-style tables and chairs, depending on workers' needs. The coffee-shop-like feeling provided by some of these areas can also be appealing for many workers. Obviously, the presence of food can determine the need for tables, while the need to write or type on a laptop can require the need for tables, tablet arms, or power/voice/data capabilities.

Project Rooms. Dedicated project or "war" rooms often are ideal for teams engaged in semi-permanent missions or long-term projects. They give the team not only a place to gather, but also a place to store artifacts and records, chart progress, communicate messages, and display information. A project room benefits groups working under deadlines and those whose work is highly interdependent. It also is popular with groups engaged in new-product development and prototyping. New members learn faster by modeling behavior including picking up the tribal knowledge they gain from interactions with teammates. In addition, questions can be addressed immediately rather than waiting on formal meetings or processes.

Project rooms should provide for visual display of information and artifacts, timelines, to-do lists, shared goals, inspiration, progress, and knowledge. There should be mobile marker boards and tackable boards for writing and hanging that are important in the creative process. They also may have images, colors, and mottos that stimulate creativity and *esprit de corps.*

Because they are semi-permanent and dedicated, people don't have to waste time setting up and taking down or bother with scheduling. These spaces always are available for impromptu gatherings for the team, and confidential information can be safely stored if these rooms can be locked so that people outside the team can't steal secrets or walk off with furniture, tools, or artifacts. Walls can be semi-opaque to provide visual privacy of the group work, especially when clients or vendors are frequenting the area. Often, it is beneficial to locate the project room, unlike many other collaborative spaces, in an out-of-the-way, off-to-the-side area. It may be a true enclosed room, or walled off using screens or partitions.

To furnish a project room, use furniture that is moveable, but not necessarily mobile. People should be able to rearrange the furniture easily, but not walk off with it. It should be equipped with the display tools and technology needed, as well as a system for storing and securing the group's materials. Think in terms of marker boards, tackable boards, lounge furniture, and multiple tables and chairs that can be moved apart or pushed together. The need for power, data, audio/visual, and telecom can vary from team to team. If there is a big central table, and the only power and data connections are in the walls, you may experience wire management issues.

Pods/Bullpens. In their classic study, *Offices that Work*, Frank Becker and William Sims from Cornell University discuss the many benefits of the "pod" concept, commonly defined as individual workstations or offices that surround a group or commons area. The group area frequently has small meeting tables and storage furnishings. These are especially popular for work that requires both heads-down activities and frequent spontaneous interaction, as well as a sense of trust between team members, such as the work of software engineers or research scientists.

An advantage of this pod concept is that people can go easily and quickly from their individual areas to the central collaborative area. Interestingly, "good" distractions happen when people can overhear discussions and quickly help with problems others are having. This saves time because people are using collective knowledge and

CONTINUED on page 7

are not recreating an existing solution. Another timesaver is that the occupants don't need to schedule the space because the team owns it. Finally, pods help foster a sense of community and camaraderie. Because individual workstations and offices are open to the commons area and serve as the perimeter, one trade-off of pods is they don't accommodate a lot of vertical display, like a war room can, unless portable visual display tools are provided.

As with the project room, the central area will need power outlets and phones to be centrally located. And you'll want to choose furniture that is relatively mobile so the group can configure according to its needs and adapt to change.

People in pods tend to develop social rules and a sense of community. An example might be that it's permissible for someone inside the group to interrupt, but not an outsider. People want to be free from visual and vocal distractions from outside. However, within the group it can be welcomed, or at least much easier to tolerate. So walls around the perimeter serve a privacy function as well as a delineation of the team's turf. It's not unusual for teams working in pods to put up their own boundaries using partitions or file cabinets to form a sense of privacy.

Individual Workstations/Offices. Individual workstations can be important collaborative spaces, even though they are designed as a home base for individual workers. The workstation often does double-duty as a place for both heads-down and collaborative work and frequently is the primary place for one-on-one collaboration (or for small groups in the case of many private offices).

Workstations can invite collaboration with guest seating, with worksurfaces shaped to provide a place for guests to put a notebook, coffee cup, and other accessories, or through the nesting of a table and a pull-out, cushion-topped mobile pedestal under the worksurface to quickly turn the workstation into a one-on-one collaborative area. The area may need to be configured so that displays, such as the computer screen, can be seen by all parties. In addition, lower panel heights (42 to 54 inches) or glass stackers provide line of sight, which is an important catalyst to collaborative encounters. Having tables that quickly can be turned from an individual worksurface to a collaborative meeting table also can support one-on-one meetings. One disclaimer is to be sensitive to the noise this can generate for neighbors.

Informal Meeting Areas. Informal meeting areas can have the most variability of usage. As we know, their placement and the degree to which people feel free to use them can have a dramatic impact on the frequency of use. Placing these drop-in areas at strategic locations, such as near the watering hole, the top of the stairs, entrances to team areas, etc., invites people to spontaneously interact. It is helpful, however, not to have people feel like they are on display.

Informal meeting areas can range from stools with standing-height tables to lounge furniture to very casual beanbags. Considerations for these areas include the presence of worksurfaces for writing, mobility of the furniture, and the availability of mobile screens for visual privacy.

About the Authors

Jan Johnson, FIIDA, LEED® AP, is Vice President of Design and Workplace Resources at Allsteel. Jan leads the Allsteel Workplace Advisory team and the development and delivery of content and tools that support clients and design organizations as they plan, design, and manage work environments. With both an interior design degree and MBA, she has worked as an interior designer and strategic planner for her own firm and Perkins+Will, and as a workplace consultant for HOK/Consulting, prior to joining Allsteel.

Steve Hargis, MCR, LEED® AP ID+C, is a Senior Vice President and Director of HOK's Global Consulting Practice. Steve leads a distributed group of practitioners with content expertise around workplace strategy and design, organizational development, and change management. With degrees in both Environmental Design and Architecture, his career spans the fields of architecture, interior design, and workplace consulting. Currently located in the San Francisco Bay area, his former experience includes positions in Houston, New York, and Mexico City with SOM, 3D/I, ISD, and ISI.

Allsteel®

Vicinity™ Lounge

As part of the Gather™ collection, Vicinity Lounge is a multi-purpose lounge chair.

Features

Fully upholstered or plywood back
Contrasting welt-cord upholstery option
Several base finishes

Vicinity Lounge Statement of Line

27¾"H x 31¼"W x 28⅞"D

Plywood Back Veneer Finishes

White Wash Beech

Natural Beech

Natural Oak

Warm Brown Oak

Natural Walnut

Grey Wash Oak

Black Wash Beech

Frame Finishes

Brilliant White

Chrome

Silver

Pyrite

Bullseye

Flint

Black

A wide selection of seating upholsteries is available online at allsteeloffice.com.

Allsteel®

Allsteel Inc.
Muscatine, Iowa 52761
allsteeloffice.com

Form # A8440.A1 (02/17)

Allsteel®

Vicinity™

Tables

As part of the Gather™ collection, Vicinity is a coordinated offering of multi-use seating and tables.

Features

Multiple height options
Optional foot ring
Power access

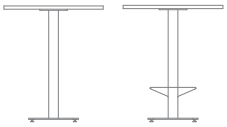
Vicinity Tables Statement of Line

Seated

29"H

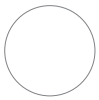
Counter

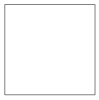
36"H



Cafe

42"H





Tabletops

Round 30", 36", 42", 48" dia.

Square 30", 36", 42", 48"

Centered power cutout is available on all tops.

Laminate Top Finishes

Frosty White

Loft

Muslin

Bungalow

Brownstone

Flint

Phantom Ecru

Beigewood

Natural Maple

Fawn Cypress

Natural Recon

Brazilwood

Branded Oak

Portico Teak

Phantom Charcoal

Amber Cherry

Lowell Ash

Mangalore Mango

Shaker Cherry

Skyline Walnut

Columbian Walnut

Ebony Recon

Base Finishes

Textured White

Chrome

Textured Silver

Textured Black

Allsteel®

Allsteel Inc.
Muscatine, Iowa 52761
allsteeloffice.com

Form # A8440.A1 (02/17)

SCS Global Services *does hereby certify that an independent assessment has been conducted on behalf of:*

Allsteel Inc.

2210 Second Avenue, Muscatine, IA, United States

For the following product(s):

Tables:
Altitude® A3/A5, Altitude® A8, Aware®, Merge®
Gather™ Collection: All-Around™, Belong™, Community, Harvest™, Harvest™ Metal Tables, Hedge™, Parallel™, Recharge Tables*, Transfer™, Vicinity™ Tables
Park by Norm Architects: Casual, Meeting, Pill, Side Tables
Normann Copenhagen presented by Allsteel: Block Cart, Tablo Table
Townall by Rainlight: Picnic Tables
** Excludes Recharge Connectors*

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

Indoor Advantage™ Gold
Indoor Air Quality certified to SCS-EC10.3-2014 v4.0
Conforms to the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e3 -2014e (Credit 7.6.1, 7.6.2) for the open plan and private office parameters and(Credit 7.6.3) for the private office workstation parameters[1].
[1] Modeled as Individual Furniture Components

Registration # SCS-IAQ-02447
Valid from: January 1, 2019 to December 31, 2019

Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

SCS Global Services *does hereby certify that an independent assessment has been conducted on behalf of:*

Allsteel Inc.

2210 Second Avenue, Muscatine, IA, United States

For the following product(s):

Tables:

Altitude®,Altitude® A3/A5/A8 *(Added: May 25, 2018)*, Aware®, Community, Gather™ (All-Around™, Belong™, Harvest™, Harvest Metal, Harvet Rustic Merge, Hedge™, Transfer™, Merge®, Parallel™, Park by Norm Architects Tables *(Added: May 25, 2018)*, Picnic *(Added: May 25, 2018)*,Recharge Tables, Vicinity™ Tables

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

level® 2

Conforms to ANSI/BIFMA e3-2014e Furniture Sustainability Standard

Registration # SCS-SCF-02313

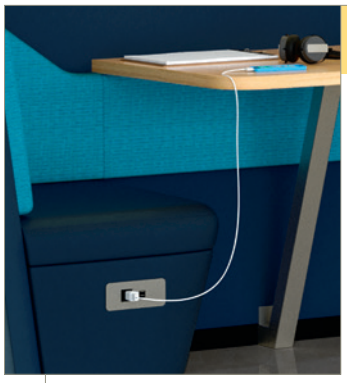
Valid from: April 1, 2017 to March 31, 2020

ANSI Accredited Program
Product Certification
#0821

SCS global SERVICES

Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

#6510-65TS-PB1 Public Lounge Models with Integrated Tables and Seat-Mounted Power Band 1 Units



Convenient power options make it easy to plug-in and recharge.

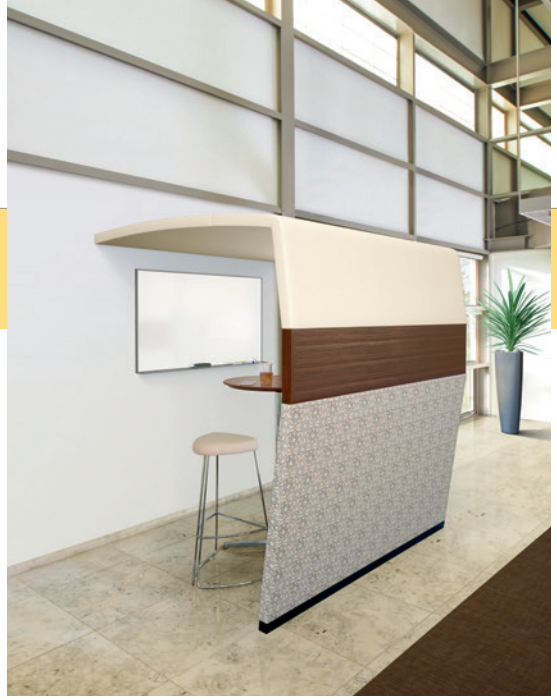
CO-OP

Taking its cue from the shared society of today, Co-op is all about bringing people together. Designed to function equally well in existing or new spaces, these open, semi-private, and private meeting enclaves can be positioned anywhere and require no elaborate construction to create a custom built-in feel. Supremely comfortable and exceptionally versatile, Co-op is the essential collective for communicating, working, and inspiring one another to achieve more.

#6545-3029 Stand-Alone Open Canopy with Suspended Table, presented with #6910-C Flirt Nesting Guest Chairs

CO-OP

With options designed to pump up productivity and maximize functionality, Co-op serves as a vehicle for community engagement at its finest. Linking and cantilever tables, in addition to an integrated shelf feature, provide additional workspace surface, while power and data accessibility supports all things technical and digital. At the same time, thought-through touches, such as overhead LED lights and a storage cubby, are the little details that can make the largest impression. Offering flexibility and the power of choice, Co-op perfectly defines the action of working together willingly for a common purpose.



#6554-V Wall-Mount Unit with Full Canopy shown with #252-3042 Nios Meeting Table and Pixie Stools by Encore

On The Cover: #6535 Love Seat Booth with Open Canopy and #6590-367227 Co-op Meeting Table

PRODUCT SPECIFICATIONS

Collection includes public and private seating models, with and without canopy, as well as stand-alone and wall-mount panels. Accent tier panel offered in upholstery, veneer, laminate or whiteboard material. All models standard with 2" high black plinth base. Optional accessories include linking and cantilever tables, two shelf heights, storage cubby and overhead LED light. Tables, veneer accent tier and shelf available in Maple, Walnut and White Oak wood species, in all standard and custom finishes. Laminate selections also offered. Metal bases and shelf support posts presented in standard and premium metal finishes. Select technology options available for seating units as well as designated tables. All units must be either floor mounted or weighted down. Coordinating meeting tables also offered.

