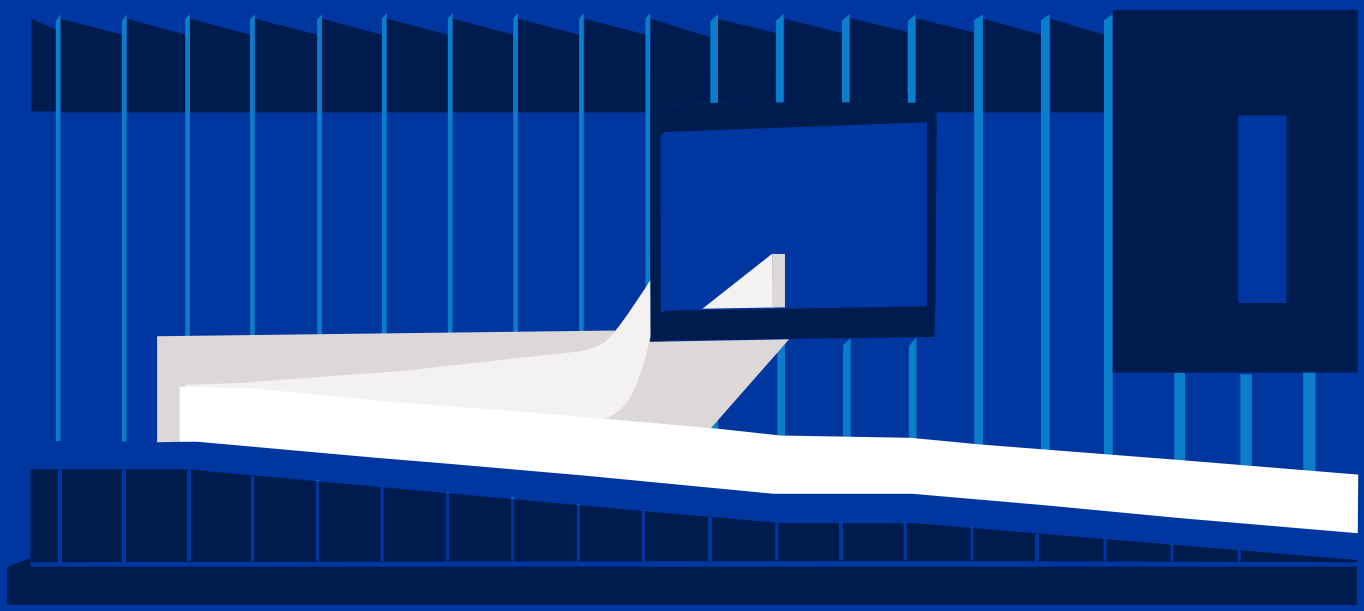
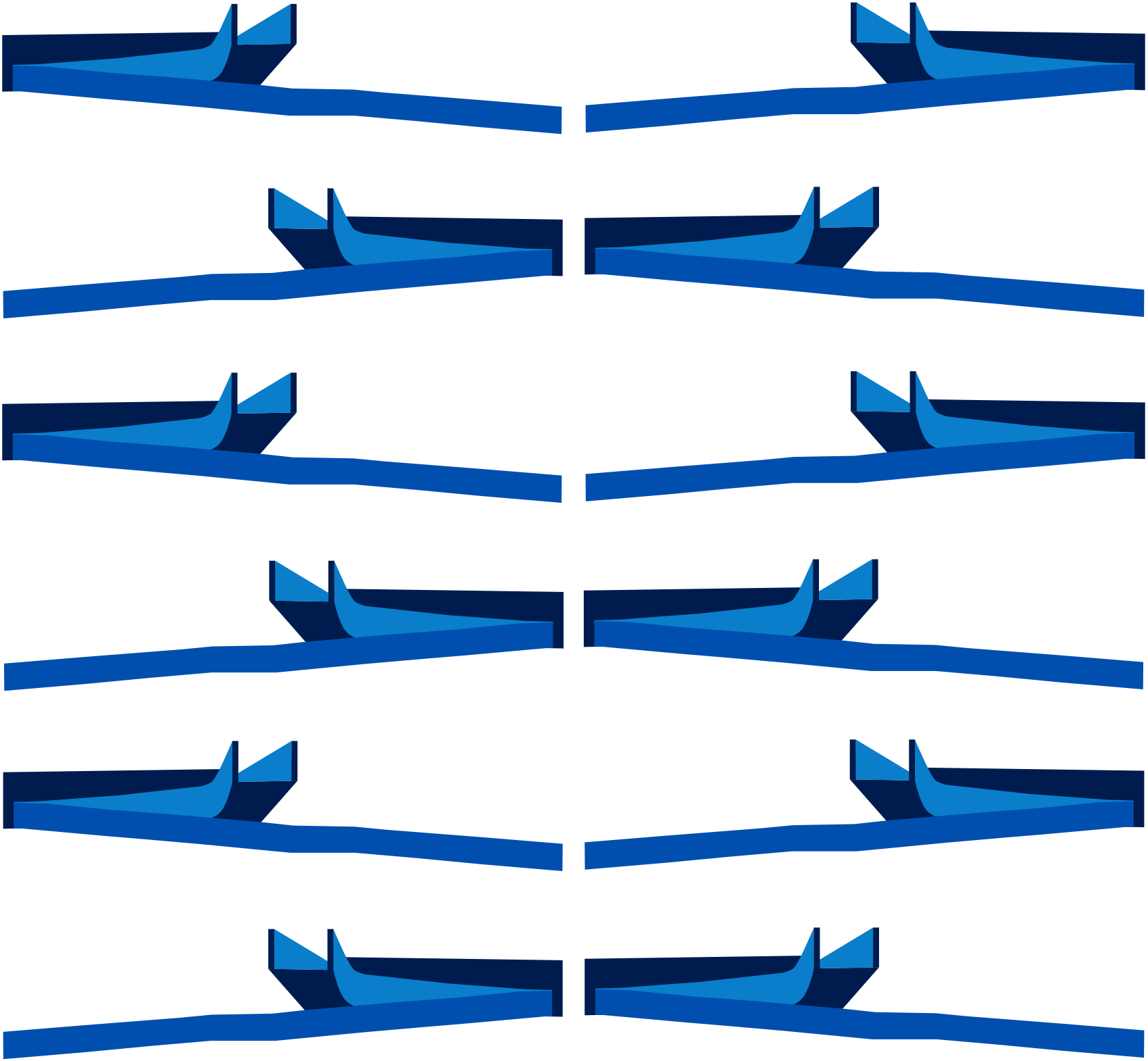
ALL

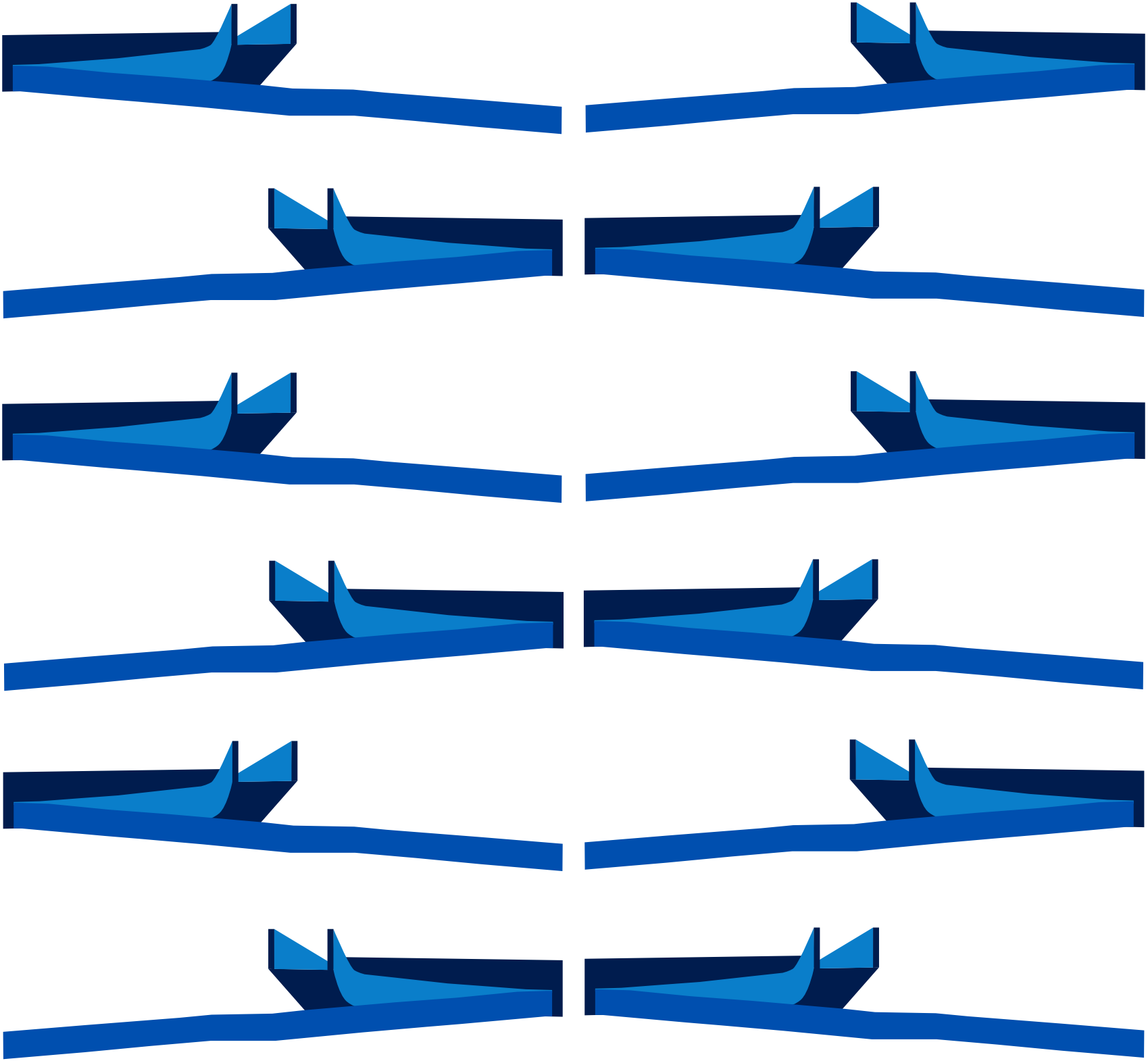
The Making of The Tom and Ruth Harkin Center

Drake University
Foreword by Judy Heumann



THE HARKIN INSTITUTE BNIM MILLERKNOLL





Book Title
ALL — The Making of The Tom and Ruth Harkin Center at Drake University

Authors
Kevin Nordmeyer
Jason Kruse
Daniel Van Sant
Senator Tom Harkin
Foreword by Judy Heumann

Book Design
BNIM

Designer	Emily Herndon
Project Manager	Natalie Gaydar
Project Direction	Beena Ramaswami
Proof-Readers	Kate Kovarik, James Baker Jamie Kluesner

Drawings and Diagrams
Jason Kruse
Aaron Hauptmann
Sam Nordmeyer

Photography
Kelly Callewaert
Nick Merrick

Printing
Printed by NextPage, Kansas City, MO, USA on Mohawk Options Text and Options Cover Digital FSC 100% Recycled. Mohawk Options is certified by Preferred by Nature for FSC® standards. NC-COC-000668. Mohawk purchases Renewable Energy Certificates (RECs) to match 100% of the electricity used in its operations. Mohawk Options recycled papers contain at least 30% post-consumer waste fiber and meetthe EPA guidelines for recycled content papers. All virgin fiber content in Mohawk papers is elemental chlorine free (ECF) and all recycled fiber content in Mohawk papers is process chlorine free (PCF).

Credits
Many thanks to all those that have made this project possible, including those noted below as well as donors, patrons and friends of The Harkin Institute.

Drake University
President Marty Martin
Michelle Huggins, AIA - Planning and Design Manager
Rob Ebel, FP&M Project Manager
Building Committee

Michael Gartner	The Harkin Institute Board
Ruth Harkin	The Harkin Institute Board
Jim Hubbell	The Harkin Institute Board
Marsha Ternus	The Harkin Institute Board
Joseph Jones	The Harkin Institute, Executive Director
Venessa Macro	Drake University, Chief Administration Officer

Harkin Institute
Senator Tom Harkin (Retired)
Joseph Jones, Executive Director
Daniel Van Sant, Director of Disability Policy
Amy Bentley, Former Policy Director
Emily Schettler, Former Communications Manager

People with Disabilities Core Advisory Committee
Candace Cable, Caroline Casey, Michael Gamel-McCormick, Claudia Gordon, Bob Kafka, Leah Katz-Hernandez, David Mitchell, Charlotte McClain-Nhlapo, Bobby Silverstein, Susan Sygall, Sean Fitzsimons, Terry Wilding, Alex Watters, Andy Imparato

Project Team
Architect—BNIM Architects: Kevin Nordmeyer, Jason Kruse, Lana Zoet, Jonathan Ramsey, Carey Nagle, Rod Kruse, Tina Wehrman, Beena Ramaswami
MEP Engineering—Modus Engineering: Nicholas Terhall, Alex Tietz, Jordan Vetter
Structural Engineering—Raker Rhodes Engineering, LL: Mike MicIntire
Civil Engineering—Synder & Associates: Andrew Rech, Eric Cannon
Landscape Design—Genus: Dylan Jones, Brett Douglas
Furniture—Pigott, MillerKnoll: Megan Hollan, Jami Christophersen, Jason Rosenblatt
Contractor—The Weitz Company: Matt Tursi, Chad Sanson, Kristin Peterson
Lighting—Trivalent Lighting: Chris Wojtal
Acoustics—C&C Acoustical Consultants: Dominique Cheenne
Commissioning Agent—System Works: Andrew Bennett, Karl Kaufman

MIX
Paper from responsible sources
FSC

View the book online.

ALL

The Making of The Tom and Ruth Harkin Center

Drake University
Foreword by Judy Heumann

THE HARKIN INSTITUTE BNIM MILLERKNOLL

Book Design

Accessible design goes beyond the built environment and should be a universal standard for digital and print design. Graphic design is a form of visual communication that has the opportunity to be inclusive, equitable, and mindful of the diverse needs, experiences, and backgrounds of individuals.

When the design process began, the designer researched accessible graphic strategies to ensure the book would be legible for all people with varying needs. Members of the disability committee have reviewed elements such as text size, color, and literacy to ensure they are accessible. We hope that this book reflects an inclusive experience and captures the empathetic spirit of the Tom and Ruth Harkin Center.

Font

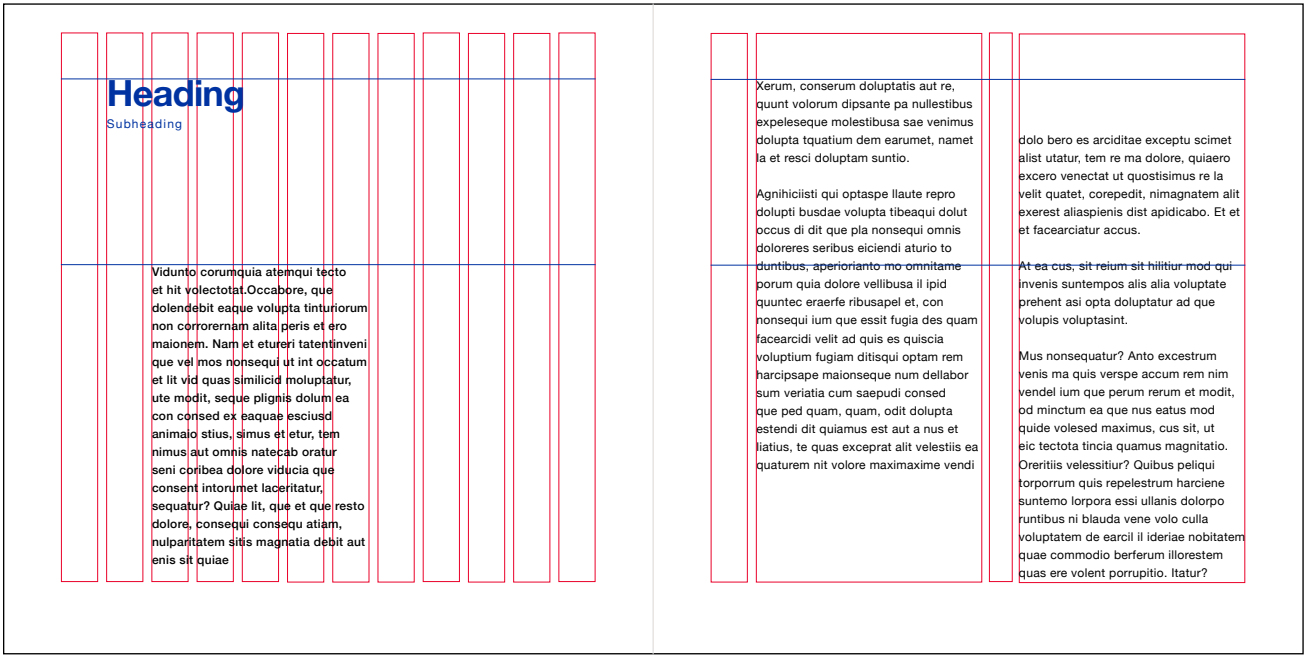
The designer chose to use Helvetica Neue, a sans-serif typeface that is legible for individuals with reading disorders. Other graphic strategies to enhance text readability include:

- Using 12pt font as the minimum
- Avoiding italics and lightweight fonts and using regular, medium, or bold
- Increasing kerning
- Avoiding the use of all uppercase / all lowercase
- Black text on white background

Color

Colors were selected to organize and enhance the story on each page. To ensure that color-blind or low-vision individuals could differentiate certain page elements, the designer:

- Created numerous color studies with the help of online tools and apps
- Avoided combining colors that created visual vibrations
- Created a high contrast color palette



Layout

Using one typeface to communicate information in an inclusive and understandable way came with various design challenges. The solution was to create a set of ‘rules’ that improve ease of reading and is also visually interesting. This set of rules includes:

- Leading / line spacing of 1.5
- Using narrow column widths and left aligning text
- Maintaining at least half an inch of space between each block of text
- Avoiding hyphenation of words, especially at the end of lines
- No long text on images or patterns
- Intentionally designing / utilizing white space
- Staggering text elements – both horizontlally and vertically
- Creating contrasts in font size
- Breaking up pages of text with images / drawings / diagrams

About the Authors

Judith E. Heumann, Disability Rights Advocate
Judith (Judy) Heumann is a lifelong advocate for the rights of disabled people. She has been instrumental in the development and implementation of legislation, such as Section 504, the Individuals with Disabilities Education Act, the Americans with Disabilities Act, the Rehabilitation Act, and the UN Convention on the Rights of Persons with Disabilities. Judy serves on a number of non-profit boards, and has over 20 years of experience working with various disability organizations, including being a founding member of the Berkeley Center for Independent Living. She also served in the Clinton and Obama administrations.

Senator Tom Harkin, Retired
Senator Tom Harkin represented Iowa in the United States Congress for more than four decades. He served Iowa's 5th Congressional District in the U.S. House of Representatives from 1975 to 1985 and was a U.S. Senator from 1985 to 2015. As a young senator, Tom was tapped by Senator Ted Kennedy to craft legislation to protect the civil rights of millions of Americans with physical and mental disabilities. He knew firsthand about the challenges facing people with disabilities from his late brother, Frank, who was deaf from an early age. What emerged from that process would later become his signature legislative achievement — The Americans with Disabilities Act (ADA).

Daniel Van Sant, Director of Disability Policy
Daniel Van Sant is a disability rights attorney who has practiced most extensively in the areas of inclusive education, gender-based violence, and inclusive international development. He draws on his personal and professional experience with disability in leading the disability policy work at The Harkin Institute for Public Policy & Citizen Engagement at Drake University.

About BNIM

BNIM is an innovative leader in designing high performance, human-purposed environments. BNIM's instrumental role in the development of the USGBC, LEED, and Living Building concept, combined with projects, methods, and research, has helped shape the sustainable movement. Through this involvement, the firm continues to redefine design excellence to elevate the human experience for all people in beautiful, equitable, inclusive, and healthy environments. BNIM's multifaceted approach to design excellence has yielded national acclaim, including the AIA National Architecture Firm Award, and design recognition regionally, nationally and internationally.

Kevin Nordmeyer, AIA - Principal at BNIM
Kevin Nordmeyer is a pioneer in sustainable and inclusive design in Iowa, leading the creation of Iowa's first sustainable buildings. As Principal in Charge of The Tom and Ruth Harkin Center at Drake University, the home of The Harkin Institute, he along with the BNIM team focused his design and research attention on expanding the definition of sustainable design to embrace inclusion, equity, and wellness. Kevin's body of work has received more than 60 state, regional, and national AIA design awards. In 2017, Kevin received the AIA Iowa Medal of Honor, the highest recognition bestowed upon an individual from the AIA Iowa chapter, for his continued contributions to the profession and leadership in sustainable, inclusive and gracious design.

Jason Kruse, AIA - Associate at BNIM
Jason is a project architect who is committed to the connection between people and place. He understands that listening and being mindful of the project needs will help establish the goals that should guide the design process through construction. He believes it takes an interdisciplinary team to create innovative and human-centered design solutions to meet those goals. His empathetic and integrated design approach was deeply embedded in the design of The Harkin Institute at Drake University.

Foreword

Judy Heumann, Disability Rights Advocate

My life has been spent working on the front lines of the disability rights movement. When I was young, I was denied from attending my local public school in New York City because the lack of elevators made me, according to the principal, a fire hazard. That started a burning passion in me that continues to this day for an equitable, built environment for everyone.


SIGN
504
ACCD

Since the 1970s, a coalition of disability rights advocates have been actively fighting for their place at the table. No matter the outcome, we kept fighting for what was right. The culmination of these efforts resulted in the passage of the Americans with Disabilities Act of 1990 (ADA). Senator Tom Harkin, a tireless fighter for the disability community, was the ADA's lead sponsor in the U.S. Senate.

Even in his retirement, Senator Harkin has shown through The Harkin Institute for Public Policy & Citizen Engagement, and its new Tom and Ruth Harkin Center that heart can be placed into policy, and in design. BNIM Architects did a phenomenal job in designing a building where everyone can feel they belong. The Tom and Ruth Harkin Center is a model of inclusive building and design that we, in the disability community, have been waiting for so long to see.

I applaud Senator Harkin, The Harkin Institute and BNIM for going above the minimum requirements outlined in the ADA and other legislation for accessible construction. Their attention to detail and engagement with members of the disability community though the entire process shines through in the completed project. Architecture has worked to symbolize so much in human history, but few pieces of architecture have been so quintessentially human as The Tom and Ruth Harkin Center. The building truly is accessible to and inclusive of all people. It creates a feeling of equity and belonging rarely seen in buildings. This is a testament to Senator Harkin's lifelong commitment to disability rights from his partnership in the passage of the ADA to the Institute's efforts to bring more people with disabilities into employment.

Iowa LEND trainees, faculty and staff with BNIM Principal, Kevin Nordmeyer, and The Harkin Institute Director, Joseph Jones

The fight for accessibility and universal design does not stop here, though. We need allies in this fight for inclusion, not just in words but in action as well. Thinking beyond compliance is designing new structures that allow not just people with disabilities to be a part of an inclusive experience; it allows everyone to be a part of the experience. We still have a long way to go in having an environment that is fully inclusive, but this building shows that it can be done – and should be done.

6 North façade

Ramp looking southeast

Introduction

Kevin Nordmeyer, AIA, LEED AP

The Tom and Ruth Harkin Center at Drake University was designed with a human-purposed design methodology to create a building that not only elevates standards for inclusive design but initiates the consideration of a new definition of sustainable design. The building not only considers the impacts of building on stormwater and landscape; energy and water; and healthy, resource-conscious interiors; but expands the definition of a high-performing building to include equity and inclusivity.

The strategies for inclusive design developed for this project provide a model for architects and designers to create buildings and landscapes that are guided by a spirit of empathy for people and the planet—places that are gracious, considerate, and thoughtful for people of all abilities to work, learn and belong.

In the design of the building, we worked closely with The Harkin Institute and their Core Disability Advisory Committee to understand needs that were not being met in the built environment. We posed a key question which guided the direction of the design process —

"What barriers still exist today?"

The answers that emerged from these discussions, design meetings, and research provided deeper insight into how design must continue to elevate the discussion beyond the ADA as a baseline to address ongoing barriers. Emerging from this work is this publication which we hope can begin to create a unified approach to inclusive design within the larger definition of high-performing sustainable design – what BNIM refers to as "*Human-Purposed Integrated Design.*" This approach expands on high sustainable performance by incorporating intentional design solutions that account for diverse human conditions and experiences. Human-Purposed Integrated Design recognizes the broad spectrum of human and environmental need rooted in empathy and grace.

I have Multiple Sclerosis (MS), and this progressive disease has enabled me to uniquely consider the approach to design as an architect for the 10 years prior to my diagnosis compared to how I lead teams today after 20 years of changing physical abilities.

From a limp at times, to a cane, to the reliance on a motorized wheelchair, I have encountered mobility and accessibility challenges almost every day within my physical environment.

These experiences, in addition to learning from Senator Harkin and The Harkin Institute, have allowed me to consider the creation of space as a gracious act for all abilities. The Tom and Ruth Harkin Center has used guiding principles developed from existing research and engagement with The Harkin Institute that are woven into the architecture without feeling like accommodations are after-thoughts or contrived obligations. This approach and building demonstrate the power of the spirit of place for all to thrive.

East Entry

Ramp looking northeast

North façade

Vision

Senator Tom Harkin

When Ruth and I established The Harkin Institute for Public Policy & Citizen Engagement at Drake University back in 2013, our stated mission was to catalyze change on issues of social justice, fairness, and opportunity. Since then, the scale of the Institute's operation has grown significantly. In less than a decade, The Harkin Institute has built up a strong network of policy experts, fellows, and researchers dedicated to providing high quality, nonpartisan public policy research and outreach for the common good. As a result of our growth, we needed to expand into a new building that met our current and projected future needs. In designing the building, I wanted it to symbolize the impacts of the 1990 Americans with Disabilities Act (ADA), for which I was the lead sponsor in the United States Senate.