#6510-65TS Public Lounge Unit
Integrated Table
W 88½ x D 30 x H 43½

#6511-65TS Private Lounge Unit
Integrated Table
W 88½ x D 30 x H 56¾

#6520-65TL Public Love Seat
Integrated Table
W 88½ x D 60 x H 43½

#6521-65TL Private Love Seat
Integrated Table
W 88½ x D 60 x H 56¾

#6513-65TS Private Lounge Unit
Partial Canopy, Integrated Table
W 88½ x D 30 x H 80¼

#6545-3029 Stand-Alone Unit
Open Canopy, Suspended Table
W 88½ x D 72 x H 80¼

#6535 Love Seat Booth
Open Canopy
W 88½ x D 72 x H 80¼

#6522-65TL Private Love Seat
Full Canopy, Integrated Table
W 88½ x D 60 x H 80¼

DESIGNED BY QDESIGN

arcadia

5692 FRESCA DRIVE, LA PALMA, CA 90623 P 714.562.8200 | 800.585.5957 F 714.562.8202 | ARCADIACONTRACT.COM



CO-OP
MEETING SPACES

designed by qdesign

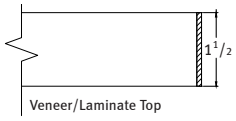
PLEASE NOTE THAT EFFECTIVE JULY 15TH, 2019, A 3% TARIFF SURCHARGE WILL BE APPLIED TO THE NET SUBTOTAL ON ALL ORDERS.

SIN #711-16

GENERAL PRODUCT FEATURES:

- Excluding the back and seat cushions, fabric upholstery will always be railroaded.
- All models standard with 2" high black plinth base only.
- Tables, accent tier and shelf available in Maple, Walnut and White Oak wood species.
- All standard and custom wood finishes available.
- For custom wood finishes (to tables, accent tier and/or shelf), please add one-time upcharge of $400 List per color per order.
- Laminate available in all Arcadia standard laminates.
- For custom laminates, add $500 List per color per order. Pre-approval required, please contact Customer Service.
- Unless specified, wood grain direction will run horizontally on accent tier and lengthwise on all tables.
- Table bases and shelf support posts available in standard and premium metal finishes.
- For premium metal finishes, please refer to applicable sections for upcharge amounts.
- When specifying electrical or overhead LED light fixture, cord exit grommet placement must be specified as well as power source location, as applicable. Refer to power units on page 8 for placement specifications.
- **All units with the exception of single modules, 90-degree back models and 3-sided models, must be either floor mounted (hardware provided) or weighted with sandbags (50 lbs. per side for lounge models and 150 lbs. each side for love seat units).**
- **DISCLAIMER: ARCADIA CANNOT BE HELD RESPONSIBLE IF FLOOR MOUNTING OR WEIGHTS ARE NOT UTILIZED FOR INSTALLATION.**
- Please refer to pages 43-54 for multi-tone yardage requirements and applicable pricing.
- Field-assembly required for all seating models with canopy, units with integated tables and wall-mount panels, as well as linking tables, cantilever tables and shelf.
- Mounting hardware provided for linking tables, cantilever tables and shelf.
- Linking tables, cantilever tables and shelf cannot be retro-fit to seating units previously ordered. Please include layout to ensure units are mounted to the appropriate side of seating models.

INTEGRATED TABLE, FREE-STANDING TABLE, CANTILEVER TABLE AND SHELF EDGE DETAIL:



- Table/shelf with veneer top, wood edge finish will match top finish color, unless otherwise specified.
- Table/shelf with Arcadia standard laminate top, self edge is standard, unless otherwise specified (laminate applied to edge).

STANDARD FINISH COLORS (FOR TABLE SUPPORT POST, SHELF POST AND FREE-STANDING TABLE BASE):

#06 Charcoal Grey
#95 Satin Black
#91 Chrome
#90 Metallic Silver

PREMIUM FINISH COLORS (FOR TABLE SUPPORT POST, SHELF POST AND FREE-STANDING TABLE BASE):

#07 Gold Shimmer
#08 Penny
#09 Brown Sugar
#83 Metallic Champagne
#94 Cotton

NOTES:

- Fully upholstered seating unit. Refer to page 7 for product details.
- Standard with black plinth base.
- Power units available on front and side of seating units. Positioning must be specified in addition to cord exit grommet placement and power source location, as applicable.

SPECIFY:

1. Model number
2. Upholstery selection
3. Options, as applicable

ORDERING EXAMPLE:

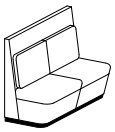
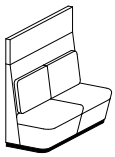
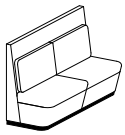
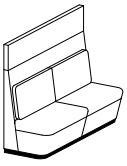
#6506-PB1-S

60" W Love Seat
Power Band 1 Unit, Silver
Below Seat Placement

CO-OP MEETING SPACES

designed by qdesign

SIN #711-16

MODEL NUMBER	PRODUCT SPECIFICATIONS	FABRIC GRADES								
		COM	1	2	3	4	5	6	7	8
6506 	**60" W Seating Unit, 90-Degree Back** W 60 D 27 1/4 H 43 1/2 Seat Height 18 Inside Seat Width 60 Inside Seat Depth 19 9 3/4 yds. 172 lbs. TB 133, add $468 List	2300	2853	2986	3222	3457	3683	3918	4133	4368
6507 	**60" W Private Seating Unit, 90-Degree Back** W 60 D 27 1/4 H 56 3/4 Seat Height 18 Inside Seat Width 60 Inside Seat Depth 19 11 3/4 yds. 193 lbs. TB 133, add $564 List	2809	3476	3636	3920	4204	4475	4759	5018	5302
6508 	**72" W Seating Unit, 90-Degree Back** W 72 D 27 1/4 H 43 1/2 Seat Height 18 Inside Seat Width 72 Inside Seat Depth 19 11 yds. 202 lbs. TB 133, add $528 List	2842	3466	3616	3882	4148	4402	4667	4910	5176
6509 	**72" W Private Seating Unit, 90-Degree Back** W 60 D 27 1/4 H 56 3/4 Seat Height 18 Inside Seat Width 72 Inside Seat Depth 19 13 1/4 yds. 229 lbs. TB 133, add $636 List	3400	4152	4333	4653	4973	5279	5599	5891	6211

OPTIONS (XXXX - REFERS TO SEATING UNIT MODEL NUMBER)

MODEL	DESCRIPTION	LIST
XXXX-MB03	Moisture Barrier, Seats Only (60" D Models)	145
XXXX-MB04	Moisture Barrier, Seats Only (72" D Models)	170
FOR PLACEMENT BELOW SEATS, AND/OR CENTER SIDE PANEL PLACEMENT		
XXXX-PB1-S	Power Band 1 (one power, two USB), Silver	413
XXXX-PB1-W	Power Band 1 (one power, two USB), White	413
XXXX-PB2-S	Power Band 2 (dual power), Silver	322
XXXX-PB2-W	Power Band 2 (dual power), White	322
XXXX-PB3-S	Power Band 3 (dual power, two USB), Silver	429
XXXX-PB3-W	Power Band 3 (dual power, two USB), White	429

All shipments will be blanket-wrapped as standard. If cartoning is required, a 5% upcharge (based on the COM List Price) will be added to each upholstered product for this series. Please contact Customer Service for additional information.

CO-OP MEETING SPACES

designed by qdesign

NOTES:

- Upholstered seating unit with accent tier.
- Accent tier available in Maple, Walnut and White Oak veneer (-V), laminate (-L) and whiteboard material (-WB). Please specify code for interior and exterior material selections.
- Standard with black plinth base.
- Power units available on front and side of seating units. Positioning must be specified in addition to cord exit grommet placement and power source location, as applicable.

SPECIFY:

1. Model number
2. Accent tier finish, interior
3. Accent tier finish, exterior
4. Upholstery selection
5. Options, as applicable

ORDERING EXAMPLE:

#6507-V-L

60" W Private Love Seat
Veneer Accent Tier, Interior
Laminate Accent Tier, Exterior

SIN #711-16

MODEL NUMBER	PRODUCT SPECIFICATIONS	FABRIC GRADES								
		COM	1	2	3	4	5	6	7	8
Specify Interior Material Code, Followed by Exterior Material Code **V = Veneer L = Laminate WB = Whiteboard**										
6507-( )-( )	**60" W Private Seating Unit** **Non-Upholstered Tier, 90-Degree Back** W 60 D 27 1/4 H 56 3/4 Seat Height 18 Inside Seat Width 60 Inside Seat Depth 19 9 3/4 yds. 193 lbs. TB 133, add $468 List	3623	4176	4309	4545	4780	5006	5241	5456	5691
6509-( )-( )	**72" W Private Seating Unit** **Non-Upholstered Tier 90-Degree Back** W 60 D 27 1/4 H 56 3/4 Seat Height 18 Inside Seat Width 72 Inside Seat Depth 19 11 yds. 229 lbs. TB 133, add $528 List	4229	4853	5003	5269	5535	5789	6054	6297	6563

OPTIONS (XXXX - REFERS TO SEATING UNIT MODEL NUMBER)

MODEL	DESCRIPTION	LIST
XXXX-MB03	Moisture Barrier, Seats Only (60" D Models)	145
XXXX-MB04	Moisture Barrier, Seats Only (72" D Models)	170
FOR PLACEMENT BELOW SEATS, AND/OR CENTER SIDE PANEL PLACEMENT		
XXXX-PB1-S	Power Band 1 (one power, two USB), Silver	413
XXXX-PB1-W	Power Band 1 (one power, two USB), White	413
XXXX-PB2-S	Power Band 2 (dual power), Silver	322
XXXX-PB2-W	Power Band 2 (dual power), White	322
XXXX-PB3-S	Power Band 3 (dual power, two USB), Silver	429
XXXX-PB3-W	Power Band 3 (dual power, two USB), White	429

NOTES:

- Fully upholstered seating unit. Refer to page 7 for product details.
- Standard with black plinth base.
- Power units available on front and side of seating units. Positioning must be specified in addition to cord exit grommet placement and power source location, as applicable.

SPECIFY:

1. Model number
2. Upholstery selection
3. Options, as applicable

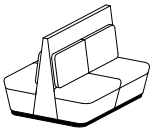
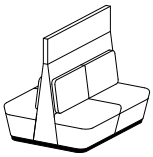
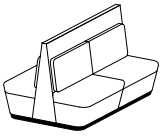
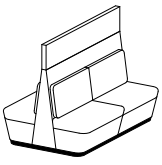
ORDERING EXAMPLE:

#6566-PB1-S

60" W Love Seat
Power Band 1 Unit, Silver
Center Panel Placement

CO-OP
MEETING SPACES
designed by qdesign

SIN #711-16

MODEL NUMBER	PRODUCT SPECIFICATIONS	FABRIC GRADES								
		COM	1	2	3	4	5	6	7	8
6566 	**60" W Public Back-to-Back Seating Unit, 90-Degree Back** W 60 D 51 1/2 H 43 1/2 Seat Height 18 Inside Seat Width 60 Inside Seat Depth 19 15 1/4 yds. 314 lbs. TB 133, add $732 List	4311	5176	5384	5753	6121	6473	6841	7178	7546
6567 	**60" W Private Back-to-Back Seating Unit, 90-Degree Back** W 60 D 51 1/2 H 56 3/4 Seat Height 18 Inside Seat Width 60 Inside Seat Depth 19 17 1/4 yds. 356 lbs. TB 133, add $828 List	4821	5800	6035	6452	6868	7267	7683	8064	8480
6568 	**72" W Public Back-to-Back Seating Unit, 90-Degree Back** W 72 D 51 1/2 H 43 1/2 Seat Height 18 Inside Seat Width 72 Inside Seat Depth 19 17 1/4 yds. 374 lbs. TB 133, add $828 List	5208	6187	6422	6839	7255	7654	8070	8451	8867
6569 	**72" W Private Back-to-Back Seating Unit, 90-Degree Back** W 72 D 51 1/2 H 56 3/4 Seat Height 18 Inside Seat Width 72 Inside Seat Depth 19 19 1/2 yds. 428 lbs. TB 133, add $936 List	5768	6874	7140	7611	8082	8533	9004	9434	9904

OPTIONS (XXXX - REFERS TO SEATING UNIT MODEL NUMBER)

MODEL	DESCRIPTION	LIST
XXXX-MB07	Moisture Barrier, Seats Only	290
FOR PLACEMENT BELOW SEATS, AND/OR CENTER SIDE PANEL PLACEMENT		
XXXX-PB1-S	Power Band 1 (one power, two USB), Silver	413
XXXX-PB1-W	Power Band 1 (one power, two USB), White	413
XXXX-PB2-S	Power Band 2 (dual power), Silver	322
XXXX-PB2-W	Power Band 2 (dual power), White	322
XXXX-PB3-S	Power Band 3 (dual power, two USB), Silver	429
XXXX-PB3-W	Power Band 3 (dual power, two USB), White	429

All shipments will be blanket-wrapped as standard. If cartoning is required, a 5% upcharge (based on the COM List Price) will be added to each upholstered product for this series. Please contact Customer Service for additional information.

CO-OP MEETING SPACES

designed by qdesign

NOTES:

- Upholstered seating unit with accent tier.
- Accent tier available in Maple, Walnut and White Oak veneer (-V), laminate (-L) and whiteboard material (-WB). Please specify code for interior and exterior material selections.
- Standard with black plinth base.
- Power units available on front and side of seating units. Positioning must be specified in addition to cord exit grommet placement and power source location, as applicable.

SPECIFY:

1. Model number
2. Accent tier finish, interior
3. Accent tier finish, exterior
4. Upholstery selection
5. Options, as applicable

ORDERING EXAMPLE:

#6569-V-L

72" W Private Back-to-Back Love Seat
Veneer Accent Tier, Interior
Laminate Accent Tier, Exterior

SIN #711-16

MODEL NUMBER	PRODUCT SPECIFICATIONS	FABRIC GRADES								
		COM	1	2	3	4	5	6	7	8
Specify Interior Material Code, Followed by Exterior Material Code **V = Veneer L = Laminate WB = Whiteboard**										
6567-( )-( )	**60" W Private Back-to-Back Seating Unit, 90-Degree Back, Non-Upholstered Tier** W 60 D 51 1/2 H 56 3/4 Seat Height 18 Inside Seat Width 60 Inside Seat Depth 19 15 1/4 yds. 356 lbs. TB 133, add $732 List	5635	6500	6708	7077	7445	7797	8165	8502	8870
6569-( )-( )	**72" W Private Back-to-Back Seating Unit, Non-Upholstered Tier, 90-Degree Back** W 72 D 51 1/2 H 56 3/4 Seat Height 18 Inside Seat Width 72 Inside Seat Depth 19 17 1/4 yds. 428 lbs. TB 133, add $828 List	6597	7576	7811	8228	8644	9043	9459	9840	10256

OPTIONS (XXXX - REFERS TO SEATING UNIT MODEL NUMBER)

MODEL	DESCRIPTION	LIST
XXXX-MB08	Moisture Barrier, Seats Only	340
FOR PLACEMENT BELOW SEATS		
XXXX-PB1-S	Power Band 1 (one power, two USB), Silver	413
XXXX-PB1-W	Power Band 1 (one power, two USB), White	413
XXXX-PB2-S	Power Band 2 (dual power), Silver	322
XXXX-PB2-W	Power Band 2 (dual power), White	322
XXXX-PB3-S	Power Band 3 (dual power, two USB), Silver	429
XXXX-PB3-W	Power Band 3 (dual power, two USB), White	429

All shipments will be blanket-wrapped as standard. If cartoning is required, a 5% upcharge (based on the COM List Price) will be added to each upholstered product for this series. Please contact Customer Service for additional information.

CO-OP MEETING SPACES

designed by qdesign

SIN #711-11

NOTES:

- Stand-alone tables available in Maple, Walnut and White Oak veneer as well as laminate.
- Metal base available in standard and premium finishes.
- Power units not available on free-standing tables.

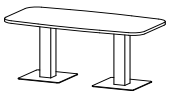
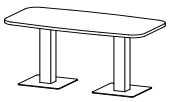
SPECIFY:

1. Model number
2. Wood species
3. Wood finish
4. Base finish
5. Options, as applicable

ORDERING EXAMPLE:

#6590-306029-PF06

30 x 60 x 29 Arc Rectangle
Premium Base Finish

		MODEL NUMBER	VENEER OR LAMINATE	COLUMN DIMENSION	BASE DIMENSION	WEIGHT
	**Arc Rectangle Top, 27" Height**					
	30" W x 60" L x 27" H	6590-306027	3190	$4^3/_4 \times 4^3/_4$	18 x 18	135
	30" W x 72" L x 27" H	6590-307227	3435	$4^3/_4 \times 4^3/_4$	18 x 18	146
	36" W x 60" L x 27" H	6590-366027	3415	$4^3/_4 \times 4^3/_4$	18 x 18	146
	36" W x 72" L x 27" H	6590-367227	3690	$4^3/_4 \times 4^3/_4$	18 x 18	159
	42" W x 84" L x 27" H	6590-428427	4056	$4^3/_4 \times 4^3/_4$	18 x 18	188
	**Arc Rectangle Top, 29" Height**					
	30" W x 60" L x 29" H	6590-306029	3244	$4^3/_4 \times 4^3/_4$	18 x 18	147
	30" W x 72" L x 29" H	6590-307229	3443	$4^3/_4 \times 4^3/_4$	18 x 18	158
	36" W x 60" L x 29" H	6590-366029	3440	$4^3/_4 \times 4^3/_4$	18 x 18	158
	36" W x 72" L x 29" H	6590-367229	3696	$4^3/_4 \times 4^3/_4$	18 x 18	171
	42" W x 84" L x 29" H	6590-428429	4063	$4^3/_4 \times 4^3/_4$	18 x 18	200

OPTIONS (XXXX - REFERS TO TABLE MODEL NUMBER)

MODEL	DESCRIPTION	LIST
XXXX-PF06	Premium Finish, 2 Bases	220

FLORES

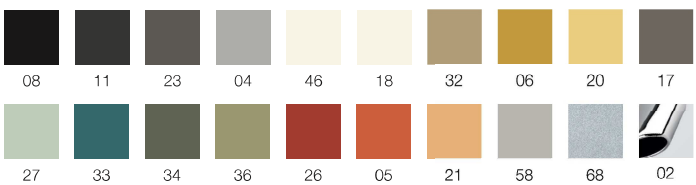
Bartoli Design / 2010

Benches in various sizes and shapes
Frame: metal combined with multi-ply plywood covered with non deformable foam.
Underneath side of bench: black moulded ABS thermoplastic which, if desired, may be upholstered to match seat top surface.
Seat and shaped cushions of non-deformable polyurethane foam covered with polyester padding.
Legs: tubular steel (Ø 50 mm) in powder coated or chromed finish.
Backrest cushions with internal dead weight may be freely moveable to create several seating positions or specified as optional **Fire retardant foam meets California Bulletin 117A, EN1021-1/2:2014 and Italian Class 1 IM Standards**. Special foam meeting the 5852 British Standards is available on request.
Covers: fabric or faux leather, or C.O.M. (preferably in solid colours).

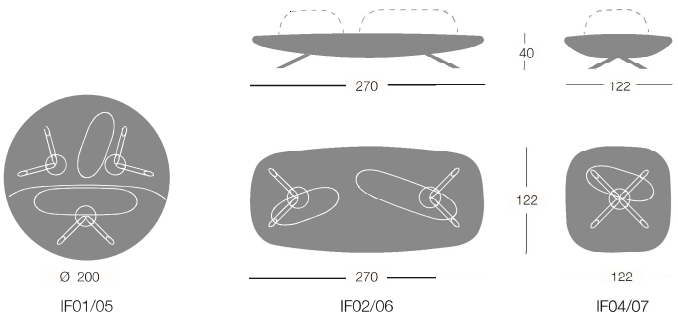
	Article	*Upholstery*	*pcs/dimensions volume Gross Weight Product Net Weight*
Round bench Ø 200 cm	IF01	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	*1 pc /206x46x206 cm* *1 pc /59x69x21 cm* *1,44 m3* *98Kg* *65 Kg*
Round bench Ø 200 cm suitable for fixed cushion	IF05		
Rectangular bench 270x122 cm	IF02	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	*1 pc /276x32x128 cm* *1 pc /59x69x21 cm* *1,22 m3* *95,7Kg* *73,5 Kg*
Rectangular bench 270x122 cm suitable for fixed cushion	IF06		
Square bench 122x122 cm	IF04	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	*1 pc/130x32x130 cm* *1 pc /69x69x21 cm* *0,64 m3* *43 Kg* *32,5 Kg*
Square bench 122x122 cm suitable for fixed cushion	IF07		

Finishes

Metal legs



Dimensions



Additional costs

Legs in chromed finish

Floor anchorage in diagonal pattern (per each bench)

Customer's own material

For customer's own material/leather, the form at the end of the price list shall apply, to be sent to Segis Spa with the Client's signature.

Art. IF01/IF05 Solid fabric for 1 pc. cm.368 (width 140 cm) Solid fabric for underside seat covered version is for 1 pc. cm.738 (width 140 cm)

Art. IF02/IF06 Solid fabric for 1 pc. cm.630 (width 140 cm) Solid fabric for underside seat covered version for 1 pc. cm.910 (width 140 cm)

Art. IF04/IF07 Solid fabric for 1 pc. cm.263 (width 140 cm) Solid fabric for underside seat covered version for 1 pc. cm.393 (width 140 cm)

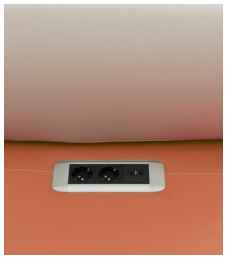
Fire retardant certifications

The product upholstered **with Xtreme fabric and Gazebo faux-leather** meets Class 1IM Standards by the Italian Minister of Interior.

FLORES

Bartoli Design / 2010

	Article	*Upholstery*	*pcs/dimensions volume Gross Weight Product Net Weight*
Small cushion 80x33xh. 27 cm	IFC1	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	*1 pc/42x80x32cm 0,11 m3 9,5 Kg 5 Kg*
Small cushion fixed version	IFC3	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	
Large cushion 120x33xh. 27 cm	IFC2	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	*1 pc/41x120x32cm 0,18 m3 11,5 Kg 8 Kg*
Large cushion fixed version	IFC4	Gazebo Xtreme Plus / Magnum / Rivet / Spinning / Sprint Blazer / Bowen / Gingko / Maple / Step Melange Divina3 / Divina Melange2 / Steelcut2 / Steelcut Trio3 C.O. faux leather / C.O.M. (solid colour)	



Additional costs

Interconnected outlets and USB communications ports ART. C0220V - for Europe (product only, it does not include installation by electrician per local ordinances)

Interconnected outlets and USB communications ports ART. C0220VACDC for USA (product only, it does not include installation by electrician per local ordinances)

Dimensions

Small cushion

80x33xh.27

IFC1/3

Large cushion

120x33xh.27

IFC2/4

Customer's own material

For customer's own material/leather, the form at the end of the price list shall apply, to be sent to Segis Spa with the Client's signature.

Art. IFC1/IFC3
Solid fabric for 1 pc 105 cm (H.140 cm)

Art. IFC2/IFC4
Solid fabric for 1 pc 140 cm (H.140 cm)

STACKED WOOD

Technical Specifications

Stacked Wood, *wood panels* have been constructed from all natural wood materials. Each raw wood piece has been hand-sanded and hand-stained to preserve the undressed elegance of the wood species. Plantation pine backer not only adds to the sustainability but also the durability of each panel. Undulations in the profile display rough-hewn wood characteristics.

PRODUCT INFORMATION

Construction:	Engineered
Thickness (Premier):	Nominal 3/8" to ½"
Thickness (Bourbon):	Nominal ½" to 1"
Width (Premier):	9.5"
Width (Bourbon):	8.5"
Length (Premier):	53.0"
Length (Bourbon):	50.5"
Style:	Rustic / Elegant
Finish:	Urethane
Luster:	Satin
Backer:	Pine

INSTALLATION: Brad Nail, and Glue

PACKAGING

SQ/FT Per Carton (Premier):	18.8
SQ/FT Per Carton (Bourbon):	15.5
Cartons Per Pallet:	40 (Premier) / 35 (Bourbon)
Pounds Per Carton:	24/27

PCS Per Carton: 6 (Premier) / 6 (Bourbon)

PERFORMANCE	**TEST METHOD**
Fire Test Data – Flame Spread/Smoke	ASTM E 84-16

*** Hickory, Oak, and Acacia (Results-B Rating)**

*** American Walnut (Results-C Rating)**

WARRANTY

35-YEAR LIMITED STRUCTURAL AND FINISH WARRANTY (see warranty for further information).

WARNING: NOT TO BE INSTALLED NEAR OPEN FLAMES OR EXCESSIVE HEAT SOURCES.

(rev 2-21-17)

EFFECTIVE:12/15/18

COLLABORATIVE LOUNGE AND TABLES

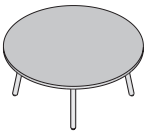
CLICK FOR : CONSTRUCTION DETAILS, SURFACES, TEXTILES, GRADED-IN TEXTILE DATA BASE, WARRANTY, FREIGHT

LOUNGE AND TABLES FEATURE METAL LEGS WITH A CHOICE OF THREE STANDARD POWDER-COAT FINISHES. PREMIUM POWDER-COAT FINISHES ARE AVAILABLE FOR UPCHARGE. HANGOUT LEDGES, TABLES AND TABLETS ARE AVAILABLE IN LAMINATE WITH OPTIONS THAT INCLUDE: SOLID COLOR, WOODGRAIN, PREMIUM, AND MARKERBOARD. WEIGHT CAPACITY IS 350 LBS. PER SEAT.

POWWOW

DESIGN: JESS SOREL

LIST PRICE

	STD+LAMINATE SOLID	LAMINATE WOOD	LAMINATE PREMIUM	MARKER BOARD
50046 SMALL WORK TABLE 	812	860	902	902
	W 16 D 16 H 25.5 (INCHES)			
	ORDER OPTIONS: LAMINATE, POWDER-COAT LEGS			
50047 MEDIUM WORK TABLE 	860	912	957	957
	W 20 D 20 H 25.5 (INCHES)			
	ORDER OPTIONS: LAMINATE, POWDER-COAT LEGS			
50148 SMALL CLIQUE TABLE 	1331	1410	1480	1480
	W 36 D 36 H 18 (INCHES)			
	ORDER OPTIONS: LAMINATE, POWDER-COAT LEGS			
50149 MEDIUM CLIQUE TABLE 	1439	1524	1601	1601
	W 42 D 42 H 18 (INCHES)			
	ORDER OPTIONS: WOOD OR LAMINATE, POWDER-COAT LEGS			

STD LAMINATE TOP WITH MATCHING 3MM EDGE - STD OPTIONS (M.WALNUT HAS COORDINATING EDGE)

DESIGNER WHITE


DOVE GRAY


FUSION MAPLE


MONTICELLO MAPLE


MONTANA WALNUT

EFFECTIVE:12/15/18

COLLABORATIVE LOUNGE AND TABLES

CLICK FOR : CONSTRUCTION DETAILS, SURFACES, TEXTILES, GRADED-IN TEXTILE DATA BASE, WARRANTY, FREIGHT

LOUNGE AND TABLES FEATURE METAL LEGS WITH A CHOICE OF THREE STANDARD POWDER-COAT FINISHES. PREMIUM POWDER-COAT FINISHES ARE AVAILABLE FOR UPCHARGE. HANGOUT LEDGES, TABLES AND TABLETS ARE AVAILABLE IN LAMINATE WITH OPTIONS THAT INCLUDE: SOLID COLOR, WOODGRAIN, PREMIUM, AND MARKERBOARD. WEIGHT CAPACITY IS 350 LBS. PER SEAT.