The ADA brought about a radical transformation by which disability was approached in the United States. It has helped to improve the lives of millions of Americans and began a global conversation on disability rights. Despite the progress that we as a nation have made since the passage of the ADA, we still have a long way to go in breaking down barriers and changing attitudes on disability. Even in my retirement from public office, I am keenly aware of the need for progress in this area, and therefore wanted The Harkin Institute's new building to be at the forefront of this progress. I have often said that the ADA is built upon the four pillars of equality of opportunity, full participation, independent living, and economic self-sufficiency, and I envisioned the new building to incorporate these four pillars.

During the design phase, I issued a challenge to our advisory team and architects to design a building that went beyond legal compliance and instead brought about innovation in what it means to be an accessible, inclusive workplace. Thanks to our brilliant lead architect Kevin Nordmeyer and associates of BNIM Architects, as well as the input from the members of our building advisory team, who represented a wide array of disability interest groups, The Harkin Institute's new building design symbolizes how universal design can guide the future of the workplace.

There are so many features that I am proud of in this building.

The central feature of The Harkin Center is the ramp wrapping around the lobby, serving as the primary means of going between the first and second floors. It serves as a symbol of equality that: regardless of who you are, you should have the same opportunities to achieve your goals without barrier. That is what the ADA catalyzed and what we continue to reach for each day.

Since retiring from the United States Senate, I have worked with the Institute and other organizations to bridge the gap between people with disabilities and meaningful employment opportunities. Part of that goal is to design workplaces that meet the accessibility needs of the people who work there. I believe The Harkin Center can serve as a model for employers of how to incorporate design features that benefit not only people with disabilities but the entire workforce. This will lead to a more integrated, equal, and productive working environment that ultimately benefits everyone.

The countless stories that I heard in my career of people with disabilities who faced challenges navigating their daily lives are etched into the walls of this new building through its design features. My hope is that when future generations of architects, designers, and engineers walk through this building for inspiration, they not only see ramps and lights; they see those people and their stories.

North façade

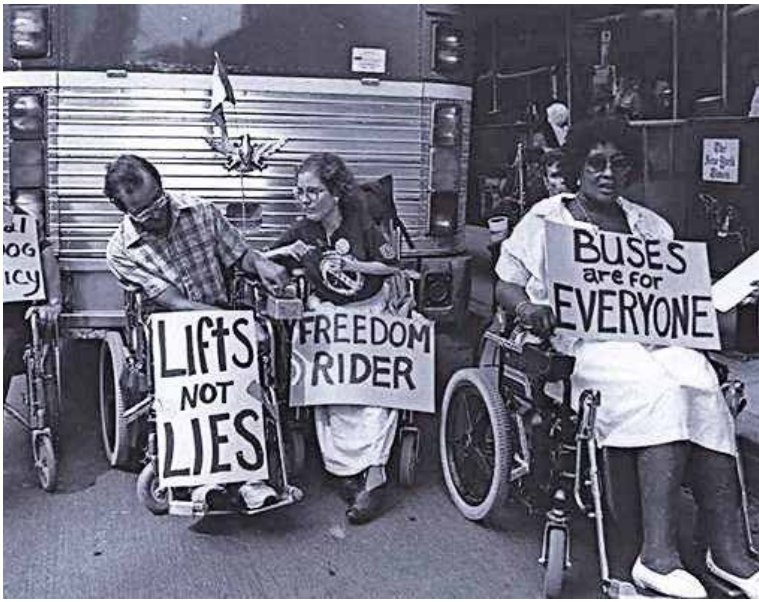
The Tom and Ruth Harkin Center's Mission: History of ADA

The 1990 Americans with Disabilities Act (ADA) is a landmark piece of legislation essential in recognizing civil rights for people with disabilities. Signed into law by President George H.W. Bush on July 26, 1990, the ADA brought together a politically diverse alliance of supporters who sought to end the wide-scale discrimination of people with disabilities and create an accessible future for all.

Former President George H.W. Bush signing the Americans with Disabilities Act (ADA) into law on July 26, 1990

Senator Tom Harkin (D-Iowa), the primary sponsor of the ADA in the U.S. Senate, envisioned a world in which people with disabilities were fully integrated into society by ensuring that they had the accommodations needed to live their daily lives, and were legally protected from discrimination based on disability. Senator Harkin's inspiration for the ADA came from his brother, Frank, who was Deaf and encountered constant discrimination in his life due to his disability. Seeing the impact that an inaccessible society had on his brother, Senator Harkin recognized that many people with disabilities were restricted when it came to basic human liberties such as choosing where to live and where to receive an education.

The ADA was preceded by decades-long advocacy efforts by the disability community. The 1970s and 1980s saw a surge of activism within the disability community that demanded the extension of civil liberties, accommodations, and discrimination protections to people with disabilities. Decades before the ADA was passed, the disability community politically mobilized around Section 504 of the 1973 Rehabilitation Act. Protests, marches, sit-ins, and other activism eventually secured its passage. Section 504 provided protections to people with disabilities by restricting federal funds from institutions that discriminated based on disability. This victory would later serve as the foundation for drafting the ADA.



top left - Senator Tom Harkin stands with his brother Frank (credit: Cowles Library); *top right* - People with disabilities protesting for equal rights (photographer: Tom Olin); *bottom* - Senator Tom Harkin along with former Senators Ted Kennedy, John McCain, and Orrin G. Hatch (credit: Harkin Institute)

"I am grateful for every architect that includes disabled people in their design process, and every one of them should because if we don't design for the most marginalized people from the get go, then we are leaving someone behind. The team that created The Harkin Institute from the ground up left no person with a disability out of the process, and that gives hope for future architects to follow their lead to create spaces that welcome everyone fully."

CANDACE CABLE, NINE-TIME PARALYMPIAN
LEADER IN THE ADAPTED SPORTS MOVEMENT

The first draft of the ADA was introduced in 1988 with active participation and consultation with the disability community. While the ADA was being drafted, disability rights advocates testified and worked with

members of Congress to ensure the legislation adequately addressed the inaccessible areas of our society. The legislation's structure is separated into different titles, which encompass major spheres of public life for people with disabilities. The five titles of the ADA are: employment, public services, public accommodations, telecommunications, and a "miscellaneous" protections title.

The Americans with Disabilities Act of 1990 addressed many of the issues that make our society inaccessible for people with disabilities. However, after 18 years, amendments were needed to fill in gaps and clarify questions left by the original act. In 2008, amendments to the ADA were passed that extended additional protections in the ADA to ensure that protections awarded by the bill were as inclusive as possible.

The history of civil rights protests and political mobilization that brought the ADA to fruition is not forgotten today. The disability community is still active in pushing for enforcement of the ADA and other disability rights legislation. While the passage of the ADA was a watershed moment for disability rights and civil rights, we are still in the process of becoming the inclusive and accessible society the ADA envisioned. Advances in technology, changes to the social and political landscape, and shifting attitudes all provide opportunities and challenges for fully realizing an accessible future under the ADA.

Memorializing this history, preserving this legacy, and building this future is the goal of the disability policy work at The Harkin Institute at Drake University in Des Moines, Iowa.

Future of Disability Policy

Daniel Van Sant

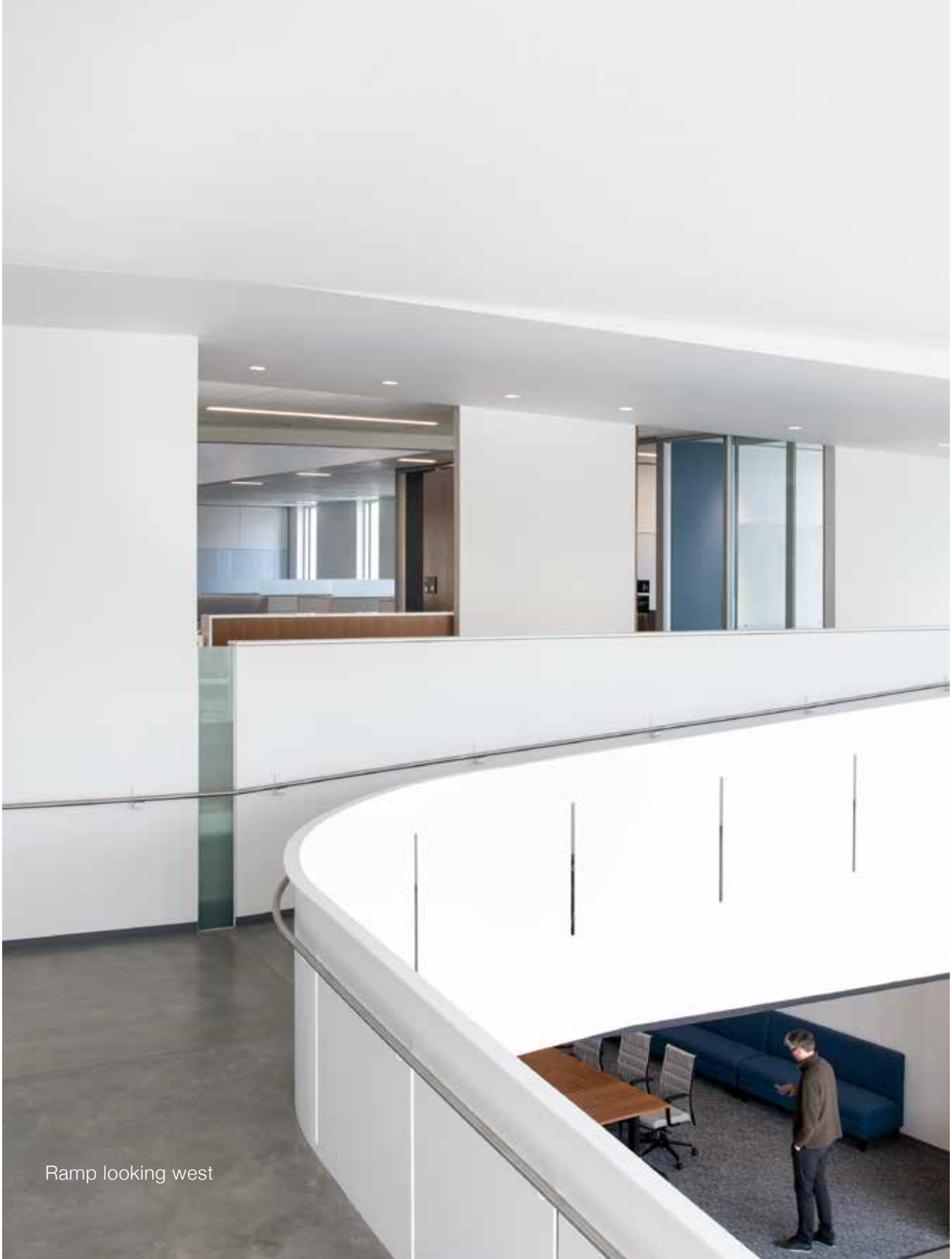
With the oldest members of 'The ADA Generation' now entering their early 30s, young people with disabilities in the United States have only known a world where the ADA exists. The future of people with disabilities lies with this group, and they have big plans. They attended mainstream public schools, know their rights, and have found power in connecting with other disabled youth over social media. In short, this generation is entering the workforce and expects to be accommodated. While the ADA has created this new reality, we are also seeing spaces where the law may need to catch up with modern life.

Senator Tom Harkin talking with a young child (credit: The Harkin Institute)

After years of litigation, we are just beginning to see regulations around how online spaces need to accommodate people with disabilities. Technology and the state of modern design have completely changed our workspaces. Where technology offers the ability to work and learn remotely, it also creates new avenues for segregation. The future of disability policy requires us to continue to use advances to create a more inclusive and accessible society for people of all abilities. New online shopping experiences and social media accounts are missing the mark if they are not accessible. Workplaces that hire people with disabilities to work from home when their offices are inaccessible are taking one step forward and two steps back.

Our future requires universal design. Universal design in curriculum, universal design in built environments, universal design online. Universal. Design. We are finding that many so-called “accommodations” for people with disabilities also benefit people without disabilities. There is the now cliché example of curb cuts being used by people with wheelchairs as well as people with skateboards. Automatic doors at your grocery store help you whether your limited hand movement is due to disability or from carrying several bags of groceries at once. A sensory room in a workplace is a relaxing space for employees experiencing mental health symptoms as well as for employees who are nursing and need to pump. People with and without disabilities enjoy audio books, digital assistants, and GPS on our cellphones.

Ramp looking east towards Conference Room



Ramp looking west

The future of disability is to eventually just become “the future.” The social model of disability tells us that it is inaccessibility that disables people. If every building had a ramp like The Tom and Ruth Harkin Center, the ability to go up and down stairs would be irrelevant. Disability would still exist, but many of the environmental barriers to inclusion would not. The future of disability also requires us to dismantle attitudinal inaccessibility. While we continue to construct spaces that are accessible, we must simultaneously deconstruct stereotypes that are holding people with disabilities back. Even the most universally designed workplace cannot overcome a manager who is not willing to hire employees with disabilities.

Fortunately, there is a “chicken or the egg” solution that may address both forms of inaccessibility. As built environments become more accessible, people with disabilities become more visible to people without disabilities, and these attitudes and stereotypes break down. Students without disabilities who are educated alongside their disabled peers expect to work with disabled coworkers in the future. As the ADA generation enters the workforce and higher education, our campuses, workplaces, public spaces, and virtual places will be forced to finally come into compliance with the ADA and other disability laws. Many will take the correct approach and aim beyond simple compliance, opting instead for true universal design.

"The Harkin Institute building on the Drake Campus is a physical embodiment of the values that Senator Harkin brought to his leadership in Congressional efforts to improve accessibility and inclusion of people with disabilities. The various universal design features of the building, informed by a diverse group of stakeholders with disabilities, make the Institute a place to experience the inherent beauty of inclusive design. I was grateful to participate on the advisory group for the building and I am excited for the influence this structure will have on generations of students, faculty and visitors to the Drake Campus for years to come."

ANDY IMPARATO, EXECUTIVE DIRECTOR
DISABILITY RIGHTS CALIFORNIA AND FORMER HARKIN STAFFER

Claudia L. Gordon, the first deaf Black female attorney in the U.S., leading a discussion about the goals for the building

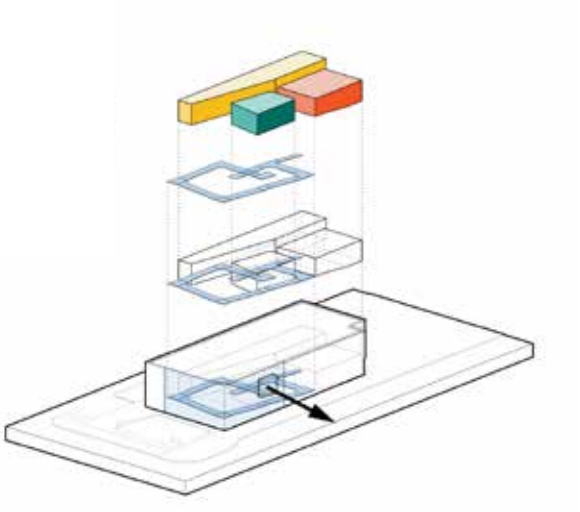
Ramp weaving through the spaces

Project Background

Creating a Home

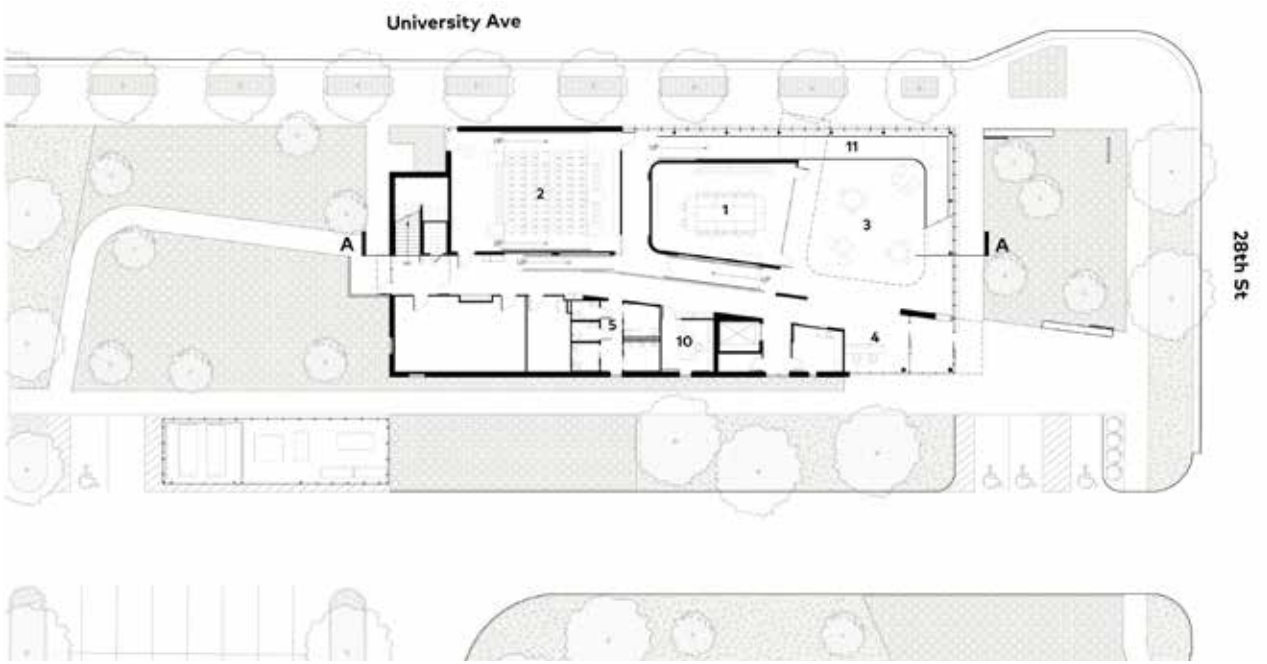
The programmatic intentions of the 17,000 square feet project included creating a gracious and inclusive environment embodying the values of The Institute. This setting would allow staff to work and collaborate effectively through a spectrum of spaces from highly public and social to private and focused. The building is a two-story facility with the first floor organized with a gallery, board room, and auditorium to function as an engaging social setting for public workshops, presentations, and other social events. The upper floor provides for various staff work settings in a healthy, daylighted, inclusive environment.

Ramp looking south



Service Care
Board Room
Auditorium

The main organizing element of the design is the ramped circulation that functions not only as the physical connective sinew for the building, but as the freeing device for those with disabilities and the elegant symbol of equity for the public.

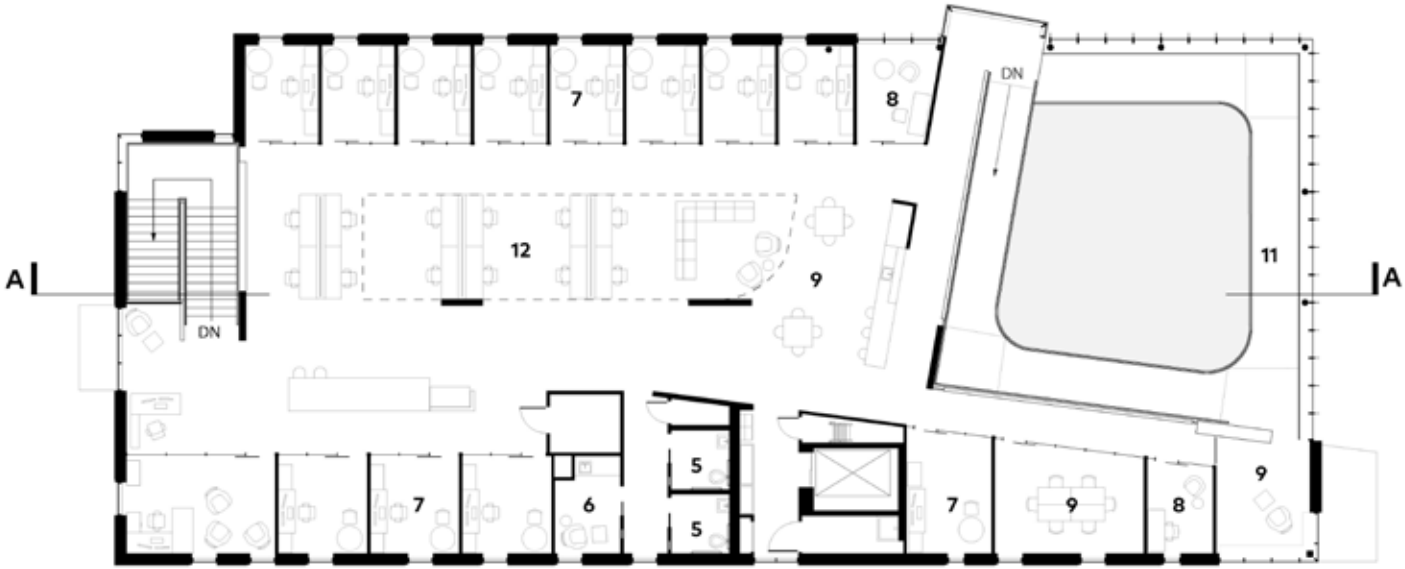


First Floor Plan

0' 20'

1 Board Room
2 Auditorium
3 Gallery
4 Reception
5 Private Restroom
6 Wellness Room
7 Private Offices
8 Focus Room
9 Collaboration
10 Research
11 Ramp
12 Open Office

With the main floor as a zone of public engagement, the second floor offers a wide spectrum of spaces for meetings and individual focus. The Harkin Institute staff, research fellows, and interns have resident offices on the second level. These offices are accompanied by focus rooms, collaboration and meeting spaces, and flexible, formal and informal



Second Floor Plan

0’ 10’

conference rooms that are dedicated to staff and students’ use. Workspaces are designed to be “long life and loose fit,” allowing for reconfiguration over time. All private offices are designed with demountable glass and solid partitions to allow for views, daylight access, privacy, and future mobility. Conference spaces are set up in formations that allow hearing impaired individuals to follow conversation by enhancing sightlines to the faces of participants and content displays. The facility is also equipped with dedicated Wellness rooms that support individual empowerment through quiet spaces for stress recovery, migraine relief, meditation, or remote doctor consultation.

Top Row - Left to Right

Automatic door openers – reduce the maneuverability around door hardware.

Entry / recessed doors – provide sliding doors wherever possible or recess the door to keep out of the path of travel.

Office transparency – allows for deaf space principles.

Signage – information given in multiple means.

Middle Row - Left to Right

Work table – provide drawers were possible, provide enclosure around printers / appliances, knee clearance.

Adjustable height desks.

Auditorium – isolated lighting control for ASL interpreter, height adjustable lectern.

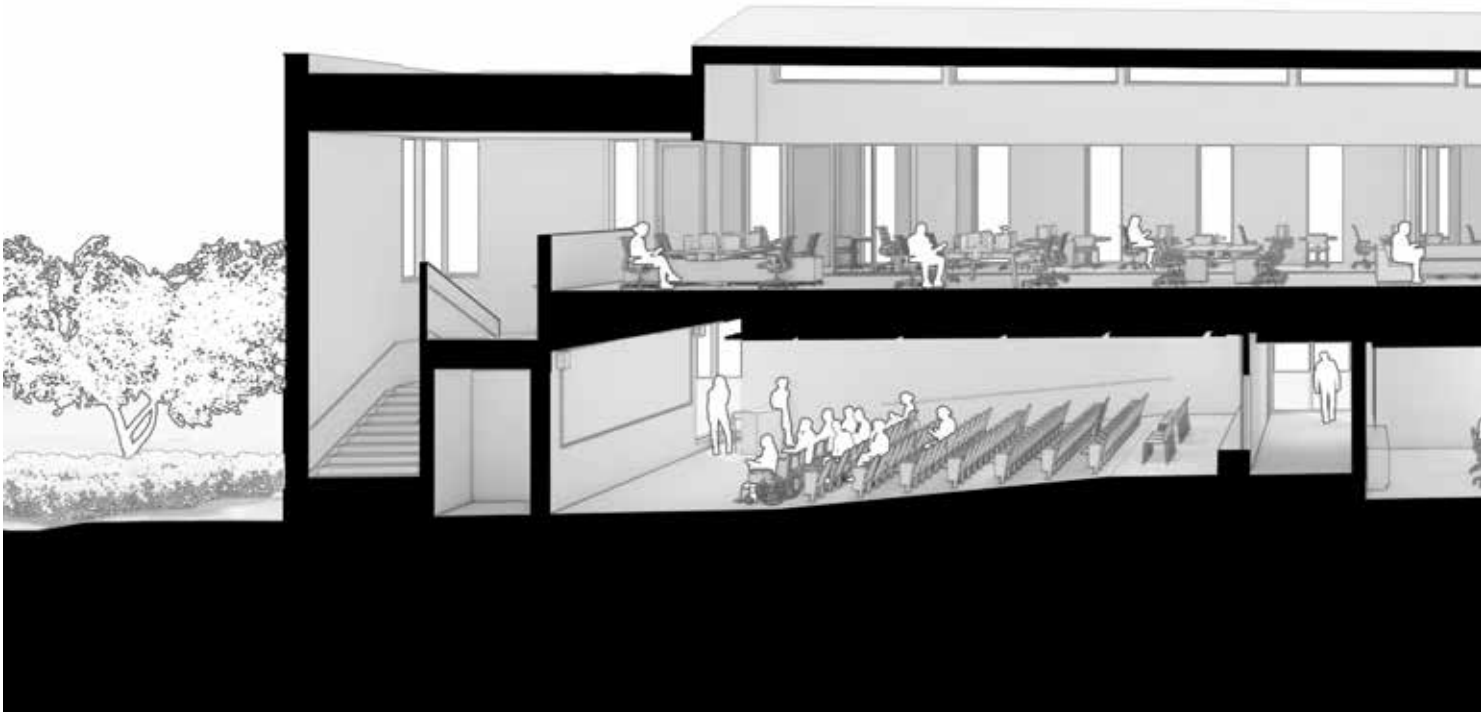
Bottom Row - Left to Right

Kitchenette – adjustable height stools, lower continuous counter surface.

Various seating options – benches on level one for places of rest; vary seat width and include seats with and without arms.

PV on roof – an all electric building is net-zero ready.

Bioswale – uses native plantings and manages stormwater on site.

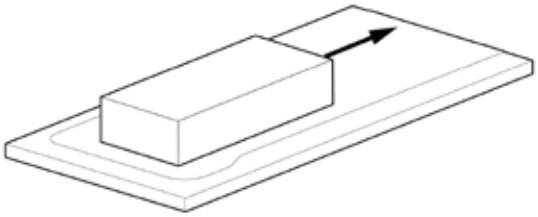


BUILDING SECTION A-A’

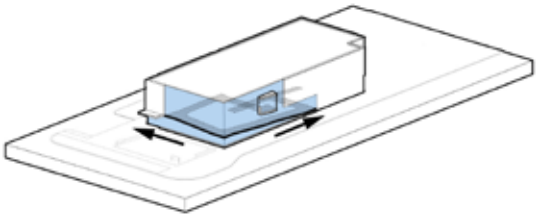
Site Context

Welcoming Experience

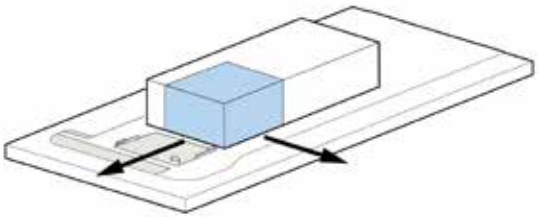
The project site sits just south of Drake University's campus along University Avenue, a main thoroughfare through the city of Des Moines. Although separated from a busy street, the site has a strong relationship with the main pedestrian path that moves north and south through the campus. It was important to site the building in a visually prominent location to address access, movement and visibility.



pull back for plaza



wrap key program in accessible ramp



open building to plaza and campus

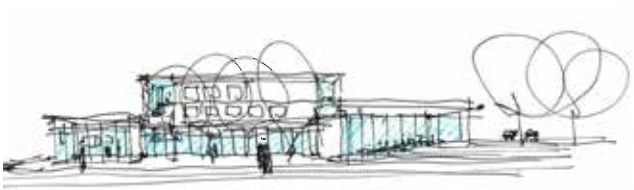
To achieve this, the building pulls away from the corner of University Avenue and 28th Street to allow of an entrance plaza to gather people and bring them into the site before entering the building. This starts the welcoming experience by allowing them a moment of respite from the busy surroundings before entering the building. Pulling the building west off the street corner also allows the main entrance to be located on the east side so people from the north and people in the parking areas south of the building have a sightline towards the entrance. Lastly, pulling the building in this direction helped to locate accessible parking spaces directly adjacent to the front entrance.

Paying attention to the site context while space planning the interior helps people within the building stay oriented while navigating between spaces. For example, the ramp weaves throughout the ground level but the exterior glazing on the building allows users to see the exterior and stay oriented to the outside while moving inside. This becomes evident as one arrives at the second level and is aligned with a view of the main campus pedestrian axis.

SITE CONTEXT

0' 200'

Building Footprints
University Buildings
Project Site

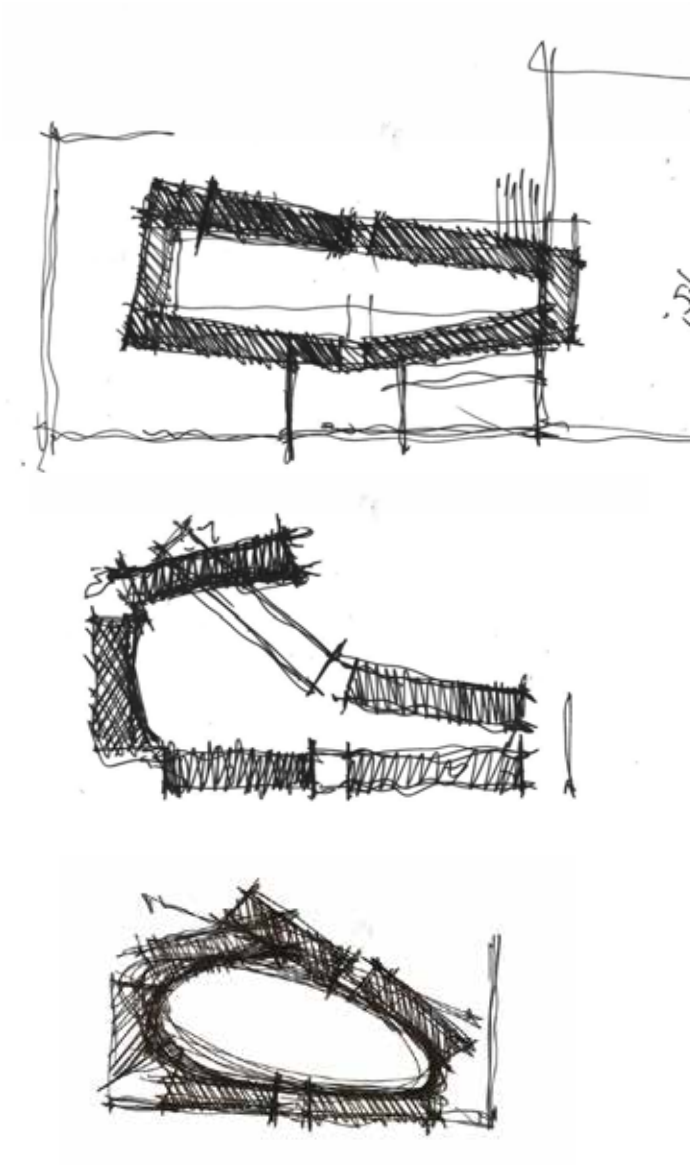


North façade

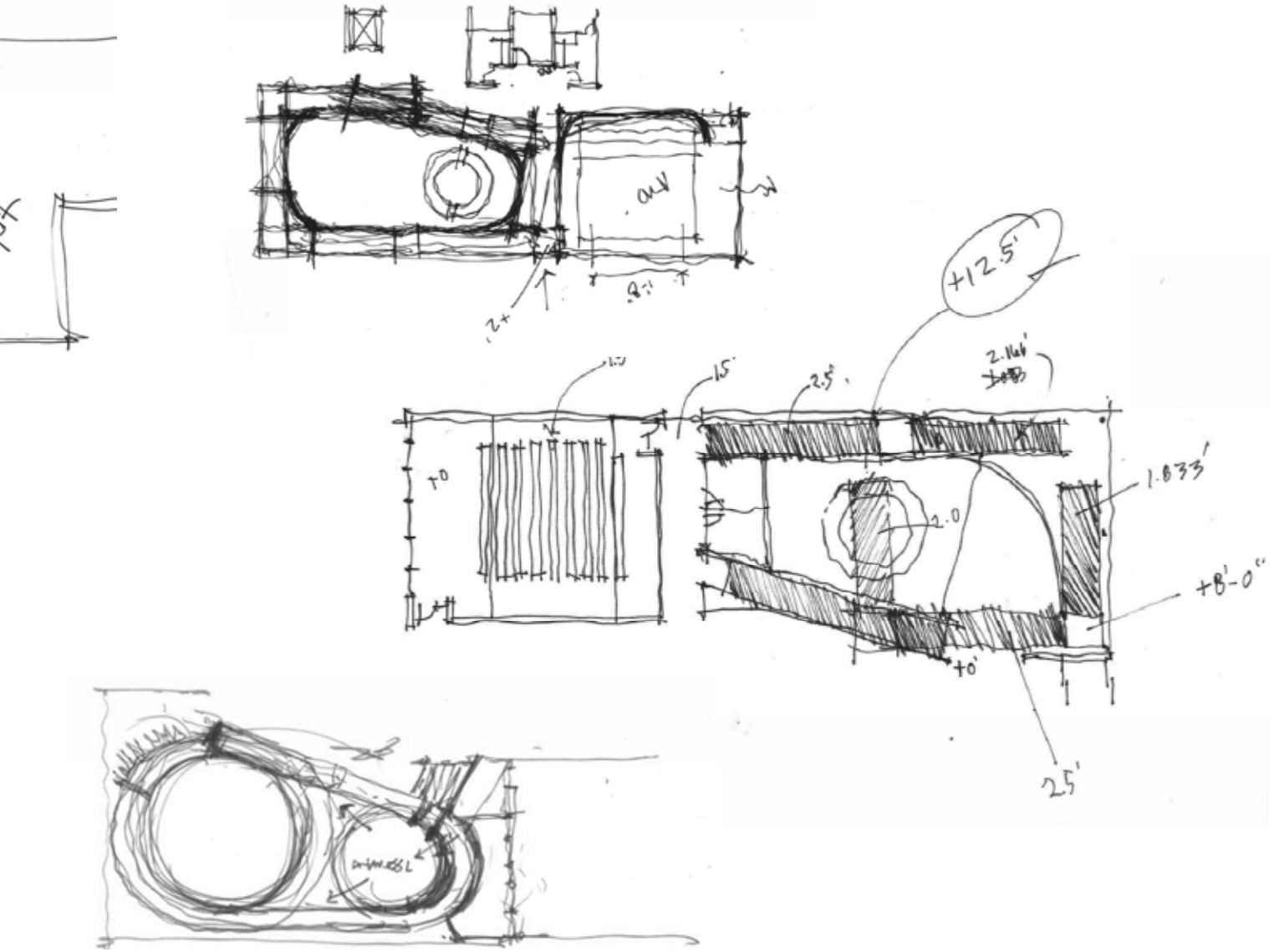
Ramp weaving through the spaces

The Ramp

Organizing and Navigating Element



The Advisory Board challenged the team during a project kick-off meeting to design the building without stairs. The building size and site limitations required a two-story structure. To address this need, the design team focused on integrating a ramp in the design that would connect levels in a gracious manner. This would not only create equity in movement to the second floor, but would become a visual symbol for building.


+12.5'
1.5'
2.5'
+0
2.0
1.833'
+8'-0"
+0'
25'

ALL

The Making of the Tom and Ruth Harkin Center

But how can a ramp be used more than just traveling between different elevations? Allowing the ramp to serve as more than just this primary function celebrates it as a defining feature in the building. Bottom portions of the ramp around the Boardroom are lined with display niches that can be used as gallery spaces for The Harkin Institute. The building plan works so the same ramp moving between levels allows people the choice to also enter the back side of the Auditorium. This allows users to choose between entering the Auditorium from both front and back. Finally, the ramp becomes a meeting space halfway up for planned or impromptu conversations to take place not congesting the ramp's entire path.

East façade

Construction

Adapting to a Changing World

Construction of the project took approximately 12 months and began in the fall of 2019. The construction team, led by The Weitz Company, would navigate this period with some very unique unforeseen conditions. Previous development on the site revealed abandoned gas tanks leading to site remediation practices to restore the landscape. But the global pandemic emerging in spring of 2020 quickly overshadowed any traditional construction challenges that might occur. Adapting and navigating these challenging times tested all members of the team, but construction moved forward with no major delays or changes to the final project.

Although the building could not be occupied as originally programmed during design, The Harkin Institute adapted the facility to needs forced upon them by the COVID-19 pandemic. Gracious space provided throughout to improve accessibility also allows for improved social distancing. Social and student collaboration space intentions for the gallery and boardroom on the Ground Level transformed into a COVID-19 Vaccination Clinic *(left)* where 10,000 people were vaccinated during the winter and spring of 2021. Although temporary, this stress test on the facility helped validate the building's *'long life, loose fit'* ethos.

"When you design the built environment using universal design principles, you not only meet the needs of persons with disabilities, but you go way beyond to include other excluded groups, for example, older persons, parents with pushcarts, and so forth. In short, when you build for persons with disabilities, your design is inclusive to everyone and ultimately more functional — and just better designed. However, to get this right, you need the technical expertise and those with the lived experience to validate the design and be part of the process."

CHARLOTTE MCCLAIN-NHLAPO
GLOBAL DISABILITY ADVISOR IN THE SOCIAL, URBAN, RURAL AND RESILIENCE (GP SURR) GLOBAL PRACTICE OF THE WORLD BANK GROUP

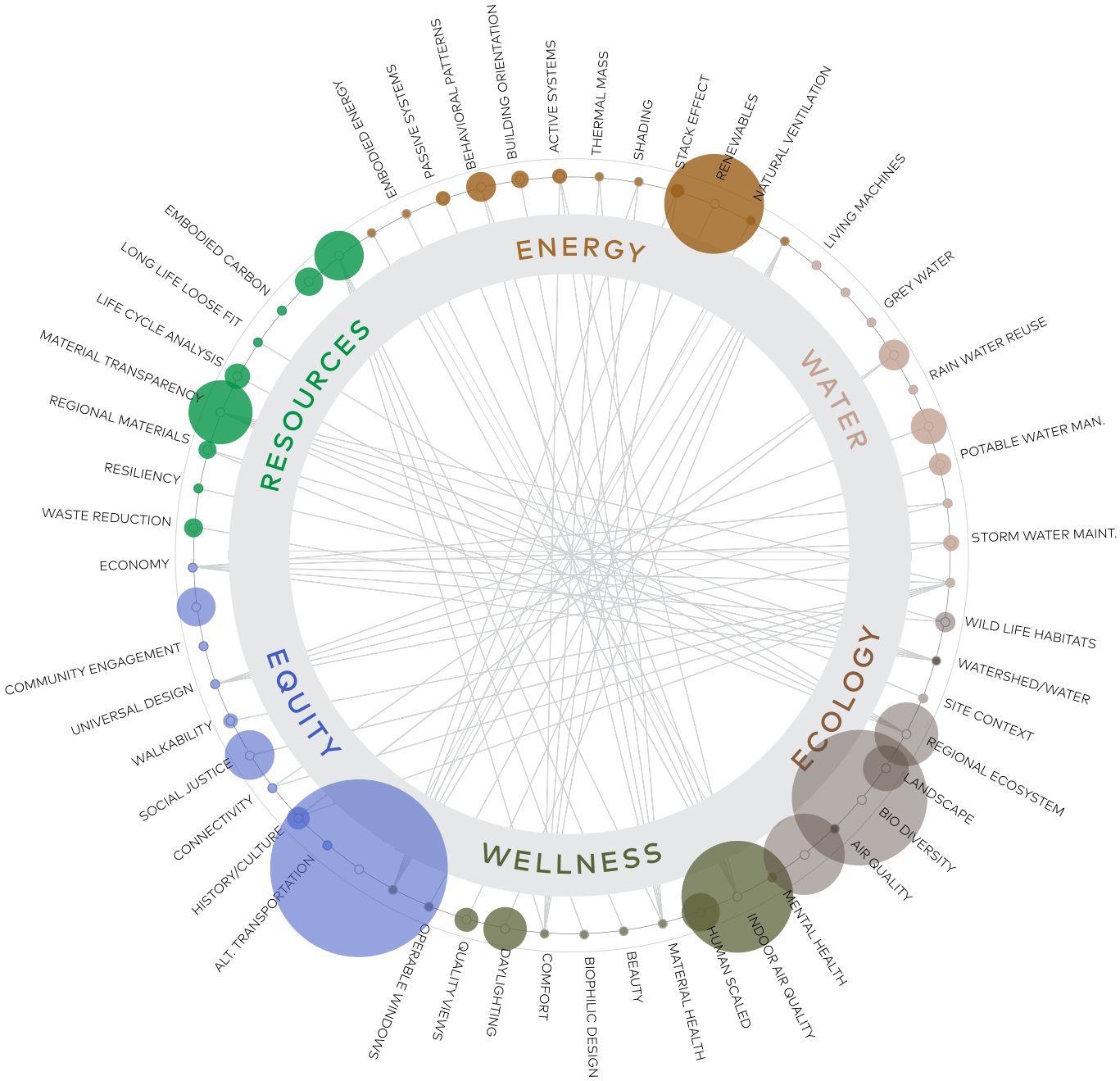
North façade - west end

Auditorium

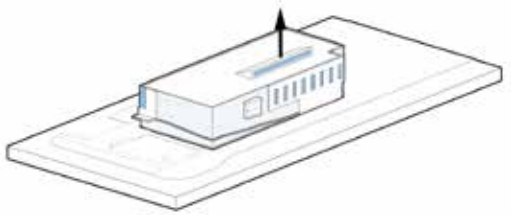
Open and Private Offices

Climate Justice for All

The Harkin Institute's goals of designing and constructing the most inclusive building was a primary goal. But in the spirit of high-performance and human purposed integrated design, BNIM aimed to ensure the building met several aspirational sustainability goals. As designers who shape the built environment, we are complicit in the unintended consequences of our work. We believe it is important to consider how our actions impact those who are often denied power and reaffirm our commitment to making change. To go beyond good intentions, we focus on what we can do.


ENERGY
WATER
ECOLOGY
WELLNESS
EQUITY
RESOURCES
EMBODIED ENERGY
PASSIVE SYSTEMS
BEHAVIORAL PATTERNS
BUILDING ORIENTATION
ACTIVE SYSTEMS
THERMAL MASS
SHADING
STACK EFFECT
RENEWABLES
NATURAL VENTILATION
LIVING MACHINES
GREY WATER
RAIN WATER REUSE
POTABLE WATER MAN.
STORM WATER MAINT.
WILD LIFE HABITATS
WATERSHED/WATER
SITE CONTEXT
REGIONAL ECOSYSTEM
LANDSCAPE
BIO DIVERSITY
AIR QUALITY
MENTAL HEALTH
INDOOR AIR QUALITY
HUMAN SCALED
MATERIAL HEALTH
BEAUTY
BIOPHILIC DESIGN
COMFORT
DAYLIGHTING
QUALITY VIEWS
OPERABLE WINDOWS
ALT. TRANSPORTATION
HISTORY/CULTURE
CONNECTIVITY
SOCIAL JUSTICE
WALKABILITY
UNIVERSAL DESIGN
COMMUNITY ENGAGEMENT
ECONOMY
WASTE REDUCTION
RESILIENCY
REGIONAL MATERIALS
MATERIAL TRANSPARENCY
LIFE CYCLE ANALYSIS
LONG LIFE LOOSE FIT
EMBODIED CARBON

In addition to the building's universal and inclusive design principles, the design also holistically incorporates sustainable design strategies throughout, including storm water management and bioswales, water conservation, native landscape, daylighting and views, energy efficiency, and interior occupant health and productivity. The building was designed as a highly efficient all-electric building which allowed for the effective incorporation of photovoltaic (PV) panels on the roof to achieve approximately 72% energy savings over a baseline building. Today the building is "net-zero ready." Additional PV panels can be added in parking canopies in the future to ultimately produce more energy than the building consumes on a yearly basis. The building achieved three Green Globes making the The Tom and Ruth Harkin Center the highest Green Globes rated project in the State of Iowa.



open building for access to daylight

integrate landscape, stormwater and renewable energy

BNIM engages project teams in the implementation of our annual Sustainability Action Plan. This Plan asks that all projects, including those without specific sustainable guidelines set forth by the client, set goals (with the client) to measure 18 firm-wide metrics across six categories: Energy, Water, Ecology, Wellness, Equity, and Resources.

In our 2020 report, **Subject to Change*, we included case studies of three projects, one of which was The Tom and Ruth Harkin Center. The table to the right reflects performance measures that were designed for the project.

ENERGY		
	Energy Reduction	72%
	Carbon Reduction	58%
	LPD Reduction	60%
	Energy Model	yes
WATER		
	Potable Water Reduction	82%
	Stormwater Managed On-Site	45%
	Site Analysis	no
ECOLOGY		
	Vegetated Site Area	40%
	Native Planting	70%
WELLNESS		
	Spatial Daylight Autonomy	41%
	Annual Sunlight Exposure	15%
	Quality Views	83%
	Walkability	79
EQUITY		
	Community Engagement	5
	Community Health Assessment	yes
RESOURCES		
	Embodied Carbon Reduction	36%
	Life Cycle Assessment	no
	Passive Survivability	0

North façade

BNIM believes that climate justice must center on people, human dignity, and equity. Design plays an important role in addressing these issues. We seek to expand our understanding and experience within this wider discourse, which includes areas like racial justice, shared prosperity, accessibility as well as a restoring of a sustainable, inclusive, and safe public realm. And still, in a world of interlocking crises, we are actively addressing and seeking how we can further respond to climate justice at different scales in our communities and around the globe.

Ramp expressed in the north façade

Awards

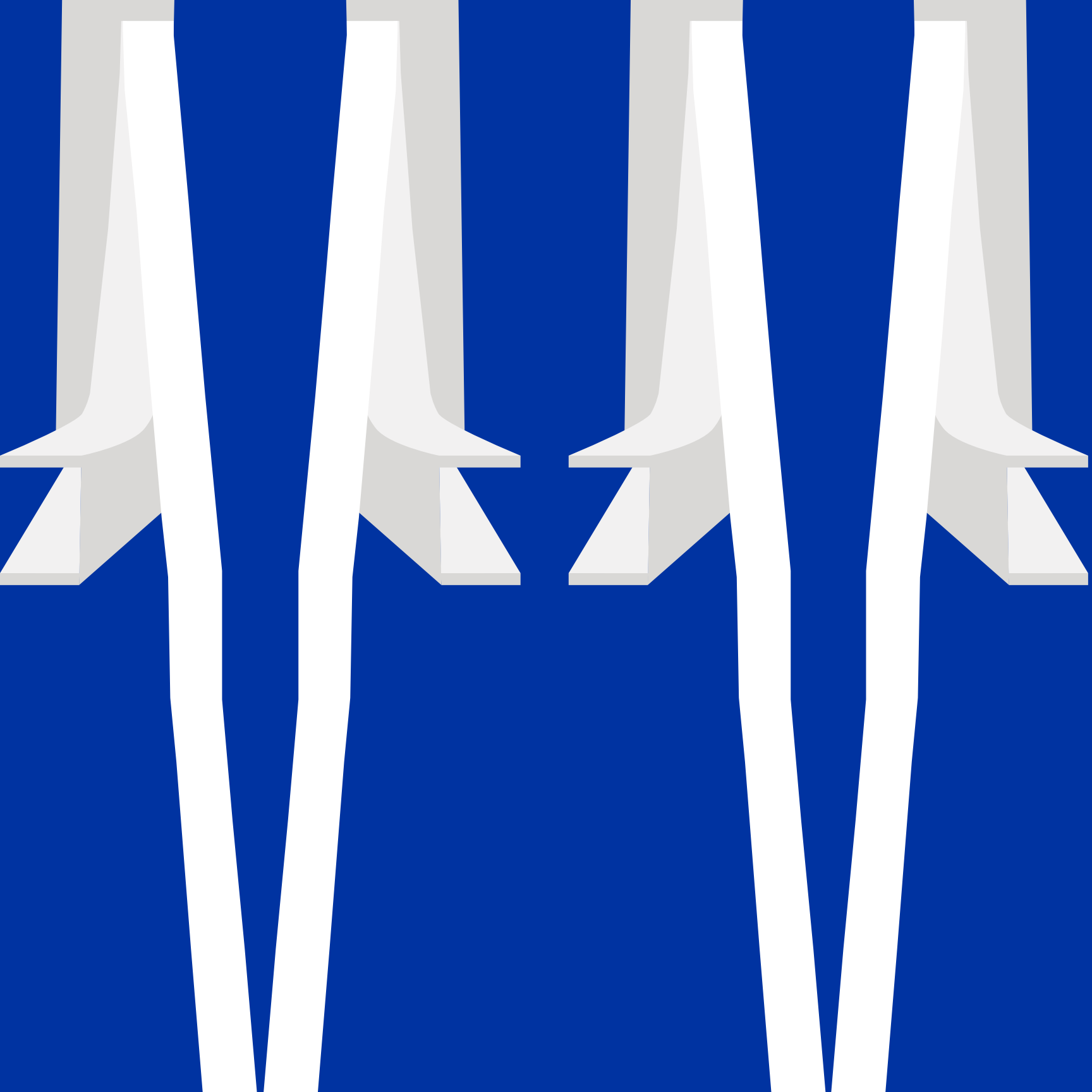
— 2022 AIA Kansas City
Merit Award - Architecture
— 2022 International Contemporary Furniture Fair (ICFF)
Finalist Interiors Awards - Education Category
— 2022 AIA Iowa
Impact Honor Award
— 2021 AIA Central States Region
Honor Award - Architectural Project
— 2021 AIA Iowa Excellence in Design
Honorable Mention
— 2021 1000 Friends of Iowa
Best Development Award Program - Best of Show