POWWOW

DESIGN: JESS SOREL

LIST PRICE

	STD+LAMINATE SOLID	LAMINATE WOOD	LAMINATE PREMIUM	MARKER BOARD
50150 LARGE CLIQUE TABLE	1547	1640	1721	1721
	W 47 D 47 H 18 (INCHES)			
	ORDER OPTIONS: WOOD OR LAMINATE, POWDER-COAT LEGS			
50151 MINI COFFEE TABLE	1179	1249	1312	1312
	W 42 D 22 H 18 (INCHES)			
	ORDER OPTIONS: WOOD OR LAMINATE, POWDER-COAT LEGS			
50152 SMALL COFFEE TABLE	1331	1410	1480	1480
	W 48 D 22 H 18 (INCHES)			
	ORDER OPTIONS: WOOD OR LAMINATE, POWDER-COAT LEGS			
50153 MEDIUM COFFEE TABLE	1439	1524	1601	1601
	W 54 D 22 H 18 (INCHES)			
	ORDER OPTIONS: WOOD OR LAMINATE, POWDER-COAT LEGS			
50154 LARGE COFFEE TABLE	1547	1640	1721	1721
	W 60 D 22 H 18 (INCHES)			
	ORDER OPTIONS: WOOD OR LAMINATE, POWDER-COAT LEGS			

STD LAMINATE TOP WITH MATCHING 3MM EDGE - STD OPTIONS (M.WALNUT HAS COORDINATING EDGE)

DESIGNER WHITE | DOVE GRAY | FUSION MAPLE | MONTICELLO MAPLE | MONTANA WALNUT

ANGELES™

Glazed Porcelain

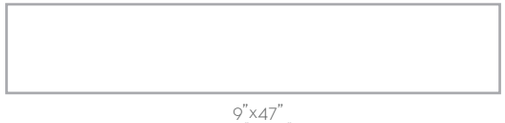
Angeles™ celebrates the beauty of nature using high-definition graphic technology to mimic the unique gradations and variances found in natural wood.

Angeles™ • Apex 9"x47"

4 Colors | 1 Size | 7/16" Thickness

All Colors Available in Size 9"x47"

Sizes & Trim Tile thickness could vary based on size. Larger format tiles will have a higher thickness.



9"x47"
9.17"x47.24"

Grout joint recommendation: 3/16"

Technical Specifications

Test Method	Abrasion Resistance C1027	Breaking Strength C648	Chemical Resistance C650	Water Absorption C373	DCOF ANSI A137.1	Freeze-Thaw Cycling C1026	Scratch Hardness MOHS	Shade Variation Rating
Results	III	≥ 300 lbf	Resistant	≤ .50%	≥ .60	Resistant	7	V3

Green Friendly: VOC None | Recycled Content 0% Pre & Post-Consumer

DOWNTOWN™

Glazed Porcelain

Cool, modern and upbeat, Downtown™ skids onto the scene with trendsetting modern design achieved using high-definition printing.

Downtown™ • Figueroa 6"x35"

5 Colors | 1 Size | 3/8" Thickness

All Colors Available in Size 6"x35"

Sizes & Trim Tile thickness could vary based on size. Larger format tiles will have a higher thickness.

6"x35"
5.71"x35.04"

Grout joint recommendation: 3/16"

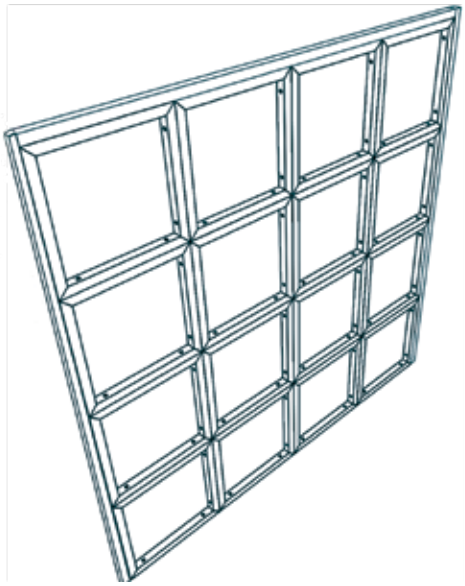
Technical Specifications

Test Method	Abrasion Resistance C1027	Breaking Strength C648	Chemical Resistance C650	Water Absorption C373	DCOF ANSI A137.1	Freeze-Thaw Cycling C1026	Scratch Hardness MOHS	Shade Variation Rating
Results	III	≥ 850 lbf	Resistant	≤ .50%	≥ .50	Resistant	7	V2

Green Friendly: VOC None | Recycled Content 4% Pre-Consumer, 0% Post-Consumer

Square One

17-TYP007-Single Wall (8’x8’)



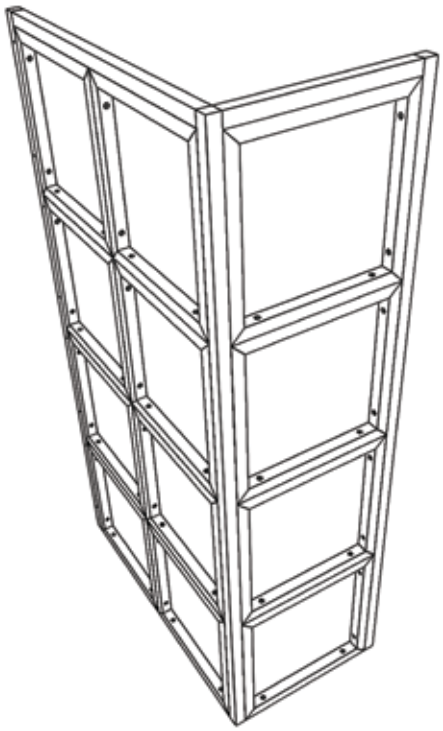
Model #	Quantity	Description	List Price	Total
17-2424BL	1	Single Block, 24″x24″	$196	$196
17-2472BL	5	Assembled Block, 24″x72″	$596	$2,980
17-17596EC	1	End Cap, 96″ (used horizontally)	$261	$261
17-17597EC	2	End Cap, 97-3/4″ (used vertically)	$261	$522
17-LEVKIT	4	Leveler Kit, 2 Levelers	$35	$140
		TOTAL LIST	**$4,099**	

Indiana FURNITURE

800.422.5727 IndianaFurniture.com

Square One

17-TYP012-L-Cove (2’x4’x8’)



Model #	Quantity	Description	List Price	Total
17-2424BL	1	Single Block, 24″x24″	$196	$196
17-2448BL	1	Assembled Block, 24″x48″	$395	$395
17-2472BL	3	Assembled Block, 24″x72″	$596	$1,788
17-17524EC	1	End Cap, 24″ (used horizontally)	$202	$202
17-17548EC	1	End Cap, 48″ (used horizontally)	$209	$209
17-17597EC	2	End Cap, 97-3/4″ (used vertically)	$261	$522
17-17597CP	1	Corner Post, 97-3/4″	$264	$264
17-LEVKIT	3	Leveler Kit, 2 Levelers	$35	$105
		TOTAL LIST	**$3,681**	

Indiana
FURNITURE

800.422.5727 IndianaFurniture.com

Indiana FURNITURE

Performance Standards

		Thermally Fused Laminate Minimum Requirements to comply with ALA 1992		HPL NEMA LD3-2001 VG.30 Minimum Performance Standard Horizontal	
Tests for Resistance To:	**Test Description**	**Solid Colors**	**Wood Grains**	**Textured**	**Non-Textured**
Wear	A measure of the ability of a decorative overlaid surface to maintain its design or color when subjected to abrasive wear.	400 Cycles	125 Cycles	400 Cycles	400 Cycles
Scuff	A measure of the ability of a decorative overlaid surface to maintain its original appearance when exposed to scuffing.	No Effect	No Effect	No Effect	No Effect
Stain	A measure of the ability of a decorative overlaid surface to resist sta ining or discoloration by contact from 29 common household substances.	No Effect 1-23. Moderate 24-29.	No Effect 1-23. Moderate 24-29.	No Effect 1-23. Moderate 24-29.	No Effect 1-23. Moderate 24-29.
Cleanability	A measure of the ability of a decorative overlaid surface to be cleaned,using a sponge.	No Effect. Surface cleaned in 10 or fewer strokes.	No Effect. Surface cleaned in 10 or fewer strokes.	Slight	Slight
Light	A measure of the ability of a decorative overlaid surface to retain its color after exposed to a light source having a frequency range approximating sunlight.	Slight	Slight	Slight	Slight
High Temperature	A measure of the ability of a decorative overlaid surface to maintain its color and surface texture when subjected to a high temperature (256 degrees F).	Slight	Slight	Slight	Slight
Radiant Heat	A measure of the ability of a decorative overlaid surface to resist spot damage when subjected to a radiant heat source.	No effect up to 60 seconds.	No effect up to 60 seconds.	No effect up to 80 seconds.	No effect up to 125 seconds.
Boiling Water	A measure of the ability of a decorative overlaid surface to maintain its color and surface texture when subjected to boiling water.	No Effect	No Effect	No Effect	No Effect
Impact	A measure of the ability of a decorative overlaid surface to resist fracture due to spot impact by a steel ball dropped from a measured height.	15" without fracture	15" without fracture	20" without fracture	50" without fracture

- ALA 1992 (American Lamination Association) refers to the standards for TFL
- NEMA (National Electrical Manufacturers Association) - The Association of Electrical and Medical Imaging Equipment Manufacturing
- LD3 - Abrasion test

1224 Mill Street | Jasper, Indiana 47547-0270 | Ph: 800-422-5727 | Fax: 812-482-9035 | www.indianafurniture.com

22.5° Inside Curve
Coffee House Collection

coffeeshouse collection

Item: **CIC-1-22 or COIC-1-22**

Dimensions:

w:	34	sw:	34
d:	30	sd:	19.5
h:	34	sh:	18
		bh:	17.5

Weight: 72 lbs.

COM: 3.75 yards
(if large repeat, contact customer service)

Options:
Tablet Arm (300 lb capacity)
Cup Holder (must be used with Tablet)
Upholstered Arms
Bent Wood Arms
Atrium Arms
Solid Wood Legs
Brushed Aluminum Legs
Heavy Duty Casters
Power Port (2-plug/2-USB, 10' plug-in cord)
Recessed Pull (use with Mobile options)
Perma-Coat Wood Leg Protector
Weighted
Secure Bottom Cover
Combination Fabrics
Custom Finishes
Moisture Barrier
TB133 (Fire Barrier)

Features:
Lifetime Warranty
Chairs Pass 1000 lb Drop Test (2000 lb Static Load)
Clean-Out (When Specified)
Replaceable & Recoverable Components
Hard Maple
Dymetrol Suspension
Freestanding & Systems
Blanket-wrapped shipping (no cardboard waste)

Tablet Arm Option (300 lb capacity)

Power Port Option with Plug-in Cord
Clean-Out Option shown above, must be specified

Power Port Options

All Black
All White
Silver/White

Upholstered Arms

Bent Wood Arms

Atrium Arms

Leg Options

Wood Legs

Brushed Alum. Legs

Mobile Options

Heavy Duty Casters

Recessed Pull Handle

Coordinating Products:
Coffee House Table Arms, Coffee House Ottomans, High Back Coffee House, Drum & Cube Tables

Summit XL Chair with Cylinder Legs

Alpine Collection

Item: **SMXLL**

Dimensions:

w:	32	sw:	25
d:	28	sd:	20.5
h:	30.5	sh:	18
ah:	22	bh:	16

Weight: --

COM: 5.5 yards
(if large repeat, contact customer service)

Options:
Steel Cylinder Legs with Brushed Chrome Finish
Steel Cylinder Legs with Powdercoat Finish
Wood Legs
Wood Arm Caps
Solid Surface Arm Caps
Tamper-Resistant Fasteners
Combination Fabrics
Moisture Barrier

Features:
Lifetime Warranty
Chairs Pass 1000 lb Drop Test (2000 lb Capacity)
Clean-Out Seat Design (concealed in front)
Replaceable & Recoverable Components
Dymetrol Suspension
Blanket-wrapped shipping (no cardboard waste)

Back View

Clean-Out Feature

Front View

Side View

Arm Cap Option

Wood Arm Caps

Solid Surface Arm Caps

Coordinating Products:
Summit & Summit XL with Casters & Swivel Base, Summit Ottomans, Brighton & Brighton Slope, Solitude & Solitude Slope, Après, Alta, Alpine Benches, Alpine Ottomans, Alpine Tables, Kallise Tables

NBS

M50 RUBBER/ PLASTICS/ CORK/ LINO/ **CARPET TILING**/ SHEETING 130 CARPET TILING

Human Nature 820

Location	Heavy use areas. Office, retail, hospitality, leisure and educational areas.
Base	Please refer to Interface installation guide for details of suitability.
Preparation	Subfloors should be prepared in accordance with BS 5325 or corresponding National and European Standards.
Fabricated Underlay	Should be laid where required over existing timber bases.
Carpet Tiles	
Manufacturer	Interface
Product Reference	Human Nature 820
Type	Cut and loop pile
Yarn	100% Recycled Solution Dyed Nylon
Standard Backing	Graphlex®
BS EN 1307 classification	
Category	Type 1
Level of use class	Heavy Contract, class 33
Luxury rating class	LC2
Total Thickness	7.2 mm ± 0.5 mm
Size	25 x 100 cm - 4 m^2 Box
Colourway	308061 Flint, 308062 Nickel, 308063 Slate, 308064 Limestone 308065 Pumice, 308066 Shale, 308067 Earth, 308068 Travertine
Method of laying	Ashlar, Herringbone. Install using TacTiles® for a glue-free installation

Use the Interface ReEntry service to take away existing Interface tiles which will be cleaned and re purposed through our partners (Registered charities).
Carbon Neutral Floors. Every product carbon neutral. When you purchase any Interface products, we'll calculate your flooring's impact on global warming and ensure it's offset.