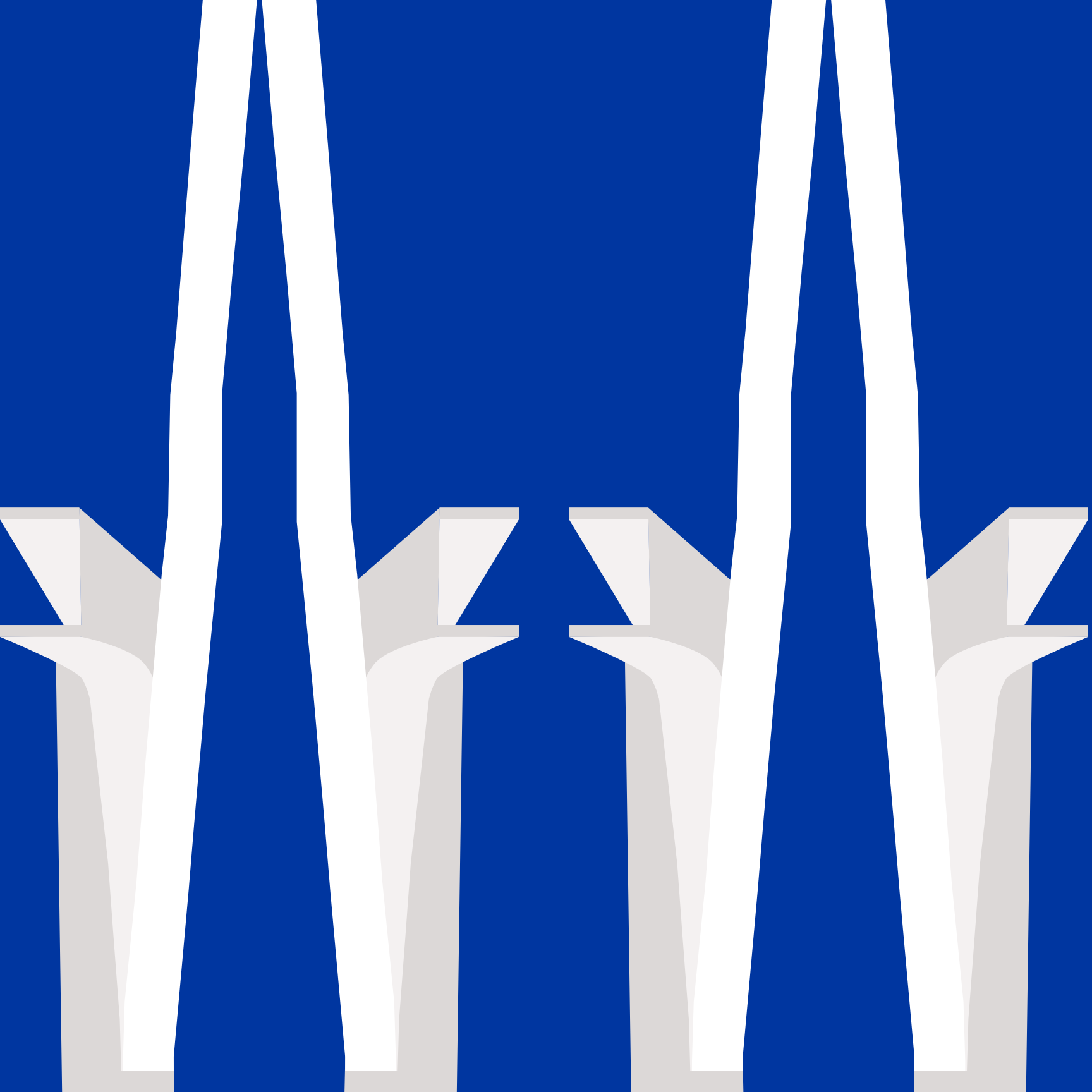
Publications

— 2021, Des Moines Business Record, *"Creating an Inclusive Environment that Benefits Business Owners, Consumers and Employees."*
— 2022, Business Record, "*Architect firms honored by state chapter."*
— 2019, Business Record, *"Harkin Institute celebrates groundbreaking for new Drake campus facility."*

Presentations/Conferences

— 2022 National Association of Women in Construction
Midwest Region Annual Fall Conference
— 2022 Green Building Alliance / Pittsburgh and Eerie
2030 District Program
— 2022 AIA California Educational Session
— 2022 Living Future Conference
— 2021 Harkin International Disability Employment Summit
— 2021 AIA Iowa Procrastinators Ball
— 2020 Greenbuild International Conference and Expo
— 2019 AIA Iowa Fall Convention





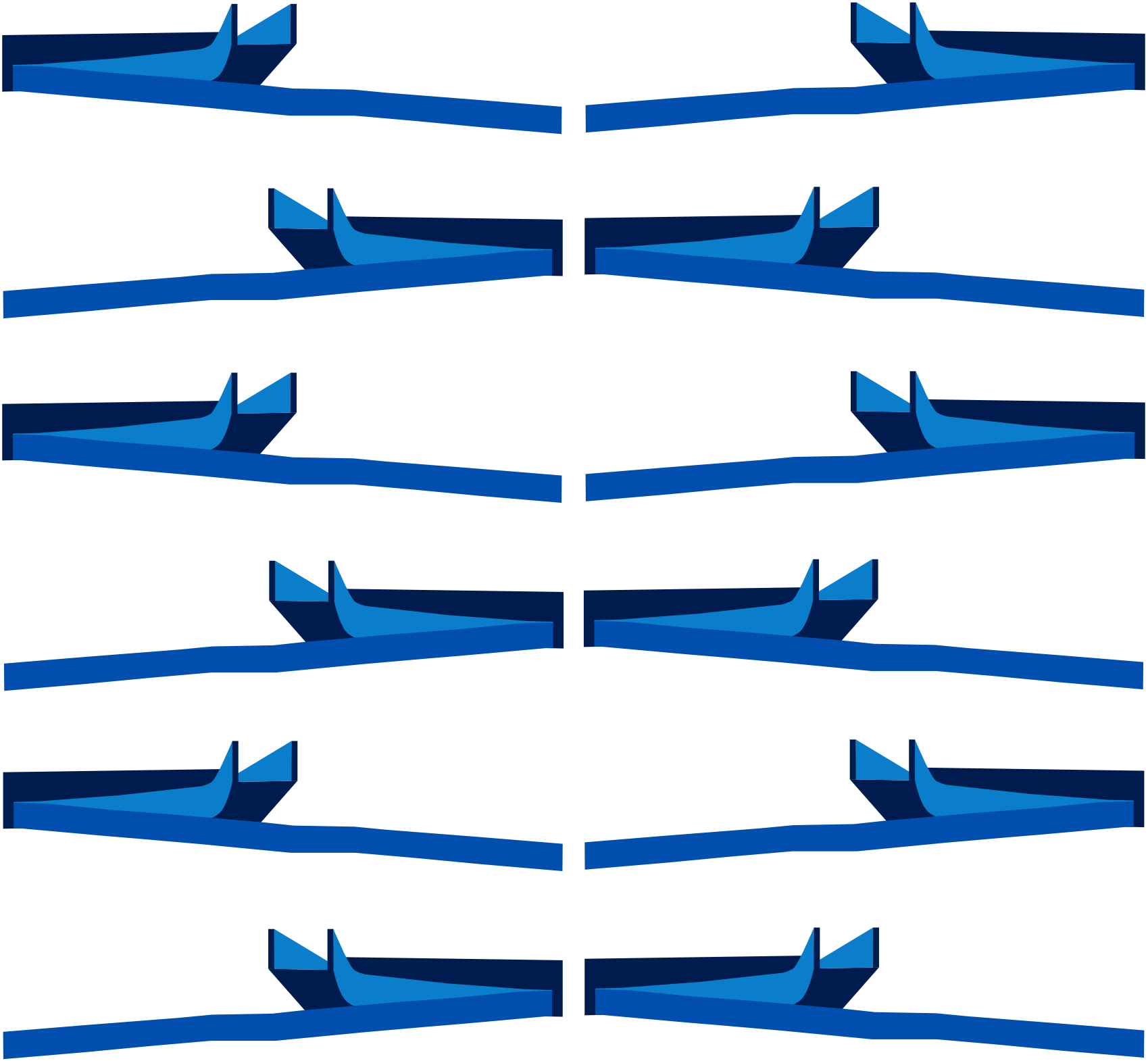
ALL

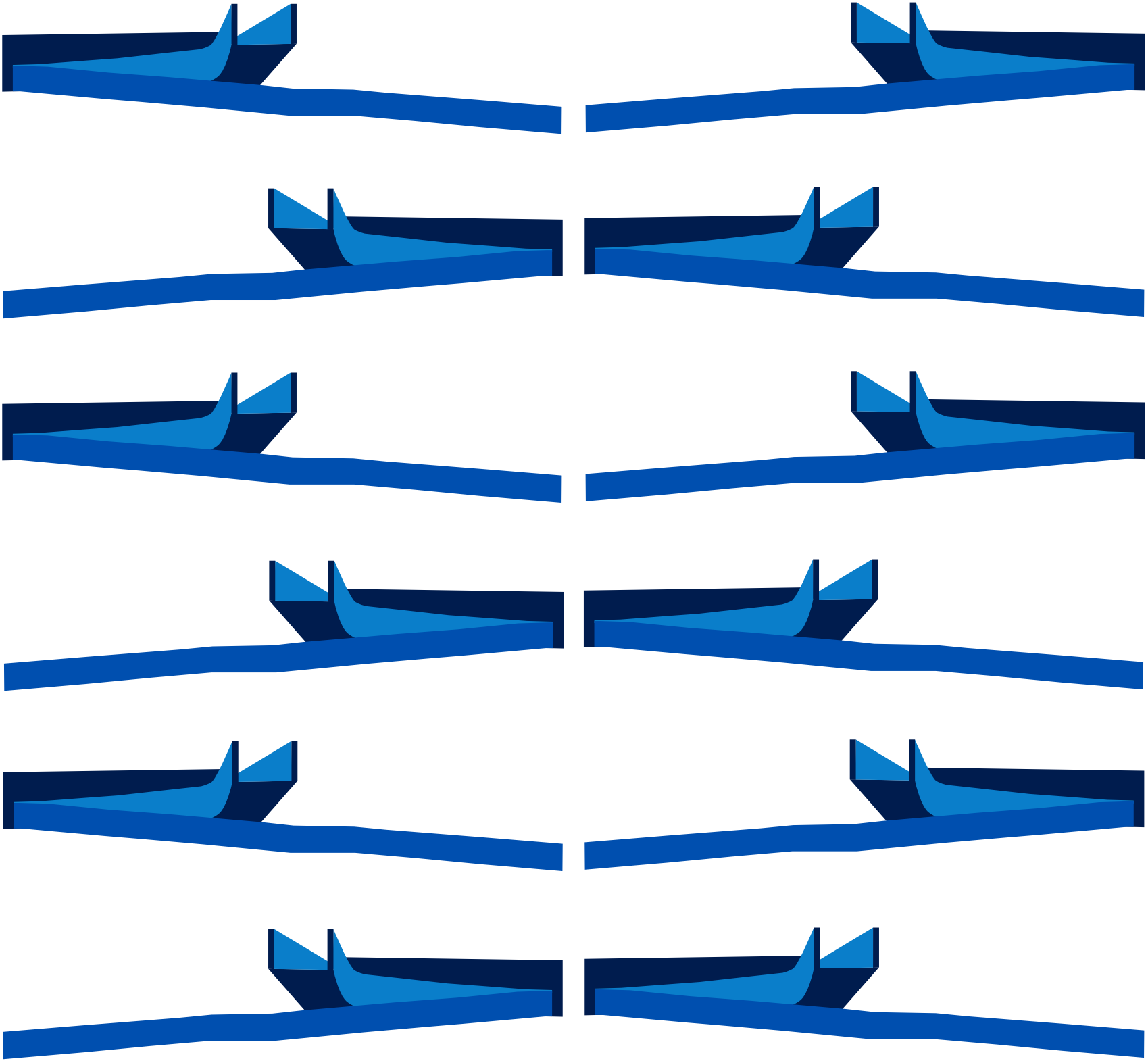
A Guidebook of Strategies for Inclusive Design

THE HARKIN INSTITUTE

BNIM

MILLERKNOLL





Book Title
ALL — The Making of The Tom and Ruth Harkin Center at Drake University

Authors
Kevin Nordmeyer
Jason Kruse
Daniel Van Sant
Senator Tom Harkin
Foreword by Judy Heumann

Book Design
BNIM

Designer	Emily Herndon
Project Manager	Natalie Gaydar
Project Direction	Beena Ramaswami
Proof-Readers	Kate Kovarik, James Baker Jamie Kluesner

Drawings and Diagrams
Jason Kruse
Aaron Hauptmann
Sam Nordmeyer

Photography
Kelly Callewaert
Nick Merrick

Printing
Printed by NextPage, Kansas City, MO, USA on Mohawk Options Text and Options Cover Digital FSC 100% Recycled. Mohawk Options is certified by Preferred by Nature for FSC® standards. NC-COC-000668. Mohawk purchases Renewable Energy Certificates (RECs) to match 100% of the electricity used in its operations. Mohawk Options recycled papers contain at least 30% post-consumer waste fiber and meetthe EPA guidelines for recycled content papers. All virgin fiber content in Mohawk papers is elemental chlorine free (ECF) and all recycled fiber content in Mohawk papers is process chlorine free (PCF).

Credits
Many thanks to all those that have made this project possible, including those noted below as well as donors, patrons and friends of The Harkin Institute.

Drake University
President Marty Martin
Michelle Huggins, AIA - Planning and Design Manager
Rob Ebel, FP&M Project Manager
Building Committee

Michael Gartner	The Harkin Institute Board
Ruth Harkin	The Harkin Institute Board
Jim Hubbell	The Harkin Institute Board
Marsha Ternus	The Harkin Institute Board
Joseph Jones	The Harkin Institute, Executive Director
Venessa Macro	Drake University, Chief Administration Officer

Harkin Institute
Senator Tom Harkin (Retired)
Joseph Jones, Executive Director
Daniel Van Sant, Director of Disability Policy
Amy Bentley, Former Policy Director
Emily Schettler, Former Communications Manager

People with Disabilities Core Advisory Committee
Candace Cable, Caroline Casey, Michael Gamel-McCormick, Claudia Gordon, Bob Kafka, Leah Katz-Hernandez, David Mitchell, Charlotte McClain-Nhlapo, Bobby Silverstein, Susan Sygall, Sean Fitzsimons, Terry Wilding, Alex Watters, Andy Imparato

Project Team
Architect—BNIM Architects: Kevin Nordmeyer, Jason Kruse, Lana Zoet, Jonathan Ramsey, Carey Nagle, Rod Kruse, Tina Wehrman, Beena Ramaswami
MEP Engineering—Modus Engineering: Nicholas Terhall, Alex Tietz, Jordan Vetter
Structural Engineering—Raker Rhodes Engineering, LL: Mike MicIntire
Civil Engineering—Synder & Associates: Andrew Rech, Eric Cannon
Landscape Design—Genus: Dylan Jones, Brett Douglas
Furniture—Pigott, MillerKnoll: Megan Hollan, Jami Christophersen, Jason Rosenblatt
Contractor—The Weitz Company: Matt Tursi, Chad Sanson, Kristin Peterson
Lighting—Trivalent Lighting: Chris Wojtal
Acoustics—C&C Acoustical Consultants: Dominique Cheenne
Commissioning Agent—System Works: Andrew Bennett, Karl Kaufman

MIX
Paper from responsible sources
FSC

View the book online.

ALL

A Guidebook of Strategies for Inclusive Design

THE HARKIN INSTITUTE BNIM MILLERKNOLL

Copyright © BNIM 2022. All rights reserved.

No part of this book may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, including electronic, mechanical, photocopying of microfilming, recording, or otherwise (except that copying permitted by Sections 107 and 108 of the U.S. Copyright Law and except by reviewers for the public press) without written permission from BNIM.
Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Requests for permission for use and more information on the strategies should be addressed to info@bnim.com.

The following resources were studied during the design process of the Tom and Ruth Harkin Center and inform the summarized guiding principles and strategies included in this book.

References

— *All Together Now.* (2014, March). Herman Miller. https://www.hermanmiller.com/solutions/living-office/magazine/all-together-now/
— *Better World.* (n.d.). Herman Miller. https://www.hermanmiller.com/better-world/
— Center for Inclusive Design and Environmental Access. (2022, March 29). *IDEA Home.* IDEA Center - University of Buffalo. http://idea.ap.buffalo.edu
— Craven, J. (2019, November 18). *Can you build special buildings for the visually impaired?* ThoughtCo. https://www.thoughtco.com/designing-for-the-blind-3972260
— Gallaudet University. (n.d.). *DeafSpace –*. https://www.gallaudet.edu:443/campus-design-and-planning/deafspace
— Hurley, A. K. (2016, January 14). *Gallaudet University's Brilliant, Surprising Architecture for the Deaf*. Washingtonian - The Website That Washington Lives By. https://www.washingtonian.com/2016/01/13/gallaudet-universitys-brilliant-surprising-architecture-for-the-deaf/
— *Inclusive Design Research Centre*. (n.d.). Https://Idrc.Ocadu.Ca. https://idrc.ocadu.ca
— Maiwald, S. (2018, January 24). *Why we all need Deaf urbanism*. Https://Ggwash.Org/View/66282/Why-We-All-Need-Deaf-Urbanism. https://ggwash.org/view/66282/why-we-all-need-deaf-urbanism
— Maxann. (2015, May 13). *What Is Deaf Space?* Hands In Hearts. https://handsinhearts.wordpress.com/2015/05/13/what-is-deaf-space/
— National Disability Authority & Centre for Excellence in Universal Design. (n.d.). Built Environment. Centre for Excellence in Universal Design. https://universaldesign.ie/built-environment/
— National Institute of BUILDING SCIENCES. (2015, May). Design Guidelines for the Visual Environment. Version 6. https://www.nibs.org/files/pdfs/NIBS_LVDP_Guidelines_2015.pdf
— Nold, D. (2014, April 14). *Universal Design*. Ed Roberts Campus. http://www.edrobertscampus.org/design/
— Rains, S. (n.d.). *Deaf Space: Deaf Culture Meets Architecture in UD*. Rolling Rains Report. http://rollingrains.com/2011/04/reprinted-with-permission-deaf-space.html
— Schambureck, E. (n.d.). *Design for Sight - A Programming and Design Guide for Low Vision.* Design for Sight. http://www.designforsight.com/index.html#two

Universal Design Principles

Best Practices for Inclusion and Equity

Introduction

Inclusive design is rooted in a process that creates environments that are gracious, generous, and considerate of all abilities. It should be integrated into the very beginning of design, because many of the strategies require certain space planning considerations that become difficult to achieve the further a design develops. For this reason, the following guiding principles highlight strategies for inclusive design to be thoughtfully discussed and considered as the building is programmed and conceptualized. Because these guiding tenets were foundational to the discussion prior to design, Inclusive Design at the Harkin Institute is a spirit of place created through design strategies woven together architecturally to establish a setting where everyone is welcomed and embraced without exception.

Four guiding principles were established to organize strategies for the physical building and site design as well as furniture product selections and their settings.

BUILDING STRATEGIES

1-19

The first set of strategies center on the building blocks to any project to address a broad spectrum of ability. These principles facilitate the discussion for space allocation and configuration during programming and design. Many of these ideas focus on providing clear building organization and generous space for navigation and maneuverability. Understanding and considering these general strategies as soon as design work begins will help maintain proper spatial relationships in the final design.

FURNITURE STRATEGIES

20-37

The second set of strategies were developed for the furniture using the same four guiding principles. Both the furniture settings and individual products play a key role in how individuals interact with their environment.

Although they are separated in this guide, the furniture strategies should be considered together with the building strategies as one comprehensive approach.

Building Strategies

The following pages illustrate strategies as it relates to the four identified guiding principles —

GENEROUS SPACE

Create space where you do not have to ask for accommodations – what is needed is available

1 Path Width
2 Maneuverability
3 Places of Rest
4 Orientation and Navigation
5 Spatial Access

EQUITABLE EXPERIENCES

Solve for the function necessary in the most inclusive way possible.
Non-exclusionary: No one is excluded from an experience because of their ability, gender, etc.

6 Meet in the Round
7 Primary Circulation
8 Restroom Access
9 Elevator Access

CLEAR PATH

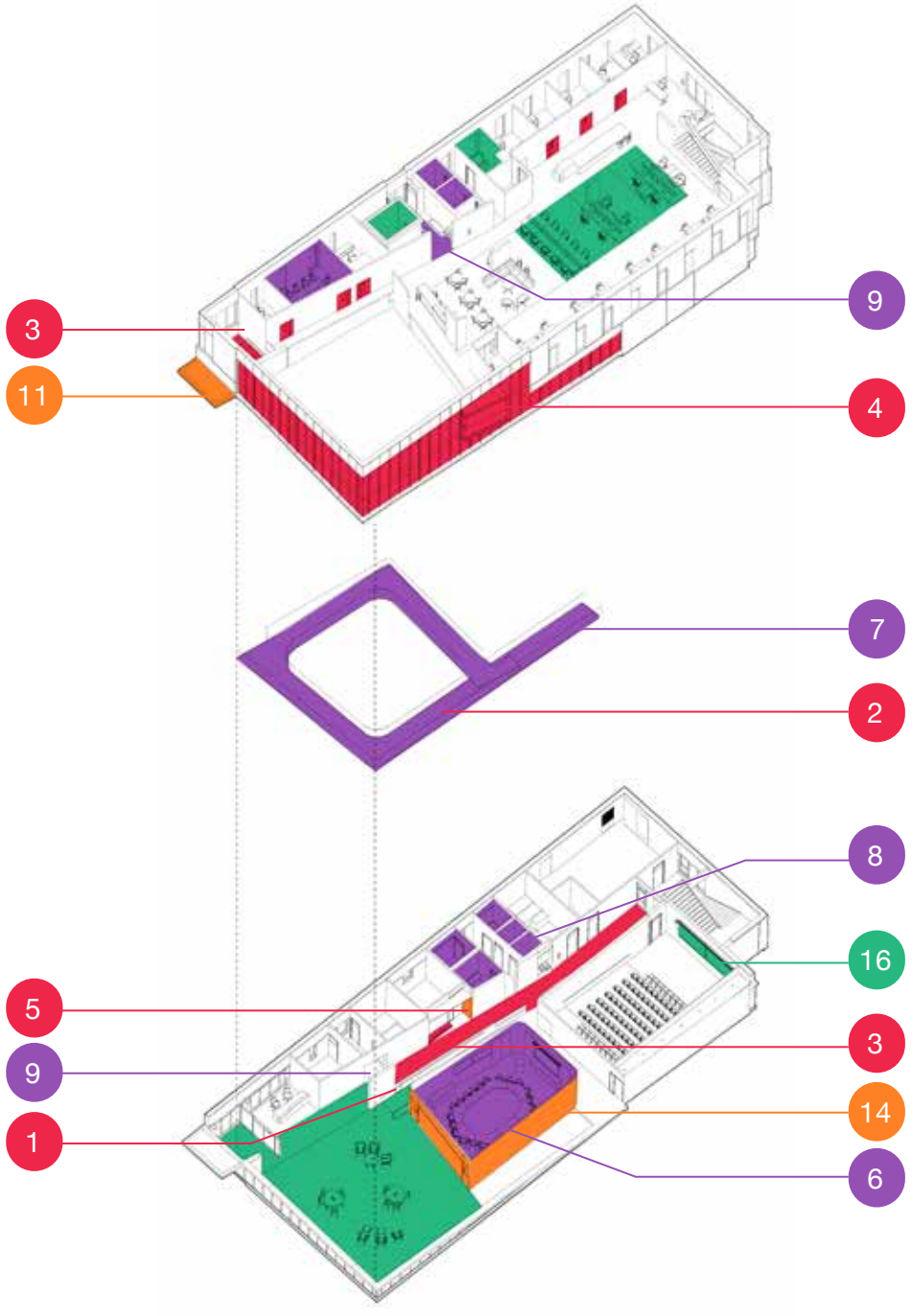
Allow for an environment that is intuitive to the user, including regular, part-time users and visitors

10 Information Redundancy
11 Reduction of Sensory Noise
12 Entry Sequence
13 Lighting
14 Curved Site Lines
15 Visual Clarity

INDIVIDUAL EMPOWERMENT

No limitations in one's ability to use a space throughout the day

16 Accessible Technology
17 Clear Path Choice
18 Wellness Room
19 Elevator Use

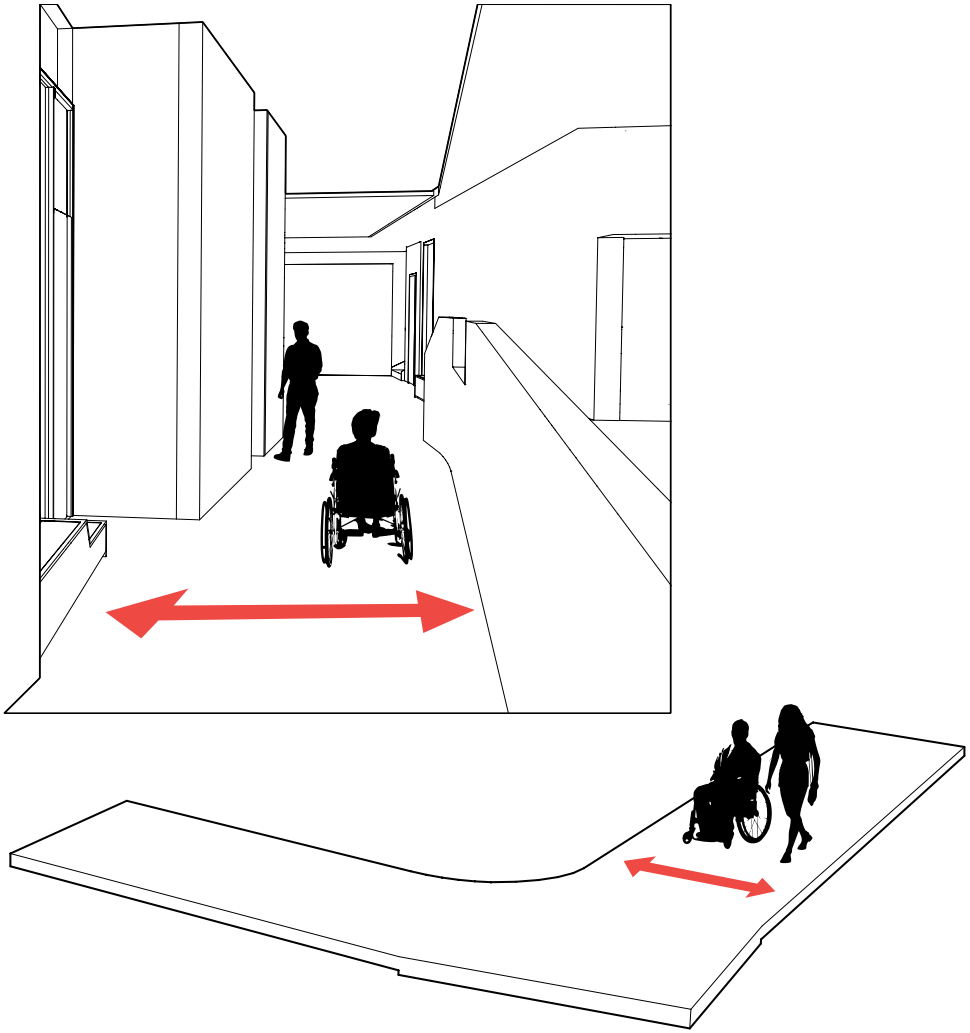

3
11
9
4
7
2
8
16
5
9
1
3
14
6

GENEROUS SPACE	1	Path Width
	2	Maneuverability
	3	Places of Rest
	4	Orientation and Navigation
	5	Spatial Access
EQUITABLE EXPERIENCES	6	Meet in the Round
	7	Primary Circulation
	8	Restroom Access
	9	Elevator Access
CLEAR PATH	10	Information Redundancy
	11	Reduction of Sensory Noise
	12	Entry Sequence
	13	Lighting
	14	Curved Site Lines
	15	Visual Clarity
INDIVIDUAL EMPOWERMENT	16	Accessible Technology
	17	Clear Path Choice
	18	Wellness Room
	19	Elevator Use