To see the BREEAM contribution click here
For Installation instructions, click here
For Maintenance instructions, click here

To obtain samples please call 01274 690690

Interface Europe Ltd., Shelf Mills, Shelf, Halifax, West Yorkshire HX3 7PA Tel: 01274 690690,
Customer Services Tel: 08705 304030, Email: enquiries@interface.com www.interface.com

Interface®

kfi
we're in your space

JIVE Multi-Use Seating, Designed by KFI Studios

Chic, stylish and visually appealing Jive chairs and stools are packed with versatility and function. Chair, counter stools and bar stools are all available in three finishes and optional upholstery.

9222
Seat height - 18″

CT9333
Seat height - 25″

BR9333
Seat height - 30″

BR9222
Seat height - 30″

Jive Features:

- 3/4″ 16 Gauge Tubular Steel Frame
- Bent Plywood Shell with High Pressure Laminate Finish
- One Piece Construction
- Slight Flex in Back for Maximum Comfort
- Handhold for Easy Storage and Movement
- Durable Nylon Glides
- Stacks 5 High
- Weight tested for 300 lb

Jive Wood Options:

White (WH) | Natural (NA) | Espresso (ES)

Jive Frame Options:

Chrome (CH)

Dimensions:

	Width	Depth	Height	Seat Height	Seat Size
9222	20.5″	21″	34″	18″	16″ x 14.5″
BR9222	20.5″	21.75″	46″	30″	16″ x 14.5″
BR9333	20.5″	21.75″	34″	30″	16″ x 14.5″
CT9333	20.5″	21.75″	29.5″	25″	16″ x 14.5″

GSA Small Business HUBZone

KFI 1533 Bank Street Louisville, KY 40201 800-457-5073 Fax 502-585-4676 KFISeating.com

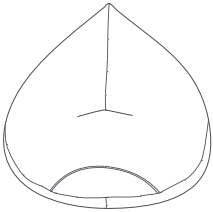
kyoto collection
bean bags - indoor X out
technical specs.

lujo®

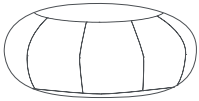
put life
on pause

Kyoto 'indoor x out' collection — technical specs.

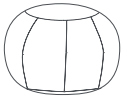
Lujo has mastered the art of indoor-outdoor flow with our Kyoto Collection of stylish and extremely durable outdoor bean bag chairs, loungers, poufs and ottomans. This versatile bean bag range is made using the limited edition Sunbrella® Blend fabrics - as suitable for modern interiors as they are outdoor living. The woven mélange yarns give a textural depth with the aesthetic of wool, making them luxuriously soft yet also extremely enduring in any environment, indoors or out.



Bean Bag
90h x 110w x 120l / seat 45h (cm)
36h x 44w x 48l / seat 18h (in)
beans 475-500L / 17-18ft^3
weight 8kg / 17.5lb (filled)



Ottoman
47h x 100w (cm)
19h x 40w (in)
beans 375-400L / 13.5-14.5ft^3
weight 5kg / 11lb (filled)



Footstool
40h x 60w (cm)
16h x 24w (in)
beans 100-125L / 3.5-4.5ft^3
weight 1.5kg / 3lb (filled)

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colors.

Blend Cactus

Blend Clay

Blend Coal

Blend Fog

Blend Honey

Blend Indigo

Blend Lagoon

Blend Mist

Blend Sage

fabric.

- Limited edition Sunbrella® Blend — 97% solution-dyed acrylic canvas, 3% other
- Woven with mélange yarn to give textural depth with an aesthetic similar to wool
- Indoor/Outdoor versatility
- Five-year warranty on colorfastness, strength and durability
- Scotch-garded® and treated for mildew
- Water resistant yet breathable
- Corporate sustainability practices
- ISO 9001 & 14001 certified
- 65,000 Warp & 45,000 Fill - Wyzenbeek Double Rub Method
- 373gsm

components and construction.

- Carefully hand-crafted in New Zealand
- UV-resistant nylon stitching
- YKK® safety zips for child safety
- Waterproof inner liners for protection against rain and moisture
- Easy removal of covers for machine washing
- Structured back support and high seat base for ease of getting in and out
- Innovative form-holding designs for superior aesthetic appeal

care.*

- Brush or hose down to remove dust or dirt regularly
- Spot clean with soapy water and a soft brush. Hose down and air dry
- Machine wash covers as required

polystyrene beans.

- Please see 'Beans' section on website for recommendations by location

warranties.

- Five-year exterior warranty against fade and deterioration
- Lifetime warranty on manufacturing defects

lead time.

- 5-14 days depending on location
- Lead times on request for larger commercial orders

*see 'Care' section of website for full details

TEXTURED SKY

Cloud Canopy

Modular Tile

Construction
Tufted, Textured Loop, Tip Shear

Tile Sizes
50 cm x 50 cm (19.7″ x 19.7″)
25 cm x 1 m (9.85″ x 39.4″)

Yarn Type
Universal Fibers® SDN Type 6,6 and 6

Stain Repel / Stain Resist / Soil Release
StainSmart®

Antimicrobial
AlphaSan® AF Built-In Protection†

Dye Method
Solution Dyed

Tufted Face Weight
28 oz/yd² (949.4 g/m²)

Gauge
1/12

Stitches Per Inch
10.0

Tufts
120/in² (1,859/100 cm²)

Finished Pile Height
0.16″ (4.06 mm)

Finished Pile Thickness
0.12″ (3.05 mm)

Average Density (Finished)
8,553

Standard Backing
PVC-Free WellBAC™ Comfort Plus Cushion
Available with TractionBack®

Recycled Content by Total Weight
Standard Backing: 40.1% Pre-Consumer, 0.0% Post-Consumer
NSF 140 Platinum Backing Option: 31.2% Pre-Consumer, 8.8% Post-Consumer

Nominal Total Thickness
0.40″ (10.2 mm)

Nominal Total Weight
119.0 oz/yd² (4,035 g/m²)

Flammability (Radiant Panel ASTM-E-648)
≥ 0.45 (Class I)

Smoke Density (NFPA-258-T or ASTM-E-662)
≤ 450

Methenamine Pill Test (CPSC FF-1-70 or ASTM D 2859
Self-Extinguishing

Lightfastness (AATCC 16E)
≥ 4.0 at 80 Hours

Crocking (AATCC 165)
≥ 4.0 Wet or Dry

Static Electricity (AATCC-134) 20% R.H.,70° F.
≤ 3.5 KV, Permanent Conductive Fiber

Texture Appearance Retention Rating (TARR)
Heavy Traffic End-Use Applications

Recommended Maintenance
MilliCare® Textile and Carpet Care Service Network

Indoor Air Quality—CRI Green Label Plus™
GLP7205, Carpet Category 13X

Recommended Installation Method(s)
Monolithic, Ashlar, Planks

WARRANTIES

Lifetime Antimicrobial Protection (AlphaSan®)
Lifetime Face Fiber Wear
Lifetime Antistatic
Lifetime Floor Compatibility
Lifetime Color Pattern Permanency
Lifetime Floor Release
Lifetime Cushion Resiliency
Lifetime Moisture Resistance
Lifetime Delamination of Backing
Lifetime Staining/Soiling (StainSmart®)
Lifetime Dimensional Stability
Lifetime Tuft Bind
Lifetime Edge Ravel
Flammability

This cushion-back carpet tile product is covered by one or more patents, published applications and/or patents pending. Specifications are subject to normal manufacturing tolerances and may be changed without prior notice. Copies of actual test results are available upon request.

† (EU) No 528/2012 (BPR): Cloud Canopy contains AlphaSan® biocidal product (Zinc Pyrithione), to reduce the growth of bacteria, mold and mildew that can cause odours or staining.

West Elm

West Elm Work Lucas Wire Chair

SAVE TO PROJECT | CONTACT DEALER

Design Resources

Modern lines give the West Elm Work Lucas a streamlined look, while a wide seat and reclined pitch make it a comfortable spot to sit during long meetings and busy days. Designed by West Elm and manufactured by Steelcase.

VIEW RESOURCES

IMAGES | SPECS | DOCUMENTS

Features

OVERVIEW

Modern lines give the West Elm Work Lucas Wire Chair a streamlined look, while a wide seat and reclined pitch make it a comfortable spot to sit during long meetings and busy days.

Overall dimensions: 30.5" W x 32" D x 31" H

- Seat Width: 22"
- Seat Depth: 21"
- Seat Height: 18.5"
- Arm Height: 20.5"

SURFACE MATERIALS

The West Elm Work Lucas Wire Chair is available in the following finish options:

- Upholstered in your choice of durable Designtex fabric
- Leg: Burnished Bronze

MADE FOR THE OFFICE

All products in the West Elm Work Collection are designed with performance in mind and are manufactured to withstand the additional wear and tear that products encounter in the workplace.

GLOBAL AVAILABILITY

The West Elm Work Collection from Steelcase is available in the following regions:

- United States
- Canada

Appendix F:

Version 1:

Uwell		Educational Campus Scorecard	Healthy Building Status			Point Total	226			
			Superior Healthy Building Standard			A	200			
			Advanced Healthy Building Standard			B	165			
			Minimum Healthy Building Standard			C	145			
	Purpose	The goal of this survey is to determine the impact of campus and building architecture and amenities on student health. This assessment is broken down into campus wide strategies and buiding specific strategies.								
	Definitions									
	Multi-purpose spaces	Any freely occupied space intended for student use including social, eating, study, fitness, and entertainment atmospheres but excludes learning spaces such as classrooms, labs, and lecture halls.								
	Student spaces	Any space intended for student use including social, dining, study, fitness, entertainment and learning spaces.								
	Pedestrian route	A foot path that provides amenities such as benches, and lighting throughout.								
			VALUE	SUB	INITIAL SCORE	SUB AFTER INTERVENTIONS	SCORE AFTER INTERVENTIONS	SUB AFTER DESIGN	SCORE AFTER DESIGN	
	PREREQUISITE		226		125		145		163	
0.1	Survey	Provide an official report of the student commuter and building use survey with a summary of findings including calculations showing a response rate of at least 30%, the number of alternative commute trips, and number of conventional commute trips.	1	NO	0	YES	1	YES	1	
1	COMMUTING (BUILDING SPECIFIC)									
1.1	Walk score 1	provide link to walk score evaluation of 50 or more for the address of the building	1	YES	1	YES	1	YES	1	
1.2	Walk score 2	provide link to walk score evaluation of 70 or more for the address of the building	2	YES	2	YES	2	YES	2	
1.3	Walk score 3	provide link to walk score evaluation of 90 or more for the address of the building	3	NO	0	NO	0	NO	0	
1.4	Accessibility to transit	provide an annotated plan(s) and clear, annotated photograph(s) demonstrating that the direct route to transit is less than 800m, free of obstructions and the pedestrian route has a running slope no steeper than 1:20.	3	YES	3	YES	3	YES	3	
1.5	Bicycle parking	[1] Provide a calculation showing the amount of bicycle parking required for the building (5% of regular student occupants or exceeds demand as dictated by survey by 1%). [2] Provide a clear, annotated photograph(s) and/or plan(s) showing: a) The total calculated number of secure and covered bike parking. b) The distance between the bike racks and a main entrance of the building (max 400m)	2	NO	0	YES	1	YES	1	
1.6	Commuter showers	[1] Provide a clear annotated photograph(s) and/or plan(s) demonstrating at least 1 public shower/locker per 500 occupants and location of showers/lockers. [2] Official documentation showing evidence that showers and lockers are available free of charge for all regular occupants.	2	NO	0	YES	1	YES	1	
2	CAMPUS AMENITIES (CAMPUS-WIDE)									
2.1	Pedway systems	Provide clear, annotated photograph(s), plan(s), and/or diagram(s) demonstrating the pedway system connecting all major buildings.	2	YES	2	YES	2	YES	2	
2.2	Parking fees	Provide documentation detailing the pricing scheme, clearly demonstrating that the fair market rate is being charged for all single-occupancy vehicle parking across campus.	2	YES	2	YES	2	YES	2	
2.3	Fitness facilities	[1] Provide a floor plan(s) and/or clear photograph(s) showing a free exercise room(s) with: fitness equipment (cardio and strength training equipment) and access to locker rooms with showers. [2] Provide an official document (signed, dated, and on official letterhead) declaring that all students have access to the exercise room free of charge or included in mandatory student fees.	5	YES	5	YES	5	YES	5	
2.4	Campus beautification	Provide official documentation detailing all permanent visual art installations (Sculpture, murals) or seasonal decorations (lighting, floral gardens) with a minimum average of 5 per building.	2	NO	0	NO	0	NO	0	
2.5	Campus gamification	Provide official documentation detailing all gamification instances on campus with minimum 3 on campus. Gamification strategies: The application of game playing elements to everyday campus interactions	2	NO	0	NO	0	NO	0	
2.6	Campus experiences	[1] Provide official documentation detailing all the immersive sensory experiences spaces (Theaters, shows, plays, concerts) for a minimum of 1 per 8000 students on campus. [2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	5	NO	0	NO	0	YES	5	
2.7	Farmer's market	Provide a clear, annotated photograph(s) and/or official document(s) detailing the location and schedule (minimum weekly) of a qualifying farmer's market with at least 1 local produce vendor.	4	YES	4	YES	4	YES	4	
3	STUDENT SPACES (BUILDING SPECIFIC)									
3.1	Natural daylight	[1] provide annotated plan(s) and/or diagram(s) showing a calculation including the total number of student spaces that have natural light for a minimum of 51% of the total student space. The area of workspaces with natural light is defined in plan as the area with direct line of sight to open sky to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and daylight area.	3	NO	0	NO	0	NO	0	
3.2	Views of Nature	[1] provide annotated plan(s) and/or diagram(s) showing a calculation including the total number of student spaces that have lines of sight to outside nature or greenery for a minimum of 51% of the total student space. The area of workspaces with views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and access to views.	4	NO	0	NO	0	NO	0	
3.3	Direct connections to nature	[1] provide annotated plan(s) and/or diagram(s) showing a calculation of the student spaces that have at least three direct connections to nature for a minimum of 51% of the total student space. The area of workspaces with connections views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and direct connections to nature. Direct connections to nature include: Plants, water, light, fireplaces, natural landscapes or interior views of greenery.	3	NO	0	NO	0	YES	3	