Generous Space

Path Width
Maneuverability
Places of Rest
Orientation and Navigation
Spatial Access

Strategy 01 — Path Width

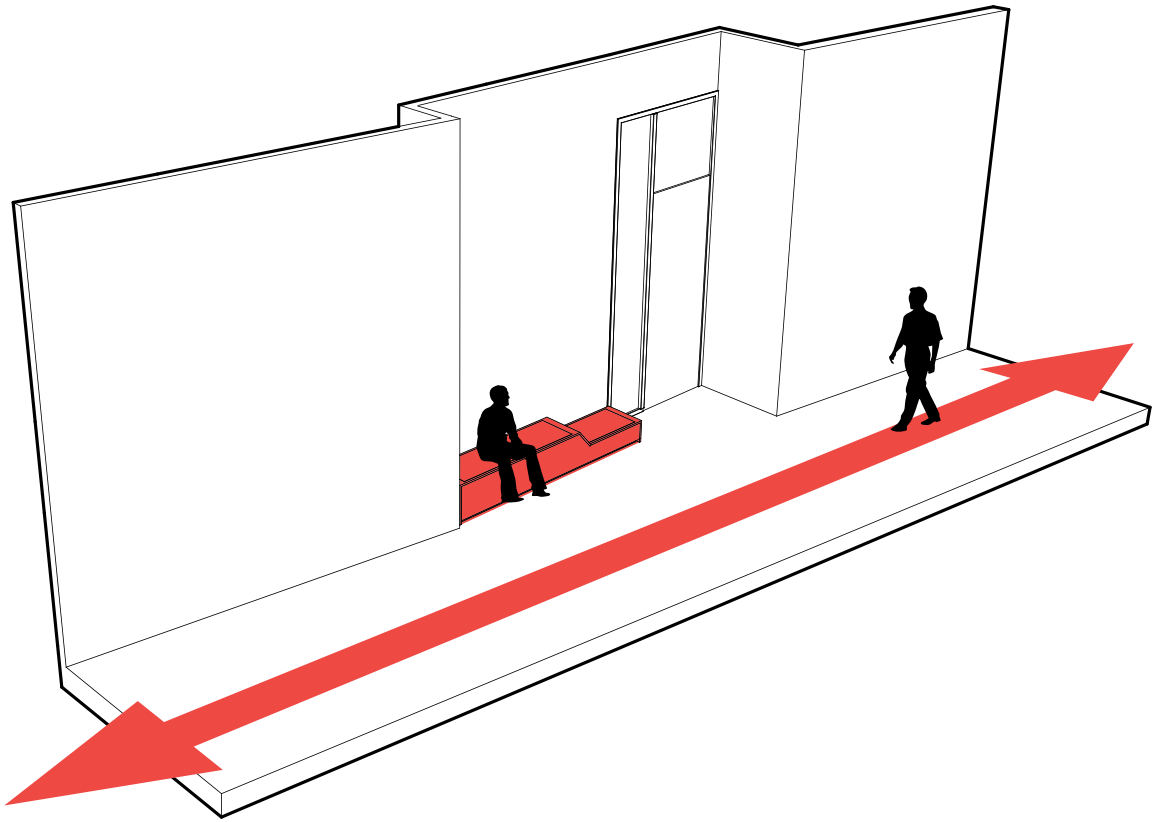


PROBLEM	**Many buildings utilize circulation dimensions to meet minimum building code requirements and to create greater building floor area efficiencies. This creates problems for navigation for many people.**
SOLUTIONS	— Create a 6’ minimum clear circulation path width between walls and projections — Create 6’ minimum clear width for stairs and ramps measured between handrails — Maintain a consistent path width and straight direction of flow at vestibules — Avoid narrowing circulation particularly at areas of increased traffic
SUPPORTS	— Conversations for all abilities side by side in lieu of front to back — Two mobility wheelchairs or scooters to move side by side — Gracious flow of people and assistive devices — People meeting in a hallway without changing position

Strategy 02 — Maneuverability

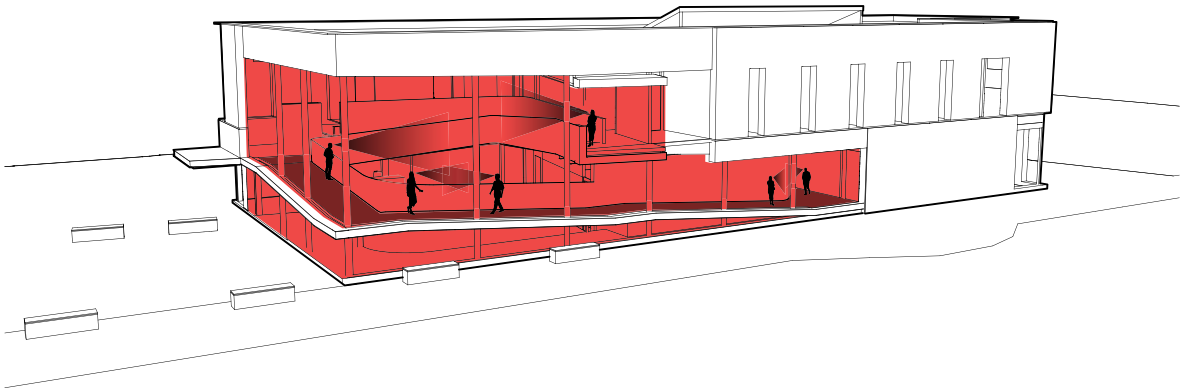
PROBLEM	**Rooms are designed with minimal clearances around furniture (chairs, tables, desks, etc.) without considering adequate maneuverability particularly for those in various sizes of wheelchairs or other assistive devices.**
SOLUTIONS	— Accommodate various dimensions of wheelchairs and scooters (height, width, depth) — Size spaces to allow wheelchair access behind chairs at conference tables or wheelchair access behind other wheelchairs positioned at the table — Provide space for entering, maneuvering, and accessing furniture at any point without needing to ask others to move — Provide adequate space and flexible furniture for accommodating various body sizes
SUPPORTS	— Full and equal access to space by all abilities — Freedom of choice and movement — Accommodating needs of multiple mobility devices simultaneously — Easier movement behind those seated at the tables for others coming and going — Autonomy and equity

Strategy 03 — Places of Rest



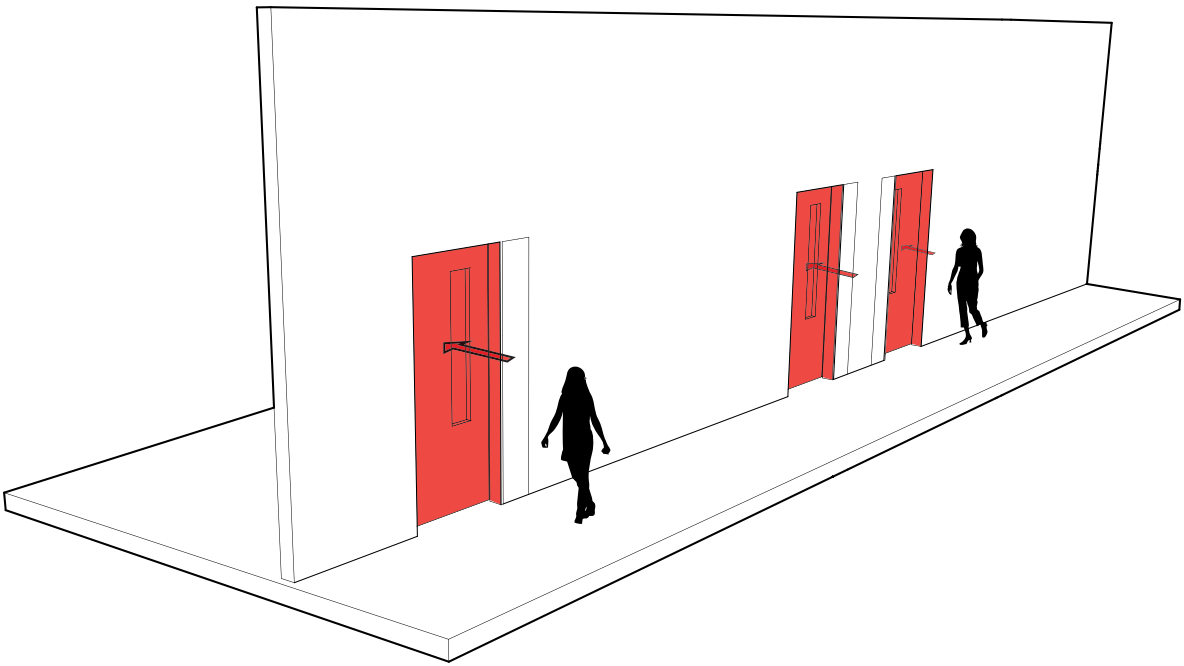
PROBLEM	**Particularly for larger facilities, space is not provided or convenient for seating to allow those with challenges with stamina to pause and rest.**
SOLUTIONS	— Provide seating in clear floor space adjacent to the circulation space for resting or having a conversation without blocking circulation path — Provide space for a wheelchair adjacent to seating — Consider solid bench form for cane detection at full perimeter — Incorporate tactile contrast material in seating surfaces for low vision “warm touch” surface — Provide contrasting color of seating to walls and floor for low vision — Create varying height of bench or furniture for individual needs
SUPPORTS	— Those stopped in conversation do not interfere with the main building circulation — Sign language conversation — Space to rest for those with reduced stamina

Strategy 04 — Orientation and Navigation



PROBLEM	**Building organizational diagrams many times have confusing circulation and wayfinding throughout a facility from building entrances to stairs, elevators, restrooms, major program spaces, and other key elements.**
SOLUTIONS	— Consider how one will easily and intuitively find key building elements from the main entrance — Place common elements in the building with a consistent logical connection to circulation such as elevators, stairs, restrooms, drinking fountains, etc. — Allow views to outdoors to promote orientation and navigation — Incorporate signage for clarity of wayfinding
SUPPORTS	— Connections to the outdoors / daylight with carefully placed fenestration — Consistency and predictability in navigation in multi-story buildings — Intuitive wayfinding — Autonomy — Spatial awareness

Strategy 05 — Spatial Access



PROBLEM

Access to rooms can be ambiguous in addition to clearances in and around passages too tight for various user needs.

SOLUTIONS

- Recess doors off circulation paths to avoid conflicts with flow of people
- Eliminate doors to rooms where possible
- Consider sliding doors or automated doors where possible
- Provide greater approach dimensions around doors and consider flow of people
- Contrast in volume, such as inset areas or a change in plane at room entries along a corridor to emphasize spaces

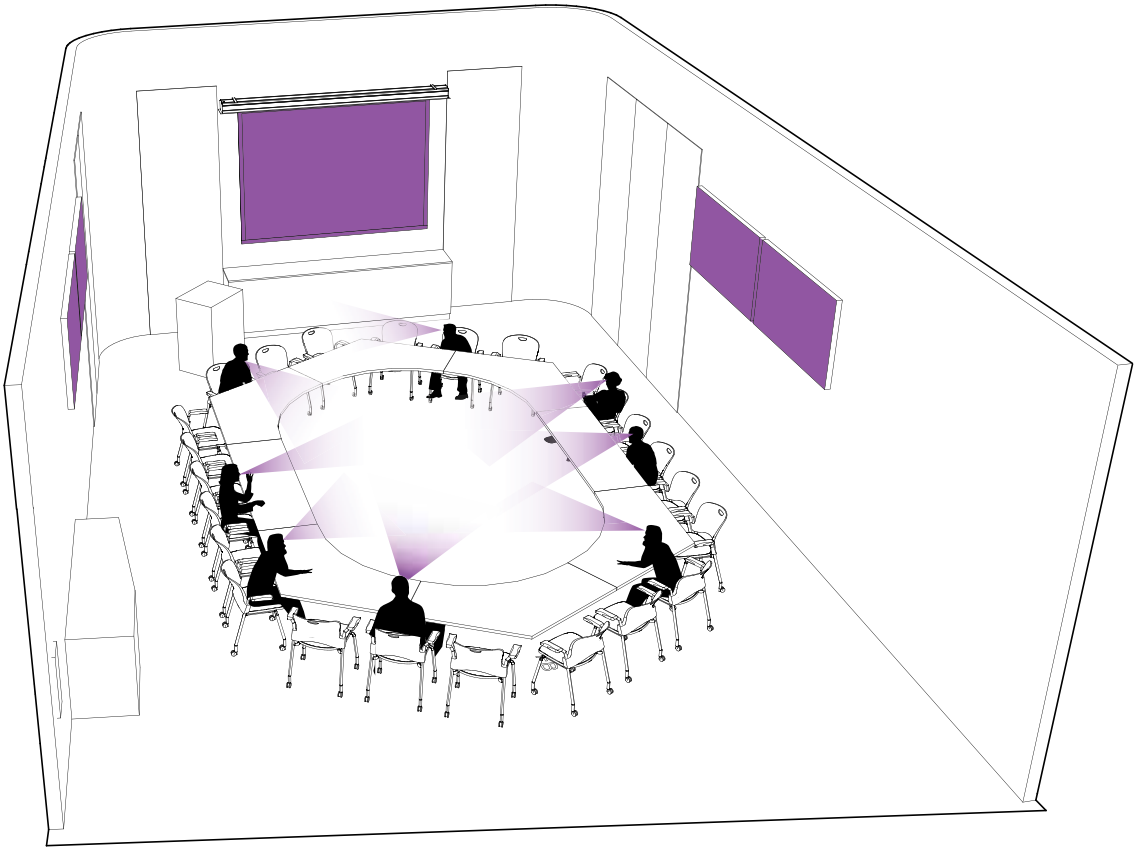
SUPPORTS

- Ease of access and maneuverability around and through door openings
- Maintains clear paths of travel without doors interfering with flows
- Improves wayfinding through contrasting recesses and greater tactility
- Access to spaces for all abilities

Equitable Experiences

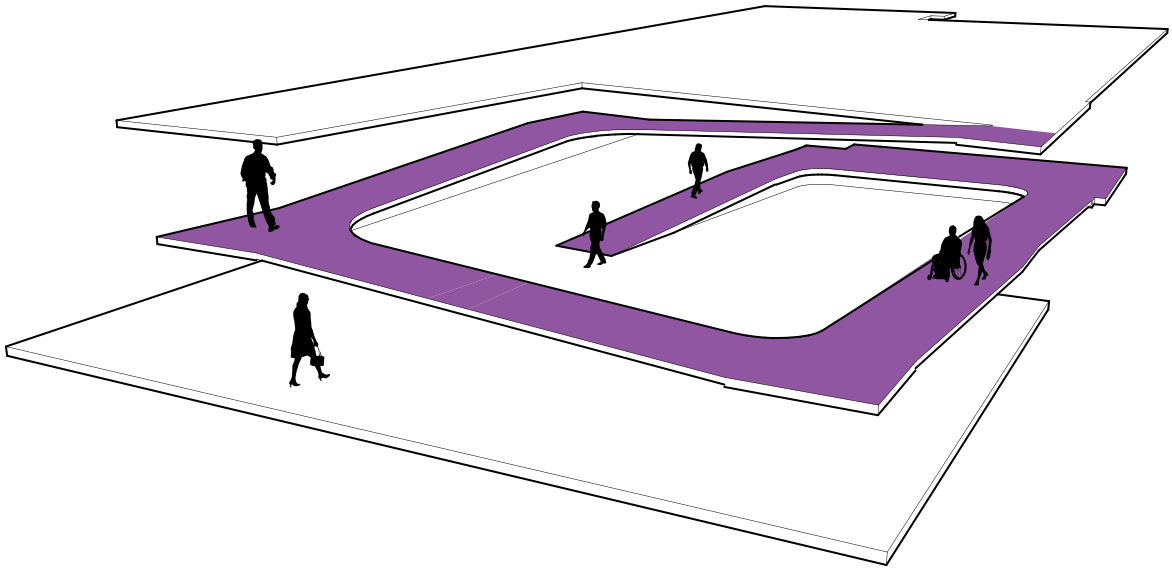
Meet in the Round
Primary Circulation
Restroom Access
Elevator Access

Strategy 06 — Meet in the Round



PROBLEM	**Meeting rooms are often designed with long narrow tables that cause problems for viewing screens, marker boards, and faces of those speaking.**
SOLUTIONS	— Create a circular conference table / chair arrangement for meetings so there is greater equity for meeting participants — Organize presentation monitors with duplicate content on opposite walls for all participants to engage — Consider flexible furniture (grouping of tables) for adjusting layout as needed — Provide adjustable height tables so those in wheelchairs can choose their location and adjust accordingly in lieu of be at a single designated space — Provide electrical and USB connections at table-top height — Zone lighting controls to dim lights for screen viewing but still allow lighting at table — Provide 360 degree viewing camera technology from center of room for virtual meetings
SUPPORTS	— Equity for meeting participants (no physical “head of table”) — Seeing faces of all participants more effectively enables everyone, but particularly hearing impaired participants to engage in meeting (viewing interpreters, reading lips, facial expressions, etc) — Choice of seating location for those using wheelchairs — Hybrid in person / virtual meetings with appropriate technology including closed captioning

Strategy 07 — Primary Circulation

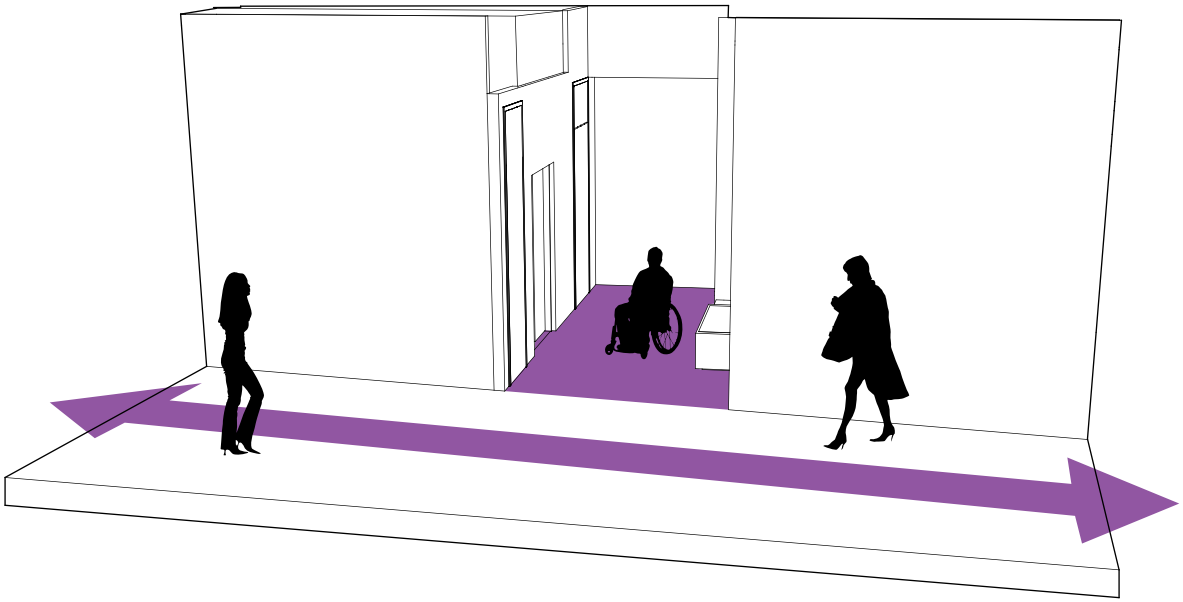


PROBLEM	**The vertical movement experience for all between floors in a multi-story building is often not considerate of varying abilities — creating inequity in experience and lack of graciousness.**
SOLUTIONS	— Consider the needs and feelings of those with mobility challenges when creating multi-level buildings including mid-level mezzanines, elevated booths at restaurants, that only have stairs / stepped platforms, etc. — Evaluate the opportunities for a ramp to connect floor levels for all to use — Provide sloped hallways to access front and back of tiered spaces such as classrooms — Design stairs with shorter risers for those with difficulty lifting their legs
SUPPORTS	— Common path for all abilities — Freedom of choice and movement — Autonomy and equity — A ramped exit path for those with mobility devices — Equality in travel between floors without the elevator as the only option for those with mobility concerns

Strategy 08 — Restroom Access

PROBLEM	**The International Plumbing Code editions prior to 2021 require separate restroom facilities by sex. Family, unisex, and gender-neutral restrooms have been allowed to be provided in coordination with the required men's and women's restrooms. These requirements, configurations, and labels, do not support a spirit of inclusion within a facility.**
SOLUTIONS	— Determine if equivalency to IPC editions prior to IPC 2021 can be provided with multiple single user restrooms — Utilize the provisions in the IPC 2021 and later plumbing codes that allow all gender multi-stall designs in lieu of designation by sex — Provide larger assisted-use restrooms as part of the holistic vision for restroom access and implement an adjustable height, adult-sized changing table — Provide configurations that minimize or eliminate hinged entry doors — Provide sliding or power assisted doors to restrooms — Utilize door hardware that indicates occupied status — Label room function with symbol in lieu of labeling people — Provide portable step to allow use of fixtures by everyone — Locate restrooms consistently in a building for navigation and wayfinding
SUPPORTS	— Equity — Privacy and Autonomy — Needs of caregivers — Inclusivity not separation through labeling

Strategy 09 — Elevator Access



PROBLEM	**Elevators are often not configured or located to foster equitable experiences particularly for those that require their use in multi-story buildings.**
SOLUTIONS	— Locate elevators as an important primary circulation element that allow for ease of access from main entrance and public spaces in lieu of locating as secondary elements that are difficult to find — Consider the spatial experiences in the building for those that require the use of the elevator — Create elevator access spaces off main circulation to allow for transitional lighting from dimmer elevators to brighter public spaces — Provide seating in elevator access spaces — Doors at front and rear to eliminate the need to turn around inside the cab — Elevator size accommodates two wheelchairs
SUPPORTS	— Equality and community — Orientation and navigation — More comfortable transition from brighter, busier public environments to typically smaller darker elevators

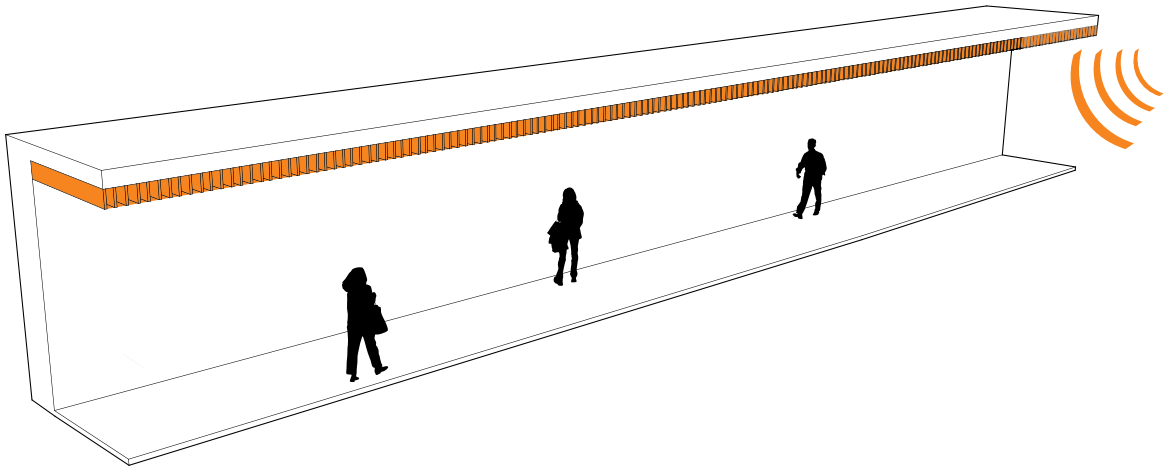
Clear Path

Information Redundancy
Reduction of Sensory Noise
Entry Sequence
Lighting
Curved Site Lines
Visual Clarity

Strategy 10 — Information Redundancy

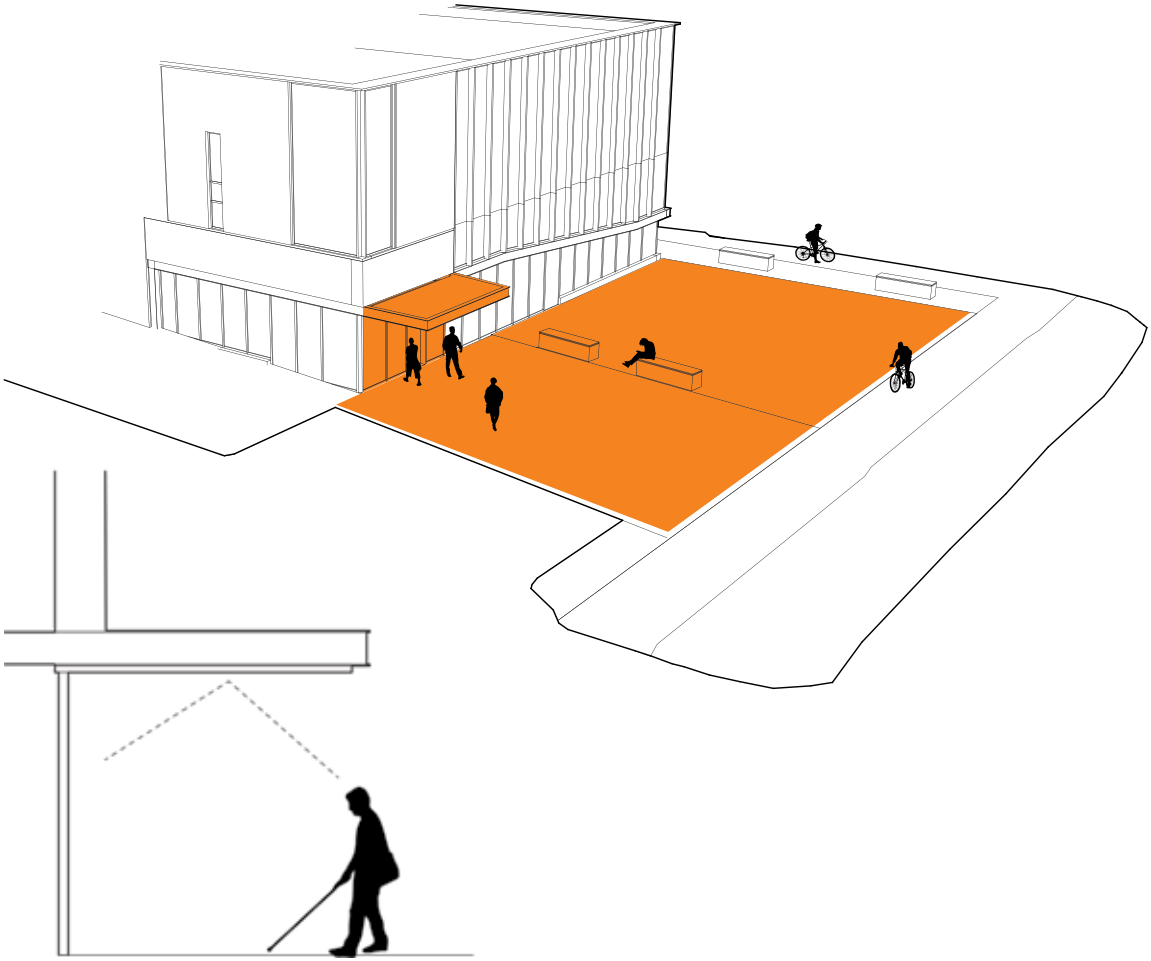
PROBLEM	**Building designs do not always consider all sensory needs for wayfinding.**
SOLUTIONS	— Signage should include multiple methods of communication — High contrast words, graphic symbols, braille, and using QR codes or other current technology for digital access via phone — Provide additional visual cues about function of spaces and location of key elements of the building such as elevators, restrooms, stairs, etc. This can be done with accent paint colors, finishes — Provide tactile indicators at hallway / wall corner transitions which can coordinate with directional signage
SUPPORTS	— Navigation and orientation — Autonomy

Strategy 11 — Reduction of Sensory Noise



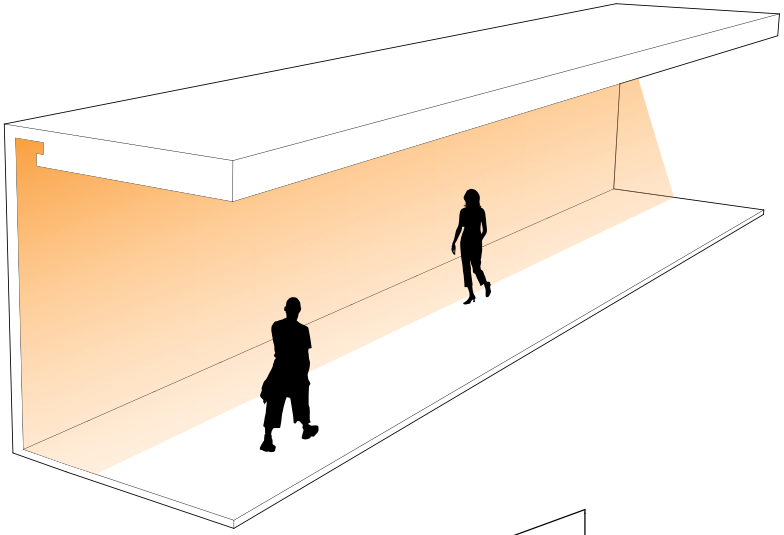
PROBLEM	**Visual and auditory noise can be problematic for supporting comfortable space for all.**
SOLUTIONS	— Provide less reverberant acoustics in all spaces including public spaces and hallways — Conduct an acoustical analysis to balance acoustics with functional room needs — Minimize visual clutter and texture in interior finishes including furniture surfaces and fabrics — Provide sun / glare reduction interior shades to minimize sun and shadow patterns on floors – utilize automatic controls to manage blinds during the day to maximize daylight but control glare and patterns on floor — Use less reflective flooring and down lighting to minimize fixture reflections in floors — Organize furniture to minimize visual clutter and confusion
SUPPORTS	— More visually calm settings for neurocognitive needs — Navigation and clear path for those with low vision — Better visual environment for all people

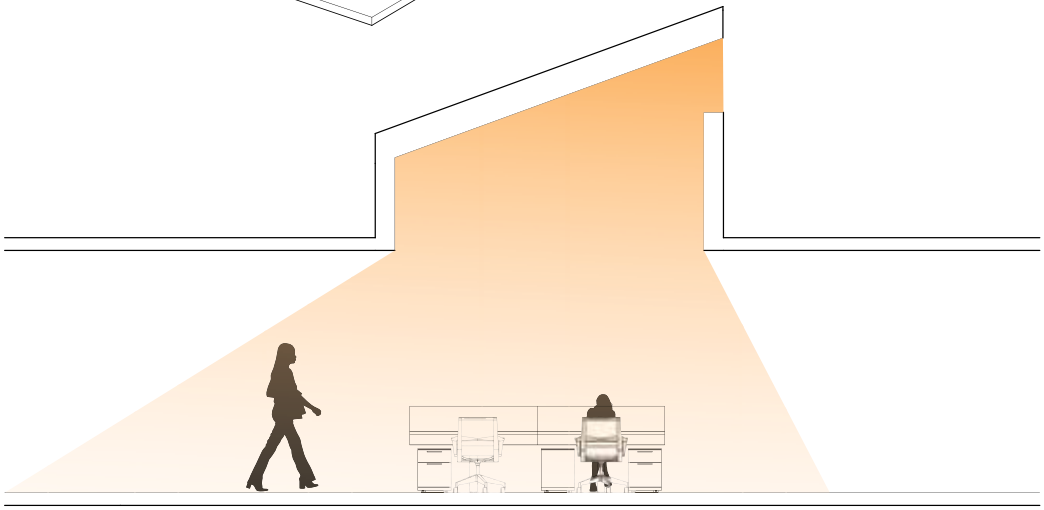
Strategy 12 — Entry Sequence



PROBLEM	**Main building entrance configurations are not always conducive to ease of access.**
SOLUTIONS	— Locate main entrances visibly in logical locations coordinated with site context elements. Provide description of building location, parking, and entrances on website — Locate accessible parking stalls near main entrances to provide safe and short distances for accessible travel. Consider a higher percentage of van accessible stalls — Consider and balance pervious paver use and main accessible paths. Pavers can be a challenge for multiple mobility needs — Consider changing pavement textures and color to signify the entry — Utilize automatic sliding doors when able — Provide lower canopy to protect people waiting for automatic doors, service animal needs, and acoustical cues of covered main entry — Minimize obstacles near accessible paths. Utilize effective path and entrance lighting for evening use — Eliminate the need for ramps – if unable, locate ramp as a preferred common path for all
SUPPORTS	— More gracious building presence — Clarity of wayfinding — Safety and security

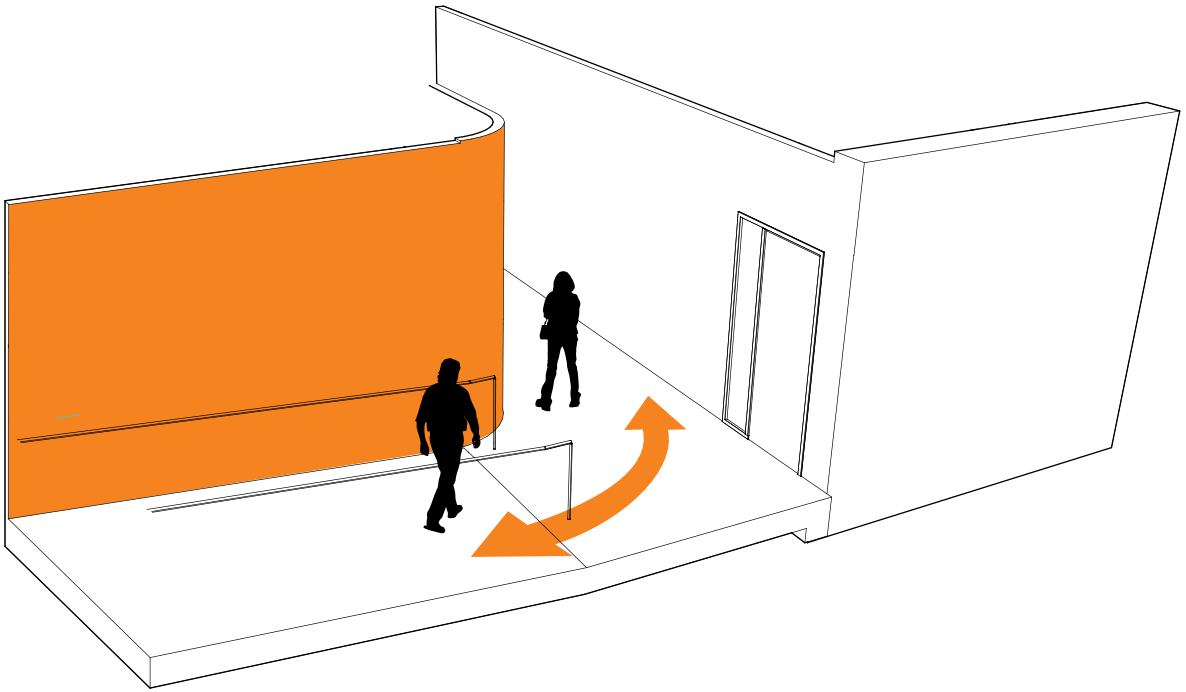
Strategy 13 — Lighting





PROBLEM	**Artificial lighting and natural daylighting can cause contrast and glare problems for individuals when not coordinated and controlled properly.**
SOLUTIONS	— Maximize the utilization of daylight while managing glare — Balance and coordinate daylighting schemes with artificial lighting — Consider color temperature adjusting and dimmable LED fixtures throughout the facility — Utilize indirect lighting where possible that is even, free from glare and does not cast distracting shadows or reflections — Design lighting to illuminate evenly without drastic changes between spaces — Use focused lighting to highlight special feature or items — Create visual tonal contrast and minimize glare — Utilize interior glass at spaces to extend daylight and view access
SUPPORTS	— Navigation and orientation — Health and well-being — Energy reduction — Lessening eye strain for deaf individuals — Foster better visual connections for low hearing and vision

Strategy 14 — Curved Site Lines



PROBLEM

High-traffic corridor intersections can be problematic for navigation particularly for individuals that are deaf.

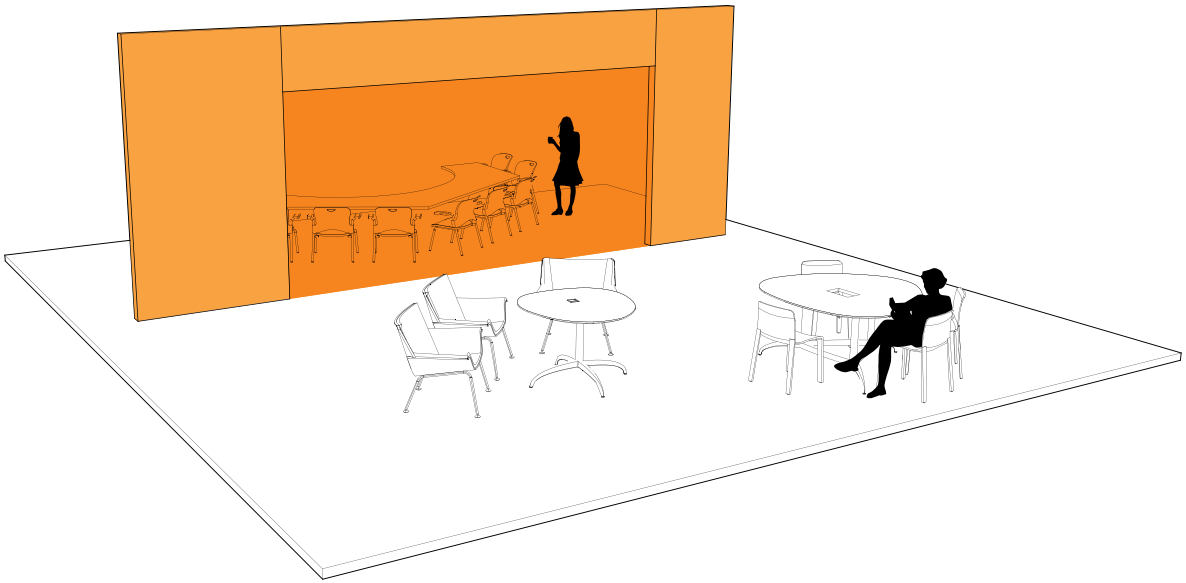
SOLUTIONS

— Create opportunities for deaf individuals to extend their view around busy exterior and interior intersections. This can be done with rounded corners, extending glass around corners, and wider hallway transitions

SUPPORTS

— Better flow of everyone through the building
— Transitions in corridors for people conversing while walking

Strategy 15 — Visual Clarity



PROBLEM

Monochromatic interiors that lack contrast are difficult to understand for those with low vision.

SOLUTIONS

- Mark stair nosing with contrasting color to treads and risers
- Create contrasting color electrical switch and outlet plates, hand rails, doors and jambs, and other user items
- Create contrast between desk surfaces, edges and flooring
- Consider material and texture changes to floor between hallways and other spaces for cane detection sensitivity
- Utilize interior glass at office and other spaces for spatial awareness
- Create contrasting furniture settings in organized arrangements
- Provide for views from inside to outside while controlling glare

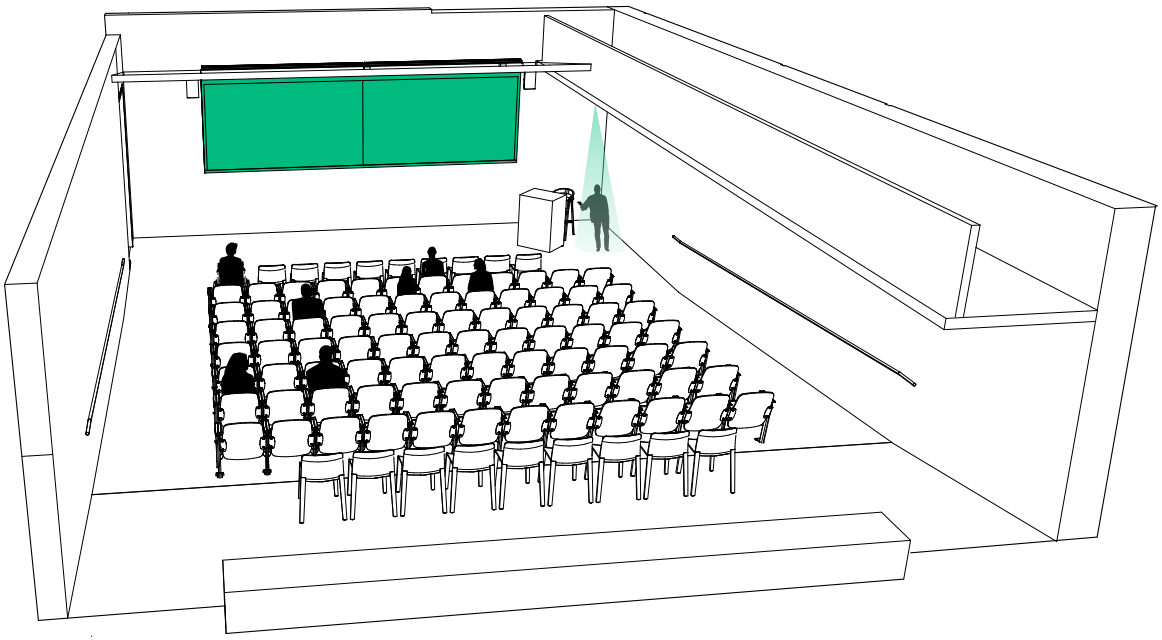
SUPPORTS

- Greater autonomy
- Understanding the uses of spaces
- Spatial clarity and awareness
- Definition of important boundaries

Individual Empowerment

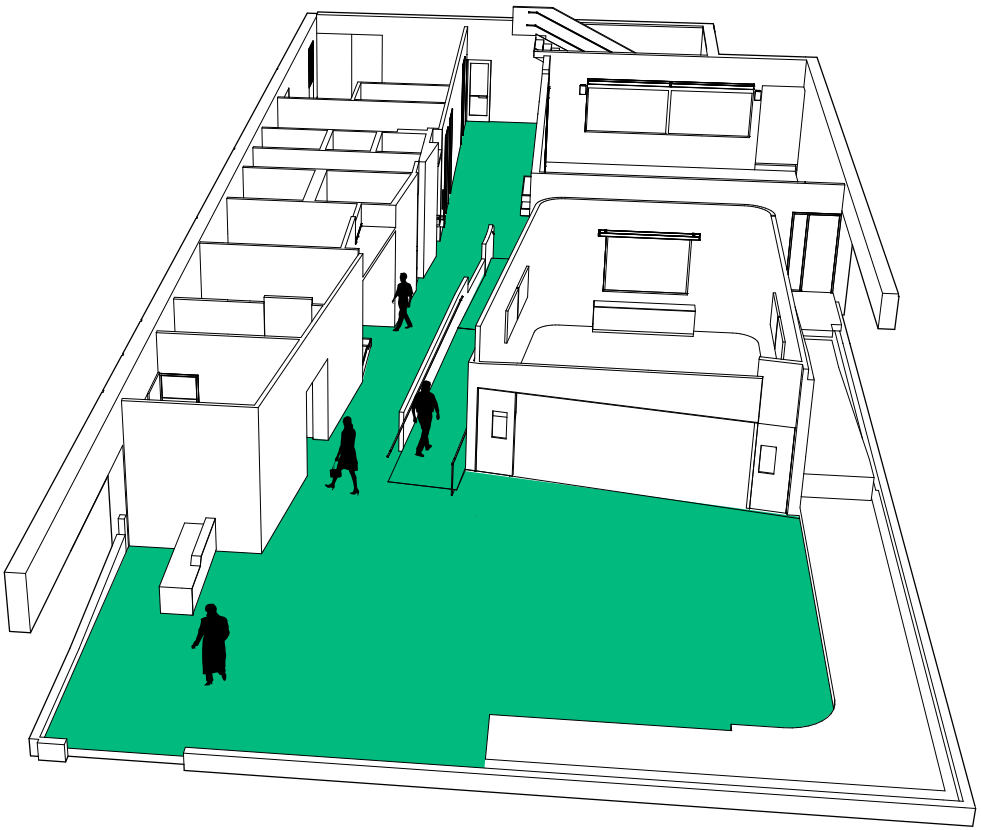
Accessible Technology
Clear Path Choice
Wellness Room
Elevator Use

Strategy 16 — Accessible Technology



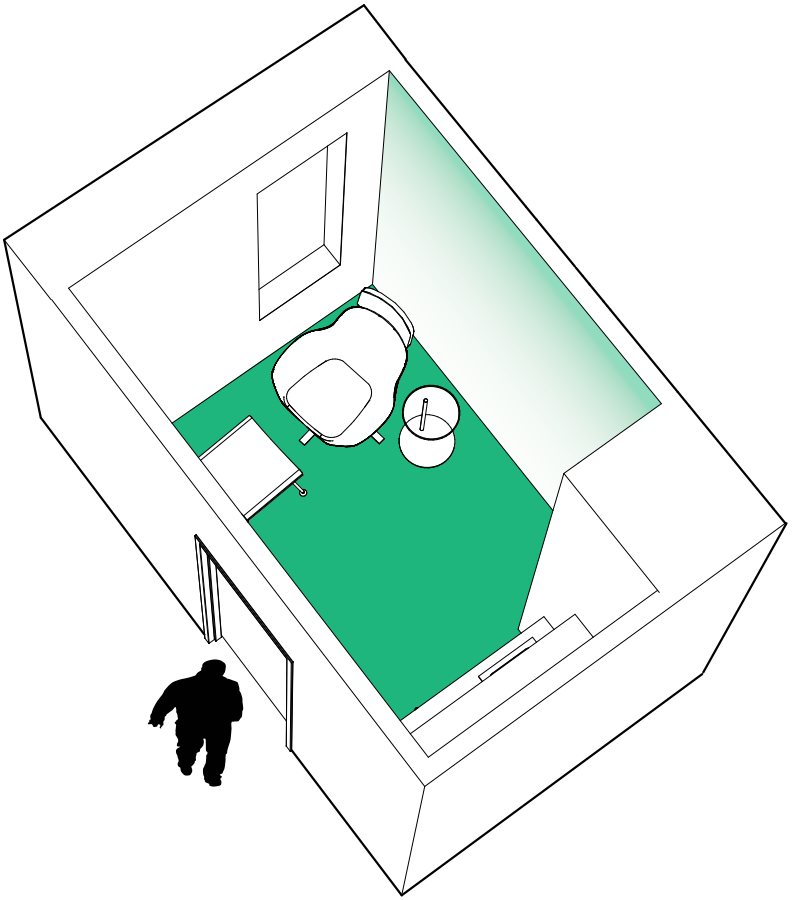
PROBLEM	**Facilities do not always incorporate or are flexible to accommodate assistive technologies.**
SOLUTIONS	— Install hearing loop technology in lecture halls, classrooms, conference spaces and other related presentation spaces — Allow for worker flexibility to work from home with virtual collaboration tools — Incorporate Communication Access Realtime Translation (CART) technology — Organize American Sign Language (ASL) services for events — Plan for installed technologies - screens for closed-captioning or presenter video in addition to presentation screen — Coordinate separate lighting and location for ASL interpreters for lecture halls and other presentation spaces — For larger facilities and those that have a planned flow of public visitors such as museums, airports, hospitals, etc. Consider autonomous wheelchairs that can navigate planned routes — Utilize phone apps, QR code readers, etc to audibly read and interpret signage or displays
SUPPORTS	— A more fulfilling inclusive experience — Engagement — Autonomy

Strategy 17 — Clear Path Choice



PROBLEM	**Many facilities do not provide for individuals to choose their path and are separated by ability.**
SOLUTIONS	— Provide one path everyone can use as a first strategy so the choice is clear – avoid isolation and separation by providing secondary paths for disabilities that are afterthoughts and located in less obvious areas — Locate path entrances for equal importance in multistory buildings such as elevator lobbies and stair landings
SUPPORTS	— Equality and sense of freedom — Shared experiences

Strategy 18 — Wellness Room

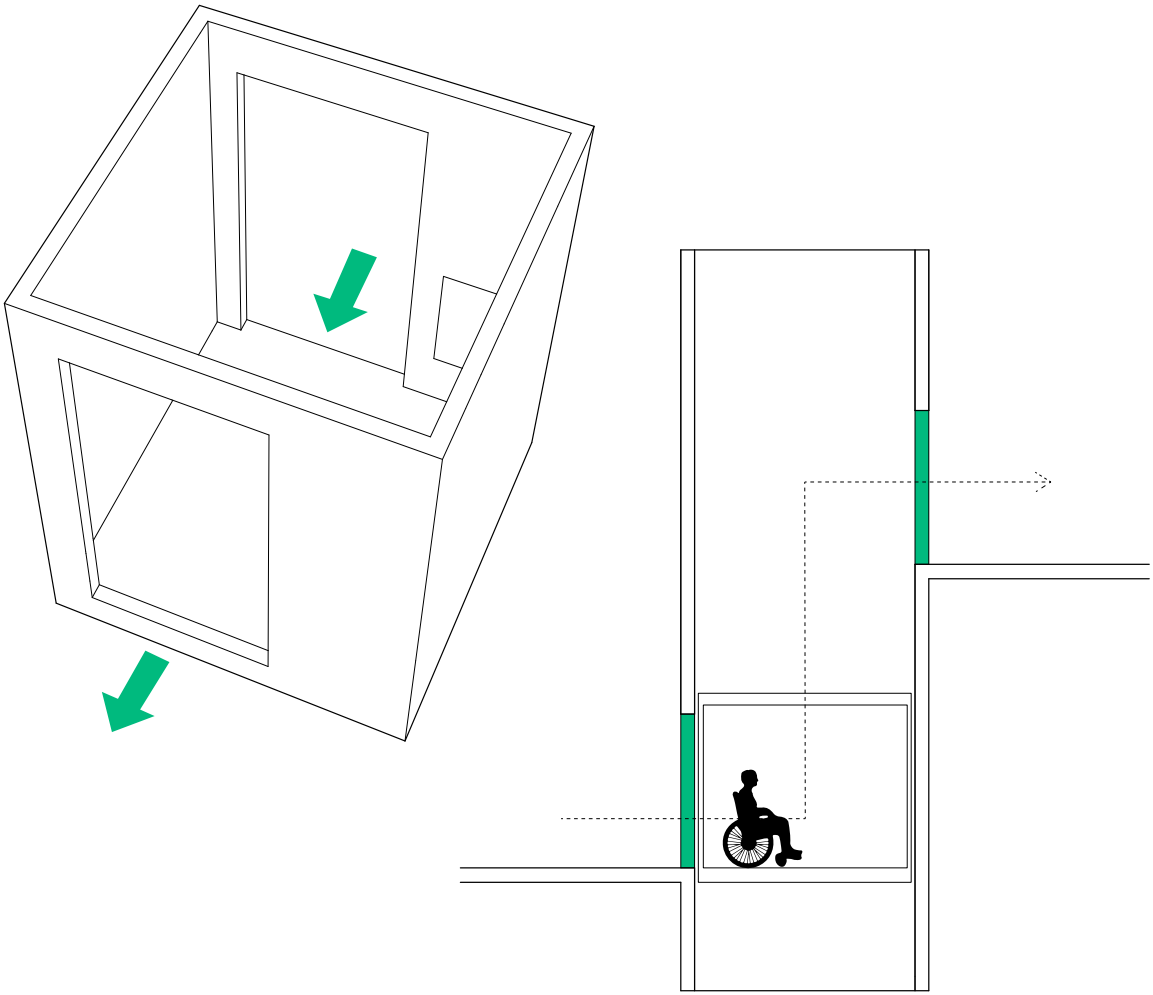


PROBLEM	**Spaces are not routinely provided for all employee or visitor health and wellness needs.**

SOLUTIONS	— Provide a space where any employee, student, building visitor, or guest can use for personal needs
	  — Nursing mother
	  — Migraine Relief
	  — Stress Management
	  — Virtual Health Appointment
	  — Meditation
	  — Medication management
	— Provide comfortable seating and technology access
	— Install counter, sink, and refrigerator
	— Utilize dimming and color temperature adjustable LED lighting controllable by the user for their sensory needs
	— Provide controls for temperature for this room separately
	— Install art and provide Bluetooth speakers for user provided music
	— Design space to be comfortable and gracious for those in wheelchairs

SUPPORTS	— Health and well-being for employees and visitors

Strategy 19 — Elevator Use



PROBLEM	**Elevators are not typically configured or equipped to allow greater freedom of use.**
SOLUTIONS	— Exceed ADA minimum elevator accommodations — Consider a larger (deeper) elevator to allow two wheelchairs to enter and exit without turning around – enter on one end of elevator and exit on the other — Consider muted tone and finishes with minimal pattern and indirect lighting — Investigate larger call buttons in lobbies for those with less dexterity — Investigate voice controls within cab if available
SUPPORTS	— Ease of access and use without assistance — More gracious space for wheelchairs and multiple people — Sense of equality for those in wheelchairs

Furniture Strategies

A projects furniture uses the same four identified themes from the building section and furthermore breaks down the ideas into furniture settings versus individual products.