3.4	**Indirect connections to nature**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation of the student spaces that have at least four indirect connections to nature for a minimum of 51% of the total student space. The area of workspaces with connections views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and indirect connections to nature. Indirect connection to nature includes: natural materials, patterns, or images, sounds, installations and simulations that evoke nature.	3	NO	0	NO	0	YES	3
3.5	**Sound pollution**	[1] Provide audio or video recordings or decibel level readings demonstrating that there are no obnoxious noises in any student spaces.	3	YES	3	YES	3	YES	3
4	**MULTI-PURPOSE SPACES (BUILDING SPECIFIC)**								
4.1	**Common dining area**	Provide annotated plan(s), diagram(s) or photographs demonstrating a common break area within 100m of the building equipped with refrigerator, microwave, sink, and dining area to accommodate meal-time activity.	3	NO	0	NO	0	NO	0
4.2	**Dining area cleaning schedule**	Provide clear photograph(s) and/or official document(s) detailing the daily dining area (including sinks, microwaves, and refrigerators) cleaning schedule and/or policy for all building restrooms under control of building owner.	1	YES	1	YES	1	YES	1
4.3	**Hand-washing**	Provide clear photograph(s) of permanent educational signs posted in all bathrooms.	1	NO	0	YES	1	YES	1
4.4	**Bathroom cleaning schedule**	Provide clear photograph(s) and/or official document(s) detailing the daily bathroom cleaning schedule and/or policy for all building restrooms.	2	NO	0	YES	2	YES	2
4.5	**Quiet room**	[1] Provide annotated plan(s), diagram(s) or photographs demonstrating a common quiet room, separate from study spaces, within 400m of the building [2] provide audio or video recordings demonstrating the absence of obnoxious noises [3] Provide clear photograph(s) and/or plan(s) showing at least two alternative seating options in this space (couch, recliner, bean bags or other).	3	NO	0	YES	3	YES	3
4.6	**Alternative seating**	[1] Provide clear photograph(s) showing a alternative seating (couches, bean bags, hammocks, reclining chairs) in the building multi-purpose spaces	4	NO	0	NO	0	YES	4
4.7	**Sleeping areas**	[1] Provide a floor plan(s) and/or clear photograph(s) showing a designated rest area with furniture (daybeds, fully reclining chairs, hammocks, couches) in a quiet, low light environment. [2] Provide clear photograph(s) and/or official document(s) detailing the daily cleaning schedule and/or policy for all campus rest areas.	4	NO	0	YES	4	YES	4
4.8	**Lactation**	[1] Provide a clear annotated plans demonstrating that the location and number of lactation rooms meets the number requested in the student use survey. [2] The referenced section of the student use survey [3] Provide clear annotated photograph(s) and/or plan(s) demonstrating seating area, table, electrical outlet, sink, and secure refrigerator (the refrigerator can be located outside of the lactation station, but must be in proximity to and accessible from the station.	3	NO	0	NO	0	NO	0
4.9	**Free room**	Provide an official document demonstrating how the room can be scheduled for activities, including social or wellness activities, available to all students free of charge, within 200 meters of every building.	4	YES	4	YES	4	YES	4
5	**OUTDOOR SPACES (CAMPUS-WIDE)**								
5.1	**Smoke-free policy**	Provide an official document(s) or policy detailing that all outdoor spaces (including parking areas) are tobacco-free. A/C 2pts [1] Provide an official document(s) or policy detailing that all smoking outside of designated smoking areas is banned [2] Provide an annotated plan(s), diagram(s), and/or clear photographs) demonstrating all designated smoking areas, at least 10 m away from major pedestrian routes, building entrances or fresh air intakes. A/C [1] Provide an official document(s) or policy detailing that smoking is banned in all spaces within 10m of doors and fresh air intakes. [2] Provide a annotated photograph(s) detailing that all tobacco free spaces are clearly marked.	2	A/C	1	A/C	1	A/C	1
5.2	**Walking trail**	Provide clear, annotated photograph(s), plan(s), and/or diagram(s) demonstrating that the walking trail is accessible, paved, at least 3m or 10 feet wide (or a divided combination equivalent to), and without obstructions for 1/4 mile or 400 meters while providing amenities and context appropriate lighting. This strategy is only applicable to campuses that accomplish the snow removal strategy. A/C Select "Alternative Compliance" if the walking trail is partially indoors and therefore obstructed by doors.	3	YES	3	YES	3	YES	3
5.3	**Campus wayfinding**	Provide an annotated exterior wayfinding plan(s), diagram(s), and/or clear photograph(s) detailing sign design, location, spacing and clearly demonstrating permanent visible signage to all major buildings or campus landmarks.	2	NO	0	NO	0	NO	0
5.4	**Outdoor lighting**	Provide an annotated exterior lighting plan(s), diagram(s), and/or clear, nighttime photograph(s) detailing light placements and spacing and clearly demonstrating visible, continuous illumination along all pedestrian routes paths and parking areas.	4	YES	4	YES	4	YES	4
5.5	**Outdoor fitness equipment**	Provide clear photograph(s) and/or site plan(s) showing qualifying outdoor fitness equipment. N/A Campuses located where there is more than 5 months of average freezing temperatures.	1	NO	0	NO	0	NO	0
5.6	**Restorative garden**	Provide a clear, annotated photograph(s) and/or site plan(s) showing the qualifying restorative garden on campus. Restorative garden amenity : An area that provides a serene, immersive and sensory nature experience	3	NO	0	NO	0	YES	3
6	**COMMUNITY (CAMPUS-WIDE)**								
6.1	**Herd immunity**	Provide an official document demonstrating vaccination and immunization services on campus.	5	YES	5	YES	5	YES	5
6.2	**Health services**	Provide a list of general health professionals (at least 1 full-time per 4000 students) employed for the purpose of general health services at a clinic on campus.	5	YES	5	YES	5	YES	5
6.3	**Mental health services**	Provide a list of mental health professionals (at least 1 full-time per 4000 students) employed for the purpose of mental health services at a clinic on campus.	5	YES	5	YES	5	YES	5
6.4	**Semester break**	Provide an official academic calendar demonstrating at a full week without classes for all students each semester.	5	YES	5	YES	5	YES	5
6.5	**Athletic pursuits**	[1] Provide official documentation detailing all the intramural and drop-in activities, including times and seasons, participation, and amenities available to athletes. [2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	5	NO	0	NO	0	NO	0
6.6	**Volunteerism**	Provide official documentation detailing all school credit and bursaries available to student volunteers and simple application process (Maximum application process being: contact information, cover letter, and CV).	3	YES	3	YES	3	YES	3
6.7	**Social engagement**	Provide official documentation detailing all student clubs and organisations, and campus events, with minimum 1 weekly open participation event.	3	YES	3	YES	3	YES	3
6.8	**Winter activities**	Provide official documentation detailing winter-themed campus activities with minimum 1 monthly open participation event.	2	NO	0	NO	0	NO	0
6.9	**Student club spaces**	Provide an official document demonstrating how a secure storage and office space can be borrowed and/or scheduled by student clubs free of charge.	2	YES	2	YES	2	YES	2

7	**FOOD SERVICES (CAMPUS-WIDE)**								
7.1	**Healthy food service**	[OR] Provide a copy of all food service leasing agreements on campus, detailing how food service providers: - Provide healthy food choices for all regular occupants that are at least as rigorous as the Food Service Guidelines for Federal Facilities. Enable sustainable practices for the building. [OR] Provide official documentation describing how all on-site restaurants or cafés provide healthy food choices for all regular occupants that are at least as rigorous as the U.S. Food Service Guidelines for Federal Facilities.	5	NO	0	NO	0	NO	0
7.2	**Nutritional information**	[1] Provide a copy of all food service leasing agreements on campus, detailing how food service providers provide nutritional information to customers.	4	NO	0	NO	0	NO	0
7.3	**Portion sizes**	Provide a copy of all food service leasing agreements on campus, detailing how at least half of food items on menus are offered at smaller portion sizes for fair prices.	4	NO	0	NO	0	NO	0
8	**WATER SUPPLY (BUILDING SPECIFIC)**								
8.1	**Water supply**	[1] Provide a official documentation demonstrating compliance with Americans with Disabilities Act (ADA) requirements. [2] Provide annotated plan(s), diagram(s) or photographs showing the location of water supplies (minimum 1 every 30 meters) with water bottle refilling ability (minimum 1 on each floor).	4	NO	0	NO	0	NO	0
8.2	**Water in food service areas**	Provide clear photograph(s) showing access to free water station/supply in food service areas including cafeteria(s) and prepared food retail areas.	4	YES	4	YES	4	YES	4
8.3	**Water in vending areas**	Provide clear photograph(s) showing access to free water station/supply visible near vending machines and snack bars	4	YES	4	YES	4	YES	4
9	**SAFETY AND EMERGENCY SERVICES (CAMPUS-WIDE)**								
9.1	**Lockdown notifications**	[1] Provide an official document(s) detailing the address notification system within the building and for what emergencies on campus it is triggered. [2] Provide official documentation indicating the notifications are tested quarterly.	2	YES	2	YES	2	YES	2
9.2	**Emergency call stations**	Provide annotated plan(s), diagram(s), photograph(s), detailing the location of emergency call stations within the building.	2	YES	2	YES	2	YES	2
9.3	**Monitorings**	[1] Provide official document(s) or policy detailing schedule of patrols [2] provide annotated plan(s) diagram(s) demonstrating video surveillance locations.	2	NO	0	NO	0	NO	0
9.4	**Safe walk**	Provide a campus wide safe-walk program available to all students from dusk until dawn	3	YES	3	YES	3	YES	3
9.5	**Safety awareness**	Provide strategies for student awareness of safety and emergency services	1	YES	1	YES	1	YES	1
9.6	**Snow removal**	Provide snow and ice removal on all campus walkways and streets	3	YES	3	YES	3	YES	3
10	**SAFETY AND EMERGENCY SERVICES (BUILDING SPECIFIC)**								
10.1	**Emergency notification system**	Provide annotated plans(s), diagram(s) or official document(s) detailing the address notification system within the building and the way it responds to common emergencies in your community. Consider the context of the building site and the number of regular occupants.	3	YES	3	YES	3	YES	3
10.2	**Automated External Defibrillator (AED)**	[1] Provide a clear, annotated plan(s), diagram(s) or photograph(s) detailing the locations of all the Automatic External Defibrillators (AEDs). [2] Provide clear, annotated plan(s), diagram(s) or photograph(s) demonstrating wayfinding is provided towards AED location [3] Provide an official document(s) detailing the regular testing schedule as recommended by manufacturer.	1	NO	0	YES	1	YES	1
10.3	**Certified first responders**	provide an official document(s) stating that there is CFR available to the building with a response time less than 3 minutes.	1	YES	1	YES	1	YES	1
11	**ENTRANCES AND GROUND FLOOR (BUILDING SPECIFIC)**								
11.1	**Entrances for pedestrian routes**	Provide clear photograph(s) and/or site plan(s) showing at least three building entrances are oriented towards a pedestrian route.	3	YES	3	YES	3	YES	3
11.2	**Entrances: lighting**	Provide an annotated exterior lighting plan(s), diagram(s), and/or clear, nighttime photograph(s) detailing light placements, spacing, and clearly demonstrating visible, continuous illumination at all building entrances.	3	YES	3	YES	3	YES	3
11.3	**Inclusive entrances**	Provide annotated photographs, plan(s) or diagram(s) demonstrating an inclusive, barrier free entrance that is located at the main entrance of the building with power door operation.	4	YES	4	YES	4	YES	4
11.4	**Entryway systems**	[1] Provide clear photograph(s) and/or plan(s) detailing entryway system and demonstrating that the entryway system is located at each entrance, at least as wide as the entrance, and at least 5 feet deep (1.5 meters) in the direction of travel. [2] Provide an official statement (signed, dated, and on official letterhead) confirming that if mat systems are used, they are cleaned and maintained weekly. Entryway systems - floor mats, shoe cleaners, vestibules, etc to prevent outside contaminants from entering the building	1	YES	1	YES	1	YES	1
11.5	**Publicly accessible use**	[1] Provide a clear photograph(s) and/or plan(s) showing a minimum of one public use space on the main floor. [2] Provide an official statement confirming that the identified areas are open to the public.	3	YES	3	YES	3	YES	3
11.6	**Indoor wayfinding**	Provide annotated photographs demonstrating a permanent wayfinding display or building directory in a location accessible to all regular student occupants communicating major spaces within the building.	2	YES	2	YES	2	YES	2
12	**STAIRWELLS & ELEVATORS (BUILDING SPECIFIC)**								
12.1	**Regularly accessible stairwell**	Provide a plan(s) and/or section(s) detailing the stairwell that is accessible to all common use and student-occupied floors.	4	YES	4	YES	4	YES	4
12.2	**Stairwell visibility**	Provide a clear photograph(s) and/or plan(s) showing that the stairwell is equally or more visible than an elevator/escalator from building entrance. The stairwell used to comply with this strategy must also meet the criteria of 'Regularly accessible stairwell'.	4	YES	4	YES	4	YES	4
12.3	**Stairwell design**	Provide a clear photograph(s), stair section(s), and/or elevation(s) showing compliance with a minimum of two of the active design strategies in stairwell design. Active design strategies in stairwell design include, but are not limited to, posting motivational signs, installing a music system or creative lighting, moderating stairwell temperature, adding rubber treading to stairs, painting walls a bright color, and hanging framed artwork. The stairwell used to comply with this strategy, must also meet the criteria of 5.1.	3	NO	0	NO	0	NO	0
12.4	**Stair signage**	[1] Provide a clear photograph(s) of the permanent point-of-decision stair sign(s). The stairwell used to comply with this strategy must also meet the criteria of 5.1. [2] Provide a clear photograph(s) and/or plan(s) showing placement of stair sign (s) prompt at elevator call areas on each floor.	2	NO	0	NO	2	YES	2
12.5	**Elevator accessibility**	Provide annotated photographs or video(s) demonstrating visual and audible indicators of elevator operation including tactile symbols and raised braille messages adjacent to elevator control buttons.	3	NO	0	NO	3	YES	3