Generous Space

Create space where you do not have to ask for accommodations – what is needed is available

Settings

20 Order
21 Circulation Space
22 Uncluttered Product

Product

23 Personal Belongings
24 Human Factors

Equitable Experiences

Solve for the function necessary in the most inclusive way possible. Non-exclusionary: No one is excluded from an experience because of their ability, gender, etc.

Settings

25 Variety
26 Accessibility
27 Reach

Product

28 Posture
29 Ergonomics
30 Edges and Corners
31 Symmetry

Clear Path

Allow for an environment that is intuitive to the user, including regular, part-time users and visitors

Settings

32 Landmarks

Product

33 Visual/Tactile Clarity

Individual Empowerment

No limitations in one's ability to use a space throughout the day

Settings

34 Reconfigurable

35 Choice

Product

36 Flexibility

37 Technology Access

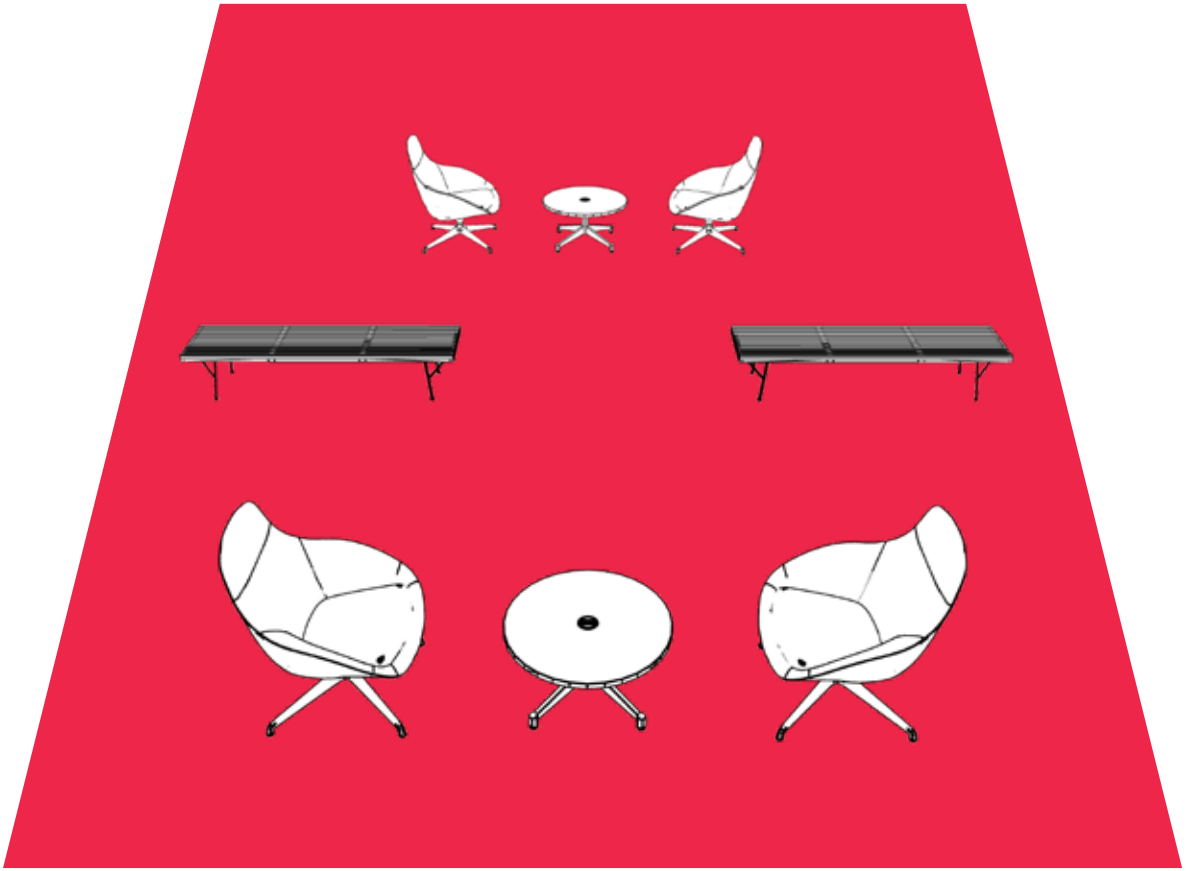
Generous Space

Setting
- Order
- Circulation Space
- Uncluttered Product

Product
- Personal Belongings
- Human Factors

Strategy 20 — Order

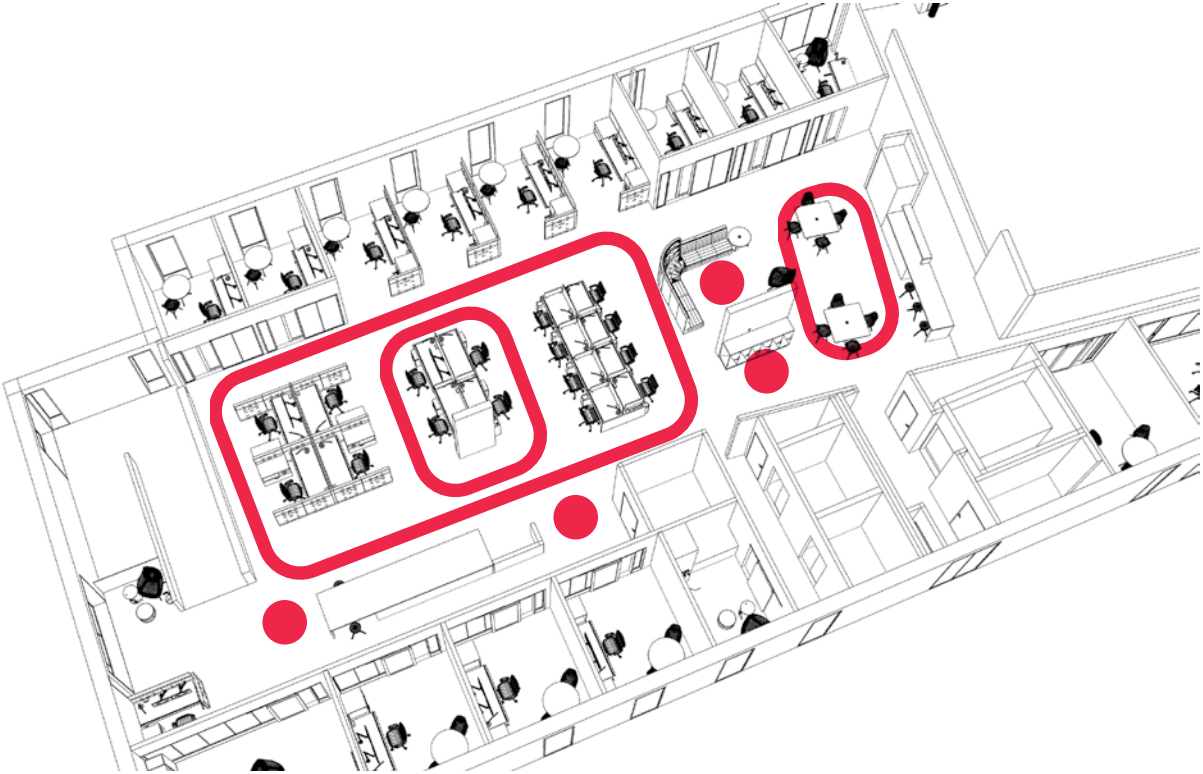
Settings



PROBLEM	**Facilities many times do not have organized and logical furniture settings to facilitate gracious space.**
SOLUTIONS	— Create a sense of order and logic to furniture groupings
SUPPORTS	— Communicating activities a setting supports — Assisting with memory maps / recall and familiarity / expectations of settings — Clarifying and maintaining consistent paths of travel between settings

Strategy 21 — Circulation Space

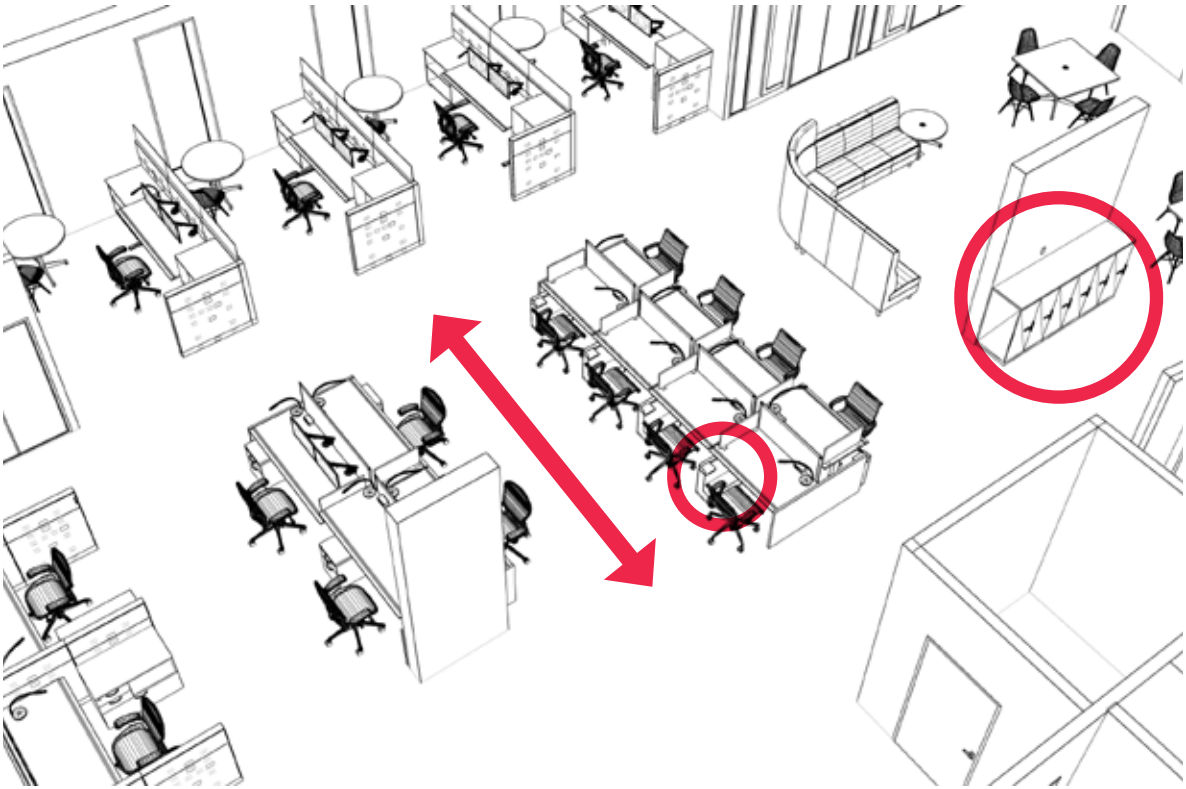
Settings



PROBLEM	**Spaces are often programmed and configured with narrow circulation that does not allow for effective maneuverability.**
SOLUTIONS	— Provide ample and uncluttered circulation around furniture settings
SUPPORTS	— Clear paths of travel — Unfettered pathways for individuals in wheelchairs or with guide animals — Enough space for individuals to cross paths without blocking access to settings for others — Areas to pause along a pathway without restricting circulation — Allowing furniture to shift or be reconfigured without encroaching upon other settings

Strategy 22 — Uncluttered

Settings



PROBLEM

In office and academic environments, circulation between furniture settings can become cluttered with personal items and office equipment.

SOLUTIONS

— Provide space and / or storage for personal belongings such as: backpacks, coats, laptops, books, guide animals, canes, etc.

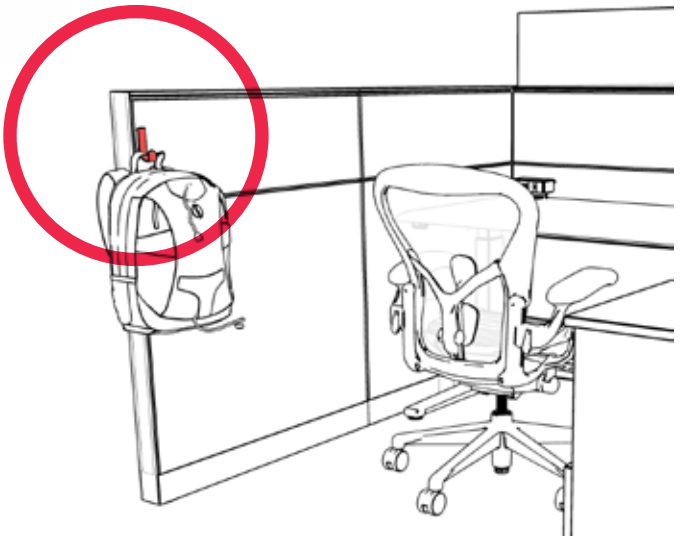
SUPPORTS

— Keeping aisle ways and spaces around furniture settings free and clear of obstacles that could become a tripping hazard or impediment for others

— Providing consistent placement of personal belongings so they do not become clutter just set haphazardly on the floor

Strategy 23 — Personal Belongings

Product



PROBLEM	**Office furniture is not always provided with space for personal belongings.**
SOLUTIONS	— Provide accommodations for personal belongings that are common with students and other residents — Bag hooks — Coat hooks / racks — Ample horizontal surfaces
SUPPORTS	— Backpacks — Coats and umbrellas — Books and notebooks — Tablets, laptops, and electronic accessories

Strategy 24 — Human Factors

Product

PROBLEM	**Furniture selections do not always consider that there are various body shapes and sizes.**
SOLUTIONS	— Provide a variety of products sized to different body types
SUPPORTS	— Equity in age, sex, height, weight, etc.

Equitable Experiences

Setting
- Variety
- Accessibility
- Reach

Product
- Posture
- Ergonomics
- Edges and Corners
- Symmetry

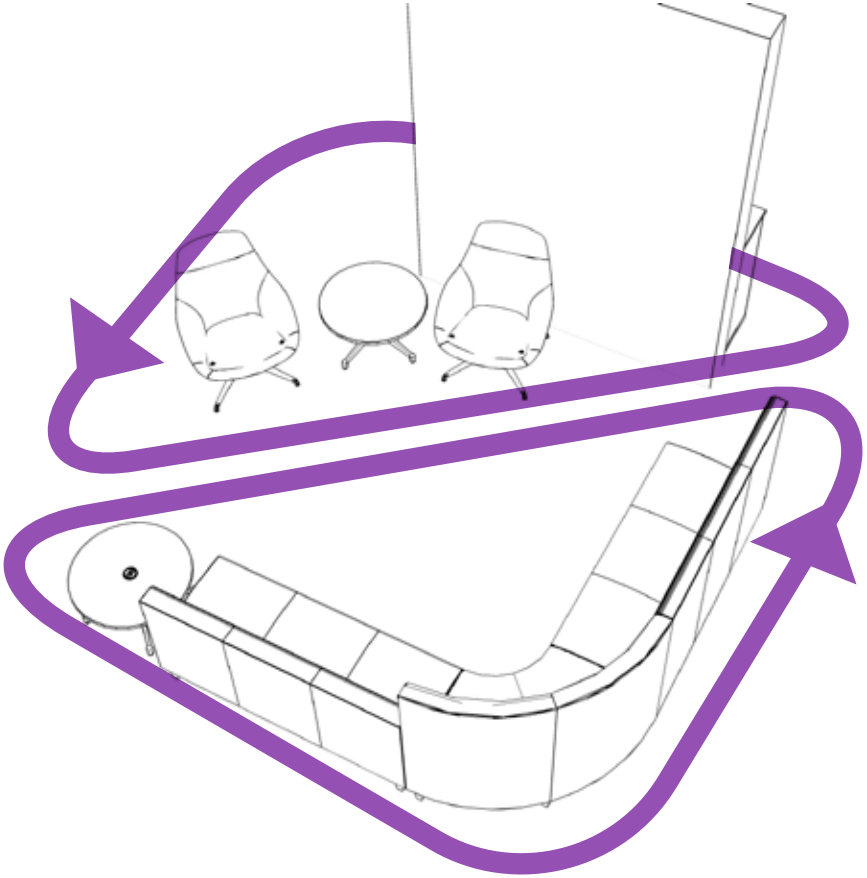
Strategy 25 — Variety

Settings

PROBLEM	**Furniture settings do not always provide for a broad range of physical needs.**
SOLUTIONS	— Provide a variety of furniture types and options within settings
SUPPORTS	— Individuals with different physical needs who could be sharing the same setting — For example: Chairs with arms support individuals who need assistance getting out of a chair, while a chair without arms supports individuals with larger body types — Choice to accommodate a wide range of comfort preferences

Strategy 26 — Accessibility

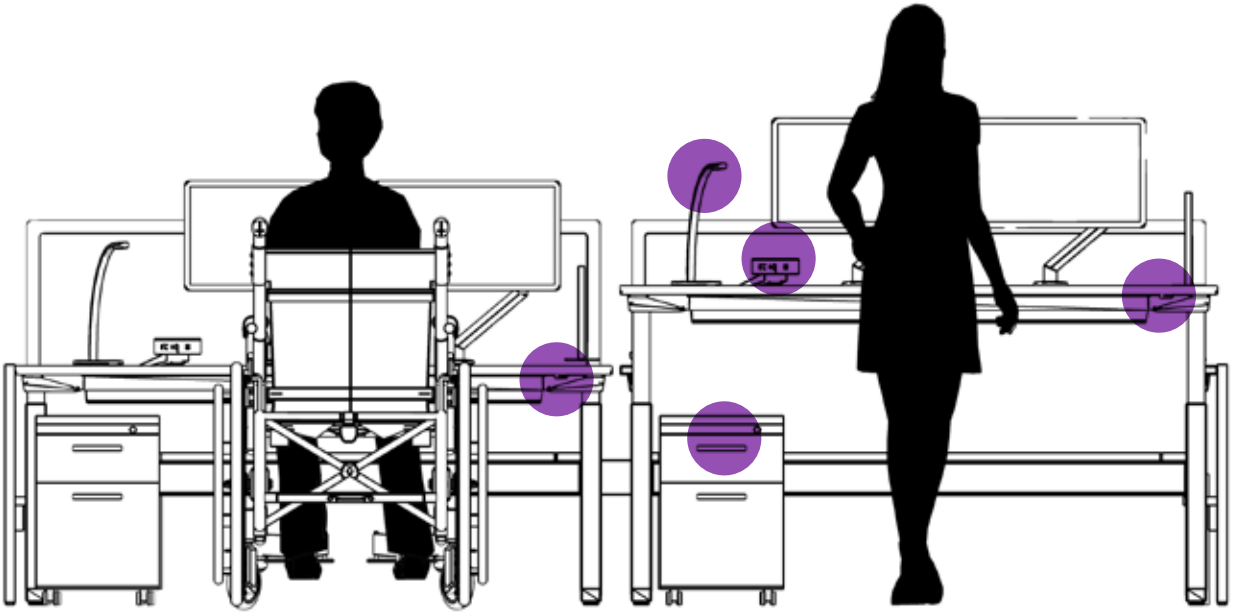
Settings



PROBLEM	**Furniture settings are not always planned to allow for adequate engagement of wheelchairs or other assistive devices in a collaborative or social setting.**
SOLUTIONS	— Provide accommodations for wheelchairs, canes, mobility aids, and service animals
SUPPORTS	— Providing additional space around and through furniture settings — Space and locations to stow or park various assistance devices or animals without diminishing the effectiveness of the setting and without blocking paths of travel

Strategy 27 — Reach

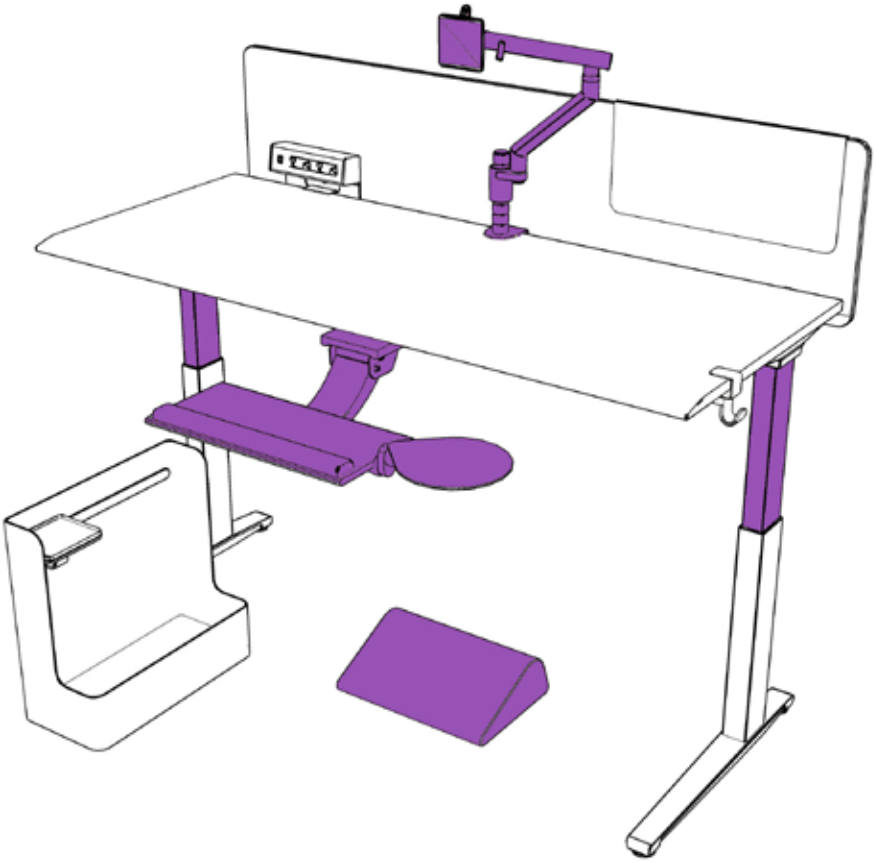
Settings



PROBLEM	**Human needs vary from person to person in their work environment.**
SOLUTIONS	— Objects or components within settings should be within reach following the ADA guidelines
SUPPORTS	— Individuals in seated and standing positions having equal and unbiased access to components within a setting — For example: access to levers, pulls, switches, power / data, controls, and storage

Strategy 28 — Posture

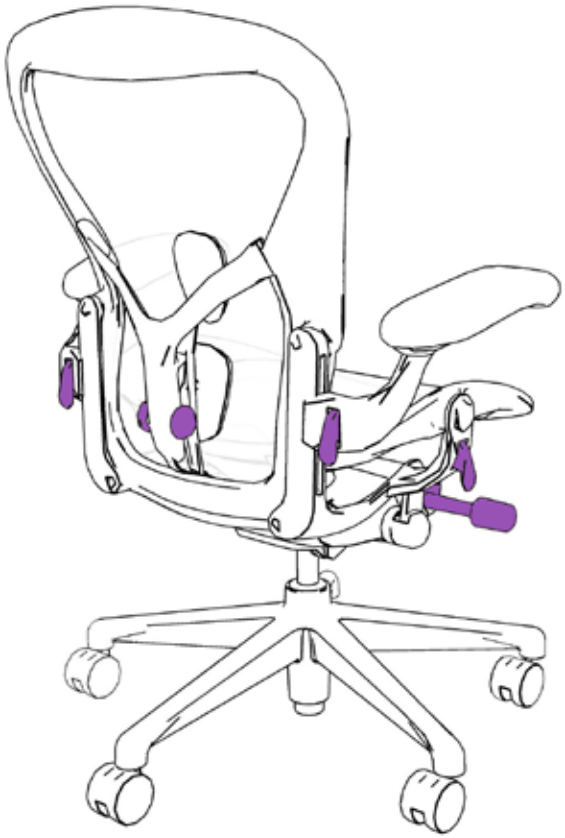
Product



PROBLEM	**Human needs vary from person to person in their work environment.**
SOLUTIONS	— Consider providing foot rests, keyboard trays, and adjustable monitor arms at workstations
SUPPORTS	— Choice and adaptability to meet the needs of a variety of individual body shapes and styles — Reducing body strain and discomfort during prolonged periods of work