13	**INDOOR SYSTEMS AND POLICIES (BUILDING SPECIFIC)**								
13.1	**Smoke-free buildings**	Provide an official document(s) or policy (signed, dated, and on official letterhead) detailing that all buildings are smoke-free.	**3**	YES	**3**	YES	**3**	YES	**3**
13.2	**Smoke free signage**	[1] Provide an example of signage publicizing a smoke-free and vape-free building. [2] Provide clear photograph(s) and site plan(s) showing signage at all building entrances.	**1**	NO	**0**	NO	**1**	YES	**1**
13.3	**Green purchasing policy**	Provide an official copy of a valid green purchasing plan for the building indicating the building address or name detailing the green purchasing and implementation plan. Products must either fall under EPA's list of designated products or show the EPA's Safer Choice Label.	**4**	YES	**4**	YES	**4**	YES	**4**
13.4	**Integrated pest management**	Provide an official copy of IPM plan or contract detailing procedures requiring non-chemical approaches to meet all the following: - improved sanitation (e.g., removing food from desks, cleaning) - inspection and monitoring of pest population sites managing waste (e.g., keeping refuse in tight containers, locating waste containers away from building if possible) - maintaining structures (e.g., fixing leaking pipes promptly, sealing cracks) - adding physical barriers to pest entry and movement (e.g., screens for chimneys, doors, and windows; air curtains) - modifying habitats (e.g., removing clutter, relocating outside light fixtures away from doors) - using traps (e.g., light traps, snap traps, and glue boards) - using pesticides judiciously	**3**	YES	**3**	YES	**3**	YES	**3**
13.5	**Chemical storage**	Provide a clear photograph(s), floor plan(s) and/or diagram(s) showing: a) The location of areas such as garages, janitors' closets, laundry areas, science laboratories, art rooms, workshops, salons, high volume copy rooms where the output exceeds 40,000 pages or 20,000 pages double sided per month, and other areas where chemicals may be used or stored. b) Separate ventilation for all such areas described above. c) For cleaning products that are not stored separately, provide official documentation demonstrating that the products meet the Green Seal GS-37 standard and/or the California Code of Regulations.	**2**	NO	**0**	NO	**0**	NO	**0**
13.6	**Asbestos**	Provide a jurisdiction-specific compliance document, proof of asbestos abatement (entirely removed or properly contained if present) by a certified professional, or the relevant legal policy regarding asbestos at time of building construction.	**4**	YES	**4**	YES	**4**	YES	**4**
13.7	**HVAC+R**	Provide official documentation demonstrating HVAC+R systems exceed most recent ASHRAE or equivalent and are regularly monitored and maintained. A/C Provide official documentation demonstrating HVAC+R systems meet ASHRAE or equivalent standards at the date of build and are regularly monitored and maintained.	**2**	A/C	**1**	A/C	**1**	A/C	**1**
13.8	**Maintained temperature**	Provide annotated photos and/or specification documents demonstrating student-accessible thermostats or operable windows in all small student spaces (capacity of 30 or fewer)	**3**	NO	**0**	NO	**0**	NO	**0**
13.9	**Seasonal lighting**	Provide an official copy of a valid lighting purchasing plan or policy for the building, including the address or name, detailing the lighting purchasing and implementation plan.	**2**	NO	**0**	NO	**0**	NO	**0**

Version 2 - Building Specific:

Uwell		Version 2 - Educational Campus Scorecard - Building Specific	Healthy Building Status		Point Total	136
			Superior Healthy Building Standard		A	120
			Advanced Healthy Building Standard		B	103
			Minimum Healthy Building Standard		C	87
	Purpose	The goal of this survey is to determine the impact of campus and building architecture and amenities on student health. This assessment is broken down into campus wide strategies and buiding specific strategies.				
	Definitions					
	Multi-purpose spaces	Any freely occupied space intended for student use including social, eating, study, fitness, and entertainment atmospheres but excludes learning spaces such as classrooms, labs, and lecture halls.				
	Student spaces	Any space intended for student use including social, dining, study, fitness, entertainment and learning spaces.				
	Pedestrian route	A foot path that provides amenities such as benches, and lighting throughout.				
			Total Points Possible	**Current SUB Spaces**	**SUB After Supplementary Recommendations**	**SUB After Recommendations + Design Interventions**
1	**PREREQUISITE**		**136**	**75**	**89**	**103**
1.1	**Survey**	Provide an official report of the student commuter and building use survey with a summary of findings including calculations showing a response rate of at least 30%, the number of alternative commute trips, and number of conventional commute trips.	**1**	**0**	**0**	**0**
2	**COMMUTING**					
2.1	**Walk score 1**	provide link to walk score evaluation of 50 or more for the address of the building	**1**	**1**	**1**	**1**
2.2	**Walk score 2**	provide link to walk score evaluation of 70 or more for the address of the building	**2**	**2**	**2**	**2**
2.3	**Walk score 3**	provide link to walk score evaluation of 90 or more for the address of the building	**3**	**0**	**0**	**0**
2.4	**Accessibility to transit**	provide an annotated plan(s) and clear, annotated photograph(s) demonstrating that the direct route to transit is less than 800m, free of obstructions and the pedestrian route has a running slope no steeper than 1:20.	**3**	**3**	**3**	**3**
2.5	**Bicycle parking**	[1] Provide a calculation showing the amount of bicycle parking required for the building (5% of regular student occupants or exceeds demand as dictated by survey by 1%). [2] Provide a clear, annotated photograph(s) and/or plan(s) showing: a) The total calculated number of secure and covered bike parking. b) The distance between the bike racks and a main entrance of the building (max 400m)	**2**	**0**	**1**	**1**
2.6	**Commuter showers**	[1] Provide a clear annotated photograph(s) and/or plan(s) demonstrating at least 1 public shower/locker per 500 occupants and location of showers/lockers. [2] Official documentation showing evidence that showers and lockers are available free of charge for all regular occupants.	**2**	**0**	**1**	**1**
3	**STUDENT SPACES**					
3.1	**Natural daylight**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation including the total number of student spaces that have natural light for a minimum of 51% of the total student space. The area of workspaces with natural light is defined in plan as the area with direct line of sight to open sky to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and daylight area.	**3**	**0**	**0**	**0**
3.2	**Views of Nature**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation including the total number of student spaces that have lines of sight to outside nature or greenery for a minimum of 51% of the total student space. The area of workspaces with views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and access to views.	**4**	**0**	**0**	**0**
3.3	**Direct connections to nature**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation of the student spaces that have at least three direct connections to nature for a minimum of 51% of the total student space. The area of workspaces with connections views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and direct connections to nature. Direct connections to nature include: Plants, water, light, fireplaces, natural landscapes or interior views of greenery.	**3**	**0**	**0**	**3**

3.4	**Indirect connections to nature**	[1] provide annotated plan(s) and/or diagram(s) showing a calculation of the student spaces that have at least four indirect connections to nature for a minimum of 51% of the total student space. The area of workspaces with connections views is defined in plan as the area with direct line of sight of the view to a depth into the space 3x the window head height. [2] Provide clear annotated photographs of each student space demonstrating the floor layout and indirect connections to nature. Indirect connection to nature includes: natural materials, patterns, or images, sounds, installations and simulations that evoke nature.	**3**	**0**	**0**	**3**
3.5	**Sound pollution**	[1] Provide audio or video recordings or decibel level readings demonstrating that there are no obnoxious noises in any student spaces.	**3**	**3**	**3**	**3**
3.6	**Building beautification**	Provide official documentation detailing all permanent visual art installations (Sculpture, murals) or seasonal decorations (lighting, floral gardens) with a minimum average of 5 per building.	**2**	**0**	**0**	**2**
3.7	**Building gamification**	Provide official documentation detailing at least 1 instance of building gamification. Gamification strategies: The application of game playing elements to everyday campus interactions	**2**	**0**	**0**	**2**
3.8	**Immersive experiences**	[1] Provide official documentation detailing an immersive sensory experience space (Theaters, shows, plays, concerts) within the building.[2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	**5**	**5**	**5**	**5**
4	**MULTI-PURPOSE SPACES**					
4.1	**Common dining area**	Provide annotated plan(s), diagram(s) or photographs demonstrating a common break area within 100m of the building equipped with refrigerator, microwave, sink, and dining area to accommodate meal-time activity.	**3**	**0**	**0**	**0**
4.2	**Dining area cleaning schedule**	Provide clear photograph(s) and/or official document(s) detailing the daily dining area (including sinks, microwaves, and refrigerators) cleaning schedule and/or policy for all building restrooms under control of building owner.	**1**	**1**	**1**	**1**
4.3	**Hand-washing**	Provide clear photograph(s) of permanent educational signs posted in all bathrooms.	**1**	**0**	**1**	**1**
4.4	**Bathroom cleaning schedule**	Provide clear photograph(s) and/or official document(s) detailing the daily bathroom cleaning schedule and/or policy for all building restrooms.	**2**	**0**	**2**	**2**
4.5	**Quiet room**	[1] Provide annotated plan(s), diagram(s) or photographs demonstrating a common quiet room, separate from study spaces, within 400m of the building [2] provide audio or video recordings demonstrating the absence of obnoxious noises [3] Provide clear photograph(s) and/or plan(s) showing at least two alternative seating options in this space (couch, recliner, bean bags or other).	**3**	**0**	**3**	**3**
4.6	**Alternative seating**	[1] Provide clear photograph(s) showing a alternative seating (couches, bean bags, hammocks, reclining chairs) in the building multi-purpose spaces	**4**	**0**	**0**	**4**
4.7	**Sleeping areas**	[1] Provide a floor plan(s) and/or clear photograph(s) showing a designated rest area with furniture (daybeds, fully reclining chairs, hammocks, couches) in a quiet, low light environment. [2] Provide clear photograph(s) and/or official document(s) detailing the daily cleaning schedule and/or policy for all campus rest areas.	**4**	**4**	**4**	**4**
4.8	**Lactation**	[1] Provide a clear annotated plans demonstrating that the location and number of lactation rooms meets the number requested in the student use survey. [2] The referenced section of the student use survey [3] Provide clear annotated photograph(s) and/or plan(s) demonstrating seating area, table, electrical outlet, sink, and secure refrigerator (the refrigerator can be located outside of the lactation station, but must be in proximity to and accessible from the station.	**3**	**0**	**0**	**0**
4.9	**Free room**	Provide an official document demonstrating how the room can be scheduled for activities, including social or wellness activities, available to all students free of charge, within 200 meters of every building.	**4**	**4**	**4**	**4**

5	**WATER SUPPLY**					
5.1	**Water supply**	[1] Provide a official documentation demonstrating compliance with Americans with Disabilities Act (ADA) requirements. [2] Provide annotated plan(s), diagram(s) or photographs showing the location of water supplies (minimum 1 every 30 meters) with water bottle refilling ability (minimum 1 on each floor).	**4**	**0**	**0**	**0**
5.2	**Water in food service areas**	Provide clear photograph(s) showing access to free water station/supply in food service areas including cafeteria(s) and prepared food retail areas.	**4**	**4**	**4**	**4**
5.3	**Water in vending areas**	Provide clear photograph(s) showing access to free water station/supply visible near vending machines and snack bars	**4**	**4**	**4**	**4**
6	**SAFETY AND EMERGENCY SERVICES**					
6.1	**Emergency notification system**	Provide annotated plans(s), diagram(s) or official document(s) detailing the address notification system within the building and the way it responds to common emergencies in your community. Consider the context of the building site and the number of regular occupants.	**3**	**3**	**3**	**3**
6.2	**Automated External Defibrillator (AED)**	[1] Provide a clear, annotated plan(s), diagram(s) or photograph(s) detailing the locations of all the Automatic External Defibrillators (AEDs). [2] Provide clear, annotated plan(s), diagram(s) or photograph(s) demonstrating wayfinding is provided towards AED location [3] Provide an official document(s) detailing the regular testing schedule as recommended by manufacturer.	**1**	**0**	**1**	**1**
6.3	**Certified first responders**	provide an official document(s) stating that there is CFR available to the building with a response time less than 3 minutes.	**1**	**1**	**1**	**1**
7	**ENTRANCES AND GROUND FLOOR**					
7.1	**Entrances for pedestrian routes**	Provide clear photograph(s) and/or site plan(s) showing at least three building entrances are oriented towards a pedestrian route.	**3**	**3**	**3**	**3**
7.2	**Entrances: lighting**	Provide an annotated exterior lighting plan(s), diagram(s), and/or clear, nighttime photograph(s) detailing light placements, spacing, and clearly demonstrating visible, continuous illumination at all building entrances.	**3**	**3**	**3**	**3**
7.3	**Inclusive entrances**	Provide annotated photographs, plan(s) or diagram(s) demonstrating an inclusive, barrier free entrance that is located at the main entrance of the building with power door operation.	**4**	**4**	**4**	**4**
7.4	**Entryway systems**	[1] Provide clear photograph(s) and/or plan(s) detailing entryway system and demonstrating that the entryway system is located at each entrance, at least as wide as the entrance, and at least 5 feet deep (1.5 meters) in the direction of travel. [2] Provide an official statement (signed, dated, and on official letterhead) confirming that if mat systems are used, they are cleaned and maintained weekly. Entryway systems - floor mats, shoe cleaners, vestibules, etc to prevent outside contaminants from entering the building	**1**	**1**	**1**	**1**
7.5	**Publicly accessible use**	[1] Provide a clear photograph(s) and/or plan(s) showing a minimum of one public use space on the main floor. [2] Provide an official statement confirming that the identified areas are open to the public.	**3**	**3**	**3**	**3**
7.6	**Indoor wayfinding**	Provide annotated photographs demonstrating a permanent wayfinding display or building directory in a location accessible to all regular student occupants communicating major spaces within the building.	**2**	**2**	**2**	**2**
8	**STAIRWELLS & ELEVATORS**					
8.1	**Regularly accessible stairwell**	Provide a plan(s) and/or section(s) detailing the stairwell that is accessible to all common use and student-occupied floors.	**4**	**4**	**4**	**4**
8.2	**Stairwell visibility**	Provide a clear photograph(s) and/or plan(s) showing that the stairwell is equally or more visible than an elevator/escalator from building entrance. The stairwell used to comply with this strategy must also meet the criteria of 'Regularly accessible stairwell'.	**4**	**4**	**4**	**4**
8.3	**Stairwell design**	Provide a clear photograph(s), stair section(s), and/or elevation(s) showing compliance with a minimum of two of the active design strategies in stairwell design. Active design strategies in stairwell design include, but are not limited to, posting motivational signs, installing a music system or creative lighting, moderating stairwell temperature, adding rubber treading to stairs, painting walls a bright color, and hanging framed artwork. The stairwell used to comply with this strategy, must also meet the criteria of 5.1.	**3**	**0**	**0**	**0**
8.4	**Stair signage**	[1] Provide a clear photograph(s) of the permanent point-of-decision stair sign(s). The stairwell used to comply with this strategy must also meet the criteria of 5.1. [2] Provide a clear photograph(s) and/or plan(s) showing placement of stair sign(s) prompt at elevator call areas on each floor.	**2**	**0**	**2**	**2**
8.5	**Elevator accessibility**	Provide annotated photographs or video(s) demonstrating visual and audible indicators of elevator operation including tactile symbols and raised braille messages adjacent to elevator control buttons.	**3**	**0**	**3**	**3**

9	**INDOOR SYSTEMS AND POLICIES**					
9.1	**Smoke-free buildings**	Provide an official document(s) or policy (signed, dated, and on official letterhead) detailing that all buildings are smoke-free.	**3**	**3**	**3**	**3**
9.2	**Smoke free signage**	[1] Provide an example of signage publicizing a smoke-free and vape-free building. [2] Provide clear photograph(s) and site plan(s) showing signage at all building entrances.	**1**	**0**	**1**	**1**
9.3	**Green purchasing policy**	Provide an official copy of a valid green purchasing plan for the building indicating the building address or name detailing the green purchasing and implementation plan. Products must either fall under EPA's list of designated products or show the EPA's Safer Choice Label.	**4**	**4**	**4**	**4**
9.4	**Integrated pest management**	Provide an official copy of IPM plan or contract detailing procedures requiring non-chemical approaches to meet all the following: - improved sanitation (e.g., removing food from desks, cleaning) - inspection and monitoring of pest population sites managing waste (e.g., keeping refuse in tight containers, locating waste containers away from building if possible) - maintaining structures (e.g., fixing leaking pipes promptly, sealing cracks) - adding physical barriers to pest entry and movement (e.g., screens for chimneys, doors, and windows; air curtains) - modifying habitats (e.g., removing clutter, relocating outside light fixtures away from doors) - using traps (e.g., light traps, snap traps, and glue boards) - using pesticides judiciously	**3**	**3**	**3**	**3**
9.5	**Chemical storage**	Provide a clear photograph(s), floor plan(s) and/or diagram(s) showing: a) The location of areas such as garages, janitors' closets, laundry areas, science laboratories, art rooms, workshops, salons, high volume copy rooms where the output exceeds 40,000 pages or 20,000 pages double sided per month, and other areas where chemicals may be used or stored. b) Separate ventilation for all such areas described above. c) For cleaning products that are not stored separately, provide official documentation demonstrating that the products meet the Green Seal GS-37 standard and/or the California Code of Regulations.	**2**	**0**	**0**	**0**
9.6	**Asbestos**	Provide a jurisdiction-specific compliance document, proof of asbestos abatement (entirely removed or properly contained if present) by a certified professional, or the relevant legal policy regarding asbestos at time of building construction.	**4**	**4**	**4**	**4**
9.7	**HVAC+R**	Provide official documentation demonstrating HVAC+R systems exceed most recent ASHRAE or equivalent and are regularly monitored and maintained. A/C Provide official documentation demonstrating HVAC+R systems meet ASHRAE or equivalent standards at the date of build and are regularly monitored and maintained.	**2**	**2**	**1**	**1**
9.8	**Maintained temperature**	Provide annotated photos and/or specification documents demonstrating student-accessible thermostats or operable windows in all small student spaces (capacity of 30 or fewer)	**3**	**0**	**0**	**0**
9.9	**Seasonal lighting**	Provide an official copy of a valid lighting purchasing plan or policy for the building, including the address or name, detailing the lighting purchasing and implementation plan.	**2**	**0**	**0**	**0**

Version 2 - Campus Wide:

		Version 2 - Educational Campus Scorecard - Campus-Wide	Healthy Building Status		Point Total	125
			Superior Healthy Building Standard		A	110
			Advanced Healthy Building Standard		B	95
			Minimum Healthy Building Standard		C	80
	Purpose	The goal of this survey is to determine the impact of campus and building architecture and amenities on student health. This assessment is broken down into campus wide strategies and buiding specific strategies.				
	Definitions					
	Multi-purpose spaces	Any freely occupied space intended for student use including social, eating, study, fitness, and entertainment atmospheres but excludes learning spaces such as classrooms, labs, and lecture halls.				
	Student spaces	Any space intended for student use including social, dining, study, fitness, entertainment and learning spaces.				
	Pedestrian route	A foot path that provides amenities such as benches, and lighting throughout.				
			Total Points Possible	**UoA Campus**		
1	**PREREQUISITE**		**125**	**60**		
1.1	**Survey**	Provide an official report of the student commuter and building use survey with a summary of findings including calculations showing a response rate of at least 30%, the number of alternative commute trips, and number of conventional commute trips.	**1**	**0**		
2	**CAMPUS AMENITIES**					
2.1	**Pedway systems**	Provide clear, annotated photograph(s), plan(s), and/or diagram(s) demonstrating the pedway system connecting all major buildings.	**2**	**2**		
2.2	**Parking fees**	Provide documentation detailing the pricing scheme, clearly demonstrating that the fair market rate is being charged for all single-occupancy vehicle parking across campus.	**2**	**2**		
2.3	**Fitness facilities**	[1] Provide a floor plan(s) and/or clear photograph(s) showing a free exercise room(s) with: fitness equipment (cardio and strength training equipment) and access to locker rooms with showers. [2] Provide an official document (signed, dated, and on official letterhead) declaring that all students have access to the exercise room free of charge or included in mandatory student fees.	**5**	**5**		
2.4	**Campus gamification**	Provide official documentation detailing all gamification instances on campus with minimum 3 on campus. Gamification strategies: The application of game playing elements to everyday campus interactions	**2**	**0**		
2.5	**Campus experiences**	[1] Provide official documentation detailing all the immersive sensory experiences spaces (Theaters, shows, plays, concerts) for a minimum of 1 per 8000 students on campus. [2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	**5**	**0**		
2.6	**Farmer's market**	Provide a clear, annotated photograph(s) and/or official document(s) detailing the location and schedule (minimum weekly) of a qualifying farmer's market with at least 1 local produce vendor.	**4**	**4**		
3	**OUTDOOR SPACES**					
3.1	**Smoke-free policy**	Provide an official document(s) or policy detailing that all outdoor spaces (including parking areas) are tobacco-free. A/C 2pts [1] Provide an official document(s) or policy detailing that all smoking outside of designated smoking areas is banned [2] Provide an annotated plan(s), diagram(s), and/or clear photographs) demonstrating all designated smoking areas, at least 10 m away from major pedestrian routes, building entrances or fresh air intakes. A/C [1] Provide an official document(s) or policy detailing that smoking is banned in all spaces within 10m of doors and fresh air intakes. [2] Provide a annotated photograph(s) detailing that all tobacco free spaces are clearly marked.	**2**	**1**		
3.2	**Walking trail**	Provide clear, annotated photograph(s), plan(s), and/or diagram(s) demonstrating that the walking trail is accessible, paved, at least 3m or 10 feet wide (or a divided combination equivalent to), and without obstructions for 1/4 mile or 400 meters while providing amenities and context appropriate lighting. This strategy is only applicable to campuses that accomplish the snow removal strategy. A/C Select "Alternative Compliance" if the walking trail is partially indoors and therefore obstructed by doors.	**3**	**3**		
3.3	**Campus wayfinding**	Provide an annotated exterior wayfinding plan(s), diagram(s), and/or clear photograph(s) detailing sign design, location, spacing and clearly demonstrating permanent visible signage to all major buildings or campus landmarks.	**2**	**0**		

3.4	**Outdoor lighting**	Provide an annotated exterior lighting plan(s), diagram(s), and/or clear, nighttime photograph(s) detailing light placements and spacing and clearly demonstrating visible, continuous illumination along all pedestrian routes paths and parking areas.	**4**	**4**		
3.5	**Outdoor fitness equipment**	Provide clear photograph(s) and/or site plan(s) showing qualifying outdoor fitness equipment. N/A Campuses located where there is more than 5 months of average freezing temperatures.	**1**	**0**		
3.6	**Restorative garden**	Provide a clear, annotated photograph(s) and/or site plan(s) showing the qualifying restorative garden on campus. Restorative garden amenity : An area that provides a serene, immersive and sensory nature experience	**3**	**0**		
3.7	**Campus beautification**	Provide official documentation detailing all permanent visual art installations (Sculpture, murals) or seasonal decorations (lighting, floral gardens) with a minimum campus requirement of 8 within outdoor public space.	**2**	**0**		
4	**COMMUNITY**					
4.1	**Herd immunity**	Provide an official document demonstrating vaccination and immunization services on campus.	**5**	**5**		
4.2	**Health services**	Provide a list of general health professionals (at least 1 full-time per 4000 students) employed for the purpose of general health services at a clinic on campus.	**5**	**5**		
4.3	**Mental health services**	Provide a list of mental health professionals (at least 1 full-time per 4000 students) employed for the purpose of mental health services at a clinic on campus.	**5**	**5**		
4.4	**Semester break**	Provide an official academic calendar demonstrating at a full week without classes for all students each semester.	**5**	**5**		
4.5	**Athletic pursuits**	[1] Provide official documentation detailing all the intramural and drop-in activities, including times and seasons, participation, and amenities available to athletes. [2] Provide an official document declaring that all students have access to these activities free of charge or included in mandatory student fees.	**5**	**0**		
4.6	**Volunteerism**	Provide official documentation detailing all school credit and bursaries available to student volunteers and simple application process (Maximum application process being: contact information, cover letter, and CV).	**3**	**3**		
4.7	**Social engagement**	Provide official documentation detailing all student clubs and organisations, and campus events, with minimum 1 weekly open participation event.	**3**	**3**		
4.8	**Winter activities**	Provide official documentation detailing winter-themed campus activities with minimum 1 monthly open participation event.	**2**	**0**		
4.9	**Student club spaces**	Provide an official document demonstrating how a secure storage and office space can be borrowed and/or scheduled by student clubs free of charge.	**2**	**2**		
5	**FOOD SERVICES**					
5.1	**Healthy food service**	[OR] Provide a copy of all food service leasing agreements on campus, detailing how food service providers: - Provide healthy food choices for all regular occupants that are at least as rigorous as the Food Service Guidelines for Federal Facilities. Enable sustainable practices for the building. [OR] Provide official documentation describing how all on-site restaurants or cafés provide healthy food choices for all regular occupants that are at least as rigorous as the U.S. Food Service Guidelines for Federal Facilities.	**5**	**0**		
5.2	**Nutritional information**	[1] Provide a copy of all food service leasing agreements on campus, detailing how food service providers provide nutritional information to customers.	**4**	**0**		
5.3	**Portion sizes**	Provide a copy of all food service leasing agreements on campus, detailing how at least half of food items on menus are offered at smaller portion sizes for fair prices.	**4**	**0**		
6	**SAFETY AND EMERGENCY SERVICES**					
6.1	**Lockdown notifications**	[1] Provide an official document(s) detailing the address notification system within the building and for what emergencies on campus it is triggered. [2] Provide official documentation indicating the notifications are tested quarterly.	**2**	**2**		
6.2	**Emergency call stations**	Provide annotated plan(s), diagram(s), photograph(s), detailing the location of emergency call stations within the building.	**2**	**2**		
6.3	**Monitorings**	[1] Provide official document(s) or policy detailing schedule of patrols [2] provide annotated plan(s) diagram(s) demonstrating video surveillance locations.	**2**	**0**		
6.4	**Safe walk**	Provide a campus wide safe-walk program available to all students from dusk until dawn	**3**	**3**		
6.5	**Safety awareness**	Provide strategies for student awareness of safety and emergency services	**1**	**1**		
6.6	**Snow removal**	Provide snow and ice removal on all campus walkways and streets	**3**	**3**		

7	**BUILDING EVALUATIONS**					
7.1	**UWell Building Score "C"**	At least 51% of campus buildings have achieved a UWell Building Score of "C"	**6**	**0**		
7.2	**UWell Building Score "B"**	At least 51% of campus buildings have achieved a UWell Building Score of "B"	**8**	**0**		
7.3	**UWell Building Score "A"**	At least 51% of campus buildings have achieved a UWell Building Score of "A"	**12**	**0**		