Strategy 29 — Ergonomics

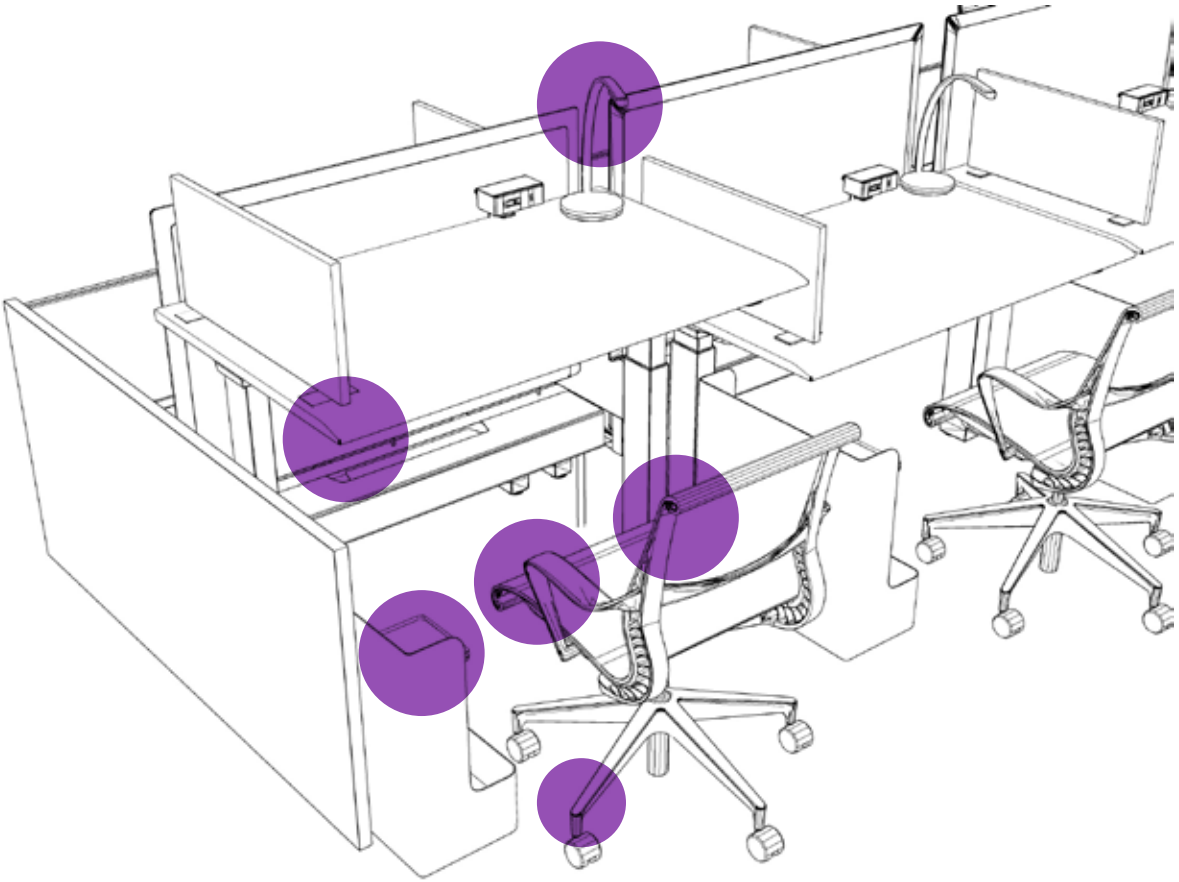
Product



PROBLEM	**Furniture needs to address human need and ergonomic adjustments.**
SOLUTIONS	— Provide consistent and ergonomically designed: grasping levers, pulls, switches, handles, etc.
SUPPORTS	— Consistency of style and placement of graspable supports — A full spectrum of individuals abilities to grasp and manipulate: switches, pulls, levers, etc. — Clarity and consistency in communicating visual and tactile clues about how to properly manipulate on object

Strategy 30 — Edges and Corners

Product



PROBLEM	**Furniture does not always provide appropriate tactile edges nor contrasting colors to surrounding finishes.**
SOLUTIONS	— Provide eased edges and rounded corners on furniture with hard materials
SUPPORTS	— Preventing injury if edges are bumped into or in the case of a fall and impact — A comfortable and natural tactile experience — Relieving pin-point pressure during prolonged contact (for example: arm rests or work surfaces that may be leaned on for support)

Strategy 31 — Symmetry

Product

PROBLEM	**Furniture settings don't always consider how someone will access and use a product.**
SOLUTIONS	— When possible, provide symmetrical products that do not favor handedness
SUPPORTS	— Individuals with different preferred handedness — A range of approaches for individuals to get in and out of seats — Consistency and clarity on the location of accessories, levers, pulls, switches, etc. — Visual clarity on the orientation of products within their settings

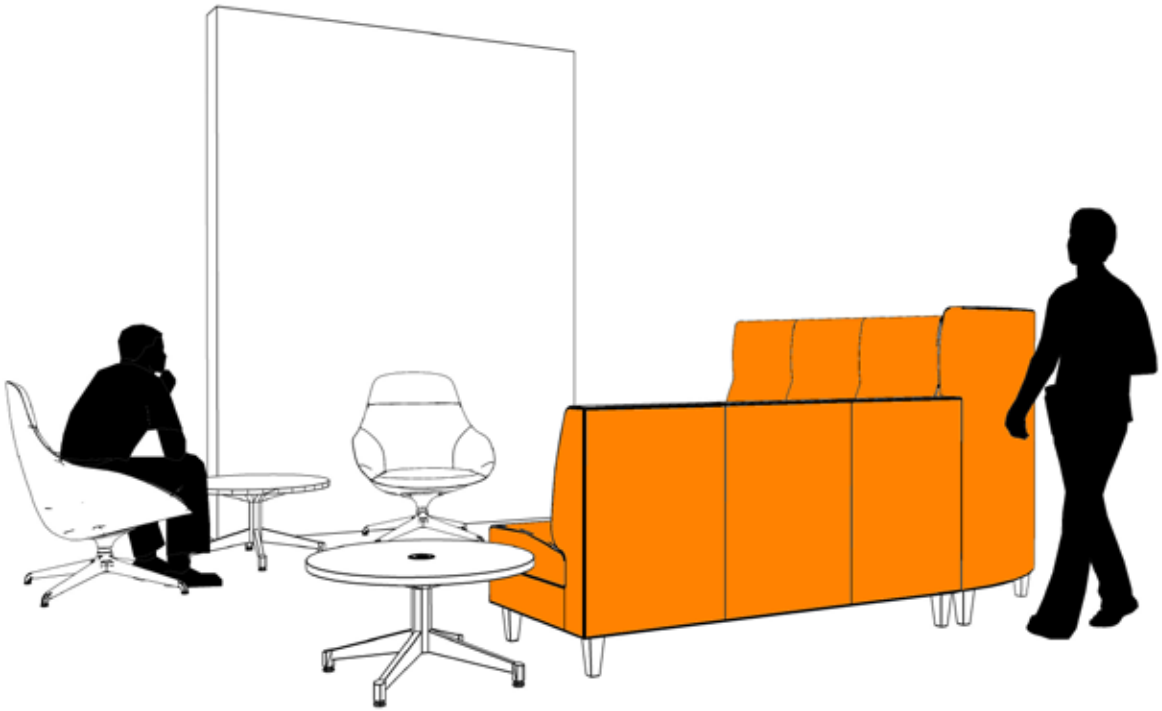
Clear Path

Setting
Landmarks

Product
Visual/Tactile Clarity

Strategy 32 — Landmarks

Settings



PROBLEM

Uniformity in furniture types within a space can cause orientation and navigation problems.

SOLUTIONS

— Leverage settings as landmarks within the architectural environment

SUPPORTS

— Consistently identifying function and supported activities of the furniture settings
— Reinforces mental maps of the interior spaces
— Can be used to identify adjacent amenities

Strategy 33 — Visual / Tactile Clarity

Product

PROBLEM	**Lack of color differentiation / contrast and visual clutter in furniture finishes can cause confusion.**
SOLUTIONS	— Select materials and finishes with visual and tactile contrast, but are not visually busy or complex
SUPPORTS	— Low-vision and blind individuals — Identifying the distinct functional components of a product — Allowing the product to stand out against the background of architectural finishes — Keeping visual noise at a minimum for individuals who are easily distracted or confused by complexity — A broad range of cognitive perspectives

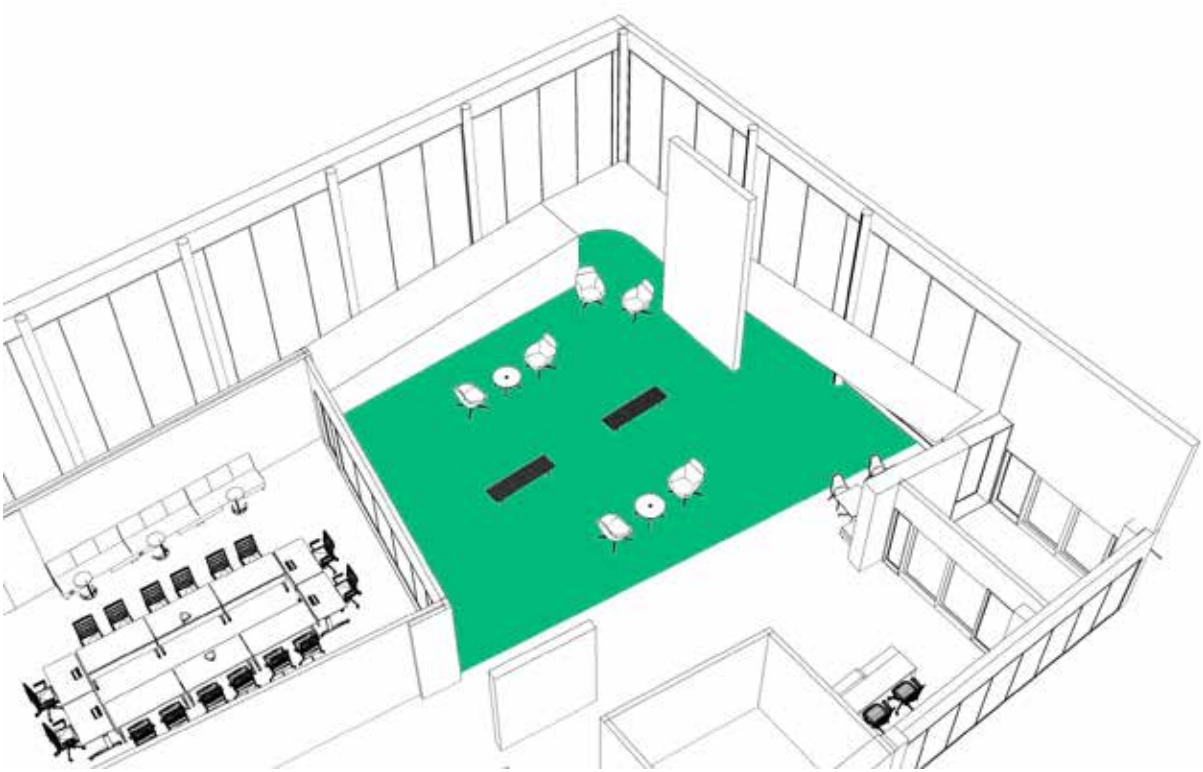
Individual Empowerment

Setting
- Reconfigurable
- Choice

Product
- Flexibility
- Technology Access

Strategy 34 — Reconfigurable

Settings



PROBLEM	**Furniture selections do not always easily allow users to reconfigure space for their particular needs.**
SOLUTIONS	— Provide settings that are reconfigurable by the end-users
SUPPORTS	— Adaptability of settings to support a variety of activities that suit the varied needs of users — Giving a level of agency and control to users over their environment — Avoids the settings being overly prescriptive and instead allows the users to define their own preferred way of working — The ability to adapt a space quickly to an unforeseen disruption (For example: the need for physical distancing)

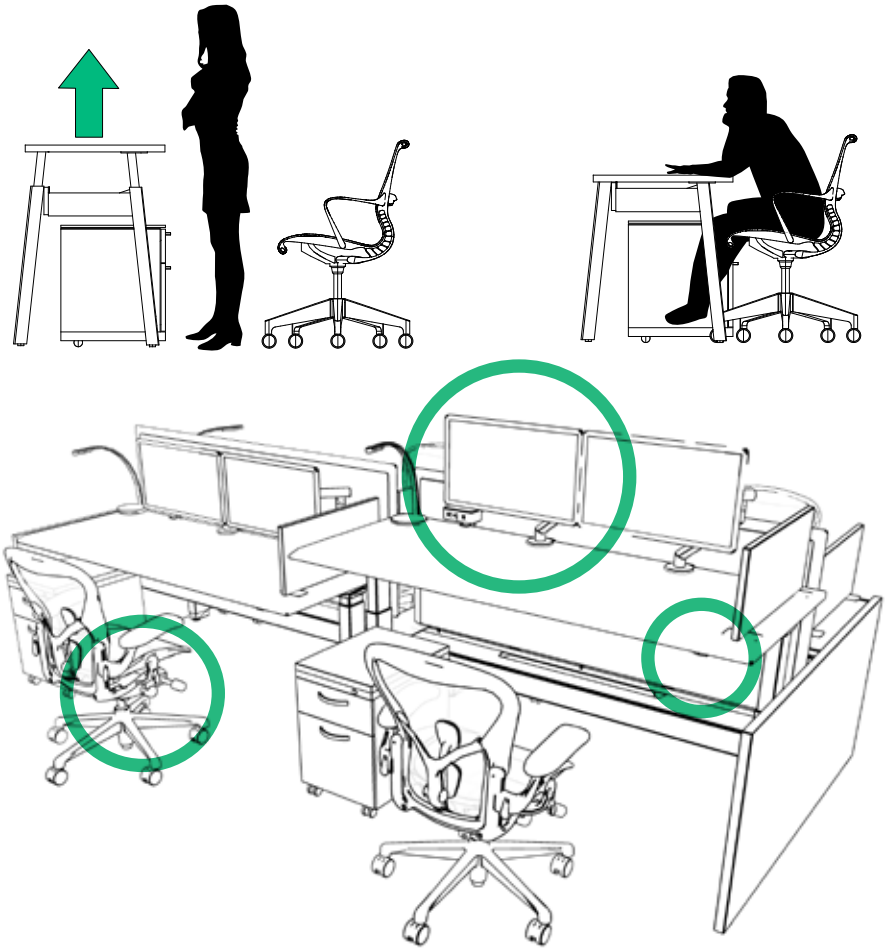
Strategy 35 — Choice

Settings

PROBLEM	**Many office settings create homogenous furniture offerings without consideration of individual, unique needs.**
SOLUTIONS	— Provide a broad choice of settings so that users can find a space that suits their needs
SUPPORTS	— A variety of activities and postures — Settings that are designed to support short / long term, impromptu or scheduled activities — Settings with varying levels of privacy (visual and acoustic) and / or enclosure — Settings with minimal or many supporting work tools (such as white boards, AV, etc.)

Strategy 36 — Flexibility

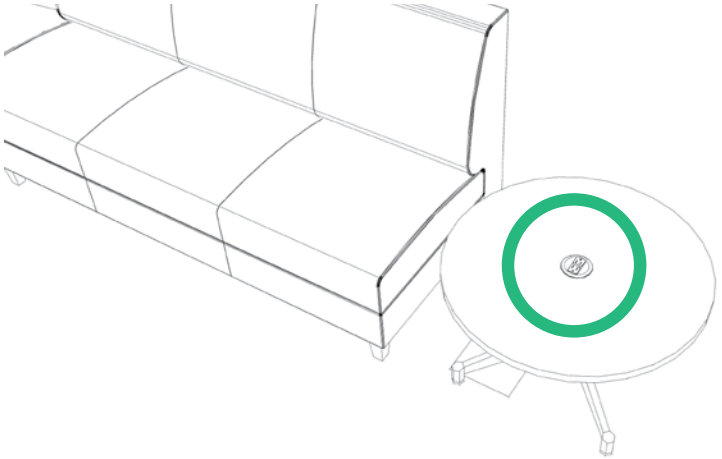
Product

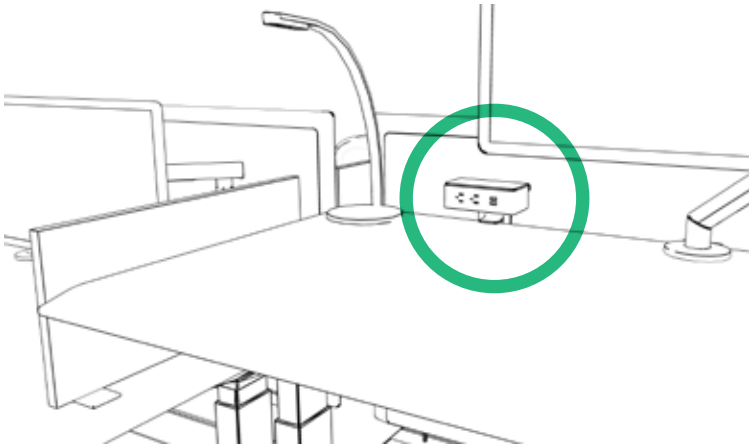


PROBLEM	**Fixed, unadjustable furniture does on provide for individual body needs.**
SOLUTIONS	— Provide flexible, ergonomically adjustable products with minimal complexity for making personal adjustments
SUPPORTS	— Choice of posture — Different body shapes and sizes — Customization and real agency

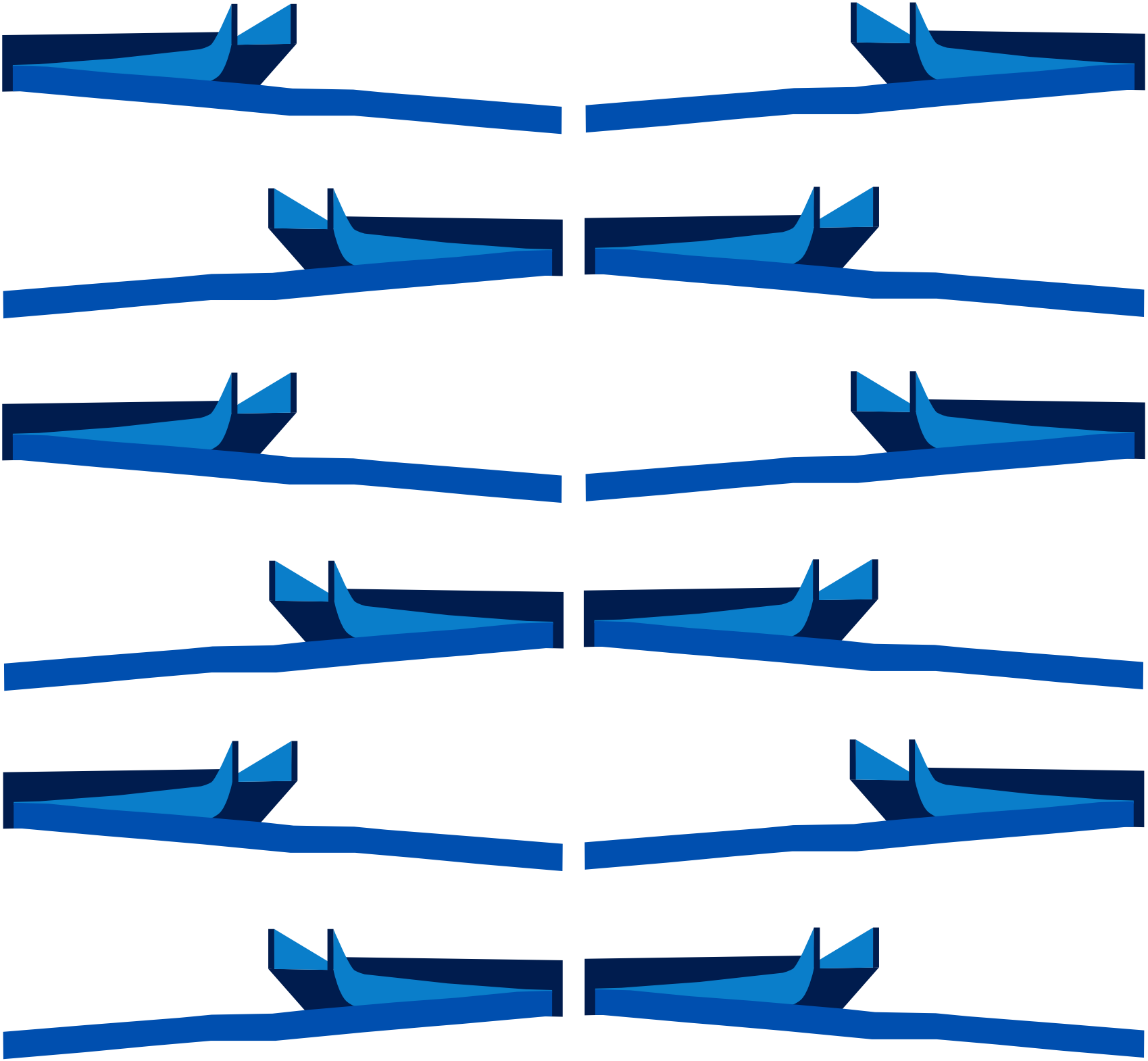
Strategy 37 — Technology Access

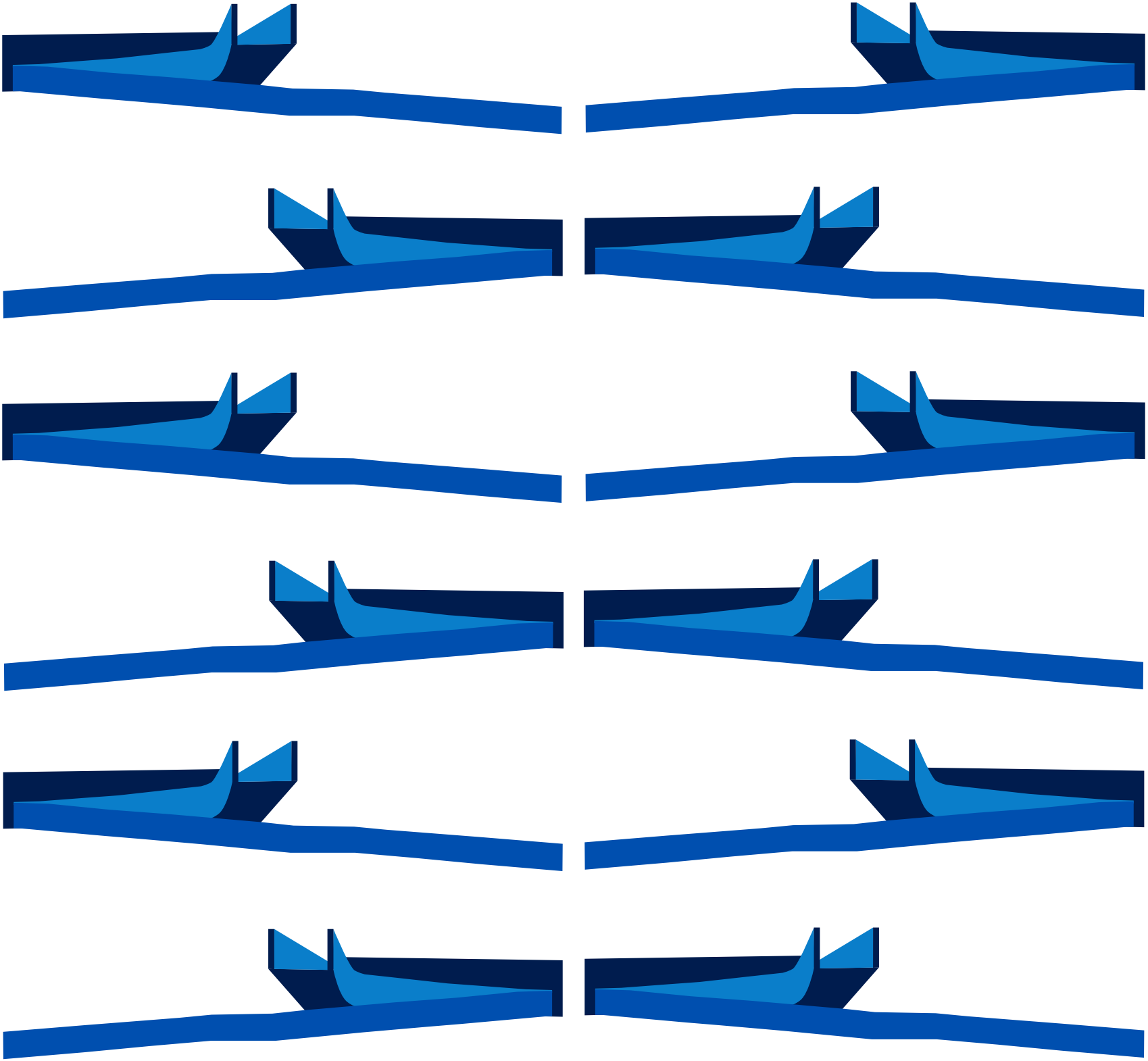
Product





PROBLEM	**Office and academic settings do not always consider power and data access at elevated levels above desk height.**
SOLUTIONS	— Provide reachable, intuitive and consistent access to power, data, and technology
SUPPORTS	— Equity, control, and access to technology for all individuals





ALL

The Making of The Tom and Ruth Harkin Center
+ A Guidebook of Strategies for Inclusive Design

THE HARKIN INSTITUTE

BNIM

MILLERKNOLL